

MARCH 2016



Washington State Marijuana Impact Report

Northwest High Intensity Drug Trafficking Area



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- Washington State Department of Revenue
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- Washington State Liquor and Cannabis Board
- Washington State Office of Financial Management
- Washington State Office of the Superintendent of Public Instruction
- Washington State Patrol
- Washington State Poison Center
- Washington State Patrol Crime Laboratory
- Washington State Patrol Toxicology Laboratory
- Washington State Sheriffs and Police Chiefs
- Washington State Traffic Safety Commission

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Executive Summary

The Northwest High Intensity Drug Trafficking Area (NWHIDTA) is reporting on the impacts of the legalization of marijuana in Washington State. The purpose of this document is to discuss the regulatory functions set by marijuana policy, present data on the impacts of the industry, and to depict where the state stands after one year of commercialization.

Throughout Washington State's history with the issue, various bills have been passed concerning marijuana. This report will be addressing the bills listed below:

- 1998: Medical Use of Marijuana Act (Initiative 692)
- 2007: Concerning the Use of Medical Marijuana (House Bill 6032)
- 2009: Concerning Medical Marijuana (Senate Bill 5798)
- 2011: Concerning the Medical Use of Cannabis (Senate Bill 5073)
- 2012: Legalization of Recreational Marijuana (Initiative 502)
- 2014: Concerning Marijuana Processing and Retail Licenses (House Bill 2304)
- 2015: Cannabis Patient Protection Act (Senate Bill 5052)
- 2015: Comprehensive Marijuana Market Reform (House Bill 2136)
- 2015: State Agreement with Indian Tribes (House Bill 2000)

Data that has been collected and analyzed include an overview of the Washington State Liquor and Cannabis Board processes and regulations. The Board is the regulatory authority responsible for recreational licensed businesses including the production of products for retail sales. Other data under Board authority that will be examined are marijuana product testing, the marketing associated with the businesses and products, as well as marijuana transportation.

With legalization, marijuana policy shifted from addressing a criminal offense to a civil enforcement priority. The enforcement data on licensed marijuana businesses will be examined for overall violations and the penalties imposed.

Impacts on youth and adults will also be analyzed. This includes examining consumption, use, rate of abuse, and treatment admission rates for marijuana abuse and addiction. For youth, available data regarding the effects in schools will be included.

With legalization and commercialization increasing the availability of marijuana across the state, the effect on crime will be noted. Major crime categories including impaired driving, diversion, and THC extraction lab explosions are an increasing concern for the state. When also considering other marijuana-related crimes such as robberies, burglaries, and assaults, there is sufficient data to associate the incidence of specific criminal acts with the availability of recreational marijuana.

Washington State is among the first states to experiment with the legalization and commercialization of marijuana. The licensed businesses comprising the recreational marijuana market report the sales, taxes, and revenues that have been generated. Additionally, historical and current data will be included regarding the existing medical marijuana market.

Finally, a brief overview of the legislative changes being considered in 2016 will be provided. This includes regulations, modifications, and new laws proposed for both the recreational and medical marijuana markets.

The two stages involving recreational marijuana will be discussed: legalization and commercialization. Legalization commenced in 2012 when the initiative to legalize marijuana was passed. Commercialization commenced when recreational marijuana businesses began operating and selling marijuana across the state in July 2014.

This is the first NWHIDTA Marijuana Impact Report providing data for the State of Washington. This report has been organized in order to lay out the foundation of legalization and identify and discuss challenges, changes, and impacts. In addition, it will examine the grey areas that still exist and propose projections for the next year. NWHIDTA's goal is to gather the most up-to-date information and data to correctly examine the marijuana industry in Washington State.

In total, the report will include ten sections providing in depth-information on the specified topic, followed by a conclusion. The data sections include:

- Section One: Legal Overview
 - History of Medical Marijuana
 - Legalized in 1998 via Initiative 692
 - Legalized the medical use of marijuana for qualified patients with certain qualified medical conditions
 - History of Recreational Marijuana
 - Legalized in 2012 via Initiative 502
 - Legalized the use of marijuana for those over the age of twenty-one
- Section Two: Regulatory Overview
 - Recreational marijuana consumers may legally buy up to 2,529 grams of marijuana per transaction which includes useable, concentrate, and infused product
 - By July 2015: 1,164 licenses issued – 533 producer, 460 processor, 171 retailer licenses representing 735 individual businesses
 - 59,394 pounds (950,304 ounces) were produced during one year of recreational commercialization
 - 68% of the marijuana-infused products in the state fall within the baked goods or desserts category
 - 90% of public safety violations against recreational licensees deal with minors
 - The average potency of marijuana flower for one Seattle based retailer during the month of July 2015 was 21.24% - for marijuana concentrates the average potency was 72.76%
- Section Three: Youth Impacts
 - One in five 10th grade students reported riding with a driver who had used marijuana – 9% reported driving within three hours of consumption
 - During 2013-2014, 48% of statewide student expulsions and 42% of suspensions directly involved marijuana

- 98% of the student drug violations within the Seattle Public Schools from September 2013 to May of 2014 involve marijuana
- In 2014, youth under the age of twenty made up 45% of statewide Poison Center calls – since legalization in 2012, these calls have increased to 80%
- Youth treatment admissions for marijuana have remained between 66% and 70% of overall admissions since 2010
- Section Four: Adult Impacts
 - 24% of young adults (18-25) consumed marijuana at least once during the past-month in 2014 – 17% used at least once a week and 6% were daily users
 - Washington State young adults (18-25) past-year marijuana use was 6% higher than the nation's in 2012-2013 - Washington adults (26+) were 5% higher
 - Washington State young adults (18-25) and adults (26+) past-month marijuana use was 5% higher than the nation's in 2012-2013
- Section Five: Impaired Driving
 - 44% of marijuana DUI cases for 2015 (January – April) tested by the Washington State Patrol Toxicology Lab were over the legal limit of 5 nanograms per milliliter of blood
 - 64% of the marijuana DUIs reported by the Spokane Valley Police Department during 2014 involved youth
 - 61.9% of drivers do not believe marijuana makes a difference in their driving ability according to the Roadside Survey conducted by the Washington State Traffic Safety Commission
 - Drivers with active THC in their blood involved in a fatal driving accidents have increased 122.2% from 2010 (16) to 2014 (23) according to the Washington State Traffic Safety Commission
- Section Six: Diversion
 - Youth (12-17) accounted for 74% of all state marijuana seizures in 2014 compared to 28.9% in 2010
 - Since legalization in 2012, Washington State marijuana has been found to have been destined for 43 different states throughout the United States
 - 32,059 grams of marijuana was seized during the first nine months of 2015 on highways and interstates across Washington State
 - Since 2012, 320 pounds of Washington State-origin marijuana was seized during attempted parcel diversions
- Section Seven: THC Extraction
 - 17 THC extraction lab explosions occurred in Washington State in 2014
 - Operation Shattered charged four separate explosions in federal court
- Section Eight: Marijuana-Related Crime
 - The most common marijuana-related crimes reported to the Spokane Valley Police Department for 2015 (January – August) were possession (21), theft (14), and harassment (11)
 - 80% of the quantitation cases submitted to the Washington State Patrol Crime Lab for testing involved minors
- Section Nine: The Current Markets

- Total sales generated in the recreational marijuana market from June 2014 to July 2015 totaled \$307,560,066
- Total state excise taxes generated in the recreational marijuana market from June 2014 to July 2015 totaled \$76,621,302
- Total taxable retail sales reported by the medical marijuana market for FY 2015 totaled \$109,239,149
- Total state retail sales, business and occupation, and local retail sales taxes due from the medical marijuana market for FY 2015 totaled \$11,031,511
- The Tulalip Reservation organized the Tulalip Marijuana Conference for tribal leaders across the nation to weigh the possibility of becoming involved in either the medical or recreational marijuana markets
- Section Ten: The Upcoming Markets
 - Senate Bill 5052
 - Restructuring of the medical marijuana market with new regulations begins July 1, 2016
 - House Bill 2136
 - New taxing structure and disbursements began July 1, 2015
 - House Bill 2000
 - State agreement with federally recognized tribes concerning marijuana

Section 1: Legal Overview

Introduction

In 1998, Washington State legalized marijuana for medicinal use and thereafter became the second state to legalize marijuana for recreational use in 2012. The emergence of both markets and the reformulation of laws have caused major shifts affecting law enforcement, public health institutions, and cultural perceptions. The bills that will be analyzed include:

- 1998: Medical Use of Marijuana Act (Initiative 692)
- 2007: Concerning the Use of Medical Marijuana (House Bill 6032)
- 2009: Concerning Medical Marijuana (Senate Bill 5798)
- 2011: Concerning the Medical Use of Cannabis (Senate Bill 5073)
- 2012: Legalization of Recreational Marijuana (Initiative 502)
- 2014: Concerning Marijuana Processing and Retail Licenses (House Bill 2304)

Washington State's History with Medical Marijuana

Initiative 692, the Medical Use of Marijuana Act, was passed by Washington State voters in 1998. This legalized the use of marijuana for qualified patients with certain conditions. During this time, physicians and osteopathic physicians were the only professionals allowed to issue authorizations. The qualified conditions for patients included: cancer, HIV, multiple sclerosis, epilepsy, spasticity disorder, seizure disorders, intractable pain, and glaucoma. Primary caregivers were an option for patients with the responsibility for the patient's housing, health and/or care. These patients were allowed to possess a 60-day supply of marijuana.

In 2008, ten years later, House Bill 6032, Concerning the Medical Use of Marijuana, was passed. This bill specified what the permitted 60-day supply entailed: twenty-four ounces of useable marijuana and up to fifteen marijuana plants for home cultivation. The bill also added new medical conditions: hepatitis C, Crohn's Disease, and diseases such as anorexia that result in nausea, vomiting, spasms, and appetite loss that are unrelieved by standard treatments or medications. Lastly, the title "primary caregiver" was changed to "designated providers" who were no longer responsible for providing housing or additional care. The sole obligation of these providers was to supply marijuana to only one patient at a time

Senate Bill 5798 was passed during the 2009 legislative session. Additional healthcare professionals were added to grant authorization for patients. These included physicians' assistants, osteopathic physician's assistants, naturopaths, and advanced registered nurse practitioners. Valid documentation of an authorization to use marijuana as medicine was also now to be issued from the healthcare professional on tamper-proof paper.

In the same year congress passed Senate Bill 5798, prompting the federal government to issue a memo from United States Deputy Attorney General David Ogden. As marijuana is illegal at the federal level, the memorandum explained when the use of federal resources was allowed

for enforcement. The message to all United States Attorneys was to not get involved if individuals were compliant with the laws the state enacted regarding medical marijuana. The only instances where the federal government would be concerned involved these activities:

- Unlawful possession or unlawful use of firearms;
- Violence;
- Sales to minors;
- Financial and marketing activities inconsistent with the terms, conditions, or purposes of state law, including evidence of money laundering activity and/or financial gains or excessive amounts of cash inconsistent with purported compliance with state or local law;
- Amounts of marijuana inconsistent with purported compliance with state or local law;
- Illegal possession or sale of other controlled substances;
- Ties to other criminal enterprises;

Thirteen years after the legalization of medical marijuana in Washington State, the examination process between the healthcare provider and the patient was formalized. Senate Bill 5073 stated that an examination of the patient was needed to verify the medical condition before the authorization for marijuana use was to be issued. Also, the bill stated that “collective gardens” were now an option for patients. These gardens were allowed a maximum of forty-five plants and seventy-two ounces of useable marijuana. Up to ten patients or providers were allowed to be members of the garden at any given time.

Collective gardens quickly came to include “dispensary” storefronts also known as “healthcare access points”. These illegal businesses flourished, selling to an unaccounted number of individuals with no limits on production. No requirements from the state were implemented to license these illegal businesses. With such lack of oversight and the push to supply convenience to consumers, the medical marijuana market became connected to black market operations.

With the expanding qualified conditions list and proliferating healthcare access points, the number of patients was growing as quickly as the market. Due to the lack of a registry system, there are currently an unknown number of medical marijuana patients in the state. Estimates of the total number of patients, providers, and dispensaries in the state are at best speculative.

Washington State’s History with Recreational Marijuana

The legalization of recreational marijuana was passed by the voters in November of 2012. Initiative 502 (I-502) passed with 55.7% of Washington State voters approving legalization. Out of the thirty-nine counties, twenty voted for the initiative and nineteen voted against.

Individuals twenty-one years of age and older were now able to consume, possess, and buy marijuana legally. The initiative also marked the start of a new commercial industry.

Residents had the ability to become licensed business owners in the recreational market. These licenses allow an applicant to be a producer, processor, or retailer of marijuana.

House Bill 2304 added additional parameters to the original legalization language, addressing concentrated products, possession amounts, and licenses.

The Washington State Liquor and Cannabis Board (formerly the Washington State Liquor Control Board) is the legal authority over the recreational marijuana market for Washington State.

The Board has the power to adopt or amend rules as they see fit for the businesses, set regulations on products for consumers, and organize all recreational licenses within the state. Responsibilities also include establishing rules for all production, testing requirements, packaging and labeling, and marijuana products.

In 2013, the Washington State Liquor and Cannabis Board (WSLCB) released the formalized rules for the recreational marijuana industry, derived from a combination of bills passed to expand the products available for consumption and possession. Shortly after, the licensing window was opened; licenses were then issued at the beginning of 2014. Commercialization started in July of 2014.

As with the legalization of medical marijuana, recreational marijuana is also illegal at the federal level. A memo was released by the Department of Justice's Office of the Deputy United States Attorney James Cole in 2013 addressing federal concerns. The Cole Memo was directed to federal prosecutors and federal law enforcement agencies and identified the eight priority areas that states needed to ensure would not be violated:

- Preventing the distribution of marijuana to minors;
- Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels;
- Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
- Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;
- Preventing violence and the use of firearms in the cultivation and distribution of marijuana;
- Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
- Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands;
- Preventing marijuana possession or use on federal property;

The year following the Cole Memo, the Department of Justice issued another memorandum in regard to marijuana known as the Monty Wilkinson Memo. Sovereign Indian Nations requested guidance on how legalizing marijuana would impact Indian Country. The same Cole Memo priorities applied if sovereign nations opted to legalize the cultivation or use of marijuana. No changes to the authority or jurisdiction of United States federal law were

attached to the memo. If enforcement was needed, then the memo directed United States Attorneys and the affected tribes to consult on the matter on a government-to-government basis.

The federal government has thus set the parameters for the legalization of marijuana to unfold in Washington State and sovereign Indian Country. Just as the Ogden memo stated its priorities concerning medical marijuana, recreational marijuana has to recognize those priorities.

Conclusion

Currently, three markets exist in the state: recreational, medical, and illicit. The illicit black market operates illegally through its activities, the medical market is considered “grey” due to the lack of regulation and oversight, and the recreational market is expected to promise a solution for the state through regulation. Even with full legalization, all markets remain viable and in operation. This report will showcase which effects and impacts have occurred as a result.

With Washington legalizing a federally illegal drug, the state hosts an experiment the entire nation will closely watch unfold. Depending on the politician, police officer, consumer, or citizen, perceptions differ on how the cards will fall. This report will provide a snapshot of the state following the legalization of recreational marijuana and discuss the state’s relationship with the medical marijuana market.

Section 2: Regulatory Overview

Introduction

This section will provide an overview of the regulatory functions the Washington State Liquor and Cannabis Board (WSLCB) established for legalized recreational marijuana. Topics will include: possession, licensing, production, testing, packaging, labeling, advertising, and licensing violations. Within each topic, the rules and breakdown will be explained. Examples will be provided on impacts and what the recreational landscape looks like for the state.

Data Summary

- Recreational marijuana consumers may legally buy up to 2,529 grams of marijuana per transaction which includes useable, concentrate, and infused products;
- By July 2015: 1,164 licenses were issued – 533 producer, 460 processor, 171 retailer licenses representing 735 individual businesses;
- 59,394 pounds (950,304 ounces) were produced during one year of recreational commercialization;
- 68% of the marijuana-infused products in the state fall within the baked goods or desserts category;
- 90% of public safety violations against recreational licensees deal with minors
- The average potency of marijuana flower for one Seattle-based retailer during the month of July 2015 was 21.24% - for marijuana concentrates the average potency was 72.76%.

Possession

Recreational Marijuana

With the legalization of marijuana in the state of Washington, a possession limit for those twenty-one years of age and older was set:

- 1 ounce (28.3 grams) of useable marijuana
- 7 grams of marijuana concentrate
- 16 ounces of marijuana-infused product (edibles)
- 72 ounces of marijuana-infused product (liquid)

Under the Washington State Administrative Code (WAC) 314-55-095¹, serving sizes and transaction limits are defined. A single transaction is not allowed to go over the set possession limits.

A single serving size for a marijuana-infused product (solid or liquid) cannot exceed ten milligrams of active tetrahydrocannabinol (THC) or Delta 9 – the compound in marijuana that creates the psychoactive effects. The maximum number of servings in an infused product is ten servings or 100 milligrams of active THC or Delta 9. Examples are shown below:



The photo on the left is a marijuana-infused chocolate-chip cookie with 10mg of THC – the equivalent of a single serving size. The photo on the right shows marijuana-infused “drops” that are directed to be added to any beverage the consumer chooses. The product contains 100mg of THC – the maximum serving size allowed per product.

There are no serving sizes established for useable marijuana or concentrates.

Under this WAC, there is no limit on how many times a consumer may buy marijuana in a day. The only limitation is how much is allowed to be purchased at one time.

Legal consumers over twenty-one years of age are allowed to buy up to 2,529 grams of marijuana in a state-licensed marijuana retailer in one single transaction. This includes marijuana in useable and concentrate form alongside both types of infused products.

Medical Marijuana

When medical marijuana legislation was originally passed, the state set a “sixty-day supply” for the amount qualified patients and caregivers could possess. In 2007, the state passed a law identifying a new possession limit: fifteen plants and twenty-four ounces of useable marijuana. Collective gardens were set at forty-five plants and seventy-two ounces of useable marijuana. These gardens quickly evolved into illegal storefronts throughout the state. These became the three access points for the medical market in addition to the black market: home grows, collective gardens, and illegal dispensaries.

The law only addressed the total number of plants that were allowed but no consideration was given to how large these plants could be grown. Norms for the state soon entailed marijuana plants in the form of trees rather than small bushes. With marijuana plants reaching such a large size, the pound yield is extremely high. Law enforcement has encountered single plants that generate several pounds per harvest.

This photo provides an example of what a typical outdoor marijuana plant looks like².

As reference, a pound of marijuana is equal to about 453 grams. These plants can reach over six feet in height and width. Multiply by fifteen plants per patient and the total grams are significant. Multiply by forty-five plants per collective garden and the same conclusion is drawn – more marijuana than permissible by law.



SOURCE: LEAD Task Force

Licensing

Recreational Options and Process

Applications to become a licensed business in the recreational marijuana market were accepted during a thirty day period in December of 2013. All applications were sent to the WSLCB which began issuing licenses at the beginning of 2014³. The WSLCB established three license categories for which applicants could apply:

- **Producer**
 - Responsibilities: harvesting marijuana and selling marijuana, marijuana plants, seeds, and plant tissue cultures to licensed processors in the state at a wholesale price;
- **Processor**
 - Responsibilities: processing, packaging and labeling useable marijuana and marijuana-infused products (liquid and solids) to sell to licensed retailers in the state at a wholesale price;
 - Restrictions: no infused products that require refrigeration, freezing or hot holding environments;
- **Retailer**
 - Responsibilities: selling useable marijuana, marijuana-infused products, and marijuana paraphernalia to persons twenty-one years of age or older;
 - Restrictions: no selling of butane, extraction tubes, and/or blenders for home extractions; no allowing anyone under the age of twenty-one to be on the

licensed premise; no open consumption or open containers on the licensed premise.

The basic requirements for an applicant included being at least twenty-one years of age, having resided in Washington State for the past three months, and the ability to pass a criminal history investigation. These same requirements applied to the financiers of the licensing applicant as well.

For a retail license, certain limits applied. First, this was a discrete license that could not be held in combination with a producer or processor license. Secondly, the Board set a limit of 334 total retailers statewide. The WSLCB calculated the total number of retailers allowed per city and county based upon population and total jurisdiction⁴.

Once the cap was set, if more applications were received for a jurisdiction than allowed by the cap, a lottery was to take effect. For example, King County received 191 applications but was capped to only allow sixty-one retailers. A total of seventy-five jurisdictions subsequently required a lottery.

Producer and processor licenses were not limited by a capped amount. These licenses may also be held in combination or as a standalone license. Applicants may not have a direct financial interest in a marijuana retailer. Any business may have up to three licenses. For producers, there are three tiers to choose from:



SOURCE: www.twitter.com/zootology

- Tier one: less than 2,000 square feet;
- Tier two: 2,000 – 10,000 square feet;
- Tier three: 10,000 – 30,000 square feet.

All marijuana businesses were subjected to boundaries. Restricted zones were created for certain protected locations. A buffer zone was set at 1,000ft from locations such as:

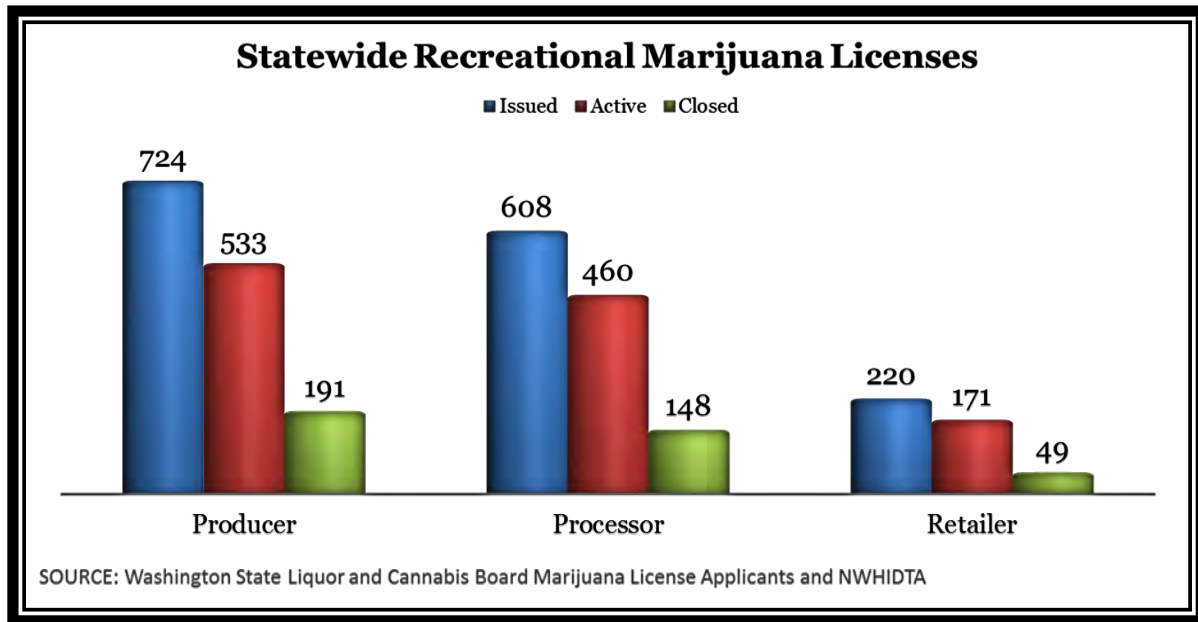
- Elementary or secondary schools
- Playgrounds
- Recreation center or facilities
- Child care centers
- Public parks
- Public transit centers
- Libraries
- Any game arcade (where admissions is not restricted to persons twenty-one and older)

After the application window closed, the WSLCB licensing division began the issuing process. This included a telephonic interview, announcement to local authorities, and evaluation of the proposed business location. Additionally, applicants were required to submit all business documentation, operating plans, and identify all financiers. After the applicant passed all the elements of the process, the license was issued⁵.

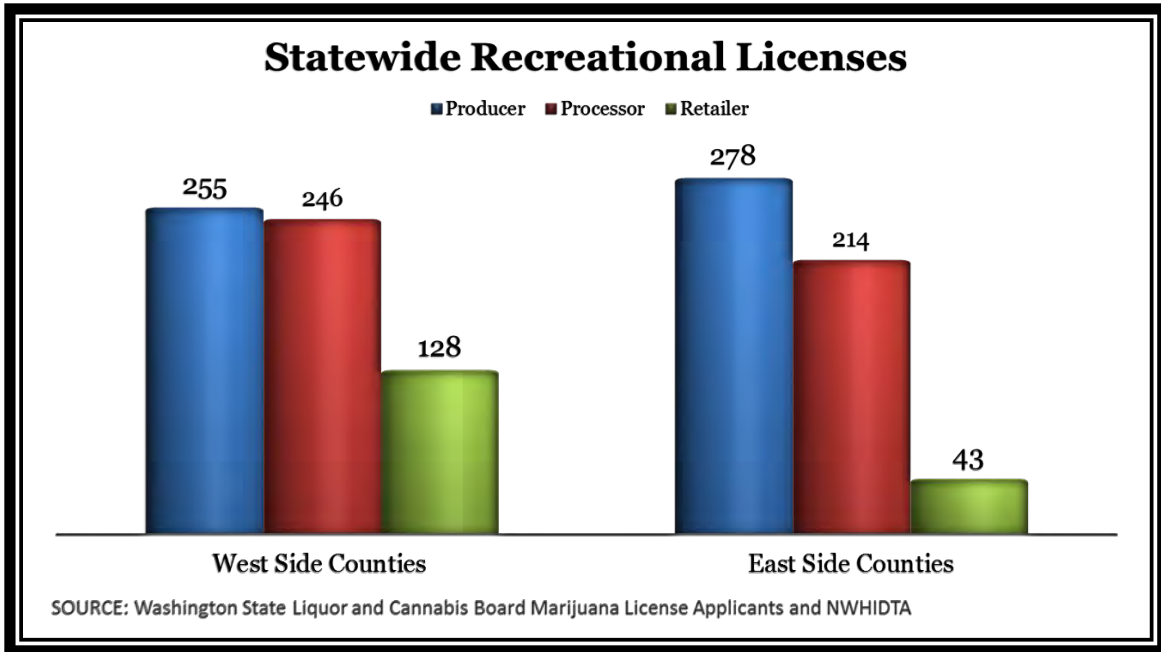
Fees established for the licensing process include an application fee of \$250, a \$15 processing fee, a \$5 registration fee with the Business Licensing Service, and an annual renewal fee of \$1,000 per license.

Recreational Licensing Landscape

From July 2014 to July 2015, there were a total of 1,552 recreational marijuana licenses issued⁶. Of that, 388 licenses closed down leaving a total of 1,164 active licenses open for operation. See below:



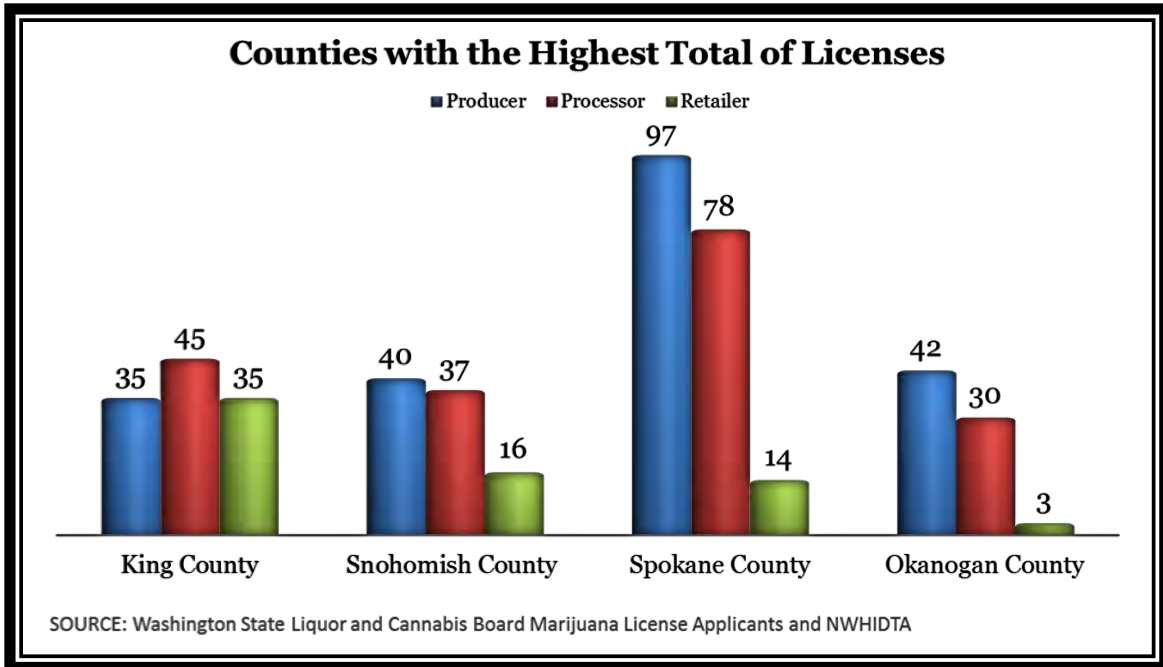
Of that total, 724 were producer licenses although 191 were later closed permanently leaving 533 licensed producers in operation. The number of processor licenses was 608, with 148 having closed permanently, leaving 460 active licenses. Finally, 220 retailing licenses were issued; forty-nine later closed which left 171 remaining open. The counties that lost the greatest total number of licenses were: King (84), Snohomish (48), Pierce (35), Clark (26), and Thurston (22).



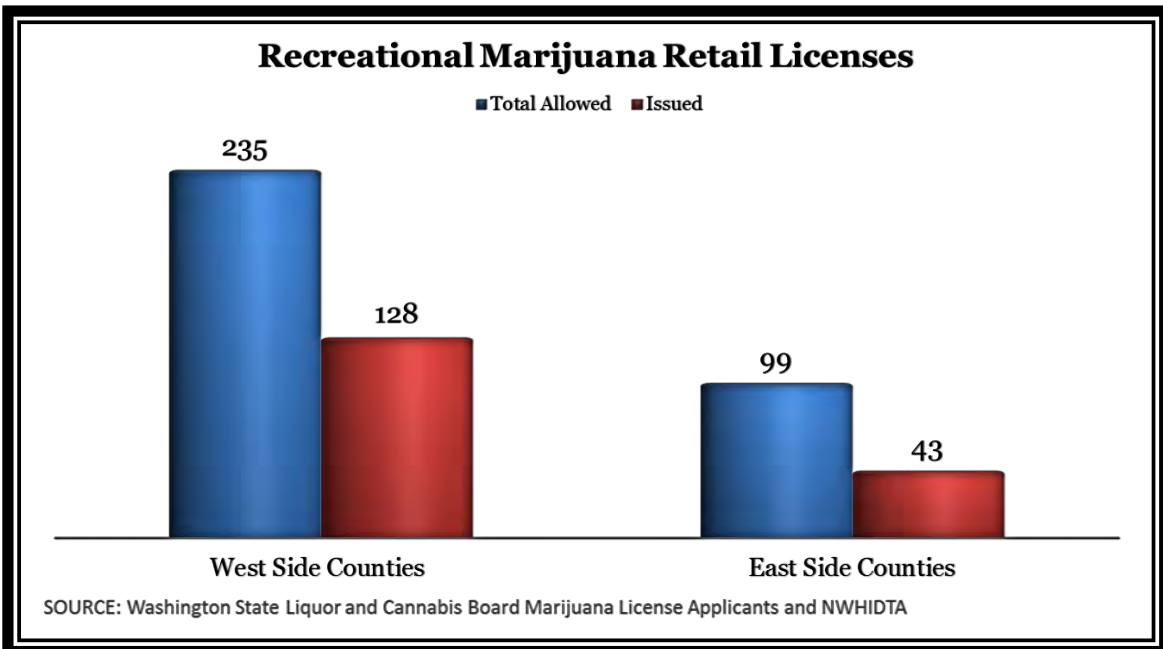
Washington State is distinctively characterized as having two regions in the state: west and east. Culturally it is known that the west side of the state is more liberal and urban whereas the east side is more conservative and rural. The county breakdown is as follows:

- West side counties: Whatcom, Skagit, Snohomish, King, Pierce, Lewis, Skamania, Clark, Cowlitz, Wahkiakum, Pacific, Grays Harbor, Mason, Jefferson, Clallam, Island, Kitsap, San Juan, and Thurston
- East side counties: Okanogan, Chelan, Kittitas, Yakima, Klickitat, Douglas, Grant, Benton, Ferry, Stevens, Pend Oreille, Lincoln, Spokane, Whitman, Adams, Franklin, Walla Walla, Columbia, Garfield, and Asotin

The graph above highlights where the active licenses are located within the two sides of the state. Western counties had 629 active licenses and eastern counties totaled 535. Furthermore, western counties accounted for 47.8% of producer licenses and 53.4% of processor licenses. Out of the 171 retailer licenses issued, 74.8% are located on the west side of Washington State, with the eastern counties home to 52.1% of producer licenses, 46.5% of processor licenses, and 25.1% of retailing licenses.

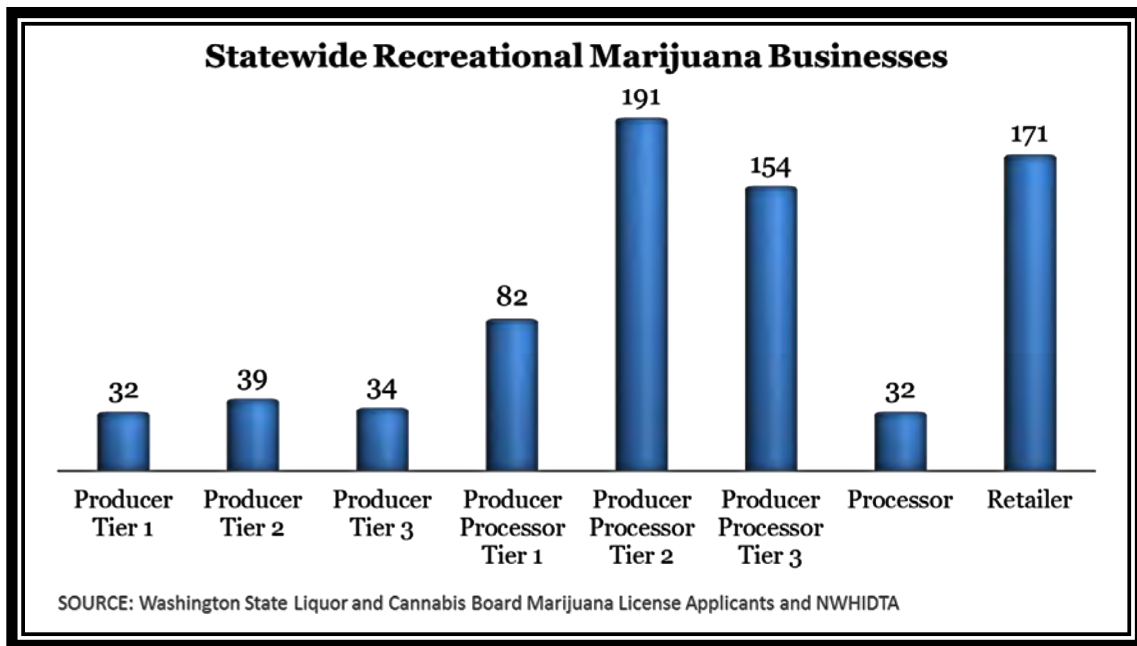


The counties with the highest total number of licenses issued are: King, Snohomish, Spokane, and Okanogan counties. King County holds 115 licenses, Snohomish County totals ninety-three licenses, Spokane County is the most active county with 189 licenses, and seventy-five licenses have been issued in Okanogan County.



Of the 334 retailer licenses to be issued, 70.3% are located on the western side of the state. The 235 retail licenses that have been designated in the west, only 128 have been issued. Eastern licenses issued are at forty-three of the ninety-nine total allowed licenses.

According to the Association of Washington Cities, 90% of the population residing in Washington State lives within ten miles of a marijuana retail store. Roughly 93% of residents live within twenty miles of a retailing location⁷.



It is important to keep in mind that there is a difference between the number of licenses issued and total number of businesses. For example, producers and processors may hold one license number which would apply to two licenses under one business.

Of the 1,164 marijuana licenses issued, there are a total of 735 recreationally licensed businesses operating in the state. By comparison, there are 559 Starbucks locations statewide. The combination licenses for producers and processors make up 58% of the total number of marijuana businesses while retailers entail 23.2% of the industry.

Of the producer-only licenses, seventy-five are located on the eastern side of the state and thirty are located in the west. Dually-licensed producers and processors are split almost evenly between both sides of the state: 52.4% in the west and 47.6% in the east. Two thirds of processor licenses are located on the west side of the state with a third located on the east side.

Recreational Impact on Local Jurisdictions

Soon after legalization, local governments were taking individual stances on the recreational market. Many passed restrictive ordinances for their jurisdictions and questioned if state law preempts local ordinance.

In January of 2014, the State Attorney General’s Office issued a formal opinion on the issue. They concluded that state law would not impede local jurisdictions. This left cities and counties free to decide how they would react to marijuana businesses⁸.



SOURCE: Municipal Research Services Center and NWHIDTA

The Municipal Research Services Center (MRSC) collects data on local jurisdictions and the ordinances they enact involving all types of marijuana business licenses⁹. The zonings are categorized in six major groups:

- Allowed under existing zoning: businesses are not specifically allowed, but are allowed in appropriate zones;
- Permanent zoning: specifically allowed in designated zones;
- Interim zoning: provisional zoning for businesses that includes review processes and amendments with set time periods;
- Moratorium zoning: prohibited businesses until the state legislature deliberates on the subject more thoroughly;
- Prohibited zoning: businesses are not allowed;
- No action: have not taken a specific stance regarding marijuana businesses.

The position a county takes with regard to its zoning can be much different than the views of its voters. The following tables on the right detail how counties decided on their zoning in relation to how the county voted on legalization¹⁰.

Counties that Voted For I-502		
County	Yes	Zoning
Chelan	51.58%	Allowed
Clallam	54.93%	Allowed
Ferry	51.05%	Allowed
Grays Harbor	53.97%	Permanent
Island	55.58%	Permanent
Jefferson	65.23%	Moratorium
King	63.49%	Permanent
Kitsap	55.95%	Permanent
Mason	55.32%	Permanent
Okanogan	51.40%	No Action
Pacific	54.20%	Prohibited
Pierce	54.04%	Prohibited
San Juan	68.29%	Allowed
Skagit	54.60%	Interim
Skamania	53.26%	Permanent
Snohomish	54.59%	Interim
Spokane	52.15%	Interim
Thurston	55.69%	Interim
Whatcom	56.85%	Interim
Whitman	51.99%	Allowed
Source: Washington Secretary of State, General Election Results, 2012		

Counties that Voted Against I-502		
County	No	Zoning
Adams	60.62%	Allowed
Asotin	51.00%	No Action
Benton	56.41%	Allowed
Clark	50.32%	Prohibited
Columbia	54.32%	Moratorium
Cowlitz	53.65%	Permanent
Douglas	51.13%	Allowed
Franklin	61.06%	Moratorium
Garfield	62.17%	Moratorium
Grant	55.41%	Allowed
Kittitas	51.58%	Permanent
Klickitat	50.36%	Moratorium
Lewis	55.38%	Moratorium
Lincoln	58.14%	No Action
Pend Oreille	50.65%	No Action
Stevens	53.47%	Interim
Wahkiakum	51.46%	Permanent
Walla Walla	55.04%	Prohibited
Yakima	57.81%	Prohibited
Source: Washington Secretary of State, General Election Results, 2012		

Of the twenty counties that voted against legalization, 40% have implemented either a moratorium or have prohibited zoning. In counties that voted for I-502, only 15% have zoning against marijuana businesses. In total, fifteen west-side counties and five east-side counties were in favor of legalized marijuana. For those counties opposed, fourteen were located in the east with five located in the west.

According to the Policy Surveillance Report published by the Public Health Department for Seattle and King County, less than 50% of local jurisdictions have zoned specifically for recreational marijuana. Some jurisdictions have opted to use pre-existing zoning for these businesses under the umbrella of either general retail or general processing. Of the 180 jurisdictions they examined, fifty-six had imposed a moratorium and fourteen had full bans against marijuana businesses. More of these bans were enacted on the western side of the state¹¹.

It is noteworthy, that incorporated cities within all counties are able to take an opposite stance from the county on marijuana businesses. Each city and county is able to adopt ordinances in the way they see fit by means of their city council or based on local voting. Examples include:

- City of Woodland: permanent zoning for producers and processors, but not for retailing locations¹²:

- Located in both Clark County, with prohibited zoning, and Cowlitz County, with permanent zoning;
- City of Federal Way: ban imposed on retailing locations¹³:
 - Located in King County which has permanent zoning.

With the different variations of the law being imposed, businesses have often been caught between the state's stance and the local jurisdictions. The primary issue is that many business owners believe that a state license trumps all local jurisdictional business licenses. This is not the case. In order for a licensee to legally open shop, it needs to be recognized by both the state and the city or county in which it wishes to operate.

The City of Yakima encountered this issue in June of 2015¹⁴. A retailer received a WSLCB license to open shop but the city had banned marijuana businesses as directed by the Yakima City Council on a 6-1 vote in 2014. Due to this ban, there was no avenue for marijuana businesses to receive the necessary city business licenses, complete city inspections, or meet code compliance. Nonetheless, the shop opened with just the state-issued license. The Yakima City Office of Code Enforcement sent building inspectors to shut down the business four days after it opened.

Citizens within city and county jurisdictions have also had a voice in deciding marijuana business locations. A marijuana retailer proposed a planned location to the city of Everett but residents were opposed. The location was a house that was zoned for retail business but was located in a family neighborhood¹⁵. The neighbors took the issue to the city which found in favor of the retailer¹⁶. The business was granted a business license as the application completed at the time met all regulations set forth by the city. The city released a statement indicating that granting the license avoided the potential risk of facing a lawsuit filed by the marijuana business.



SOURCE: www.kirotv.com

Shifts on the part of city and county councils regarding zoning have also taken place. Some cities, such as Granger, have continually extended their ban on marijuana businesses.

Others, such as Woodland, have established permanent zoning for producers and processors but zoning for retailers has not been approved.

Certain cities, such as Spokane Valley, have adopted clean air laws for all marijuana businesses. Businesses that do not abide by these rules face potential closure. Additionally, an emergency moratorium prohibiting new marijuana businesses from opening within Spokane Valley's jurisdiction has been enacted.

Medical Marijuana

When medical marijuana laws were first passed in Washington State in 1998, there was no consideration given to licensing or zoning. This has in part precluded any understanding about how expansive the industry is, allowing only an estimate of the number of patients, providers, collective gardens, and dispensaries that are located in communities.



SOURCE: www.thesmokingbud.com

Dispensary owners found cause to be more concerned about landlord tolerance than zoning compliance¹⁷. Seattle officials assume that over 100 dispensaries are located in the city and the state estimates upwards of 1,300 statewide. However, the only method to verify such numbers is to canvas all cities and counties. Local governments may opt to search permitting and licensing records to seek out these businesses but there is no guarantee that they will all be found. Depending on the name of the business used, they may avoid detection¹⁸.

The Policy Surveillance Report published by the Public Health Department for Seattle and King County examined local residents' responses to recreational and medical legalization in the state¹⁹. According to the responses, only eighteen jurisdictions in the area had zoned for the medical market. In 2014, when recreational sales started, those zoning ordinances jumped to thirty-one in addition to thirty-nine jurisdictions banning dispensaries and thirty-five imposing a moratorium.

Overall, 19% of cities and counties have some sort of permissible zoning in place. Fewer than 10% of all cities surveyed have enacted a buffer zone of 1,000ft from youth-serving spaces. There are 126 cities across the state that do not have restrictive buffer zones in place.

Production

Traceability

As Washington State has legalized a federally illicit, widely abused substance, for regulators, keeping track of all production activities is critical. The WSLCB contracted with BioTrackTHC to utilize their traceability software²⁰. The intention for this database is to track all marijuana, from seed-to-sale, and require all state-licensed businesses to use it.

When owners are issued their license, they must complete a one-time training on the traceability system. Once that is complete, the business is deemed to be compliant with the system. Other employees may be designated to operate the system but there is no mandatory training required by the WSLCB for these employees on how to utilize the system²¹.

All plants in the producer tier receive a barcode when the plant reaches eight inches in height. This barcode is required to be attached to the specific marijuana product through its entire production life. This is the sole identification system.

When products are sent in for testing, all product information is required to be logged in the system. Other requirements include entering the date of the destruction of a product, when plants are moved to another room, or when a shipment is made.

There are five examiners employed by the WSLCB who are assigned to oversee the state's recreational marijuana industry. This includes checking inventory, shipments, transports of product, ensuring testing standards have been met, and the overall accountability of the market. More importantly, it is intended to ensure that marijuana is not being sold illegally.

Transportation

Transporting marijuana is only permissible when entered into the traceability system. The system generates manifests for transportation as well as receipts, records, and notifications of shipments between businesses. All applicable information must be included on the manifest including the type, amount, and/or weight of the product being shipped. Additional information includes the name of the transporter, transporting vehicle, and expected delivery date and time²².

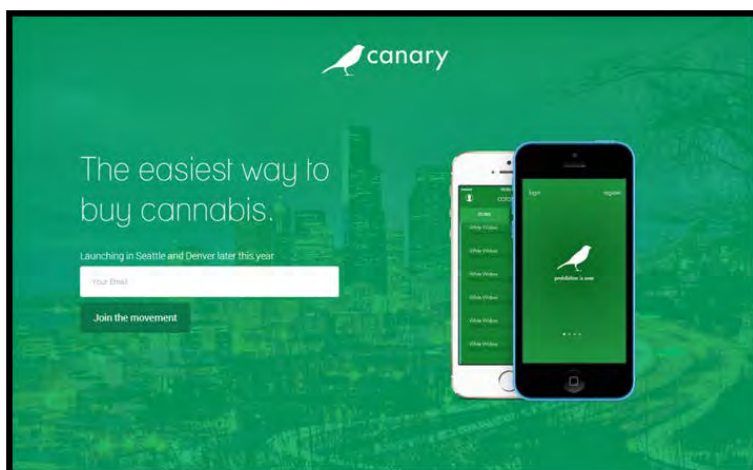
The manner in which marijuana is to be shipped requires that all products are in sealed packages and in a locked compartment within the vehicle. If the product being transported is plants, they must be in a fully enclosed, windowless locked trailer. Alternatives for transporting

plants can be via box truck or van. Only employees of the licensee or a certified testing lab are allowed to transport marijuana products.

Any product that is transported in the state without a manifest and that has not been entered into the traceability system is illegal. The regulations do not allow for any licensed business to transport product to residences, other businesses, or medical marijuana dispensaries/collective gardens.

Illegal delivery services jumped into the market almost immediately. Many presumed that with legalization, there were no laws against connecting consumers to the drug. “Street corner” marijuana dealers opened webpages and advertisements in newspapers attempting to pass as legitimate businesses. Other similar services continued to flourish on Craigslist, social media, and online ordering pages.

For example, one group of college students embraced the entrepreneurial spirit and created an app to connect medical marijuana patients to a delivery service from dispensaries called Canary²³. Another example was the Winterlife Cooperative in Seattle²⁴. Consumers could call, place their order, meet at an agreed location, and then exchange marijuana for cash. Deliveries were done on bikes throughout the city and in cars to reach further destinations.



SOURCE: www.canarydelivers.com



SOURCE: www.capitolhillseattle.com

These two services have since been shut down. Canary has now merged with another company to promote an app that organizes in-store marijuana pickups²⁵. The Winterlife Cooperative was granted a state processor license and now makes edible products available throughout Washington²⁶.

Estimating Production

The supply and availability of marijuana in the state of Washington has not been a concern for over twenty-five years. With an operational but murky medical marijuana market

and thriving black market, consumers were in a sustainable market place. The challenge for the state was to meet that demand within a recreational framework.

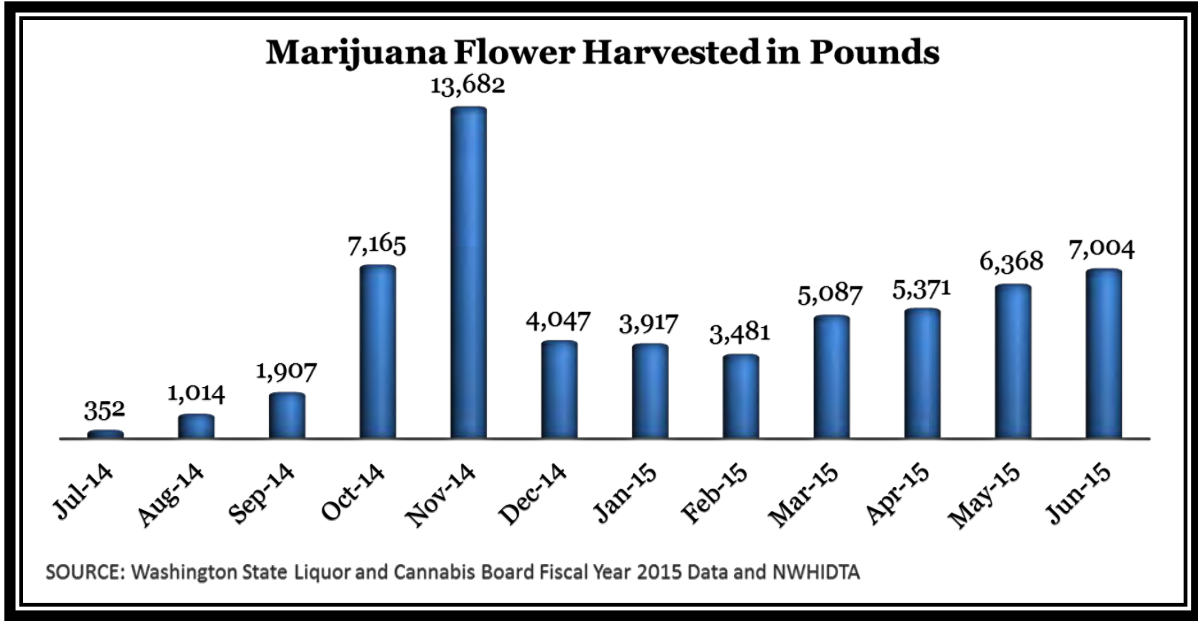
The RAND Corporation was contracted by the WSLCB to publish a report estimating the state's market before commercialization²⁷. RAND is a nonprofit policy research center that focuses on research and analysis on topics of policy and strategy. Their report provided highly detailed statistics on where the state was and what it needed to continue production for its marijuana consumers. Below are their findings specific to Washington State:

- The National Survey on Drug Use and Health (NSDUH) reported for 2010-2011 that the average total of consumers was 556,000;
- King, Snohomish, and Pierce County account for 50% of marijuana users with:
 - King County accounting for 30% of marijuana users;
 - Snohomish County accounting for almost 11% of marijuana users;
 - Pierce County accounting for almost 11% of marijuana users;
- High-frequency users of marijuana, those who consume more than twenty-one times a month, account for 80% of total consumption;
- High-frequency users of marijuana, those who consume more than twenty-one times a month, consume on average 1.3-1.9 grams during a typical day:
 - 9.1 grams – 13.3 grams a week;
 - 36.4 grams – 53.2 grams a month;
 - 436.8 grams – 638.4 grams a year;
- The total consumption of marijuana entailed 135-225 metric tons for 2013:
 - Or 297,624 pounds – 496,040 pounds a year.

In compiling the report, collecting exact data was not feasible and was based upon examining various datasets to build a snapshot for the state. Conclusions from the report admitted that overall consumption and consumption methods from the sampled populations might not be fully representative. The true level of consumption for Washington State residents is therefore only an estimate, not subject to verification.

Fiscal Year 2015

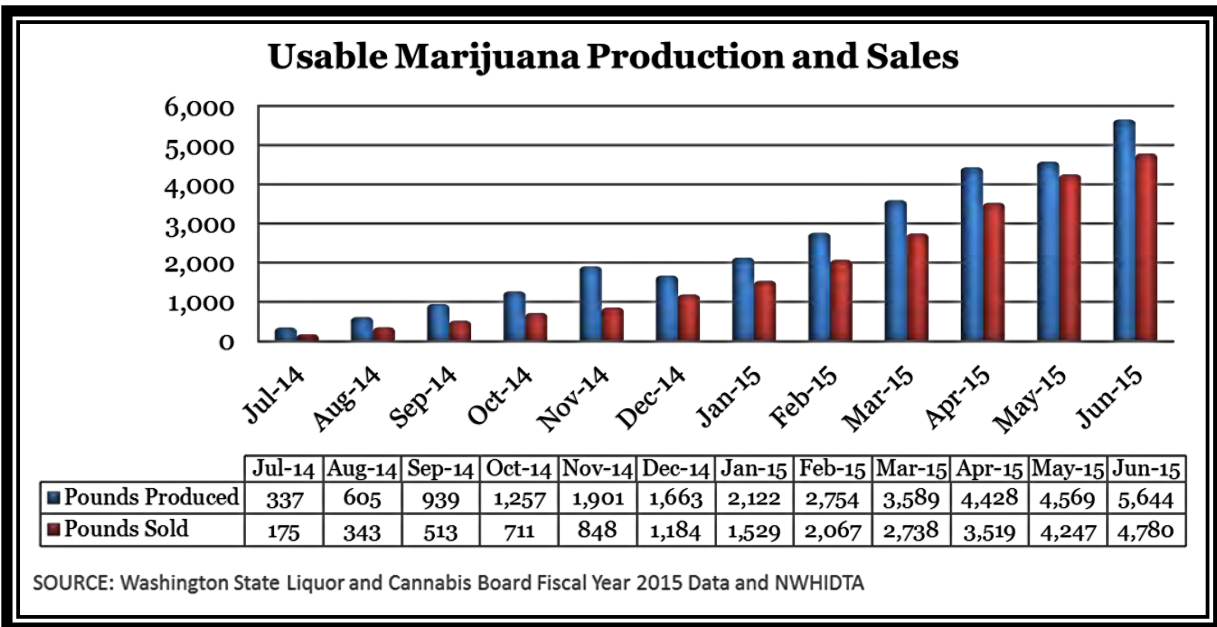
The WSLCB's traceability system was the first effort to quantify the state's recreational consumption of marijuana. The data below was obtained directly from licensed businesses through the WSLCB Fiscal Year 2015 spreadsheet²⁸.



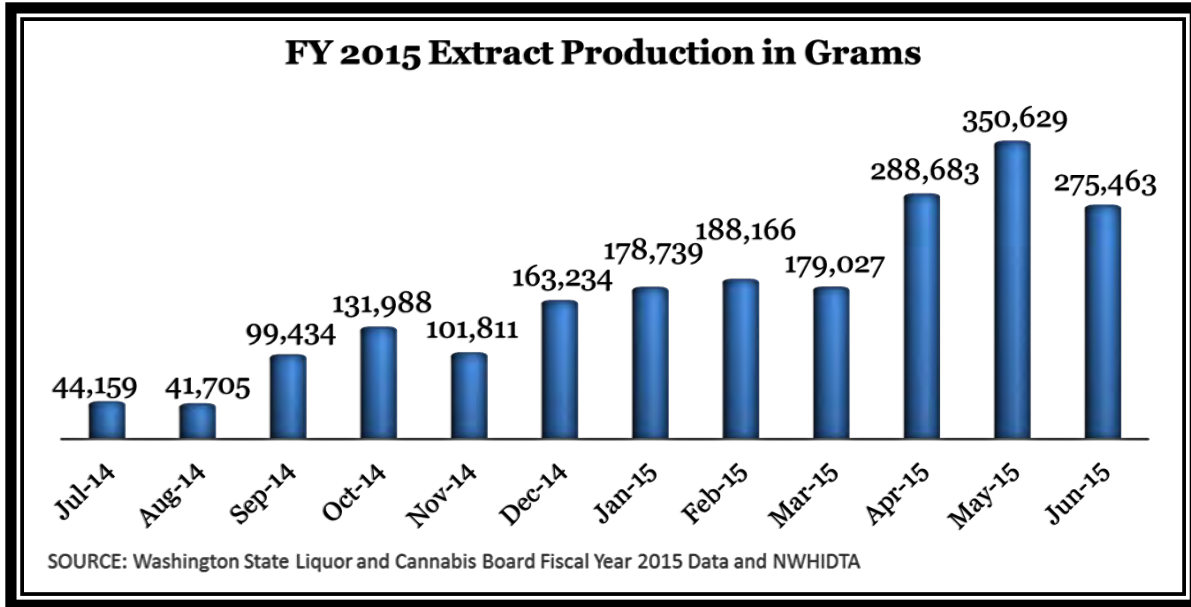
In one year of commercialization, 59,394 pounds (904,304 ounces) of marijuana was harvested from producers.

Since the legal limit of useable marijuana is set at one ounce, this would be equivalent to providing one ounce to each person in attendance at over fourteen full-capacity events at Century Link Field.²⁹

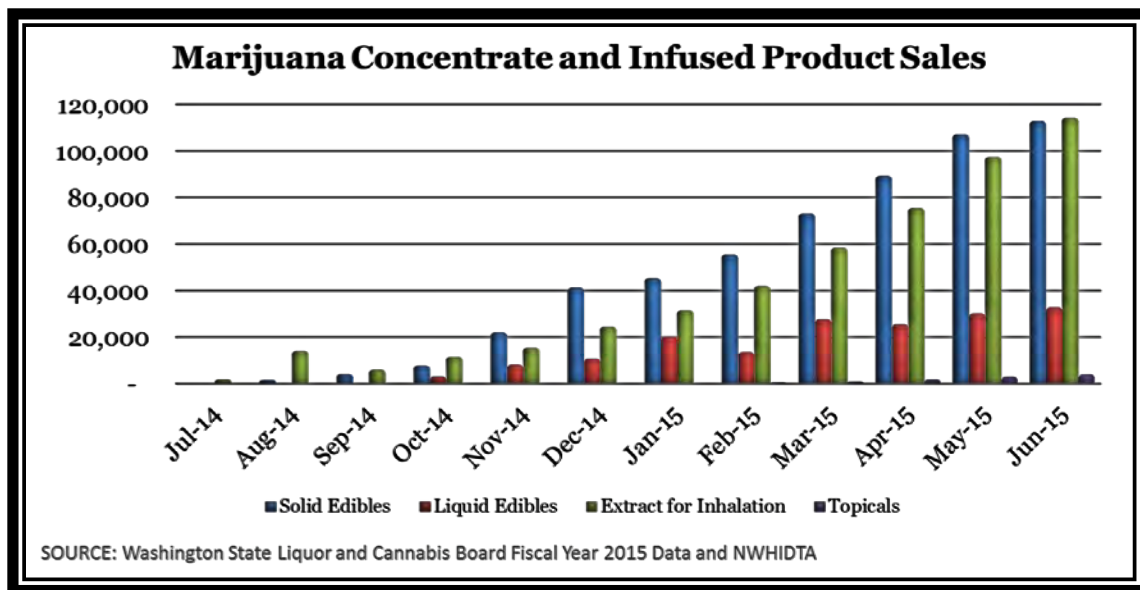
Furthermore, the state reports that over 29,940,896 grams have been produced. This would allow everyone in the state of Washington, regardless of age, to receive over four grams³⁰.



Of the pounds harvested, a total of 29,808 pounds were packaged for retail sale by processors. A total of 22,654 pounds of useable marijuana were sold, equaling 10,275,682 grams of useable marijuana. This graph shows the total amount sold by retailers to consumers in one year.



The total number of grams produced for extraction was 2,043,038. These extracts are used for marijuana concentrates, extracts for inhalation, and oil for marijuana-infused products.



The WSLCB defines a single marijuana product as “one unit”. No product can be greater in size than the transaction limits defined in WAC 314-55-095³¹. For example, marijuana concentrate has a transaction limit of seven grams. A transaction could therefore entail seven, one-gram products, or seven units, and be within the transaction limit³².

What this graph does not show is the purchase amount – this data treats one gram of marijuana concentrate and a half gram of marijuana concentrate as one unit. Sizes of what consumers are buying are not documented in detail.

The preceding graph shows that consumers are buying more solid edibles and extracts for inhalation than liquid edibles or topicals:

- Total edibles: 559,336 units;
- Total liquid edibles: 172,137 units;
- Total extracts for inhalation: 491,383 units;
- Total topicals: 10,661 units.

The combination of both solid and liquid edibles totals 731,473 units which exceeds the total number of units of extracts for inhalation. Thus, edibles were the top selling product as measured by number of units sold.

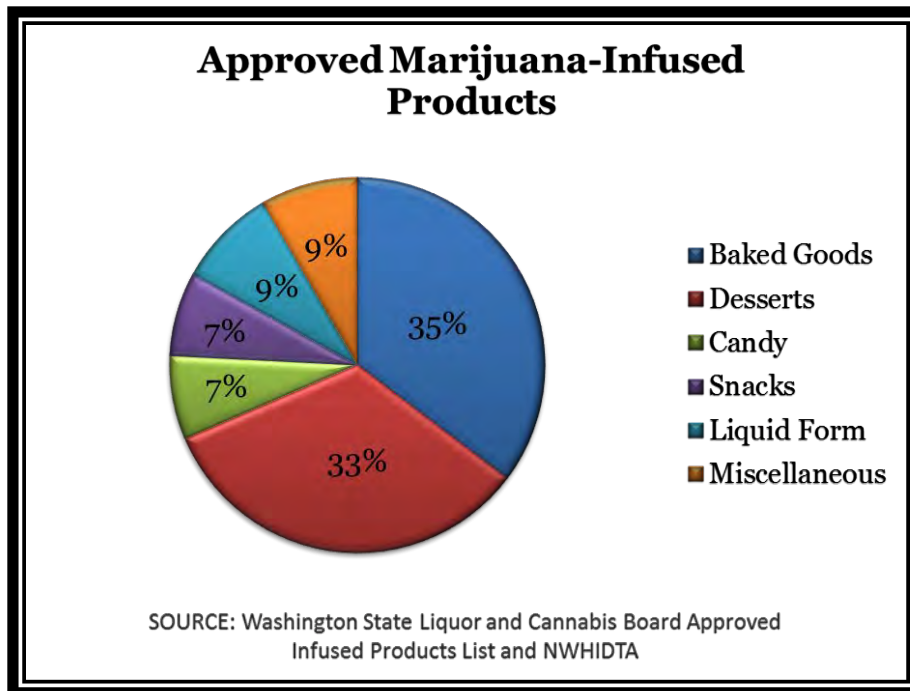
Marijuana-Infused Products

Increasing concern has been expressed across the nation regarding marijuana-infused products. As indicated by the FY 2015 data, consumers in Washington State are buying more with each month of commercialization. Protections applicable to this ever-growing part of the market were implemented by the WSLCB and Department of Agriculture.

Products must be first granted approval from the Department of Agriculture. Inspections are conducted in the manufacturing kitchens of the processors in the state to ensure best practices. In addition, recipes are reviewed to ensure proper labeling of major allergens and that the THC is evenly distributed throughout the product³³.

Once produced, the product moves to a four panel review process by the WSLCB. The product is examined in order to be categorized and to determine how much THC it contains. The guidelines imposed by the state are intended to keep marijuana products out of the hands of children - the first priority of the Cole Memo. The panel conducting this review is comprised of the rules coordinator, health liaison, enforcement unit, and licensing unit of the WSLCB³⁴.

Members of this panel understand that packaging with bright colors has a strong appeal to children as do certain products such as Rice Krispy treats and hot chocolate, products that have not been approved by the panel³⁵. The following chart depicts the categories of products that have been approved by the WSLCB panel³⁶:



The categories are:




- Baked goods: cookies, brownies, scones, biscotti, muffins, bread: 35%;
- Desserts: chocolate, caramels, truffles, brittle, fudge, mints: 33%;
- Candy: “pebbles”, “jewels”, “gems”, “nuggets”: 7%;
- Snacks: pita chips, granola, granola bars, trail mix, croutons, pretzels, nuts, fruit snacks: 7%;
- Liquid form: drinks, syrups, honey sticks, “shots”, cooking oil, olive oil: 9%;
- Miscellaneous: capsules, tinctures, breath strips: 9%.

In total, baked goods (cookies) and desserts (chocolates) account for almost 70% of the approved products on retail shelves. By the end of one year of commercialization, the WSLCB panel approved over 700 products and vetoed less than thirty products.

Marijuana Potency

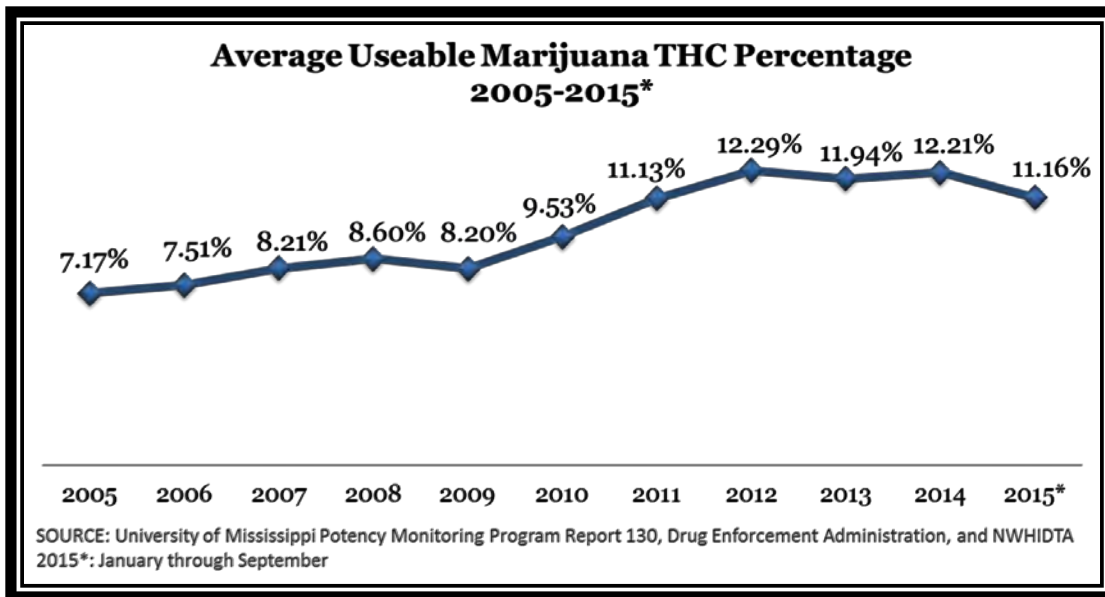
The potency of marijuana has been increasing at a steady rate since the 1990’s. Today’s marijuana is not your dad’s marijuana. This section will examine the potency of marijuana in useable, concentrated, and infused form based upon data gathered at a retail store located in Seattle³⁷. For comparison, national data is drawn from the University of Mississippi Potency Monitoring Program³⁸. The program is contracted by the National Institute on Drug Abuse to analyze marijuana seizures from the Drug Enforcement Administration (DEA) and various local and state law enforcement agencies.

The three strains of marijuana flower are sativa, hybrid, and indica. Sativa is described as uplifting and energetic while indica users report a body-numbing high. A hybrid is a mix of the two strains which will be different dependent upon which is more dominant³⁹. These three strains were examined for THC content at the Seattle retailer and then compared to national marijuana potency averages.

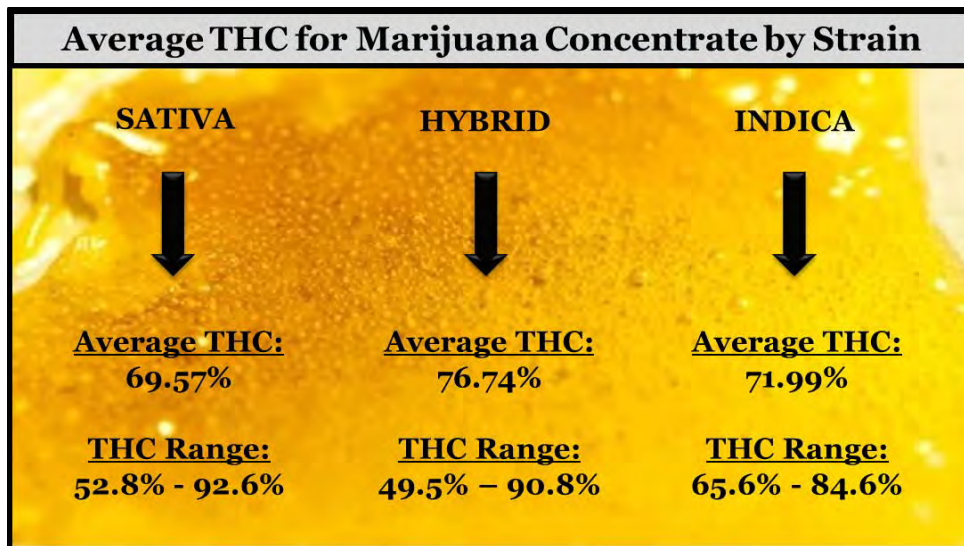
Average THC for Marijuana Flower by Strain		
SATIVA	HYBRID	INDICA
		
<u>Average THC:</u> 21.65%	<u>Average THC:</u> 21.35%	<u>Average THC:</u> 20.74%
<u>THC Range:</u> 14.50% - 28.28%	<u>THC Range:</u> 13.03% - 28.30%	<u>THC Range:</u> 11.50% - 26.40%

SOURCE: Uncle Ike's Pot Shop Menu and NWHIDTA

THC content during the month of July 2015 at the Seattle retail store found that sativa was at 21.65%, hybrid was at 21.35%, and indica was at 20.74%. All three strains for marijuana flower ranged from a low between 10% and 15% and peak levels between 26% and 28%. The overall average for all three strains was 21.24%. The average cost for one gram of marijuana flower, regardless of strain, during the month of July was \$16.32 including all applicable taxes.

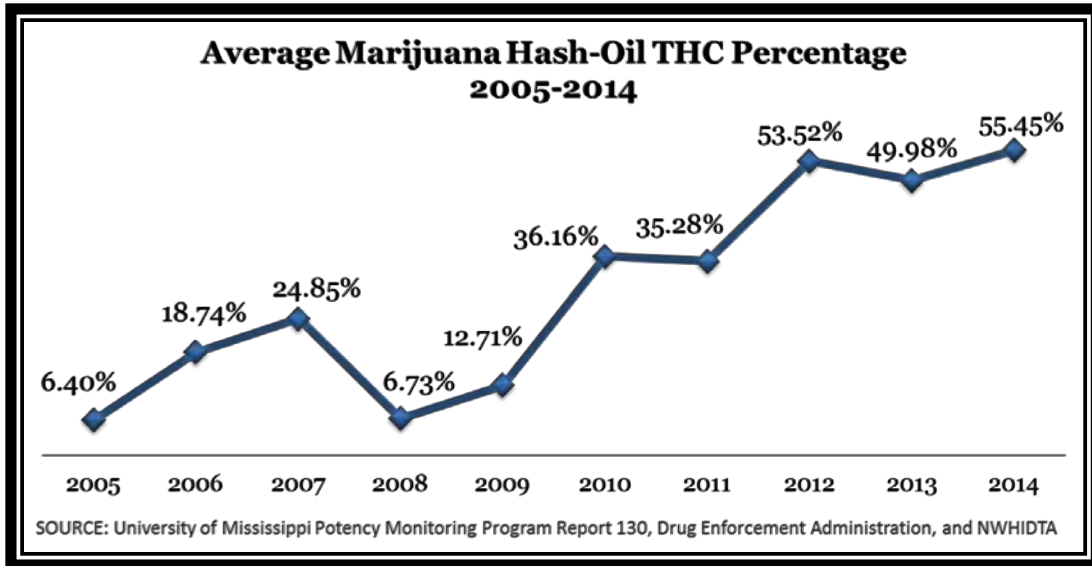


The average THC percentage for useable marijuana based on national samples was 11.16%, compared to the Seattle retail store’s average of 21.24%.



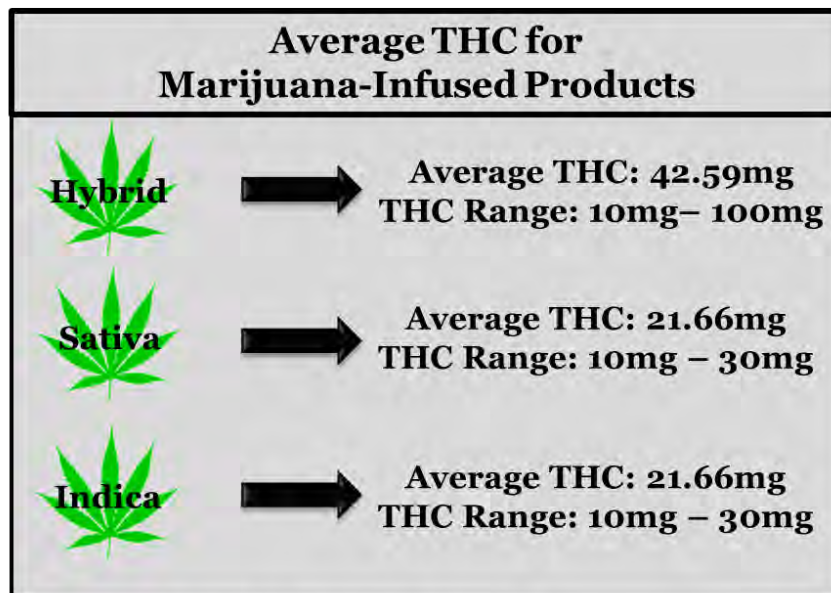
SOURCE: Uncle Ike’s Pot Shop Menu and NWHIDTA

An examination of marijuana concentrate potency during the month of July 2015 at the Seattle store found that hybrid was the highest at 76.74%. Indica was next at 71.99% and sativa was at 69.57%. The ranges for all three strains had a low between 49.5% and 65.6% and peak levels between 84.6% and 90.8%. The overall average for marijuana concentrates regardless of strain was 72.76%. The price of one gram of marijuana concentrate, regardless of strain, during the month of July was \$65.69 including all applicable taxes.



The average THC percentage for useable marijuana based on national samples was 55.45%, as compared to the Seattle store’s average of 72.76%.

Concentrates have become a significant commodity for marijuana businesses and are known as wax, budder, shatter, butane hash-oil (BHO), and other types such as bubble and sugar.



SOURCE: Uncle Ike’s Pot Shop Menu and NWHIDTA

THC concentration for marijuana-infused products ranges from 10mg to 100mg per product due to serving size rules. During the month of July 2015 at the Seattle store, hybrid infused products averaged 42.59mg whereas sativa and indica both averaged 21.66mg. Sativa and indica also had a smaller range of 10mg to 30mg per product. The average cost for a

marijuana-infused product, regardless of strain, type, and size, for the month of July was \$25.54 including all applicable taxes.

Environmental Impact

Collecting data on the environmental impacts of marijuana cultivation is very specific to the individual grow itself. Depending on whether the grow site is outdoors or indoors, variations will be observed. Both indoor and outdoor marijuana grows rely heavily on access to water and electricity. Data on cultivation sites has historically come from illegal operations that were dismantled by law enforcement or from academic researchers trying to conceptualize operations on a state-wide scale.

According to the Lighting Design Lab in Seattle, 200 watts of lighting power density are used per square foot in grow operations⁴⁰. Generally, indoor grows utilize 1,000-watt light bulbs. The problem with these types of bulbs is the heat that is produced. This requires indoor grows to also provide fans and air conditioning units for the plants to ensure proper growth, increasing the demand for electricity.

By their calculations, if the plant canopy for cultivation reached 4 million square feet, licensed producers would account for 1.63% of the state's total energy use. The current plant canopy for the state was over 7 million square feet at the time of this report's publication.

A report published by RAND examined the cost of production associated with legalizing marijuana⁴¹. Water is a significant element when growing marijuana either outdoors or indoors. The report concluded that in order to grow sixteen marijuana plants, a range of 10-25 gallons are needed per week. Another report, published by the Integral Ecology Research Center, concluded that marijuana plants need 6-8 gallons of water per plant per week.

When Washington State legalized marijuana, no consideration was given to where these additional resources were going to come from and what impact legalization would have on the environment in the long term.

Illegal outdoor marijuana cultivation sites historically have diverted water from rivers, streams, and reservoirs. This has had a detrimental and often irreversible impact on the environment. Miles of water lines as well as the use of various pesticides and fertilizers have caused damage to foliage and wildlife alike. With the recent droughts and wildfires in the state, maintaining the environment has become a more emergent and difficult task.

Medical Marijuana

The medical marijuana market in Washington State has been growing and evolving for nearly twenty years. With a nexus to the black market, the production of marijuana plants has increased dramatically. With the historical lack of regulation from the state, the industry

fostered an explosion of bad practices, illegal activity, and a culture of perceived immunity from legal sanctions.

Outdoor marijuana grows have long been cultivated on the east side of Washington State. Due to the sprawling agricultural community and favorable weather, it is ideal for marijuana grow operations. Black market growers under the guise of medical marijuana collective gardens thrived.



SOURCE: LEAD Task Force

These sites became known as “plywood” grows across the state. The only restriction imposed on these grows was they were not allowed to be in view of the public. Hence, growers would buy cheap fencing to hide their plants. The example above shows a large grow operation hidden behind plywood⁴². Other materials used have included tarps and plastic.

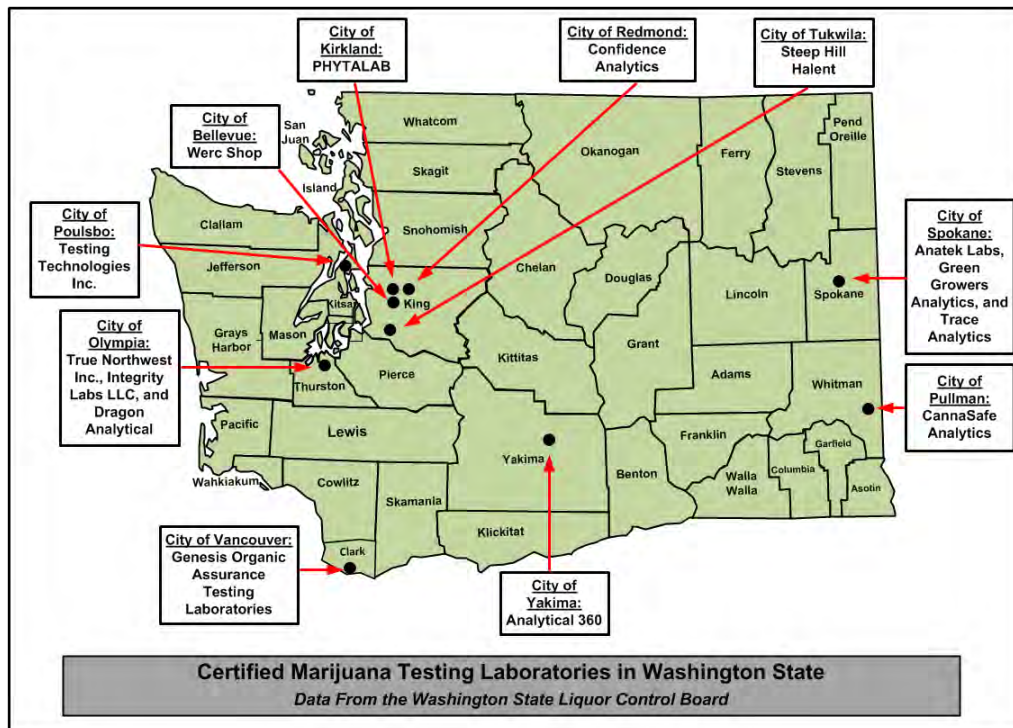
The state has been silent on regulating the various products that can be created from marijuana that is labeled as “medical”. Dispensaries have been allowed to create a multitude of products for patients with no legal limits. Products range from cookies, to concentrates, drinks, and various tinctures for consumption, all with unknown amounts of THC.

Quality Assurance Testing and Pesticides

Written into I-502 was the requirement that all marijuana must be tested before a product can be sold or transported in the state, now codified as WAC 314-55-102⁴³. Quality assurance testing labs must be certified and considered competent by the WSLCB before their services can be purchased. The Center for Laboratory Sciences located at Columbia Basin College Center (CBC-CLS) was contracted by the WSLCB to have responsibility for the application process⁴⁴.

The labs that received approval from the WSLCB and certification from the CBC-CLS are located in seven counties across the state. The total number of labs that currently conduct

potency analysis testing for marijuana is fourteen⁴⁵. The following map shows the locations and the names of the testing labs:



Nine of the certified lab locations are located on the western side of the state, in four counties. King County is home to four of the nine locations. The remaining five locations are located in three eastern counties, with Spokane County home to three of the five testing locations.

According to Washington Administrative Code 314-55-102⁴⁶, moisture content, potency analysis, foreign matter, microbiological screening, pesticide, chemical residue, metals screening, and residual solvent levels comprise the general quality assurance tests for marijuana flowers and marijuana-infused products. Steep Hill Lab, in coordination with the BOTEC Analysis Corporation, established the practice and regulatory guidelines for marijuana sampling.

However, the nature of the product sent to the lab will determine the type of testing required. Various levels of testing and types of tests are conducted depending upon the marijuana submitted. The three levels of testing are:

- Initial testing:
 - Product: lots of marijuana flowers that will not be extracted;
 - Tests required:
 - Moisture content;
 - Potency analysis;
 - Foreign matter inspection;
 - Microbiological screening;

- Intermediate testing:
 - Products: marijuana mix;
 - Tests required:
 - Moisture content;
 - Potency analysis;
 - Foreign matter inspection;
 - Microbiological screening;
 - Product: concentrate or extract (solvent based);
 - Tests required:
 - Potency analysis;
 - Microbiological screening;
 - Residual solvent test;
 - Products: concentrate or extract (CO2 based), concentrate or extract (ethanol based), concentrate or extract (food grade solvent based), concentrate or extract (non-solvent based), and infused cooking oil or fat in solid form
 - Tests required:
 - Potency analysis;
 - Microbiological screening;
- End product testing:
 - Products: infused solid edible, infused liquid, infused topical, marijuana mix, infused marijuana mix, and concentrate or marijuana-infused product for inhalation;
 - Tests required:
 - Potency analysis.

The cost of testing is based upon the sample submitted to the lab. According to Confidence Analytics, costs are as follow⁴⁷:

Confidence Analytics Quality Assurance Testing and Potency Profiling Services		
Type of Sample	Tests	Cost
Flower/trim testing	Potency profile Microbiological screening Moisture content analysis Foreign matter inspection	\$60 per sample
Edibles, liquids, topicals	Potency profile Residual Solvent Test Microbiological Screening	\$85 per sample
Solvent-based extracts	Potency profile Residual Solvent Test Microbiological Screening	\$95 per sample
Natural extract testing (solvent-free)	Potency profile Residual Solvent Test Microbiological Screening	\$60 per sample
Terpenes, residual solvents testing (optional)	Terpenes profile Residual Solvents Testing	\$25 per sample

SOURCE: www.confidenceanalytics.com

If at any level marijuana fails quality assurance testing, the licensee who submitted the sample has three options: destroy the failed item, request a retest, or sell the failed item to another processor for extraction only⁴⁸.

If the marijuana product passes all levels of testing, then it is allowed to be transported to other licensed marijuana businesses in the state.

When I-502 was passed, the initiative did not require pesticide testing for any marijuana product.

The WSLCB and Washington State Department of Agriculture (WSDA) have been given oversight for regulating the use of these chemicals. Under WAC 314-55-084, there are rules addressing pesticides, fertilizers, and other growing mediums for the production of marijuana⁴⁹. WSDA refers producers to a twenty-five page list of approved pesticides for use with a total of 271 pesticides to choose from⁵⁰.

Pesticides pose a threat not only to the end consumer but to the workers at the growing facilities as well. Little is known about the health risks from the pesticides used and ingested or their long-term effects. Under WAC 314-55-087, records must be kept of all pesticide applications including what was used, the amount used per plant, and who applied the chemicals⁵¹.

Current practice does not require all marijuana plants under cultivation to be tested. Only samples are submitted for testing as representative of the lots they came from. These lots are established after the plants have been harvested. It is up to the discretion of the business to select their samples after harvest⁵².

Medical marijuana has never been required to follow any rules in regard to testing products. The original initiative and all the legislative amendments were silent on this topic. No direction has been given to this market.

It is unknown what pesticides, fertilizers, soil amendments, or growth mediums have been applied to medical marijuana products since 1998. Most of the labs that are responsible for testing recreational marijuana also have options for non-licensed marijuana businesses, but collective gardens and dispensaries have the choice to seek and pay for testing. Qualified patients cannot assume that these entities will get their products tested.

Marketing

Recreational Packaging and Labeling

The requirements for packaging and labeling are listed in WAC 314-55-105⁵³. Each type of marijuana product is labeled with a set of specific warnings. However, packaging and labeling is not permitted to be appealing to children in the form of statements or illustrations.

The labeling warnings for useable marijuana include:

- “Warning: this product has intoxicating effects and may be habit forming. Smoking is hazardous to your health.”
- “There may be health risks associated with consumption of this product.”
- “Should not be used by women that are pregnant or breast feeding.”
- “For use only by adults twenty-one and older. Keep out of reach of children.”
- “Marijuana can impair concentration, coordination, and judgment. Do no operate a vehicle or machinery under the influence of this drug.”
- A statement that discloses all pesticides and growing mediums during marijuana production.

Additional information that is required to be labeled on useable marijuana includes: the business or trade name and the identifier of the business that produced, processed, and sold the marijuana, an inventory identification number that matches to the traceability system, the concentration of THC and CBD, the net weight, and the date of harvest. Also, the label must include the statement, “this product may be unlawful outside of Washington State”.

Examples of useable marijuana packaging and labeling are shown below:



SOURCE: www.seattlecannabis.co

This photo highlights three different strains packaged for retail sales by Avitas⁵⁴. Useable marijuana is placed directly inside the sealed plastic bag. The sticker is then placed over the re-sealable opening, providing required product information on the back.

The warning labels for marijuana concentrates and infused products include:

- “There may be health risks associated with consumption of this product.”
- “This product is infused with marijuana or active compounds of marijuana.”
- “Should not be used by women that are pregnant or breast feeding.”
- “For use only by adults twenty-one and older. Keep out of reach of children.”
- “Products containing marijuana can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug.”

- “Caution: when eaten or swallowed, the intoxicating effects of this drug may be delayed by two or more hours.”
- A statement that discloses all pesticides and growing mediums used on the marijuana plants.
- A statement that discloses the extraction method type, use of any solvents, gases or other chemicals or compounds to produce or are added to the extract.

Labeling information required to be placed on marijuana concentrates and infused products includes: the business or trade name and the identifier of the business who produced, processed, and sold the marijuana, an inventory identification number that matches to the traceability system, the date manufactured, the best-by date, the recommended serving size and total number of serving sizes included, the net weight, and a list of ingredients along with major food allergens. In addition, information on the extract that was added to the product including the type of solvent used and the extraction process used must be provided. Also, the label must include the statement, “this product may be unlawful outside of Washington State”.

For marijuana-infused products, packaging has strict requirements. The packaging must be child resistant in accordance with the Poison Prevention Packaging Act, Title 16, Code of Federal Regulations 1700⁵⁵. If there is more than one serving included in the product, each serving needs to be individually packaged in childproof packaging. If the product is in liquid form with more than one serving, the product must come with an appropriate measuring device.



The photo on the left shows how marijuana-infused product packaging appears in retail locations⁵⁶. Per the label, there is a total of 60mg THC in the product. Each “pebble” is equal to 10mg THC and packaged individually. The photo on the right provides an example of how marijuana concentrates are packaged⁵⁷. The concentrate is originally placed inside a plastic container and then attached to additional packaging that includes the required information.

No marijuana product in the state of Washington may be labeled organic unless verified by the Department of Agriculture in accordance with the Organic Foods Production Act.

Recreational Business Advertising

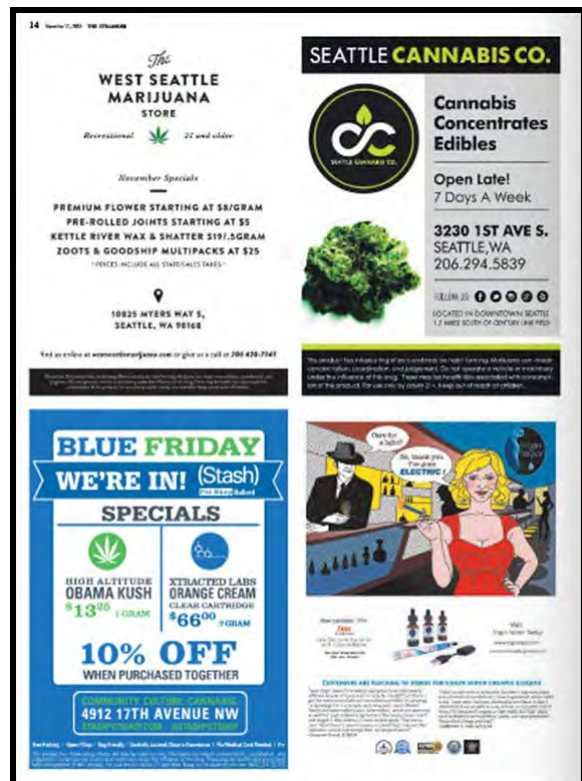
WAC 314-55-155 addresses restrictions and rules regarding the advertising businesses may engage in including labeling, location of advertisements, types of marketing events, and warning labels⁵⁸. As with labeling, no advertisements may be appealing to children as statements or illustrations. Also, they may not be false or misleading, promote over-consumption, or purport that marijuana use has curative or therapeutic effects.

Advertisements are not allowed within 1,000ft of: a school ground, a playground, recreation center or facility, a child care center, a public park, a library, or a game arcade that is not restricted to those aged twenty-one or older, on a public transit vehicle or public transit shelter, or on publicly-owned or operated property.

All advertisements must include these warnings:

- “This product has intoxicating effects and may be habit forming.”
- “Marijuana can impair concentration, coordination, and judgment. Do not operate a vehicle or machinery under the influence of this drug.”
- “There may be health risks associated with consumption of this product.”
- “For use only by adults twenty-one and older. Keep out of reach of children.”

Online advertising platforms have proliferated within the recreational marijuana industry. Licensed businesses are allowed to operate a website to advertise but online sales are not permitted. Social media in the form of Twitter, Instagram, and Facebook may all be used as an advertising platform as well. However, businesses are directed to be cautious to not appeal to viewers under twenty-one. There are no limits as to what can be shared online but advertising may not contain statements or illustrations that are misleading, encourage heavy marijuana use, promote its therapeutic effects, or appeal to those under twenty-one.



SOURCE: www.thestranger.com

Traditional advertising is regulated as well. Businesses may place advertisements on shopping bags, flyers, and drug paraphernalia with their logo or trade name. Newspapers and magazines are also available. There are no limitations in place for restricted print publication companies. Businesses are allowed to place flyers in publications that are delivered to residences. The previous photos provide examples of marijuana advertisements published in a Seattle-based newspaper⁵⁹.

Billboards may also be utilized as a marketing tool for businesses. The only restriction imposed is that the location of the sign cannot be within 1,000ft of a protected area, such as a school. The photo below provides an example of a billboard located in Seattle. The sign is directly across the street from the business. The hand on the photo is pointing in the direction of the marijuana retailer⁶⁰.



SOURCE: www.kplu.org

All producers, processors, and retailers are allowed one 1,600 square-inch sign attached directly to their business. No other signs are allowed to market the facility or the building.

Depending on the jurisdiction in which the business operates, additional advertising may be allowed. This includes sign twirlers, costume characters, sandwich boards and models alongside strip mall reader-boards.



SOURCE: www.google.com/maps



SOURCE: www.krem.com

The photo on the left provides an example of a marijuana retailer's signage in Pierce County⁶¹ on a strip mall reader-board where the business is located. The second photo was taken in the city of Spokane⁶². This type of additional advertisement is allowed depending on the local authority.

Recreational Product Advertising

The WAC addressing packaging, labeling, and advertising puts restrictions on the elements of statements referring to marijuana products: they cannot be misleading, promote over-consumption, represent the use of marijuana as having curative or therapeutic effects, or be appealing to children under the age of twenty-one.

The following are descriptions of various useable marijuana, concentrates, and infused-products from a local marijuana shop's online menu:

- Useable marijuana:
 - "Turn your brain into a science experiment!"
 - "...psychoactive effects settle firmly throughout the body..."
 - "...unique terpene profile that has an unmistakable candy-like sweetness. The taste of this smoke will have anyone's palate asking for seconds."
- Marijuana concentrate:
 - "Take the challenge and get 'super stoned' with this gem!"
 - "Try some and sink into a brain-bending blizzard."
 - "Lovely taste with a face melting high!"
- Marijuana infused-products:
 - "Best bang for your buck! Long lasting high."

- “These hard candies are sweet and colorful! Kind-of like a sucker without the stick.”
- “Slap this on your skin and you’ve got 12 hours of continuous THC application!”

These statements generally do not appear on the actual package for a marijuana product but instances have occurred. Through the avenues of social media and online advertising, these messages are one click away from impacting viewers of any age.

Medical Marijuana Packaging, Labeling, and Advertising

There are no regulations bearing on the packaging, labeling or advertising of medical marijuana businesses or products. It is up to the discretion of the collective gardens and dispensaries to market their operations as they see fit. Some businesses will opt to package marijuana products with trade names, logos, and THC content. However, due to the absence of laws addressing these enterprises, the legitimacy of the content should be questioned.



SOURCE: www.kplu.com

The photo above provides an example of how useable marijuana is generally packaged at dispensary locations⁶³. Nothing has been separated out or properly labeled to provide product information for the consumer.



SOURCE: www.mmjmarket.com



SOURCE: Northwest Cannabis Collective

These photos provide two packaging examples for marijuana-infused products. The photo on the left is for a marijuana-infused edible⁶⁴. The entire chocolate bar totals 180 milligrams. In the photo on the right, the marijuana-infused liquid label states that each product contains 70mg THC at a minimum⁶⁵. Missing from the product is an attachment that allows for the consumer to dispense a proper serving size. Both products are without any guidance or information about consumption or the exact concentration of marijuana.

Advertising for the business itself has been fully embraced including the culturally-accepted green crosses that identify establishments that are ubiquitous in Washington State.

Licensing Violations

Introduction

This section of the report will discuss the four penalty categories for recreationally-licensed marijuana businesses. The penalties are imposed on licenses or employees if a violation of a law or rule set forth by the WSLCB occurs. WAC 314-55-515 states that if a licensed marijuana business has three separate violations within a three-year period, the license will be cancelled⁶⁶. The four categories of violations are: public safety violations, regulatory violations, license violations, and producer violations.

Group One – Public Safety

Public safety violations are the most serious in the WAC. The sanctions for these violations are in place to penalize those businesses who operate without regard for ensuring safe communities. Examples of such violations are sales or service to a minor, an employee under the legal age, a licensee and/or employee opening and/or consuming marijuana in a retail licensed premise, and permitting or engaging in criminal conduct. The full list can be found in WAC 314-55-520⁶⁷.

Each violation has penalties that follow. The penalties imposed on violations involving sales to a minor, consumption on the licensed retailer premises, and involvement with criminal conduct are a 10-day suspension or a monetary fine for the first occurrence, a 30-day suspension for a second occurrence and license cancellation for a third. In regard to a violation where a licensee employs a person under the age of twenty one years of age, the penalty is a \$1,000 monetary fine per incident.

Group Two – Regulatory

These violations involve the general regulation and administration of licensed recreational businesses. Examples are violations involving advertising statements or illustrations, improper record keeping, failure to submit monthly tax reports and/or payments, failure to utilize and/or maintain traceability, and a retail outlet selling unauthorized products. The full list can be found in WAC 314-55-530⁶⁸:

The penalties imposed on violations involving statements or illustrations used in advertising, improper record keeping, failing to submit monthly reports or payments, and failure to use the traceability system face a first-time penalty entailing a five-day suspension or a \$500 monetary fine. The second-time offense results in a ten-day suspension or a monetary fine followed by a thirty-day suspension on the occurrence of a third offense. With the fourth violation, the license will be cancelled. If a retailer is found to be selling unauthorized products, it is a \$1,000 monetary fine for each transaction.

Group Three – Licensing

The full list of these violations is detailed in WAC 314-55-530 and involves licensing requirements, license clarification, and special restrictions⁶⁹. Examples of violations include issues involving the true party of interest, failure to furnish required documents, and violating the WSLCB-approved operating plan.

At the first violation regarding the true party of interest and/or failure to furnish required documents, the license will be cancelled. For violating the board-approved operating plan, the penalty imposed at first offense is a five-day suspension or a monetary fine. The second occurrence and subsequent penalty is a ten-day suspension or a \$1,500 monetary fine followed by a thirty-day suspension for a third violation. If a fourth instance occurs, the license will be cancelled.

Group Four – Producer

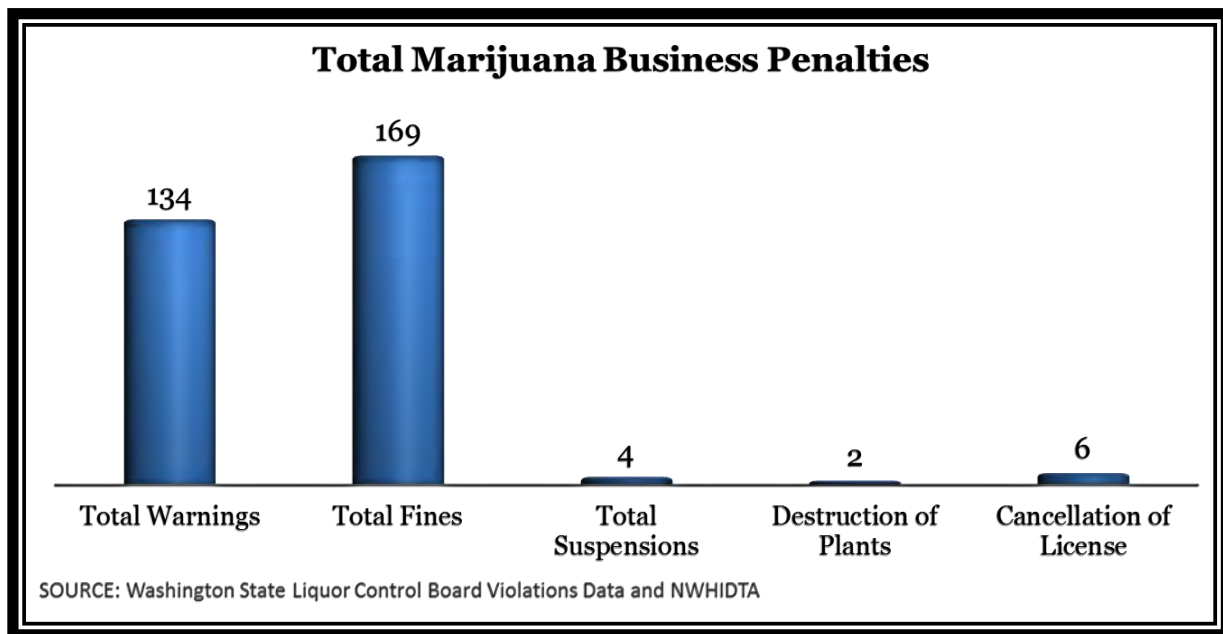
The violations defined here pertain to marijuana producers. They involve the manufacturing, supply, and/or distribution of marijuana by licensed businesses as well as violations imposed for prohibited practices between a producer and a retailer. The full list can be found in WAC 314-55-535⁷⁰. Examples include failure to utilize and/or maintain traceability,

improper record keeping, and failing to maintain required security alarm and surveillance systems.

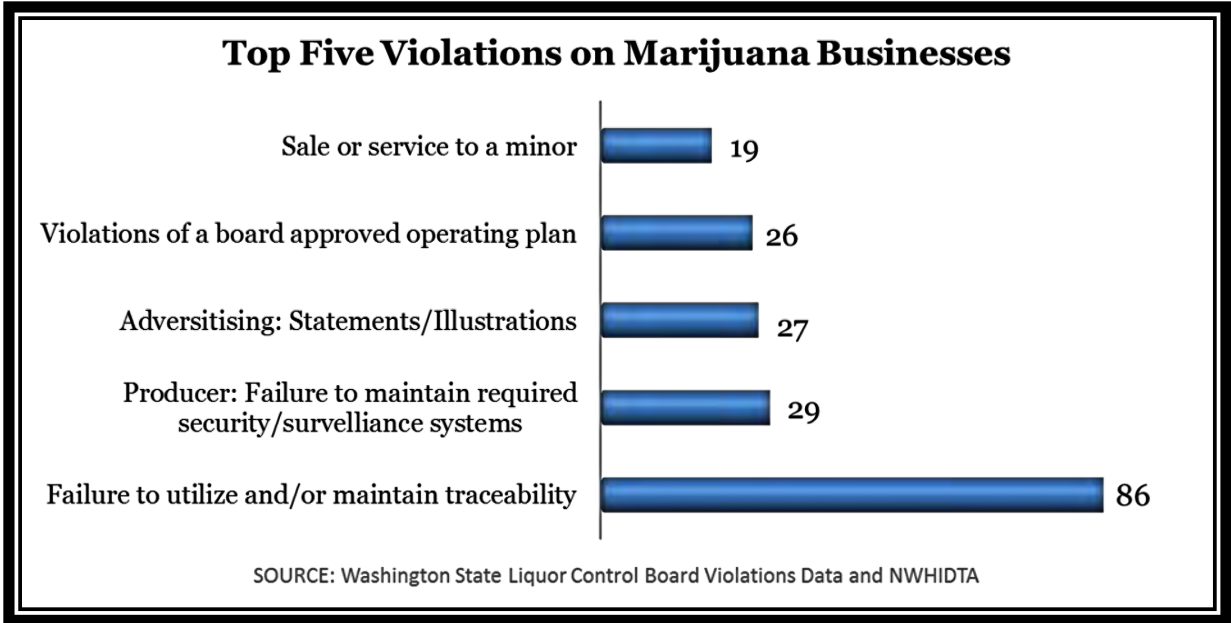
The penalties imposed are the same for each type of violation occurring in this category. For the first offense, licensees face a \$2,500 monetary fine. The second occurrence will result in a \$5,000 monetary fine and destruction of 25% of harvestable plants. The third penalty is a \$15,000 monetary fine and destruction of 50% of harvestable plants. By the fourth violation, the penalty will entail a cancelled license.

Current Violations

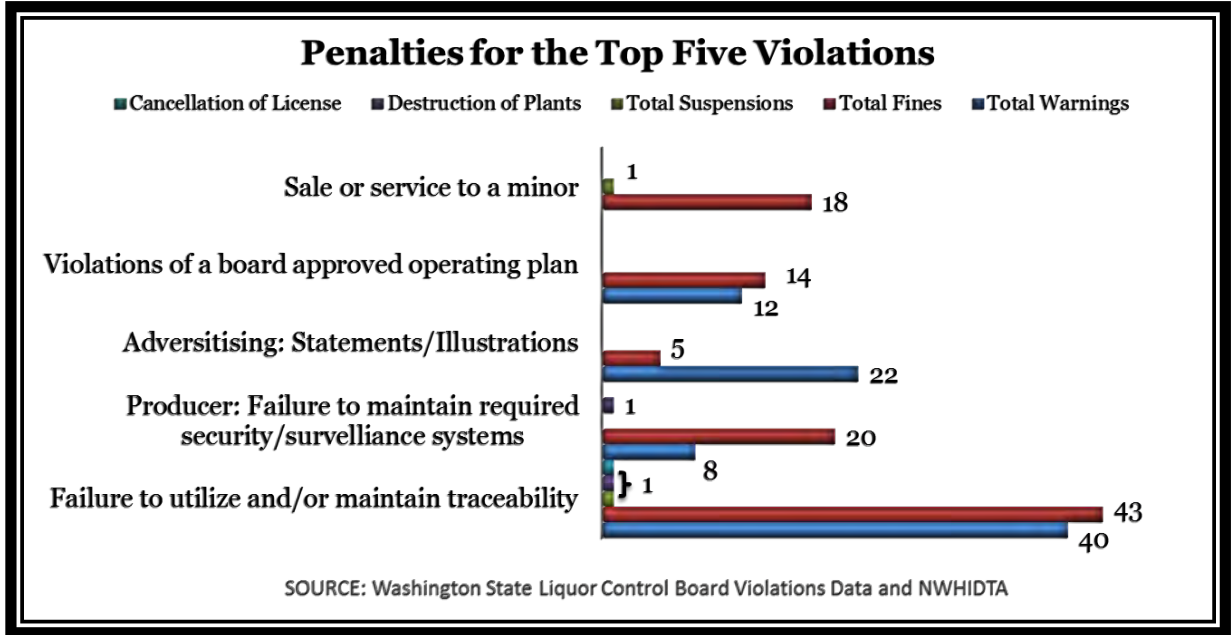
Data obtained from the WSLCB enumerate the total violations and penalties imposed on licensed businesses⁷¹. The WSLCB enforcement department is responsible for conducting compliance checks, inspections, following up on complaint investigations, and verifying license site locations. The enforcement division did not start compliance checks on licensed businesses until May of 2015, nine months after commercialization had begun⁷². The data will pertain to WSLCB enforcement of licensees during the first year of commercialization.



Over 300 penalties were imposed on marijuana businesses during that period. Of the penalties, over 50% were in the form of fines and 42.5% were warnings. Suspensions, destruction of plants, and cancellations of licenses make up roughly 4% of the penalties.

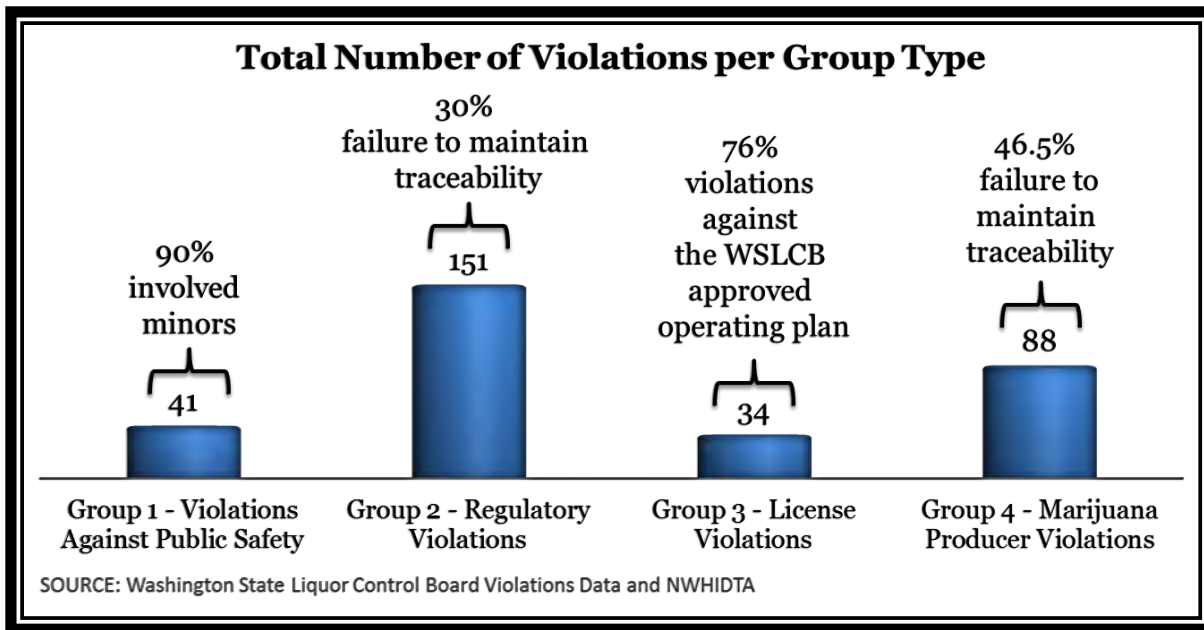


The top five violation categories were failure to use the traceability system, failing to maintain required security systems, violations related to the content of advertisements, violating the WSLCB-approved operating plan, and sales or services to minors.



The penalties for the top violations are depicted above. Two violators had their licenses suspended with the penalty imposed for failure to use the traceability system and sales or service to a minor. One license was cancelled due to a failure to utilize the traceability system. From among the nineteen violations involving sales or service to a minor, one license was suspended. All other penalties involved a monetary fine.

The violation that has the highest number of instances is failure to maintain and/or utilize traceability, the foundation on which the recreational regulatory system is built. There is no known information at this time regarding the scope or impact concerning marijuana inventory due to these violations.



The chart above shows the total number of violations per category and the percentage of the most frequent violation type per category. For group one, 90% of the violations involved minors. Group two shows that 30% of the violations were related to the traceability system. Group three shows that 76% of the violations disregarded the board-approved operating plan. Finally, group four involved the same issues as group two where 46.5% of violations were resulted from failing to maintain traceability.

From September 2014 to May 2015, the WSLCB collected \$74,100 in fines from licensees across the state⁷³.

Compliance Checks

In May of 2015, the first counties that were subject to checks were Skagit, Snohomish, Kitsap, Pierce, and Cowlitz – all located on the western side of the state. Of the twenty-two marijuana retailers visited, four retailers were caught selling to the WSLCB’s underage investigative aides. Two of the retailers were located in Tacoma and the other two were located in Everett⁷⁴.

In the two months following, WSLCB enforcement underage investigative aides went to a total of 157 retailing locations and found nineteen retailers who sold marijuana to a minor⁷⁵. Most retailers didn’t check the minor’s licenses correctly or simply failed to ask for it.

By the end of July 2015, violating retailers has been identified from rural Thurston County all the way east to the city of Spokane. One retailer had in fact been caught selling to minors for a second time in Everett.

All of these licensed retailers faced a first-violation offense: a 10-day suspension or a \$2,500 monetary fine. The retailer in Everett, who was on violation two, faced a thirty-day suspension⁷⁶. The WSLCB not only imposed penalties on the basis of the rules in WAC, but also referred the cases to the respective county prosecutor's office for potential criminal prosecution. In that context, individuals who sold marijuana to the underage aides faced a Class C felony for selling a controlled substance⁷⁷. The charge comes with a penalty of up to five years of confinement and up to a \$10,000 fine.

Due to the convoluted laws surrounding the marijuana industry, no criminal prosecution has been brought against any of these retail businesses. Eighteen of the retailers were administratively penalized and required to pay the fine and the two-time violating Everett retailer was given a thirty-day suspension.

Section 3: Youth Impacts

Introduction

The legalization of marijuana includes an important admonition to keep the drug away from those under the legal age – priority number one of the Cole Memo. The following subsections will examine youth consumption, its impact on schools, and treatment admission rates for marijuana dependence and addiction.

Various reports and surveys from across the nation and Washington State have been conducted on this topic including:

- **Healthy Youth Survey:** statewide bi-annual survey administered to 6th, 8th, 10th, and 12th grade students encompassing all school districts and counties across Washington State.
- **National Survey on Drug Use and Health (NSDUH):** annual nationwide household survey funded by the Substance Abuse and Mental Health Services Administration.
- **Behavioral Health in King County, Washington:** a population-level data review report on mental health and substance abuse disorders published by the King County Department of Community and Human Services.
- **Poison Center:** the statewide call center that provides callers with free expert treatment advice and assistance on cases of poisonous, hazardous, and toxic exposures.
- **System for Communicating Outcomes, Performance and Evaluation (SCOPE):** a web-based database for substance and mental health services administered by the Washington State Division of Behavioral Health and Recovery.
- **Office of Superintendent of Public Instruction:** primary authority over Washington State's 295 public school districts.
- **Office of Financial Management:** this agency that supports the governor, legislature, and various state agencies with fiscal services and policy support.

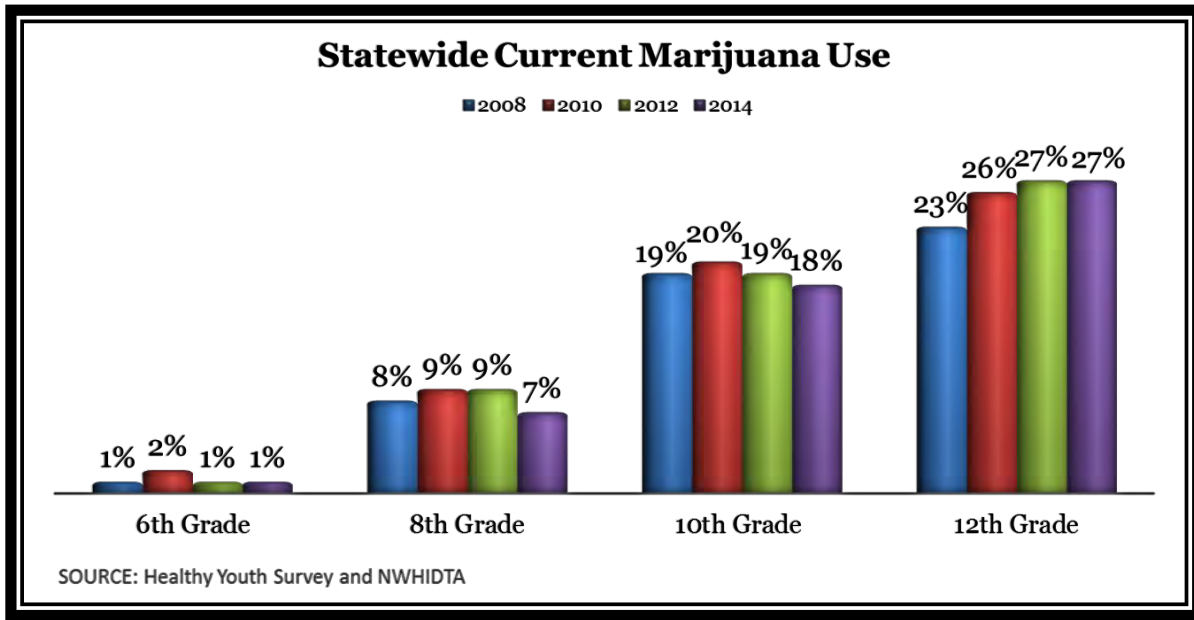
Data Summary:

- One in five 10th grade students reported riding with a driver who had used marijuana – 9% reported driving within three hours of consumption;
- During 2013-2014, 48% of statewide student expulsions and 42% of suspensions directly involved marijuana;
- 98% of the student drug violations within the Seattle Public Schools from September 2013 to May of 2014 involved marijuana;
- In 2014, youth under the age of twenty made up 45% of statewide Poison Center calls – since legalization in 2012, these calls have increased 80%;
- Youth treatment admissions for marijuana have remained between 66% and 70% of overall admissions since 2010;

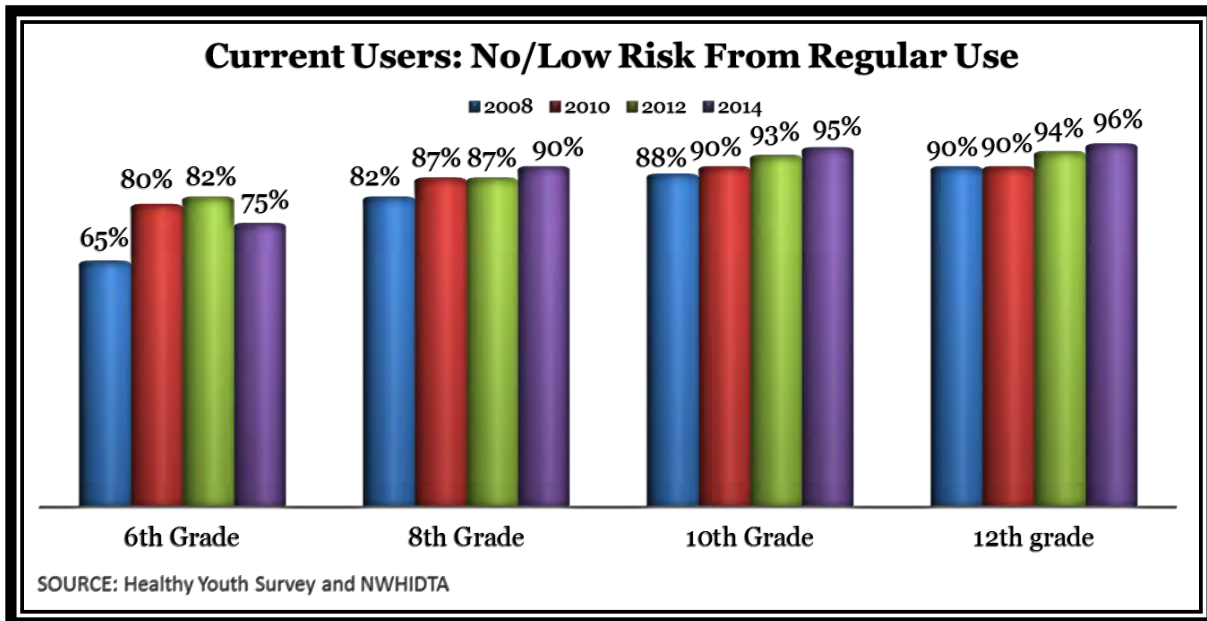
Consumption and Use

Healthy Youth Survey

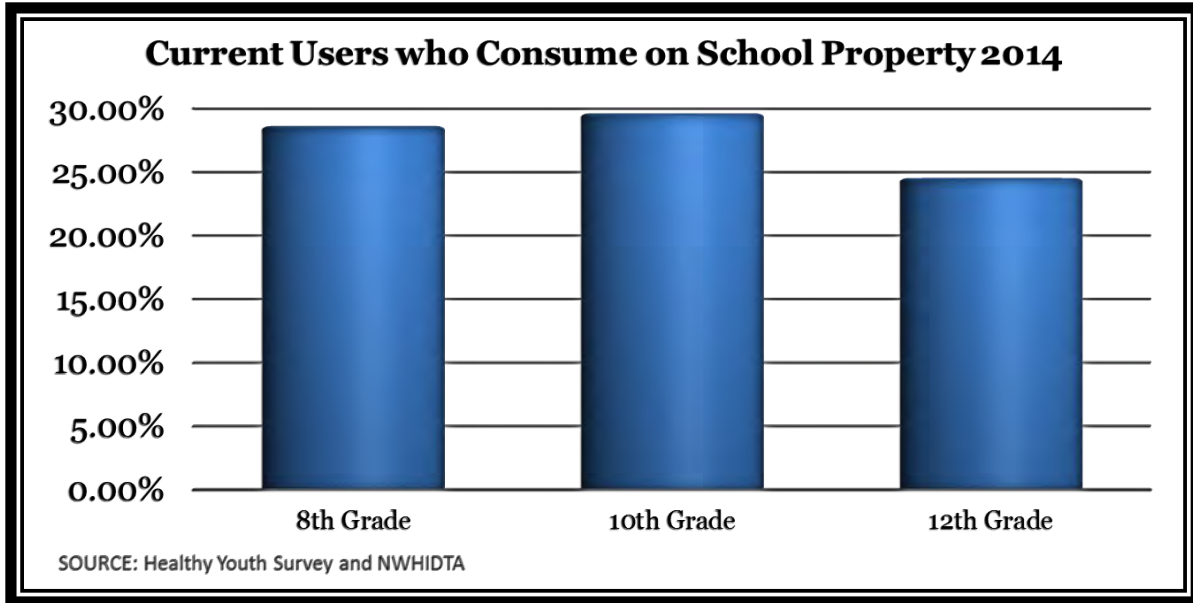
According to the Healthy Youth Survey, using once during the past thirty days is considered to be current marijuana use among students⁷⁸.



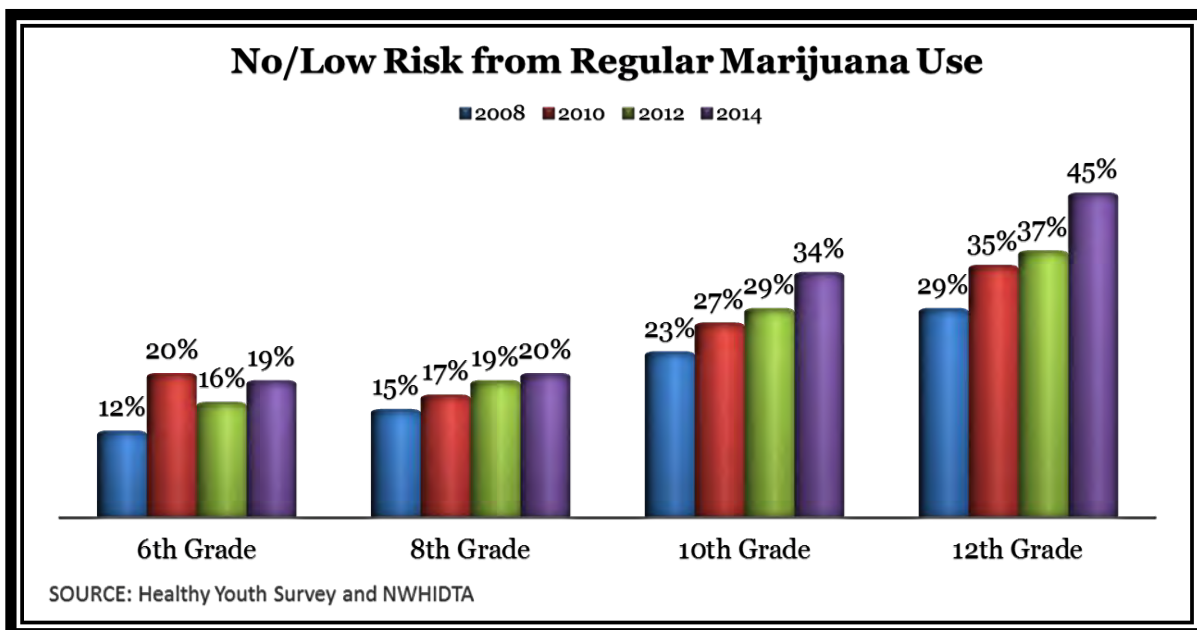
The graph above shows at the time of survey implementation how students reported their marijuana use. There was a decline from 2012 to 2014 for 8th and 10th grade students but grades 6 and 12 were unchanged. For 12th grade students, over a quarter reported current marijuana use from 2012 to 2014.



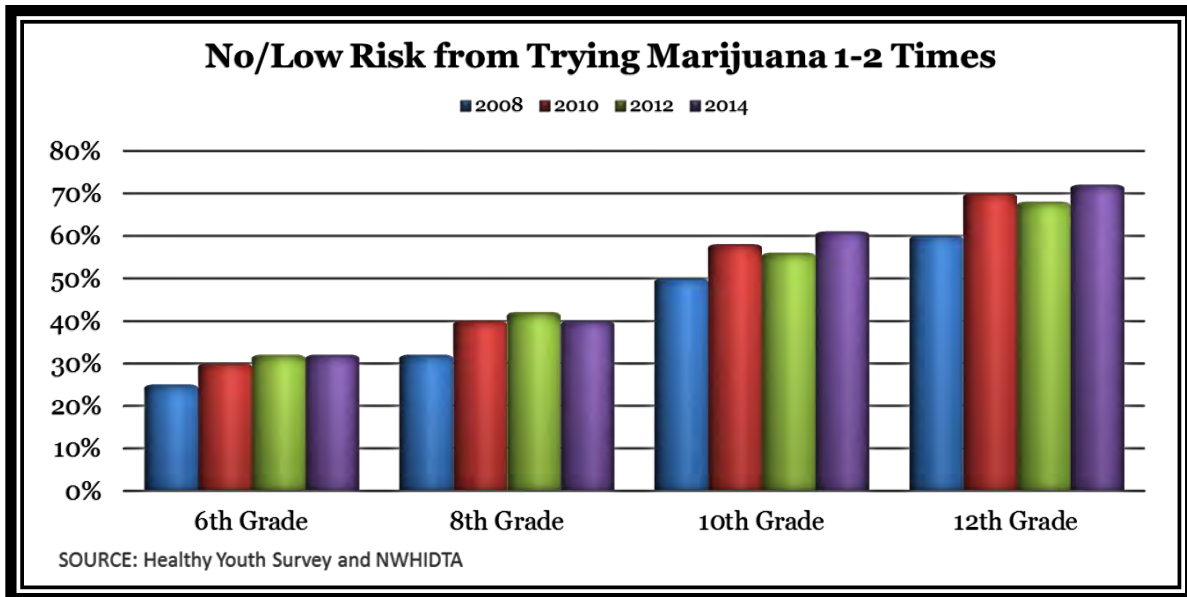
Users of marijuana since 2008, regardless of grade, perceive very little risk of harm from regular use. By 2014, almost 100% of the 10th and 12th grade current users reported no perceived harm. The 10th grade students reported no risk at 95%, 8th grade students reported no risk at 90%, and 6th graders reported no risk at 75%.



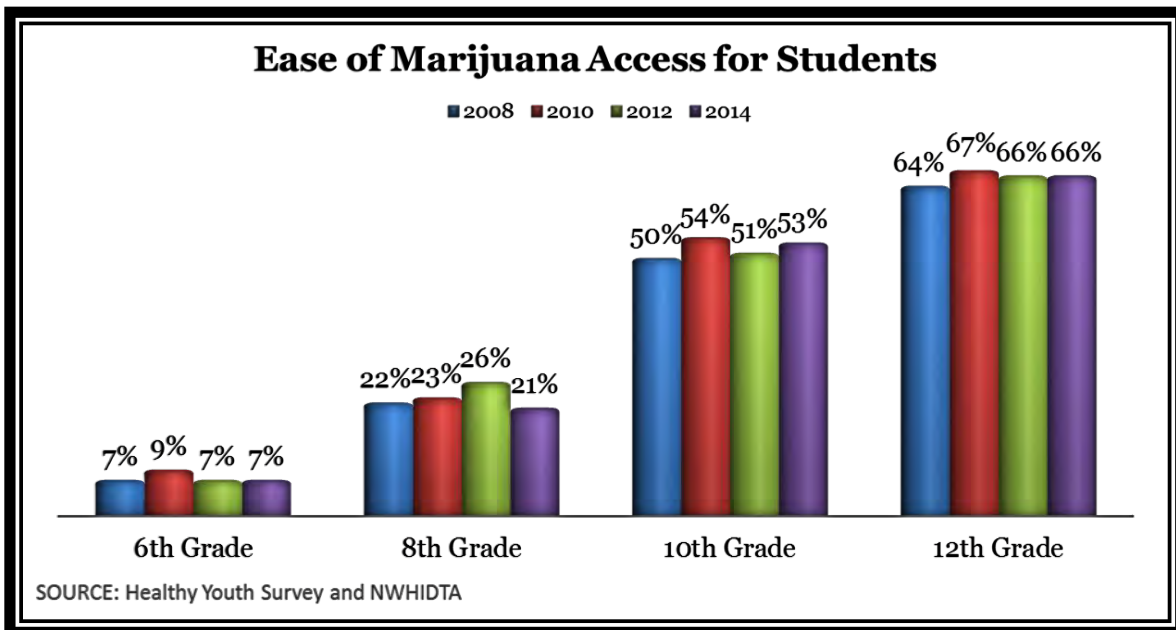
Over 25% of current youth marijuana users, who consumed during the last 30 days, reported that it took place on school property. Students in 8th and 10th grade were reporting a rate closer to 30%. This question was only asked during the 2014 survey. No previous data is available.



For all students, regardless of use, perception of harm has been declining. Grades 8, 10, and 12 have been reporting this trend since 2008. This graph indicates that 32% of the 6th graders in Washington State report no/low risk from regular marijuana use.

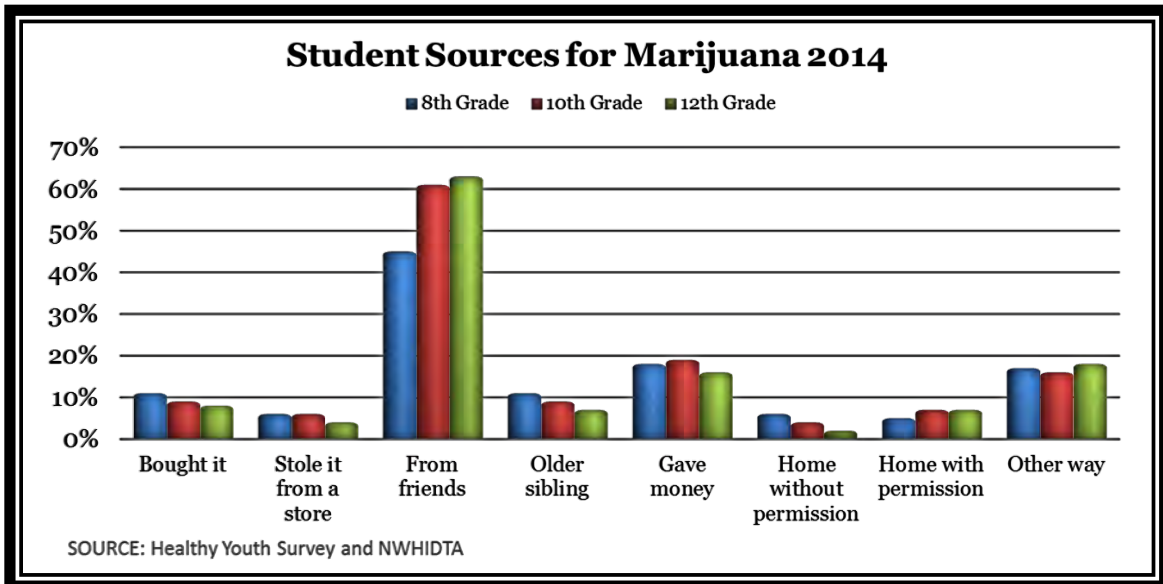


For all grades since 2008, the perception of risk associated with marijuana experimentation has gone down. From 2012, with the legalization of marijuana, to 2014, at the start of commercialization, 10th graders perception no/low risk increased from 56% to 61% and 12th graders' perception increased from 68% to 72%.

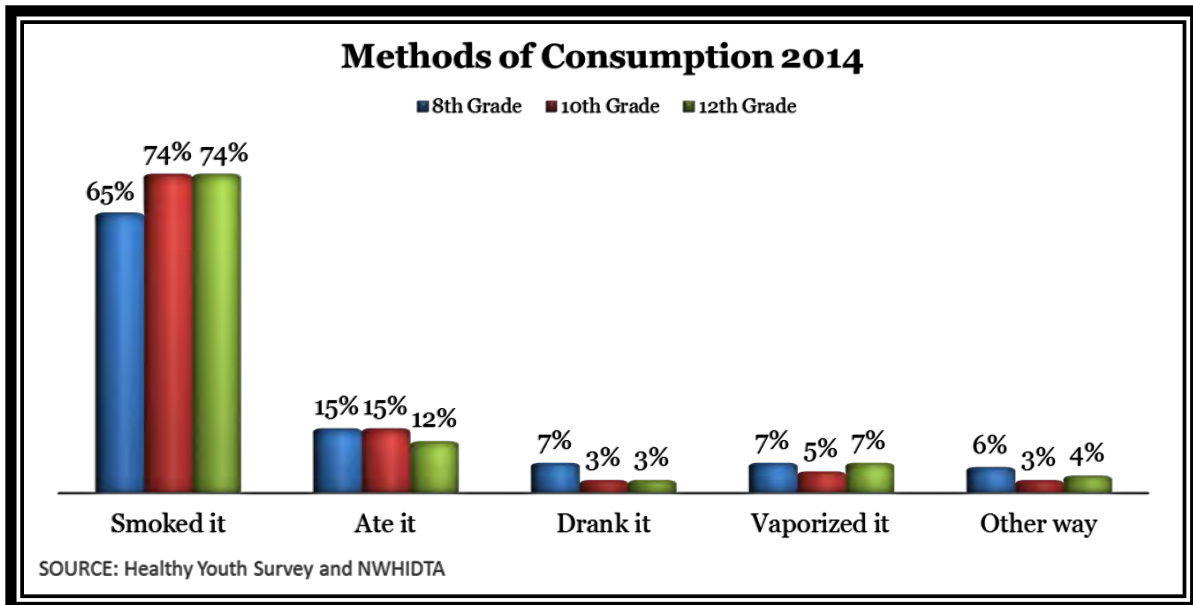


Data gathered from 2008 to 2014 shows very minimal change regarding the ease of access for students. From 2012 to 2014, the only change in ease of access involved 8th grade

students. Access for all other grades was not significantly affected by the new regulated recreational marijuana market.



A question introduced for the 2014 survey asked students where they obtained their marijuana. An overwhelming percentage of students received the drug from friends. Additionally, giving money or the use of other sources was a notable option for all students in grades 8, 10, and 12.



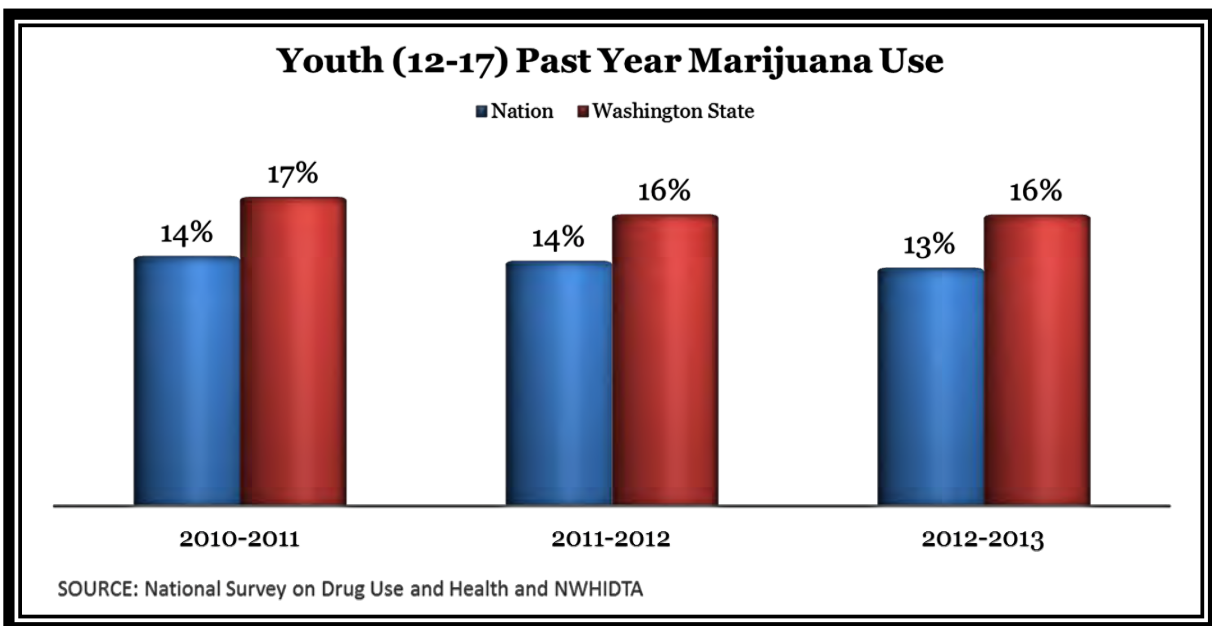
In 2014, students were first asked to report on their method of consumption. The vast majority of students smoked marijuana, with oral ingestion reported as the second most common route of administration.

Students were also asked about their driving behaviors in association with marijuana use. One in five 10th grade students reported riding with a driver who had used marijuana. For 12th grade students, it was one in four. In addition, one in ten (9%) of 10th grade students and one in six (17%) of 12th grade students admitted to driving within three hours after using marijuana. In comparison, 5% of 10th grade students reported driving after alcohol consumption as did 9% of 12th grade students.

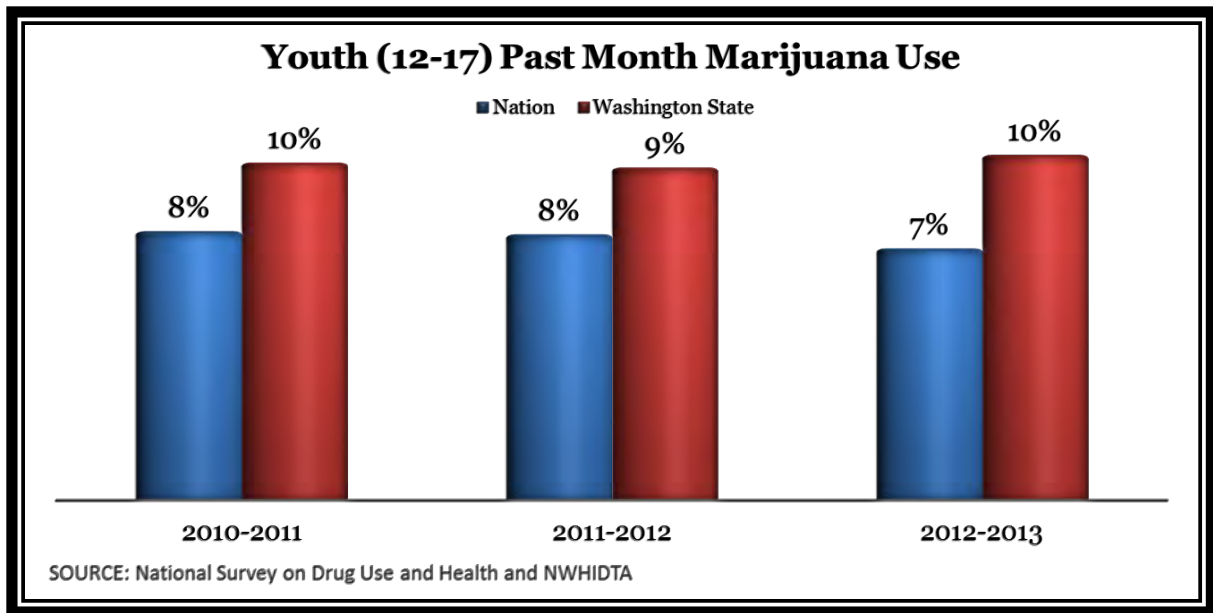
Conclusions that may be drawn from the 2014 survey include: one in five 10th grade students and one in four 12th graders consumed marijuana in the past 30 days. This rate has not changed since the 2010 survey. However, tobacco and alcohol rates of use have been dropping consistently in recent years. Conversely, marijuana use has remained unchanged and youth are still engaging in risky behaviors in the context of a regulated recreational marijuana system.

National Survey on Drug Use and Health

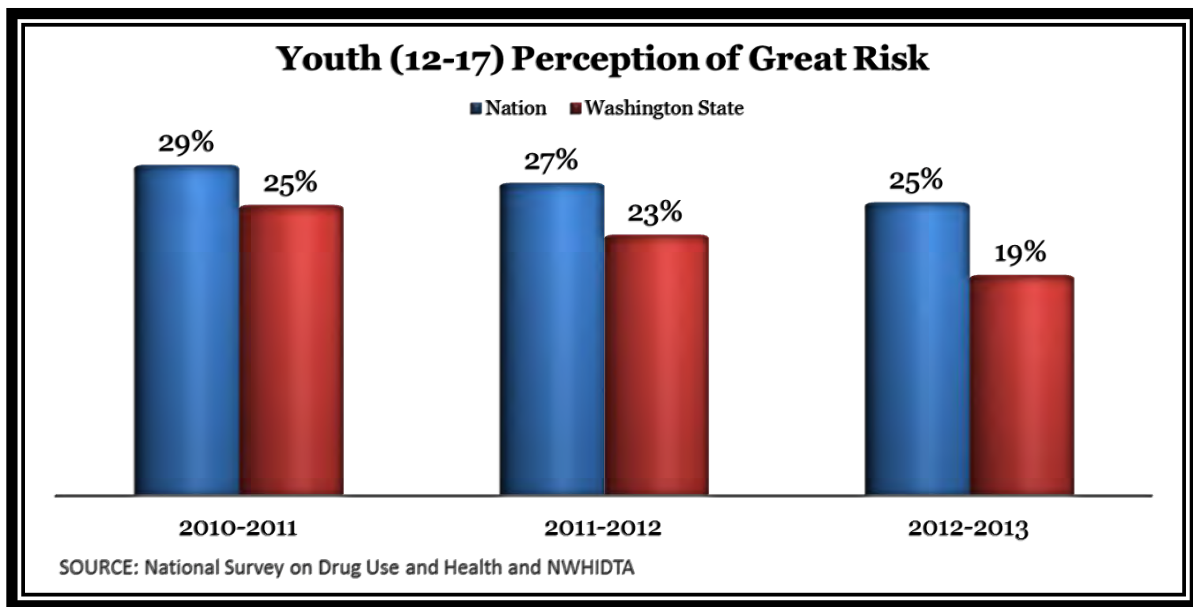
The data depicted in the following graph compares Washington State marijuana use to that of the United States. The youth reporting these data were twelve to seventeen years of age. The data is derived from the 2010-2011, 2011-2012, and 2012-2013 reports⁷⁹. It should be noted that marijuana was legalized in Washington State in 2012 and that all of the data was collected before commercialization occurred in the state.



The preceding graph shows the percentage of past year marijuana use among 12-17 year olds across the nation and in Washington. Since the 2010-2011 survey, youth marijuana use during the past year in Washington State has been approximately 3% higher than the national average.



The graph above shows past-month marijuana use for the nation and Washington State. Again, Washington youth have remained constantly above the national average, ranging from 2%-3% higher. Washington State increased 1% from 2011-2012 to 2012-2013. Marijuana was legalized in 2012.



For this age group, the national average for endorsing a perception of great risk from smoking marijuana once a month was much higher than that of Washington State. The perception of great risk from smoking marijuana once a month has been declining for both the nation and Washington State since 2010-2011.

Additionally, since the 2010-2011 survey, both the nation and Washington State have remained consistent regarding the age of first use for consumers. Of the national respondents,

6% reported first using between the ages of twelve to seventeen while for Washington the rate was 7%.

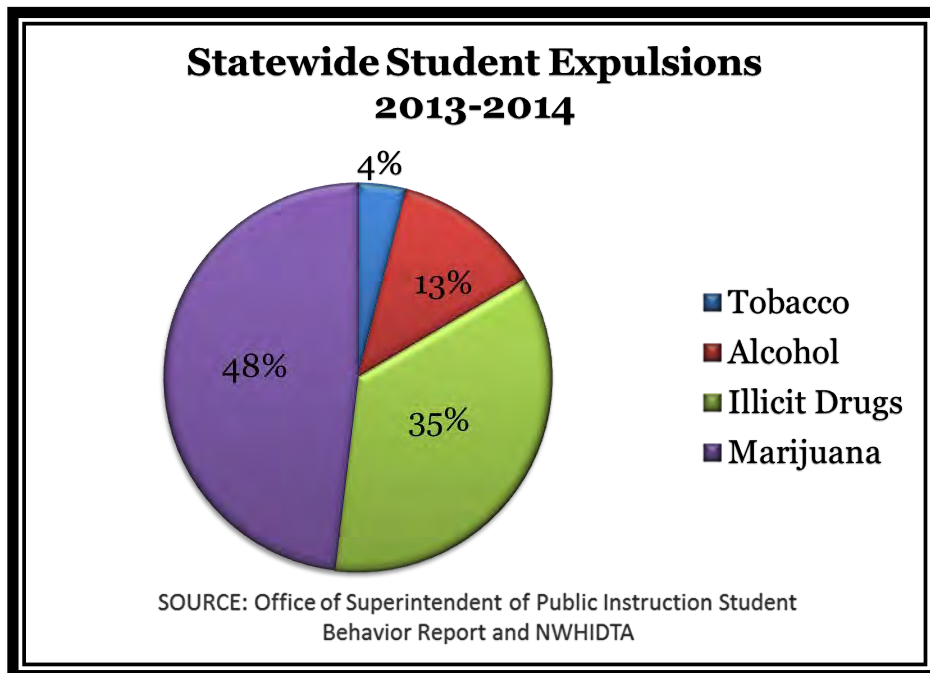
Schools

Office of the Superintendent of Public Instruction

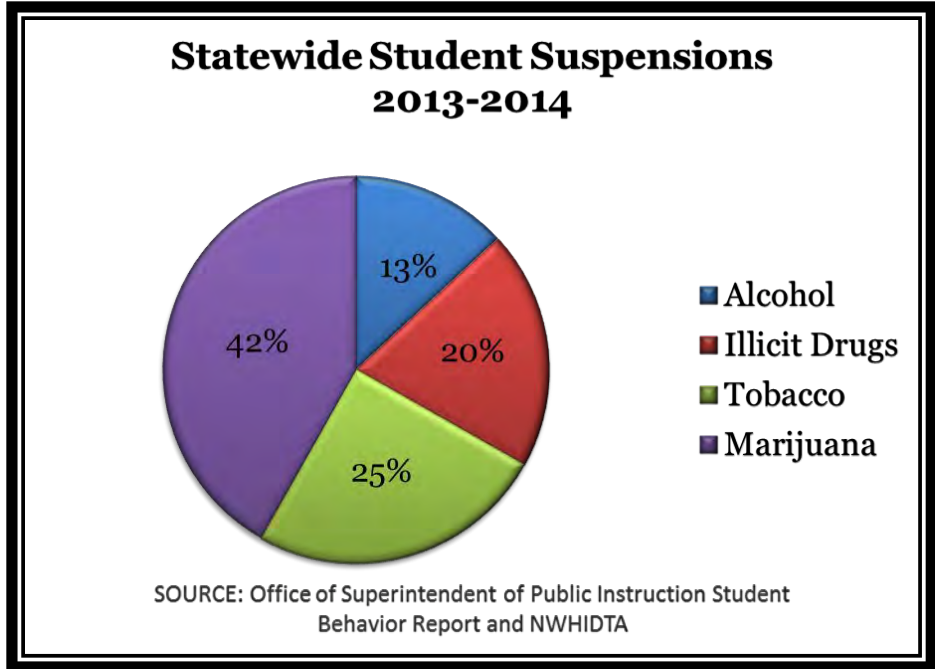
On an annual basis, the Office of the Superintendent of Public Instruction submits overall suspension and expulsion data to the United States Department of Education in the form of a Behavior Report⁸⁰. In addition to the numbers submitted, supplemental information identifies the school district and the violation committed. Due to differing disciplinary policies across the state, the information is district-specific and comparisons between districts require additional research.

The behaviors involving marijuana include: unlawful use, cultivation, distribution, sale, solicitation, purchase, possession, transportation of cannabis or violation of district drug policy, and suspicion of being under the influence.

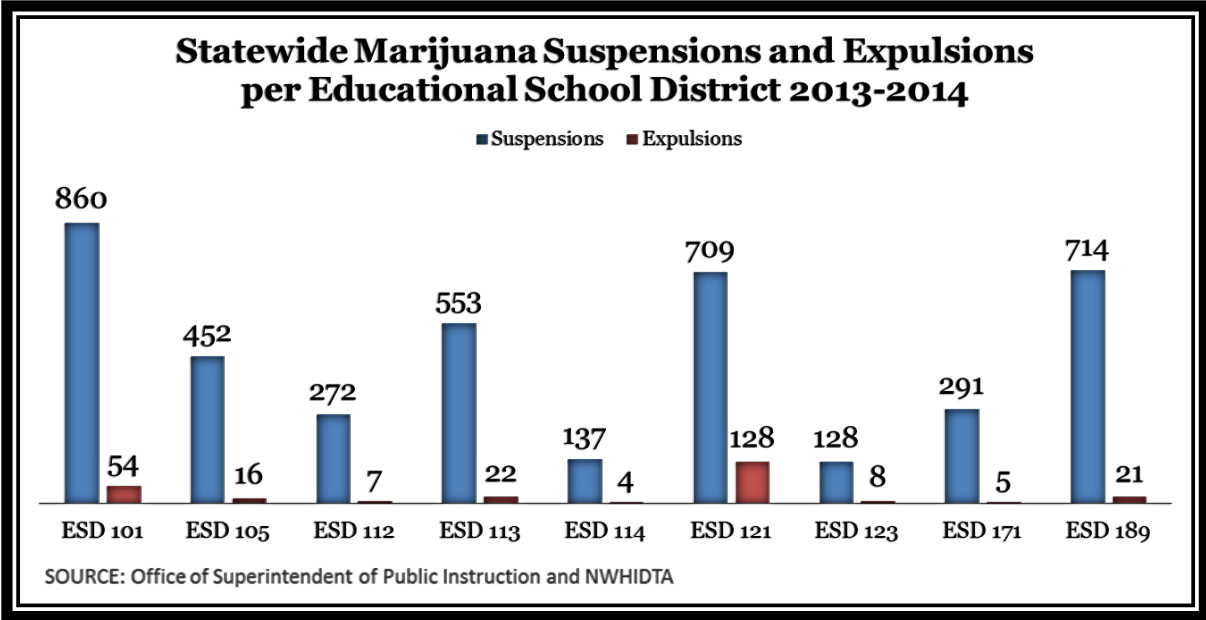
The 2013-2014 Behavior Report is the first since legalization that separated out marijuana from the generic illicit drug category. The following graph depicts the percentage of expulsions associated with use of a specific drug. Data regarding bullying, fighting, or other behaviors are not included.



According to the 2013-2014 report, 48% of statewide student expulsions involved marijuana in the substance abuse category.



According to the Behavior Report, 42% of suspensions related to substance abuse were associated with marijuana. Tobacco was ranked second with 25% of suspensions.



There are nine educational service districts (ESDs) in the state of Washington. They are:

- ESD 101: Spokane
- ESD: 105: Yakima
- ESD112: Vancouver
- ESD 113: Tumwater
- ESD 114: Bremerton (Olympic)

- ESD 121: Renton (Puget Sound)
- ESD 123: Pasco
- ESD 171: Wenatchee (North Central)
- ESD 189: Anacortes (Northwest)

The educational services districts with the most reported suspensions related to marijuana were Spokane (860), Anacortes (714), and Vancouver (709). Vancouver also had the highest number of expulsions (128) with Spokane second (54), and Anacortes third (21).

The Forecasting and Research Division of the Office of Financial Management produced a marijuana baseline report in 2015⁸¹. According to the report, 96% of Washington State students were not suspended during the 2013-2014 school year. Of the 4% that were disciplined, 89% resulted from non-marijuana related behaviors. Of the 4% that were suspended or expelled, 11% resulted from marijuana possession, and 7% of those students received less than a ten-day suspension or expulsion; 3% received punishment longer than the ten-day period, and 0.6% were expelled.

Marijuana in the Schools

The University of Washington Alcohol and Drug Abuse Institute published a report shortly after marijuana was legalized in 2012⁸². The information published focused on the prevalence of marijuana use among adolescents prior to the implementation of legalized marijuana in Washington State and Colorado. The report cited the national Monitoring the Future Survey regarding the rate of consumption for 12th graders. According to the survey, 45.3% had used marijuana once or more in their lifetime and 22.9% reported consuming within the last thirty days.

Concurrently, administrators at high schools in Northeast Seattle reported a concerning trend involving 12th graders coming to school under the influence of marijuana⁸³. 25% of those seniors admitted to the behavior. Faculty stated that most of the students coming to school impaired were under the influence of marijuana. This trend was much more pronounced than in most other King County schools.

Even at the middle school level, students were very familiar with marijuana – 29% of 8th graders reported marijuana was easy to get, compared to a rate of 11% in 2006⁸⁴.

In 2013, the Seattle Public Schools conducted a student survey in order to gather information on marijuana use. They found that 23% of high school students consumed marijuana during the previous month. More surprisingly, 39% reported their marijuana originally came from a medical marijuana dispensary⁸⁵. Administrators were unsure if this was due to youth having obtained medical marijuana authorizations or if they were sharing the substance with someone else who had purchased at a dispensary.

During that same year, from September 2013 to May of 2014, the Seattle Public Schools reported 758 student violations involving drugs/alcohol. Of the total, 651 involved drug offenses

only and 98% of those violations involved marijuana⁸⁶. These violations occurred at all levels of the public school system: elementary, middle, and high schools.

Confiscations of marijuana products were also on the rise. According to reports, the schools had to expand the capacity for storing these confiscations due to the amount of products taken from students. Also during the 2013-2014 school year, marijuana vaporizers became much more commonly confiscated as were store-bought marijuana-infused products. The reports also stated that some students who ingested the marijuana-infused food products had experienced overdoses while at school. The confiscated products included these items:



SOURCE: Prevention WINS; Seattle Public Schools

Within the first month of the 2014-2015 school year, the Edmonds School District noted a spike in marijuana-related incidents. Not coincidentally, recreational marijuana retailers had opened their doors in July of that year. According to the district, from September to October there were twenty-five incidents as compared to seventeen during the same period in 2013 – a 47% increase in one year⁸⁷.

During the 2014-2015 school year, the Seattle Public Schools also noted an increase in the number of student marijuana violations. Within the first five months of the year, 131 violations related to marijuana were reported⁸⁸. Reports stated that products ranging from marijuana-infused lemonade to various marijuana-infused edibles were confiscated. All products were reported to have high doses of THC.

From September 2014 to January 2015, the Seattle Public Schools reported that of all the drug and alcohol-related disciplinary actions imposed on students, 77% were related to marijuana⁸⁹. One of the elementary schools in the district reported that a 5th grade student had brought a marijuana-infused candy bar to school to share with fellow students⁹⁰.

With the increased presence of marijuana in the schools, the response to these events has changed. Before legalization school staff relied on School Resource Officers to assist the

school with whatever consequence was deemed necessary. Since legalization however, these officers have reported that they are utilized much less often when an incident involves marijuana. Some school administrators have decided to deal with the offense in-house and are letting the student choose the punishment. Some schools also report that parents and/or guardians are much less frequently included during the process.

Abuse and Treatment

Behavioral Health of King County

A report published in 2015 by the King County Department of Community and Human Services assessed the county's overall health⁹¹. A section of this report addressed substance abuse among youth. The definition used for excessive marijuana use was use on three or more days during the last thirty days.

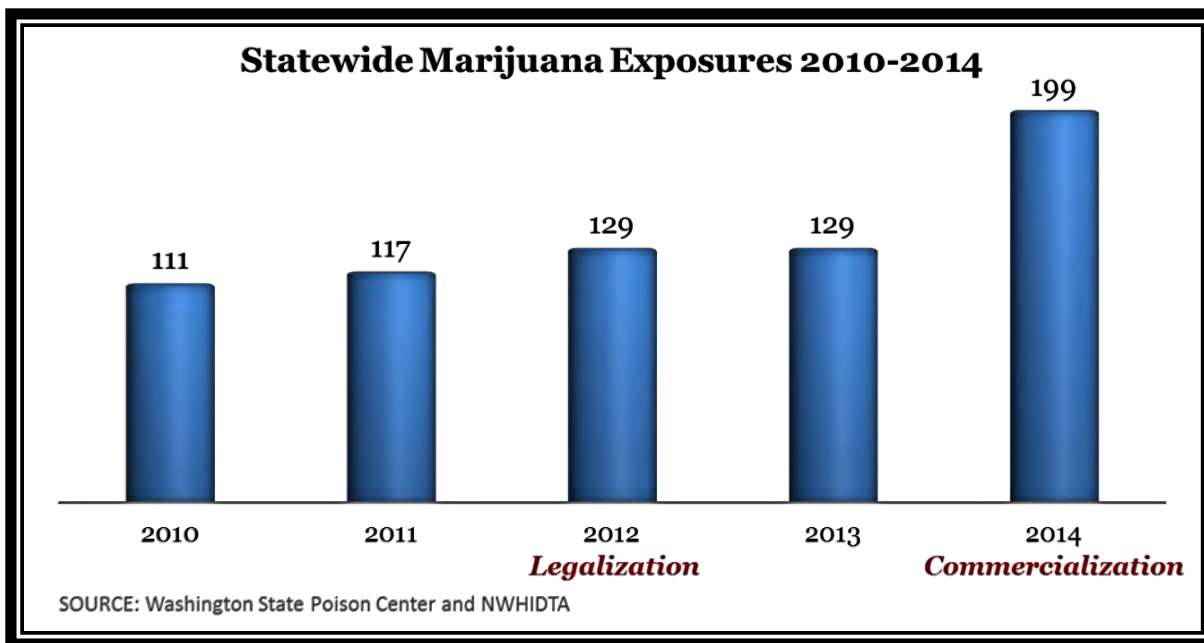
According to the report, 14% of youth reported some level of marijuana use and 9% reported using marijuana excessively including 4% of 8th graders, 11% of 10th graders, and 18% of 12th graders.

Of youth who reported a low socioeconomic status (SES), 22% consumed marijuana at least once during the past thirty days while 14% reported excessive marijuana use. Among youth who reported a moderate-high SES, 17% consumed at least once during the past thirty days and 11% reported excessive marijuana use.

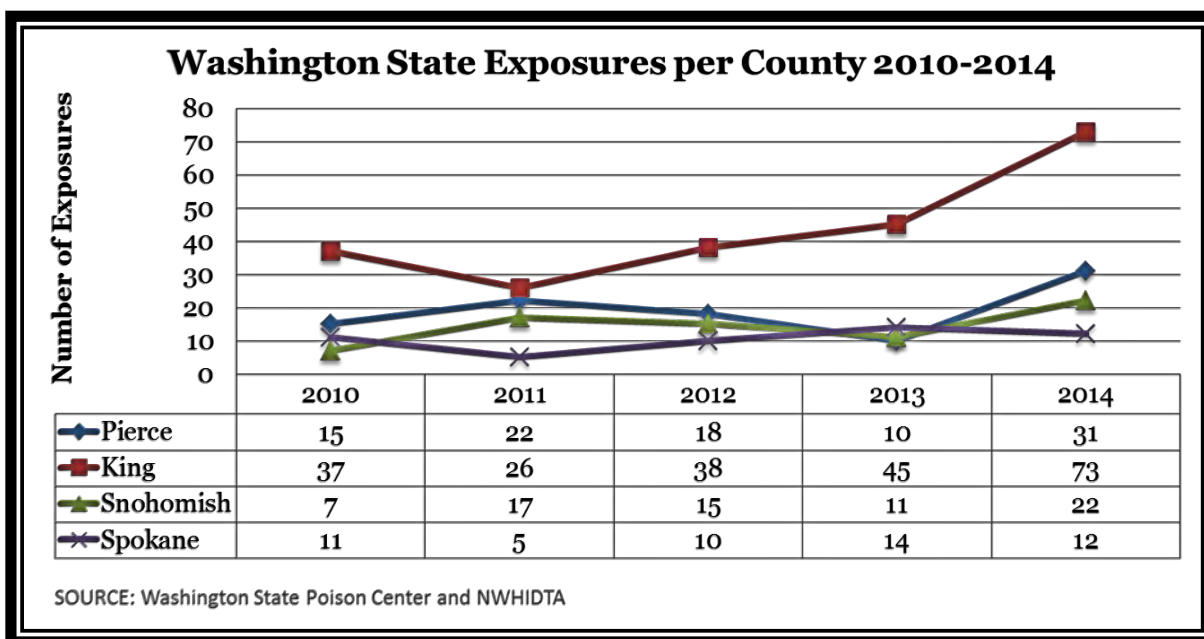
With regard to youth who reported feelings of depression within the last year, 26% had consumed marijuana during the past thirty days and 17% had consumed at an excessive rate. Comparatively, 15% of youth reporting no feelings of depression reported consuming in the last thirty days – 11% fewer than those who did report. For youth who reported no feelings of depression, 9% consumed excessively – 8% fewer than those who reported feelings of depression.

Washington State Poison Center

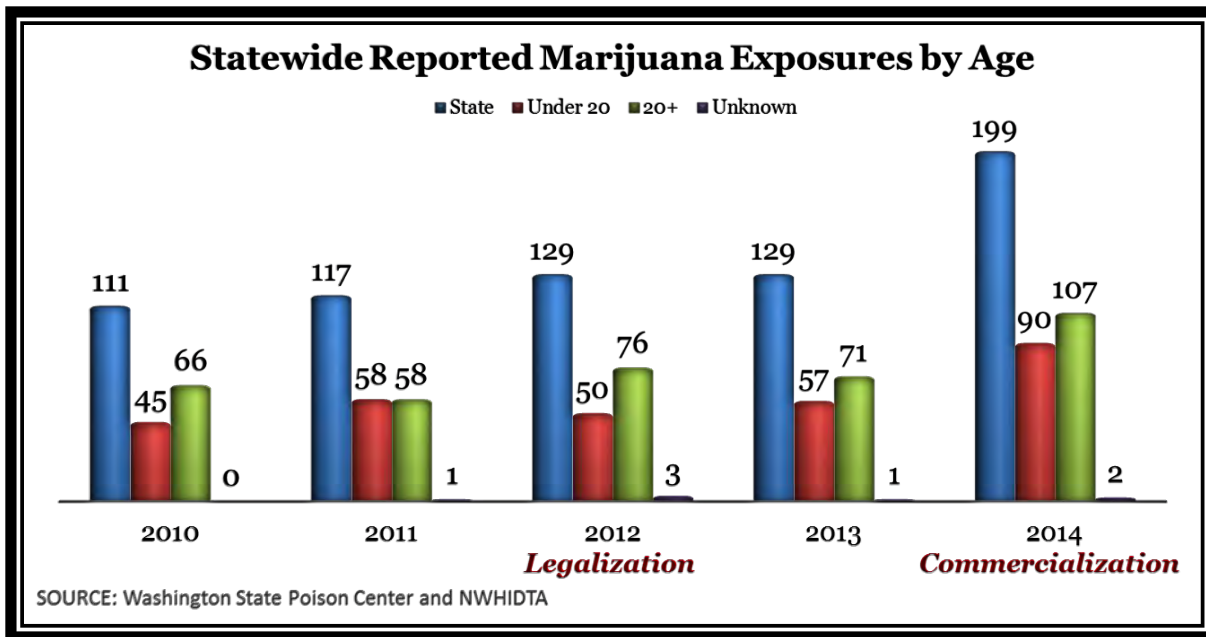
The Washington State Poison Center takes calls from throughout the community that range from accidental exposures and ingestions to potential overdoses involving an array of substances. The data collected by the agency reflects information taken directly from the callers⁹². The data shown below was obtained from callers who identified marijuana as their cause for concern.



Statewide marijuana calls to the Center have been increasing since 2006. From 2010 to 2014, calls increased by 79.27%. From the date of legalization (2012) to 2014, calls increased by 54.26%.

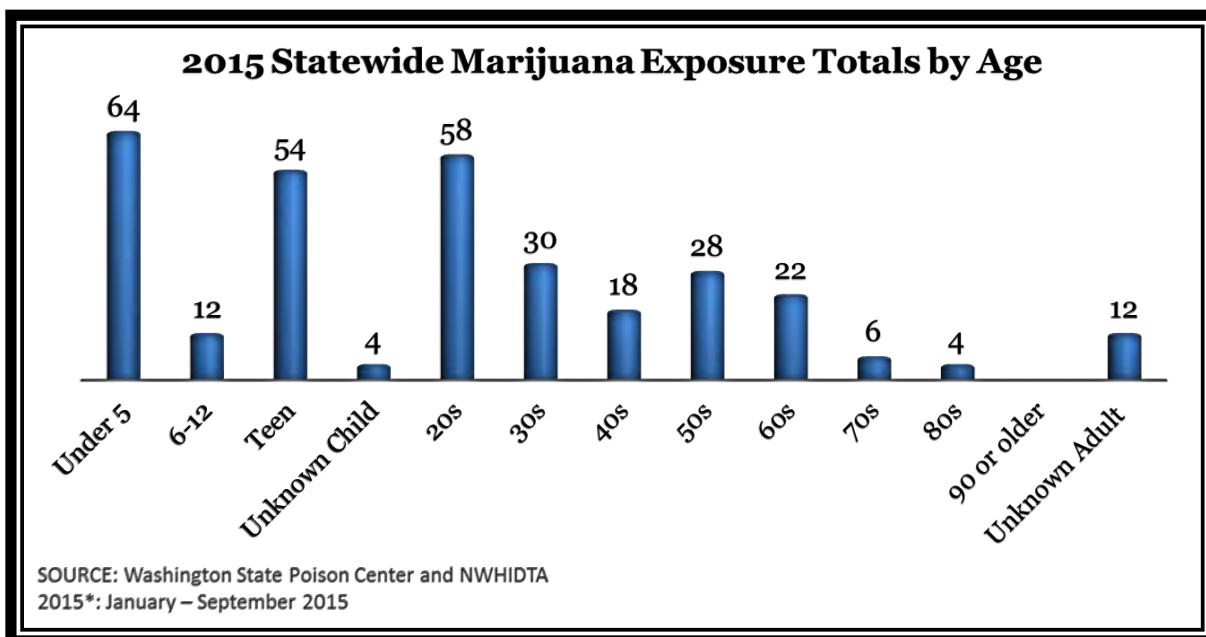


The larger counties in the state underscore the overall statewide trends. Pierce County doubled its calls from 2010 (15) to 2014 (31) and since legalization in 2012, calls have increased by 72.20%. King County was just shy of doubling the call rate from 2010 (37) to 2014 (73) – a 97.29% increase. Snohomish County tripled its calls from 2010 (7) to 2014 (22) and increased 46.66% since legalization in 2012. While Spokane County increased its marijuana calls by one from 2010 to 2014, calls increased 20% from 2012-2014.

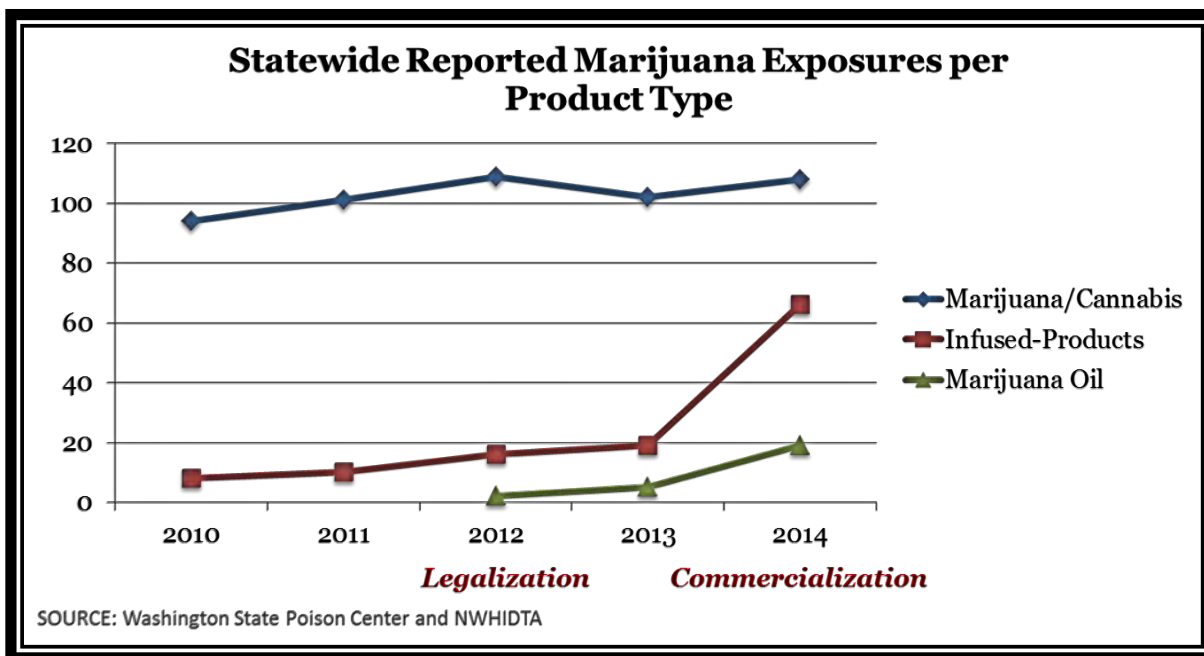


Of the marijuana calls answered by the Poison Center, youth under the age of twenty have accounted for almost half. There was a decrease in calls from 2011 to 2012, but in 2013, youth accounted for 44% of all calls. In 2014, youth accounted for 45% of statewide marijuana calls.

Callers both under and over the age of twenty have been increasing in number over the past five years. From legalization in 2012 to the implementation of recreational sales in 2014, callers under the age of twenty have increased 80%.



Data from 2015 entails calls reported from January through September of the year. Youth callers, those under the age of twenty, accounted for 43% of calls. Most notably, the highest number of calls (64) were regarding children under the age of five.

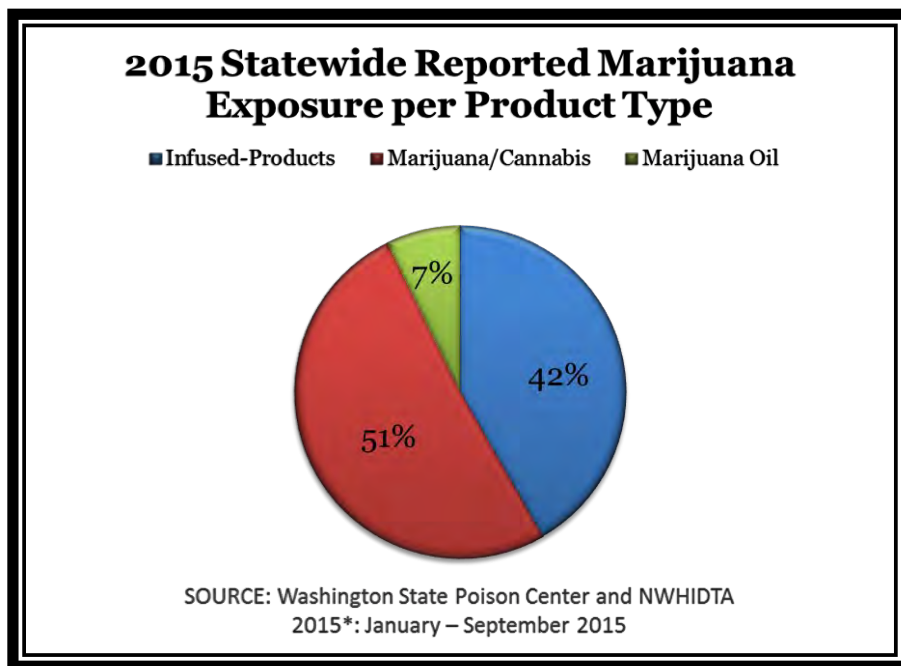


Information provided to the Poison Center is documented exactly as stated by the caller. The graph above quantifies the three categories involving calls related to marijuana:

- Marijuana/cannabis:
 - Pot, weed, medical marijuana, indica cannabis, cannabinoid, marijuana blunt, marijuana purple, medical marijuana loose leaf for smoking, strawberry cough marijuana, and marijuana cigarettes;
- Infused-products:
 - BHO (butane hash-oil) muffin, brownie with marijuana, candy bar containing marijuana, “Cheeba Chew”, medical marijuana brownie, marijuana butter, marijuana chocolate, marijuana cookie, marijuana edible in cupcakes, marijuana lotion, marijuana edible in Reese’s peanut butter cup, marijuana rice krispy treat, medical marijuana liquid, THC banana bread, THC “rainbow-ribbons”, and beverage containing marijuana;
- Marijuana oil:
 - BHO (butane hash-oil), cannabis oil, “Dama” oil, hash oil, inhaling dab marijuana with butane wax, marijuana oil, marijuana wax with butane, medical marijuana e-cigarette for migraines, rick simpson hemp oil, and marijuana oil dissolved in butane.

As indicated, calls related to the marijuana/cannabis category have remained constant over time. However, the increases in calls involving infused-products and marijuana oil are of concern. Since legalization in 2012, calls related to infused-products increased 312.5% and calls related to marijuana oil increased 850% over the course of three years.

A report published by the Washington State Poison Center details the upward trend involving youth consuming infused edible products⁹³. According to the data for 2014, children under the age of eighteen accounted for 50% of intoxications resulting from the consumption of infused chocolate and candy. Additionally, these children accounted for 25% of the reports related to marijuana baked goods.



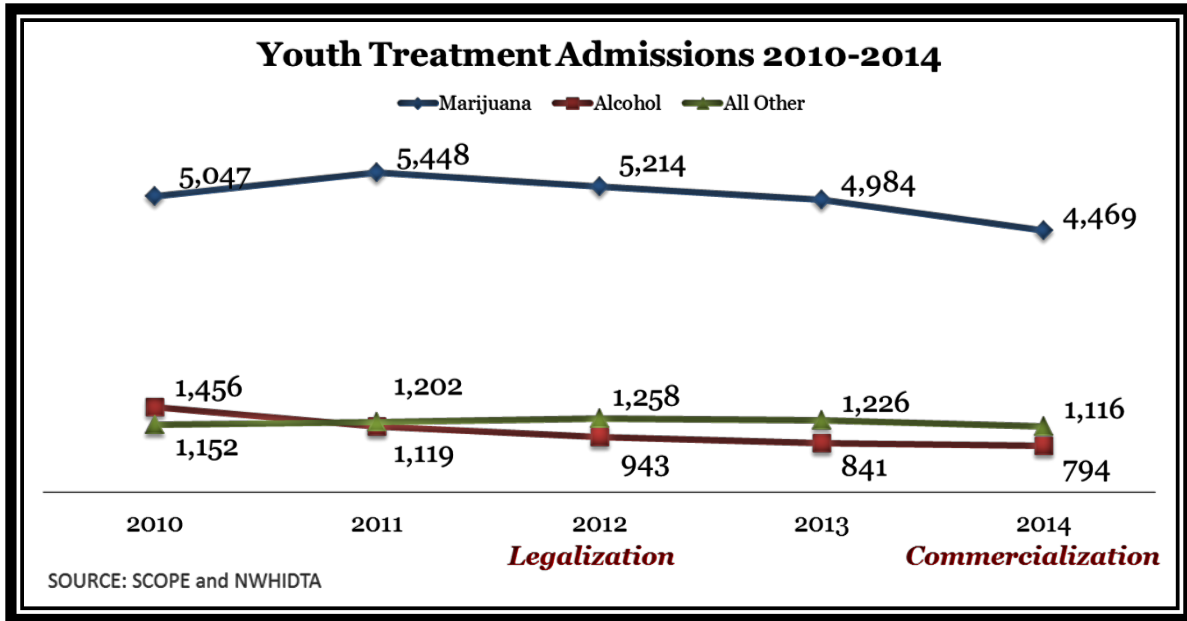
Of the calls reported for the first nine months of 2015, 51% were in the marijuana/cannabis category, 42% were associated with infused-products, and 7% were related to marijuana oil.

Youth accounted for 43% of the statewide calls during this nine-month period in 2015.

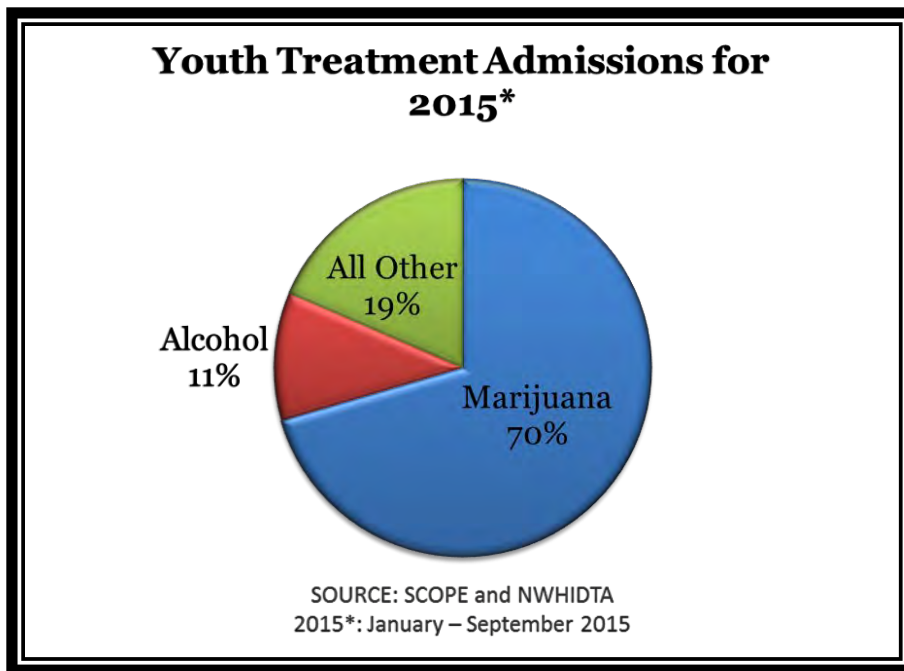
Treatment Admissions

Statewide youth treatment admissions have been decreasing over the past five years. Due to state budget pressures and their impacts on treatment centers, access to services is limited and is not adequate to meet demand.

Treatment admission data includes youth admitted to these treatment program modalities: outpatient, intensive outpatient, residential, and long-term residential⁹⁴. Regardless of treatment capacity, marijuana remains a constant for youth who are accessing services. The clients represented by this data are aged eighteen and younger with marijuana cited at admission as the primary substance of abuse.



In 2010, marijuana accounted for 66% of admissions and increased 4% to 70% of admissions by 2014.



Treatment admissions for youth during the first nine months of 2015 reflect the same trend. Marijuana admissions totaled 2,875 by the end of September and accounted for 70% of the total youth admissions.

Section 4: Adult Impacts

Introduction

Persons twenty-one years of age and older may legally possess and consume marijuana in Washington State, including both medical marijuana and recreational marijuana. The following subsections discuss adult consumption and treatment data regarding the use and abuse of marijuana.

Various reports and surveys from across the nation and Washington State provide this data, including:

- **Young Adult Survey:** an internet-based survey published by the Center for the Study of Health and Risk Behaviors at the University of Washington, the Department of Social and Health Services, and the Washington State Epidemiological Outcomes Workgroup;
- **National Survey on Drug Use and Health (NSDUH):** an annual nationwide household survey funded by the Substance Abuse and Mental Health Services Administration;
- **King County Community Health Indicators:** a public health indicators project measuring the health of residents in King County;
- **Behavioral Risk Factor Surveillance System:** reported by the Office of Financial Management, which supports the governor, legislature, and various state agencies with fiscal services and policy support;
- **Behavioral Health of King County:** the King County Department of Community and Human Services published a report on excessive marijuana use throughout the county;
- **Drug Abuse Trends in the Seattle/King County Area:** report published by the University of Washington Alcohol and Drug Abuse Institute.

Data Summary

- 24% of young adults (18-25) consumed marijuana at least once during the past-month in 2014 – 17% used at least once a week and 6% were daily users;
- Washington State young adults (18-25) past-year marijuana use was 6% higher than the nation's in 2012-2013 - Washington adults (26+) were 5% higher;
- Washington State young adults (18-25) and adults (26+) past-month marijuana use was 5% higher than the nation's in 2012-2013.

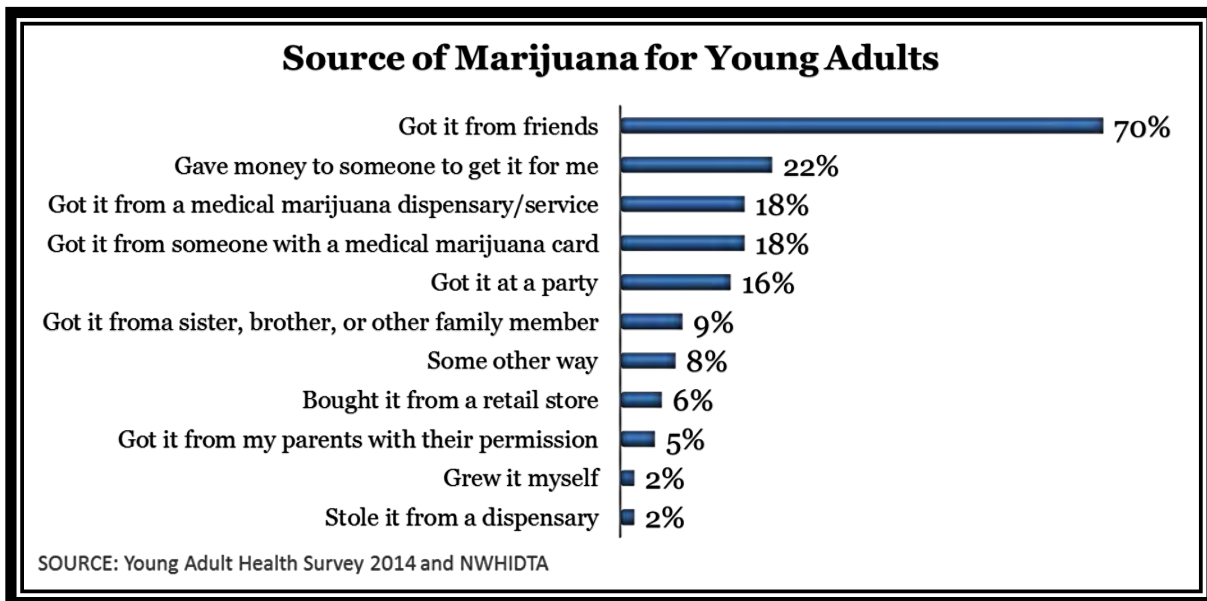
Consumption and Use

Young Adult Health Survey

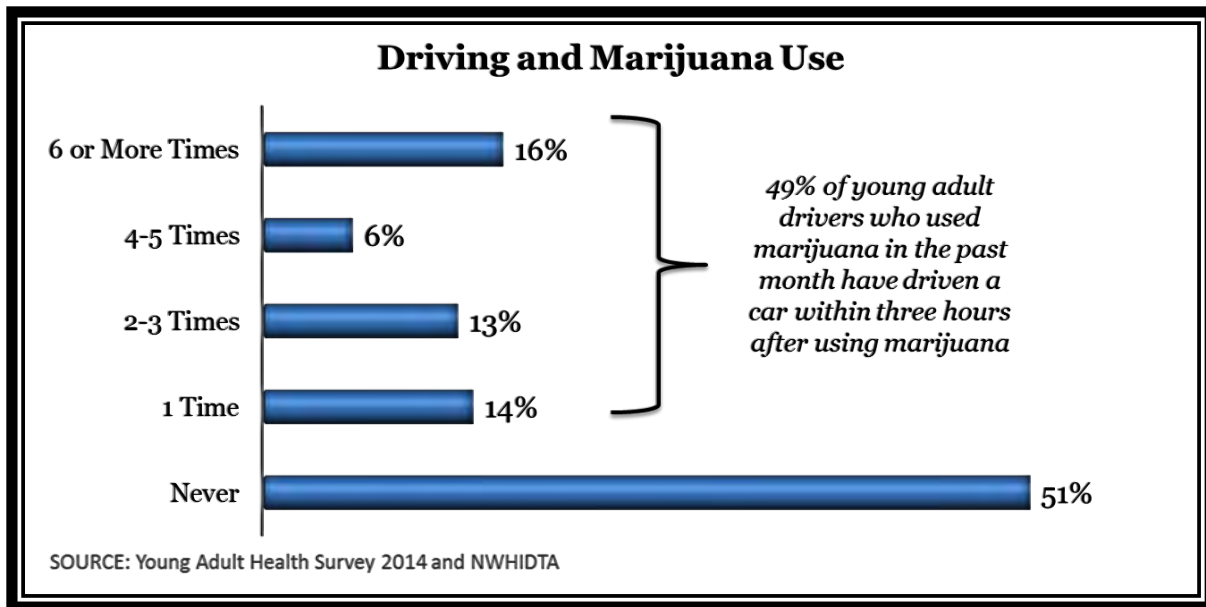
Data for this survey was collected from May 2014 – July 2014. It should be noted that recreational marijuana commercialization did not begin until July 2014⁹⁵. The age category for young adults encompasses persons aged eighteen to twenty-five. All ethnic groups are represented as well as all Washington state counties with over 2,000 respondents.

The questions that were asked dealt with marijuana use, sources, and perception of risk. The findings included:

- 43% of respondents used marijuana within the last year:
 - 24% used at least once a month;
 - 17% used at least once a week;
 - 6% used daily;
- 15% of respondents used marijuana for medicinal purposes:
 - 11% used at least once a month;
 - 9% used at least once a week;
 - 5% used daily.



Receiving marijuana from friends was the most significant source for young adults. This includes obtaining it directly (70%) or by relying on friends to buy it (22%). Obtaining marijuana either directly from a medical marijuana dispensary or delivery service and friends with a medical marijuana card represented the third and fourth most common sources (18%).

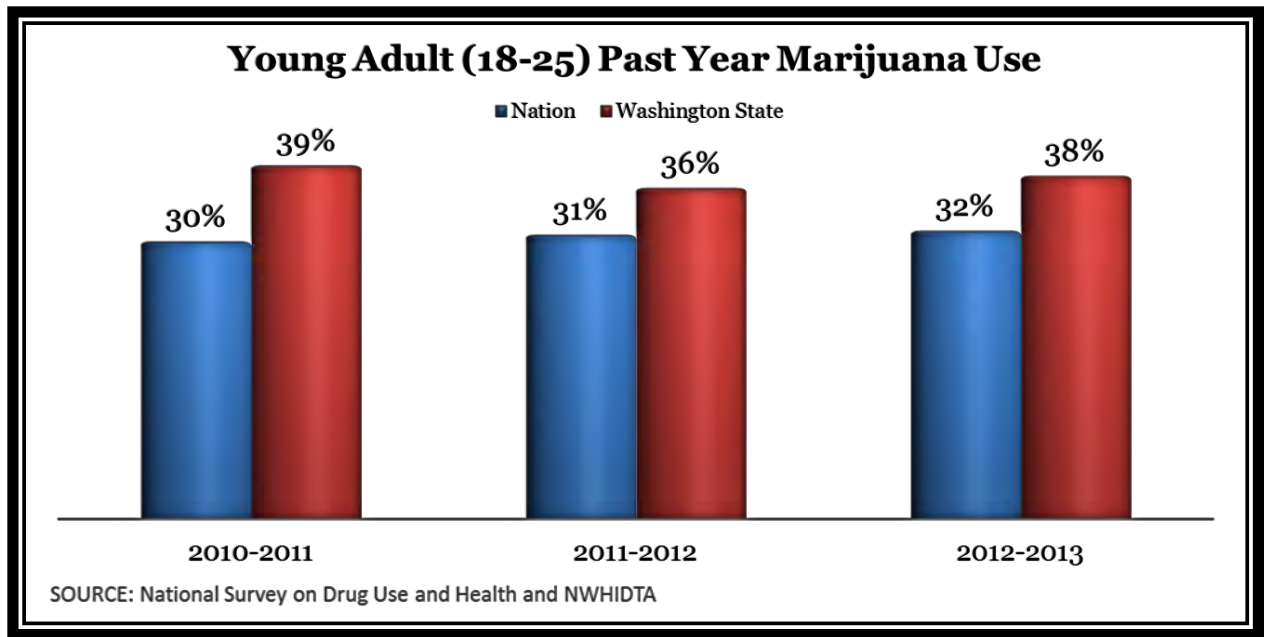


According to the report, 16% of young adult respondents reported driving under the influence of marijuana at least six times during the past thirty days. In total, 49% of young adult drivers who used marijuana in the past month had driven a car within three hours after using marijuana. The survey used a three-hour window as the threshold based upon current evidence on the behavioral and psychological effects of marijuana.

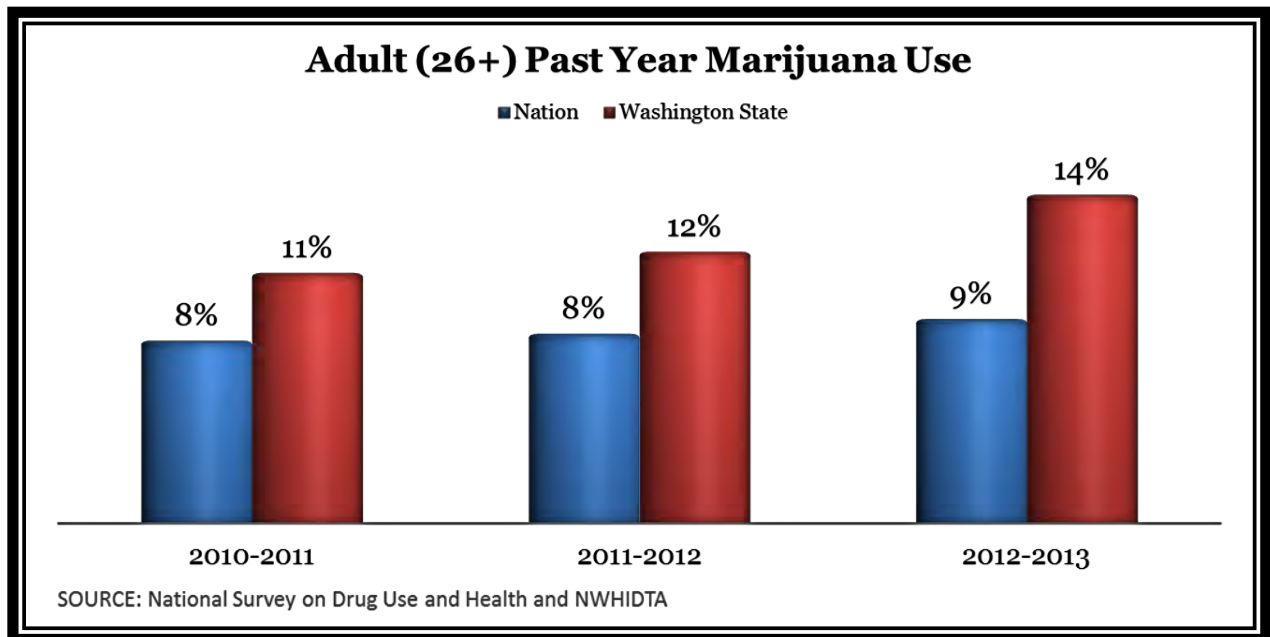
When asked about psychological harm, 10% reported no perceived risk, 52% reported slight/moderate perceived risk, and 38% reported great perceived risk. As for physical harm, 15% reported no perceived risk, 59% reported slight/moderate perceived risk, and 25% reported great perceived risk. Young adults perceive less physical harm from marijuana use and believe more psychological harm is likely with regular marijuana use.

National Survey on Drug Use and Health

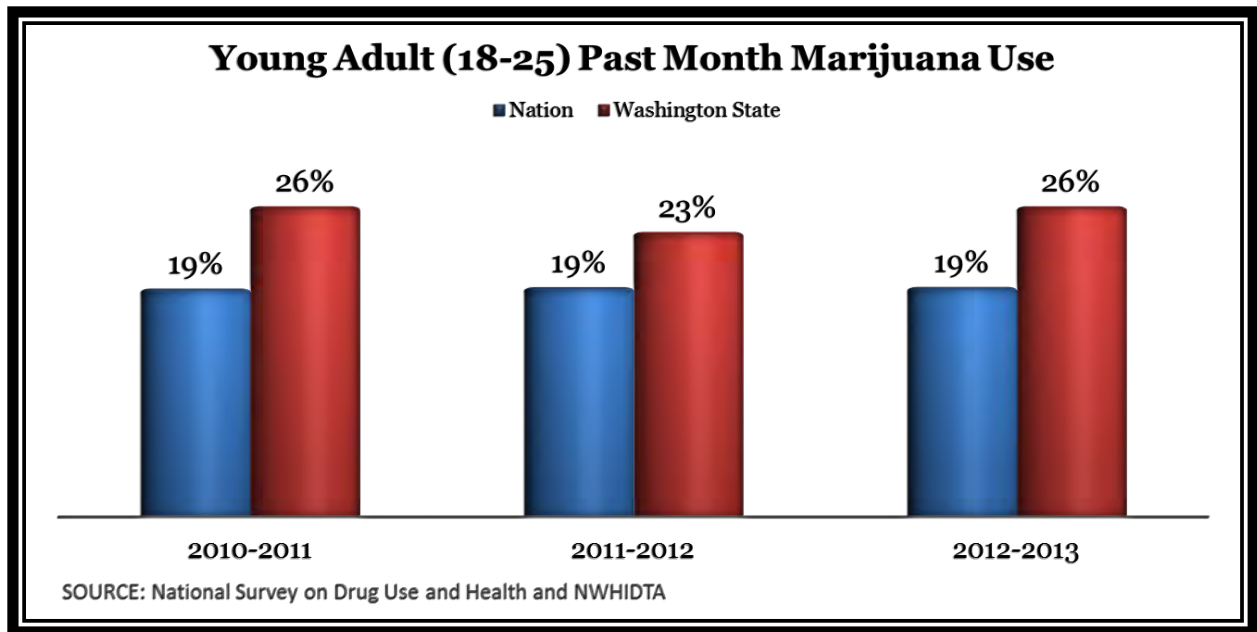
The data below compares Washington State to the United States with regard to two cohorts: young adults (18-25) and adults (26+). The data is derived from the 2010-2011, 2011-2012, and 2012-2013 surveys⁹⁶.



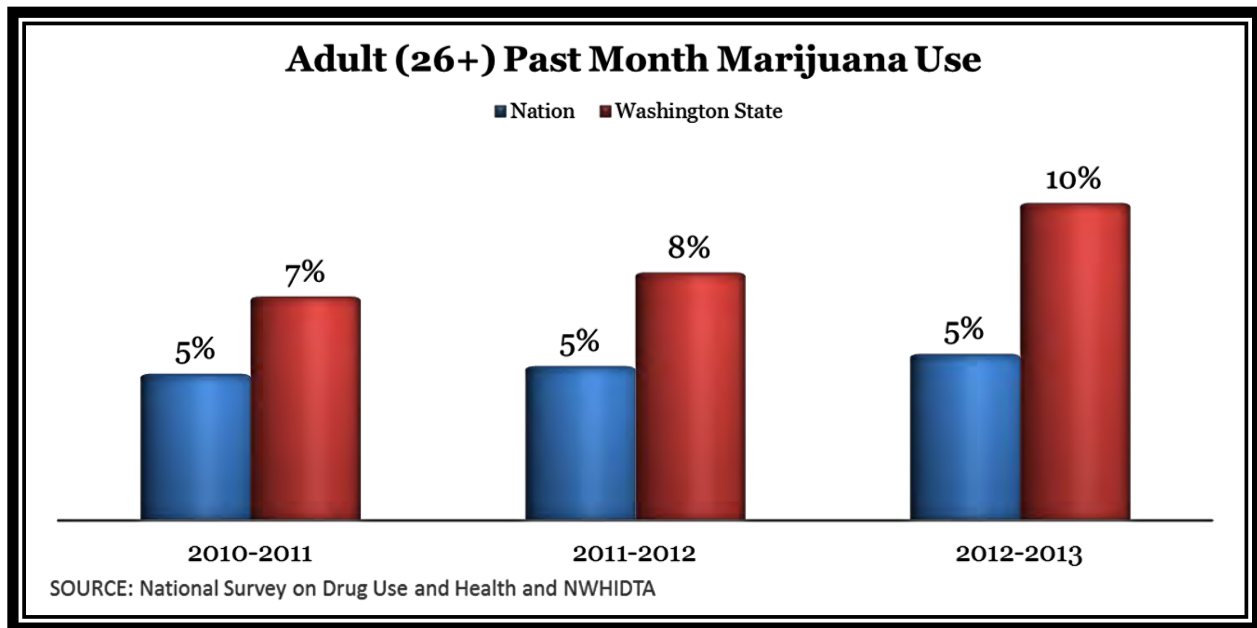
The percentage of Washington State users decreased 3% from 2010-2011 to 2011-2012 and increased 2% after legalization occurred in 2012. By 2012-2013, 38% of Washington young adults had used marijuana during the last year.



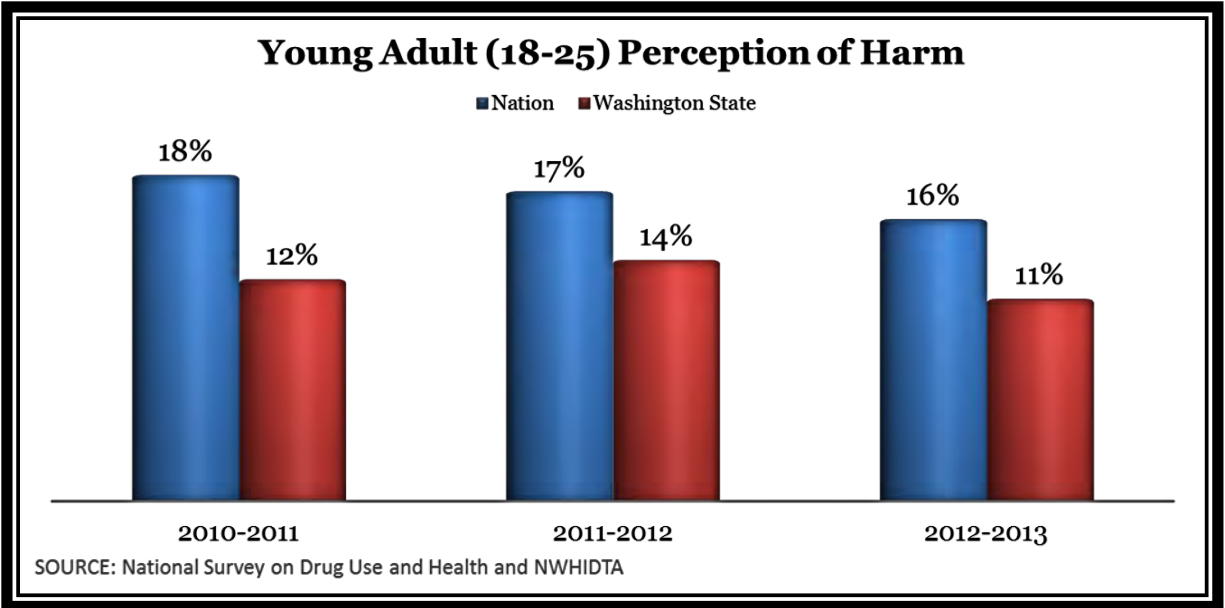
Adult past-year use has remained below 10% for the nation since 2010. Past year use among adults in Washington has been increasing with each survey, including a 2% jump from 2011-2012 to 2012-2013, at the time of legalization.



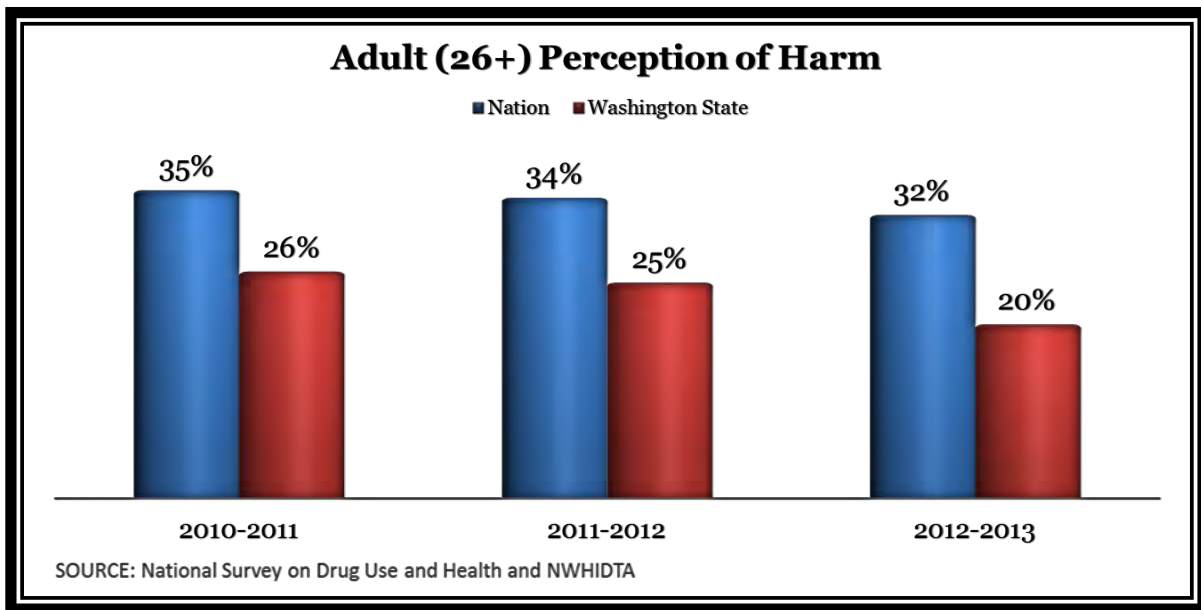
Past-month marijuana use among young adults across the nation has remained unchanged since 2010. Past-month marijuana use among young adults in Washington State increased 3% from 2011-2012 to 2012-2013, the time of legalization.



On a national basis the rate of use for adults remained unchanged. The rate of use for adults in Washington increased 2% between the 2011-2012 and 2012-2013 surveys which was again at the time of legalization.



The perception of harm across the nation and in Washington State has been steadily declining since the 2010-2011 survey. Young adults in Washington reported the largest decline, 3% between the surveys of 2011-2012 and 2012-2013, during the time of legalization. By 2012-2013, 16% of Washington State young adults perceived harm associated with marijuana use.

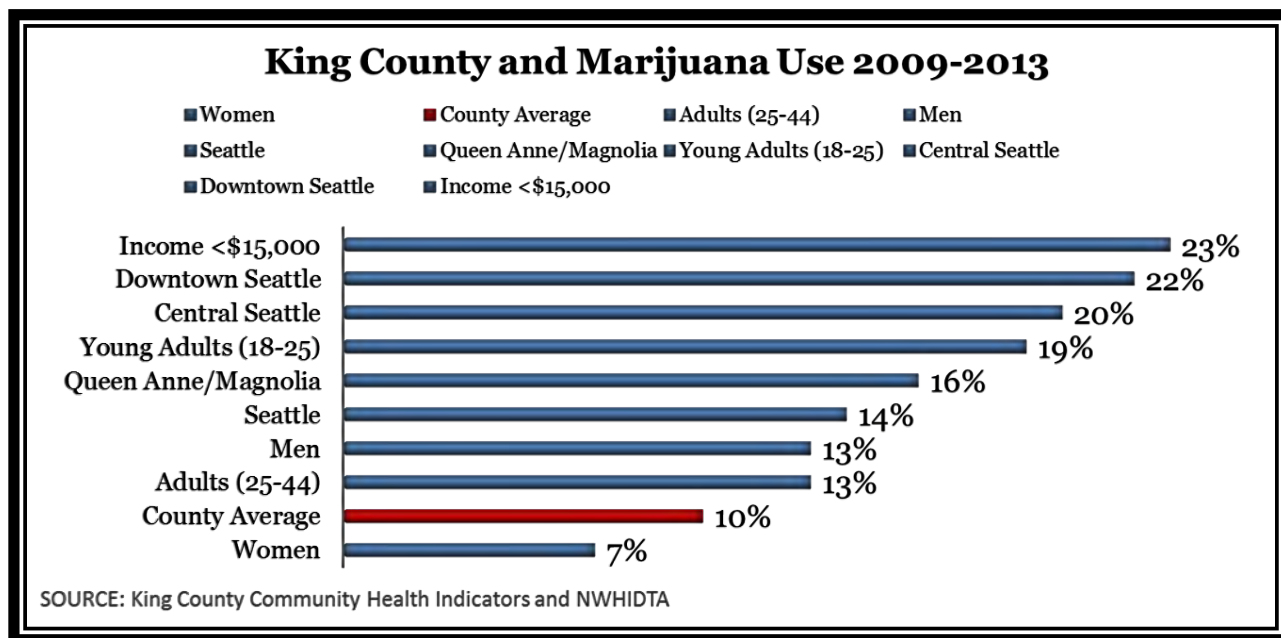


As with the perception of harm on the part of young adults, adults' perception of harm has also been on the decline. Adults in Washington reported the largest decline, 5%, between the surveys conducted in 2011-2012 and 2012-2013.

King County Community Health Indicators

Data from the adult marijuana use report was gathered and compiled by the Public Health Department of Seattle and King County⁹⁷. The source for the data was the Behavioral Risk Factor Surveillance System (BRFSS) which is a national survey agency for the nation collecting data on residents regarding their health and corresponding behaviors.

The report compiled data from 2009-2013 on the prevalence of marijuana users in King County. Adults in this data entail persons eighteen years of age and older.



Adults in King County, on average from 2009-2013, used marijuana during the previous thirty days at a rate of 10%. Young adults, aged 18-24, used marijuana at a rate of 19% - 9%, higher than the county average. Adults aged 25-44 used marijuana at a rate of 13% - 3% higher than the county average.

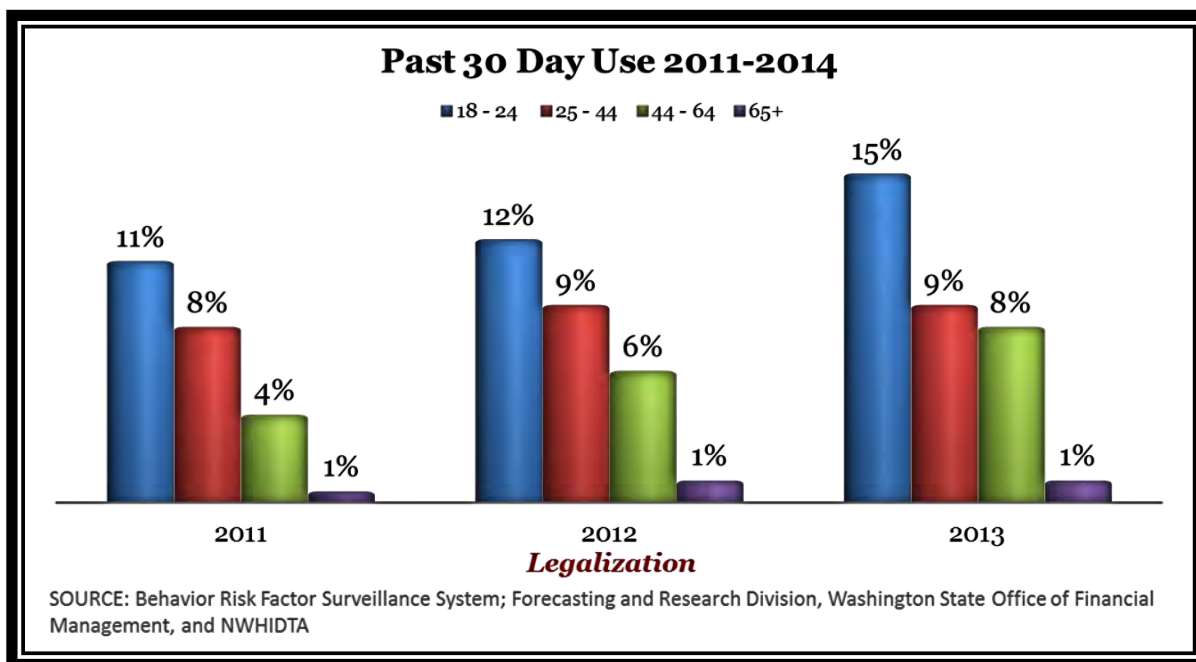
Men in King County consumed marijuana at a rate of 13% over the previous thirty days – 3% above the county average. Women were below the county average at a rate of 7%.

Specific areas within King County also reported usage rates above the county average. Seattle (14%), central Seattle (20%), downtown Seattle (22%) and the neighborhoods of Queen Anne/Magnolia (16%) were 4% to 12% higher.

Household income also was a factor. Users who had a household income of less than \$15,000 had a rate 13% higher than that of the county, at 23%.

Washington State Behavioral Risk Factor Surveillance System

The Forecasting and Research Division of the Washington State Office of Financial Management published a report in 2015 on the impacts of marijuana following legalization⁹⁸. The data was compiled regarding users' past thirty-day use. Findings from the report organized consumption by age groups: 18-24, 25-44, 44-64, and 65+.



The graph above shows the rate of past-month use categorized by specific age groups from 2011-2013. Based upon this data, the age group of 44-64 has been increasing use by 2% since 2011. For the 18-24 age group, the increase was 3% from 2012 to 2013, the time of legalization.

Behavioral Health of King County

A report published in 2015 by the King County Department of Community and Human Services addressed the overall behavioral health of the county⁹⁹. An element of the report addressed substance abuse on the part of adults. The definition for excessive marijuana use for adults was use on four or more days during the previous thirty days.

According to the report, 6% of adults eighteen and older were consuming marijuana excessively over the previous thirty days. For young adults (18-25) 12% reported excessive use. Men (8%) were more likely to report higher use than women (5%) throughout the county.

The city of Seattle reported 9% of users consuming excessively, south King County reported 7% and north King County reported 6%. The eastern region of the county reported the lowest percentage of excessive use at 3%.

For those who reported to be living at under 200% of the Federal Poverty Line (FPL), 11% were excessive marijuana users – 5% above the county average – compared to 5% of those who were above 200% FPL – 1% below the county average.

Drug Abuse Trends in the Seattle/King County Area

In 2013, the University of Washington Alcohol and Drug Abuse Institute published a report on the drug abuse trends throughout King County¹⁰⁰. All drugs were analyzed.

The Washington Recovery Help Line is a 24-hour call center available to assist individuals with various substance abuse problems and mental health issues. The help line provides support to callers including treatment referrals and information regarding a range of services across the state.

Of the calls from 2012-2013, marijuana was the fourth most common drug disclosed. Heroin, methamphetamine, and prescription drugs were the top three.

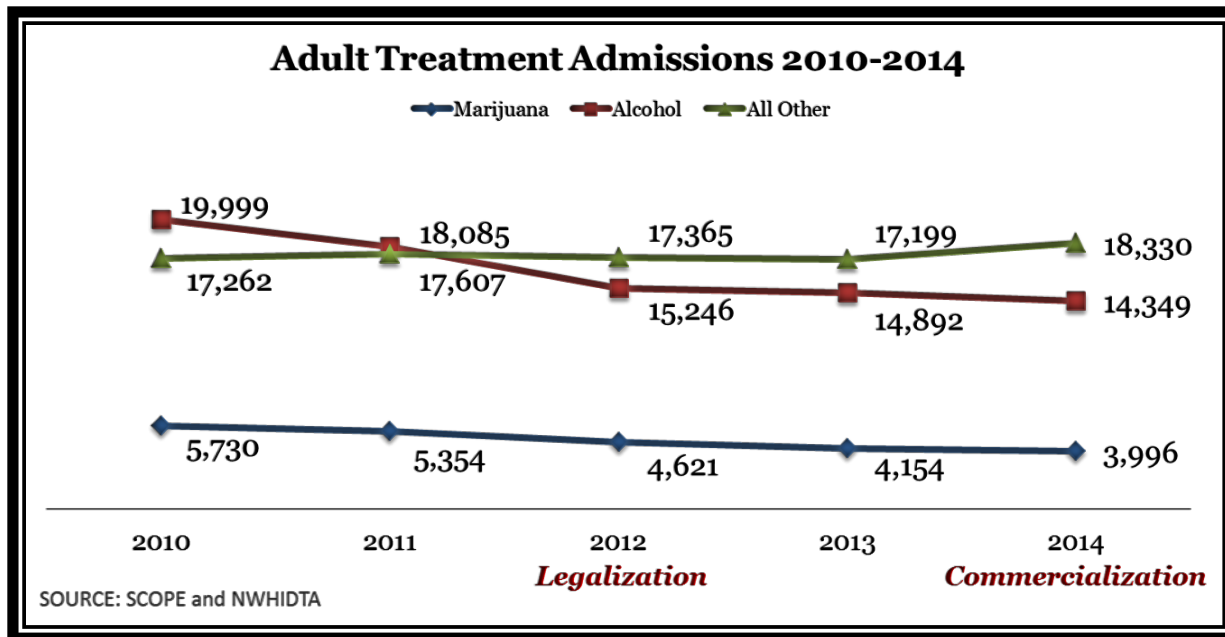
Males accounted for 74% of the treatment program admissions among whom 50% were over the age of eighteen. Marijuana was the third highest primary drug identified at admission in the county, following alcohol and heroin.

Abuse and Treatment

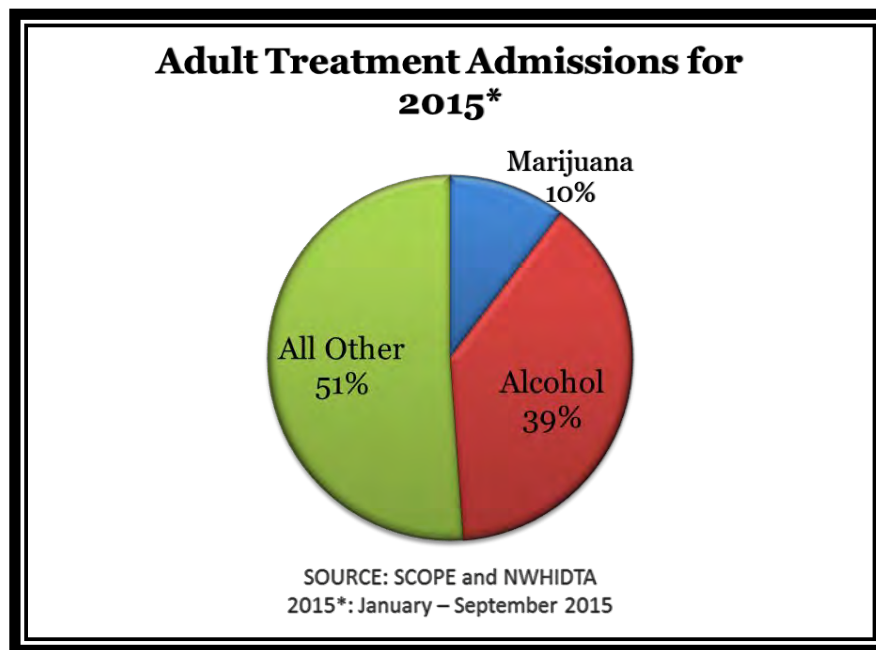
Treatment Admissions

The perception of harm associated with marijuana use throughout the state has been declining for some time. Those perceptions are reflected in the low numbers of consumers who sought substance abuse treatment for marijuana abuse and addiction.

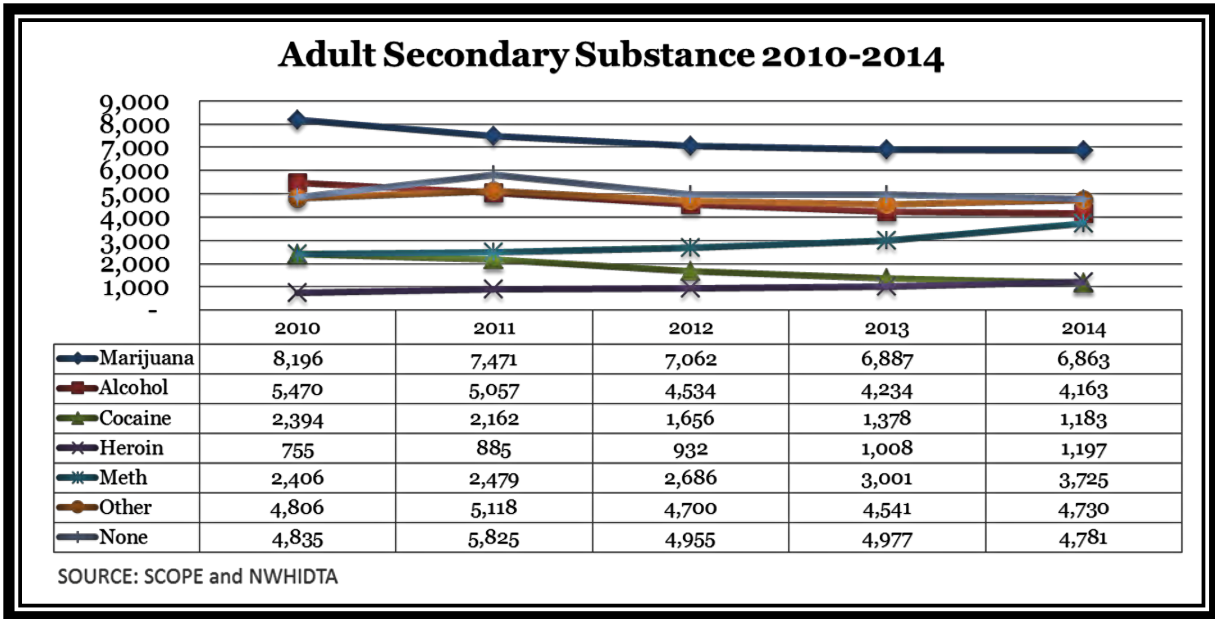
Available data includes treatment admissions for those eighteen and older in the state of Washington¹⁰¹. Program modalities include outpatient, intensive outpatient, residential, and long-term residential. Marijuana admissions are identified when marijuana is cited as the primary substance of abuse.



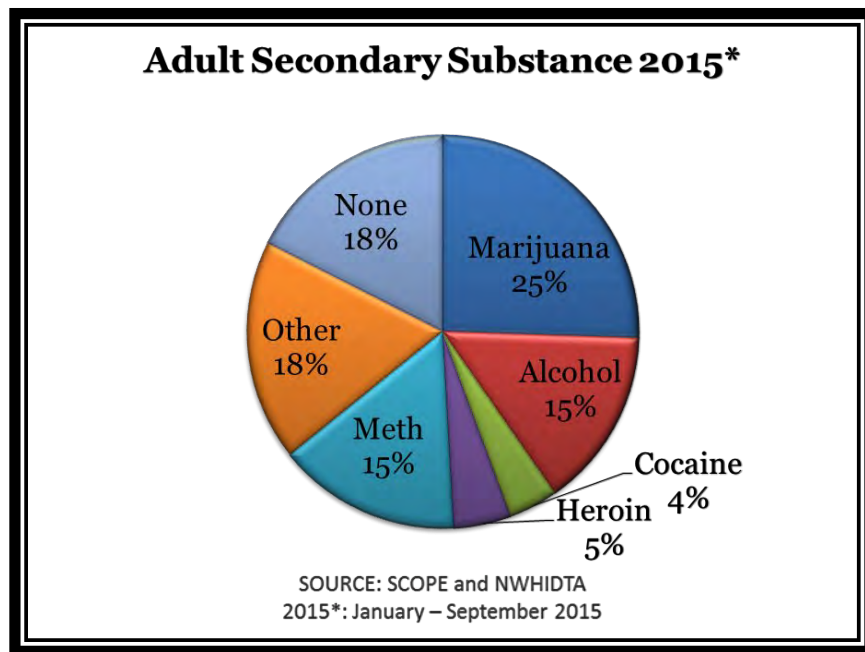
In 2010, marijuana accounted for 13% of all substance treatment admissions in the state. This was constant through 2011 and dropped to 12% in 2012 and 2013. By 2014, marijuana accounted for 11% of all admissions.



From January to September of 2015, marijuana treatment admissions for adults eighteen and older accounted for 10% of all admissions- a total of 2,871 individuals.



Marijuana was also reported as the highest secondary substance of abuse at treatment admissions for adults, which has been constant since 2010. According to SCOPE data, marijuana has historically been the highest reported secondary drug for adults who enter into treatment for alcohol or methamphetamine abuse and addiction.



From January to September of 2015, 25% of treatment admissions for adults eighteen and older involved marijuana as the secondary substance of abuse. Preliminary data for 2015 indicates that adults who entered treatment for marijuana as their primary or secondary substance abuse problem account for 35% of total admissions.

Section 5: Impaired Driving

Introduction

When the state of Washington legalized marijuana in 2012, a new threshold “driving under the influence” (DUI) was established for marijuana. According to state law, the DUI limit is 5 nanograms per milliliter of blood for active THC concentration. Carboxy-THC concentration does not apply to the DUI limit.

Data Summary

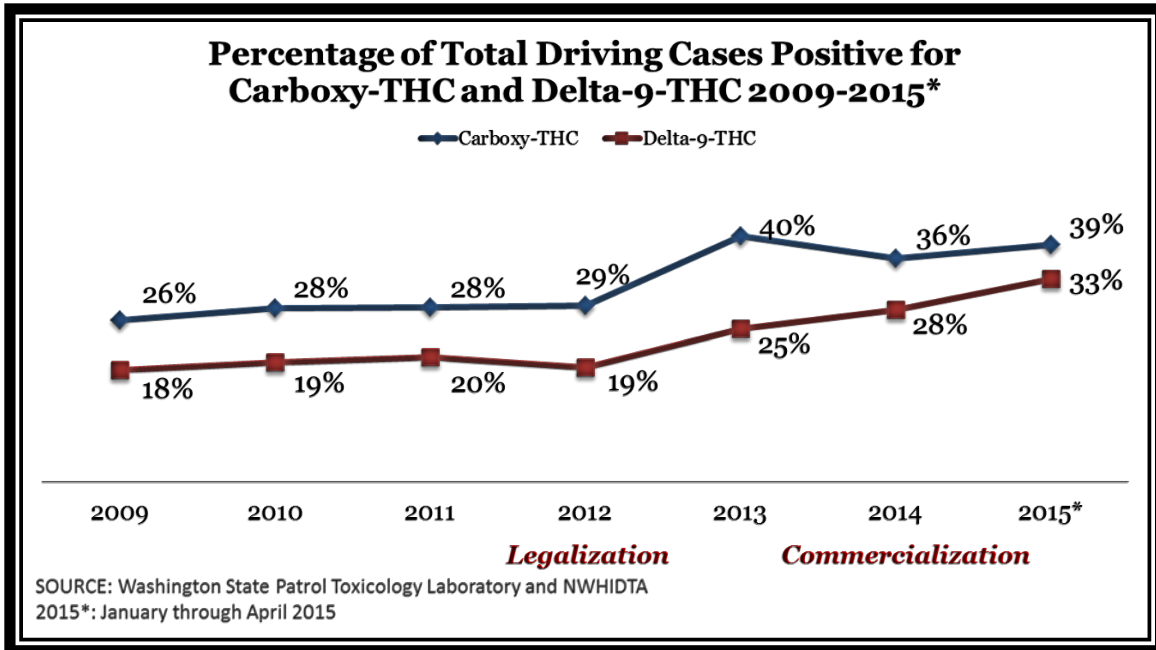
- 44% of marijuana DUI cases for 2015 (January – April) tested by the Washington State Patrol Toxicology Lab were over the legal limit of 5 nanograms per milliliter of blood;
- 64% of the marijuana DUIs reported by the Spokane Valley Police Department during 2014 involved youth;
- 61.9% of drivers do not believe marijuana makes a difference in their driving ability according to the Roadside Survey conducted by the Washington State Traffic Safety Commission;
- Drivers with active THC in their blood involved in a fatal driving accident have increased 122.2% from 2010 (16) to 2014 (23) according to the Washington State Traffic Safety Commission.

Washington State Patrol Toxicology Laboratory

The Washington State Patrol (WSP) Toxicology Laboratory receives evidence from driving under the influence (DUI) cases from across the state¹⁰². All thirty-nine counties are represented. The services provided assist law enforcement, medical examiners and coroners, attorneys, and state agencies.

The costs associated with DUI testing range from \$100 to \$300. Multiple drugs present in an individual’s system will drive up the cost. DUI cases are first tested for alcohol and other common drugs of abuse; testing and confirming THC follows. The cost for testing THC alone is \$95.

The DUI threshold for Washington State drivers who have consumed marijuana is 5 nanograms of active THC per milliliter of blood (5 ng/ml) for those twenty-one and older. Active THC is defined as Delta-9-THC, the compound in marijuana responsible for the psychoactive ‘high’ users’ experience. Carboxy-THC is a metabolite that resides in the user for varying lengths of time and is not taken into account for DUI. Carboxy-THC is used to show past use in an individual.



Over the past six years, the number of cases involving both active THC and Carboxy-THC have been increasing in regard to DUI submissions to the WSP Toxicology lab. In 2009, active THC was detected in 18% of driving cases and during the first four months of 2015, 33% of drivers tested positive for active THC. Carboxy-THC was present in 26% of cases in 2009 and rose to 39% within the first four months of 2015.

From 2012 to 2015, the incidence of carboxy-THC increased by 73.48% and the incidence active THC increased by 73.68%. Preliminary 2015 data surpasses all of 2014's averages. Carboxy-THC in 2015 increased 3% and active THC increased 5%..

Summary of Delta-9-THC Blood Concentrations from Driving Cases 2011-2015*

Year	# Cases Positive for Delta9-THC	THC Concentration Range	Average THC Concentration
2011	1,036	1-58 ng/mL	6.4 ng/mL
2012	988	1-90 ng/mL	8.0 ng/mL
2013	1,362	2-77 ng/mL	7.2 ng/mL
2014	1,759	1-100 ng/mL	6.1 ng/mL
2015*	736	1-62 ng/mL	6.3 ng/mL

SOURCE: Washington State Patrol Toxicology Laboratory and NWHIDTA
2015*: January through April 2015

In 2011, a year before legalization, the median concentration of active THC was above the 5 ng/ml threshold. The median concentration then increased to 8 ng/ml in 2012. During the first four months of 2015 the average THC concentration had reached higher levels than the entire previous year at 6.3 ng/ml.

The THC concentration range has also been increasing. In 2012, the highest concentration was 90 ng/ml, compared to 58 ng/ml in 2011. In 2014, the range reached 100 ng/ml.

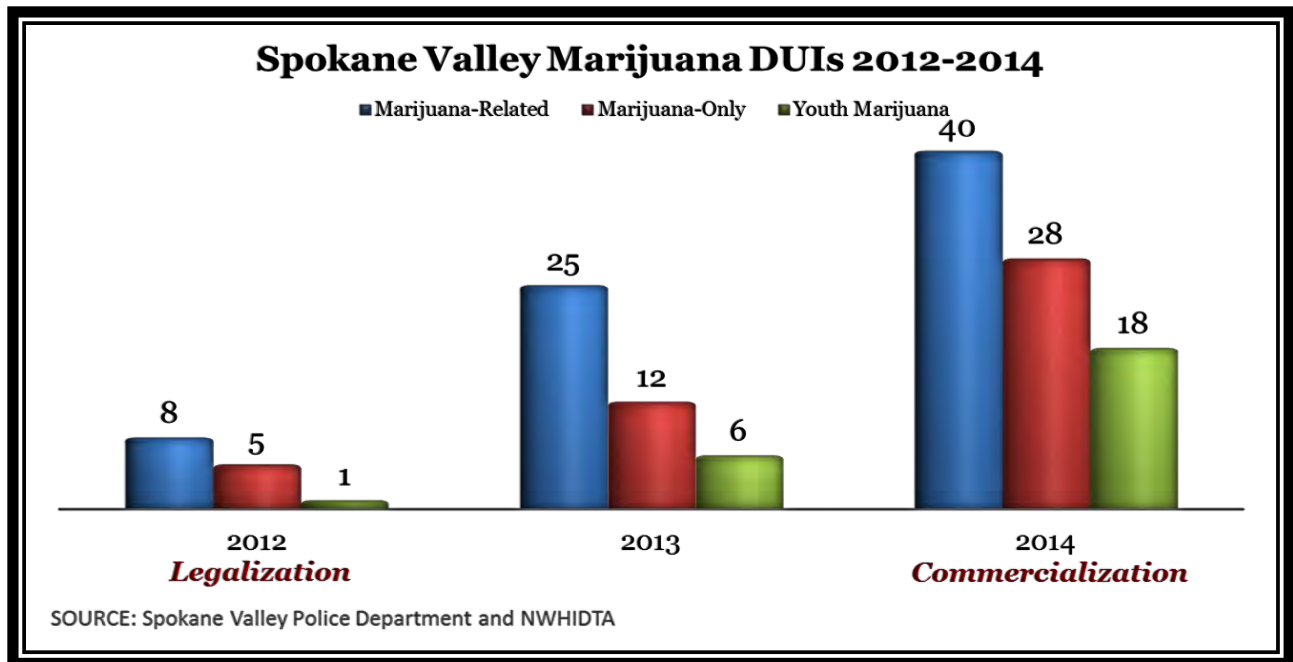
Number of THC (Delta-9-THC) Positive Driving Cases on or Above the per se 5 ng/mL		
Year	Number of Impaired Driving Cases Positive for Delta-9-THC	Number and Percentage of These Cases Where THC is 5 ng/ml or Higher
2011	1,036	506 (49%)
2012	988	610 (62%)
2013	1,362	720 (53%)
2014	1,759	703 (40%)
2015*	736	324 (44%)

SOURCE: Washington State Patrol Toxicology Laboratory and NWHIDTA
2015*: January through April 2015

In 2012, the year of legalization, 62% of DUI cases submitted to the lab were at or above the 5 ng/ml threshold. This began to drop in 2012 and 2013, but during the first four months of 2015 have surpassed the 2014 rate by 4%.

Spokane Valley Police Department

Spokane Valley is located in eastern Washington State between Spokane and Liberty Lake on the Idaho border – thirty-three miles west of Coeur d’Alene. The data below was gathered from case records compiled by the department on marijuana DUIs from 2012 to 2014¹⁰³. The total DUI numbers shown in the analysis below have a marijuana nexus – if marijuana was not present, it was not included.



The number of marijuana-related DUIs has been increasing since the department’s data collection began. In 2012, there were a total of eight marijuana-related DUIs as compared to forty in 2014 – a 400% increase.

Marijuana-only DUIs have also been on the rise since 2012. These are DUIs for which marijuana was confirmed to be the only active drug in the driver’s system. From 2012 to 2014 the department noted a 460% increase.

Youth marijuana DUIs have been growing exponentially. In 2012, Spokane Valley only had one youth test confirmed for active THC. In 2014, the number was eighteen – a 1700% increase in three years. In 2014, youth accounted for 64% of all confirmed marijuana DUI cases in Spokane Valley.

Spokane Valley Police Department Youth Marijuana-Only DUIs							
Year	Total Marijuana Only DUIs	Total Youth Marijuana Only DUIs	Average Age	Carboxy THC Range	Average Carboxy THC	Active THC Range	Average Active THC
2013	12	6	19	15 - 170 ng/ml	103.33 ng/ml	2.4 - 20 ng/ml	8.41 ng/ml
2014	28	18	18	8 - 200 ng/ml	84.72 ng/ml	1.1 - 30 ng/ml	9.85 ng/ml
2015*	9	6	18	7.6 - 140 ng/ml	47.9 ng/ml	2.3 - 24 ng/ml	8.86 ng/ml

SOURCE: Spokane Valley Police Department and NWHIDTA
2015*: Preliminary Data

The table above provides detail regarding marijuana-only DUIs for youth under the legal age of twenty-one. The data for 2015 is preliminary. Due to the delays inherent in blood testing for DUIs, this data is not yet complete. The numbers in the table accurately report the confirmed marijuana-only DUI instances with youth thus far. It is expected that the number will actually be much higher.

In 2013, 50% of the department’s marijuana-only DUIs involved youth, with an average age of nineteen. The range of carboxy-THC was 15-170 ng/ml with an average of 103.33 ng/ml. The range of active THC was from 2.4-20 ng/ml with an average of 8.41 – well over the legal level even for an adult.

In 2014, the total number marijuana-only DUIs increased by 200% for youth. The average age was eighteen. The range of carboxy-THC for youth was 8-200 ng/ml with an average of 84.72 ng/ml. Even though the average for carboxy-THC decreased, the average active THC level increased 17% for youth. The range was 1.1-30 ng/ml with an average of 9.85 ng/ml, surpassing the average for 2013.

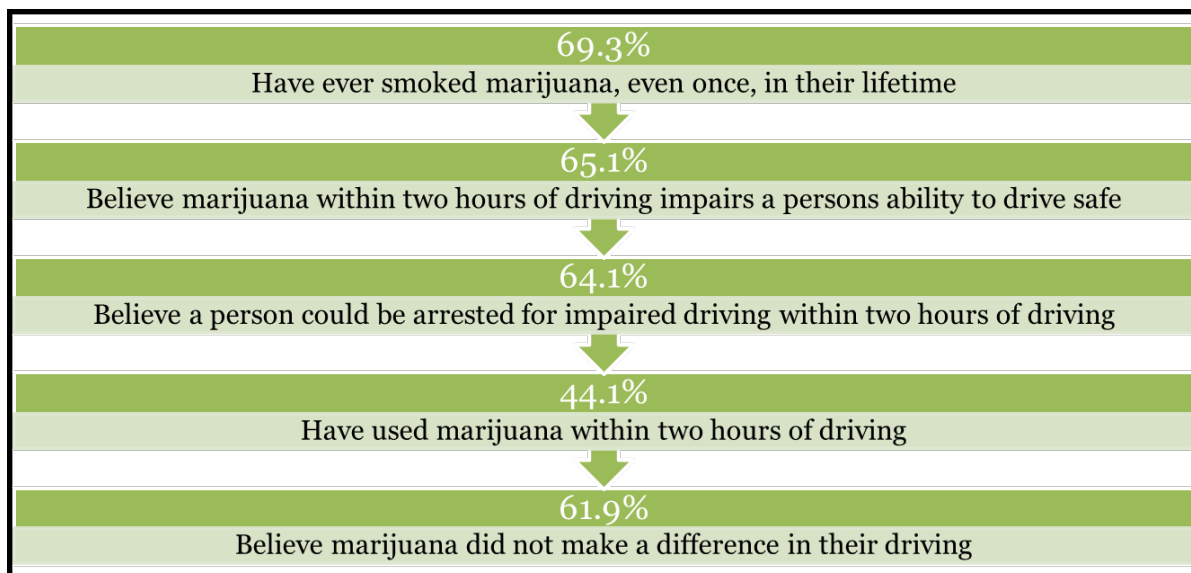
The available data for 2015 indicates that over 65% of marijuana-only DUIs involved youth. The average age for 2014 and 2015 was eighteen. The average carboxy-THC and active THC levels were lower than the averages for 2014 – 47.9 ng/ml for carboxy-THC and 8.86 for active-THC respectively. The ranges for both compounds were consistent with the data from 2013 and 2014. The carboxy-THC range was 7.6-140 ng/ml and for active THC the range was from 2.3-24 ng/ml.

However, as state law stipulates, any amount of THC in a youth’s system is illegal. Ranges of carboxy-THC have remained consistent throughout the past few years in Spokane Valley.

Washington Traffic Safety Commission – Roadside Survey

The Pacific Institute for Research and Evaluation (PIRE) conducted a roadside survey three weeks before the start of recreational sales in 2014¹⁰⁴. The data was collected for the Washington State Traffic Safety Commission to evaluate driving behaviors in regard to marijuana use.

The survey was administered to over 900 drivers in six jurisdictions across the state: King County, Snohomish County, Spokane County, Whatcom County, Yakima County, and Kitsap County. Five of the six locations were on the western side of the state with Yakima County representing an east side county. These locations were selected based on motor vehicle crash rates and the populations of the counties.



SOURCE: Washington State Roadside Survey; Pacific Institute for Research and Evaluation and NWHIDTA

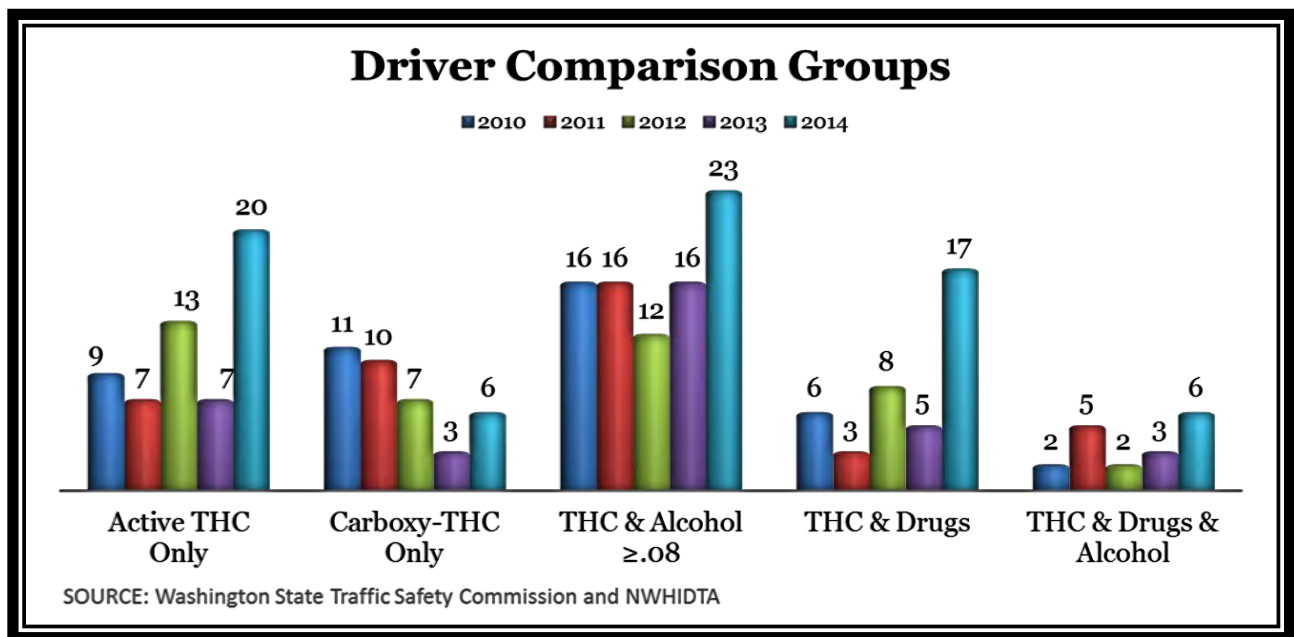
The table highlights the responses of the surveyed drivers. Almost 70% of the drivers surveyed had smoked marijuana at least once in their lifetimes. The percentage of drivers who thought that marijuana likely or very likely impaired a person's ability to drive within two hours of consuming was 65.1%. Of those drivers, 64.1% also believed a person could be arrested for engaging in such driving behavior. Almost 45% of drivers had consumed marijuana within two hours of driving – contradicting their opinions about marijuana impairment. Just over 60% of drivers thought marijuana did not make a difference in their driving ability while 25% felt it made their driving better. Only 3% of drivers reported that recent marijuana use made their driving worse.

Washington State Traffic Safety Commission – Fatal Accidents

The Washington State Traffic Safety Commission is the designated statewide highway safety office. The commission is responsible for building statewide partnerships and for leading efforts to keep the roadways of the state safe.

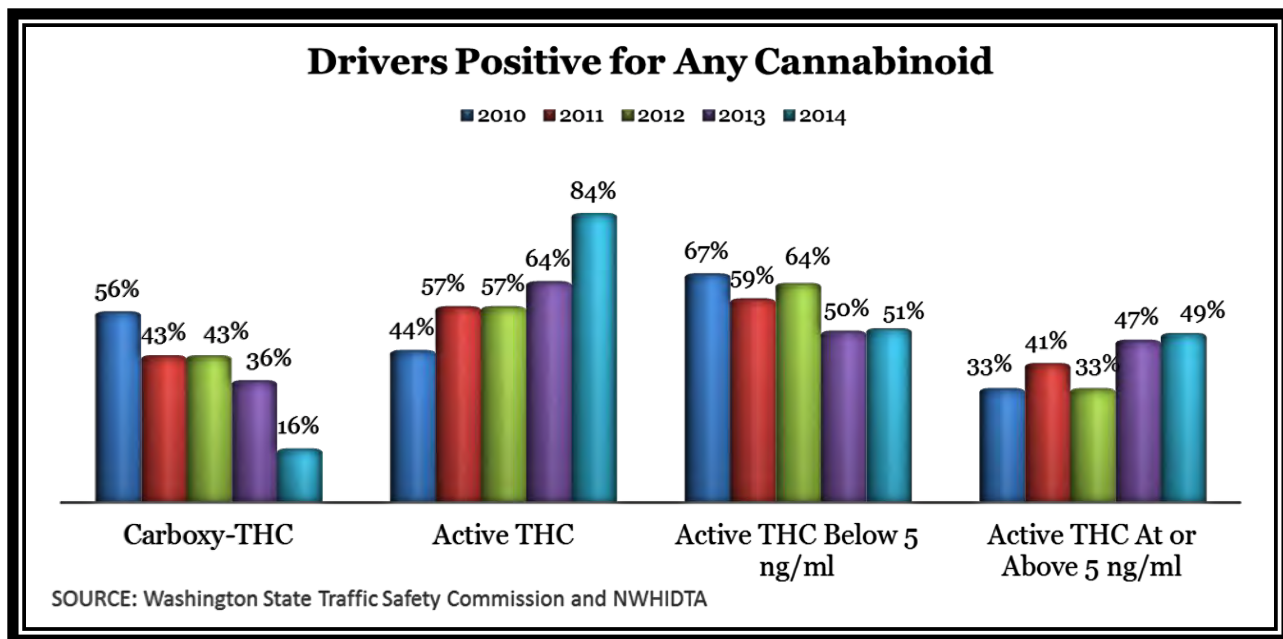
A report published by the Commission in October of 2015 focused on marijuana-positive drivers that were involved in deadly crashes in Washington since 2010¹⁰⁵. The purpose of the report was to determine whether legalization had an impact on traffic deaths.

The data was gathered from 2010 to 2014 and examined 3,027 drivers who were involved in deadly crashes. Blood tests were conducted by the Washington State Toxicology Laboratory on 1,773 of the drivers. The number of drivers who tested positive for alcohol, marijuana, or drugs was 1,061 or 59.8%. Marijuana was the most commonly found drug among the tested drivers. Marijuana only or marijuana in combination with another drug was found in 349 drivers.



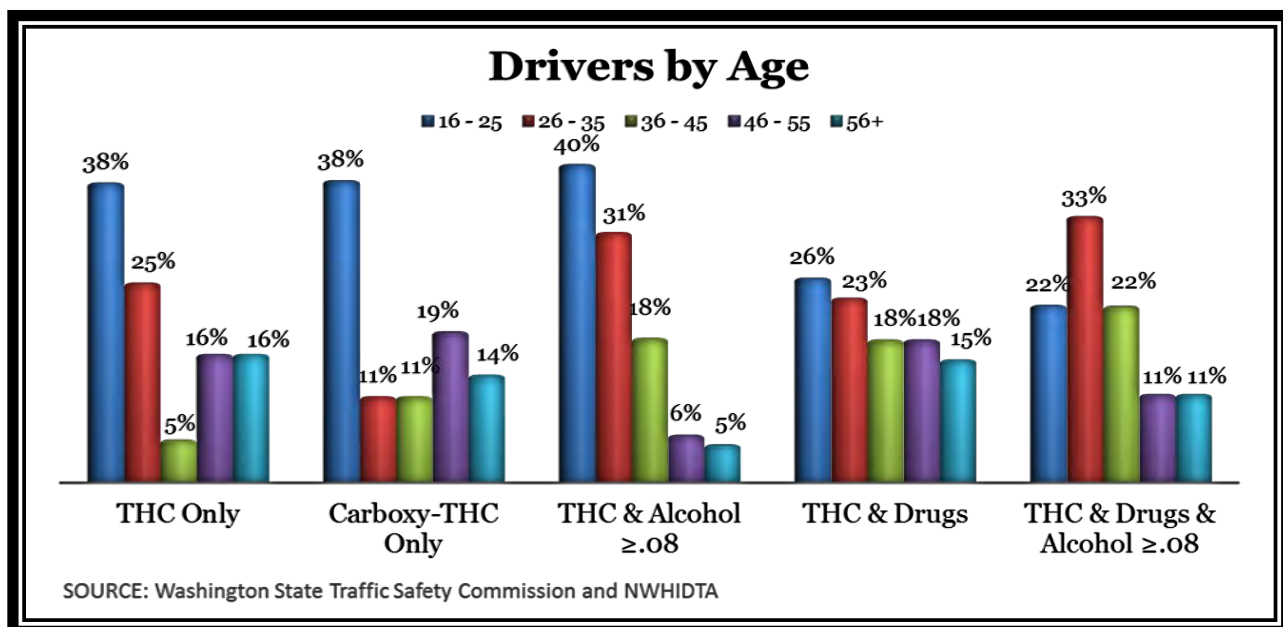
The graph above shows the relationship involving marijuana and other substances as well as by itself since 2010. The rate of carboxy-THC has declined since 2010 (45.5%). However, the prevalence of active-THC is increasing:

- Active THC-only has increased 122.2%;
- Active THC and alcohol has increased 43.8%;
- Active THC and other drugs has increased 183.3%;
- Active THC and drugs and alcohol has increased 200%.



The graph above illustrates the changes in cannabinoid profiles for marijuana positive drivers from 2010 to 2014.

In 2010, 44% of drivers tested positive for active THC and in 2014, the rate jumped to 84% - a 40% increase. From the yearly data collected, 2014 entailed the most marijuana positive drivers. It was also during this year that marijuana commercialization began.



The graph above characterizes the drivers who were involved in fatal accidents by age from 2010 to 2014. By far, the highest percentage of drivers who were positive for active THC (38%), carboxy-THC (38%), and active THC and alcohol (40%) were between the ages of sixteen

and twenty-five. Drivers who most frequently combined drugs with marijuana and alcohol were between sixteen and thirty-five years of age.

The number of fatalities that have involved a driver who tested positive for either carboxy-THC or active THC in combination with alcohol or other drugs has more than doubled since 2013. Increasing from 7.6% to 16.5% of all fatalities, the number of drivers who tested positive for active-THC only has increased by 194% since 2010.

The most frequently reported fatal crash errors among drivers with THC only were lane deviation (12.5%) and overcorrecting (8.9%). Drivers who were both positive for marijuana and over the legal limit for alcohol were 60% more likely to be in a speeding-related fatal crash.

News Log

Examples of news articles related to Washington State roadways and marijuana use are provided below. These media stories include traffic accidents, vehicular homicides, hit-and-runs, driving under the influence, and other vehicular incidents.

- Skagit County, May 2014:
 - A nineteen year-old driver under the influence of marijuana and alcohol killed three in a head on collision. The driver escaped the hospital after being transported for injuries. After a month on the run, the driver turned himself in. The driver was charged with three counts of vehicular homicide and one charge of vehicular assault¹⁰⁶.
- Vancouver, October 2014:
 - A driver who smoked marijuana three hours before driving hit four trick-or-treaters, killing one seven year-old. Two women, one being the seven year-old's mother, and the other child, a six year old, were injured. The driver was charged with vehicular homicide and assault¹⁰⁷.
- Puyallup, November 2014:
 - A nineteen year-old ran a stop sign and hit a local pastor killing him as he rode his bike. The driver admitted to smoking marijuana before the crash. According to officers, there were no skid marks before the driver hit the pastor. Additionally, due to the force of the impact the pastor was thrown across the intersection¹⁰⁸.



SOURCE: www.komonews.com



SOURCE: www.theolympian.com

- **Ephrata, February 2015:**
 - Officers pulled over a twenty-three year old driver with a felony record and an eleven year-old passenger, the driver's niece. The officer noticed the impairment of the driver in regard to which the driver admitted to smoking marijuana earlier. Officers found a 9mm pistol in the glove compartment with ammunition. The driver was arrested for DUI and unlawful possession of a firearm¹⁰⁹.
- **Granger, May 2015:**
 - A twenty-five year old man killed his wife and injured his three year old daughter in an accident. The husband swerved causing the car to go off the road and flip. His wife was ejected from the crash and was fatally injured. His daughter sustained minor injuries. The driver's blood content for marijuana was 23 ng/ml – far above the 5 ng/ml limit. He was arrested for vehicular homicide¹¹⁰.
- **Olympia, July 2015:**
 - A twenty-six year old driver under the influence of marijuana was reported to be exceeding speeds over 100mph before he crashed into the back of a woman's car. The woman's car then rolled into a ditch where she died. The passenger in the driver's car was also injured. The driver was charged with vehicular homicide and DUI¹¹¹.

Section 6: Diversion

Introduction

Washington State has long been an integral part of a distribution network for illegal drugs that extends from Mexico to Canada. The Interstate-5 corridor stretches the entire distance making drug trafficking in vehicles a simple drive north or south. Diverted marijuana is trafficked to, from, and through the state. These diversion activities are not partial to any one market.

One of the main points made by the pro-legalization movement assumed the eventual elimination of illegal activity involving both local distribution and large-scale criminal organizations. However, instances of illegal marijuana being seized by law enforcement are still occurring.

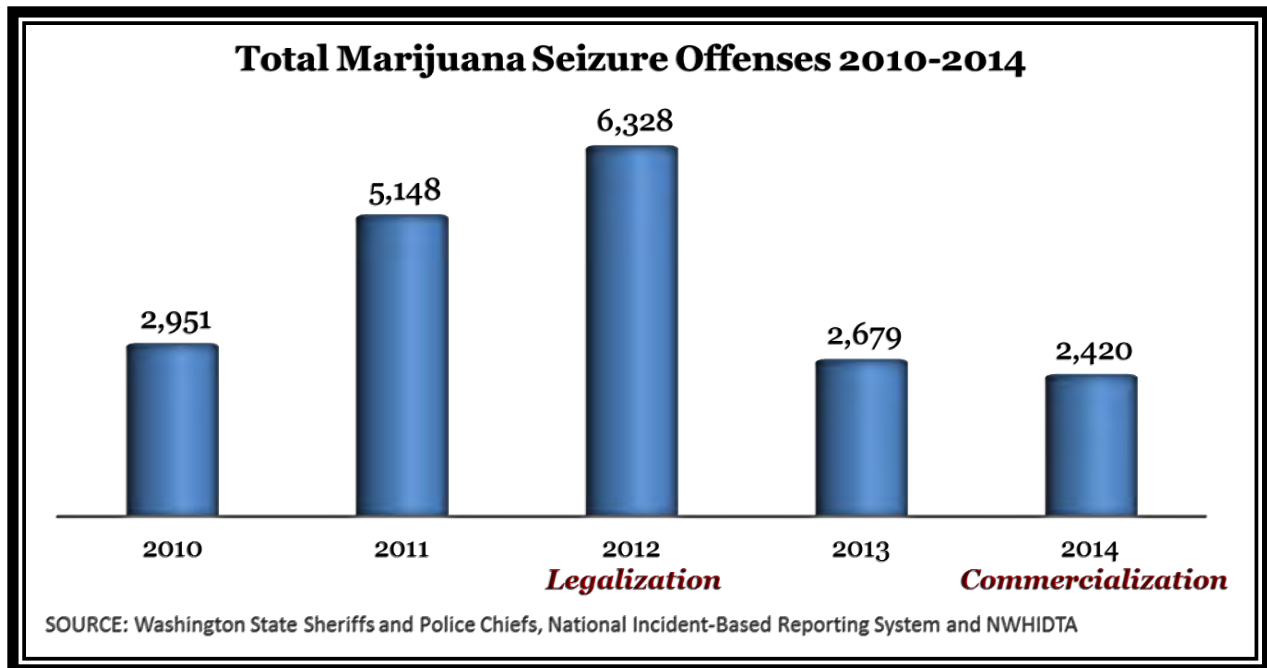
Data Summary

- Youth (12-17) accounted for 74% of all state marijuana seizures in 2014 as compared to 28.9% in 2010;
- Since legalization in 2012, Washington State marijuana has been found to have been destined for 43 different states throughout the United States;
- 32,059 grams of marijuana were seized during the first nine months of 2015 on highways and interstates across Washington State;
- Since 2012, 320 pounds of Washington State-origin marijuana was seized during attempted parcel diversions.

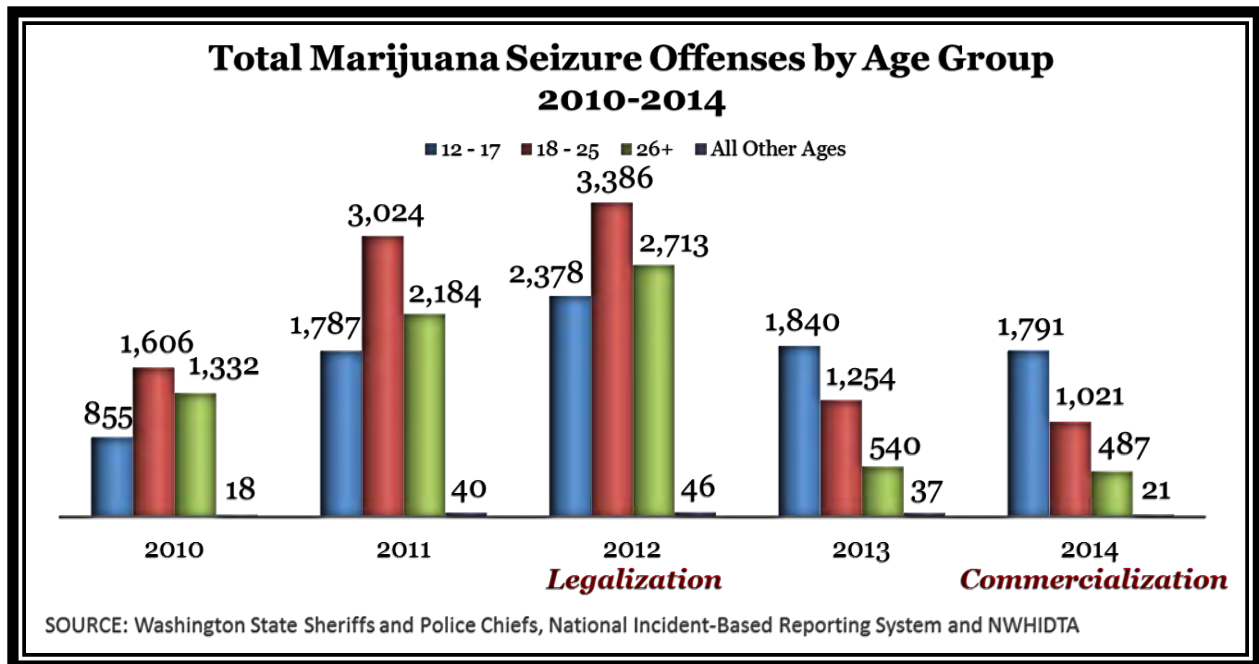
National Incident-Based Reporting System

The Federal Bureau of Investigation is the administrator of the Uniform Crime Reporting system within which the National Incident-Based Reporting System (NIBRS) compiles more detailed information. In the State of Washington, The Washington Association of Sheriffs and Police Chiefs (WASPC) analyzes the data submitted and organizes all the information to be state specific¹¹². In doing so, reports can be written to quantify crime in Washington as well as to keep track of annual jail statistics. The NIBRS data from WASPC facilitates identifying marijuana crimes in relation to seizures. Local and federal agencies report seizures into this database.

The data below have been provided by various local and federal law enforcement agencies.



From 2012 through 2014, marijuana seizure offenses reported to the NIBRS system have decreased by 61.75%



Despite the overall decline in seizures in the state, the activities associated with one age group have countered this trend. In 2010, youth twelve to seventeen years old represented 28.9% of all seizures. In 2012, they represented 37.5% of seizures and in 2013 they represented 68.6% of total seizures. By the end of 2014, 74% of seizures involved youth aged twelve to seventeen.

It is important to note that the dynamic between the state, the law, culturally accepted behaviors, and law enforcement goals was fraught with tension regarding marijuana as legalization occurred. Due in part to confusion about the new law, officers were unsure of what constituted a seizure, what could be seized, and if courts would move the arrest to the filing of charges. Prosecutors throughout the state declined to prosecute marijuana cases unless extreme circumstances were involved.

National Seizure System

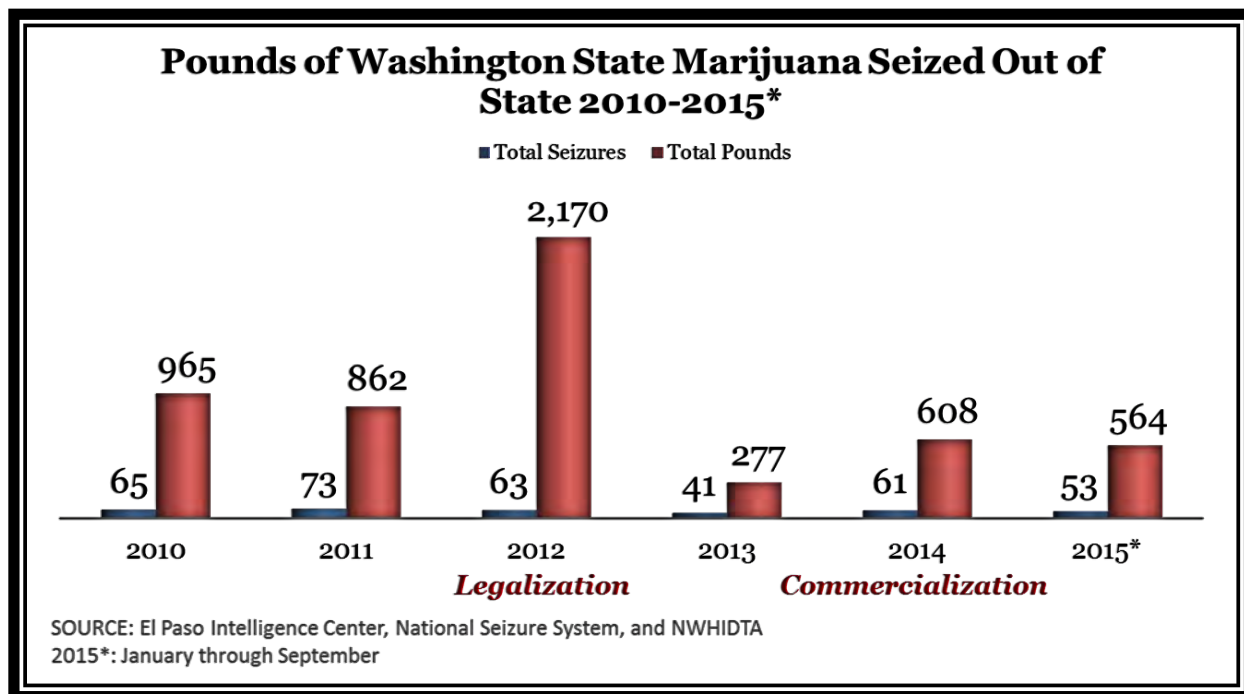
The El Paso Intelligence Center (EPIC) National Seizure System (NSS) logs drug seizures reported by participating law enforcement agencies from across the nation. EPIC is the access point for NSS data. Seizure data can be collected from all levels of law enforcement including local and federal agencies. The data in this system specifies total amounts seized, location information, the seizing agency, and the date of seizure¹¹³.

Seizures that are entered into NSS are only reported if the law enforcement agency has a requirement or submits the seizure on their own accord for intelligence gathering. Many agencies have a requirement associated with funding to do so but it is not consistent throughout the law enforcement community, which may explain why seizure numbers are low.



From legalization through the first nine months of 2015, seized marijuana from Washington State was found to be destined for forty-three other states – approximately 80% of the United States.

From 2010 through 2011, Washington State marijuana was found to be destined for thirty-five known states. Since then, marijuana found to be destined out of state has increased by 20%.



The graph above represents the total amount of useable marijuana that was seized when destined outside the state. The total number out-of-state seizures that involve Washington State marijuana have remained generally consistent. However, the amount of marijuana seized increased dramatically with legalization in 2012. Since that time, the number of pounds seized totaled 3,619, equal to 57,904 ounces.

Domestic Highway Enforcement

The Domestic Highway Enforcement (DHE) Strategy operates throughout the nation and focuses on multi-jurisdictional law enforcement on highways. This program is an asset in providing intelligence information for various drug cases and for traffic safety in communities. The Washington State Patrol (WSP) submits all seizure information into the DHE database given its responsibility for primary enforcement on the highways and interstates throughout the state.

The WSP enforcement responsibility includes over 17,000 miles of interstates and highways across Washington State. In order to keep the roadways safe for all, the WSP has the

authority to seize any illegal drugs that are transported on those roadways as a distribution method. When seizures occur, the WSP submits a report to the DHE database¹¹⁴.

When commercialization and recreational sales began in 2014, the WSP seized 23,212 grams of marijuana during the year, equaling over fifty pounds of marijuana. The largest marijuana seizure in a single incident for the year entailed over 13,000 grams or 28 pounds that was destined for Alaska. The second largest seizure destined within the state was over 6,800 grams or 15 pounds of marijuana.

Butane hash-oil/butane honey-oil and marijuana plants were also seized on the roadways. During one traffic stop, the WSP seized four mason jars filled with marijuana oil. Another traffic stop resulted in the seizure of over twenty marijuana plants and three grams of butane hash-oil/butane honey-oil seizure.

Preliminary data for WSP 2015 seizures entails data from January through September. In total, the WSP seized 32,059 grams or seventy-one pounds of marijuana. 2015 seizures total over twenty pounds more than all seized in 2014.

The largest seizure that took place in the Seattle-King County area in 2015 involved over 8,700 grams of marijuana. This seizure took nineteen pounds of marijuana off the roadways in one stop. However, the largest seizure in the state occurred in Bellingham, just 17 miles south of the Canadian border. The WSP seized 9,525 grams of marijuana, equivalent to 21 pounds.

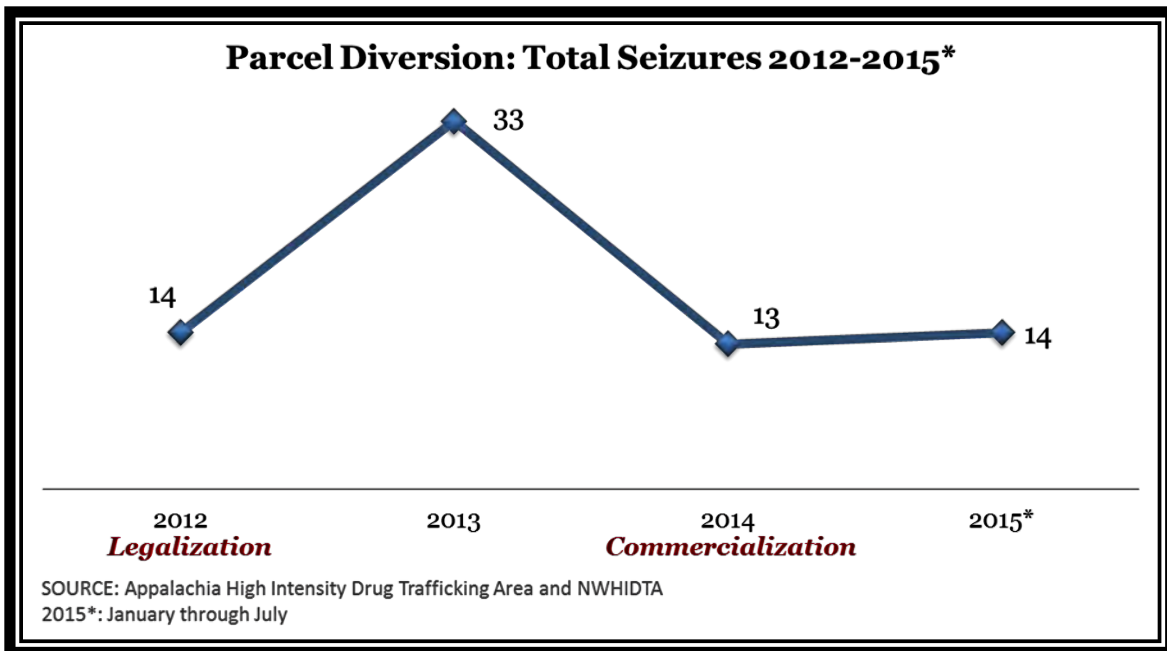
The discovery of butane hash-oil/butane honey-oil was also an occurrence during stops. In the first such traffic stop in 2015, the WSP seized over fifty-nine grams of marijuana oil. During the second such traffic stop in 2015, over forty jars of oil were seized.

In total, since commercialization began in 2014 through the first nine months of 2015, the WSP has seized over 55,270.21 grams of marijuana, equivalent to over one-hundred-twenty pounds.

Appalachia High Intensity Drug Trafficking Area

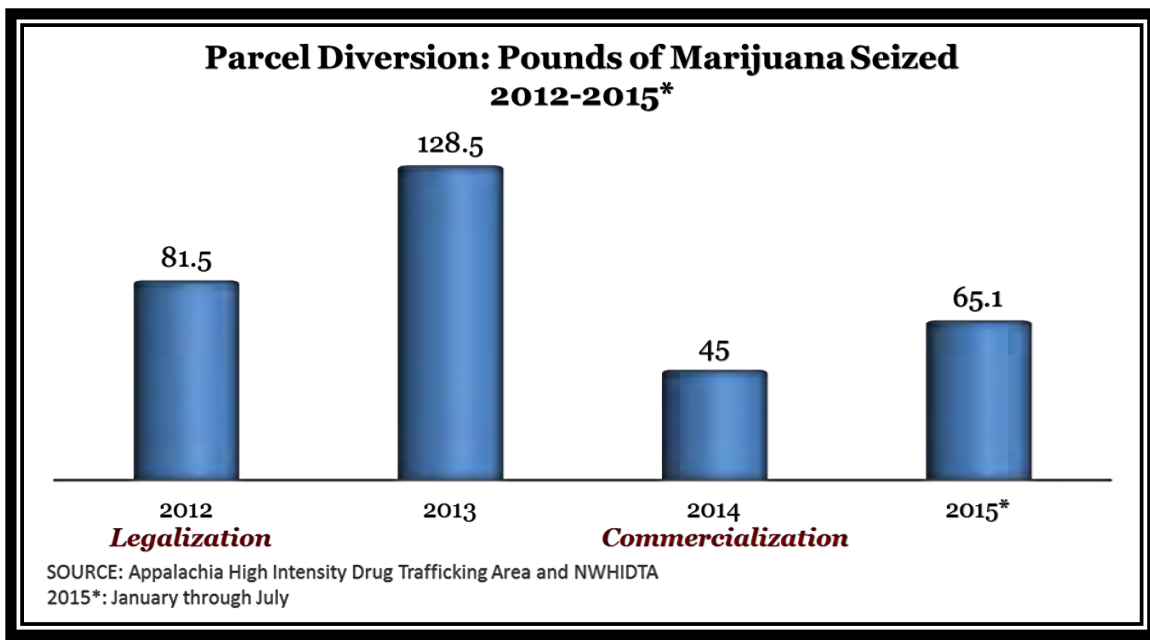
The Appalachia High Intensity Drug Trafficking Area (HIDTA) includes counties located in the states of Kentucky, Tennessee, and West Virginia. Data from this HIDTA addresses attempted postal diversions from Washington State. The data includes the originating city as well as the intended destination state.

The parcel diversions tracked by the Appalachia HIDTA are estimated to account for less than 10% of marijuana packages originating in the state of Washington. The charts below represent the available data¹¹⁵.



Total marijuana parcel diversion seizures spiked in 2013 – the year after legalization. Total seizures for the first seven months of 2015 have already exceeded 2014 total seizures.

In 2012, the total number of states intended as destination states was eleven. Subsequently, the number of states intended as destination states totaled twenty-one in 2013, nine in 2014, and ten identified so far in 2015. Since 2012, Washington State marijuana has been destined for twenty-six different states.



From 2012 through the first half of 2015, 320 pounds of marijuana have been seized through parcel diversion. 2013 was the highest recorded year based upon available data. Partial data for 2015 indicates that the total pounds seized have increased by twenty pounds from 2014.

The largest seizure in 2012 involved a package destined for the state of South Carolina containing nineteen pounds of marijuana. In 2013, over sixteen pounds of marijuana was seized destined for New Jersey. A package destined for Oklahoma containing over ten pounds of marijuana accounted for the largest parcel seizure in 2014. In 2015, the largest seizure was over twenty-two pounds that was destined for Louisiana.

News Log

The following are news articles document the diversion of marijuana from Washington State:

- **Montana, October 2014:**
 - A man from Minneapolis was arrested while transporting marijuana from Seattle to Montana via Amtrak train. The man's bags contained seventeen pounds of marijuana, fourteen pounds of marijuana-infused products, and four ounces of hash. The suspect was charged with felony possession of dangerous drugs, possession with intent to distribute, and carrying dangerous drugs on a train¹¹⁶.
- **Oregon, October 2014:**
 - A Seattle man in a rental car from California was pulled over in Oregon and was found to be diverting fifty-two pounds of marijuana to Oregon. Police estimated the marijuana was worth \$130,000. The man was charged with unlawful possession and distribution of a controlled substance¹¹⁷.
- **Idaho, February 2015:**
 - A twenty-five year old Texas man was pulled over when officers discovered he was transporting twenty-five pounds of marijuana. The man admitted he moved from Texas to Washington "to grow weed", which he intended to sell. The subject was arrested for felony trafficking of marijuana¹¹⁸.
- **Idaho, June 2015:**
 - Idaho State Police pulled over two men from Washington and discovered they were diverting twenty-two pounds of marijuana and several grams of heroin. The driver was arrested for a suspended license, trafficking marijuana and heroin, and possession of a controlled substance. The passenger was arrested for trafficking marijuana and heroin¹¹⁹.
- **Montana, June 2015:**
 - A twenty-one year old man was arrested after he was caught diverting twelve pounds of marijuana from Tacoma to Montana. His duffle bags were discovered on an Amtrak train. Upon arrest, the man stated the Washington marijuana was destined for Wisconsin. He was charged with felony drug distribution with intent to distribute¹²⁰.

Section 7: THC Extraction

Introduction

THC extraction involves stripping the trichomes off marijuana plant material that holds the compound that produces the psychoactive high. The end result of this process is an extremely concentrated liquid form of THC¹²¹.

The common names of the concentrated product are butane hash-oil/butane honey-oil (BHO), wax, crumble, shatter, or sugar. This type of marijuana is desired by consumers due to the very small amount needed to experience a powerful high. Users can consume this highly concentrated form by smoking (known as ‘dabbing’), smoking in a vaporizer (including e-cigarettes), infusing into food products, mixing into drinks, or dissolving into various tinctures or topicals.

This product has been around for decades but commercialization created a new incentive for businesses to meet the demands of consumers. Due to the inexpensive materials, do-it-yourself guides on the internet and the easy availability of marijuana, consumers have been attempting to produce the product themselves.

The simplest method used by consumers is to buy cans of butane, plastic pipes, a dish to catch the liquid, and a filtration device such as a coffee filter. A heat source is needed to burn off the butane before consuming the end product. All of these items are readily available in hardware, grocery, and marijuana stores across the state.

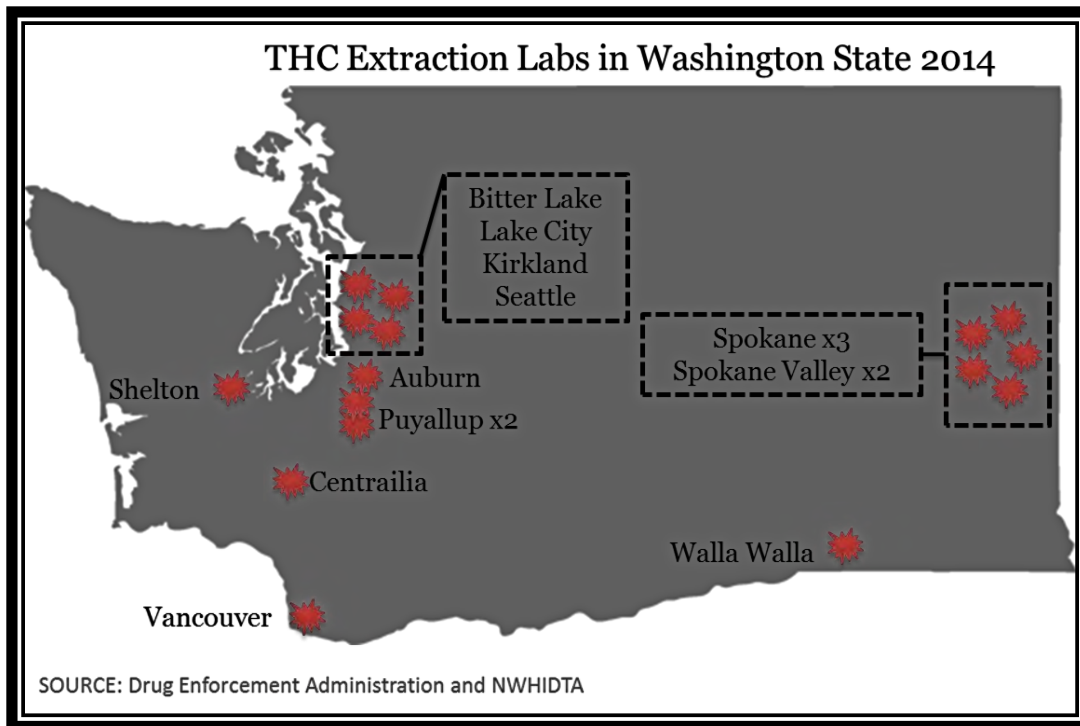
The most alarming public safety concern involving a consumer who is extracting THC using butane is that the gas is extremely flammable. Butane is colorless, odorless, and heavier than air. Any spark can trigger an explosion. Reports of ignition sources include static electricity from clothing, a refrigerator clicking on, or someone smoking a cigarette.

Data Summary

- 17 THC extraction lab explosions occurred in Washington State in 2014;
- Operation Shattered charged 4 separate explosions in federal court.

Drug Enforcement Administration

The Drug Enforcement Administration (DEA) has closely followed the THC extraction explosion phenomenon across the nation. This is not a threat unique to the State of Washington. Through open source reporting and data analysis of various databases, the DEA was able to produce the following chart showing the explosions that occurred in the state in 2014¹²².



In 2014, there were seventeen reported THC extraction lab explosions across the state. Ten were located on the western side of the state with the remaining on the eastern side. Descriptions of some explosions follow:

- Shelton, 2014:
 - A home exploded in the city of Shelton where four people, all under the age of twenty-one, were extracting THC. All received treatment for their injuries with one needing to be airlifted to Harborview Medical Center. The home was used as a marijuana grow operation in connection with the THC extraction lab to create hash-oil¹²³.
- Walla Walla, 2014:
 - The basement of a home exploded in the city of Walla Walla as the result of a THC extraction. Two men were extracting THC in the basement while a women with two children, a twelve and a five year-old, were upstairs. After the explosion, the five year-old went missing for a short period of time because the child ran in fear to a neighbor's house for safety. An off-duty police officer was near the home when the explosion occurred and pulled both severely burned men from the basement. Both were airlifted to a hospital with 2nd and 3rd degree burns¹²⁴.
- Auburn, 2014:
 - A man's refrigerator exploded after he placed days-old extraction equipment inside. The door of the refrigerator was blown off and the explosion shattered windows and caused damage to the walls and ceiling. The damage to the home was estimated at \$10,000¹²⁵.
- Spokane, 2014:

- A man caused an explosion at an apartment while his girlfriend and two year-old daughter were also in the apartment. The man learned how to do the extraction after watching an online tutorial. Once the extraction was complete, the man smoked the marijuana oil in his bong which triggered the explosion. The man pled guilty to manufacturing a controlled substance and was sentenced in federal court to five years in prison in addition to paying over a quarter million dollars in restitution to the apartment property owners¹²⁶.

Operation Shattered

The federal government responded quickly to prosecute cases against individuals involved with THC explosions. This became known as Operation Shattered, which included four separate explosions in Kirkland, Seattle, Puyallup, and Bellevue. Each explosion is described below:

- **Kirkland, 2014:**
 - Two men caused an explosion at an apartment complex while attempting to extract THC. They both had previously been arrested in Seattle for engaging in the same criminal activity. Both men pled guilty to federal charges of endangering human life while manufacturing controlled substances. One was sentenced to thirty months in prison while the other received an eighteen-month sentence and three years of supervised release. In addition, both were required to pay almost \$100,000 in restitution to the apartment complex for damages¹²⁷.
- **Seattle, 2014:**
 - A refrigerator filled with old THC extraction materials exploded causing extensive damages. The blast was so powerful it blew one side of the house off its foundation by six inches, blew out windows, and ripped a sliding glass door off. Marijuana was found in the kitchen, the bedroom, and an illegal marijuana grow was found in the basement¹²⁸.
- **Puyallup, 2014:**
 - A THC extraction lab run by a twenty-five year old man exploded while one of his employees was in the middle of an extraction. Due to the expansive operation, the hundreds of butane canisters that were in stock at the house exploded in a manner similar to that of rockets when officers arrived on scene. The explosion occurred at a residence where multiple people lived including a fourteen-month old child. Both men were charged federally with endangering human life while manufacturing controlled substances, maintaining a drug involved premise, and manufacturing hash-oil and marijuana¹²⁹.
- **Bellevue, 2013:**
 - Three people were involved in a marijuana THC extraction operation that caused an explosion in an apartment complex. The explosion was so intense that multiple residents had to jump off balconies to escape the flames. One

particular resident was the eighty-seven year old first female mayor of Bellevue. During her attempt to escape, she broke her pelvis and later died from complications. Two of the men funded the operation and provided the space for the extractions while the third was the manufacturer. The third man sustained severe burns and then fled to California where he was caught extracting yet again. All three were charged federally with endangering human life while manufacturing controlled substances, maintaining a drug involved premise, and manufacturing hash-oil and marijuana. All three pled guilty¹³⁰. A photo of the aftermath of the explosion is below.



SOURCE: www.seattlepi.com

Not all THC extraction labs explode but the potential public safety threat is real, harmful, and poses a high risk of death to not only those involved but innocent victims. The Washington State Liquor and Cannabis Board (WSLCB) has ruled that these types of extractions outside of a licensed business are illegal.

Section 8: Marijuana-Related Crime

Introduction

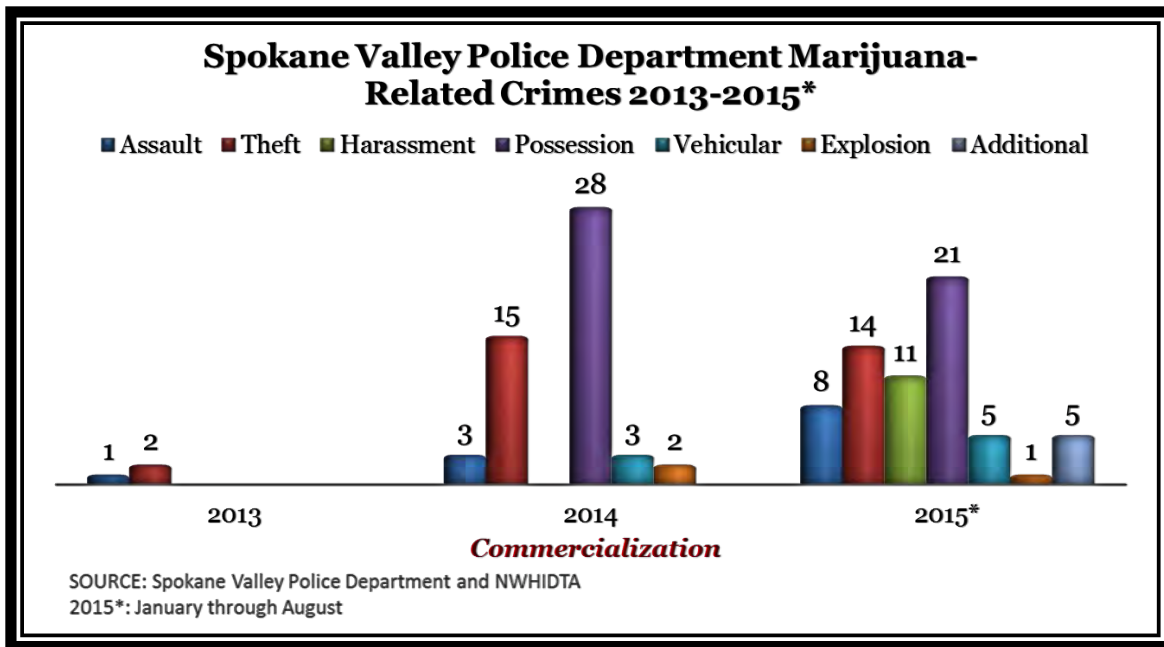
This section of the report will examine data from the Spokane Valley and Seattle Police Departments. It will provide examples of the calls related to marijuana that these two large municipal police departments have experienced. In addition, the news log will examine crime headlines from across the state. Marijuana-related crimes include: robberies, burglaries, home-invasions, illegal marijuana grows, assaults, drug deals, illegal marijuana sales, possession-related crimes, and additional related crimes.

Data Summary

- The most common marijuana-related crimes reported to the Spokane Valley Police Department for 2015 (January – August) were possession (21), theft (14), and harassment (11);
- 80% of the quantitation cases submitted to the Washington State Patrol Crime Lab for testing involved minors.

Spokane Valley and City of Spokane Police Departments

Spokane Valley is located in eastern Washington State, located between Spokane and Liberty Lake on the Idaho border – thirty-three miles west of Coeur d’Alene. The data depicted below is from the case records developed by the department regarding marijuana-related crimes¹³¹.



The graph above illustrates the range of marijuana-related crimes involving various categories of crime. In detail, the graph includes:

- **Assault:** violent crimes against persons and law enforcement and domestic violence assaults:
 - Example: a man called to report that his girlfriend had punched him in the stomach during an argument about marijuana. He had removed all marijuana paraphernalia from the house and she demanded that it be returned. While bringing the items back, the subject dropped a pipe that broke triggering the assault (2015);
- **Theft:** thefts, shoplifting, burglaries, robberies in relation to persons and marijuana businesses (medical or recreational), or vehicles:
 - Example: two youths broke into a neighbor's marijuana greenhouse containing numerous marijuana plants. The homeowner came out and found the youths before they had a chance to run. The youths were returned to their parents (2014);
- **Harassment:** harassment, threats, arguments:
 - Example: a youth stole her parent's vehicle, returned late in the morning, entered her parent's home and proceeded to lock her bedroom door. Deputies had to break down the door at the request of the parents. The room was filled with marijuana smoke but no responsibility was claimed. The youth grabbed a knife, threatened to kill her mother, and was arrested (2015);
- **Possession:** possession over the legal amount for those over twenty-one, minor in possession of any amount, manufacturing or delivering:
 - Example: a school security guard followed a high school student after concluding that the youth was buying marijuana. The youth was witnessed buying honey-oil, an extremely potent form of marijuana, from another

- youth. The youth admitted to buying the drug over twenty-five times in the past and swallowed the oil when the police were called (2014);
- Vehicular: assaults, hit-and-runs, driving under the influence:
 - Example: officers responded to a hit-and-run collision. The driver admitted to drinking and smoking marijuana. The driver was arrested for vehicular assault (2015);
 - Explosions: butane hash-oil/butane honey-oil/THC extraction explosions:
 - Example: an explosion in a trailer was explained to officers as resulting from a cigarette that was too close to a propane tank. The Investigative Unit determined that the explanation was false and determined that the explosion was due to a marijuana honey-oil explosion (2015);
 - Other: fraud, unknown death, lewd conduct, malicious mischief, liquor violation:
 - Example: a licensed marijuana producer/processor called to report that unknown persons were dumpster diving for their discarded marijuana scraps (2015).

According to data from the Spokane Valley Police Department, possession-related crimes increased significantly in 2014, the year commercial sales of marijuana commenced. Concurrently, thefts also reached a three-year high totaling fifteen instances. Data for 2015 is preliminary, but crimes involving possession and theft remain high. Crimes related to harassment increased through 2015 compared to the prior two years. Based on the continued increase in crime rates involving marijuana in 2014, there will likely be a continued rise seen in 2015.

One of the more recent crimes for which a marijuana user could be sanctioned involves consuming in a public place. The state has expressed an expectation that this will be enforced. However, it has not been a popular \$115 citation to issue. The Spokane Municipal Court has only issued twenty-eight citations since legalization occurred in 2012¹³².

Private security officers in the city were responsible for writing twenty of the twenty-eight citations. Since marijuana is the lowest priority for law enforcement, the City of Spokane Police Department has only issued six citations.

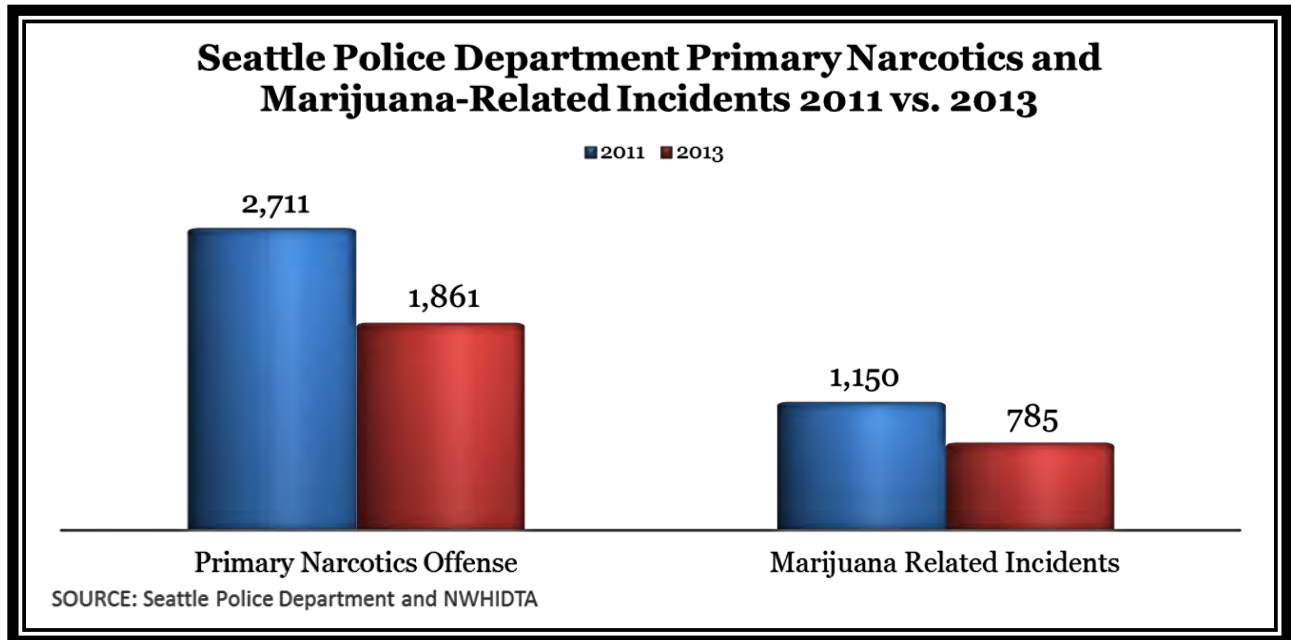
The age group with the highest reported number of citations is the cohort between the ages of twenty-one and twenty-nine. Five citations were issued to those under the age of twenty one.

Seattle Police Department

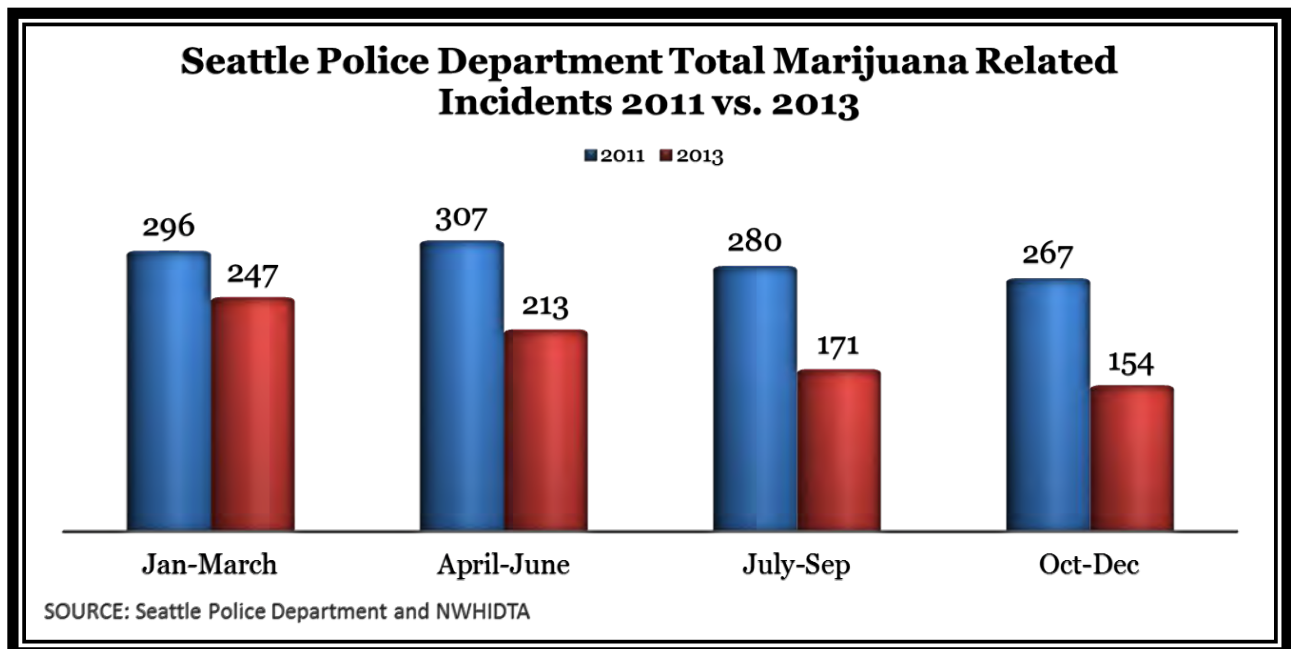
Seattle is located in King County on the eastern shore of Puget Sound. Known for being the most liberal city in the state, Seattle is highly diverse with residents from all backgrounds.

The data provided by the Seattle Police Department as depicted in the following graphs demonstrates the relationship between marijuana and crime. The information was obtained from the Seattle Police Department's Marijuana Quarterly Reports. The data was collected

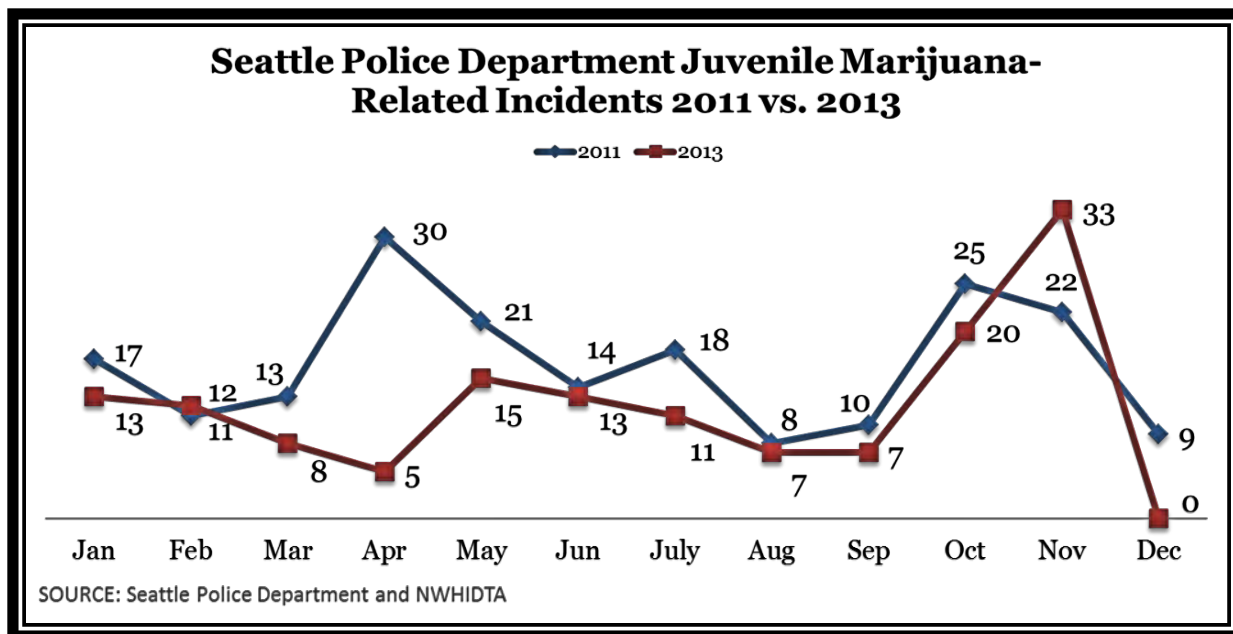
during 2011, 2013, and the first two quarters of 2014 regarding marijuana-related crime in the city of Seattle¹³³. The data for 2012 was not included due to lack of complete reporting.



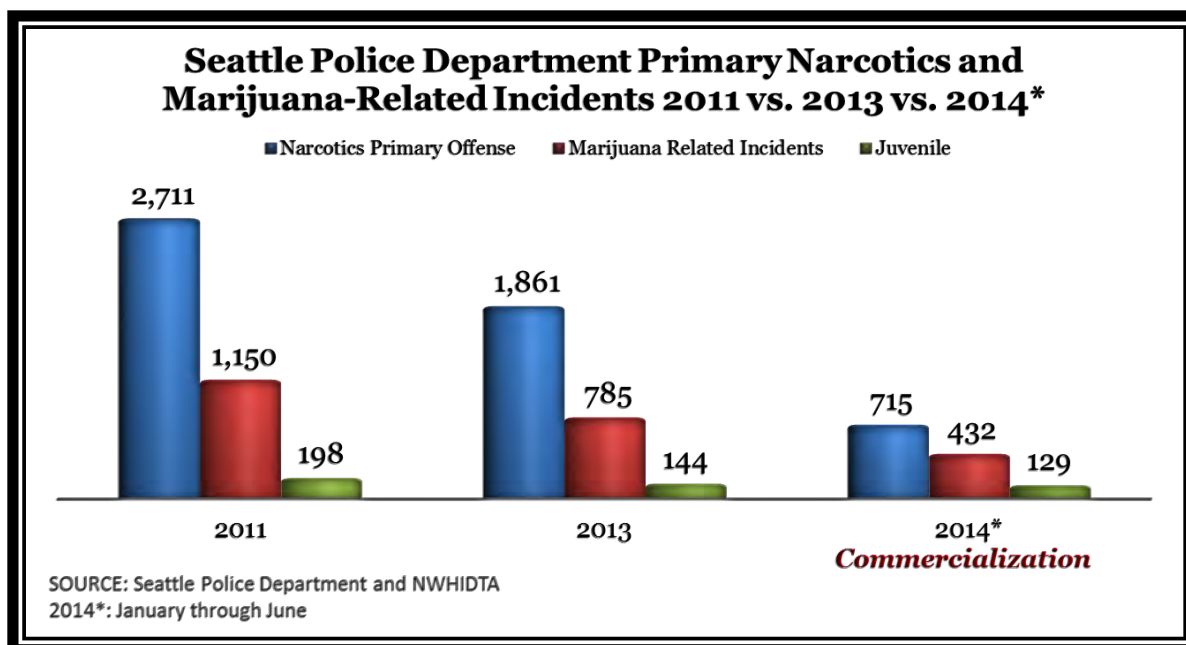
Comparing 2011 to 2013, the number of primary narcotics offenses decreased by 57.58% while marijuana-related incidents decreased by 57.81%.



In 2011, marijuana represented 1.3% of all incidents and 36% of all primary narcotics offenses. In 2013, marijuana declined slightly to represent 1.16% of the total incidents but increased to entail 45.74% of all narcotics offenses.



Juvenile marijuana-related crime also decreased by 27.27% from 2011 (198) to 2013 (144).



Examining the first six months of 2014 provides a sense of the environment in Seattle before commercialization occurred in July. During the first quarter of the year, marijuana represented 0.75% of the total incidents but half (50.43%) of the primary narcotic incidents. It should be noted that, in comparison to quarter four of 2013, overall narcotic incidents decreased 13.76%. However, marijuana-related incidents increased by 14.94% and juvenile offenses increased by 54.55%.

In the second quarter of 2014, marijuana incidents were nominal in the context of total incidents with a rate of 0.71%. But in regard to primary narcotic violations, marijuana represented 53.85% of all incidents. Also, all narcotics violations increased by 2.75% while marijuana incidents increased by 30.6%. Notably, medical marijuana dispensary incidents increased by 46.1%. Further, when comparing the first quarter of 2014 to the second, marijuana-related assaults increased by 21% and incidents involving handguns increased by 42.86%.

Data for the second half of 2014 was not available nor was any data from 2015. Based upon information comparing the incidents before legalization in 2011 to offenses in 2014, changes can be seen. The number of juveniles involved, the use of handguns, and the overall incidents of marijuana offenses compared with primary narcotic offenses illustrates that marijuana remains an issue of concern within the City of Seattle.

In 2014, the Seattle Police Department issued 167 citations for the public consumption of marijuana¹³⁴. The fine for these citations is \$27 (compared to Spokane's \$115). Again, with marijuana being the lowest enforcement priority for officers, these citations are infrequent in a city with a population of 652,405.

Medical Marijuana – The Kettle Falls Five

Crimes involving medical marijuana are unique in nature. For a number of reasons, it may be assumed that most medical marijuana patients follow the language of the law. However, there are others who have taken advantage of the system. When Washington passed the statute that allows for collective gardens and designated providers, it unintentionally led to the growth of black market enterprises.

Dispensaries are illegal storefronts that evolved into problematic enterprises. Despite the pretense that these businesses only take “donations”, many purposefully gain profit. An unknown number of criminal cases throughout the state of Washington have focused on these illegal enterprises. Cases were built because dispensaries did not verify the medical authorizations of customers, for growing more marijuana than allowed, or for using the establishment to sell other illegal drugs.

Examples of other questionable practices include collective gardens that expanded well beyond the allowed personal growing amount. One of the most well-known criminal cases involved the “Kettle Falls Five”. The operation was family-operated and included the father, the mother, their son and his wife, and a friend.

In 2012, the Stevens County Sheriff's Office discovered a marijuana grow operation covering a third of an acre. An investigation revealed that the growing operation, which included over 100 plants, belonged to five medical marijuana patients¹³⁵. Under the medical marijuana law, each patient is only allowed fifteen plants which would have capped the grow at seventy-five plants. Investigators also found business records related to the marijuana grow indicating that the family paid thousands of dollars to people to harvest the marijuana. Guns were also found on the property.

One of the members of the Kettle Falls Five, the friend, had previously been charged with growing marijuana and was approached by the son in 2011 to grow on thirty-three acres near Colville. An agreement was made and all five began growing on the property, splitting the crop at the end of the harvest. The plan was for each patient to receive twenty-eight to thirty pounds per harvest. On two separate occasions, the friend brought seventy-five plants from Seattle to the marijuana grow. He was also responsible for the \$10,000 startup costs for the operation.

Federal charges were brought against all five due to the expansive operation and the violation of Washington State law. Three counts included conspiring to grow and distribute, growing, and distributing. In addition, a charge of use of a weapon in furtherance of a drug trafficking crime was added.

Charges were subsequently dropped for two members: the father and the friend. The father was diagnosed with a terminal illness and the friend accepted a plea deal. Under the plea deal, he testified against the other three defendants.

The outcome for the other three defendants was federal prison. All three were found guilty of growing marijuana but were found not guilty of distributing, conspiracy, and the firearms charge. The son was sentenced to thirty-three months while his wife and mother were sentenced to one year in prison. A three-year probation sentence was attached to follow each prison term.

The media attention to this case incited many opinions and discussions. Many believed that the grow was simply for personal use and not for profit. Others felt that consumers with medical authorizations were taking advantage of a poorly managed medical market. Without question, however, was that marijuana, at any level, is illegal at the federal level. The defendants were charged accordingly.

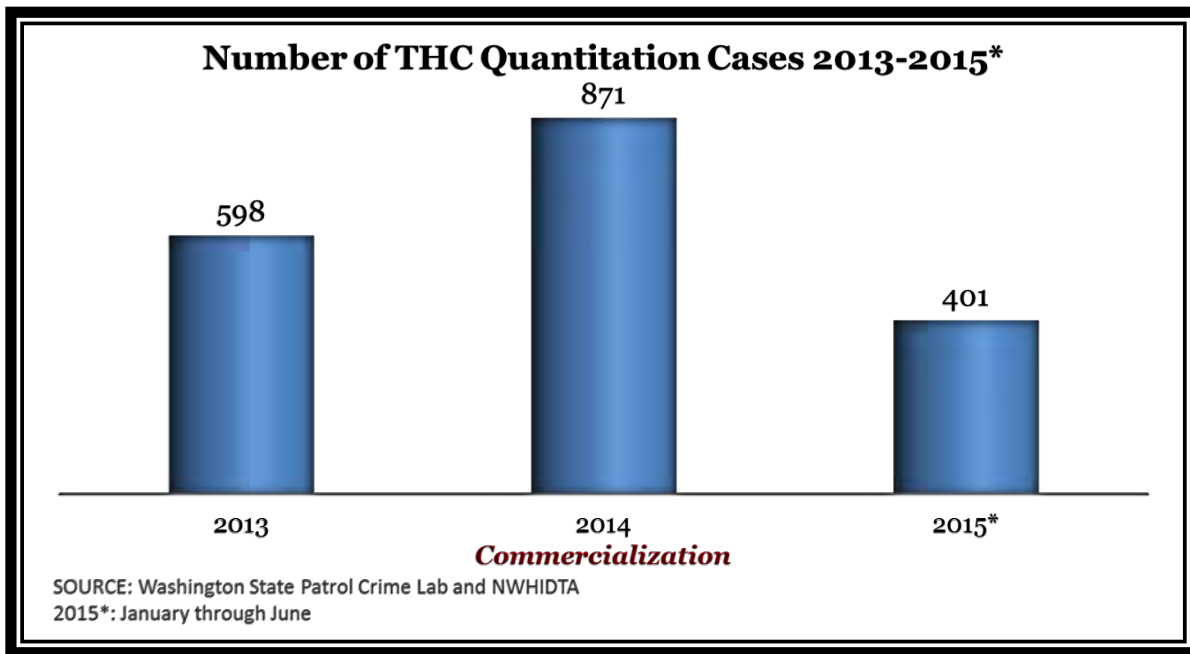
Washington State Patrol Crime Laboratory

With legalization came new processes and considerations bearing on marijuana-related crimes. The Washington State Patrol Crime Lab has been pivotal in adjusting to these changes. Of the eight accredited labs utilized by the Washington State Patrol (WSP), the crime labs located in Vancouver, Seattle, and Spokane have been the primary labs responsible for testing¹³⁶.

Before legalization, the crime lab used to conduct qualitative testing on marijuana. These tests would determine if in fact the leafy green material submitted was marijuana. Now, the lab is required to conduct quantitative testing that determines the THC percentage. Because of this change, the lab went from being able to conduct a test in under an hour to requiring three to four hours. The scientists who conduct this testing spend between a third and 75% of their time dealing with marijuana quantitation.

The costs for this change totaled over a quarter of a million dollars. New supplies, instruments, and software cost approximately \$260,000 in upgrades without funds legislatively mandated for the lab. The expense had to be absorbed by the WSP Crime Lab Division.

In addition to changing testing methods, the caseload for the lab also increased. With legalization making marijuana applicable to numerous types of products, exposure to minors increased resulting in a significant increase in controlled substance case submissions. The lab estimates that 80% of the marijuana cases they examined within the first half of 2015 involved minors.



Before 2013, the requirement for quantitation cases was not mandated. The graph above depicts cases that were submitted for such testing after the changes in the law addressing marijuana in 2013 were enacted. Totals for the first six months of 2015 are just short of half of the total number of cases in 2014.

News Log

Examples of news articles focused on the relationship between marijuana and crime in Washington State follow. These stories address illegal possession, illegal manufacturing, homicides, assaults, robberies, burglaries, and home-invasions. Crimes associated with medical marijuana, recreational marijuana, and the black market are also included.

Marijuana robberies, burglaries, and home-invasions:

- Seattle, April 2013:
 - Two residents were sleeping when three armed men with rifles and a handgun broke into their home by kicking in the back door. A confrontation ensued and one of the residents was hit in the face by one of the weapons. The

robbers held the two at gunpoint while they stole marijuana plants, weapons, and cash. The suspects also stole one of the resident's cars and fled¹³⁷.

- Tacoma, August 2014:
 - Two twenty-year old cousins decided to rob their black market marijuana dealer. An altercation occurred during the robbery attempt when one cousin hit the dealer over the head with a gun. Upon impact, the gun went off, hitting the other cousin. The man pled guilty to first degree manslaughter and was sentenced to eight years in prison¹³⁸.
- Lakewood, November 2014:
 - Three suspects broke into a home demanding marijuana, money, and gold. One suspect had a knife that subsequently cut the wife's hand and the other had a handgun which was used to hit the husband in the head. The couple was then tied up. The husband was able to free himself, retrieve his gun, and shot one of the three suspects – a nineteen year-old. The suspects fled but dumped the dead body in Federal Way. One suspect, nineteen, was arrested on second-degree murder charges, first-degree assault, unlawful imprisonment, first-degree robbery, and kidnapping¹³⁹.
- Seattle, December 2014:
 - A medical marijuana dispensary was burglarized when a suspect used a power saw to cut through a wall. The suspect stole twenty-four pounds of marijuana worth over \$100,000. The suspect then went through the boxes and jars of marijuana in the storage room before fleeing the scene¹⁴⁰.
- Westport, July 2015:
 - A nineteen year-old burglar broke into a medical marijuana dispensary and stole marijuana-infused candies. The dispensary owner noticed the burglary the next morning due to the marijuana candy wrappers on the floor, partially chewed gummy candies, and empty glass jars. The suspect was later turned into police by his mother who was suspicious about where the unemployed teen got all the marijuana¹⁴¹.

Illegal marijuana grows:

- Kent, September 2014:
 - Firefighters were dispatched to what was thought to be a house fire but was discovered to be a foreclosed home housing a massive illegal marijuana grow. Police found 1,300 marijuana plants and fifty-one pounds of processed marijuana valued at over \$1.5 million. Police estimated the marijuana grow had been operating for not more than a year. It was also discovered that the house was diverting and stealing electrical power for the large grow¹⁴².
- Seattle, December 2014:
 - A medical marijuana dispensary owner and marijuana grower were charged with felonies after their multi-million dollar operation was taken down. Officers raided three locations associated with the business and seized almost

2,800 plants and ninety pounds of processed marijuana. The dispensary owner claimed that he had over 2,000 medical marijuana authorizations that allowed for his extensive marijuana grows supplying almost 4,800 different patients. The investigation revealed this was a for-profit operation and both were charged with three counts of possession and distribution of a controlled substance¹⁴³.

- Gig Harbor, February 2015:
 - A power company discovered that a home was illegally diverting electricity. Police responded to the home with power workers to discover one of the largest illegal marijuana grows in Pierce County in last twenty years. Police discovered 798 plants in the rental home which was located next to a child care center. The power company stated the rental home stole more than \$10,000 worth of power over a ten month period¹⁴⁴.
- Onalaska, February 2015:
 - A couple was arrested when their large illegal medical marijuana grow was raided by police. Police seized 614 marijuana plants and forty pounds of processed marijuana valued at \$2,000-\$2,200 a pound. Police also found thirty-three weapons in the home which was located in a school zone. The couple admitted to growing marijuana for medical purposes but within the last five years had turned their grow into a for-profit enterprise. They reported making \$136,000 a year. The husband admitted that he was able to finance the extensive grow operation from his legal businesses. The couple was charged with manufacturing marijuana in a school zone, possession of marijuana with intent to deliver in a school zone, and money laundering¹⁴⁵.
- Tukwila, April 2015:
 - Police raided a home and discovered over one hundred plants inside. In addition, officers discovered another 200 marijuana plants inside a home nearby the first home. Authorities determined that the houses were purchased to be used as grow operations. No residents lived in the homes¹⁴⁶.

Assaults and marijuana deals gone bad:

- Seattle, February 2012:
 - A pastor met with four men in a park to buy several pounds of marijuana worth \$1,000 when he was shot in the head. One of the four suspects shot the pastor in order to steal his money. Three of the four suspects were convicted of charges including first-degree robbery, manslaughter, and murder¹⁴⁷.
- Yakima, January 2015:
 - A nineteen year-old and a twenty six year-old man planned to buy marijuana from a twenty eight year-old at a local gun club. The dealer asked the two men to leave but they attempted to break in instead. During the attempt, the men fired through the front door and fatally killed the dealer. The nineteen year-old was convicted of murder, assault, and attempted-burglary¹⁴⁸.

- Sudden Valley, February 2015:
 - A marijuana deal was arranged over Facebook chat between an eighteen year-old and a seventeen year-old. The seventeen year-old arrived at the house of the eighteen year-old to sell marijuana. Not long after the dealer arrived with his teenage friends, seven residents of the house emerged wearing masks and carrying baseball bats and a gun. The teens ran while the seven ransacked the car and broke out a window. When police arrived, the seven were hiding inside the house. After some time, all seven came out with their hands up. All seven were charged with conspiracy to commit robbery in the first degree, attempted robbery in the first degree, robbery in the first degree, and theft in the second degree. All seven were under the age of twenty-one – the youngest was sixteen and the oldest was twenty years of age¹⁴⁹.
- Federal Way, March 2015:
 - Two men went to an apartment complex to buy marijuana from two other men, one of them being eighteen years of age. Both of the buyers were armed with guns, one of which was reported as stolen. During the deal, one of the buyers decided to rob the two dealers by claiming he was an undercover police officer. The dealers ran and one of the buyers fired a shot, killing the eighteen year-old dealer. The buyer was charged with conspiracy to distribute marijuana, using a gun during a drug trafficking crime, and illegally possessing a firearm. He was sentenced to ten years in prison¹⁵⁰.
- Yakima, July 2015:
 - Two thirty year-old men arranged to sell marijuana to three teenagers – aged seventeen, fifteen, and twelve. During the sale, the teens, who were all equipped with guns, decided to rob the men. The twelve year-old shot and killed one of the thirty year-old men. After the shooting, the twelve year-old fled as far as Nebraska. United States Marshals picked up the youth who was charged with the other two teens for murder¹⁵¹.

Investigations:

- Ephrata, May 2013:
 - The Interagency Narcotics Enforcement Team conducted a series of undercover drug buys at an outdoor music festival. Officers identified a dealer from whom he bought marijuana on two separate occasions. During the buys, officers noticed that a nine year-old was assisting the dealer. The dealer indicated that the child helped tend to a marijuana grow. Officers arrested the dealer who admitted to selling marijuana fifteen times during the festival. A search warrant served on the dealer's car revealed a digital scale, marijuana honey oil, a jar with marijuana residue, and drug paraphernalia. The dealer was charged with two counts of marijuana delivery¹⁵².
- Prosser, May 2015:

- Two brothers, twenty two and twenty seven years-old, were suspects in a Benton County Sheriff's Office gang team investigation for selling marijuana. The brothers were selling marijuana out of a travel trailer to any buyers including high school students. Deputies served a search warrant on the property and found 230 grams of marijuana, forty two grams of powdered marijuana, eighteen marijuana cookies in a jar, digital scales, and marijuana packaging material. One brother stated he had paperwork for a medical marijuana authorization as well as documentation that he was an approved designated provider. No paperwork was found on the scene to support his designated provider status. The second brother admitted to selling his brother's marijuana to young adults. Both were charged with one count of possession of marijuana with intent to deliver and two counts of delivery of marijuana¹⁵³.
- Seattle, July 2015
 - An auto-body shop was found to be a front for an extensive marijuana drug dealing operation. Seattle Police Department officers conducted an investigation due to the fact that the shop was receiving around 400 customers a day claiming to have car trouble. After serving a search warrant on the business, officers found 1,276 grams of marijuana, 459 marijuana edibles, and eighteen grams of marijuana hash oil. At the business owner's residence, officers found fifteen rifles, six shotguns, five handguns, and \$1,576. In the residence belonging to the father of the business owner officers found another ten guns and \$54,000 in cash. In total, five people were arrested in connection with the illegal marijuana dealing operation¹⁵⁴.
- Vancouver, July 2015
 - The Vancouver Police Department referred information to the Clark-Vancouver Regional Drug Task Force after discovering an illegally operating medical marijuana dispensary. The dispensary owner claimed to operate a consulting business for medical marijuana patients. Detectives discovered that the dispensary was selling marijuana to any and all buyers. The dispensary sold marijuana in gram quantities based on how many "minutes" the buyer wanted of a specific strain. For example, ten minutes of 'Dark Star' equaled ten grams of 'Dark Star' strain marijuana. The dispensary owner admitted to having between 100-200 customers a day with total sales of approximately \$10,000 a day. The task force served a search warrant on the dispensary, the dispensary owner's house, and the dispensary owner's father's house. Detectives found multiple marijuana plants throughout the locations, \$15,000 in hidden cash, and more than ten pounds of processed marijuana. The dispensary owner was arrested on three counts of manufacturing marijuana, possession of marijuana with intent to deliver, fourteen counts of delivery of marijuana, and several counts of money laundering¹⁵⁵.

Section 9: The Current Markets

Introduction

This section will examine the current business markets for both recreational and medical marijuana. Topics that will be addressed include taxes, banking, industry trends, and tribal relations.

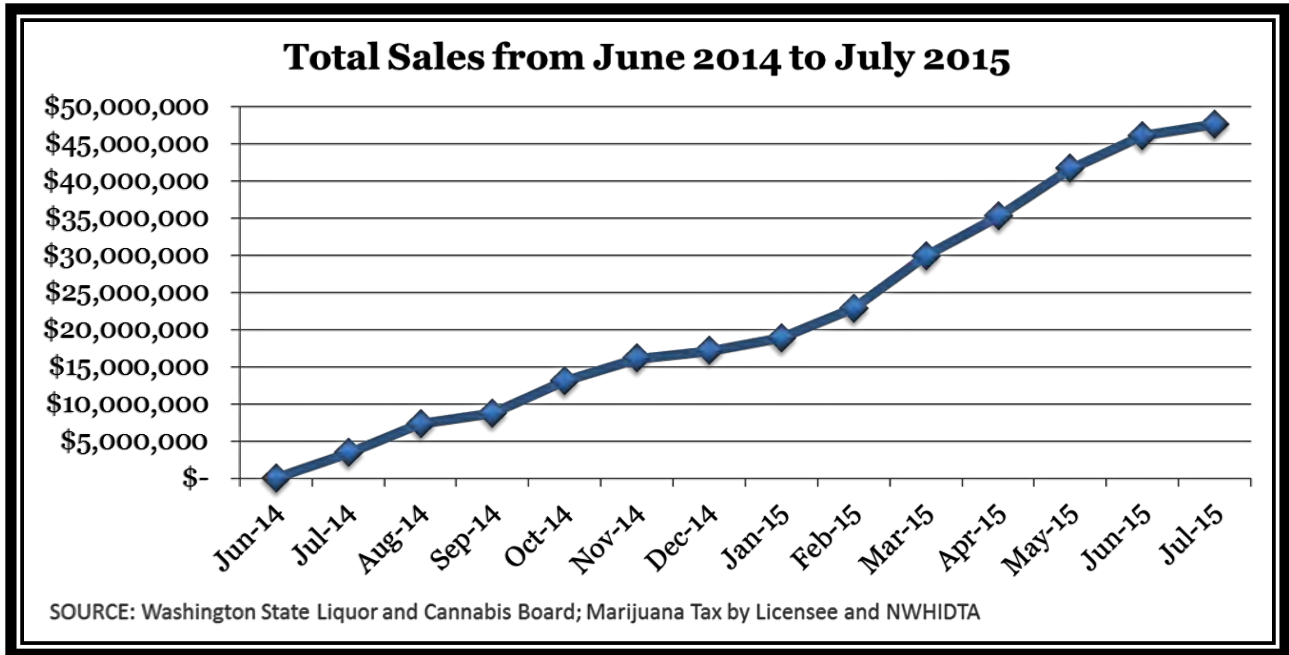
Data Summary

- Recreational Marijuana: Sales -
 - Total sales generated from June 2014 to July 2015: \$307,560,066;
 - Retailers in July of 2015 were averaging \$1,910,070 in sales a day.
- Recreational Marijuana: Taxes -
 - Total state excise taxes generated from June 2014 to July 2015: \$76,621,302;
 - Total state retail sales tax collections from July 2014 to June 2015: \$25,294,193;
 - Total local retail sales tax collections from July 2014 to June 2015: \$4,690,599.
- Medical Marijuana: Sales and Taxes -
 - Total taxable retail sales for FY 2015: \$109,239,149;
 - Total state retail sales tax due for FY 2015: \$7,146,678;
 - Total business and occupation tax due for FY 2015: \$616,401;
 - Total local retail sales tax due for FY 2015: \$3,268,432.

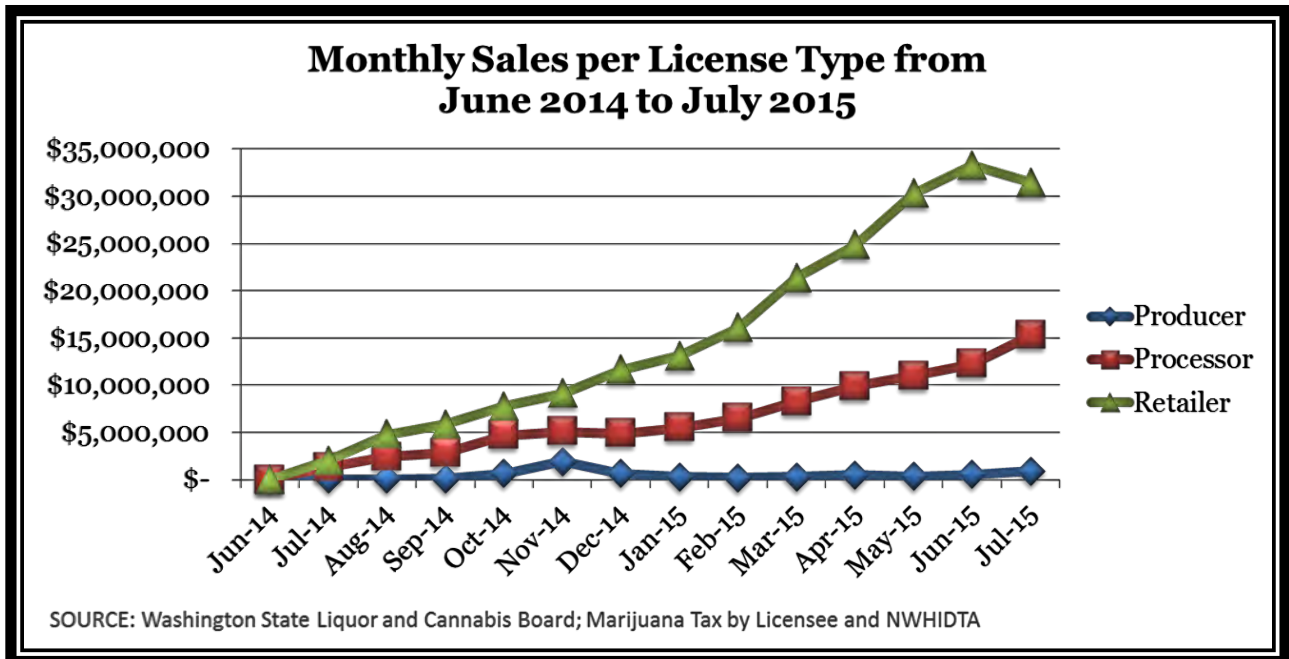
Recreational Marijuana

Sales:

Initiative 502 did not set a standard or a threshold for the price of recreational marijuana. The market was expected to set its own prices based upon demand and production costs. Competition from other recreational businesses was also taken into account, as was competition from the black and medical marijuana markets.



The graph displayed here depicts one year of commercial sales from June 2014 to the end of July 2015. During that period, the state generated \$307,560,066 in sales¹⁵⁶. This includes all sales from producers, processors, and retailers. Retailers in July of 2015 were averaging \$1,910,070 in sales a day¹⁵⁷.



Displayed by license type, retailers generated the most total sales, with producers generating the lowest sale amounts. In total, producers generated \$6,345,496, processors generated \$89,735,046, and retailers generated \$211,479,524.

Taxes:

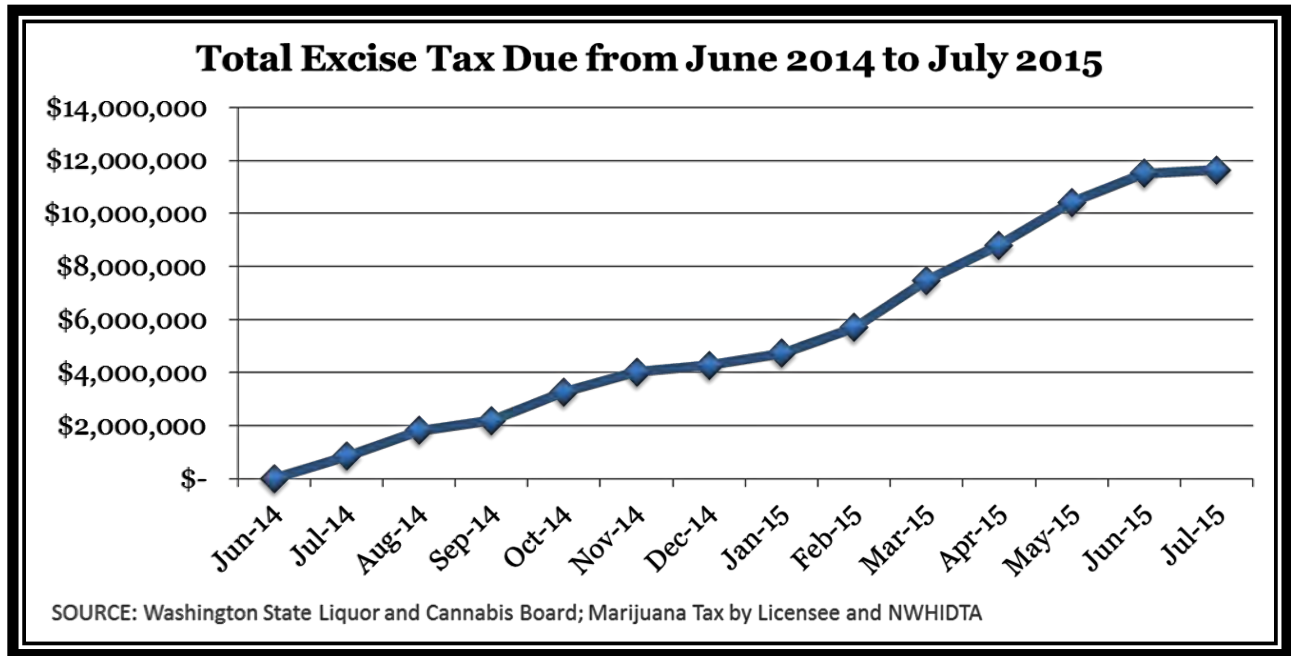
When I-502 was approved by Washington State voters, it included a specific state taxing scheme that applied to recreational marijuana businesses.

The initiative imposed a 25% excise tax on each of the three tiers of the system. This meant that from producers to processors, processors to retailers, and retailers to consumers, a 25% tax was applied to each transaction. However, if a business was a dually-licensed producer/processor, the tax would not be imposed between those two licenses. This tax was applied in addition to state and local taxes.

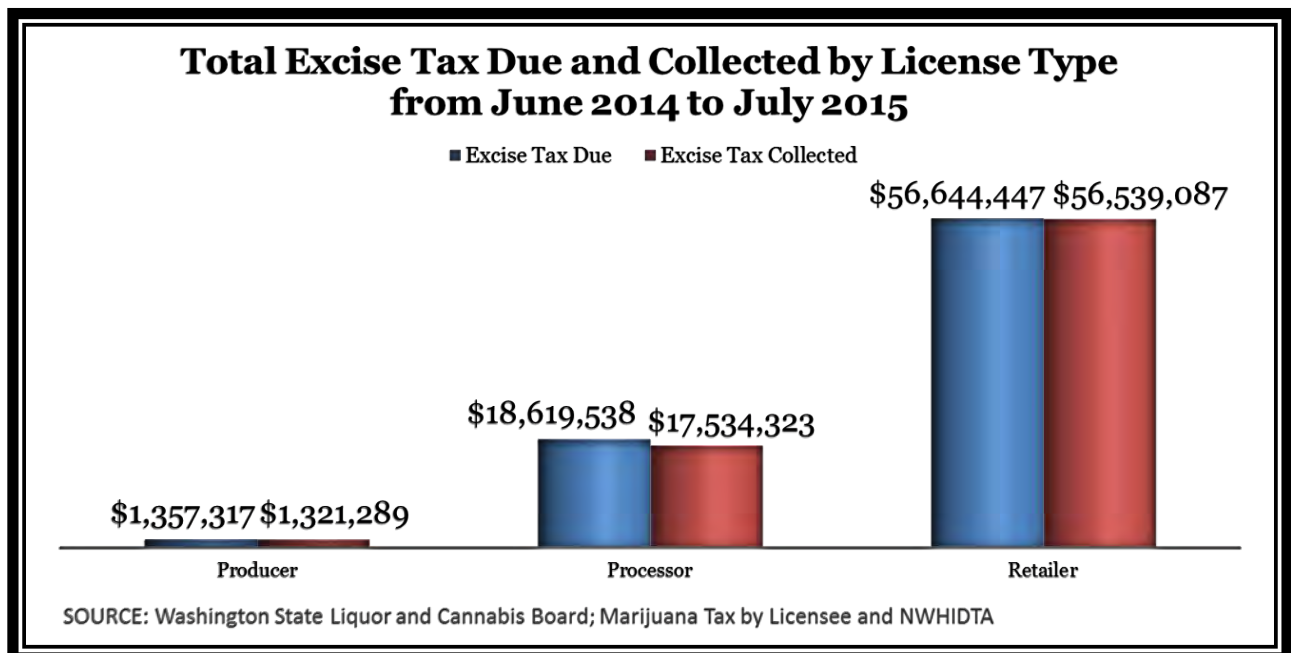
The generated excise taxes were to be deposited into the Dedicated Marijuana Fund for disbursement¹⁵⁸. The account was required to make quarterly and annual disbursements, including:

- Quarterly disbursements and priorities :
 - Department of Social and Human Services: \$125,000;
 - Administration, implementation, and analysis of the Healthy Youth Survey.
 - Department of Social and Human Services: \$50,000;
 - Contract for the Washington State Institute of Public Policy to conduct a cost-benefit evaluation reports.
 - University of Washington Alcohol and Drug Abuse Institute: \$5,000;
 - Production of web-based materials regarding the health and safety risks associated to marijuana use.
 - Washington State Liquor and Cannabis Board: \$1,250,000;
 - Administration of Initiative-502.
- After quarterly disbursements, additional recipients and priorities including:
 - 50% to the Basic Health Plan Trust Account;
 - Health Care Access Act.
 - 19.7% to the State General Fund;
 - Undisclosed priorities.
 - 15% to the Department of Social and Human Services Division of Behavioral Health and Recovery;
 - Implementation of programs and practices aimed at the prevention or reduction of substance use.
 - 10% to the Department of Health;
 - Creation and implementation of marijuana education and public health programs including a marijuana use public health hotline, a grant program for local community agencies focusing on prevention and reduction programs prioritizing marijuana use by youth, and media-based education campaigns regarding the health risks associated to marijuana.
 - 5% to Washington State Health Care Authority;

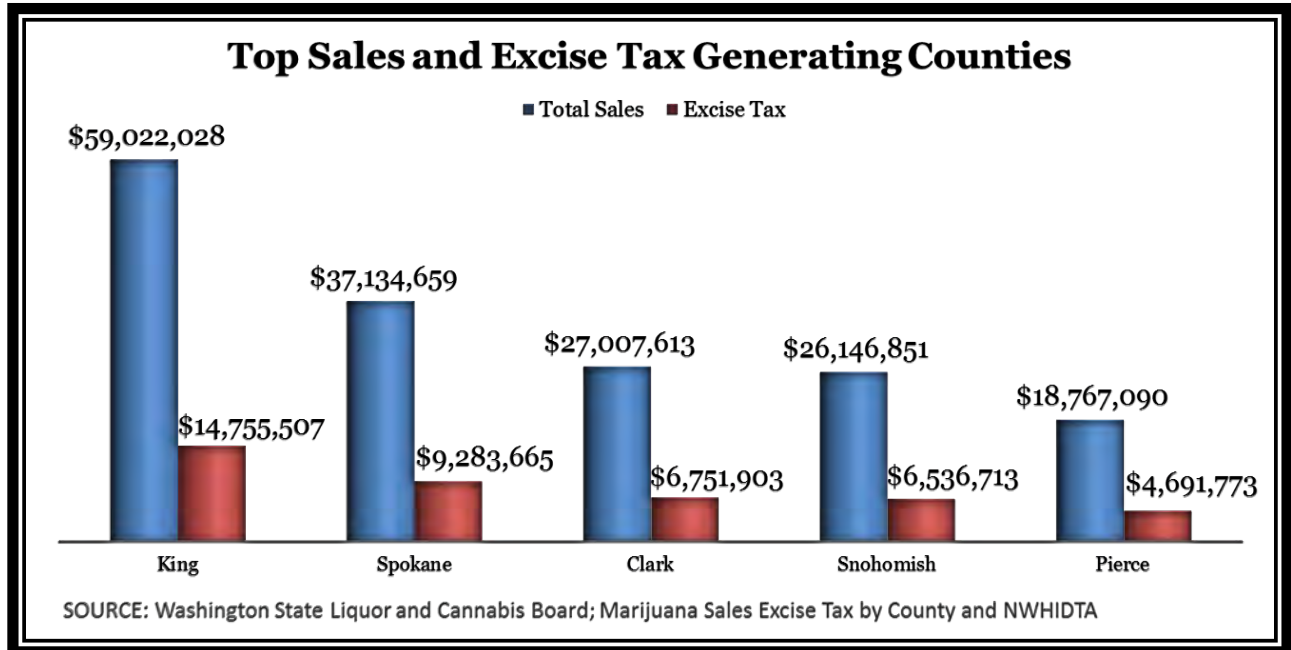
- Contracts with community health centers to provide primary health and dental care services as well as migrant and maternity health care services.
- 0.3% to the Office of the Superintendent of Public Instruction;
- Fund grants to the Building Bridges program.



This year of commercialized sales extends from June 2014 to the end of July 2015. During this period, total excise taxes due from producer, processor, and retailing licensees were \$76,621,302¹⁵⁹.

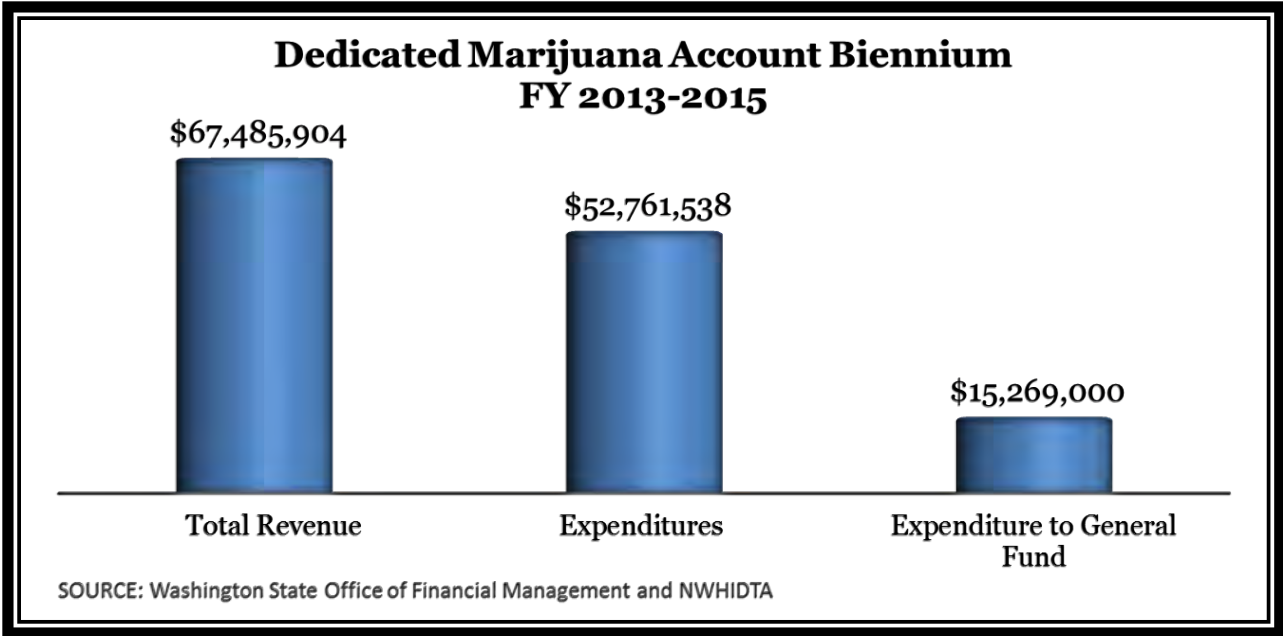


When identified by license type, it is obvious as to where the bulk of marijuana excise taxes are generated. The graph also shows which licensees are paying their excise taxes to the state¹⁶⁰. In total, the state is owed \$1,226,604 in excise taxes. Producers owe over \$36,000, processors owe over a million dollars, and retail licensees owe just over \$105,000.

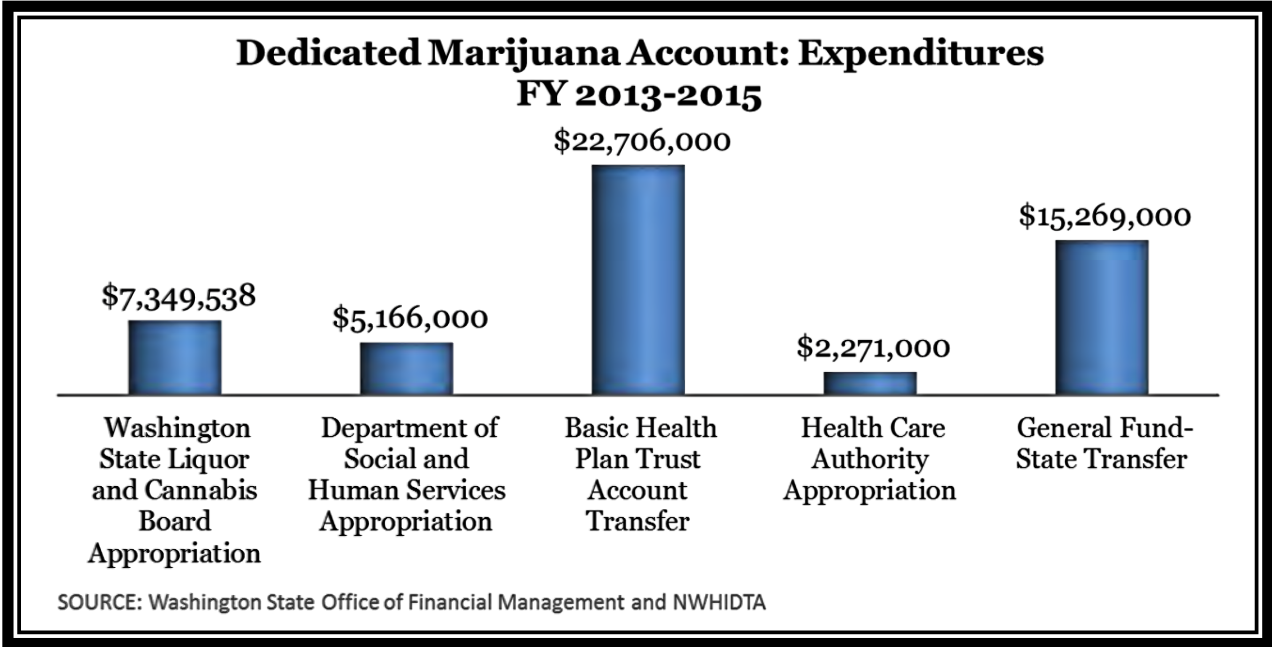


The counties that generate significant sales and excise taxes are King, Spokane, Clark, Snohomish, and Pierce. King County individually represents 19% of the total generated sales taxes and the total generated excise taxes for the state¹⁶¹.

The Office of Financial Management is responsible for preparing statewide financial reports which include the itemizations of the Dedicated Marijuana Fund. Based on the fiscal data provided by the WSLCB, the Office of Financial Management provides an analysis of what these taxes entail and where they are intended to be allocated¹⁶².



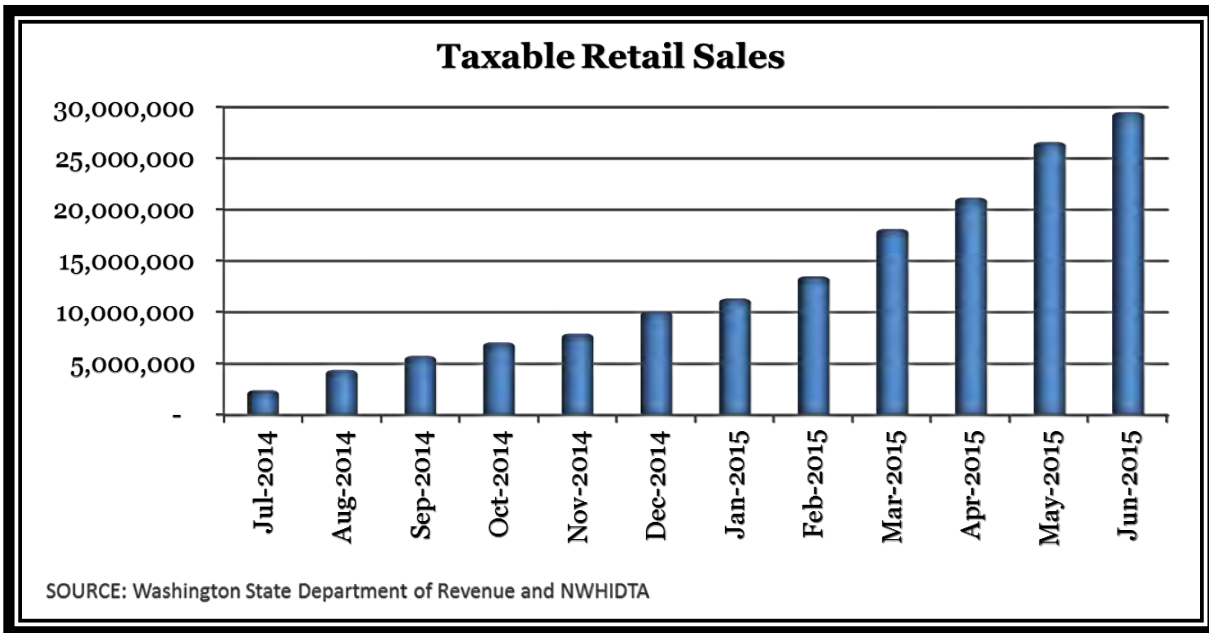
Of the revenues deposited into the account, \$64,485,904 was collected from sales and excise taxes. License fees and other revenues added \$2,851,181. Expenditures include the disbursements directed by the initiative. These include the allocations to the WSLCB and Department of Social and Health Services. The allocation to the General Fund-State Revenue is comprised of total taxes generated, both sales and excise, as well as fees from recreational marijuana licenses, totaling \$988,074.



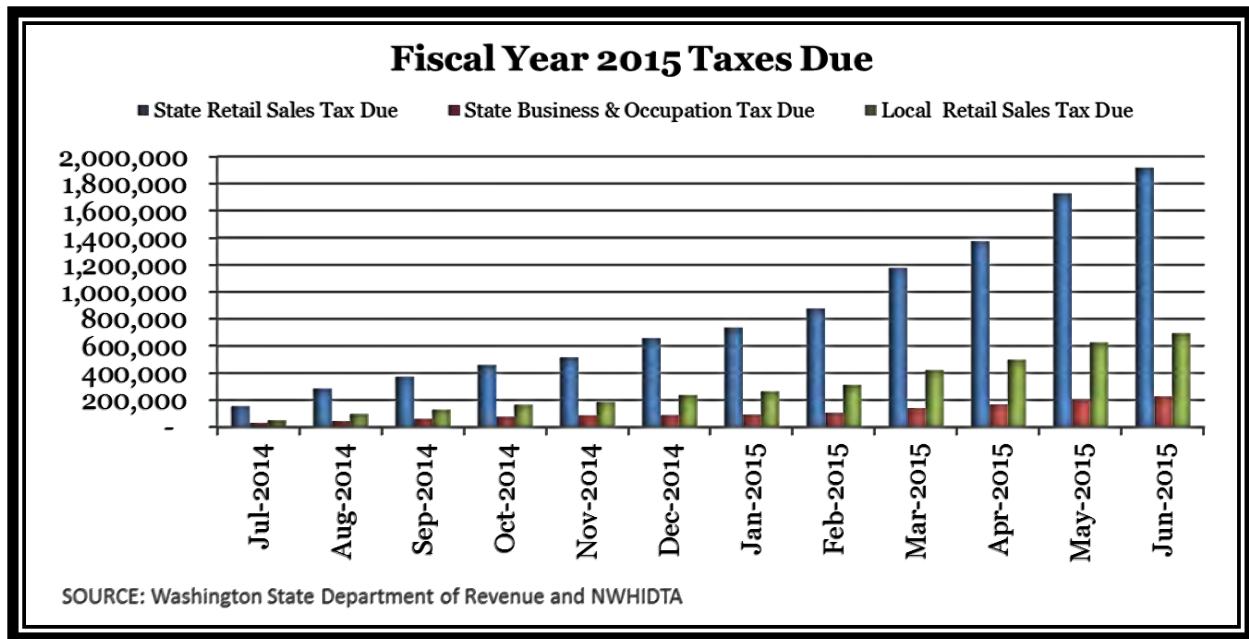
According to the Office of Financial Management, expenditures are made as detailed above. The Basic Health Plan was allocated the largest share, \$22,706,000. Disbursements to

the State General Fund amounted to \$15,269,000, followed by funds directed to the WSLCB at \$7,349,538.

The Department of Revenue also collects taxes: retail sales taxes collected from retailers and the business and occupation taxes collected from retailers, processors, and producers. The retail sales tax rate varies from county to county with the state’s portion set at 6.5%. These taxes are intended to go straight to the state or local jurisdiction as is the case with any other retail transactions.



From July 2014 to June 2015, total taxable retail sales reported amounted to \$157,530,459. The taxable retail sales reported for the month of June 2015 were \$29,480,253.



For fiscal year 2015, the total retail sales tax due to the state of Washington totaled \$10,239,480, the total business and occupation tax was \$1,305,133 and local sales taxes totaled \$3,670,085.

Banking

Marijuana remains a Schedule I substance as defined by the Federal Controlled Substance Act (CSA). When Washington State legalized marijuana, the need for banking services for this new market was not addressed. Banks are regulated by federal agencies and, despite some assurances made by those agencies, have been quite reluctant to establish business relationships with the marijuana industry.

The Department of the Treasury Financial Crimes Enforcement Network (FinCEN) is one of the entities that protects the financial system in the United States. Among other charges, it is responsible for prosecuting money laundering and keeping terrorist finances from infiltrating the system. Given that marijuana is illegal under federal law, providing financial services to the recreational marijuana industry could be considered to be money laundering.

In February of 2014, a few months before commercialization, guidance was published by FinCEN to clarify the Banking Secrecy Act¹⁶³. The letter addressed the same eight priority points specified in the Cole Memo and stated that if a bank or credit union decided to accept accounts from marijuana businesses, the risk and responsibility would fall on them.

Banks must act with regard to their due diligence to ensure that business partners are operating within the legal framework of the state and in accordance with the Cole Memo. If not, the banks must file suspicious activity reports (SARs) when questionable situations arise, including:

- Marijuana Limited:
 - Identifying that the banking customer is involved with a marijuana-related business and no other suspicious activity has been identified;
- Marijuana Priority:
 - Identifying the banking customer as involved with a marijuana-related business and suspicious activity has been identified;
- Marijuana Termination:
 - Identifying the banking customer as involved with a marijuana-related business and suspicious activity has been identified, such as money laundering, and filing to terminate the customer relationship.

FinCEN gives examples in its guidance for the types of activities banking institutions should be monitoring such as: more revenue than reasonably suspected, rapid movement of funds between deposits and withdrawals, unsatisfactory documentation, and business owner(s) who live outside of the state in which the business is located.

With the guidance issued from FinCEN, banks and credit unions can operate with some assurance. Three institutions in the state of Washington have opted to service the recreational marijuana business industry.

Numerica Credit Union was the first institution to take the leap. Located in the eastern Washington, it is the fifth largest credit union in the state. Numerica opened its doors to licensed recreational producers and processors but not to licensed recreational retailers¹⁶⁴. Restrictions were imposed on the businesses to ensure legitimate banking accounts and compliance with federal guidelines. Some restrictions include no issuance of debit or credit cards, all deposits need to be made in person, and the account holders must reside in the community where one of the seventeen branches are located.

Salal Credit Union was the second institution to welcome licensed recreational marijuana businesses¹⁶⁵. The credit union is located in Seattle. Similar to Numerica, Salal only agreed to provide banking for producers and processors. One service this credit union is offering that Numerica did not is business loans. According to National Public Radio (NPR), Salal approved its first equipment loan for a licensed recreational marijuana processor to purchase a \$400,000 extraction system to create marijuana oil for edibles.

O’Bee Credit Union became the third institution to offer services to recreational marijuana businesses. The Olympia-based credit union became involved at the beginning of 2015 and reported thirty marijuana-related clients located in Thurston and Pierce Counties¹⁶⁶. The credit union has reported that these account holders deposit anywhere from \$5,000 to \$25,000 at least once or twice a week. The credit union takes anywhere from three days to two weeks to approve an account for a marijuana-related business. Services provided by O Bee include deposit services, checking, savings, and the ability for marijuana business employees to cash their checks.

These are the three most widely known institutions involved with the recreational marijuana business industry. However, according to the Director of the Washington State

Department of Financial Institutions, there are several dozen other financial institutions that are quietly involved with the marijuana industry.

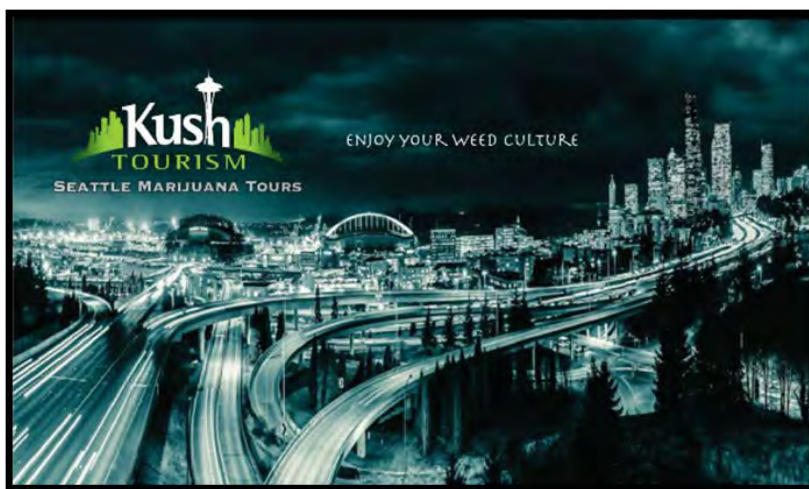
Outside of the banking system, some marijuana businesses have opted for alternative fiscal solutions. With significant amounts of cash on hand, the businesses are potential targets for a burglary or robbery. Some retailing locations have opted to utilize mobile apps allowing businesses and consumers to purchase marijuana on an online platform in order to eliminate the need for cash.

One example is PayQwick, which operates in partnership with multiple retailing locations across Washington. Their app links to a consumer's bank account and can be used directly from their phones or from a card issued by the company. The site also allows for businesses to pay their state-mandated taxes through the money service¹⁶⁷.

Industry Expansion

When recreational marijuana became legal, it not only opened up a market for sales but also provided an opportunity for a new industry to flourish. Washington State has become a tourist attraction that offers recreational marijuana to visitors.

Among the first and most notable new businesses were guided bus tours of marijuana businesses in the Seattle area. The accompanying photo is promoting this type of marijuana tourism¹⁶⁸. Buses took riders to various producers and processors and stopped last at a retailing location so products could be purchased. The same company has also held marijuana painting classes. During class, consumers brought their own marijuana for consumption and painted alongside other consumers.



SOURCE: www.recreational-weed.com

Transportation pickup services now also catered to marijuana consumers. Consumers who arrived at Seattle-Tacoma International Airport or at the Seattle Cruise Ship Terminals could arrange for a group pickup. The transportation services then stopped at a local marijuana retailer so consumers could purchase their desired products. In addition, the service catered to travelers on layovers.

Marijuana-friendly lodging has also become an option for out-of-state travelers and in-state tourists. Information posted directly on the hotel or bed and breakfast webpages offer options for marijuana consumers. In addition, AirBNB became a major platform to market to travelers who are interested in arranging lodging through their services.

For tourists who travel to the state without their drug paraphernalia, rental businesses opened to meet that demand. Consumers are charged a daily rate for a vaporizer that comes with additional equipment such as carrying cases, chargers, and cleaning tools.



SOURCE: www.kirotv.com



SOURCE: www.findclearchoice.com

Marijuana businesses also participate in local events and holiday activities. When the 2015 Men's US Open Golf Championship took place in University Place, retailing locations were quick to advertise and offer discounts. Advertising on social media and even by means of an airplane banner were used.

Sales associated with major holidays such as black Friday, April 20th (420 for the marijuana culture), and the Fourth of July now include marijuana sales as well. Many retail locations offer bonus products, limited edition marijuana strains, or half-off products to bolster sales. All social media platforms including retailing websites are used to market the sales.

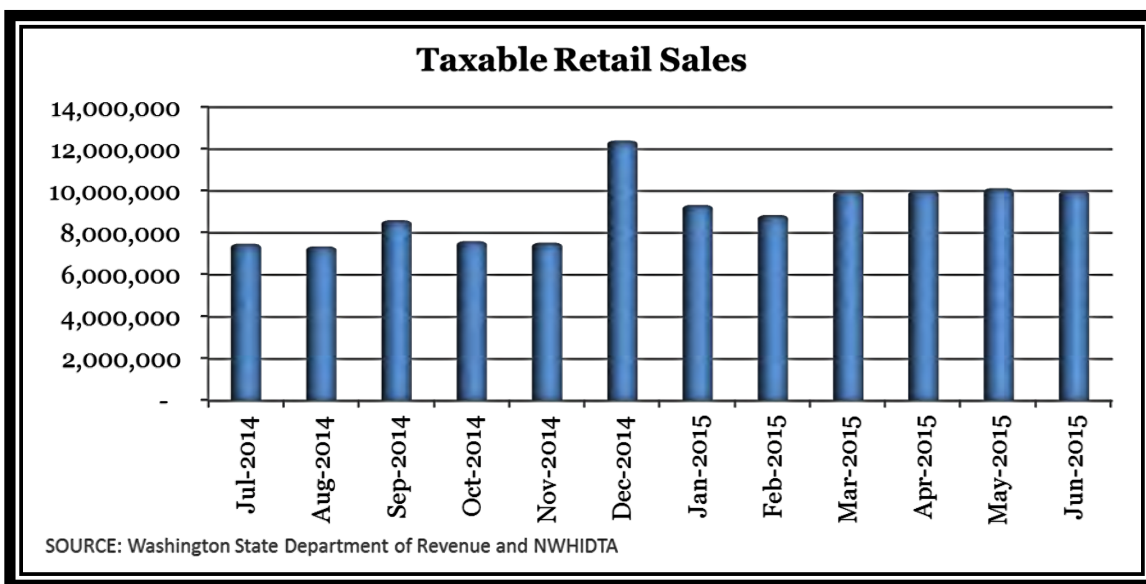
Medical Marijuana

Sales and Taxes

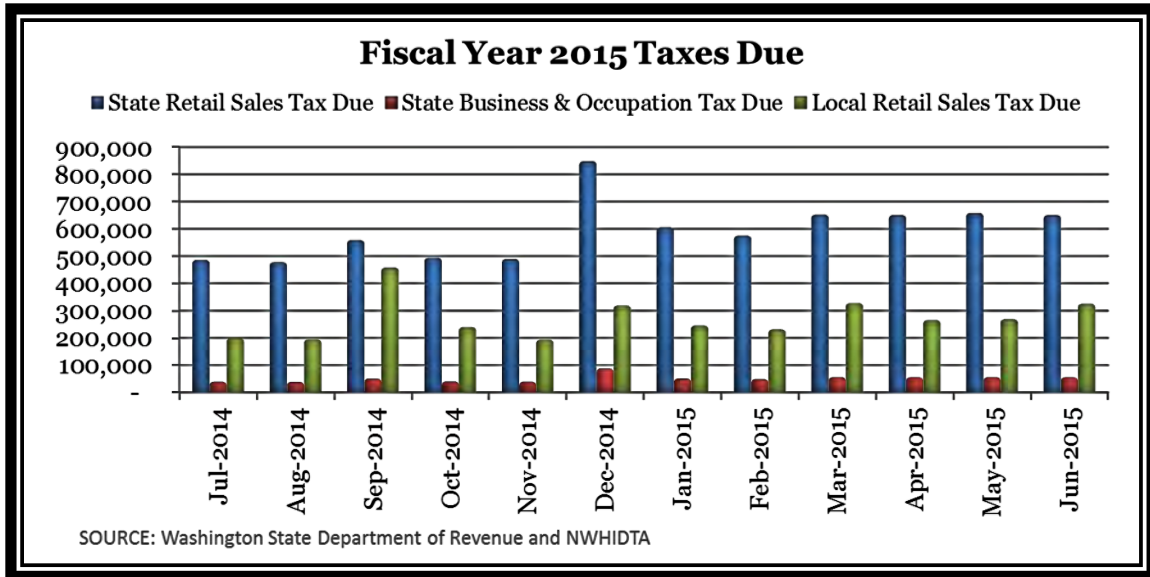
In the absence of a legal business model for the medical marijuana industry, there is no method for quantifying sales volumes. Medical marijuana was never intended to entail a commercialized market in the state so these capabilities were not set in place. Since medical marijuana was approved in 1998, there has been no comprehensive source for sales information.

There is some information regarding the taxable sales and taxes collected from dispensaries across the state but the data is incomplete. As marijuana is illegal at the federal level, many dispensaries chose not to pay taxes due to the risk of incrimination. The belief throughout the medical community was that if they paid taxes to the state, the federal government would see that they were engaging in the sale of an illegal drug and take action.

However, the Washington State Department of Revenue has been able to collect some state and local taxes from a few dispensaries¹⁶⁹. These dispensaries opted to obtain business licenses and paid some taxes. Depending on the dispensary, some paid all taxes, others paid a portion, and the rest did not fulfill their tax obligations. The data below is information from July 2014 to June 2015.



Total reported taxable retail sales for FY 2015 amounted to \$109,239,149. The highest month for reported sales was December 2014 with a total of \$12,400,607. It appears some dispensaries opted to report taxes in order to become a competitive applicant for the recreational licensing process which began that same month.



For fiscal year 2015, the total sales tax due to the state of Washington was \$7,146,678, the total business and occupation tax due was \$616,401 and the local retail sales tax due was \$3,268,432.

The Department of Revenue reported in January of 2015 that they estimated that 117 dispensaries were delinquent on sales tax payments. In total, the department estimates that \$9.5 million is due in unpaid taxes¹⁷⁰.

Business Industry

The medical marijuana community has been active in the state of Washington for decades. The annual Hempfest event in Seattle is a yearly attraction for medical, recreational, and all other consumers. According to their webpage, Hempfest is a political protest rally organized to change the nation's stance on marijuana. Even after legalization in Washington in 2012, the 'protestival' continues to occur on an annual basis to advocate for decriminalization and legalization across the United States¹⁷¹. In 2015 Hempfest marked its 24th anniversary in Seattle.



SOURCE: www.leafly.com

The weekend-long event is culturally accepted as a venue for users of all ages to attend and consume marijuana in the spirit of legalization. The event includes speakers, concerts, and a variety of food vendors that contribute to the atmosphere of the event.

Medical marijuana “consultation booths” are strategically placed throughout the festival. Medical professionals who are allowed to write authorizations do so for a quick cash transaction. Consumers without any medical conditions or paperwork to substantiate their claims are given an authorization for an increased price. One reporter in Seattle was able to obtain an authorization with no documentation; the entire process took eleven minutes and cost \$200¹⁷².

The Seattle Police Department made headlines during the 2013 Hempfest festival – the first gathering following the legalization of recreational marijuana. Officers handed out bags of Doritos chips with stickers advising consumers about a few rules regarding marijuana¹⁷³. The message was:

“We thought you might be hungry. We also thought now might be a good time for a refresher on the do’s and don’ts of I-502. Don’ts: drive while high. Don’t give, sell, or shotgun weed to people under 21. Don’t use pot in public. You could be cited but we’d rather give you a warning. Do’s: do listen to Dark Side of the Moon at a reasonable volume. Do enjoy Hempfest. Remember: respect your fellow voters and familiarize yourself with the rules of I-502 at...”



SOURCE: www.kirotv.com

This gesture was an attempt to bridge the gap between law enforcement and marijuana consumers. Officers were tasked with educating users on a few points after legalization was enacted to keep the festival within the confines of the law. However, marijuana consumption occurred throughout the festival despite the message on the snack. The event is known for public consumption but during the 2015 Hempfest no open consumption citations were written.

Contests and competitions featuring marijuana products are highly anticipated events within the marijuana industry. In the state of Washington, state-licensed recreational marijuana businesses are not allowed to partake in such events. However, those involved in the medical marijuana market have no such restrictions.

The Concentrates Cup¹⁷⁴ and the Cannabis Cup¹⁷⁵ are events in which the medical marijuana community participates on a yearly basis. The focus of these events is to judge the quality and effects of various marijuana strains, not therapeutic or medical benefits. Marijuana dispensaries as well as home growers and processors enter their products in the contest for a fee in order to contest for an award. Analytical 360, an approved lab for testing the recreational marijuana market, assists with judging these products.

High Times Magazine organized these two competitions from 2012 to 2014 but cancelled the events in 2015¹⁷⁶. The WSLCB did not grant them a license for event space due in part to the fact that the proposed venues were located on federal land and because public consumption is therefore precluded, eliminating an essential part of the competitions.

Sovereign Indian Nations

Tulalip Marijuana Conference

Tribal leaders from across the nation met in Washington State in 2015 to participate in the first Tribal Marijuana Conference at the Tulalip Reservation. The seventy-five leaders met to discuss becoming involved in the commercial marijuana market. State leaders from Washington State were present along with the current chair of President Barack Obama's National Indian Law and Order Commission¹⁷⁷.

The Memo from the Department of Justice in 2014 provided guidance to tribal nations. The conference was an opportunity to ask questions and to discuss the language and intent of the law as to how it specifically applies to tribes. This pertains to both the medical and recreational marijuana market industries.

Many tribes disclosed that they were interested in becoming active members of the marijuana industry but by the end of the period this report encompasses – July 2015 – no tribes from Washington had signed on.

Section 10: The Upcoming Market

Introduction

During the 2015-2016 legislative session in Washington State, many bills were passed which impacted the medical and recreational marijuana markets. Three bills will be examined:

- Senate Bill 5052: Establishing the Cannabis Protection Act;
- House Bill 2136: Concerning Comprehensive Marijuana Market Reforms to Ensure a Well-Regulated and Taxed Marijuana Market for Washington State;
- House Bill 2000: Authorizing the Governor to Enter into Agreements with Federally Recognized Indian Tribes in the state of Washington Concerning Marijuana;

Senate Bill 5052: Establishing the Cannabis Protection Act:

In April of 2015, Governor Jay Inslee signed Senate Bill 5052 into law¹⁷⁸. This bill, in short, completely restructured and reregulated the medical marijuana market throughout the state. The effective date of the bill was July 24, 2015 with a majority of the rules going into effect on July 1, 2016.

Many of the historical flaws inherent in the medical marijuana market ranging from lack of oversight to nonexistent guidelines are addressed in this bill. Illegal dispensaries will be eliminated, accountability will be required, and transparency for patients will be provided.

Collective gardens were the impetus for illegal dispensary storefronts opening across the state. Currently operating dispensaries will have two options before the July 2016 deadline: become licensed or shut down. Dispensaries will be eligible to apply for a recreational marijuana license through the WSLCB or may become a “cooperative”. A cooperative will only be allowed to have four members, a maximum of sixty plants at the growing site, and are mandated to participate in the traceability system. In comparison, collective gardens were allowed to entail ten members, forty-five plants and seventy-two ounces of marijuana.

Dispensaries that become licensed by the state will be required to utilize the same traceability system as recreational marijuana businesses. Newly-licensed dispensaries or existing licensed recreational businesses may apply for a medical marijuana endorsement to sell medical grade marijuana. The Department of Health is expected to issue medical grade marijuana standards by June 2016.

Businesses that receive a medical marijuana endorsement will have additional responsibilities at their retailing location. First, medical marijuana “consultants” must be hired and trained. These consultants will assist patients or designated providers with regard to appropriate marijuana strains. The Department of Health will provide education and training for the consultants.

The second responsibility for retailers with endorsements will entail entering patient or designator provider information into a new database. The database is a voluntary registry for patients and providers. There are certain incentives for a consumer to be registered including a larger possession limit and purchase amount, the option to belong to a cooperative, and certain possession-related crime protections.

If a consumer's name is entered into the database, he or she will receive a recognition card issued by the endorsed retailing location. Information on the card will include a unique identifying number, the name of the healthcare provider who authorized the medical marijuana authorization, and a photo of the cardholder.

These cards will expire on a six-month basis for patients under the age of eighteen and on an annual basis for those over twenty-one. To renew a card, the patient will have to undergo an updated medical examination with his/her healthcare provider and receive an updated authorization. Once completed, the patient will then return to the endorsed retailer for a new recognition card.

The possession amounts allowed for those with a recognition card are:

- 3 ounces of useable marijuana;
- 21 grams of marijuana concentrates;
- 48 ounces of marijuana-infused products (solid);
- 216 ounces of marijuana-infused products (liquid);
- 6 marijuana plants for home cultivation; and
 - 8 ounces of marijuana from those plants.

The possession amounts allowed for those without a recognition card are:

- 1 ounce of useable marijuana;
- 7 grams of marijuana concentrate;
- 21 ounces of marijuana-infused products (solid);
- 72 ounces of marijuana-infused products (liquid);
- 4 marijuana plants for home cultivation; and
 - 6 ounces of marijuana from those plants.

Minors under the age of twenty-one who are medical marijuana patients will have certain restrictions. Those under the age of eighteen will not be allowed to home grow themselves and will only be able to purchase marijuana through their designated provider. Individuals eighteen to twenty-one will be allowed to enter a retailing establishment on their own without their provider. Minors will not be allowed to participate in a cooperative.

House Bill 2136: Concerning Comprehensive Marijuana Market Reforms to Ensure a Well-Regulated and Taxed Marijuana Market in Washington State:

House Bill 2136 was introduced in the legislature in February of 2015 and signed by the Governor at the end of a third special session in June of 2015¹⁷⁹. The effective date for the law was July 1, 2015. One of the elements the proponents of Initiative-502 emphasized to voters was the generation of sizeable revenues for the state. This bill made significant changes to the taxing scheme for both the medical and recreational marijuana markets.

First, the excise tax rate was changed. In I-502, a 25% tax was applied at each tier from producers to processors to retailers to consumers. Now, the rate has increased from 25% to 37% and is only applied to consumers. This tax will also be collected in addition to retail sales taxes. Medical marijuana patients will remain exempt from retail sales tax but will be subject to the excise tax.

Along with the new tax rate, a new revenue sharing scheme was created. For fiscal years 2015-2017, a total of \$12 million will be distributed to cities and counties across the state. The distribution of \$6 million a year will be based on the total taxable sales within a jurisdiction. This means that in order for a city or county to receive a tax disbursement, it must allow marijuana retailing locations to operate. Cities will receive 40% of the total taxes and counties will receive the remaining 60%.

During FY 2017-2019 and thereafter, a different tax-sharing system will be implemented. In this scheme, all marijuana excise tax revenues will be deposited into the State General Fund. Once that fund receives \$25 million in excise taxes, 30% or a maximum of \$20 million will be distributed to local jurisdictions – a total of \$15 million for 2018 and \$20 million for 2019 and beyond.

Of the revenue shared with cities and counties, 30% must be distributed to those jurisdictions that have retailers operating in their area. Additionally, the distribution is based on the total proportional sales in each jurisdiction and the individual areas with retail locations. The remaining 70% will be distributed on a per capita basis, with 60% allocated to counties. Unlike the current system, jurisdictions without marijuana businesses will be eligible for revenue sharing.

New licenses were created for the marijuana industry as well, including a common carrier transportation license and a marijuana research license. The common carrier license will allow businesses to rely on a discrete company to transport marijuana and cash rather than having these responsibilities remain in-house. This license also opens up the state ferry routes, which fall under federal jurisdiction, for marijuana transports. The research license allows for research to be conducted on four areas involving marijuana from testing chemical potency to clinical investigations of marijuana-derived drug products.

The bill also gave some authority to cities and counties in regard to marijuana businesses. Marijuana businesses are now allowed to have two signs as opposed to one meeting the 1,600 square-inch requirement on the business, and the buffer zone of 1,000 feet from

protected zones may be reduced. Local jurisdictions may now choose to approve zones as small as 100 feet adjacent to certain zones except for schools and playgrounds – they will still be protected by the 1,000ft zone.

House Bill 2000: Authorizing the Governor to Enter into Agreements with Federally Recognized Indian Tribes in the State of Washington Concerning Marijuana:

This bill was signed by Governor Jay Inslee in May of 2015. It allows for tribal-state agreements relating to any or all production, processing, or sales of marijuana in Indian Country¹⁸⁰. The bill reaffirmed the points made in the Department of Justice guidance memo to Sovereign Indian Nations to ensure public safety protections.

Specific elements of the house bill included powers given to the WSLCB for all tribal relation negotiations. The tribes will be required to impose a tribal marijuana tax which must be at least 100% of state and local excise and sales taxes on marijuana products. Taxation of tribal members, the tribe, or other tribal entities is not obligated.

Tribal marijuana retailers will be able to purchase and sell marijuana from state licensed marijuana businesses. However, state-licensed producers and processors will only be able to purchase or sell if allowed by a tribal-state agreement approved by the WSLCB.

The Suquamish Tribe approached the WSLCB in May of 2015 to discuss a potential tribal-state agreement on marijuana. By the end of the period encompassed by this report – July 2015 – there were no signed agreements involving any tribes.

Section 11: Conclusion

Marijuana can no longer be considered “just a drug” in Washington State. What was once solely in the domains of criminal justice and public health agencies is now a new industry that is rapidly expanding with implications not just for Washington State, but for the nation.

Washington State has embarked on establishing a stable regulatory model for marijuana. Voters did not just legalize a drug, they legalized a capital-driven market.

The industry is growing at a rate faster than regulations can be implemented. Accountability and responsibility is currently in the hands of the marijuana market place with an obligation to self-regulate in order to avoid state – or federal – intervention.

With the federal government casting a watchful eye on the state from the perspective of the Cole Memo, it is unclear what that perspective entails. Data discussed in this Report addresses several of those federal priority points.

Data shows that the diversion of Washington State marijuana is ongoing, that the rate of treatment admissions has been constant for marijuana disorders and that driving under the influence of marijuana has contributed to an increase in traffic crash fatalities. The Memo also states that mandatory protections need to be in place precluding youth access to marijuana. Data shows that not only do youth have access to multiple sources, but that they have remained consistent, if not more prevalent since legalization. Youth continue to experience a range of consequences resulting from marijuana use, and rates of abuse appear to be increasing. Youth and adults also continue to drive while high and to engage in serious crimes.

Data shows that the perception of harm is low for all age groups surveyed and that Poison Center calls have dramatically increased since legalization. The THC concentration levels in Washington State marijuana continue to increase in order to satisfy the demand of consumers. Federal laws are being violated as Washington State marijuana is sent through the postal service and THC extraction labs are injuring innocent victims.

At this juncture, it is impossible to foresee future impacts and what the industry will look like years from now.

The impact of legal marijuana can no longer just be counted in terms of arrests and convictions. With the emergence of this enterprise, marijuana is now measured in terms of dollars.

Most notably, markets survive if demand remains strong. As addiction is one of the possible consequences of consuming this substance, the state is assured a stable market.

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