**CANNABIS IN COLORADO AND CRIMES REPORTED RELATED TO MARIJUANA**

*Suman Saurabh*

**Introduction**

The Colorado amendment 64, which was passed by voters on November 6, 2012, led to legalization in January 2014[1]. Many reports suggests that use of marijuana has decreased in teenagers from 25% to 21%, which is an opposite effect of legalizing “the weed”[2]. There has been also a decline in the report of marijuana-abuse related hospitalization from the 2005-2014. The state has also been able to make a good revenue, with $266 million in taxes alone. Most of the sales (98%) has been reported to be from recreational marijuana. There has not been conclusive evidence of the extremely bad effects of marijuana on mental health of a used except inhaling smoke can always be dangerous and detrimental to lungs.

One the other side of the story the City and County of Denver reports data on its website marijuana related crime[3]. The website mentions that the crime related are in “clear connection or relation to marijuana”. Hence, I decided to look into the data and see how these reported crime neighborhoods are related to the marijuana sales locations in the city because there cannot be an illegal marijuana. The approach to the study is that data provided by the city of Denver will be used to identify the neighborhoods with maximum marijuana related crime will be identified. The types of crime that are mostly reported related to marijuana will be identified. Next, marijuana stores and businesses will be identified using Foursquare database and mapped. Then on the same map neighborhood with most reports will be plotted. Finally, we will run K-means clustering to identify the centroid of the clusters of the stores which are safer for new business and users who procure marijuana. Basic statistical analysis will be done to identify the spread of crimes reported over time., the types and the neighborhood which sees most reports and machine learning K-means will be used to identify the clusters centers.

**References:**

[1] Cannabis in Colorado 2020. https://en.wikipedia.org/wiki/Cannabis\_in\_Colorado.

[2] Ingraham C. Economic policy n.d. https://www.washingtonpost.com/news/wonk/wp/2016/06/21/colorado-survey-shows-what-marijuana-legalization-will-do-to-your-kids/ (accessed August 4, 2020).

[3] Open Data Catalog 2020. https://www.denvergov.org/opendata/dataset/city-and-county-of-denver-crime-marijuana (accessed August 4, 2020).