SEE as Retribution for Cannabis Prohibition

An Examination of New York State's Historical Redlining, Demographics, and Drug Arrest Rates Within the Framework of the Implementation of New York State's Office of Cannabis Management and the Marihuana Regulation and Taxation Act (MRTA)

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INFO 3130/PUBPOL 2130
Data and the State: Final Project
SPRING 2025 SEMESTER
Professor Moon Duchin
Cornell University
May 14, 2025

List Of Images

Introduction

Redlining, a discriminatory practice denying financial services based on race, has harmed neighborhoods across New York (Redlining 2022). Its legacy has created a persistent cycle of disinvestment and inequality in once-thriving areas (Brief History of Redlining, 2021). Affected communities faced increased marijuana arrests. States legalizing cannabis "...saw fewer marijuana arrests from 2010 to 2018" (Racially Targeted Arrests 2020). In 2021, New York legalized recreational cannabis through the Marihuana Regulation and Taxation Act (MRTA) and initiated a social and economic equity program (SEE). These measures aim to rectify the damage from years of racist policing and redlining practices. This paper examines the relationship between redlining and cannabis dispensaries in upstate NY using median income data, historical redlining indicator (HRI) values, NY arrest data, and SEE categories. It discusses how the SEE program supports disproportionately affected communities while being cautious of potential side effects, like "green gentrification." We analyze data before and after its implementation in Erie County, NY, to assess the program's impact. Understanding the link between redlining and dispensaries can offer crucial insights to policymakers addressing discriminatory practices and their negative impacts. Our primary dataset originates from the New York State Office of Cannabis Management via New York State Open Data: "Current OCM Licenses" (DATA.NY.GOV & Office of Cannabis Management, 2024).

What is SEE?

In New York State, the Office of Cannabis Management has enacted a Social and Economic Equity (SEE) policy to support individuals and businesses impacted by past drug laws in the cannabis industry. This policy prioritizes licensing for five groups: individuals from affected communities, distressed farmers, service-disabled veterans, women-owned businesses, and minority-owned businesses. Applicants gain extra priority if they: (1) belong to communities affected by cannabis prohibition, (2) have income below 80% of the area median, or (3) have a cannabis-related conviction before the Marihuana Regulation & Taxation Act or are related to someone with such a conviction before March 31, 2021.

The SEE program seeks to improve market diversity and equity, addressing the harm of biased policing and lost opportunities. Lower fees, support, and business training ensure that at least 50% of licenses are accessible to SEE businesses. This initiative connects to New York's history of redlining, where neighborhoods denied loans were targeted for marijuana arrests, serving as a form of reparations. Figure 1 shows that most dispensaries in our dataset qualify under a single category, like "non-SEE business," "minority-owned," or "women-owned." However, many SEE businesses meet multiple criteria, meaning around half of all dispensaries fall under the SEE program with overlapping categories. To evaluate the SEE program's effectiveness, it is essential to know when dispensaries began operating and their distribution in upstate metro areas.

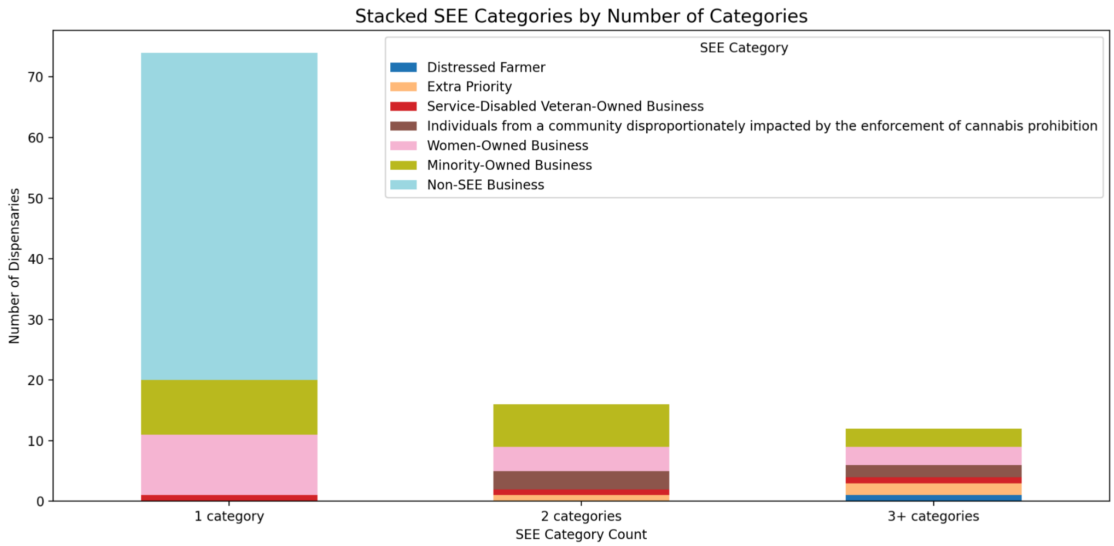


Figure 1. Created by Vania, Primary Data Product

Literature Review

Introduction

Throughout the twentieth century, discriminatory practices like redlining excluded Black, Latino, and other minority neighborhoods from mortgage opportunities, creating 'spatial scars' that hindered access to opportunity and firm location, especially in the legal cannabis industry. Before legalization, Black Americans faced nearly four times higher arrest rates for marijuana possession than white Americans. Despite legalization, Black ownership in cannabis remains around 1 percent, while white executives exceed 80 percent, indicating that legalization has not remedied decades of systemic harm.

In 2021, Redlining with the Marijuana Regulation and Taxation Act (MRTA) introduced Social and Economic Equity (SEE) initiatives in cannabis dispensaries, such as the Conditional Adult-use Retail Dispensary (CAURD). This initiative aimed to prioritize licenses for individuals with marijuana convictions and reinvest in impacted communities; however, bureaucratic delay and unlicensed retailers limited opportunities for marginalized entrepreneurs (Tolentino, 2024).

In U.S. legalization discussions, scholars advocate for a social-equity approach to combat racially targeted harms. Garriott and Garcia-Fuerte (2023) highlight preferential licensing and community reinvestment measures. Nevertheless, commercial interests often overshadow equity, with zoning restrictions further hindering site selection in disadvantaged areas (Hannah, Mallinson, & Azevedo, 2022). Thus, the question arises: Is New York dismantling inherited spatial and economic inequalities through cannabis policies, or are current efforts merely replicating old inequities under the guise of 'green' retail?

Key Research Questions

1. How do historical redlining legacies influence equity and fairness in New York’s cannabis market?

2. Are SEE policies effectively addressing systemic disparities?
3. Are SEE policies creating equitable opportunities for marginalized consumers and business owners?

Consumer-Side Dynamics

Research on cannabis retail distribution presents conflicting trends. Some studies indicate licensed and unlicensed outlets cluster in low-income, minority-majority areas, exacerbating health disparities (Mair et al., 2021; Unger et al., 2020). Conversely, other research points to 'marijuana gentrification,' where dispensary openings correlate with rising property values and middle-class retail geography, often avoiding the poorest Black-majority areas (Burkhardt & Flyr, 2019; Yin et al., 2024). These findings suggest nuanced spatial dynamics influenced by market forces and regulatory frameworks.

Literature on Producer-Side Equity Dynamics

Existing scholarship on New York's SEE program focuses less on its design and more on the barriers equity applicants encounter. While the SEE framework in the 2023 Equity Plan aims to address historical injustices through prioritized licensing and fee reductions, Tolentino (2024) argues these efforts fall short in practice. Applicants face high startup costs, limited access to capital due to federal cannabis restrictions, and competition from illicit sellers and well-funded corporations, raising doubts about the SEE program's effectiveness.

Identifying Research Gaps and Project Contributions

On the consumer side, past studies have indicated spatial disparities in cannabis retail. However, few have examined dispensary locations against HOLC redlining maps to analyze their connections to past urban racial segregation. Similarly, limited empirical assessments exist regarding consumer access under the SEE or CAURD frameworks. Our project fills this gap by combining cannabis license data with HOLC shapefiles and American Community Survey (ACS) indicators to determine if the MRTA framework is repairing or reproducing redlining-era geographies for cannabis access.

On the producer side, although the state promises equity through licenses and support programs, literature suggests these measures are insufficient. Our project investigates whether SEE-designated producers benefit from the current system or are left behind despite formal inclusion.

Case Study: New York State

New York's MRTA (2021) offers a unique test case for cannabis equity, particularly with its 50% license allocation for SEE applicants and reinvestment of 40% of cannabis tax revenue. We selected Syracuse, Buffalo-Cheektowaga-Niagara Falls, Rochester, Poughkeepsie-Newburgh, Albany-Schenectady-Troy, Binghamton, Utica-Rome, and Elmira to study how equity policies function across various urban contexts. By integrating license data from the Office of Cannabis Management (OCM), HOLC maps, and ACS demographics, our research evaluates whether New York's cannabis reforms promote equity for consumers and producers or inadvertently reinforce historical exclusion patterns.

Historical Analysis of Redlining and Dispensaries

Redlining began in the 1930s with the Home Owners' Loan Corporation (HOLC), which classified neighborhoods based on perceived financial risk, often labeling Black and Latino communities as 'undesirable.' This discrimination excluded these areas from financial services, mortgages, and public investments, creating cycles of economic decline. Its consequences still shape urban landscapes in New York State, especially in cities like Buffalo, Rochester, and Syracuse, where financial and racial segregation affect communities today (National Community Reinvestment Coalition [NCRC], 2018).

Redlining has created disparities in market access and opportunity in cannabis dispensaries. New York's Office of Cannabis Management (OCM) initiated the Social and Economic Equity (SEE) framework to address these issues, theoretically prioritizing licenses for marginalized individuals. However, Tolentino (2024) notes in The New Yorker that the implementation of the Conditional Adult-use Retail Dispensary (CAURD) program faces bureaucratic obstacles, legal challenges, and competition from unlicensed operators. The SEE framework recognizes that past discriminatory practices like redlining still influence today's economic situations.

The economic implications of cannabis legalization in redlined areas extend beyond dispensary placement. Yudina (2020) in The Berkeley Economic Review states that while legalization has opened new market opportunities, it has also increased inequalities in marginalized communities. The rise of dispensaries has surged property values and rental prices, displacing long-standing residents and small businesses unable to compete with cannabis retailers. This phenomenon, known as "green gentrification," illustrates how equity programs like New York's SEE may inadvertently perpetuate displacement instead of fostering sustainable wealth for marginalized entrepreneurs. The challenge lies in implementing regulations that ensure equitable access to dispensary licenses while protecting vulnerable communities from negative economic shifts (Yudina, 2020).

While increasing dispensary density in D-graded neighborhoods may enhance geographic access to legal cannabis, it does not directly translate to sustainable economic empowerment for minority-owned businesses. A more nuanced approach that ties business performance data, consumer spending, and local economic indicators is needed to assess whether these policy measures effectively alleviate the financial barriers of redlining established or perpetuate new inequity.

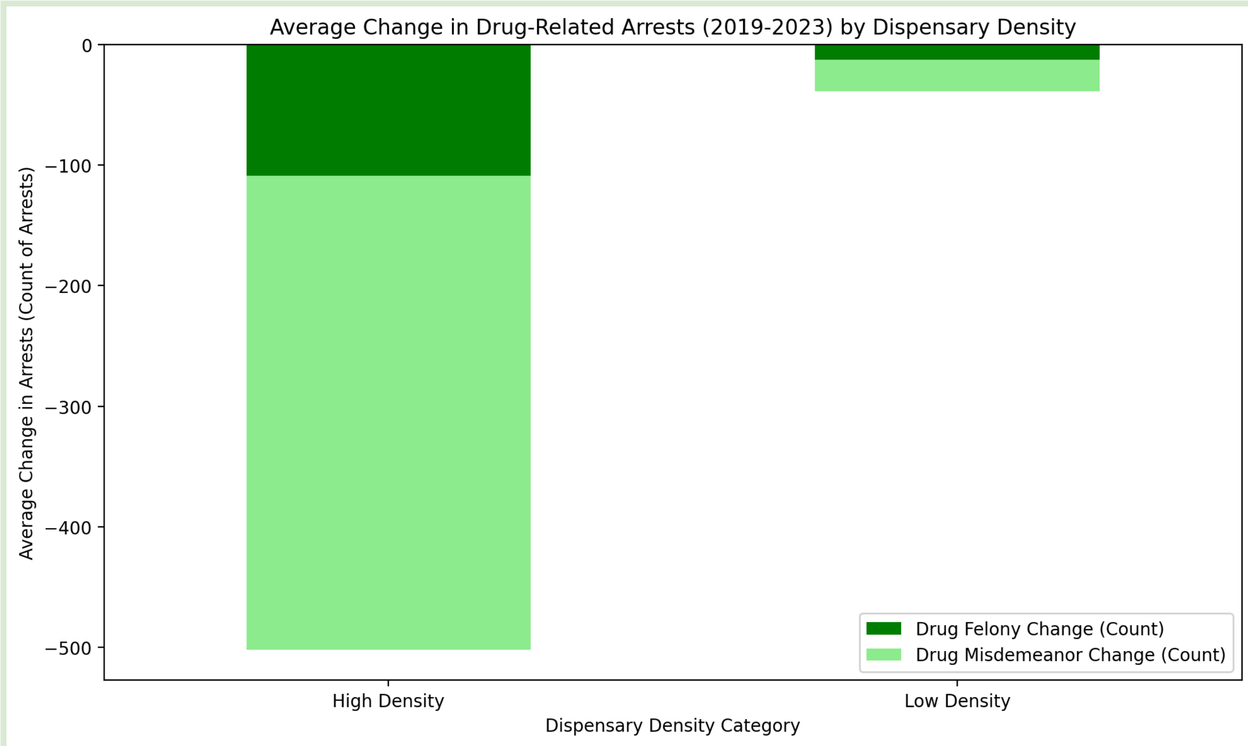


Figure 2. Created by Kyle, Primary Data Product

Consumer Access in Redlined Landscapes: Dispensary Availability and Density in Upstate New York

The literature often explores the link between economic development and cannabis dispensaries. Our investigation examined the historical impact on economic growth in upstate New York. We assessed economic development using 2023 median income data from the American Community Survey (ACS). The box plot shows a decline in median income as redlining grades worsen from A to D, indicating that the effects of historical redlining still impact these communities today.

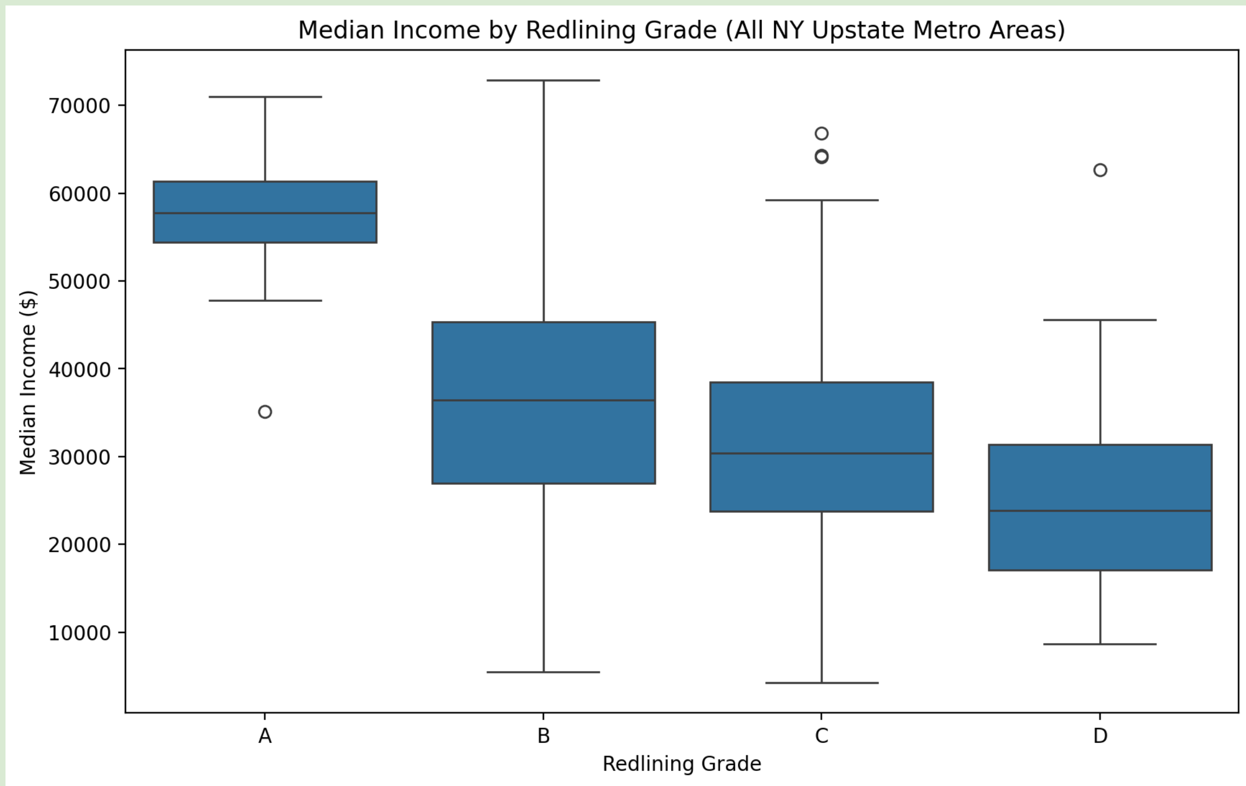


Figure 3. Created by Chelsea [Extra]

The economic impacts of redlining continue. New York's Social and Economic Equity (SEE) framework addresses historical injustices from cannabis prohibition by promoting equitable access for disproportionately impacted communities. However, does equitable access yield real-world outcomes? How are dispensaries distributed in historically redlined areas (A, B, C, and D)?

Initially, raw numbers suggest that more dispensaries are in areas with poorer redlining grades (B, C, and D). However, could the smaller number of A-graded areas make one dispensary statistically significant for coverage? To answer these questions, we utilize dispensary density instead of raw counts.

We used geogr to answer these questions. Aphic information systems (GIS) were used to compute each HOLC-graded region's area, employing EPSG:26918 (UTM Zone 18N) for precise area measurement in meters. This enabled us to determine dispensary density (dispensaries per square kilometer).

The analysis showed notable differences in dispensary density across grades. Grade A regions had one dispensary over 42.33 square kilometers (0.024 dispensaries/km²). Grade B had 28 dispensaries across 237.54 km² (0.118 dispensaries/km²). Grade C had the most dispensaries (40) over 320.02 km² (0.125 dispensaries/km²). Despite being smaller (76.44 km²), Grade D regions had 17 dispensaries, resulting in the highest density at 0.222 dispensaries/km². These findings support the hypothesis that policies like the Social and Economic Equity (SEE) framework may improve access to cannabis dispensaries, particularly in marginalized areas. The higher density in former redlined (D-graded) neighborhoods suggests residents may now have greater access to licensed dispensaries.

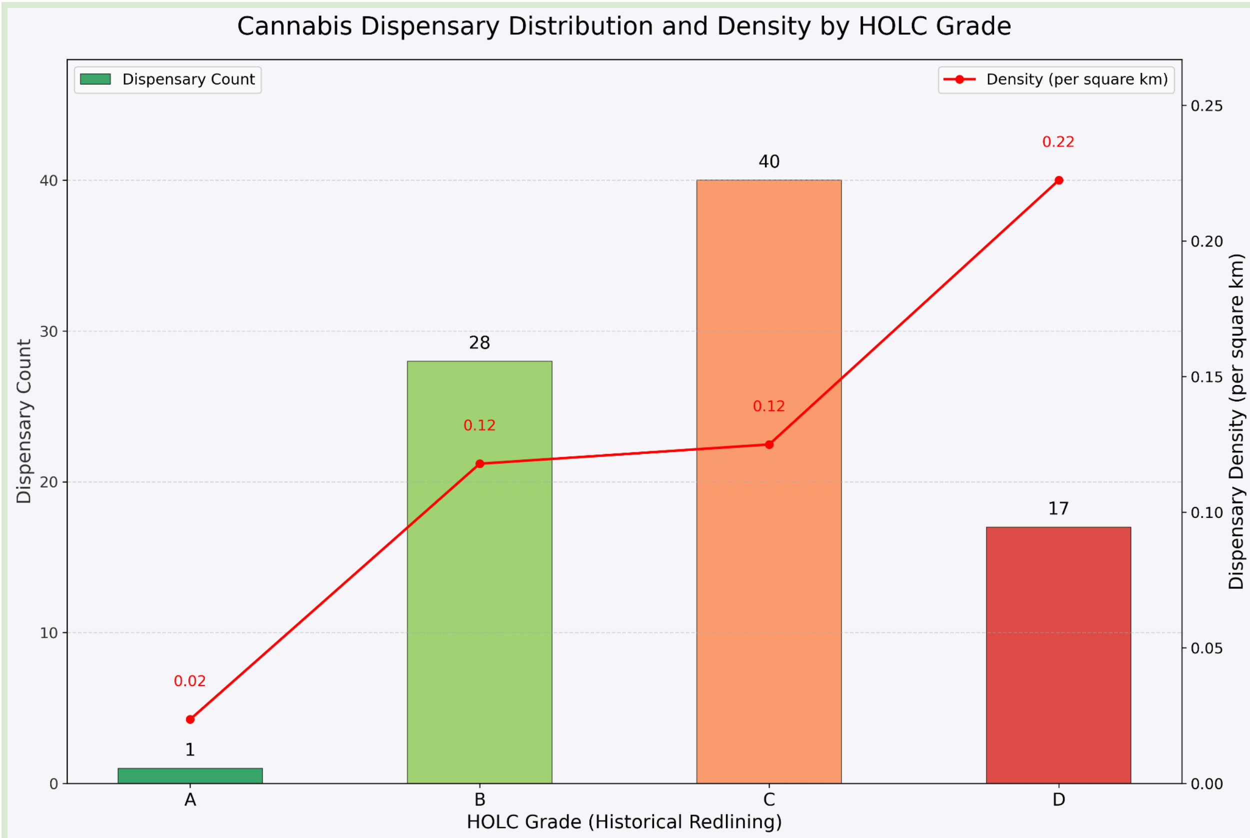


Figure 4. Created by Chelsea, Primary Data Product

Has NY State's Program Helped Communities Disproportionately Impacted by Enforcement of Cannabis Prohibition?

The redlining dataset is limited to counties with historical redlining data, and the ACS/Census data lacks arrest information. We aimed to find cannabis arrest data for two periods: before and after 2021. Given the ACS's 5-year timeframe, 2019 and 2023 were chosen for uniformity. We also sought to explore disparities between drug misdemeanors (indicative of personal use) and drug felonies (indicative of commercial distribution) (Fulgham, 2024).

We located a New York State Open Data dataset, "Adult Arrests 18 and Older by County: Beginning 1970" (DATA.NY.GOV & New York State Division of Criminal Justice Services, 2013). Misdemeanors and felonies are usually categorized by severity and whether they involve violence, per New York State Courts (NY COURTS.GOV, 2023). However, this dataset lacks such distinctions and focuses on non-identifiable data from the Division of Criminal Justice Services Computerized Criminal History database for fingerprintable offenses committed by adults over 18. The dataset was last updated on March 14, 2025.

It includes columns for the county of fingerprinting, the arrest year, total arrests, total felony arrests, total drug felony arrests, and total drug misdemeanor arrests for each county. We focused on these categories, extracting specific data from 57 NY Counties (Verisk, 2024), excluding the five NYC counties. While there is a column for violent felonies, it does not specify if they are drug-related, so we are not utilizing it.

The dataset's non-identifiability stems from grouping marijuana with other controlled substances, preventing the isolation of marijuana offenses. However, the inclusion of a specific penal code for marijuana alongside general substance offenses may indicate cannabis prohibition enforcement in a county, despite the inability to extract specific marijuana arrest data. Synthetic THC is a Schedule I substance in New York, matching federal classification. The DEA classifies marijuana as Schedule I due to its high abuse potential, despite its legalization in New York. This should be considered in data analysis.

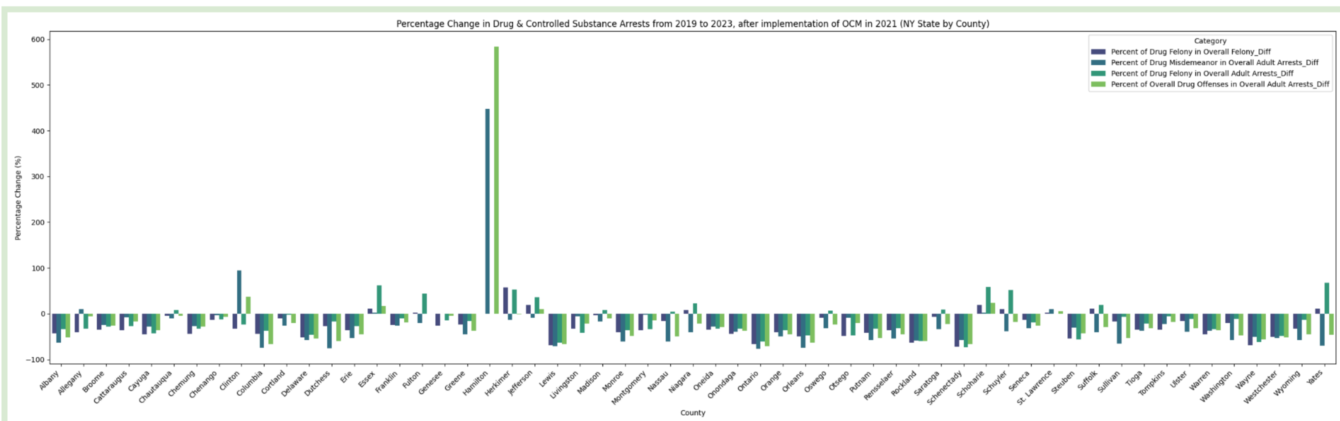


Figure 5. Created by Dani, Primary Data Product

We analyzed data from 2019 and 2023, converting it into percentages to create Figure 5, which illustrates the percentage changes in core scores across counties.

1. **Drug Felonies as Percent of Overall Felonies**: Shows the proportion of drug felonies among total felonies for a specific year. The “Felony_Diff” indicates the change from 2019 to 2023.

2. **Drug Misdemeanors as Percent of Overall Adult Arrests**: Indicates the share of drug misdemeanors in total adult arrests, with “Arrests_Diff” showing the change from 2019 to 2023.

3. **Drug Felonies as Percent of Overall Adult Arrests**: This statistic quantifies drug felonies within the total arrests for a county in a year, with “Arrests_Diff” reflecting the change from 2019 to 2023.

4. **Overall Drug Offenses as Percent of Overall Adult Arrests**: Calculates the percentage of total drug felony and misdemeanor arrests relative to total arrests, with “Arrests_Diff” assessing

the change from 2019 to 2023.

Figure 7 shows a spike in Hamilton County drug arrests in 2023, an outlier with no drug felonies in 2019, one in 2023 (100% increase), and misdemeanors rising from 1 to 4 (300% increase). Most counties report 700 to 1,000 annual arrests, underscoring Hamilton's lack of dispensaries.

Overall, drug arrests rose by 28% in 16 counties post-legalization, while 41 counties saw a 72% decrease in drug offenses. Counties with increased arrests include Hamilton, Clinton, Yates, Schuyler, Schoharie, Essex, Herkimer, Fulton, St. Lawrence, Suffolk, Saratoga, Oswego, Niagara, Jefferson, Chautauqua, and Allegany.

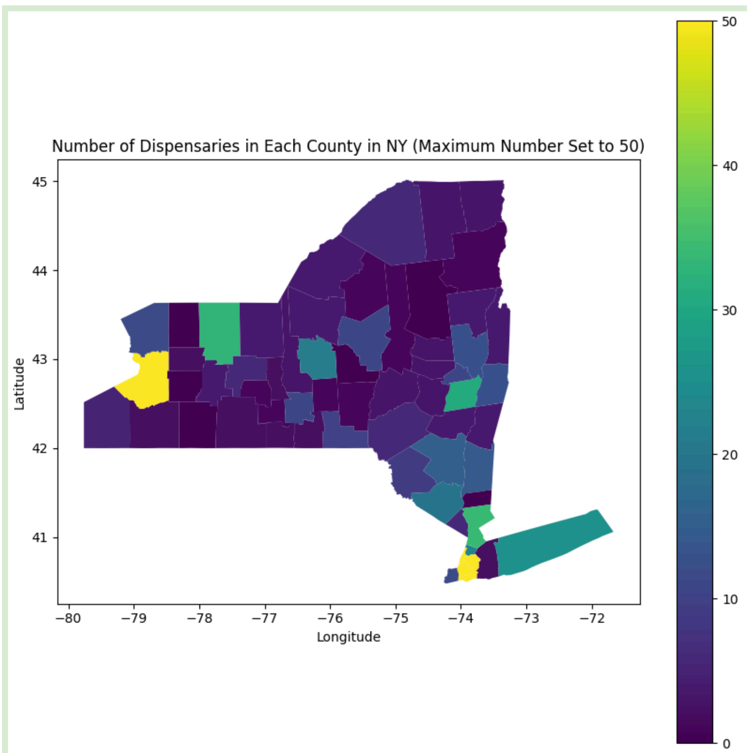


Figure 6. Created by Izabela [Extra]

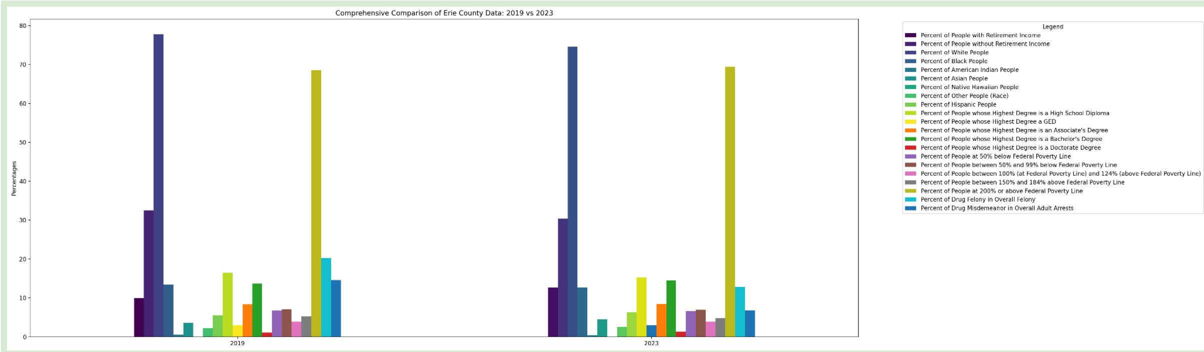


Figure 7. Created by Dani [Extra]

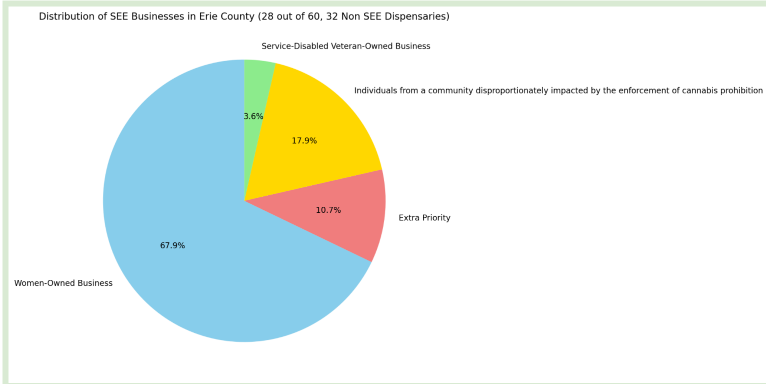
Erie County as a Micro-Case Study: Not All Counties Are Created Equal

Figure 7 shows differences in ACS PUMS data for Erie County, which saw a decrease in drug-related arrests post-OCM. We analyzed demographic factors using 2019 and 2023 ACS PUMS data, visualizing percentages (see Figure 7). Demographics were stable, with 2023 showing similar percentages of Black individuals and retirees, indicating a slight positive change. GED attainment was low, and a significant portion lived at 200% above the federal poverty level.

Erie County has 60 licensed dispensaries, 28 of which are SEE dispensaries. Figure 8 shows the SEE breakdown: about 68% are women-owned, nearly 18% come from communities affected by cannabis prohibition, and almost 11% are "extra priority." Nearly 4% are run by service-disabled veterans, while distressed farmers are absent.

The enforcement of cannabis prohibition has historically affected Erie County, a redlined region, and New York State has effectively decreased drug arrest rates, as seen in the counties depicted in Figure 9. NY state uses the Communities Disproportionately Impacted map (CDI) (NY STATE OFFICE OF CANNABIS MANAGEMENT, 2021) to identify disproportionately affected areas, similar to Communities of Interest.

While historically disadvantaged communities benefit, it is unclear whether other counties with declining drug arrests share similar backgrounds, as only eight have available redlining data. The absence of clear public criteria to define a CDI could explain the rise in drug arrests in certain counties. Figure 10 shows historic census tracts with redlining scores and trend lines. Erie has some of the most historically redlined tracts, yet shows a decreasing trend, indicating many may rank lower despite overall redlining, possibly explaining Erie's rise to the top of the dispensary list.



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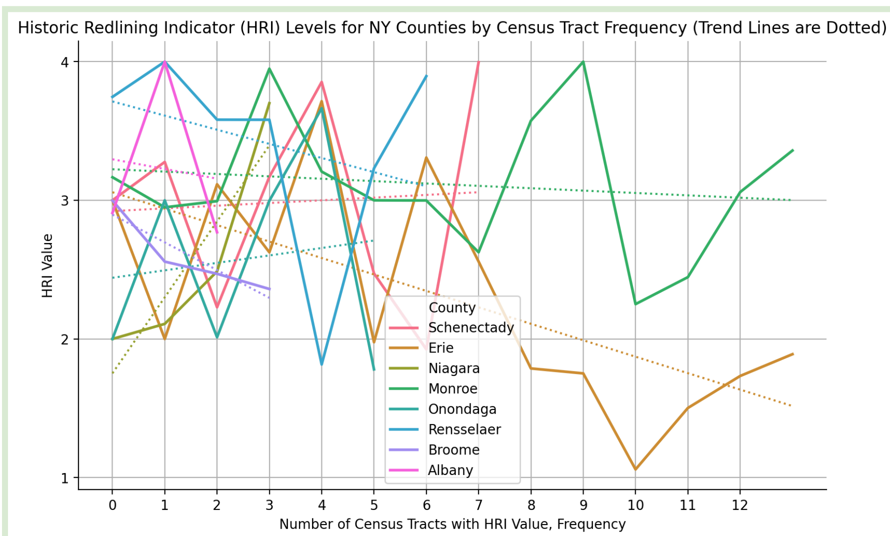


Figure 9. Created by Dani [Extra]

SEE Examined by Region–SEE Dispensaries More Likely to Fall Non-Operational without Sufficient Support

While refining dispensary data, we found some quirks. For instance, filtering the OCM dataset for “Active” licenses revealed that having one does not guarantee a business is “Operational.” Many NY dispensaries with “Active” licenses are “Non-Operational,” as shown in Figure 10. This inconsistency arose during manual geocoding, where a business’s address led to a tire shop. New York legalized adult-use cannabis to create an equitable market for those affected by the war on drugs. Success for sellers hinges on post-license conditions. Barriers like startup costs, compliance, and competition persist despite SEE support. This analysis compares SEE versus non-SEE dispensaries in upstate New York and operational versus non-operational dispensaries, as depicted in Figure 10.

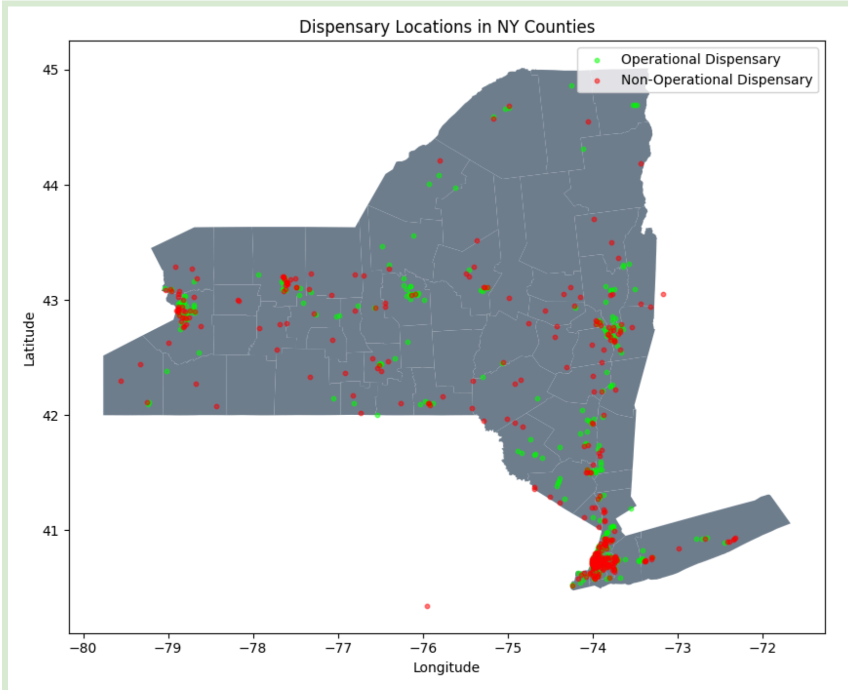


Figure 10. Created by Izabela, Primary Data Product

Figure 11 shows that by mid-2024, SEE dispensaries had a lower survival rate: 60% for non-SEE compared to 40% for SEE in Finger Lakes, and 20% versus 50% in Mohawk Valley. Non-operation may stem from real estate issues, slow rollouts, and limited capital access, as Tolentino (2024) noted. In North Country, 100% of SEE dispensaries remain active, possibly due to local support. However, 57% of SEE dispensaries in the Capital District are non-operational. These findings indicate that priority licensing alone is inadequate to meet SEE goals (NYS SEE Plan, 2023).

Figure 12, highlighting licenses issued post-2024, reveals persistent challenges. In the Finger Lakes, 100% of newly licensed SEE dispensaries are non-operational, demonstrating ongoing issues. Despite early successes, the SEE program's support declined over time. The analysis suggests deeper structural issues exist, as many SEE applicants still struggle to access retail space and capital due to federal cannabis illegality. The proposed $200 million support fund may not be sufficient (NYS Office of Cannabis Management, 2023).

Meanwhile, Figure 13 illustrates that non-SEE dispensaries opened faster, peaking before SEE dispensaries began scaling in January 2024. Although later, SEE dispensaries matched this number, the delay affected their early operational advantages. Overall, SEE dispensaries remain more likely to be non-operational post-2024, highlighting the enduring barriers that need addressing, including access to capital and promised funding.

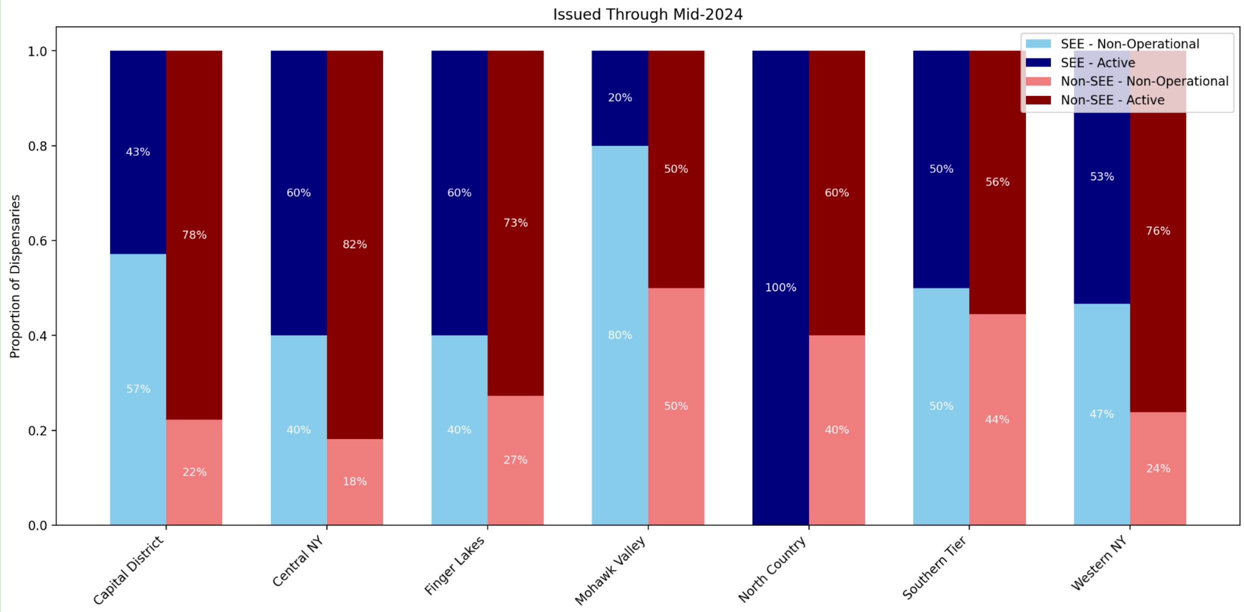
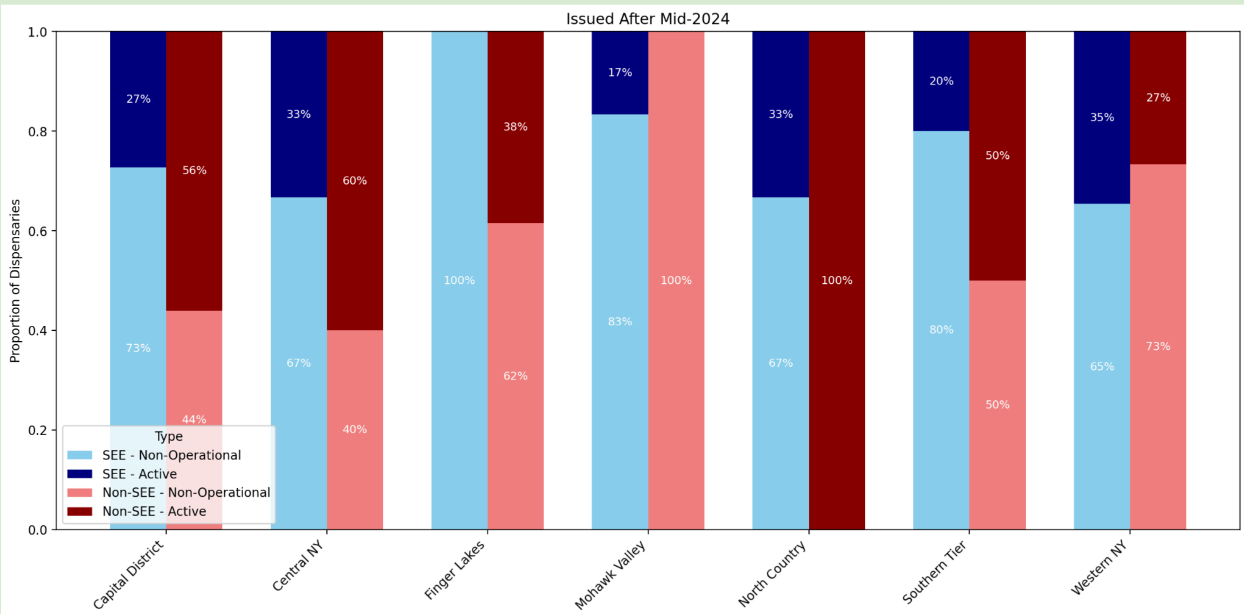


Figure 11. Created by Vania [Extra]



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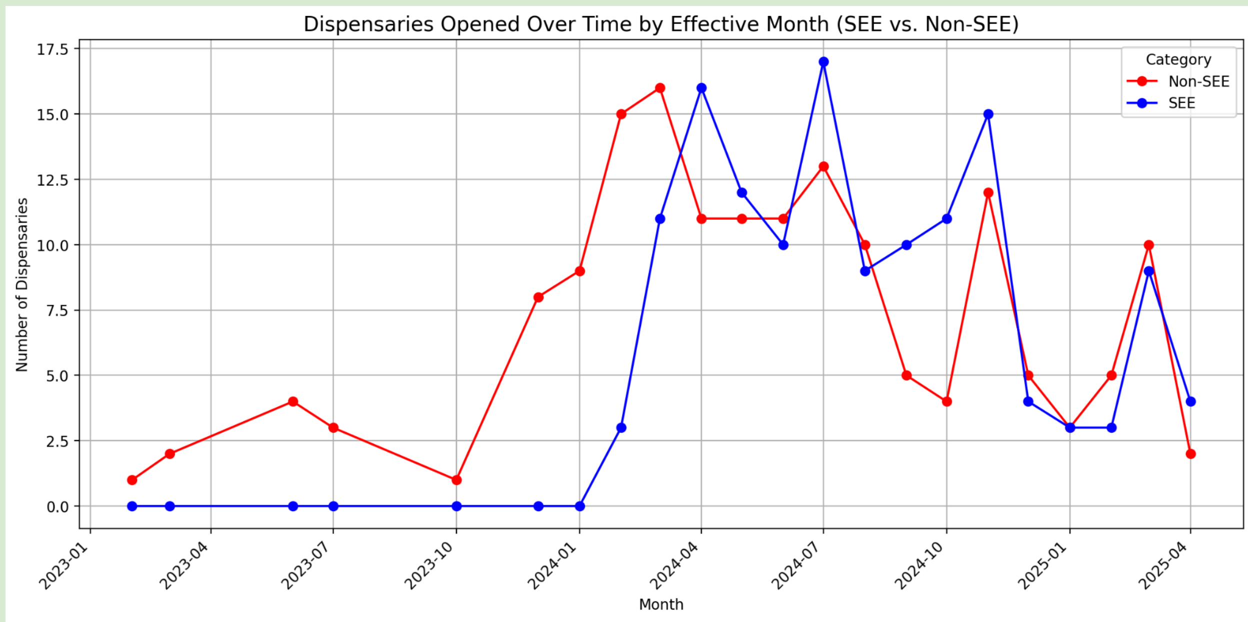

Figure 13. Created by Vania [Extra]

Conclusion

A correlation between historically redlined areas and cannabis dispensaries may not seem obvious, but several methods can explore their relationship. Analyzing dispensary counts by county, comparing HRI grades to median income, and contrasting operational versus non-operational dispensaries with SEE versus non-SEE dispensaries, among other factors, can provide insights into this data. Implementing new policies to benefit historically impacted communities is important, and the SEE program has been beneficial to many. However, we must consider any unintended consequences; our analysis shows SEE dispensaries had lower survival rates in mid-2024 and beyond, likely due to deeper structural issues. Investigating the link between redlining and cannabis dispensaries could indicate further actions for policymakers to mitigate past damages. Continued research on historically redlined areas is essential for aiding this process and helping communities globally.

Citations (APA)

ACLU. (2020, April 17). A Tale of Two Countries: Racially Targeted Arrests in the Era of Marijuana Reform. American Civil Liberties Union. https://www.aclu.org/news/criminal-law-reform/a-tale-of-two-countries-racially-targeted-arrests-in-the-era-of-marijuana-reform

A Brief History of Redlining. Environment & Health Data Portal. (2021). https://a816-dohbesp.nyc.gov/IndicatorPublic/data-stories/redlining/#:~:text=As%20a%20result%20of%20redlining,contract%20selling%2C%20and%20racially%20restrictive

Burkhardt, J., & Flyr, M. (2019). The effect of marijuana dispensary openings on housing prices. Contemporary Economic Policy, 37(3), 462–475. https://doi.org/10.1111/coep.12401

Cohn, A. M., Williams, L. D., Gonzalez, L., & Smith, R. (2023). Population and neighborhood correlates of cannabis dispensary locations in Oklahoma. Cannabis, 6(1), 99.

Cunningham, C. O., Saloner, B., Barry, C. L., McGinty, E. E., Bachhuber, M. A., Buresh, M. E., & Stone, E. M. (2022). Availability of medical cannabis services by racial, social, and geographic characteristics of neighborhoods in New York: A cross-sectional study. BMC Public Health, 22, 671.

DATA.NY.GOV, & New York State Division of Criminal Justice Services. (2013, March 1). *Adult Arrests 18 and Older by County: Beginning 1970 | State of New York*. Data.ny.gov. https://data.ny.gov/Public-Safety/Adult-Arrests-18-and-Older-by-County-Beginning-197/rikd-mt35/about_data

DATA.NY.GOV, & Office of Cannabis Management. (2024, May 23). *Current OCM Licenses*. Ny.gov. https://data.ny.gov/Economic-Development/Current-OCM-Licenses/jskf-tt3q/about_data

DEA. (2025). *Drug Scheduling*. www.dea.gov; United States Drug Enforcement Administration. https://www.dea.gov/drug-information/drug-scheduling

FINDLAW. (2024). *New York Consolidated Laws, Public Health Law - PBH § 3306 | FindLaw*. Findlaw. https://codes.findlaw.com/ny/public-health-law/pbh-sect-3306/

Fulgham, B. (2024, December 19). *Is My Drug Charge a Misdemeanor or Felony?* Fort Worth Criminal Defense Lawyer. https://www.criminalattorneyfortworth.com/is-my-drug-charge-a-misdemeanor-or-felony/

Garriott, W., & Garcia-Fuerte, J. (2023). The social equity paradigm: The quest for justice in cannabis legalization. Seton Hall Legislative Journal, 47, 128.

Hannah, A. L., Mallinson, D. J., & Azevedo, L. (2023). Maximizing social equity as a pillar of public administration: An examination of cannabis dispensary licensing in Pennsylvania. Public Administration Review, 83(1), 144–162.

Legal Information Institute. (n.d.). *Redlining*. Legal Information Institute. https://www.law.cornell.edu/wex/redlining

Mair, C., Freisthler, B., Ponicki, W. R., Gaidus, A., & Gmel, G. (2021). Availability of medical cannabis dispensaries and cannabis abuse/dependence‐related hospitalizations in California. Addiction, 116(7), 1908–1913.

Mitchell, B., & Franco, J. (2018, March 20). *HOLC "redlining" maps: The persistent structure of segregation and economic inequality*. National Community Reinvestment Coalition. https://ncrc.org/holc/

Morrison, C., Gruenewald, P. J., Freisthler, B., Ponicki, W. R., & Remer, L. G. (2014). The economic geography of medical cannabis dispensaries in California. International Journal of Drug Policy, 25(3), 508–515.

MRTA Implementation Report. Office of Cannabis Management. (2024). https://cannabis.ny.gov/system/files/documents/2024/10/mrta-implementation-report.pdf

New York State Office of Cannabis Management. (n.d.). Adult-Use Social & Economic Equity Applicant Overview. SEE Applicant Benefits PDF; New York State Office of Cannabis Management. Retrieved April 25, 2025, from https://cannabis.ny.gov/system/files/documents/2024/03/ocm-seeapplicants.pdf

NY COURTS.GOV. (2023, August 10). Types of Criminal Cases | NY CourtHelp. Www.nycourts.gov. https://www.nycourts.gov/courthelp/Criminal/typesCriminalCases.shtml

NY STATE OFFICE OF CANNABIS MANAGEMENT. (2021). *Communities Disproportionately Impacted*. Office of Cannabis Management. https://cannabis.ny.gov/communities-disproportionately-impacted

NYC311. (n.d.). *New York City Counties · NYC311*. Portal.311.Nyc.gov. https://portal.311.nyc.gov/article/?kanumber=KA-02877

Tolentino, J. (2024, February 26). *Legal weed in New York was going to be a revolution. What happened? The New Yorker*. https://www.newyorker.com/magazine/2024/02/26/legal-weed-in-new-york-was-going-to-be-just-and-fair-what-happened

Unger, J. B., Soto, D. W., & Baezconde-Garbanati, L. (2020). Locations of licensed and unlicensed cannabis retailers in California: A threat to health equity? Preventive Medicine Reports, 19, 101165.

Verisk. (2024). New York (NY) Counties. *Air-Worldwide.com*. https://doi.org/unicede_new-york_fips

Yin, L., Luo, W., Li, D., & Chen, Y. (2024). Marijuana dispensary locations and neighborhood characteristics in New York City. ISPRS International Journal of Geo-Information, 14(1), 4.

Yudina, E. (2020, October 15). *Greened out: The bittersweet impacts of marijuana legalization in the United States*. Berkeley Economic Review. https://econreview.studentorg.berkeley.edu/greened-out-the-bittersweet-impacts-of-marijuana-legalization-in-the-united-states/