VISUALIZATION OF A CLEAN CRIMINAL RECORD USING GIS

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Fall 2018

ADS: 807

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Abstract

A study using Geographic Information Systems (GIS) was used to examining the variables associated with record sealing in New York State. United States of America has one of the highest rates of incarceration when compared to other countries around the world. In 2016, 10.6 million inmates spent time in United States jails, while 600,000 inmates are released from prison each year, (Bureau of Justice Statistics, 2018b, Ross & Richards, 2009). The stigma associated with incarceration affects those reentering society abilities to find sustainable housing, attain reliable transportation, affordable healthcare, and adequate employment, record clearing technique such as exponguement and record sealing are means of alievating the stigma of a RAP sheet. This study examining the is the relationship between record clearing efforts such as criminal record expungement/ sealing and socioeconomic demographics express through employment income using GIS and Quantitative data. Data was collected and analyzed from New York State Division of Criminal Justice Services and New York State Department of Labor, resulting in maps and charts that show New Yorkers are taking advantage of New York State criminal record sealing law. Maps also showed median income, and arrest rates in certain New York State regions impact record sealing.

Keywords: GIS, Criminal record, expungement, record sealing

Introduction:

Recently, there has been an increasing political climate to expanding employment opportunities for people with a history of involvement in the criminal justice system. Experimental research, surveys, and collected data supports the premise that job applicants with a criminal history are more likely to be disfavored by employers (Agan & Starr. 2017). The purpose of this study will be to used Geographic Information System (GIS) framework to manage, analyze and present geographic data regarding former offenders finding legal employment after the sealing of their criminal record under New York State new record closure law.

After an extensive literature review of this topic, there seems to be an uncharted investigation or a gap in the research regarding the experiences of former offenders after overcoming a criminal record. There are excellent in-depth research and studies on the need for ex-offenders to have their record clean and research on ex-offenders who have petitioned the court to have their records sealed or expunged but no research on the aftermath of the phenomenon. The goal of this research is to develop a better understanding of correlation and dynamics between criminal recording clearing and access to employment. This research as the potential to engage local and state practitioners and stakeholders create strategies to address barriers to employment.

Research Questions:

The research questions of this investigation will help establish the agenda for this study and further drive the inquiry. In this study, the following two research question is posed: What is

the relationship between record clearing efforts such as criminal record expungement/ sealing and socioeconomic demographics express through employment income?

Literature Review:

Incarceration Population

The United States of America has one of the highest rates of incarceration when compared to other countries around the world. When compared to other western nations like France, the United Kingdom, German and Italy, the United States incarceration rate is between four and seven times higher (Hartney, 2016). The Bureau of Justice Statistics classifies and statistically tracks incarceration by inmates in local municipal jails and prisoners under the authority of state and federal correctional jurisdiction. Jails are facilities that are locally administered and typically house inmates that are pending arraignment, trial or sentencing, and inmates sentenced to one year or less. In 2016, 10.6 million inmates spent time in United States jails, resulting in a 229 inmate per 100,000 U.S. resident according to statistician Zhen Zeng (Bureau of Justice Statistics, 2018b).

Prisons incarceration rates refer to the counts of prisoners with sentences longer than one year under the authority and supervision of state or federal correction jurisdiction. Statistician E. Ann Carson, Ph.D. reports that 1,505,400 prisoners made up the incarceration rate under state and federal jurisdiction in the United States in 2016 (Bureau of Justice Statistics, 2018a). The 2016 imprisonment rate as noted by Carson, was 450 prisoners per 100,000 resident (Bureau of Justice Statistics, 2018a). According to the American Psychological Association (2014), the United States of American makes up about five percent of the world's population but is responsible for nearly 25 percent of the world's incarceration population.

With such a larger incarceration population, the United States also has a significant number of prisoners released each year. An estimated nine million inmates return to communities

each year from incarceration. While a projected 95 percent of prisoners in state penitentiary will at some point complete their sentence, resulting in release, and about 80 percent of inmates on a supervised release program such as parole or probation will finish their sentence and return to their community (Bureau of Justice Statistics, 2004). In the 2004 State of the Union Address, President George Herbert Walker Bush stated:

> This year, some 600,000 inmates will be released from prison back into society. We know from long experience that if they can't find work, or a home, or help, they are much more likely to commit more crimes and return to prison…America is the land of the second chance, and when the gates of the prison open, the path ahead should lead to a better life. (Para. 63)

Life After Incarceration

A number of reports utter the sentiments of President George H.W. Bush that inmates are more likely to re-offend if they do not have access to natural and basic needs. While over 600,000 inmates are released from prison each year, an estimated 50 percent face reincarcerated within one year of release and 70 percent within three years (Ross & Richards, 2009). The stigma associated with incarceration affects those reentering society abilities to find sustainable housing, attain reliable transportation, affordable healthcare, and adequate employment (Visher & Travis, 2011; Visher, Debus-Sherrill &Yahner, 2011). This indelible stigma of incarceration ranks ex-offender low on the job candidates list due to trustworthiness, potential employer legal and financial liability and the ability for offenders to hold some professional licenses (Bushway, 2004; The Pew Charitable Trusts, 2010). Some states have licensure restrictions for some fields and restrict candidates with a criminal record from attaining employment as contractors, barbers, ambulance drivers, and healthcare and childcare workers (Ispa-Landa & Loeffler, 2016). Visher

et al. (2011), goes on to report that often when ex-offenders do find employment, they are compensated less than other workers with similar skills and background who does not have a criminal record.

Ex-offender and the Labor Market

The United States labor market is affected by the one in thirty-three adult Americans under some control of the criminal justice system either supervised probation or parole or behind bars (The Pew Charitable Trusts, 2010). The incarcerated inmates are not available to work to contribute to the economy. While those who are on probation, parole, have felony convictions, a misdemeanor, or even an arrest record are significantly less employable. Some of the enduring and significant economic repercussions of incarceration include former inmates working fewer days in a year, earning less money, resulting in limited upward mobility (The Pew Charitable Trusts, 2010). The costs and repercussion of incarceration are not just felt by the offender but by the offenders' family, community and have a lasting echo for generations to come. According to Schmitt and Warner (2010), time spent incarcerated has an independent impact on ex-offenders employment perspective. Furthermore, the high levels of incarceration negatively affected the United States economy by resulting in the loss of between 1.5 and 1.7 million workers. In terms of employment rate, there is between a .8 and .9 percent reduction or between 57 and 65 billion dollars (Schmitt &Warner 2010). There is an 11 percent reduction in hourly wages earnings for those who have served time resulting in a 40 percent reduction annually (The Pew Charitable Trusts, 2010).

Technology and the Criminal Record

In the past individuals with a criminal record from arrest without a conviction, a misdemeanor or a felony conviction could avoid some of the stigma associated with their record

of arrest and prosecution or RAP sheet. Avoiding the stigma could be done by not disclosing the criminal history as it would be unlikely that a third party would reveal the RAP sheet. Furthermore, contact with the justice system was infrequently accessed as they were kept local (Ispa-Landa & Loeffler, 2016). Today, job applicants face an inquiry about their criminal history on job applications, followed up by verification of the information with low-cost background checks. Failure to disclose criminal history often result in the applicant being perceived as lying and not receiving the job. Ispa-Landa and Leoffler (2016), report that starting in the late 1990's searchable databases became available as criminal justice agencies created online databases. These databases make it easy to access information such as parole release data; daily inmate lookup, court dockets, and arrest logs for anyone with internet access (Ispa-Landa & Loeffler, 2016; Holzer et al., 2004). An example of an online database that is free and accessible to anyone interested in called Mobile Patrol. Mobile Patrol is an online application that provides up-to-date arrest data including a mugshot, date of arrest, charges, bail and release date for people in viewers local community.

Expungement and Sealing

Gradually policymakers, researchers, and members of the legal community are moving to address the burden linked to a criminal record that is placed on individuals reentering society (Ispa-Landa & Loeffler, 2016; Maruna, 2011; Collins & Shapiro, n.d). Two legal mechanisms or record closing laws that are used to allow individuals to ease the burden of a criminal record are expungement and sealing. Expungement is a court-ordered process or practice of erasing legal records of arrest or criminal convictions; an expunged record is inaccessible to government officials and police. Sealing a criminal record refers to removing public access to case-related

information while allowing specific government entity or police/arresting agency to access the data (Collins & Shapiro, n.d; Ispa-Landa & Loeffler, 2016).

The practice of expungement and sealing of criminal records started in the 1940's as an effort to give juveniles motivation to reform and complete the juvenile justice system rehabilitation process. Today, expungement and sealing is a widespread practice across most of the United States. All but nine states and the District of Columbia practice some form of expungement or record sealing. Each state and the federal government carry different eligibility criteria to utilize sealing or expunging a record such as waiting periods, type of charges, number of charges, prior record, cost, and accessibility (Love, Gaines & Osborne, 2018). Example of the broad range of the closure laws are the states of Illinois and California. In Illinois, only a few severe felonies are not able to be sealed. Sealing eligible crimes include but are not limited to trespassing, property damage, theft, possession of marijuana, disorderly conduct, resisting arrest, shoplifting, weapon possession, gambling, prostitution, participation in mob activities and other crime that does not include animal cruelty, assault, and sexual violence. The prior record is not considered in the application process in Illinois and the waiting period is a standard three years. California has a more restricted law, which allows just misdemeanors of an underage first-time offender to be sealed and certain marijuana-related crimes (Love et al., 2018). Conviction record are applicable to be sealed in 18 states, some of the 18 jurisdictions also allow first time offenders, convictions for nonviolent charges and misdemeanors to be expunged (Ispa-Landa & Loeffler, 2016). The remaining 23 states have more restrictive sealing laws (Love et al., 2018).

New York State Sealing Law

New York State has a new sealing law which is beneficial to explore as this research will take place in the great state of New York. Effective October 2017, New York first ever adult

conviction sealing law went into effect. The law allows New Yorkers to seal up to two convictions, with only one being a felony. The only crimes that cannot be sealed are class A crimes, violent felonies, and sex offenses. There is also a ten year waiting period from the completion of sentencing before a record can be sealed. All charges that take place in one criminal act can be sealed as one crime no matter the number of charges (Love et al., 2018; Jacobs, 2017). New York also offers a conditional record sealing for certain drug-related offenses. A conditionally sealed record involves the sealing of up to three misdemeanor convictions after the completion of a drug diversion program (Love et al., 2018). An estimated 600,000 New Yorkers could be eligible to take advantage of the new law. Jacobs (2017), reports that the Office of Court Administration in New York determined that 300,000 New Yorkers has a single misdemeanor over ten years old.

Opposition to Clean Record

Steven Raphael (2006), propose there are potential unintended consequences of having ex-offenders record wiped clean resulting in the criminal history being unavailable to potential employers. With limited access to criminal history, employers may engage in other imperfect and indirect screening practices such as attempting to identifying ex-offender status based on age, gender, race, where candidates are from, education, use of public assistance, and gaps in employment history (Raphael, 2006; Stoll; 2009). According to Raphael (2006), "At worst, employers may systematically discriminate against workers from groups that they perceive to have a high propensity to offend." For example, employers may assume that one group of people are more prone to criminal behavior, which may result in that group of people being excluded from the hiring process. This practice is called statistical discrimination and may have a

substantial adverse impact on minority men without criminal records in the labor market (Raphael, 2006; Stoll; 2009).

Methodology

Data Overview

This research will utilize the Geographic Information System (GIS) and quantitative research methods to study and cross-reference publicly available data regarding labor marking demographics and information and ex-offender status. A single database has not been found that covers all the information needed to create a well-rounded study. However, using a combination of the datasets that contain useful information about employment and re-entry such as the National Former Prisoner Survey from the Bureau of Justice Statistics and Local Area Unemployment Statistics for the State of New York. Both forms of data will be collected from existing public data found on the internet. The National Former Prisoner Survey 2008 is in the form of a HTML file, while the Local Area Unemployment Statistics for the State of New York is a Comma Separated Values File.

Limitations:

Not having a clear-cut dataset is a limitation to the research. This limitation can be circumvented by using purposeful sampling to reach the desired population. Purposeful sampling will intentionally sample a group of people to best inform the researcher about record sealing in New York. This researcher will reach out to gatekeepers such as The Legal Aid Society that has launched an endeavor called Cased Closed which help New Yorkers seal their convictions. The project has conducted community outreach to bring awareness to residence rights and is providing pro bono assistance to qualified applicants. Partnering with such an agency can further

the agency goal of advocating for broader legal reform and expungement laws in New York (The legal aid society, n.d.).

The population this researcher is seeking to participate in the study is both men and females with a history of criminal involvement but has taken advantage of getting their criminal record seal under New York State criminal sealing law. Level of criminal involvement or offense may range from arrest, violations, misdemeanor or felonies (Jacobs, 2015). Age of the target population will be 18 years and older but young enough to still be in the workforce. Target population's race should be representative of the incarceration population in New York State. According to Ashley Nellis (2016), New York State incarceration rate by race per 100,000 population for both male and female offenders are as follow; White 112, African American 896 and Hispanic 351.

Other limitations may include the accuracy of the data. Since this data is being collected outside the controls of this writer, there may be some concern with the accuracy. Areas of concern include the self-reporting of the ex-offender in the National Former Prisoner Survey and using multiple datasets for different sources. As this area of study is new and lack previous studies using GIS, the authors lack of knowledge in the field may be a limitation.

Strength:

Using GIS to analyze this data will not only provide a visual representation of the data but will give further insight. GIS is capable of displaying data spatially, which allow the information from more than one data set to be presented geographically. Each dataset will have their own unique layers, but once overlaid shows a balanced picture of employment after incarceration and employment after criminal record clearing. Viewing this data with a GIS display, "Is important because it allows a user to visualize the data and thereby identify patterns

or relationships that might not otherwise be obvious" (Mennecke & Crossland, 1996, p. 538). The use of GIS is not only useful in providing a new presentation technique in the area of record clearing but purposeful in its ability to influence policy and decision making.

Expected Outcome:

The expected outcome of this study is to gain a better understanding of the relationship between record clearing efforts such as criminal record expungement/ sealing, and socioeconomic demographics express through employment income. This information will give New York policymakers information on the effectiveness of the 2017 policy. This author hopes that a positive correlation in finding between increase employment and record clearing which will result in an expansion of New York's 2017 criminal record sealing laws.

Data Collection:

Since the focus of this research is on the individuals with sealed criminal convictions record in New York State, this author focus on resources published by New York State governmental departments. The first set of data retrieved is titled "Number of Individuals with Criminal Convictions Sealed," and is located on New York State Division of Criminal Justice Service website which focuses on criminal justice statistics for the state. This document is in a portable document format (PDF) and lists the number of individuals with criminal convictions who has had there criminal record sealed by county. This information is critical to the writer's research as raw data is limited on record sealing in New York State due to the relatively new effective date of the law. The document was published on August 24, 2018, and contains one large table. The fields on the table include 12 columns, starting with the counties in the state and the months of the year from October 2017 to July 2018. The table fields also include 64 rows, one for the headers of the document and the remaining 63 representing each New York State

County and the number of record which was sealed each month in that county. The writer plans to combine the information in this dataset to reflect a field one with the New York State counties; field two is the total number of records that were sealed in 2017 by counties and, field three is the total number of records sealed in 2018 by counties. This writer will remove the month from the dataset because it is not possible to find the labor statistics reflected by month.

The second dataset collected for this research is titled "Employed, Unemployed, and Rate of Unemployment By Place of Residence For New York State and Major Labor Areas, July 2018," and is retrieved from New York State Department of Labor, Division of Research and Statistics. This document is also published in the PDF format and contains one table with four large columns labeled area/county, employment, unemployment, and unemployment rate. , Employment, unemployment, and unemployment rate are broken down into three subcolumns of July 2018, July 2017 and net change. To state consistent with the dataset pulled above this document also have columns listing all the counties in New York State and their respective employment, employment, and unemployment rate in the rows. This writer has combined the data from this data sent with the previous data in an .xlsx or excel file. The excel file will contain columns labeled County, Sealed Record Oct-Dec 201, Sealed Record Jan -July 2018, Sealed Record Total 2017-2018, Employment July 2017 Per Thousand, Employment July 2018 Per Thousand, Unemployment July 2017 Per Thousand, and Unemployment July 2018 Per Thousand. The rows will contain the number of records sealed by county, and the respective counties number of employment and unemployment people in each county for 2017 and 2018 respectively. The writer believes this information is essential to map the number of records sealed with the medin incom of each county. Figure 1 is a diagram of the study design whereas data is inputed into the ArcGIS software which results in the ouput of visually displayed maps.

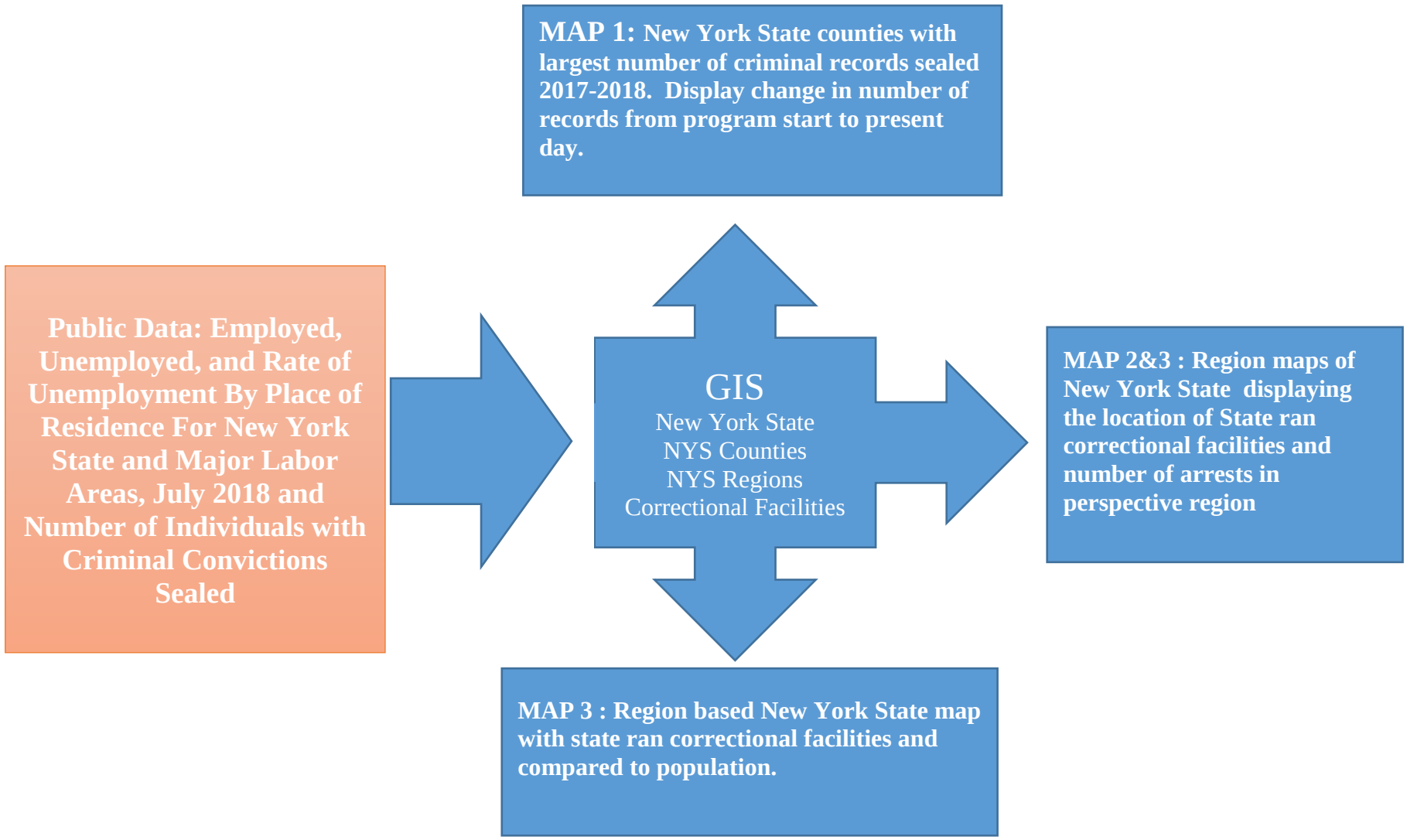

Figure 1. Diagram of GIS study model: layers will provide visual representation of record sealing in New York State and the number of potential records still to be sealed based on number of correctional facilities and arrest rate.

Results

As of July 2018, 473 criminal records have been sealed in New York State as a result of the new criminal procedure sealing law. The top 15 counties in New York State which have completed record sealing are Erie, Onondaga, Oneida, Broome, Albany, Ulster, Dutchess, Orange, Westchester, Queens, Nassau, Suffolk, Bronx, Kings and New York County. Figure 1 reflects a visual representation of the top 15 record sealing counties in New York State. As seen in Figure 1 between one and 11 records were sealed in the three months this law was available in 2017 and between 11 and 69 criminal records were sealed as of July 2018.

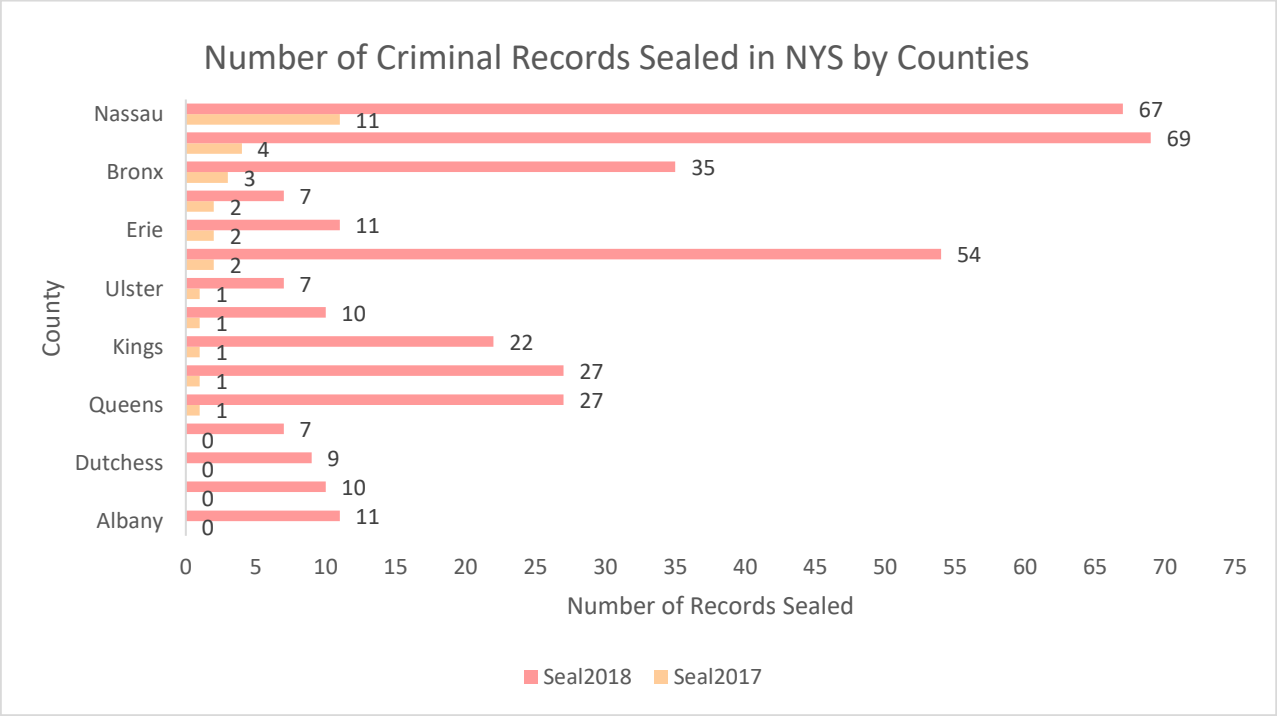

Figure 2. Top 15 New York State counties with largest number of criminal records sealed 2017-2018

Figure 3 is a combination of a bar and line graph used to compare the median income in New York State and the Criminal Record that were sealed. This figure is again looking at the top 15 counties with the largest amount of records sealed. This figure highlights a tread of as

median income increase so is the likelihood that a more significant number of records were sealed in the respective county. Likewise, where there is a dip median income, there is a decrease in the number of records sealed in the respective county. Oneida County is an example of a lower median income of $49,838 and having only seven criminal records sealed in 2018, meanwhile, Nassau County has a median income of $102,044 and has had 67 criminal records sealed (Wikipedia contributors, 2018).

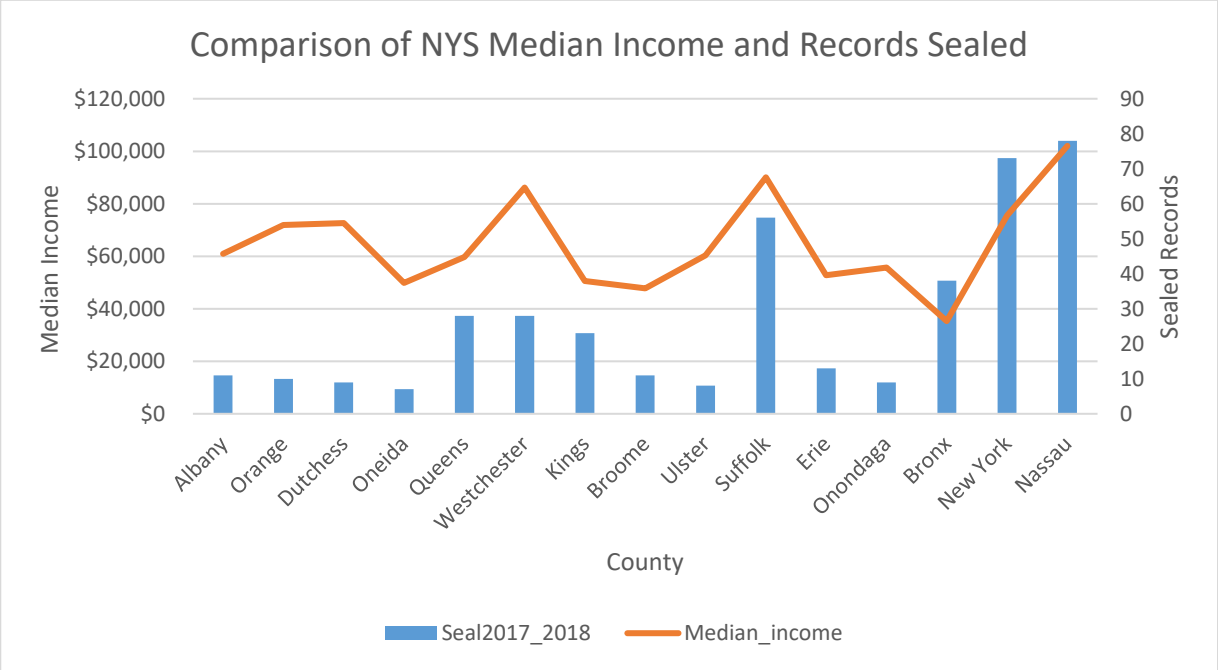

Figure 3. Comparison of the Top 15 New York State counties with largest number of criminal records sealed in 2017-2018

Figure 4 is a map of New York State displaying the 62 counties in the state. The author chose to label each county for improved geographic clarity. Color-coded green is 15 counties within New York State. The 15 counties are Erie, Onondaga, Oneida, Broome, Albany, Ulster, Dutchess, Orange, Westchester, Queens, Nassau, Suffolk, Bronx, Kings and New York County (Manhattan) and represent the counties in New York State with the highest number of records

sealed between 2017 and 2018. The map also includes a bar graph that displays the change in the number of records sealed from 2017 to 2018 in these 15 counties.

The map legend in Figure 4 shows that records sealed in 2017 are represented by a tan bar while 2018 is reflective of a rose color bar. In 2017, 29 records were sealed in these 15 counties and 373 in 2018 representatively. The Legend also includes the attribute value of 35 next to a bar symbol; this attribute value echoes the size of the symbols on the map. For example, Onondaga County had two individuals granted sealed records in 2017 and seven individuals in 2018. Therefore, the scale of the bar graph in that county is smaller than the one in the legend. The map shows that less than 35 people achieved record sealing. On the other hand, Nassau County had 11 records sealed in 2017 and 67 in 2017 respectively, reflecting an attribute value that is twice the size of the graph in the legend.

The significant of figures 2-4 to the research are they display that former offenders are taking advantage of the right to have their criminal record sealed. In Nassau County in 2017, only 11 ex-offenders were able to attain record sealing, but that number sextupled by midyear in 2018. A total of 473 records were sealed by July of 2018 according to New York State Division of Criminal Justice Services (2018). Figure 3 also note a possible correlation between income and the ability for ex-offenders to get their criminal records sealed.

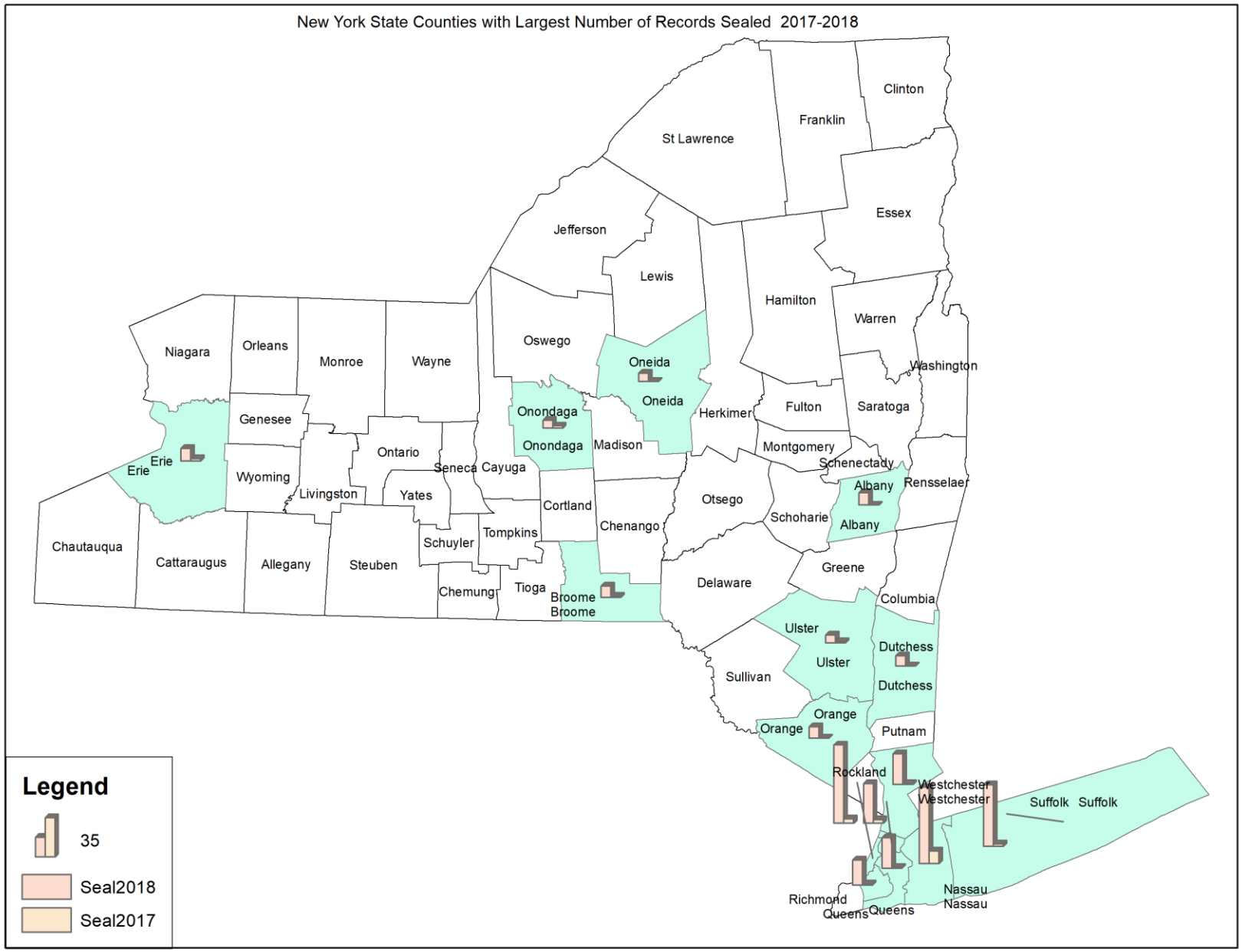

Figure 4. New York State counties with largest number of criminal records sealed 2017-2018

Figure 5. is a map of New York State segmented into ten regions including Long Island, New York City, Catskill, Eastern Hudson Valley, Capital District, Northern NY, Central NY, Southern Tier, Finger Lakes, and Western NY. Each region is labeled and color-coded for map clarity. Including on the map are the locations of the 54 State-owned and operated correctional facilities. These locations are represented by a point which used specific longitude-latitude coordinate pairs to pinpoint the exact location of each facility within their respective region. The figure also includes a title and a legend for simplicity.

Figure 6 builds upon the information that Figures 5 provided, utilizing the same geographical layout of New York State displayed by regions. The correctional facilities are also located in figure 5 but are not labeled as in the previous map to reduce map clutter. The correctional facilities designation is now of a green circle with a dot in the center. Long Island and the Southern Tier region has no correctional facilities in their borders. Figure 6 also includes the number of arrests for each area. The legend denotes that each dot represents 1,000 arrests. Northern NY has the least amount of arrest with six purple dots, and an actual arrest count of 6,131 individuals. Although Northern NY has the least amount of arrests in 2017, it houses the second most correctional facilities with eight. New York City has a large cluster of purple dots almost covering the entire region and a compliable arrest count of 278,526 individuals. Although New York City has nearly eight times as much arrest as its next comparable region, it only houses three correctional facilities. Using figures 4-6 and focusing on the Catskill, Eastern Hudson Valley, and New York City regions, it is notable that there are 19 correctional facilities amongst the three counties and most of the arrest in the state. Furthermore, a significant amount of record was also sealed in these three counties.

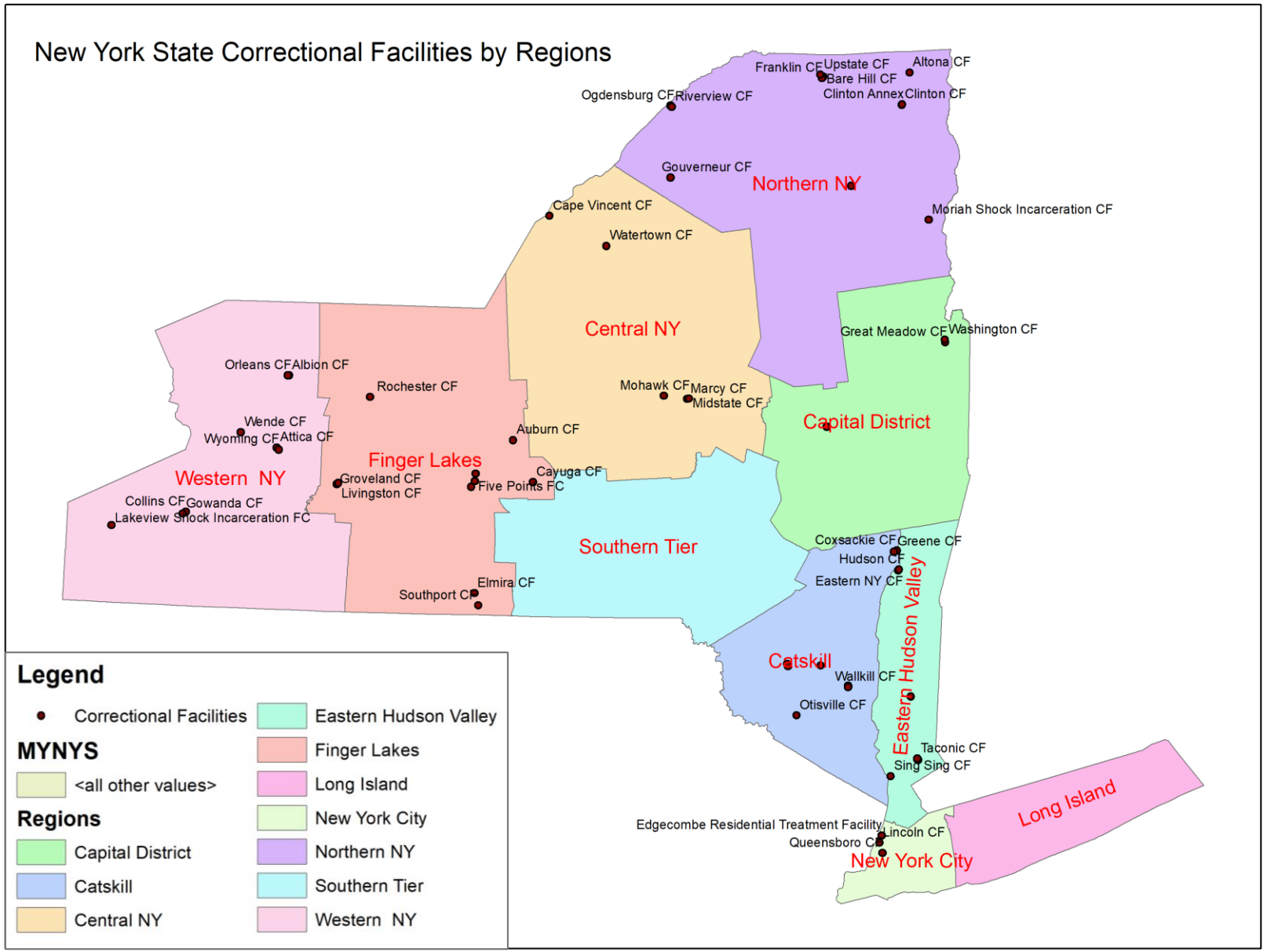

Figure 5. New York State correctional facilities by regions

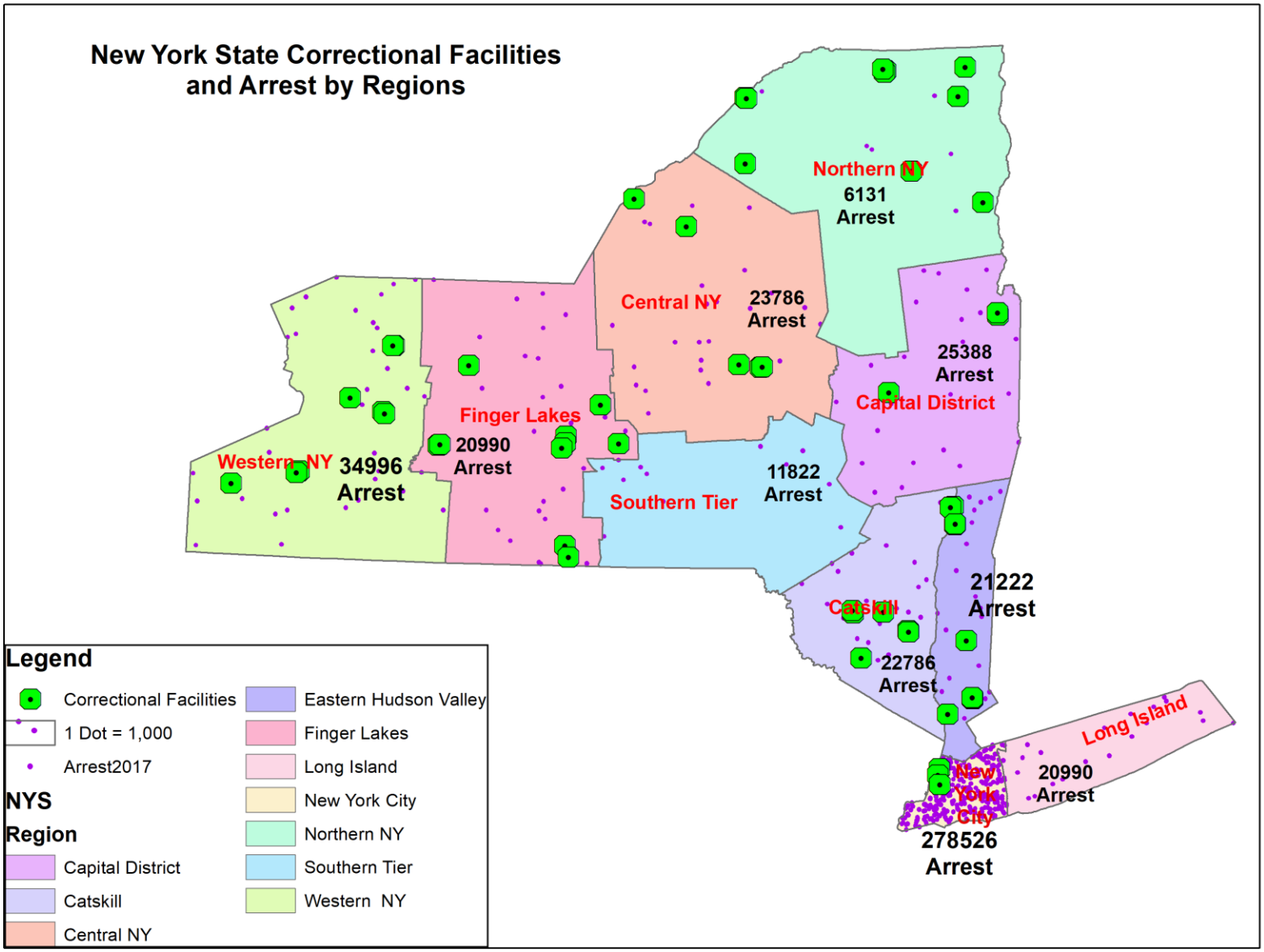

Figure 6. New York State correctional facilities and arrest by regions

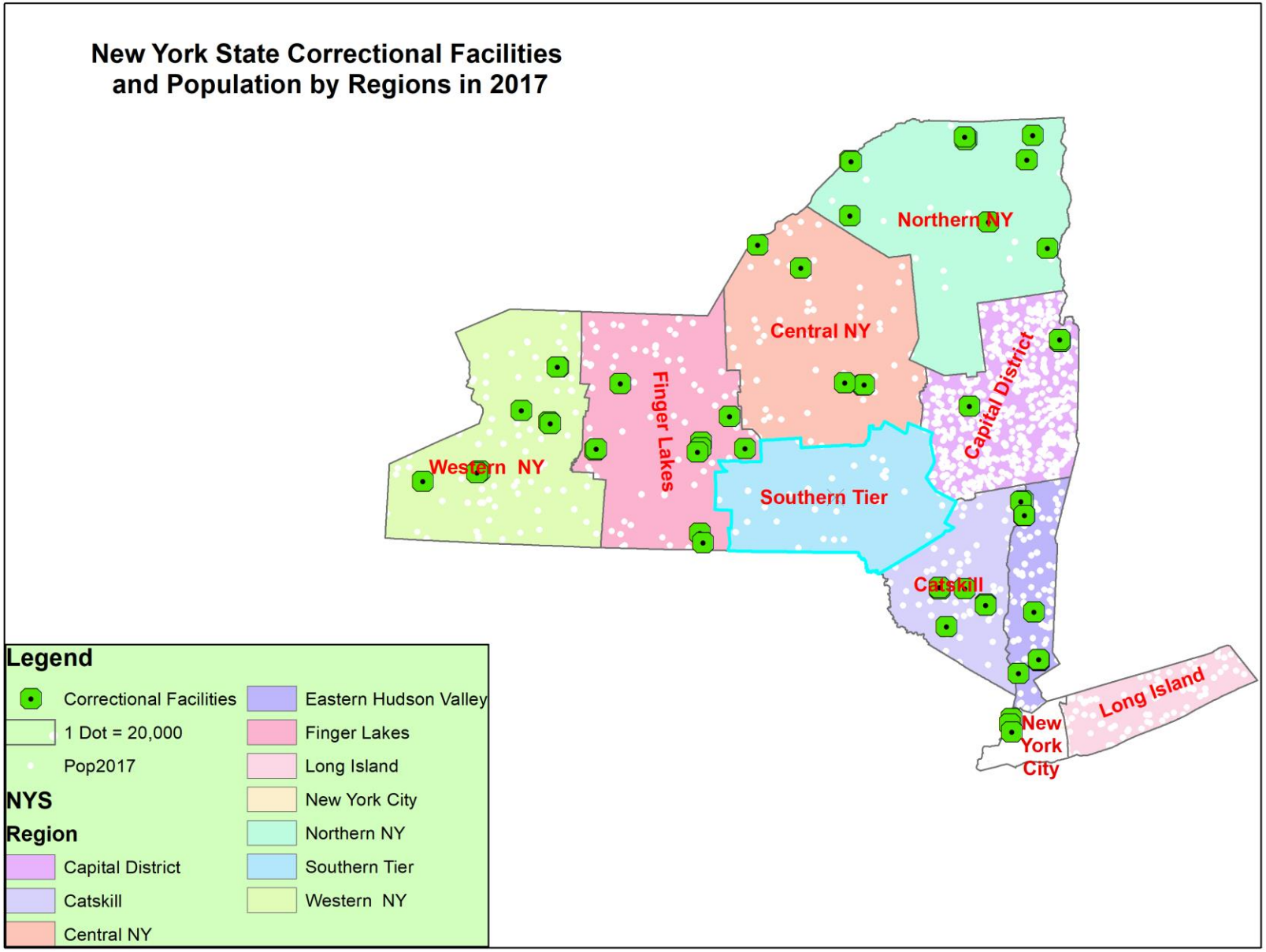

Figure 7. New York State correctional facilities and population by region in 2017

Figure 7 is a similar map to figure 6 but denotes correctional facilities and population by region. The correctional facilities designation again is of a green circle with a dot in the center. The white dots display the community. Each dot represents 20,000 people. Like figure 6, New York City is covered in dots, denoting this region is responsible for most of the state's population. Northern NY has the smallest population of all the areas with only 13 dots noting an estimated population of 260,000. Despite having the smallest population, Northern NY has the most correctional facilities in the State with eleven.

Discussion

Geography play an important role in everyday life and this is no different in the criminal justice system, as crime is majorly influenced by geography (National Institute of Justice, 2018). Geographic information systems are important in the criminal justice field for creating computerized crime maps, and to analyze how, where and why crime takes place.

In terms of this research study, using GIS to provide visual representation of record sealing in New York State has the potential to influence political discourse and impact the public decision-making process. Being able to put an image to the data, magnifies the reliability and clarity of the information being shared. In the charts and maps displayed in this study, trends such as median income correlation with access to record sealing was found. This trend may not have been notice by just looking at the data without a visual representation. As this research topic is still new, especially in New York State, using GIS as a mean of bridging the gap between quantitative data and imagery is an important and necessary technique.

Conclusion

With the United States significant incarceration population and subsequently substantial ex-offender population, measures need to be taken to aid this population in overcoming the

disabling difficulties of reentering society. Ex-offenders face social and economic challenges as a result of their criminal history. The challenges faced by ex-offenders also impact the U.S. economy and labor market. Technology has allowed for criminal history of an offender to be readily available to a potential employer, increasing the challenges of reintegration. Using a motivation technique created by the juvenile justice system, many states have implemented expunging and sealing criminal record to give ex-offenders who have served their time a clean slate. The ability to expunge or seal a record very broadly from state to state, but all but nine state participate in these practices. With New York being the newest jurisdiction to implement a sealing law, valuable information can be gain from studying geographical information of those who have taken advantage of the law. Opposition to expungement and sealing identifies statistical discrimination as an adverse effect of record closing laws.

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