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## LETTER FROM THE BOARD: A YEAR IN REVIEW

Bukhari Shakil, Arghya Kannadaguli, Stella Qiu, Kaiji Obras, Melissa Xie,  
Aditi Teriar

Dear Reader,

We are excited to present the Spring 2021 issue of Plenum! This issue is the product of nearly 10 years of hard work. While the exact conception date of our organization is unknown, Plenum was founded in 2011 by a group of editors who had identified an empty space in the undergraduate geography community, and attempted to fill this void. Over the years, board members have come and gone (due to graduation), which ultimately makes this year's team Plenum's third editorial board.

Plenum ceased operation for a couple of non-contiguous years since inception, either due to a lack of energy, interest, attention, or other unknown factors. This year was different. Members of our Editorial Board - Geography undergraduates - were presented with the opportunity to resurrect Plenum to regain a sense of kinship within the Geography community. We all shared this feeling that the Geography community seemed quite disconnected from within itself in comparison to other undergraduate communities; We felt that *void*.

Prior to embarking on this journey, we underestimated how large of a task it would be to get the engine up and running again. Although the editorial team from last year had left us with an ample amount of resources, we felt that in many ways we were starting from scratch. One key factor is that in a college setting, people are constantly coming and going. In order to foster sustainability and community, it requires perseverance and consistency to work hand in hand. The previous editorial board seemed to have understood this quite well from an organizational perspective, however their tactical strategy was not well suited to address the implications of the pandemic.

The COVID-19 pandemic had suspended all in-person activities on campus, which drastically impacted our organization and many others alike. In the past, Plenum

had hosted in-person events, pizza parties, movie nights, etc. which helped foster sustainability of our community. In-person events led to greater engagement from students and offered a space for undergraduates to physically come together. Because of this, our team had to adapt our approach by shifting Plenum's strategy.

While our primary focus is still to foster an undergraduate geography community, we explored other ways of boosting engagement virtually. We had to transition the very mediums through which we could interact with our stakeholders, broaden submissions to encompass more than just academic research articles, and find ways to have fun while attending the dreaded Zoom University. Plenum was successful in establishing and moderating the official Geography Department Discord server with close to 100 users. We hosted virtual game nights and professional development workshops with industry professionals in order to engage with, educate, and help level up our peers.

In order to achieve this, Bukhari and Arghya sought to restructure the organization a little bit. We established a Web Development team after Kevin Ko joined us. This team was responsible for our online presence on the web as well as the administration & moderation of the Geography Department Discord server. Kaiji Obras oversaw submission forms and the Discord server side of things, while Kevin was the one who spearheaded the development of our new website. We also established a marketing team to handle our social media accounts, outreach, and acted as the customer-facing arm of Plenum. This team consisted of marketing lead Aditi Teriar, and graphic designers Melissa Xie and Jasmine Hui. Finally we had our beloved editing team consisting of Stella Qiu and Elizabeth Therial which handled the publication editing and review aspects of Plenum. Restructuring into these 3 cross-functional teams was fundamental to our success, in addition to the resilience and collaborative work ethic across the board.

This year, our issue aims to bring to light a wide range of Geographic issues ranging from crime seasonality, to impacts of residential segregation, environmental injustices, and finally first hand accounts of globalization. Eber Lopez's "Geography and Seasonality of Crime In Seattle" interactive story map provides readers with a fresh perspective into how crime can fluctuate in relation to time and space. Elizabeth's "Quantifying Environmental Injustice in Minneapolis" is an excellent case study of Minneapolis - specifically of the environmental injustices occurring that implicate trends in health and socioeconomic characteristics. Emenetu's "My Family's

Globalization” provides us with a firsthand account of globalization and why families are forced to migrate across the world, in addition to the racial inequities they face once having emigrated. Finally, Jerry Huang’s “Residential Segregation of Black Communities” provides a historical context to the extremely relevant Black Lives Matter movement that’s been ongoing since 2020. Countless hours went into developing, reviewing, and finalizing these research projects and we hope they leave you with a sense of enlightenment.

In summary, we would like to extend our gratitude to Geography department leaders Nell Gross and Sarah Elwood for supporting our vision and enabling us with the opportunity to engage with our peers in a manner in which we’ve never done before. And to the countless students, staff, & professors who engaged with us, helped spread awareness, and kindled the flame in which we ignited.

Sincerely,

### *Plenum Editorial Board*

Undergraduate Geography Research Journal  
University of Washington | 2020-2021

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# THE GEOGRAPHY AND SEASONALITY OF CRIME IN SEATTLE, WA

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**Richard Dait | Eber Lopez | Antonio Ramirez**

*Department of Geography, University of Washington*



[Interactive Story Map](#)

## **A Tale of Two Cities**

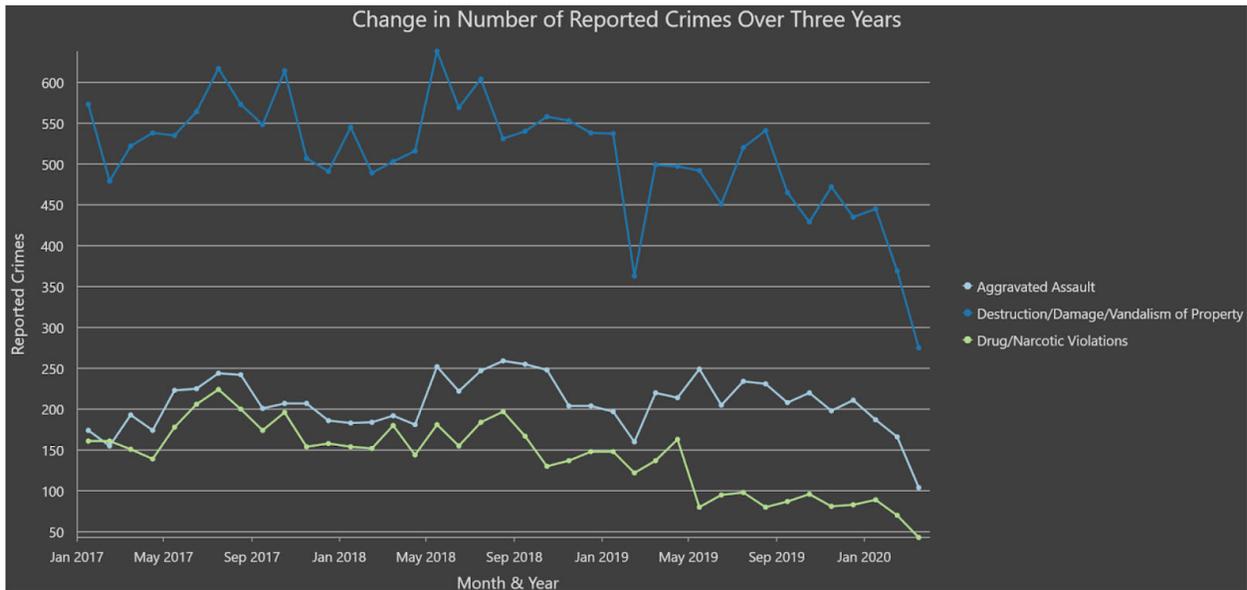
### **The Emerald City and its Relationship to Crime**

Located in the beautiful Pacific Northwest, Seattle Washington is a bustling city with a vibrant culture. It is home to the iconic Space Needle and one of the oldest running public farmers markets in the nation, Pike Place Market. Tech giants and multinationals such as Amazon, Costco, and Starbucks are headquartered in or near the urban center. In addition, Seattle is one of the most progressive places in America. What is not to love about the Emerald City?

As with any metropolis, Seattle has its problems with crime. According to a 2020 analysis of safe and least safest cities in Washington State, Seattle ranks 61st out of 73 (Carridge, 2020). Our research team investigated three particular offenses using point data from the Seattle Police Department and SPD beats from the City of Seattle Open Data Portal (Seattle Police Department, 2021 and City of Seattle, 2021). The crimes are aggravated assault, drug/narcotic violations and property damage. Our team analyzed these three specific crimes because they are among the top most occurred crimes and have a high count of reports every year. We were interested in seeing if there are spatial and seasonal variability to these crimes. Below is our analysis using two methodologies, answering the research question - What is the spatial and seasonal variation of crime incidents in Seattle, WA?

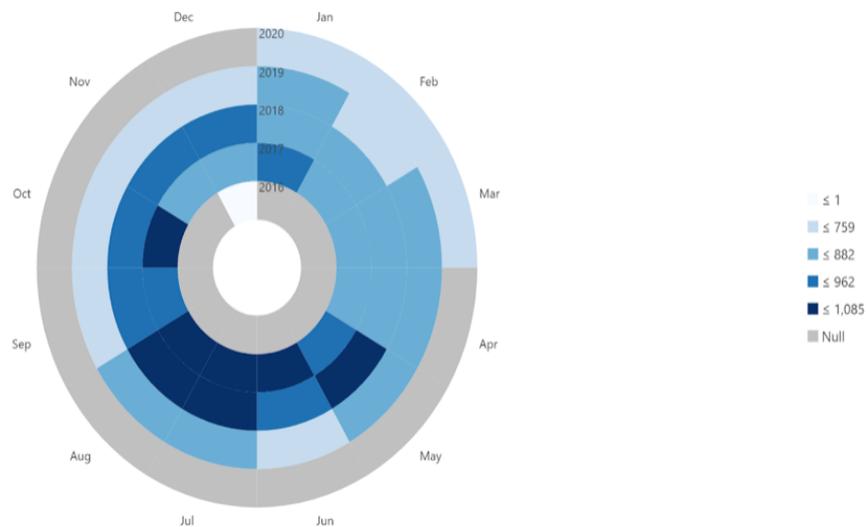
## Data Visualization

### Demonstrating Temporal Trends Throughout the Years



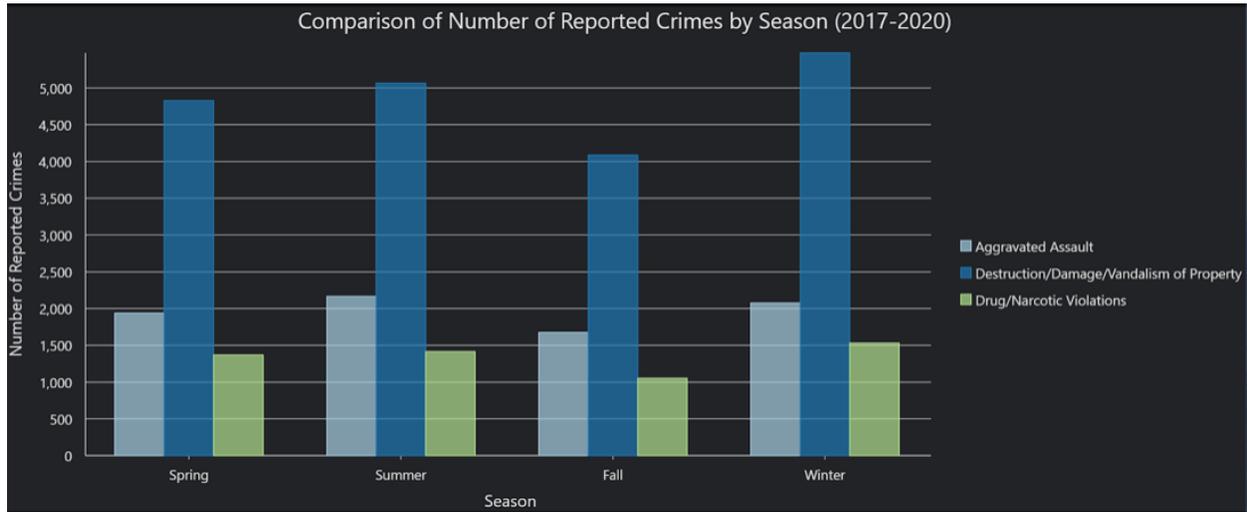
As the line chart illustrates, the incidence of crime fluctuates throughout the year. The crime incidents appear to reach a peak during the summer months of July and August and trend downward toward the latter part of the year during the winter months of January, February, and March, indicating a pattern of seasonality.

Three Category Number of Reported Crimes by Months Over Years



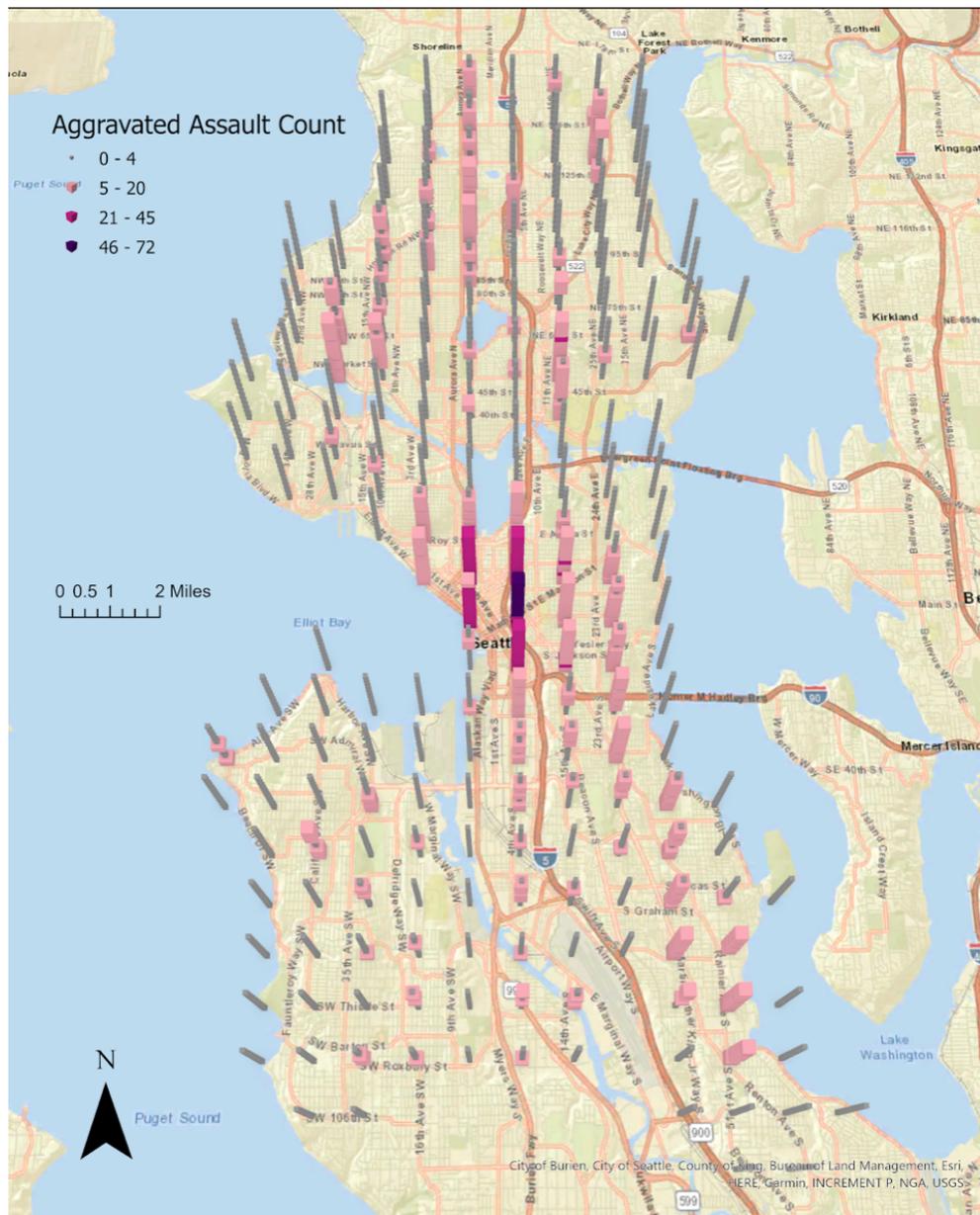
The circular plot above once again suggests that the three crime offenses occur most frequently during summer months. This is represented by the dark navy blue squares.

Winter appears to have the lowest total activity; thus, the three crime offenses vary according to season.



The overall analysis for 2017 to 2020 shows the highest crime rates occur between winter and summer, reaching an average of 5,123 Destruction/Damage Vandalism of Property crimes, 2,059 Aggravated assaults crimes, and 1,438 Drug/ Narcotic Violations crimes.

## Aggravated Assault Crime Reports From 2017-2020



Geographically, the map above suggests that aggravated assault offenses are most dense in the heart of Seattle, specifically at Pike Place and near King County courthouse. In contrast, the places where the least crime is reported happen to occur for the northeast, northwest, and south west regions. To be specific these regions pertain to the neighborhoods such as Ballard, Queen Anne - Southlake Union, Olympic Hills and West Seattle.

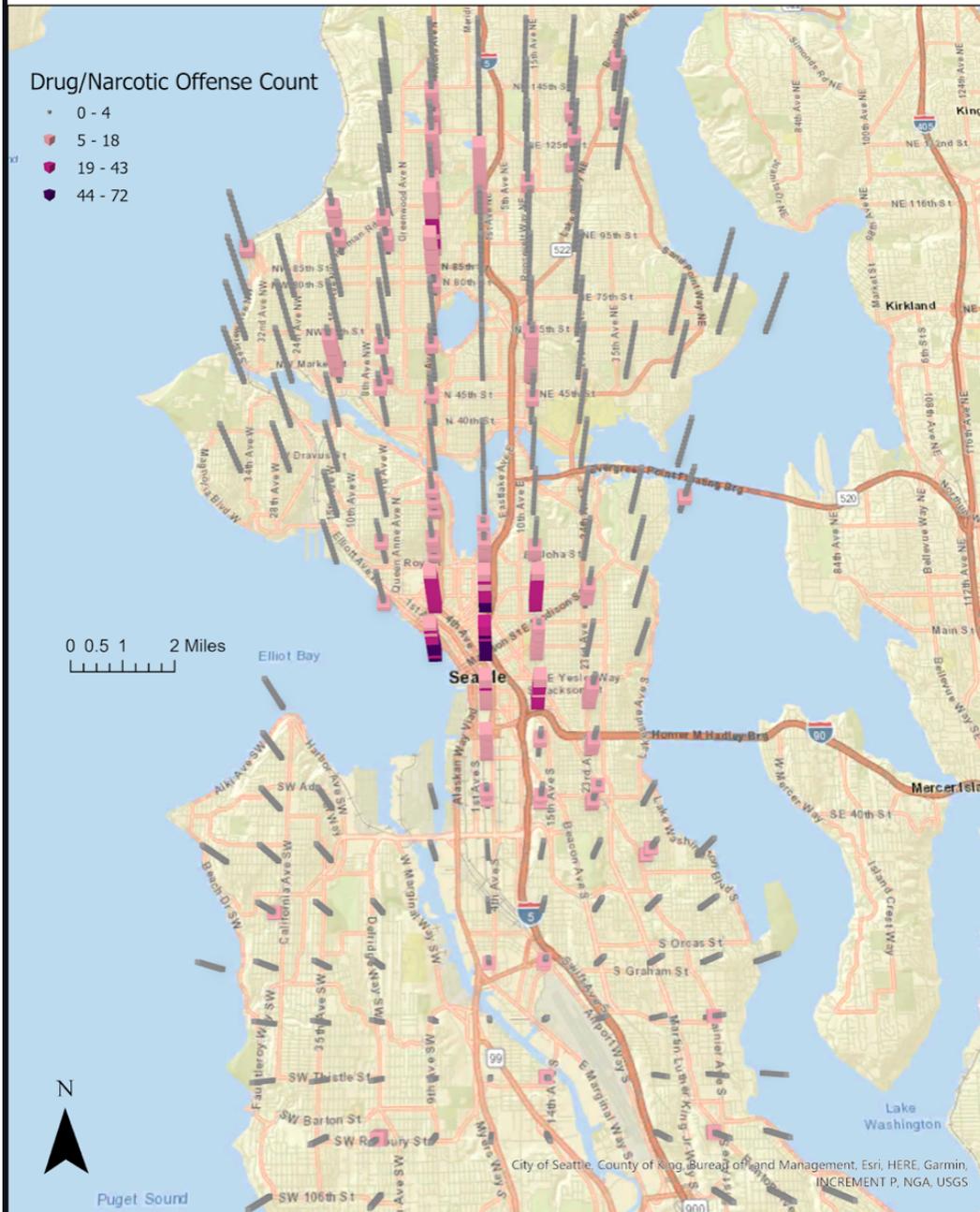
## Aggravated Assault Crime Reports From 2017-2020



### Aggravated Assault (Zoomed In)

Temporally, aggravated assault occurs throughout the year exhibiting some fluctuations.

## Drug/Narcotic Offense Reports from 2017 to 2020



### Drug and Narcotic Violations

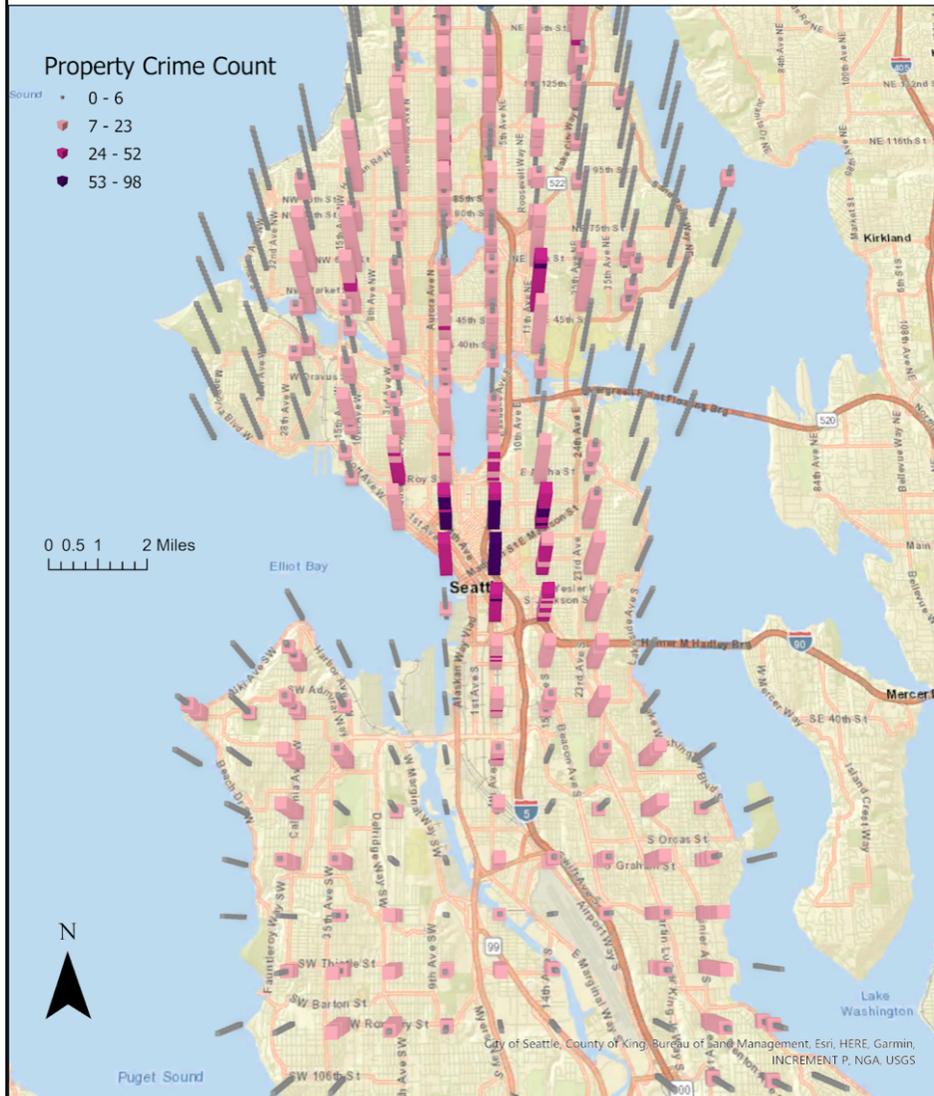
The purple and dark pink does suggest a geographic relationship between a specific part of downtown and drug activity.



### Drug and Narcotic Violations (Zoomed In)

The variation in color indicates a pattern of seasonality in parts of downtown Seattle.

### Property Related Crime Reports from 2017 to 2020 (Destruction/Damage/Vandalism)



#### Property Damage Related Crime

There appears to be a spatial component with this particular crime. Colors become more intense indicating a higher incidence, in a particular part of town.

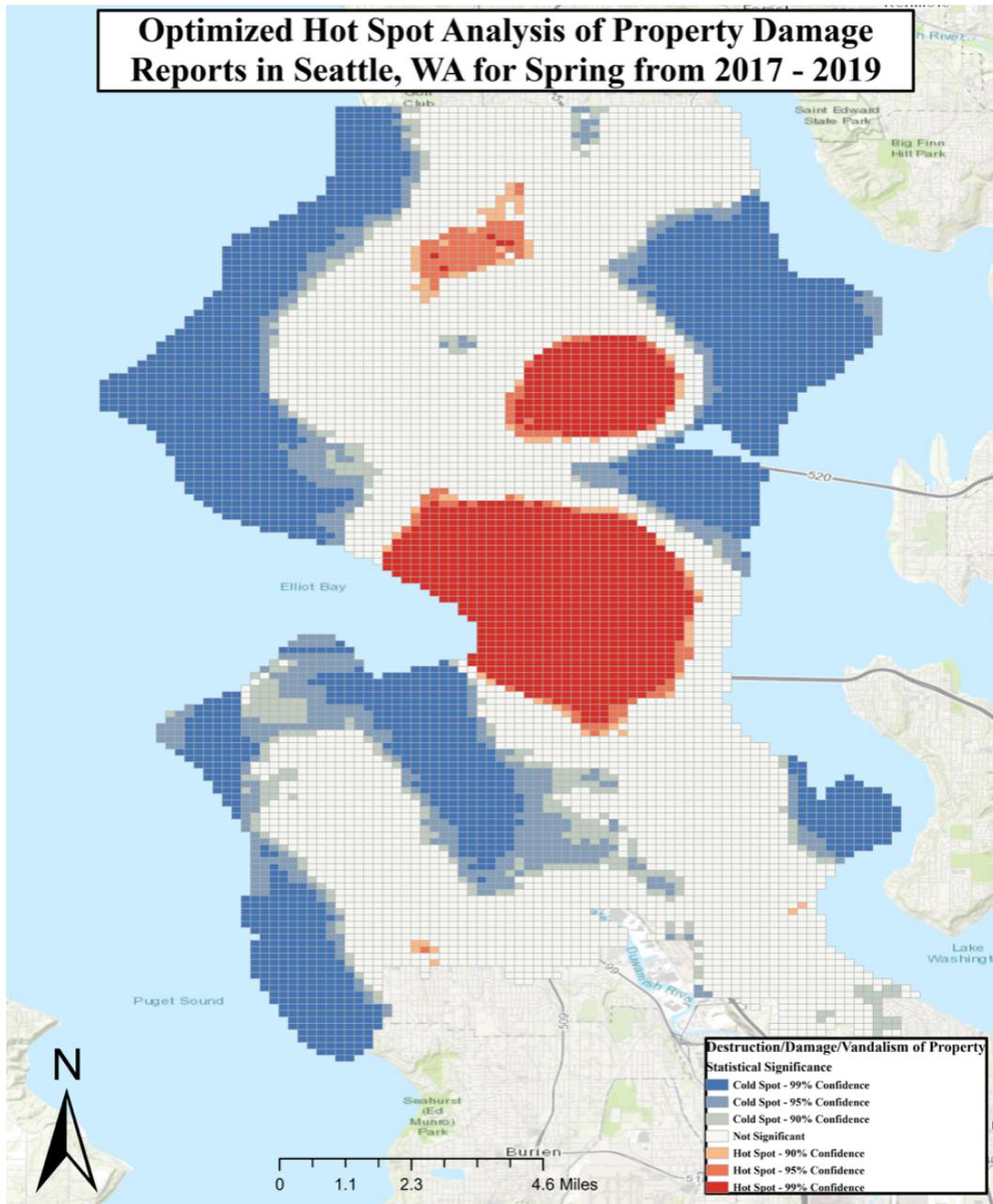
## Property Related Crime Reports from 2017 to 2020 (Destruction/Damage/Vandalism)



### Property Damage Related Crime (Zoomed In)

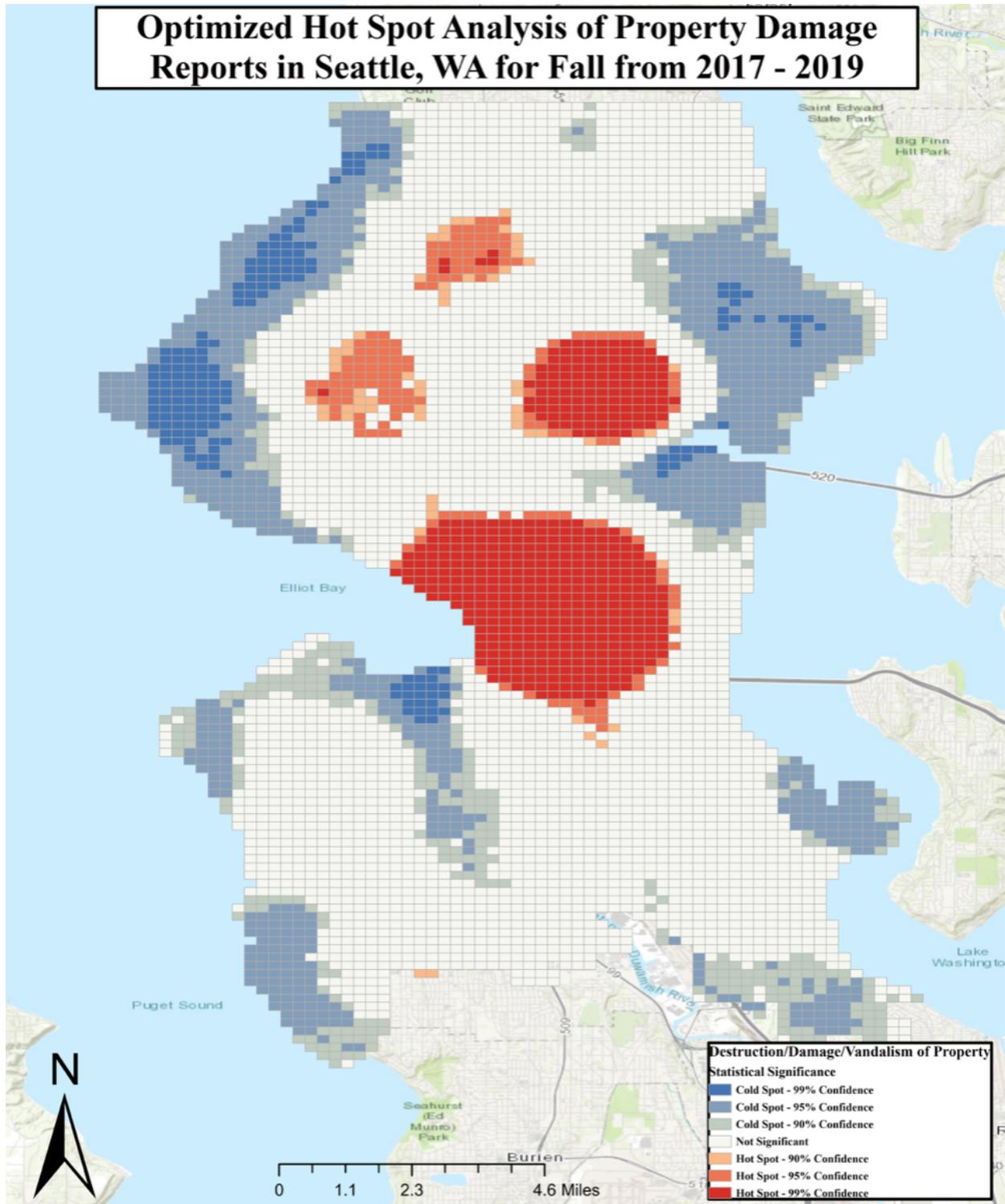
Zooming in allows us to see the temporal variability, suggesting that property damage crime, may vary with season in select areas.

## An Optimized Hot Spot Analysis is Worth A Thousand Words Destruction, Damage and Vandalism of Property Offenses

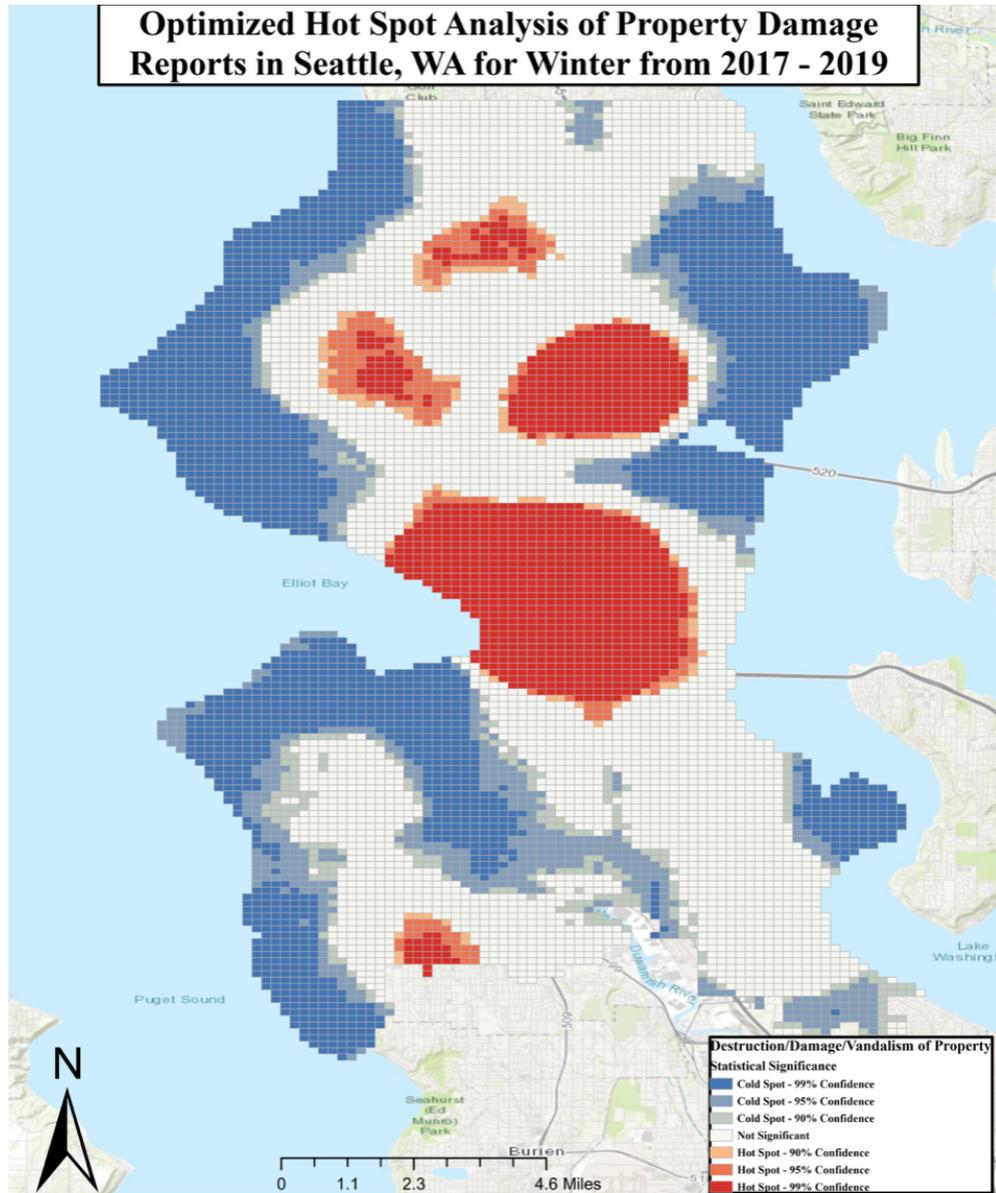


Statistically, from the crime count resorts the significant hot spots seem to cluster in downtown and north of the city.

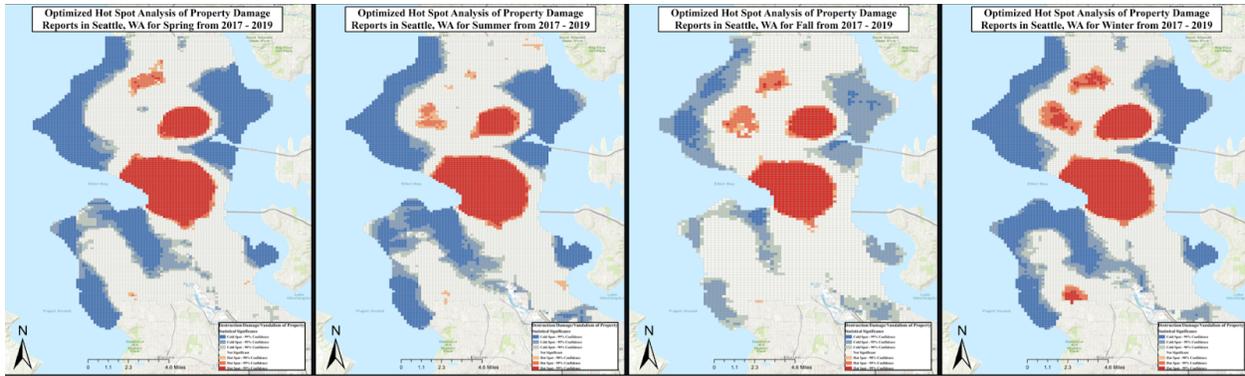
Downtown Seattle and its neighboring areas are once again a prime location for property damage during summer months. There appears to be a minimal decrease in property damage and vandalism from spring to summer.



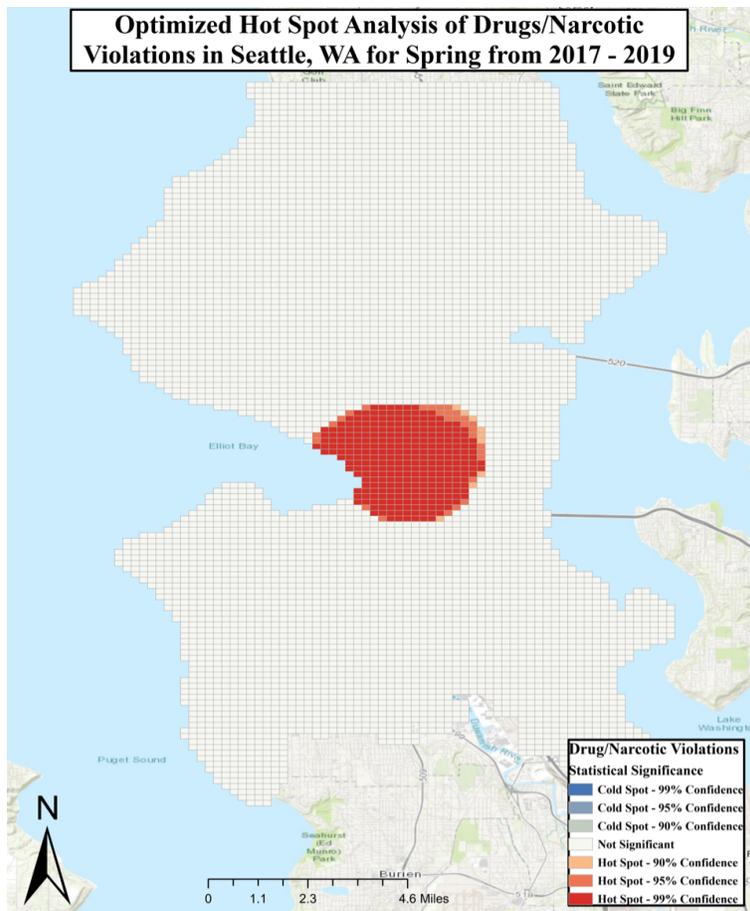
The map to the above suggests a slight overall dip in incident reports. However, property damage seems to increase in presence up north Seattle (Northgate) region. The red and dark orange are statistically significant hot spots.



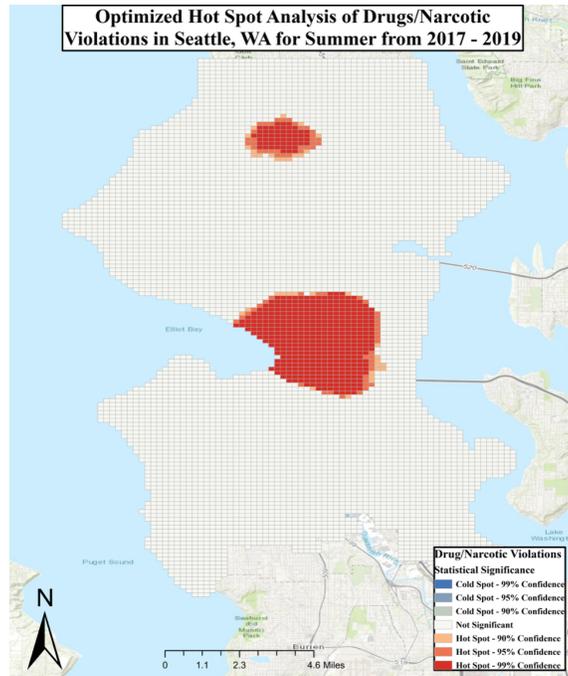
From our analysis, winter appears to be the season in which property damage is at its highest. To our surprise even south of downtown has statistically significant high values.



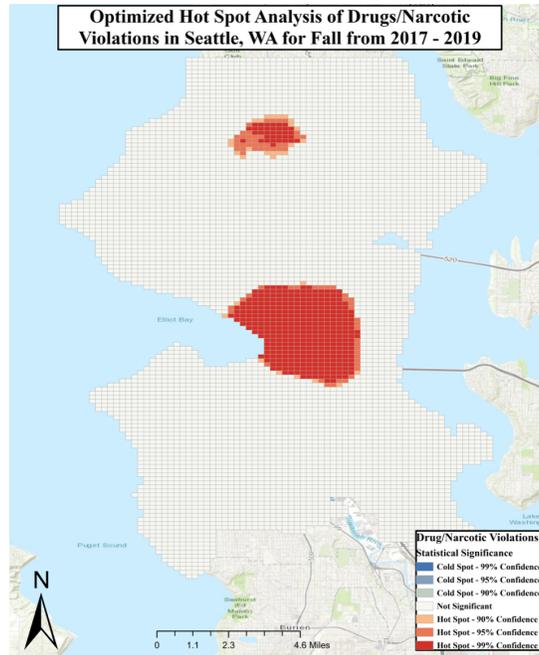
Regardless of season, downtown Seattle and its surrounding areas appear to be a hotbed for the destruction, damage and vandalism of property. Incidents taper down minimally from spring to fall, but increase during winter. Shifts in statistically significant hot and cold spots throughout the year, do indicate a pattern of seasonality and spatial variation.



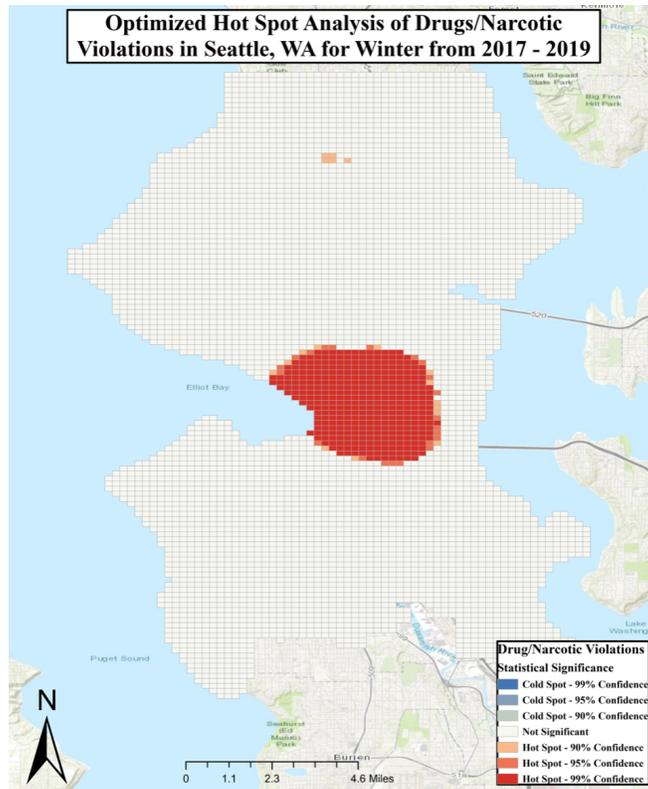
As with property damage reports, downtown Seattle contains a high concentration of statistically significant hot spots. Data for other areas are deemed insignificant.



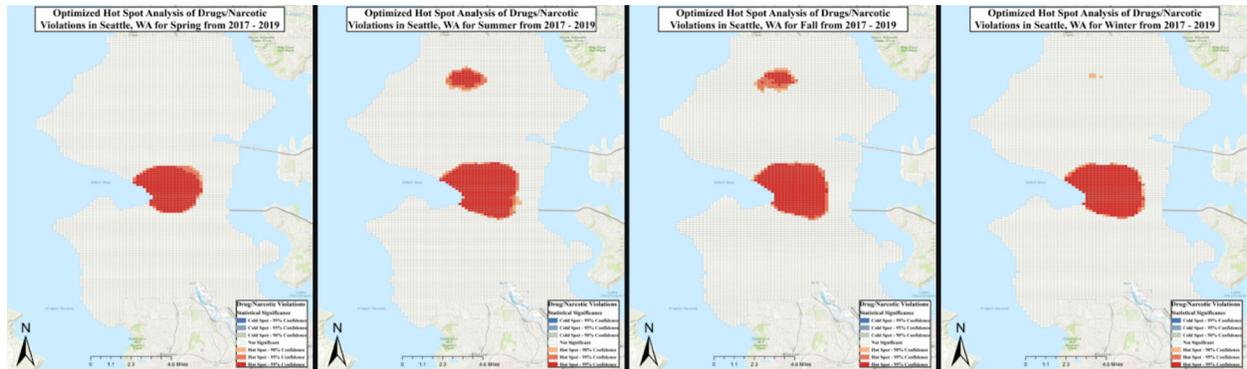
As the seasons change, there is an increase in the presence and clustering of incidents. A new statistically significant hotspot emerges in North Seattle. Additionally, the original hotspot downtown expands in size.



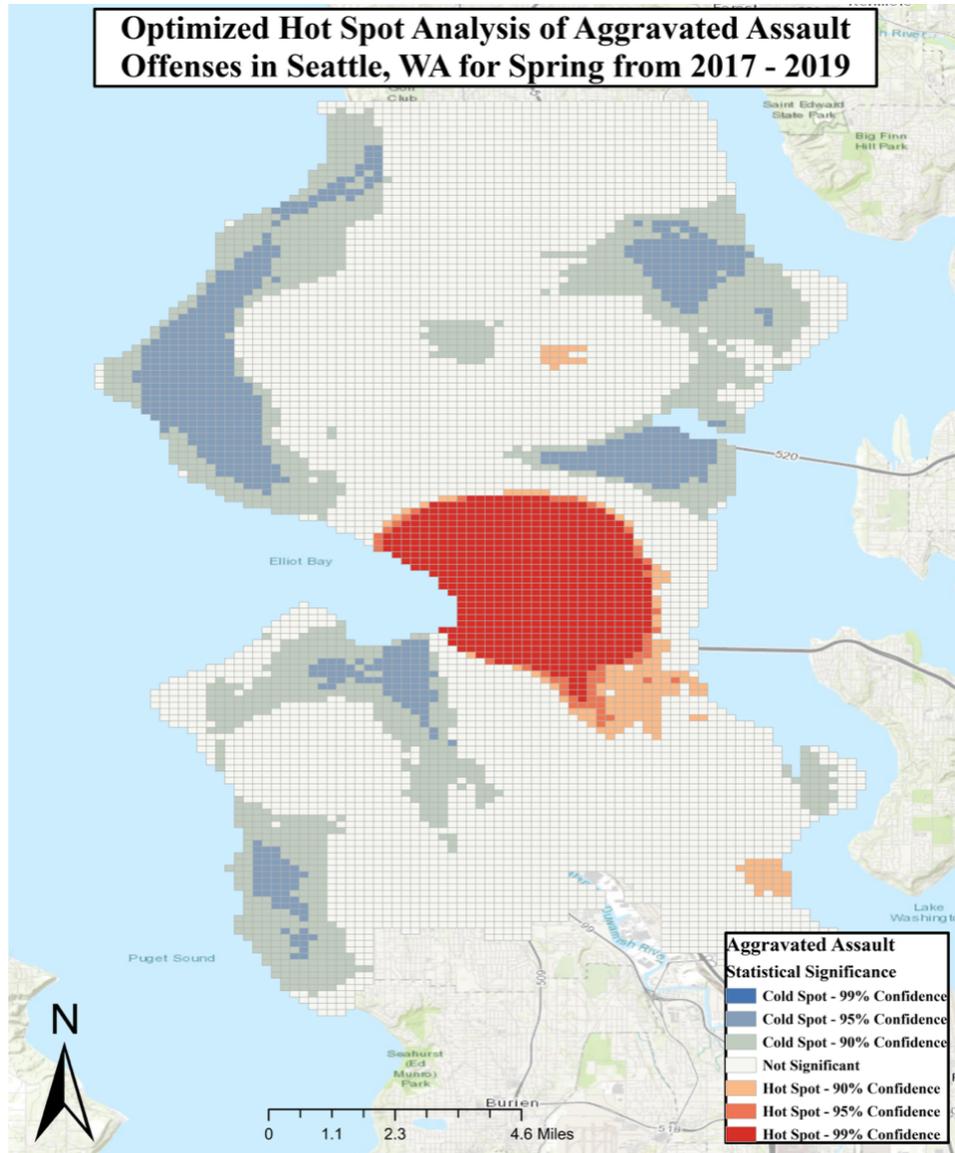
As Autumn rolls in, the concentration of hot spots gradually decreases -as seen up north and in the downtown area. Data from other areas remain insignificant.



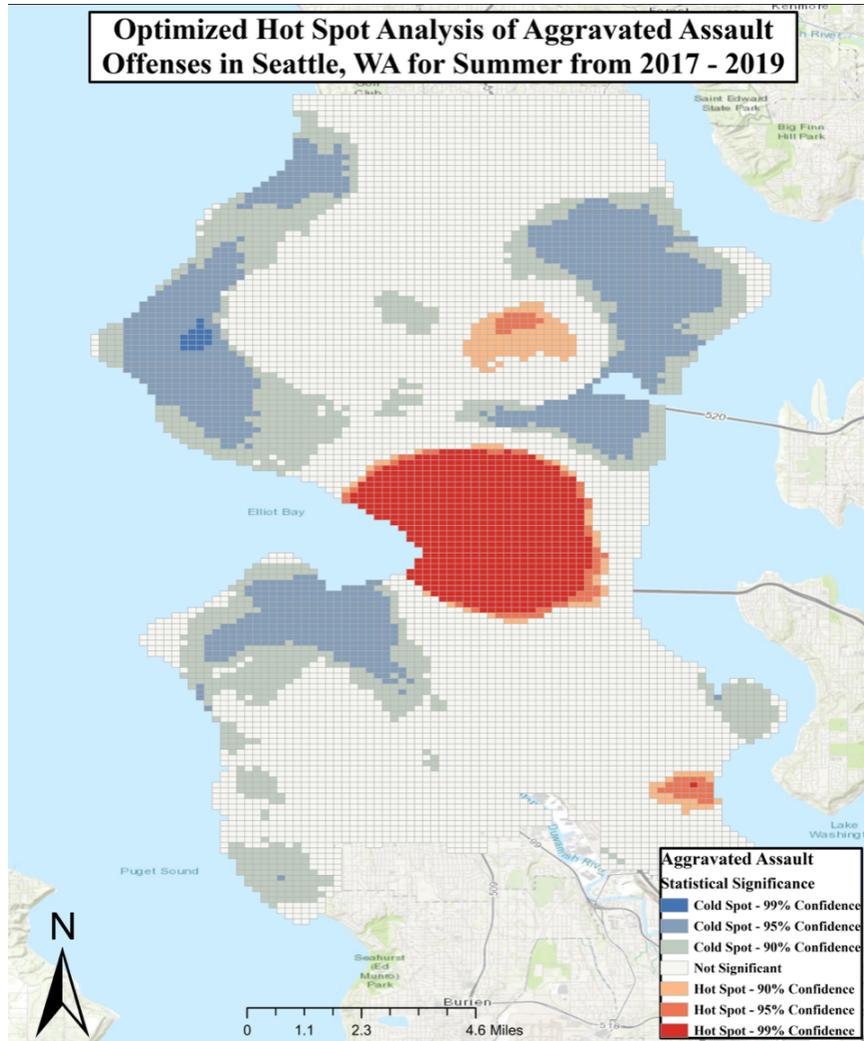
Winter season sees less of a presence of drug and narcotic violations as statistically significant hotspots disappear in north Seattle. However, Downtown still has a sizable spatial clustering of incidents.



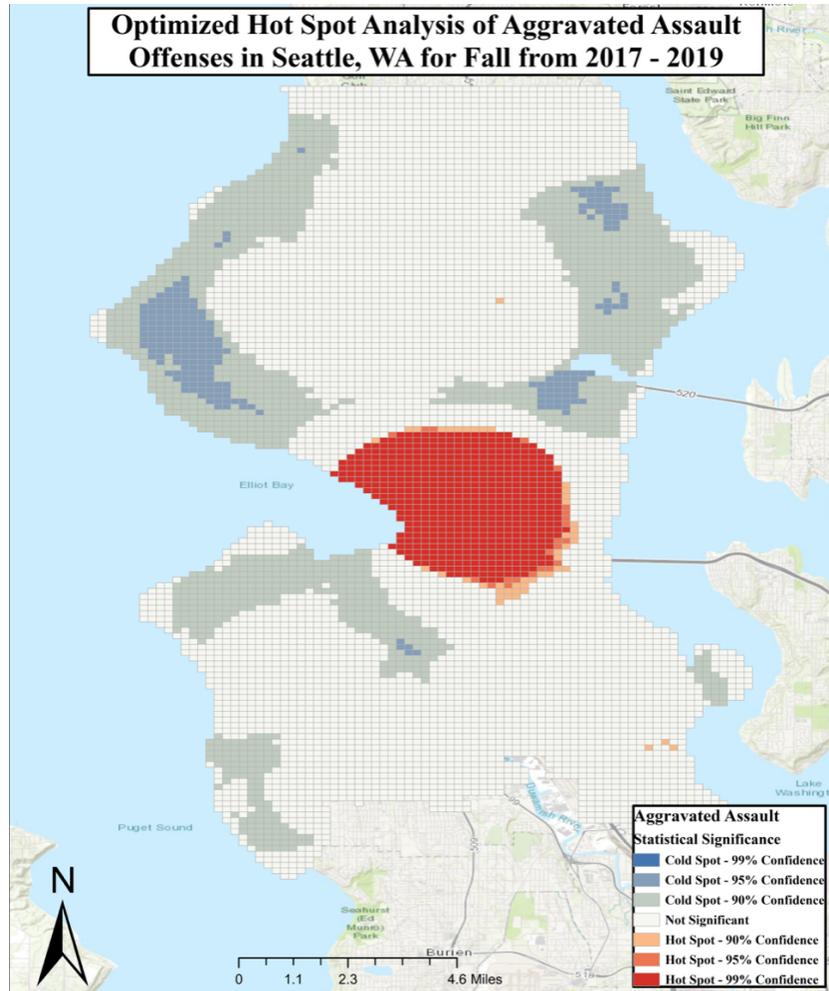
As with property damage, downtown Seattle and its neighboring areas exhibit statistically significant hot spots, indicating a high density of drug and narcotic violations that are geographically concentrated.. This particular crime occurs more frequently during summer and fall months and taper off in winter and spring in north Seattle. The maps above suggest that there is a geography to drugs and narcotic violations, as well as, pattern of seasonality.



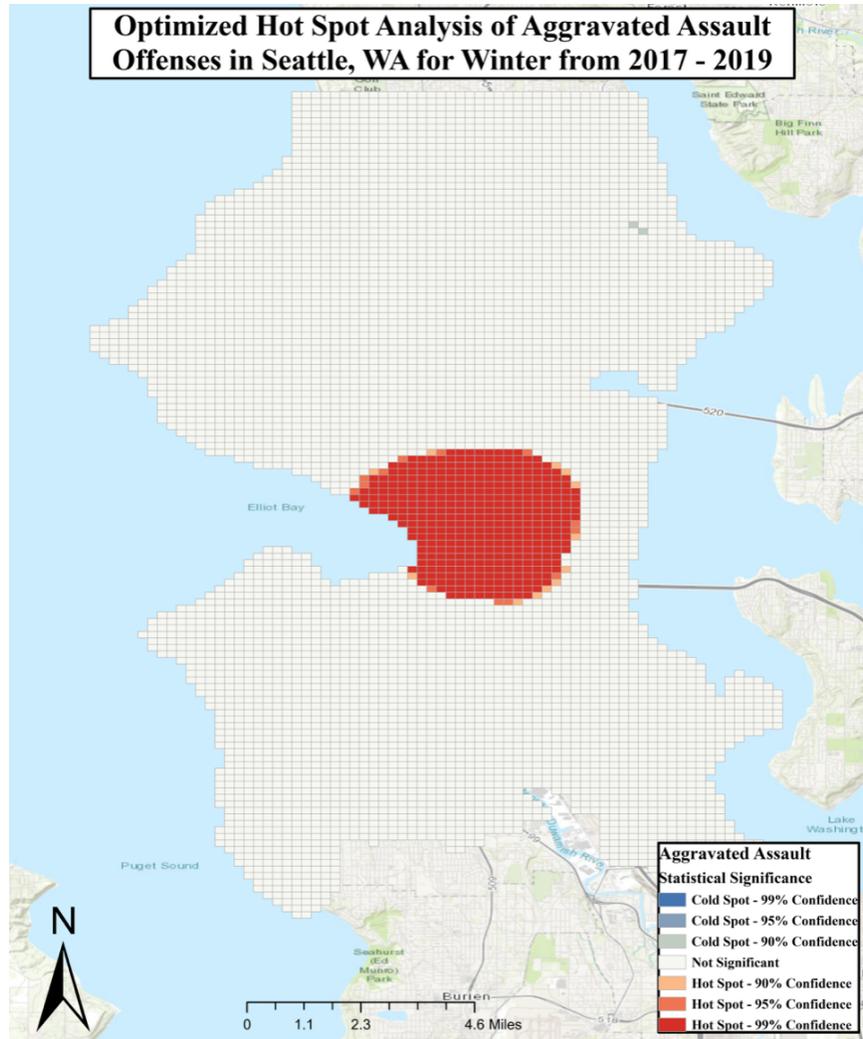
Hot spots located in downtown and the surrounding areas represent statistically significant high values of aggravated assault incidents. Murky blue and green situated on the perimeter of the city are cold spots, indicating minimal crime. More broadly, there may be the presence of incidents, however, the surrounding areas either are absent of incidents or do not contain high enough values to make them hot spots.



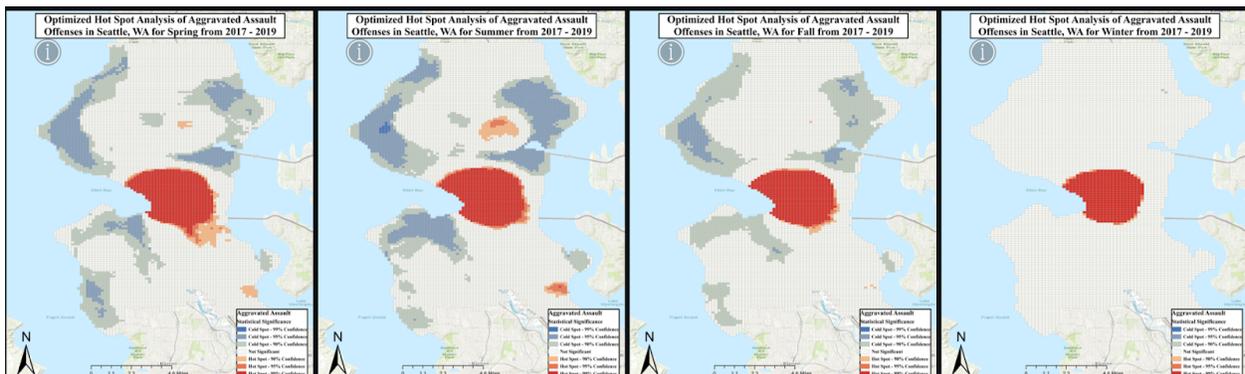
The transition from spring to summer sees a slightly smaller concentration of hot spots in the urban center. Pockets of high values appear elsewhere, as seen in the shifting patterns. Cold spots increase in density, indicating a pattern of seasonality for aggravated assault reports.



Concentrations of aggravated assault offenses gradually subsided throughout Seattle. This is evident by the reduction in hot and cold spots.



This is an excellent example that certain crimes have a seasonal component to them. Compared to other seasons, winter sees less crime activity. In other words, there is less of a presence of aggravated assault offenses reported. Additionally, its geography changes.



The image gallery above definitely shows that aggravated assault incident counts, changes with each season. Peak months appear to be around spring or summer, whereas winter sees the least activity as hot and cold spots are smaller in size. In addition, the visualizations above suggest that there is a spatial relationship between aggravated assault and parts of the city.

## **Findings, Discussion and Conclusion**

### **As Seasons Change, So Does Crime.**

From our hot spot maps and space-time cube analyses, we conclude that the three crimes reoccur in downtown Seattle throughout the year. This is illustrated in the space-time cube and optimized hot spot maps. On the other hand, west, southwest and especially north Seattle, experience seasonal shifts. These areas show a change in crime counts and density or no difference at all depending on the time of year. This begs the question, what is the spatial and seasonal variation of crime incidents in Seattle, WA? Our findings revealed patterns of seasonality with slight fluctuations. Summer is a particular season that stands out as values for all crime types are typically at their peak. This is evident in the line chart above. Additionally, the change in counts and density from spring to summer is apparent in the optimized hot spot illustration for drugs and narcotic violations. Based on our findings, we see that the maps reflect the individual count of crime incidents. An interesting finding was that crime rates decreased in 2019 and by the beginning of 2020, there is a downturn in the crimes count for Destruction/Damage/Vandalism of Property. Our findings conclude that Seattle in recent times has decreased in crime rates, perhaps, in large part to the current pandemic. There is the exception to the protests and riots that occurred post-winter 2020. Nevertheless, parts of downtown Seattle will remain a breeding ground for crime as time persists. More Broadly speaking, counts and density fluctuate minimally throughout the year. Geographic and seasonal patterns, however, are evident outside the core of the city. These patterns are especially seen in north Seattle. Importantly, our research not only shows that there is a spatial relationship and seasonal variation of crime in the Emerald City, but offers valuable data and visualizations for organizations and governmental entities such as the Seattle Police Department and city council to build on a framework that strives for a sustainable and equitable approach to policing and public safety for the city of Seattle.

### **Works Cited**

Carridge, Christine. 2020. Where Seattle Ranks Among Washington's Safest and Least Safe Cities | The Seattle Times (Accessed on 03/09/2021)

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# QUANTIFYING ENVIRONMENTAL INJUSTICE IN MINNEAPOLIS THROUGH EXAMINATION OF NORTHERN METAL RECYCLING FACILITY

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**ABSTRACT:** *This research project aims to identify if environmental injustice is occurring in neighborhoods around the Northern Metal Recycling Facility in Minneapolis, Minnesota. A longitudinal interview survey will be conducted to obtain socioeconomic and health-related information of randomly selected participants. An initial survey will be administered to establish a baseline and a follow-up survey will be conducted several years later to examine trends in health outcomes and socioeconomic characteristics. The participants for this project will be randomly selected from one of the two strata: neighborhoods that are considered close to the Northern Metal Recycling Facility and those that are not considered near the facility. A surveyor and a translator will go door to door based on a randomly selected list of addresses. A survey of approximately 19 questions will be administered, with the last question being open-ended to hopefully capture some of the narratives behind those who may be carrying the environmental burdens more than others. This research needs to be done because, in recent light of the events that have unfolded in Minneapolis in 2020, with the disproportionate economic climate that COVID-19 pandemic has escalated and the tragic murder of George Floyd highlighting institutionalized discrimination, critical evaluation needs to be done in order to help expose the harsh realities of many and provide a snapshot of what's likely going on around the rest of the United States.*

**KEY WORDS:** *Race, NIMBY, economy, recycling, gentrification, environment, injustice*

## **Intellectual Benefits**

The intellectual benefits of this project are to help expand on the current case studies in the field of Environmental Justice. Currently, there are several case studies including the water crisis in Flint, Michigan, that have been intensely researched and have gained national recognition. Yet there are many injustices that are likely occurring without recognition. By providing another well-documented case of environmental injustice, hopefully scholars in the field can turn to their own communities or those around them to examine closely for another possible source of injustice and to initiate the needed change. Additionally, this research can hopefully inform other environmental justice researchers to consider new variables to conceptualize and operationalize in their future projects.

## **Practical Policy and Benefits**

If this research project establishes that minorities and low income residents of Minneapolis are carrying a larger environmental burden than the majority, then hopefully politicians revise budget plans to allocate funds to help resolve some of these inequalities and enforce stricter pollution guidelines on companies like the Northern Metal Recycling Facility. These regulations could possibly include significant taxes for companies that continue to run with unfriendly environmental practices. Furthermore, the tax money from these companies could be put towards increasing health accessibility for low income and minority individuals, as well as providing affordable housing options in environmentally friendly areas. This research could help provide one of the first steps in moving towards initiating long-term solutions that help benefit the long-term health outcomes of low-income and minority groups who have been disproportionately experiencing the harmful environmental hazards in their Minneapolis neighborhood.

## **Personal Reflection & Literature Review**

While signing up for my first geography course at UW, I stumbled across Geography 272, Environmental Justice with Professor Ybarra. Seeing that it would fulfill my graduation requirement for 5 credits of diversity and given that it wasn't at 8:30 am, I thought why not. Little did I know that this course would have a lasting impact on me and leave me with a calling to fight for justice within my community through my future career plans. While walking to my first lecture, I thought about all that this course would initially be, maybe we'd talk about major oil spills in different geographical regions or maybe we'd learn more about how the justice system approaches issues regarding the environment. Let's just say that I was far off the beaten path when it came to what Environmental Justice is and during our first lecture, Professor Ybarra

was quick to say that this class isn't going to be about what we think it's about. Her course was broken up into three major sections—where we work, where we play, and where we live—to introduce the field of Environmental Justice.

It is established that one's position in space can lead to disproportionate levels of exposure to harmful environmental toxins and contaminants. The field of Environmental Justice aims at addressing this disproportionately by redistributing both the environmental burdens and benefits among all members of society regardless of age, immigration status, gender, sexual orientation, race, and ethnicity. The field of Environmental Justice is very diverse as there is not a single scenario or measure that clearly denotes that environmental injustice is occurring within a given community. Environmental injustice can manifest itself through uneven health distributions from neighborhood to neighborhood to even a lack of affordable and accessible food sources within a given geographical region. Recognizing and addressing environmental injustice within a given community requires careful consideration. Both elements in the visible and invisible landscape accumulate to suggest that injustices are occurring. This literature review will provide insight into the current state of knowledge of Environmental Justice and explore some of the common measures of environmental injustice. Additionally, I will provide a brief overview of an important case study that is widely studied in the field of environmental justice and suggest a new direction to take environmental justice and injustice research within the geographical context of Minneapolis, Minnesota.

The field of Environmental Justice is multifaceted, with several dimensions to consider for any given geographic location. Intersectionality is extremely important to consider when accessing injustice within a particular neighborhood. The concept of intersectionality considers the “overlapping identities” of a person “to understand the complexity of prejudices that [one] faces”, with individuals often being “disadvantaged by multiple sources of oppression (Alemán, 2017 pg.1). An understanding of this concept is important to environmental justice because in order to address the injustices that a particular person or group of individuals within a given neighborhood face, there needs to be a recognition of these multiple differences that coexist with one another and an understanding that the space that one occupies can largely be influenced by these identities they carry. Current research in Environmental Justice examines the interplay between these multiple identities to understand the true degree to which injustice is occurring; analyzing these identities separately may dilute the actual severity of the injustices at hand.

## **II: Keywords of Environmental Justice**

As with most specialized niches of research, there are several keywords that are widely used in the field of Environmental Justice. To start, the concept of NIMBY is

widely used and stands for Not In My Backyard. This term is used in regards to unwanted facilities which are usually driven into the spaces occupied by minority groups that foster this continuous cycle that “perpetuates privilege for whites at the expense of people of color” (Bullard, 1990 pg 46). These facilities include “waste disposal facilities, primarily landfills and incinerators...low-income housing...social service facilities, group homes and shelters for individuals such as the mentally ill, AIDS patients, and the homeless”(Garrard, 1994 pg. 495). This concept is important to the field of Environmental Justice because those experiencing injustice are generally close to unwanted facilities that produce harmful environmental contaminants. Specifically, in examining the locations of landfills and chemical waste processing facilities, there is generally a correlation between socioeconomic status and proximity to one of these facilities (Donev et al, 2018 pg.1).

The concept of gentrification should also be introduced as a keyword within the context of environmental justice and injustice. Gentrification can more broadly be viewed through an economic lens as the supply and demand for a particular geographical region. This demand is evolving over time, causing revitalization and neighborhood influx; however, there are also “cultural and racial dimensions to this form of neighborhood change”(Richardson, 2019 pg.10). Within the current state of knowledge in the field of Environmental Justice, exploring the patterns and trends of where gentrification is occurring and who is being displaced can provide insight into the disproportionality of who is carrying the environmental burdens, with “racial exclusion” and “micro-level segregation” that creates “social tensions that influence interactions” and the promotion of unfair “dynamics of political power” as a result of gentrification(Richardson, 2019 pg 9,10). With the skyrocketing housing prices that come along with gentrification, generally members of low-income neighborhoods are forced to move out into currently undesirable areas that come with harmful environmental exposures which lead to differences in long-term health outcomes of sub-communities within the same urban landscape.

### **III: An Important Case Study: Flint, Michigan**

The field of Environmental Justice research has several defining cases that are at the center of debates among policymakers and environmental activists. A familiar case among researchers in this field is the water crisis of Flint, Michigan. This crisis which lasted almost 18 months, included “nearly 9,000 children [being] supplied with lead-contaminated water” which in even low levels can lead to damage such as “reducing IQ and physical growth and contributing to anemia, hearing impairment, cardiovascular disease, and behavioral problems”(Denchak, 2018 pg.5). Throughout this time, the residents of Flint needed to self-advocate and take actions to bring public attention and a much-needed supply of clean water to their community. In time,

ultimately the water crisis of Flint was deemed by The Michigan Civil Rights Commissions as a “result of systematic racism”(Denchak, 2018 pg.3). This case is important in the field of Environmental Justice because it provides an example of a deadly environmental burden that was not evenly distributed among all residents regardless of socioeconomic status but instead victimized those within low-income neighborhoods who lacked any available economic resources to overcome such a crisis on their own. Furthermore, this case study highlights the position and obligations that both local and federal officials have in protecting all members of society. The case of Flint is an important cornerstone to the field, however there are still so many neighborhoods across the United States more generally speaking, the entire world that are in desperate need of research to bring to light their own environmental disproportionalities and crises. Additionally, Flint provides important insight into a particular measure of environmental injustice, water quality and accessibility. Yet, there is still room to identify additional measures of injustice that are unique to other geographical regions and particularly finding environmental injustices that aren’t as visible as “water from their taps [that] looked, smelled, and tasted foul”, but are just as harmful in the health of the community”(Denchak, 2018 pg.5). This is not to discredit the powerful research that surrounds Flint, Michigan but instead to suggest an expansion to the current field of Environmental Justice through expanding the current qualitative and quantitative measures of environmental disproportionalities and seeking out new neighborhoods to investigate.

#### **IV: Why Minneapolis? & Research Question Proposal**

The stereotypical “Minnesota nice” and a “Minnesota goodbye” that can easily turn into an hour standing by the front door continuously chatting are among the many characteristics that Minnesota’s pride themselves on. Despite growing up in this vibrant city, which houses the Minnesota Vikings and a music scene that includes Prince, several more serious realities cannot be overlooked within the landscape. While driving throughout Minneapolis on a bitterly cold day, there appear to be few individuals out and about. One could be quick to say that there must not be a homelessness problem and that everyone must have a job. However, upon closer inspection, there are deep inequalities that are planted within the city. In light of the recent pandemic, many have found themselves without a job and rent that still has to be paid at the end of the month(Silva, 2020 pg.5). Regarding the most recent census data, “the poverty rate for Black people and Native Americans in the Twin Cities is more than 25 percent, compared to the 5.9 percent for white people”(Silva, 2020 pg.4). Not only is there disproportionality within the economic climate of Minneapolis, but there are also institutionalized discrimination and racism occurring as seen with the tragic murder of George Floyd at 38th Street and Chicago Avenue in Minneapolis(Nesterak, 2020, pg.1).

Minneapolis is just a snapshot of what's going on a greater scale across the United States. In recent times, Minneapolis has been making headlines across the United States, and now is the time to invest in research to expose the true realities of environmental and socioeconomic disparities in Minneapolis in hopes of exposing the harsh realities of many who call this city home to those with the power and privilege for a future where actual systematic change has been implemented. As Minneapolis is being rebuilt, there needs to be a structural rebuild where the present disparities are clearly recognized and measured in order to correctly allocate funding and resources to rebuild a community that doesn't mirror the past. Through this research proposal I plan to address, **how are levels of environmental injustice in Minneapolis affecting the long-term health outcomes of underprivileged and minority groups?**

## **Research Methodology**

### **I: Purpose of Research**

The underlying goal of this research study is to establish an understanding of the environmental injustice scene in Minneapolis, Minnesota. Currently, in the field of Environmental Justice, several case studies have captivated the media and have brought about actual change to these landscapes. These findings have led to changes in legislation, improvements in accessibility and availability of resources, community education initiatives, and have distributed the environmental burdens much more equally among all members of a given community regardless of socioeconomic status. Unfortunately in the present day, there are not enough resources and time to fully evaluate every neighborhood for every possible case of injustice. However, in light of the recent events that have unfolded in Minneapolis over the past several months, it is clear that a closer evaluation is warranted, alongside systematic reform.

This research project is aimed at being an exploratory project to help establish a baseline for the levels of environmental injustice that are present in Minneapolis in regards specifically to individuals who may be disproportionately affected by the EMR Northern Metal Recycling facility in northern Minneapolis. This facility has recently been shut down due to their fabrication of pollution records and a significant fire that broke out, lasting for several days with immense smoke pollution (Evans, 2020 pg.1). Before closure, for decades the Northern Metal Recycling facility has been operating with a local resident, Philip Harder, voicing his concerns about the "unknown health effects that await the community", alongside Channy Leaneagh, who is upfront to state "anyone that lives with it on a daily basis knows its a heavy, putrid smell" (Evans, 2020 pg. 2). The long term effects of this facility have yet to be established, along with who is being affected and to what degree these affected individuals are carrying this

environmental burden comparatively to the rest of Minneapolis. This research study aims to establish if minority and underprivileged groups are unequally affected by this facility, the extent to which these particular groups of individuals are being affected, and help to reveal what the long-term effects of the Northern Metal Recycling facility has on the health of Minneapolis residents, specifically those who are in minority groups and are considered underprivileged. More broadly speaking, this research project will hopefully reveal trends in socioeconomic status and concerns regarding proximity to these particular environmental hazards, in addition to setting the stage for future research studies that want to evaluate environmental burdens posed by waste processing facilities through an environmental justice lens of analysis.

## **II: Mode of Observation**

The mode of observation that I have selected for this research project is survey research. This mode of observation can allow for a broad sampling of individuals around several different neighborhoods in Minneapolis that are both near and far from the Northern Metal Recycling facility. The objective of using a survey in this study is to establish a baseline for the environmental injustice scene in regards to proximity to this facility, followed up with an additional survey several years later with the intention to gauge the long-term health effects of exposure to the Northern Metal Recycling facility on the residents of a given neighborhood. Specifically, this survey will be designed to look closely at trends in socioeconomic status, relative location, health status, and underlying conditions in order to evaluate and identify those who may have been disproportionately affected by their environmental exposure to this facility. Additionally, through the use of a survey, connections can be made with a diverse group of individuals who can hopefully both quantitatively capture the degree of injustice that is occurring, along with qualitatively making note of personal narratives regarding this injustice. Personal narratives, combined with statistical data, can be then used as powerful tools in moving forward with legislation and promoting public awareness in the future.

## **III: Units of Analysis & Survey Methods**

The sampling type will be a probability sample type, specifically a stratified sampling involving strata that are based on proximity to the Northern Metal Recycling facility. This sampling strategy has been selected in order to interview individuals who are both considered near and far from the Northern Metal Recycling facility. If there are tangible differences between the two geographical regions in terms of subject responses, there would be evidence that those nearby to the facility are disproportionately affected by their proximity. This factor along with taking into account

socioeconomic status could ultimately point to environmental injustice occurring. The units of analysis for this research project will be minority and underprivileged individuals who are close to the Northern Metal Recycling facility. The units of observation for this initial survey and a follow-up survey five years later will be randomly selected individuals from neighborhoods in Minneapolis based on their current home address. Furthermore, the individual of Minneapolis will be partitioned into two strata based on neighborhood location. The neighborhoods in Minneapolis will be divided into two groups; one group will be composed of neighborhoods that are in close proximity to the Northern Metal Recycling facility and the other will consist of neighborhoods that are on the periphery of this hazard, or more generally could be considered the broader Minneapolis area. Then three neighborhoods from each category will be randomly selected. To randomly select the neighborhoods, each neighborhood name will be written down on a piece of paper of equal size and then tossed into a hat. Upon being mixed, a member from the research team will then be blindfolded and randomly select a total of three neighborhoods from each of the two strata. There will then be a random sampling of individuals from each of the two neighborhood categories, reflecting two subpopulations. To randomly sample individuals from each neighborhood, a list of all the known addresses of each neighborhood will be compiled. Each address will be assigned a random number and then a random number generator will be used to generate a list of addresses to conduct an interview survey with. The addresses will be surveyed in order of their position on the list, with additional addresses factored into the list to avoid non-response bias. Once the threshold of responses has been reached for a particular neighborhood, no further surveys will be conducted. The next section will address the threshold number of survey participants for each neighborhood in conversation with population and sample size.

Additionally, an important component of the interview survey will be obtaining the long-term contact information of the participants. Given that this is a longitudinal study, the same participants who were initially selected will be the same participants who will participate in follow-up interviews that take place five years later. It is expected that there may be some turnover in participants in terms of moving to a different neighborhood or even relocating outside of Minneapolis. However, with the current digital era, contact can be maintained and a follow-up interview can still be conducted over the phone. Although the participant may not be close to the environmental hazard in question anymore, long-term health outcomes can still arise from previous exposure and insight can still be gained to contribute to the overall findings of this research study.

#### **IV: Population & Sample Size**

The population of interest in this research project is low income and minority groups who are residents of Minneapolis. However, the population of the survey will ideally be reflective of the underserved population of Minneapolis. Within the survey, there will be several questions pertaining to demographics which will hopefully expose subpopulation specific trends in regards to environmental injustice. Specifically, these subpopulations will be looked at individually in the data analysis phase of this research project in order to evaluate if there are disproportionate levels of exposure among underprivileged and minority groups compared to the rest of the population of Minneapolis. Initially, I thought to only focus on researching and surveying underprivileged and minority groups in several different neighborhoods. However, after careful consideration, I felt that in order to establish that environmental injustice is occurring in regards to the Northern Metal Recycling facility, a contrast needs to be noted in the trends observed between the overall population of Minneapolis and the subpopulations consisting of underprivileged and minority groups. This contrast needs to be established in order to draw any conclusion about environmental injustice targeting one subpopulation over another.

According to the most recent data from the United States Census Bureau, the population of Minneapolis is 425,403 (US Census Bureau, 2018). The sample size will be approximately 384 survey respondents per neighborhood, for a total of 2,304 participants. These numbers factor in the population size, a confidence interval of 95%, and a margin of error that is under .05. Unfortunately, each neighborhood does not have exactly the same number of residents, so population density will have to be factored into determining the number of individuals to survey once the neighborhoods have been randomly selected. In regards to a longitudinal study, there is a concern for mobility within the participants between the times of the two surveys. To ensure that the sample is reflective of the residents of a given neighborhood over time, additional interview surveys will be conducted in neighborhoods that have high levels of migration and property turnover in the real estate market. Data pertaining to the current levels of migration will be obtained from city officials. This additional consideration will help mitigate potential confounding variables caused by high turnover rates in a particular area.

#### **V: Survey Overview and Interview Survey Questionnaire**

The survey will be constructed with both deductive and inductive type questions to obtain both statistical and anecdotal evidence which may be in support of environmental injustice surrounding the Northern Metal Recycling facility. The unit of

observation will be individuals of a given household from the randomly selected Minneapolis neighborhood. Then, a simple stratified random sampling will be performed as previously described. An interview survey will be conducted based on a list of addresses, followed up by an additional interview of the same individuals five years later. The process will begin once the COVID-19 crisis has been controlled. Furthermore, an interview survey is ideal for assessing levels of environmental injustice because of the high response rate, the ability to clarify confusions within the questions, and the opportunity to sense non-verbal cues among the participants. An additional consideration that should be mentioned is that given that the interview survey requires direct communication with an individual, there will be several translators on the research team to help minimize any communication complications and to ensure that no interview is impeded by a language barrier.

### VI: An Overview of Variables

Several variables need to be considered when addressing the issue of environmental injustice within a particular neighborhood. Since this is a survey and not an experiment, there will be no manipulation of an independent variable to see the effects on a dependent variable. Likewise, there will be no random assignment of individuals into treatment groups. However, as mentioned in the survey methods section, there will be randomization of who is contacted to conduct an interview. Furthermore, causality is harder to establish through a survey mode of observation, so instead, the aim of this research will be exploratory in nature and will focus on simple data collection.

#### Variables of Interest

<b>Variables</b>	<b>Conceptualizing</b>	<b>Operationalizing</b>	<b>Scale of Measurement (weakness/strengths)</b>
Address  <b>See Appendix for contact information</b>	This variable is important in establishing the proximity of the interviewees to the particular hazard in order to provide	Will be measured based on whether the address is considered close or distant to the Northern Metal Recycling facility	Nominal  *addresses cannot be ordered in any meaningful manner, but can be separated based on

	context to where their perspectives and research contribution are sourced from.	based on neighborhood breakdown.	the designated neighborhood strata
Income  <b>See Appendix Question 4</b>	This could be a factor in the complex equation of environmental injustice. Some individuals may be forced to live closer to environmental hazards due to a lack of economic resources.	Will be measured by the Interviewer during the interview survey The Interviewer will list off several discrete income brackets and then ask the participant to identify which bracket their household most likely falls under.	Ratio  *a possible weakness may arise if the participant is unsure of their income, may be commission based or paycheck to paycheck
Access to Healthcare  <b>See Appendix Question 11,12,13</b>	This variable is important in assessing environmental injustice because not only could there be trends in unequal levels of exposure, but there could also be trends in availability of resources to help treat these unequal levels of exposure.	Will be measured through the participants response to questions regarding attendance to routine healthcare check-ups and whether or not the participant has healthcare insurance.	Ordinal  *overall access to healthcare can be ranked on a scale of 1 to 5 (high accessibility) based on the number of items the participant reports during the interview regarding questions related to healthcare access and availability.
Respiratory Concerns	This variable is likely an important indicator that the Northern Metal	This will likely be measured through several questions, asking about any	Nominal  *some of they survey

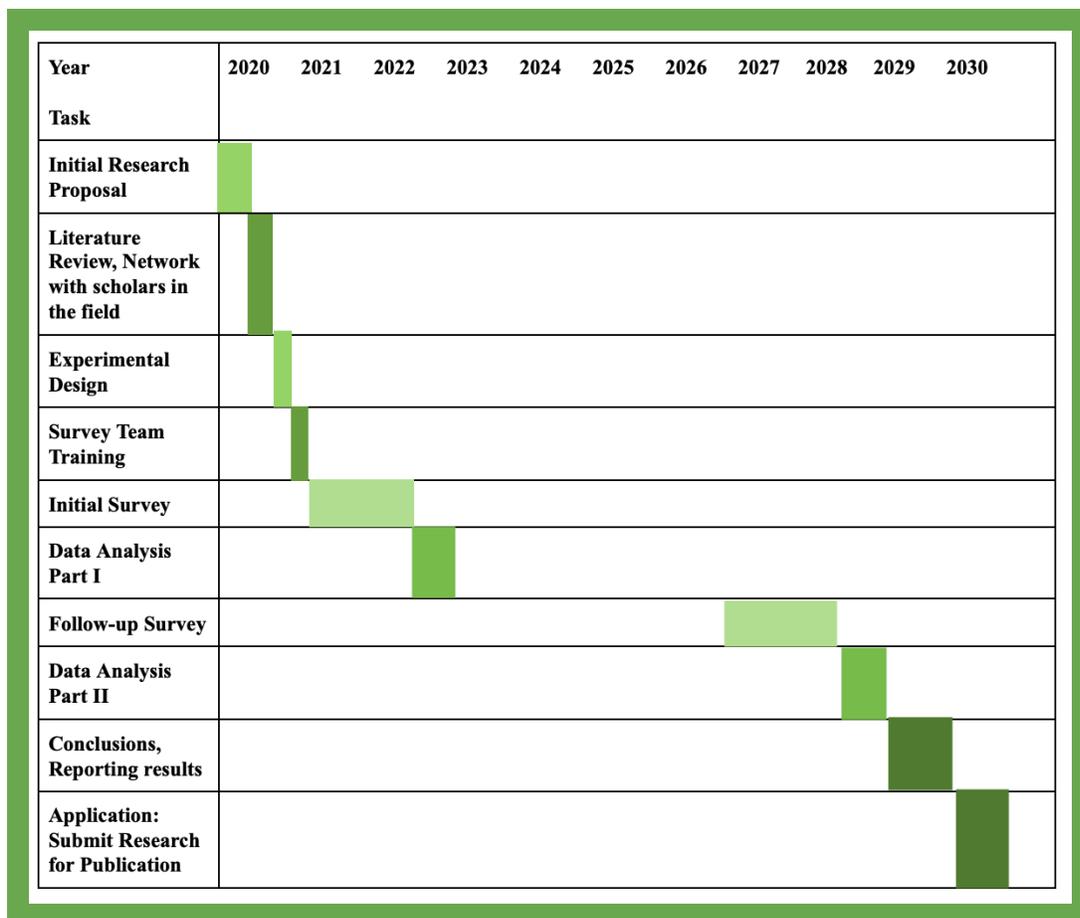
<p><b>See Appendix Question 6,7,8,9,10</b></p>	<p>Recycling facility is having a more tangible impact on the residents of one particular neighborhood over another.</p>	<p>respiratory conditions, if the participant is a smoker, and if the participant reports any noticeable differences in their respiratory health in the last several years.</p>	<p>questions may be a simple yes or no which could be limiting for some participants who don't have a definitive</p>
<p>Ethnicity  <b>See Appendix Question 5</b></p>	<p>This is an important variable to measure because it can help justify whether or not one group of individuals is being disproportionality exposed to the environmental burden of the Northern Metal Recycling facility over another group.</p>	<p>This will be measured through a survey question asking the participant how they identify themselves in terms of race, gender, and class.</p>	<p>Nominal  *a potential weakness could be that a participant's identity is much more complex than the listed options by the interviewer. Likewise, there is the potential that the participant doesn't feel comfortable talking about their identity with a stranger.</p>

## Discussion of Validity and Reliability

There are several concerns when it comes to objectively measuring environmental injustice within a particular landscape. There is not one given measurement or observation that can clearly denote that injustice is occurring. An accumulation of factors and narratives help to construct an understanding of the situation at hand. Questions regarding the reproducibility and reliability of collected data can arise. However, it should be noted that the aim of this research is not

causality, but instead exploratory in nature. Understanding the social environment of Minneapolis through the concept of environmental injustice may be informative as to how to approach other geographical locations that may potentially be experiencing inequities similar to what the findings of this proposal may uncover within their landscape, but there is no guarantee that the findings will be reflective beyond the scope of the Minneapolis population of this particular study.

**VII: Timetable: Longitudinal Study (figure 1)**



**VIII: Closing Remarks**

As seen in the timetable for this research project, determining the long-term health-effects of exposure to the Northern Metal Recycling facility and identifying who is being affected is no easy uptaking. From start to finish, almost a decade will be dedicated to investigating and establishing a baseline of environmental injustice in Minneapolis for local officials, healthcare workers, and the community at large to improve upon(figure 1). It should be noted, though, that even in this frame of time there is still the possibility that several of the long-term health effects will have yet to

manifest in affected individuals of Minneapolis, along with the possibility of new environmental hazards that are to emerge with time.

### Budget

Environmental Injustice Research Project-Northern Metal Recycling Facility		Overall Time Frame	Survey #1	Follow-up Survey #2
		Totals for 10 year span		
<b>01-Salaries</b>				
	Include yours if you would be paid. Also include any research assistants you would need.	Grad School Stipend \$20,000 x5 years \$100,000.00	-->	-->
		Undergrad Volunteers part of Survey Team		
<b>02-Personal Service Contracts</b>				
	Do you need to pay anyone for their services (e.g. Translators, Transcribers, Consultants)	2 Stints of 1 year for 1 translators Part time @ 900 hours at \$29 an hour	900 hr for stint 1	900 hr for stint 2
<b>03- Other Contractual Services</b>				
	Do you need to pay an outside company (e.g. for advertisements)	N/A		
<b>04 - Travel</b>				
	local travel, assume 0.25 cents per mile. Include airfare and accomodation.	Minneapolis 57.49 mi^2, avg 15 miles a day \$2475.00	330 days to conduct \$1,237.50	330 days to conduct \$1,237.50
<b>05 - Supplies and Materials</b>				
	e.g. Software, Hardware, Instruments, Postage, Office Supplies	Paper Surveys @ 0.09 each x 4608 \$414.72	2304 surveys \$207.36	2304 surveys \$207.36
<b>06- Equipment</b>				
	Hardware, Instruments. (e.g. GPS )	<b>Laptop and Hard-drive</b> Laptop \$600 Hard-Drive \$50		
<b>07 - Benefits</b>				
	Calcuate 14.2% of your salary. Otherwise consult A&S instructions	\$14,200.00		
<b>08 - Student Aid and Other Grants and Services</b>				
	e.g. your tuition	See above for Stipend		
	<b>Total Direct Costs:</b>	\$169,959.72		
	<b>Amount Subject to F&amp; A Costs: Typically this would be amounts in 01 thru 06</b>	\$155,759.72		
	<b>Indirect Costs (UW Overhead) : multiply Total Direct Costs by 54.5% to get total budget amount</b>	\$92,628.05		
<b>Total</b>	<b>Total Amount of Budget:</b>	\$262,587.77		

### Appendix: Sample Interview Survey

A surveyor will introduce themselves and provide a high-level overview of the research project and its intellectual benefits, along with the practical and policy applications of exploring the long term health impacts of the Northern Metal Recycling facility on different neighborhoods and determining if environmental injustice is occurring. Notify the subject that their participation is completely voluntary.

**If the subject agrees, proceed to ask the following questions along with obtaining contact information.**

**\*N/R = No Response or Decline to Answer**

**Name:**\_\_\_\_\_ **Phone:**\_\_\_\_\_

**\*write down the address from the random selected address list after the survey.**

**Address:**\_\_\_\_\_

**1.) Household size?**\_\_\_\_\_ **(# of individuals)**

**2.) Age range of members of household?**\_\_\_\_\_

**3.) Approximately how long have you lived at this particular address?**\_\_\_\_\_

**4.) Approximate Annual Income of household?**

Less than \$30,000

\$30,001-50,000

\$50,001-100,000

\$100,001-150,000

Above \$150,000

**5.) Which of the following do you identify with most closely? \*may select more than one option.**

American Indian

Asian

Black or African American

Native Hawaiian or Other Pacific Islander

White

Other

**6.) Does anyone in your household have asthma? Yes No Unsure N/R**

**7.) Is anyone in your household a current or former smoker? Yes No Unsure N/R**

**8.) Has anyone in your household been hospitalized for respiratory problems?** Yes  
No Unsure N/R

**9.) Has anyone in your household been diagnosed with respiratory conditions in the past 3 years?** Yes No Unsure N/R

**10.) Has anyone in your household been diagnosed with lung cancer in the past 5 years?**

Yes No Unsure N/R

**11.) Do you have continuous access to healthcare facilities?**

All the time    most of the time    some of the time    rarely    never

**12.) Do you have healthcare insurance?** Always    Most of the Time    Some of the time    Never

**13.) Do you have access to personal or public transportation?** Yes No Sometimes  
N/R

**14.) If you and your household had the choice to live elsewhere in the Minneapolis area, would you move?** Yes No Depends N/R

**15.) Have you or anyone in your household reported any noticeable differences in the air quality over the past 6 months?** Yes    No    Unsure    N/R

**16.) Do you or members of your household feel comfortable engaging in outdoor activities around your house or apartment without concern for air quality?** Yes No  
Unsure N/R

**17.) How often do you check the air quality index on a mobile device?** Daily Weekly  
Monthly Yearly Never N/R

**18.) Are you familiar with the Northern Metal Recycling facility?** Yes Unsure No N/R

**19.) If yes to the previous question, could you please elaborate what you know about the Northern Metal Recycling facility with any thoughts or concerns?** (open ended, take note, may not be used to quantitatively justify injustice, but instead provide narrative when writing research summary at the end of the project.)

### **Works Cited**

Evans, Marissa. "North Minneapolis Residents Welcome Shutdown of Metal Shredder." *Star Tribune*, Star Tribune, 30 Sept. 2019, [www.startribune.com/north-minneapolis-residents-welcome-shutdown-of-metal-shredder/561642752/](http://www.startribune.com/north-minneapolis-residents-welcome-shutdown-of-metal-shredder/561642752/).

United States Census Bureau. "Minneapolis Population ." *Census*, 2018,  
[www.census.gov/glossary/](http://www.census.gov/glossary/).

### **Annotated Bibliography**

Alemán, Rosa (2020). "What is Intersectionality, and What Does It Have to Do with Me?"YW

Boston, Available at

[www.ywboston.org/2017/03/what-is-intersectionality-and-what-does-it-have-to-do-with-me/](http://www.ywboston.org/2017/03/what-is-intersectionality-and-what-does-it-have-to-do-with-me/) . Date accessed 28 October 2020. This article is important

because it helps step-up one of the keywords and concepts in environmental justice which is Intersectionality. This article provides a brief history of who first coined the term and the context from which it arose. Furthermore, this article provides an example of intersectionality which denotes that multiple components of identity can be seen within the differences in wages between a not only with regards to gender, but also how an individual of color is likely to be paid less than a white man. This article is helpful for this literature review because intersectionality is important in understanding the true degree of inequality that exists.

Bullard, Robert D.(1990) *Dumping In Dixie : Race, Class, and Environmental Quality*.Westview Press. This book draws attention to the minimal amount of research that has been done for people of color. This book criticizes mainstream environmentalism and provides insight into how people of color are disproportionately affected by environmental contaminants. This article is helpful for my research because some of the research models proposed in this article may be helpful to consider when assessing Environmental injustice in Minneapolis. Additionally, this article provides insight on the concept of NIMBY. This is one of the keywords that I felt needed to be defined in the terms of the current state of knowledge in Environmental justice.

Carnahan, A. H. *et al.* (2020) 'Place-Making Practices for Park Improvements to Support

Environmental Justice in a Low-Income African American Neighborhood', *Journal of Park & Recreation Administration*, 38(3), pp. 93–111. doi: 10.18666/JPra-2019-9676. This article discusses place-making practices which are important for enhancing inclusivity within a given neighborhood. The term “place-making” is well defined early on as it is describing a space plus meaning. The meaning of a particular place is established by incorporating social meaning, personal experiences, and cultural components to this space. This article points out that there is a lack of place-making in low income communities; this “systemic lack of access” to quality places contributes to negative health outcomes in minority and low income communities. This article will be helpful in my research because it will likely provide insight into potential measures of disparity for accessing Minneapolis. Likewise, this article mentions that minority groups have often been left out of the process of designing these public spaces: Thus, directing my attention to further research on which members of the Minneapolis community are carrying out the developmental aspects of public health projects.

Denchak, Melissa (2018) "Flint Water Crisis: Everything You Need to Know." *NRDC*, Available

at: [www.nrdc.org/stories/flint-water-crisis-everything-you-need-know](http://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know). Accessed on: 27 October 2020. This article is important and helpful for my literature review because it provides a brief overview of the timeline for the water crisis in Flint, Michigan. This source is a powerful combination of first hand stories and images from the water scandal. This article is helpful in the realm of Environmental justice because hearing first hand from the people who are experiencing injustice is a powerful measure. This article highlighted the importance of co-production of knowledge in the field of Environmental justice. This article made me consider how doing a random sample for an interview may be a viable research method in the next assignment.

Donev, Jenden, and Lloyd (2018). Energy Education - Not in my backyard syndrome [Online].

Available at:

[https://energyeducation.ca/encyclopedia/Not\\_in\\_my\\_back\\_yard\\_syndrome](https://energyeducation.ca/encyclopedia/Not_in_my_back_yard_syndrome). [Accessed: October 27, 2020]. This article provides a brief overview of the concept of NIMBY. Specifically, this article unpacks the various attitudes towards NIMBY and tries to break down what each side involved in a particular development might feel. Specifically, this article was originally written to explain NIMBY in the context of energy education and how even practical necessities like electricity are widely accepted by the general public but when the facilities are too close to home is when local opposition sparks. This article is helpful in my literature review because it provides a solid foundation to build a working definition of NIMBY off of, as well as provide insight into possible research locations for assignment #3.

Gerrard, Michael B.(1994) "The Victims of Nimby." *Scholarship Archive*. Available at: [scholarship.law.columbia.edu/faculty\\_scholarship/707/](http://scholarship.law.columbia.edu/faculty_scholarship/707/) .Accessed on 29 October 2020. This scholarly article provides a brief overview of NIMBY and how it is perceived by those involved. Additionally, this article provides an explanation for the variations of NIMBY and who is specifically targeted to unwanted facilities in their neighborhood. This article was helpful in establishing a keyword in the current state of knowledge. This article was less research based, but more of a synthesis of an important concept to Environmental justice.

Kalgotra, P., Sharda, R. and Croff, J. M. (2020) 'Examining multimorbidity differences across racial groups: a network analysis of electronic medical records', *Scientific Reports*, 10(1), pp. 1–9. doi: 10.1038/s41598-020-70470-8. This article brings into light the processes behind a majority of the public health research methods in the past several decades, stating that disparities are typically examined at one particular point in time with only one particular variable and racial group. Kalgotra and colleagues suggest that there needs to be a longitudinal approach to studying health disparities. Their research approach included obtaining medical records for 18.7 million patients across seven racial groups. This macro level approach to identify diseases and their relative prevalence among different racial groups can direct further research on the potential causes of these differences which can be related back to differences in environmental conditions. This article is helpful for my research proposal because it may be useful to look at medical records at several different hospitals around the Twin Cities to see if any broader trends can be seen in relation to socioeconomic factors.

Landers, G. M. et al. (2020) 'A Theory of Change for Aligning Health Care, Public Health, and Social Services in the Time of COVID-19', *American Journal of Public Health*, 110, pp. S178–S180. doi: 10.2105/AJPH.2020.305821. This article examines the Public Health response to COVID-19. While recently published, this article highlights how there is a need for the government, community, and public health specialists to come together to find solutions to best allocated resources and healthcare access. This article is helpful to an extent, but lacks clear methodology that could be applied to my particular research. However, this article has made me mindful to possibly consider how COVID-19 impacts neighborhoods in Minneapolis differently.

Matthew, D. B. (2018) 'Next Steps in Health Reform: Hospitals, Medicaid Expansion, and Racial Equity', *Journal of Law, Medicine & Ethics*, 46(4), pp. 906–912. doi: 10.1177/1073110518821988. This article discusses the power that hospitals can have by leveraging their economic influence to better equalize healthcare for all regardless of socioeconomic status. This article lays out a model that hospitals can take to “reduce inequitable population health outcomes”. This article provides great detail on this approach, but I think the angle of approach would be hard to continue off of in my research proposal. Specifically this article takes the perspective of the hospitals. I think when approaching the environmental disparities in Minneapolis, I could include mapping the relative proximity of

healthcare facilities for certain neighborhoods, but should take into consideration more of the environmental elements that the hospital perspective lacks.

Nesterak, Max (2020) “The Place Where George Floyd Was Killed Is Hallowed Ground.” *Minnesota Reformer*, Available at: [minnesotareformer.com/2020/06/01/the-site-where-george-floyd-was-killed-is-hallowed-ground/](https://minnesotareformer.com/2020/06/01/the-site-where-george-floyd-was-killed-is-hallowed-ground/). Date Accessed: 30 October 2020. This article summarizes the tragic killing of George Floyd and provides insight to the timeline of events that unfolded that day. This article is helpful for my research because I think it clearly suggests why Environmental justice research is important in the structural rebuild of Minneapolis. Institutionalized racism is a component that Environmental justice researchers look for when evaluating environmental concerns. This article was helpful in my literature for providing context for why I am focusing on the geographical region of Minneapolis.

Nickel, S. and von dem Knesebeck, O. (2020) ‘Do multiple community-based interventions on health promotion tackle health inequalities?’, *International Journal for Equity in Health*, 19(1), p. N.PAG. doi: 10.1186/s12939-020-01271-8. This article explores dozens of papers which discuss approaches to reducing the health disparity gap. This article looks at the findings across these papers and suggests that a community-based approach to health promotion should be adopted to ensure the best outcomes. Additionally, this article brings attention to how sub-populations should be considered separately. This is a factor that I will keep in mind for later in my research proposal because I need to be careful to not make any generalizations for a given neighborhood in Minneapolis. Furthermore, I will need to be mindful of scale when looking at these sub-populations to make sure that no important environmental or socioeconomic detail is overlooked. Another point that should be mentioned is that this article pertains to research conducted in Germany. Although not to discredit the researcher, it may be more helpful to look at articles that are based on research in the United States. The current political climate and healthcare system is vastly different in the United States when compared to Germany which could impact the relevance for my research.

Richardson, Mitchell, and Franco. (2019). “Shifting Neighborhoods: Gentrification and



Cultural Displacement in American Cities” NCRG. Available at: [nrcr.org/gentrification/](http://nrcr.org/gentrification/). Date Accessed: 20 October 2020. This web journal goes into explaining what gentrification is and how it can be recognized within a given urban landscape. This article was helpful in approaching the concept of gentrification from both an economic and social perspective. This article brought to my attention the role that millennials are having on the urban landscape and how they can be contributing to this urban crisis. Additionally this article goes into depth on which cities are experiencing measurable levels of gentrification in the United States, as well as providing several graphs and maps that clearly denotes which geographic regions have more gentrification than others. This article is helpful because I could look for possible research methods regarding how to quantify the degree of gentrification within the Minneapolis community in Assignment #3.

Silva, Daniella.(2020) “Homeless and Facing Winter in Minneapolis.” *NBCNews.com*, NBCUniversal News Group, Available at: [www.nbcnews.com/specials/homeless-and-facing-winter-in-minneapolis/](http://www.nbcnews.com/specials/homeless-and-facing-winter-in-minneapolis/). Accessed on: 29 October 2020. This article is not considered a scholarly article, but instead a news article that I took caution when accessing. This article provides context for the current economic situation in Minneapolis. Specifically, Silva points out the disparities that directly affect minority and low-income communities across the metro. I used this article to help establish why Environmental justice research is needed in Minneapolis. This article uses data from the Census, which may be helpful source for collecting research data about the general population of Minneapolis in assignment #3.

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## **MY FAMILY’S GLOBALIZATION**

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After reflecting on my family heritage, the impacts globalization has played on the migration patterns of my family is clear. Considering that both my parents immigrated from Ethiopia in the late 80s, their patterns are very similar and follow a similar pattern to other Ethiopians who were immigrating at the time. The following analysis will show the clear connections between economic opportunities and political instability that influenced the migration patterns of my family and, more broadly speaking of my people.

Although the immigration of Africans, specifically Ethiopians, is becoming more of a commonplace in present times, the important history of this group is still relatively new and unfamiliar to the United States. One of the largest reasons for the immigration of Ethiopians to the U.S is attributed to the several regime changes and general political instability from the 1970s through early 1990s. During this time, a dictatorship led by Mengista Haile Mariam tremendously impacted the social and economic growth within the country by amplifying both conditions of poverty and inequalities. The period overlaps with the time around when my parents eagerly decided to immigrate to the United States. With the Marxist regime beginning to take control of the country, a large number of Ethiopians were left with no choice but to flee to nearby countries, including Sudan.

From here, Ethiopian refugees sought to gain residence within countries inside of North America, Europe, and the Middle East. This desire stemmed from the fact that the refugees had few economic opportunities to improve their standard of living. With the hope to gain some economic mobility and seek out new opportunities, the United State became a dream for many. The thought of economic prosperity in the U.S left many believing that ample economic opportunities would be available. In time, first waves of Ethiopian refugees entered the United States, which was aided by the 1980 Refugee Act.

One of the destination cities for Ethiopian refugees was the city of Seattle. Prior to the political turmoil in Ethiopia, Seattle had a relatively small population of Ethiopians. The initial immigration from Ethiopia had come to study at an American university with the ultimate plan to go back to Ethiopia. However, given the previous circumstances mentioned that the Ethiopians were faced with during the 1980, the immigrant population of Ethiopians in Seattle began to grow exponentially. With this many refugees were supported by those who resided within the Seattle area; my parents being a part of the group of Ethiopians who were sponsored by friends and family.

Looking at some of the major pull factors that went into the decision my family made to come to the United States, one of the most obvious ones is the abundance of economic opportunities. Both of them felt that the United States of America has a lot of office compared to their current employment situation in Sudan. Another important pull

factor was the perceived freedom of America through their government ideologies, considering that the regime in Sudan has been in control for over two decades. Further, the immigrant community that was already starting to be established is another considerable factor in the choice for my parents to choose immigrating to Seattle.,as they already had friends and families who established themselves in the area and were ready to sponsor them.

When looking at the major push factors,they are nearly opposite to the pull factors in the choice of immigration for my parents. At a time when Ethiopia was politically unstable and prone to persecution and violence, they felt their best choice of action for their safety was to flee the country they had called home for years. Given this, my parents ended up as neighboring refugees in opposing countries in which their economic opportunities were greatly limited and they knew that to increase the quality of life for themselves they must choose to immigrate to a country that they felt had a bountiful number of economic opportunities, the United States of America. While the choice to choose Seattle wasn't as much their own, Seattle allowed my parents to easily establish and connect with family members and friends who resided in the area. When looking at my family's migration story from a globalization perspective, it's clear to see how much economic factors and the presence of a political stability influenced the migration of my people Reflecting on this experience with family members, I can see that this migration that occurred decades ago still has implications on g the country today, as many laborers and educated are being brought in from places outside of Ethiopia, such as China. Lastly, instead of Ethiopians going back to the country to help rebuild it and advance the country, many have decided to stay in other countries and contribute to their newfound communities.

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## **How Residential Segregation Impacted Black Communities In The United States In The 20th Century**

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### **Introduction**

The history of racism against Black people in America can be traced back to the African slave trade period. During this time, people from West and Central Africa were captured, enslaved, and brought to the Americas for forced labor. The fact that modern America is a product of slavery shows how deeply racial discrimination is woven into American society. Because the United States was founded on slavery, Black Americans have been subjected to various forms of harsh and unfair treatments throughout the country's history. One form of systemic racial discrimination that still impacts Black communities today is segregation. Segregation describes the separation of different groups of people based on prejudice against socioeconomic factors such as race, religion, and sex. Over time, this discriminatory separation can be made deeply rooted in a governance system that supports it through existing laws and policies. In the United States, the three forms of racial segregation which have had the most severe and long-lasting impact on Black communities are residential segregation, employment segregation, and educational segregation. In the following paper, We will discuss how these three forms of segregation evolved in the 20<sup>th</sup> century and also identify and highlight ways in which they affect Americans in the present day.

### **Residential Segregation**

Residential segregation is widely known to cause and worsen other forms of segregation, especially educational and employment segregation. Residential segregation refers to two or more socioeconomically different groups living in separate areas of the same geographic region, such as a city or other municipality. .

During the Great Migration of the 20<sup>th</sup> century, millions of African Americans moved from rural regions in the Southern United States to urban centers in the Northeast, Midwest, and West. The migration was driven by steadily increasing rates of anti-Black violence and policies in the South, and an increase in economic opportunities in the North. However, African American migrants who were met with cities in the North also experienced a constant rise in segregation and, between the late 19<sup>th</sup> century and 1940, many Black and other minority commu towns developed cores that were mostly black because the white residents moved out of the cities to the

suburbs. (Trevon D and M.Parman, 2017) Residential segregation in the North became more visible in the early 20<sup>th</sup> century and accelerated with each decade that passed. By World War II, which is challenging to change and has remained to-date. Residential segregation has gone through a long history of private practices and public policies produced by a system of segregated housing patterns, which today gives an avenue to significant discrepancies in access to housing. (Sam, 2020)

American residential segregation mainly occurs between white people and black people with the black people being the disadvantaged group because residential segregation is the primary cause of unequal opportunity for them. The flight of wealthier white residents to the suburbs caused simultaneous movements of resources with them, leaving black people in the urban cores with fewer resources and effectively creating conditions for poverty. (Trevon D, M.Parman, 2017) The urban centres lagged in essential social amenities such as schools and hospitals. Industries also became more concentrated in the suburbs than the city centres, leaving Black Americans with fewer opportunities for jobs and consequently limited sources of livelihood. United States national and federal governments, as well as black movements, tried to deal with this problem of residential segmentation. Though significant progress has been achieved, the question still widely exists. Residential segregation is a big issue because where people live determines their access to education, health care, employment opportunities, and transport services.

## **Educational segregation**

The link between residential segregation and educational segregation is pure and crystal clear. This is because most Americans take their children to schools in the neighbourhood of their homes. Research shows that about 75% of American students attend a neighbourhood school, and just a few can use public school choice policy to participate in integrated magnet or charter schools outside their neighbourhood. (Kimberly. 2020) Most black Americans settled within urban centres characterized by a shortage of job opportunities and low income, and therefore the residents could not afford high-performing schools. White Americans, on the other hand, moved to city suburbs and established industries with several well-paying job opportunities. They were wealthy and therefore, able to influence the establishment of excellent and high-performing schools for their children.

In 1960, 95 of the 589 elementary schools in New York City had 95% of their students being black. Similarly, 22 of the 125 middle schools in the city had 85% of their students being black. (Nathan, 1970) The consequence of the school system was that white students became more educated than black students. Grades of black and

white high school graduates in the 1960s had a gap of three years. For example, in the survey of 20 elementary schools and four junior high schools in Harlem in the early 1960s, there were 31,469 students, with the majority being black students. Only 50.3% of the teachers in these schools were holders of the certificate issued by the City Board of Education. In a survey of the reading and comprehension ability of third-grade students, 21.5% of students were above the standard level, and 30% of students were below the usual level. Compared with the reading ability of New York City and national third-grade students, the reading ability of black students in the third grade was much lower than that of the same level of students in New York. The gap between the sixth-grade students was even more significant. Only 11.7% of the students were above the standard level, and up to 80% were below the standard level, which was only equivalent to the average level of fourth-grade students in New York City. Black students from the Harlem neighbourhood entered high schools when they were three years worse than students of the same grade in New York City where white people live. (Carmichael and Hamilton, 1965) The education gap in the Harlem neighbourhood illustrated the poor quality of black school education, which had caused a continuous economic decline within the black population. Of course, this was not a phenomenon unique to Harlem, but a common problem in all-black American schools.

Another factor that contributed to the poor quality of black school education was their insufficient funding. Public education expenditures at all levels in the United States were covered by taxes which made most of the burden fall on state and local communities. Of the total funds to the schools, the state government provided 40%, federal government 10%, while the remaining 50% came from local school districts. All these funds were almost entirely from property taxes. Because of the significant financial gap between communities, the schools' equipment and facilities, quality, and education programs had apparent inequalities, which subsequently caused a very unfair phenomenon. Poor citizens in weak areas often had to pay for children's poor education with very high local taxes; In contrast, children of wealthy people in wealthy areas enjoyed excellent knowledge with lower local taxes. (Frank R, 1992) Educational segregation further severely affected the living patterns of American cities. With the increase in the population of black people, the number of black students in urban public schools continued to rise. The white people in cities had moved their families to school districts with white students for better education quality. As a result, the residential segregation of the inner town intensified, and the condition and funding of the schools deteriorated due to the relocation of white people to the suburbs. While wealthy suburbs could fund large-scale educational facilities with the latest equipment, inner-city schools lacked this ability.

Educational segregation is still prevalent in various cities of the United States. To confirm this, recent research shows that low-income (Black American) students who get the opportunity to attend white-dominated socioeconomically integrated schools achieve much higher than low-income (Black American) students in high-poverty black-dominated schools (Kimberly, 2020).

## **Employment segregation**

Residential segregation caused employment segregation in two ways. First, because the white middle class fled the city centre and moved to the suburbs, the industry and business in the city also moved to the suburb areas, which caused a decline in employment opportunities and thus a state of financial difficulty in the black-dominated city centres. Secondly, residential segregation caused educational segregation, which in turn limited the number of black Americans that acquired proper education to enable them land into jobs with reasonable pay. As a result, the unemployment rate of young black people remained high for a long time. In a real sense, educated black Americans would earn less income than uneducated white Americans. Research shows that African American households headed by bachelor degree holders had just two-thirds of wealth, on average, of white families headed by an individual who lacked high school qualification. (Kimberly, 2020)

Twelve years of segregated education had also led many black youths and white youths to think that educational segregation was a matter of course. White teens naturally had a "white supremacy" consciousness, and black teens had a little sense of lowliness. A survey of employment in the black community in Harlem revealed that Unemployment among black youths in the black district of Harlem was extremely shocking. In 1960 the annual number of unemployed male black people was twice that of male white people. The difference among females was even more significant.

The high unemployment rate of black people began after the end of World War II. After the war, with the partial discontinuation of the arms industry, overseas soldiers returned to the country for demobilization. Employment became increasingly difficult, and employment discrimination against black people increased. In June 1946, the Fair Employment Management Committee announced the end of its work, and factories cut down large numbers of black individuals. (Jones, 1985) The problem of Unemployment had not been resolved. For black people, employment discrimination was more severe than high Unemployment. As a result of the domestic labour shortage caused by the First and Second World Wars, black people left the rural areas to look for employment opportunities in the cities, but they immediately encountered severe discrimination. In the early days of World War II, black people were excluded from the defence industry.

For example, in 1941, nearly 9,000 people were employed in the aerospace industry, but only 17 were black. Similarly, 35,000 were used in the steel industry, and only 245 were black. Only 17% of the shipbuilding industries were black workers. In cities such as Connecticut, Baltimore, and Los Angeles, due to severe labour shortages, many factories began to introduce white unskilled workers from other places instead of hiring skilled local black individuals. (Berry and Blassingaine, 1982) From 1960, black Unemployment moved from bad to worse. Equality in employment and payment did not exist. Discrimination by white employers created a vast majority of black workers who could only perform unskilled and semi-skilled jobs with lower-than-standard salary. Although the wages of black workers had increased since World War II, the actual income gap between black and white workers had widened due to discrimination. In 1954, the average hourly income difference between black workers and white workers was 0.90 dollars, and it became 1.45 dollars in 1959. (J. S onesein, 1993)

There were also a series of structural factors that were not conducive for the employment of black people at the bottom of the economy. During the war, the US economy had successfully absorbed immense unskilled labour. The development of modern science and technology after the war resulted in production automation, replacing many simple processes that were occupied by black people. It was difficult for black people who moved into cities to find enough unskilled jobs. The development of automation also placed the need for a higher level of education for employed workers. But the segregated and unequal schools that black communities were subjected to for a long time would inevitably place black individuals in a more disadvantaged position in competition with white people. (J. Wilson, 1983)

Industries that had been developing in the cities had moved into the suburbs with white people in the 1950s and 1960s. As a result, black communities were abandoned in urban centres, where employment opportunities were declining. Since the early 1950s, about half of the emerging factory enterprises and commercial companies were built on the outskirts of the city, which undoubtedly reduced the employment opportunities of black communities. Black people who were lucky to be employed in those factories and enterprises in the suburbs had to use public transportation with rising fares to travel from their homes to suburbs, which increased their economic pressure. According to statistics, from 1965 to 1971, Chicago alone had more than 1,000 companies from the city centre move to suburban areas that had over 50,000 jobs. Employment opportunities for black people kept declining. (Edwin H, and M Willhelm, 1964).

## **Other Impacts of Residential Segregation on Black Lives**

There were other societal impacts caused by residential segregation. For a long time, the Unemployment of urban black communities and the small number of middle to high-income black communities had greatly affected the economic status of black communities. Struggling for employment and survival had a terrible impact on black communities. It severely damaged the structure of black families, and many men who could not find employment opportunities ran away from homes so that their wives and children could receive financial assistance. Children who grew up in this environment often did not get a traditional education, which made it even harder to find jobs than their parents. Some black individuals simply did not look for work and relied on subsidies. This caused high crime rates and high drug use rates among black communities. (Vaughn, 2012)

In the black communities, the infant mortality and adult mortality rates were much higher than that of white neighbourhoods. Furthermore, the medical services in those areas did not only fail to improve but also moved to the suburbs in the 1950s. Taking Chicago as an example, from 1950 to 1970, doctors in the city centre lost an average of 100 people each year. The number of doctors in the ten most deprived areas of the inner city decreased by 0.25% to 0.99% of the population, while ten wealthiest communities in the suburbs had the number of doctors rise from 1.78% to 2.1%. (Mcentire, 1960) Besides, the lives of black people were restricted to certain areas, and even if housing was available outside of where they lived, black people were unable to buy them. They were neither able to raise their children and provide an excellent education for them nor participate fully in the country's economic and social life. The problems faced by black people were not limited to these. Residential segregation, educational segregation, and employment inequality in places where they lived made them feel frustrated, alienated and abandoned. As the black economy worsened, the urban black hatred towards white people became more robust, and police brutality and harassment of black people further intensified racial conflicts. Black people were beaten, arrested, and put into prison by the police. The police did not work to maintain law and order in the black communities, but instead were the agents of racial rule of the white people who were hell-bent on suppressing them. In 1968 a survey was conducted to find out the level of dissatisfaction of black people with the police, indicating that 82% believed that there was brutality by the police in Denver, a notably black community. In the Watts area of Los Angeles, 74% of black people reported that the police did not pay enough attention to them, or had used insulting language against them. (Report of the National Advisory Commission on Civil Disorders, 1967)

It is undeniable that the civil rights movement has played a fundamental role in enhancing the social status of black people in the United States, but residential segregation still exists today. After the civil rights movement, the problem of segregation and the economic poverty of urban black communities worsened. For a long time, one-third of black families were living below the poverty line, and 70% of these poor black families were single-parent families. (Jones, 1985) Unemployment, poverty, and crime are still common problems among black people in their communities. The number of unmarried mothers, drug abuse, fratricidal killings, robbery, etc. is continuously rising, and the social environment is terrible.

In conclusion, residential segregation is a primary cause of the negative aspects of life the black communities are experiencing. Unfortunately, it still exists to-date. Just to mention a few, housing segregation has caused the majority of black people to experience more mediocre education, lack of proper medical care, inadequate living environments, and wide-spread unemployment. Thus, to reduce the inequalities among people, housing segregation has to be reduced. The government of the day should review its policies to put housing segregation to an end. It is worth noting that so many researchers and scholars have dwelled on the racial disparity between the Black Americans and White Americans, forgetting that there is another significantly large ethnic group: the Latinos. I, therefore, recommend future research that comprehensively focuses on residential segregation problems of the Latino populations in the United States.

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