ABSTRACT

Title of Thesis:	NEIGHBORHOOD TRANSITION AND THE CRIMINALIZATION OF MINORITIES
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This study investigates the relationship between neighborhood transition and criminalization in Washington, D.C. census tracts. The main hypothesis predicts that racially diversified census tracts will experience increases in formal social control (a.k.a. criminalization) of minority and low-income groups due to social tension between race groups. Existing ethnographic literature links neighborhood levels of racial diversity to various forms of criminalization but quantitative literature on the topic is sparse. This study uses demographic census data and official stop-and-frisk data to examine how changes in neighborhood racial composition affect police stop-and-frisk practices in Washington, D.C. The longitudinal nature of the data and the spatial methods employed build upon the existing body of quantitative criminalization research. Findings indicate that increases in racial diversity are associated with increases in the criminalization of black individuals, particularly in tracts that were predominantly black at the beginning of the study period.

NEIGHBORHOOD TRANSITION AND THE CRIMINALIZATION OF
MINORITIES

by

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Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Arts
2020

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Chapter 1: Introduction

Every year government bodies, the media, and other actors criminalize and decriminalize various behaviors in response to social concerns, current events, or other circumstances. During Maryland's 2019 legislative session, the General Assembly introduced approximately 41 bills that would formally criminalize new acts if enacted and approximately nine bills that would formally decriminalize existing offenses. This process demonstrates criminalization, or the increased perception of criminality associated with specific social groups or behaviors, often accompanied by an increase in formal or informal social control. A well-known example of criminalization is the conflation of race and crime. Existing literature finds that perceptions of minority criminal behavior exceed their actual behavior (Quillian and Pager 2001, Quillian and Pager 2010, Sampson and Raudenbush 2005). The current study uses police stops to capture the criminalization of minorities in Washington D.C. neighborhoods. These police-citizen interactions serve as a proxy for current levels of criminalization as Broken Windows style policing encourages officers to enforce community preferences regarding minor behaviors as part of a broader strategy. Police stops will capture a shift in community preferences towards the criminalization of minorities, or behaviors associated with minorities.

Community advocacy organizations raise awareness of the toll that criminalization takes on vulnerable populations. For example, in Washington, D.C. Councilmembers introduced the Amplified Noise Amendment Act of 2018, supported by the downtown business district lobby. This legislation would have created a criminal penalty for certain noise violations of up to 10 days incarceration or a fine

not exceeding $300 (Frye, 2018). The District's downtown business area is historically home to musical street performers who rely on the heavy foot traffic for income. The musical street performers are predominantly black while the downtown business district lobby is predominantly white. This legislation demonstrates conflict between social groups regarding community preferences, and the mobilization of police resources to criminalize the minority group.

Criminalization is defined in this paper as the increased perception of criminality associated with specific social groups or behaviors, often accompanied by an increase in formal or informal social control (Kane et al. 2013). This could entail events at the city-level such as the noise amendment described above or events at the neighborhood-level, such as the eviction of a homeless encampment (Moreno, 2000; Rios, 2011). This paper argues that as neighborhoods racially diversify, social tension between members of different race groups will rise, resulting in the criminalization of minorities. The theoretical propositions set forth in Black's Behavior of Law theory (1976) and Blalock's theory of Minority-group Relations (1967) support this argument. Blalock argues that when a dominant group's social position is threatened, the group will mobilize resources against the perceived threat. Black (1976) argues that the criminal justice system intervenes more heavily when the complainant belongs to the dominant group, and the offender to the oppressed group. Existing literature finds that social tensions, measured here using 311 calls, rise in racially diverse spaces due to conflicts that arise in public spaces. This paper argues that whites mobilize resources against a perceived minority threat in the form of police stops. For readers unfamiliar with 311, many urban areas now offer this non-

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emergency hotline that residents can call to request city services like bulk collection or streetlight repair.

Criminal justice practitioners must understand the various forms of criminalization affecting vulnerable populations. Literature documents the collateral consequences of criminal convictions and arrests on individuals (Pinard 2010, Petersilia 2000) but minor interactions such as stop and frisks also produce negative consequences (Lerman and Weaver 2014, Kutner 2015). As contemporary residential preferences increasingly favor racially diverse and often disinvested urban neighborhoods (Smith, 2014), urban planning agencies have the opportunity to ensure an equitable distribution of the benefits of this new trend. Existing research is mixed on this issue. One body of literature finds that neighborhood racial diversity is positively related to social tension (Legewie and Schaeffer, 2016; Vo, 2018). Brown-Sacaino (2017) and Hyra and Prince (2015) document negative outcomes for minority individuals in racially diverse areas, such as feelings of alienation from developments that increasingly reflect white preferences.

This paper investigates how changes in neighborhood racial diversity relate to criminal justice outcomes for vulnerable populations, specifically in the form of police stops. The main hypothesis predicts that increases in racial diversity are associated with increases in police stops of minorities. The second hypothesis predicts that this association will vary across neighborhoods with different racial compositions at the study's baseline. The final hypothesis predicts that social tensions, measured as 311 calls, mediate the relationship between racial diversity and police stops. Existing literature links racial diversity to criminal justice outcomes at the city-level

(Carmichael and Kent, 2014; Parker et al., 2005) but this paper examines the dynamic over time at the neighborhood-level. This paper also extends research linking racial diversity to social tension by testing these social processes in relation to criminalization of minorities.

The next section details the theoretical arguments of Black (1976) and Blalock (1967), followed by historical context of the study site, and existing empirical support for the hypotheses. The following section introduces the data, then describes variable measurements and the analytic strategy employed. The results are then presented, followed by a discussion and brief conclusion.

Chapter 2: Literature Review

This section provides theoretical support for the main argument, a brief historical account of D.C.'s demographics and police-minority relations, and the existing empirical evidence of the relationship between racial diversity, social tension, and criminalization.

Theoretical Motivation

Black's Behavior of Law theory and Blalock's Minority Group Relations theory (Black, 1976; Blalock, 1967) generally argue that dominant or oppressive race and class groups leverage their resources to influence various institutions to act on their behalf. Black (1976) argues that the amount of criminal law applied in response to a criminal offense depends partly on the social classes of the involved parties. He argues that greater social distance is associated with greater use of law when the complainant belongs to the dominant social group. Applying this proposition to neighborhoods experiencing racial diversification, we expect indicators of law enforcement to increase as members of the dominant group increasingly interact with members of non-dominant groups. Ethnographic literature finds that interactions between members of different race and class groups in public space frequently result in perceived violations of the dominant group's public space expectations (Chaskin and Joseph 2015). Black's theory supports the assertion that criminal law applied on behalf of the dominant group will increase under these conditions.

Behavior of law literature also argues that law enforcement agencies exercise discretion in deciding where and when to apply the law (Sekhon 2011). As the

number of criminal statutes and volume of criminal offenses exceed police capacity departments increasingly exercise this discretion (Beckett, 2006). This proposition supports the hypothesis that police stops of minority groups will increase in racially diversifying neighborhoods. Residents belonging to the dominant group will mobilize their resources to influence law enforcement to exercise discretion on behalf of the dominant group. For example, dominant group members may circulate a petition demanding that local park curfews be enforced. In this paper, I argue that law enforcement stops minority group members at greater rates when the area's racial composition becomes more diverse.

Blalock's theory of Minority Group Relations (1967) argues that dominant group members feel threatened when exposed to minority group power and react through aggressive or avoidance behavior. Avoidance behavior typically takes the form of restrictive policies, such as racially restrictive federal housing policies or local zoning ordinances (Blalock, 1967). A strong body of historical research documents the federal government's support for racial segregation (Rothstein, 2018), and similar efforts by public and private institutions and individuals (Glantz and Martinez, 2018; Alpert, 2016). This research illustrates avoidance behavior but does not establish any associational or causal relationship with the relative size of racial groups in the local community.

Aggressive behavior could take the form of criminalization or exploitation. Blalock states that minority group members who deviate from social norms are more susceptible to aggressive behavior because their actions make criminalization or exploitation easier for dominant group members to rationalize. This proposition

directly supports the current study's argument that social tensions rise between members of different social groups residing in a given area, often over perceived violations of public space behavior norms. These theories address the role of both government and non-government actors in the criminalization of minority.

Blalock published his theory during a time when White Flight and block-busting characterized the housing market. White Flight refers to the trend in which whites moved out of urban areas in droves in the late 20th century, and into surrounding largely white suburbs. The factors behind White Flight are numerous and include racism and rising urban crime (Rothstein 2017). Block-busting refers to the real estate practice of quickly turning over neighborhoods from white to Black homeowners. First, real estate agents induce fear in white home owners about the possibility of black neighbors. Then, agents buy homes and entire blocks at low prices as white homeowners flee perceived racial encroachment. These real estate agents are then free to sell homes to blacks at high prices, as many neighborhoods were still off limit to blacks due to racially restrictive covenants and deeds (Rothstein 2017).

Today, the housing market is characterized by gentrification more so than block-busting. This alters the context in which racial threat processes play out. As opposed to black individuals entering predominantly white neighborhoods, today we have white individuals entering predominantly black neighborhoods. While this characterizes most racially diversifying tracts in D.C., there are also historically white tracts that experienced minority in-migration, specifically in northwest D.C. This leads to an additional research question pursued by this paper: how do historical

racial compositions influence racial threat dynamics? There is reason to believe that dominant group members in predominantly white neighborhoods react differently to minority in-migration compared to dominant group members moving into predominantly black neighborhoods. Although the historical context shifted since the 1960s, we expect Blalock's propositions to hold. Several studies have tested Blalock's propositions in relation to formal social control of minority groups. Their findings are discussed below in the Empirical Evidence section under the Criminalization heading.

Historical context: neighborhood change and stop and frisks in D.C.

During the 1980s, the District's black population began to shrink after decades of continuous growth that had earned D.C. the nickname "Chocolate City" (Jaffe and Sherwood, 2015). The overall population also declined, but the Hispanic/Latinx population grew, settling mainly in the northwest neighborhoods of Columbia Heights, Adams Morgan, and Mount Pleasant (Asch and Musgrove, 2017). Tensions rose between Hispanic/Latinx communities and law enforcement over the District's deportation policy regarding South American immigrants (Kijakazi et al, 2016).

In the mid-1980s, drug markets experienced an increase in violent crime prompting the new conservative Federal government to brand D.C. as the nation's crime capital (Asch and Musgrove, 2017). The Metropolitan Police Department (MPD) introduced Operation Cleansweep during this decade, which dedicated 100-200 officers a day to targeting drug dealers and violent crime. The controversial tactic known as "jump-out squads" came under intense public scrutiny in relation to this operation (Flatow, 2014). Jump-out squads are unmarked police cars transporting four

to five officers who patrol areas, jump out of the vehicle, and surround individuals

perceived as suspicious. Officers often draw their guns and frisk individuals during

these interactions. Witnesses report being surrounded and searched without hearing

any identification or commands from officers, and numerous minority District

residents claim police officers use this tactic to harass members of their community

(Flatow, 2014).

In the 1990s, the overall population continued to decline hitting its lowest

point in recent history, 569,000, in 1999 (Kijakazi et al., 2016). The economy slowed

nationwide in the early 1990s halting commercial and residential development in

numerous cities including the District. According to the Brookings Institution (2016)

however, the suburbs surrounding the District experienced dramatic population

growth during this time. Counties like Fairfax, Montgomery, and Loudon were

characterized by lower poverty rates and higher median incomes than Washington,

D.C. Gillette (2015) illustrates the District's economic state during this decade in

stating that 64% of jobs within the larger metropolitan area were located outside of

the District, and 60% of jobs within the District were held by non-residents.

The District's high crime rates persisted into the mid-1990s then declined

alongside larger national trends according to the MPD's 2001 annual report. During

this decade, the Department struggled with staffing levels and other labor issues. In

the late 1980s, a wave of police officers retired, and MPD subsequently lowered

hiring standards under pressure to replace personnel (Jaffe and Sherwood, 2015). By

1993, 113 of these new hires were indicted on criminal charges ranging from

extortion to murder and the department's reputation suffered as a result (Asch and

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Musgrove, 2017). Multiple news outlets published articles in which District residents report harassment by law enforcement officers and general tension between communities and police. Cherkis (2000) wrote about the infamous 6th District "jump-out boys": four vice officers assigned to the 6th District who had a reputation among fellow officers for involvement in criminal activity and harassing minority residents.

In the first decade of 2000, several factors contributed to dramatic population growth in the District, such as the growing local budget and a nationwide housing boom (Asch and Musgrove, 2017; Gandhi, Spaulding, McDonald, 2015). The federal government and lobbying and defense industries expanded post-911, drawing mostly white young professionals and greater wealth to the District (Asch and Musgrove, 2017). Median home values in D.C. increased 75% between 2000 and 2010 and the number of affordable housing units dropped from 70,000 in 2000 to 34,500 in 2010 (Kijakazi, 2016; Asch and Musgrove, 2017, Gillette, 2015; Gandhi, Spaulding, McDonald, 2015). These new residents settled in Petworth, Columbia Heights, and Shaw in the northwest, and Bloomingdale, LeDroit Park, and Eckington in the northeast. Some of these neighborhoods were also home to substantial Salvadorian and Caribbean communities at the time (Singer, 2003; Jaffe and Sherwood, 2015).

In the 2000s, MPD continued struggling with community relations and media coverage. Accusations of racial profiling led to an investigative report of traffic and pedestrian stops. An independent consulting company selected 20 sites associated with high stop counts and evaluated the sites for pedestrian and vehicle traffic patterns. After accounting for the pedestrian and vehicle traffic of racial group across sites, the authors found no evidence of racial profiling in traffic stops. However, the

study found that Black and Hispanic/Latinx pedestrians were stopped at higher rates than their white counterparts in a site with racially diverse foot traffic, and that Blacks were stopped at aggressively higher rates at a site with predominantly white foot traffic (Lamberth, 2006). This supports the hypothesis that law enforcement will target minority group members, and that the degree of targeting severity relates to the racial composition of the area. However, these findings refer only to several specific locations within D.C. and use cross-sectional data that can't examine how changes in racial diversity affect law enforcement practices.

The D.C. local government suggested the use of law enforcement resources for furthering development in several neighborhoods during the 2000s. The Office of Planning (OP) spearheaded the revitalization of the Howard/Dunbar theater town center in the north-central Shaw neighborhood and the Lincoln theater common in the northwest U street neighborhood. The District subsidized the theaters' financial operations and sold government-owned properties to commercial and residential developers, according to an OP project analysis (2004). The report states that "Future retail development of the 7th Street Corridor will depend on resolving the street's safety and maintenance issues". The report advocates for an aggressive campaign for both real and perceived safety and cleanliness, stating that "MPD has shown a willingness to work proactively in other areas" (Office of Planning, 2004). This indicates support of formal social control in response to factors that influence perceptions of fear, a broader array of factors than those codified in law as "criminal". The District government supported demographic change and guided development through non-law enforcement policies and funding decisions as well. Mayor Anthony

Williams (1999 – 2007) openly encouraged government agencies to sell unused property to developers as part of an effort to build more housing and amenities for the middle-class (Asch and Musgrove, 2017; Gillette, 2015). Between 2000 and 2004, developers bought $40 million of government property in Navy Yard along the southwest Anacostia waterfront. This area was home to predominantly black working-class commercial establishments but evolved to suit D.C.'s growing mostly white middle-class over the next five years (Gandhi, Spaulding, McDonald, 2015).

During the 2010s, the overall population continued to grow but at a slower rate than the previous decade. Census data show the that black population continued to decline and new residents continued settling in neighborhoods west of the Anacostia, avoiding areas along the District's eastern border next to Prince George's County (Hyra and Prince, 2015). By 2014, developers were in the process of constructing upscale commercial venues or luxury condominiums on every single block of 14th Street between Thomas Circle and Clifton Terrace (Gillette, 2015), an area that sat in rubble for decades. Development also spread further east into the historically black neighborhoods of Ivy City, Gallaudet, Trinidad, H Street, and Deanwood (Jaffe and Sherwood, 2015).

In the early 2010s, high-profile police shootings and use-of-force incidents focused the national spotlight on police-community relations. Several advocacy organizations emerged in D.C. with the goal of ending police violence and increasing community control over policing (Kutner, 2015). These groups collaborated with the local chapter of the American Civil Liberties Union to gather arrest records and hundreds of anecdotal stories from residents of color regarding police jump-outs and

stop and frisks. According to the advocacy organizations, these anecdotes and arrest records indicate clear patterns of police harassment of minority communities (Sadanandan, 2013; Kutner, 2015). The media outlet ThinkProgress interviewed Police Chief Cathy Lanier regarding jump-outs and Chief Lanier called them a "fantasy" (Flatow, 2018). During a later public hearing on police oversight, Lanier reversed this statement saying that vice and gun squads use a tactic that sounds similar to what citizens describe as "jump-outs" (Kutner, 2015; Flatow, 2018). This back and forth between advocacy organizations and law enforcement supports the current study's claim that formal social controls applied to vulnerable populations are motivated by factors other than criminal behavior.

Empirical Evidence for Key Theoretical Constructs

Neighborhood Transition

This section summarizes research related to the interactions of racial groups in racially diversifying neighborhoods. Chaskin and Joseph (2015) studied three state-sponsored mixed-income developments in Chicago using interviews, field observations, and documentary research. The authors find that higher-income and lower-income residents hold "competing expectations" over appropriate behaviors for public space that manifest as conversations about public safety. For example, the authors find that higher-income residents object to certain behavior such as hanging laundry in public, and barbequing or repairing cars in the street.

Walker et al. (2018) studied Latinx neighborhood involvement levels in areas undergoing mass transit-related gentrification. The author notes that Latinx residents

and newer often-white residents use neighborhood spaces for different types of activities. Latinx residents use yards, streets, parks, pools, churches, etc. as gathering spaces for celebrations and white residents use these spaces for more solitary activities such as biking, or dog-walking, and more formal activities such as social clubs and organized sports. The authors argue that different racial groups may have different frameworks for understanding engagement in community, use of public space, and common social interactions. These studies suggest that heterogeneous populations residing in the same geographic area will hold different community preferences and expectations. The current paper argues neighborhood racial diversity in particular leads to social tension and criminalization of minorities.

In the Washington, D.C. Columbia Heights neighborhood, residents had a tradition of playing pick-up soccer at Harriet Tubman Elementary School fields on Sundays at 7pm (Chason 2017). Recently, an organized sports league filed a permit to claim the field at that time for their own use, creating controversy over use of this space. The pick-up games consisted predominantly of immigrant and Latino/Latino residents and the organized sports league consisted predominantly of white residents. Paul Butler (2017) argues that instances such as this demonstrate a wider pattern of incoming middle-class residents failing to assimilate to pre-existing neighborhood norms. This supports the study's main prediction that an increase in neighborhood racial diversity may bring tension and conflict to social interactions.

Social Tension

Several articles utilize publicly-available 311 databases to measure social tension. This section explains how 311 calls capture social tension in Washington,

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D.C. then summarizes the existing empirical research on social tension. Many municipalities receive city service requests from residents, such as requests for dangerous tree removals, through a centralized system often called 311. Individuals call this number or submit requests online and the appropriate city agency responds to the case. Some 311 calls are related to social interactions or tension, while other requests simply relate to basic city services. For example, requests related to parking enforcement or noise complaints indicate that the caller is upset with another individual's behavior. Requests related to dangerous tree removal or overgrown public land are not related to interactions between neighborhood residents. The current study selected 311 requests related to social interactions to serve as a proxy for social tension.

Legewie and Schaeffer (2016) predict that racially mixed areas located between homogenous communities will experience heightened social tension measured as 311 calls in their "contested boundaries" hypothesis. The authors found that among New York City census tracts, complaints of noise, public drinking, and other quality-of-life crimes were significantly more frequent in contested boundaries than homogenous areas. This study also demonstrates the importance of considering the larger demographic context when investigating complex social issues. "Contested boundaries" did not exist in a vacuum, but depended the characteristics of neighbors. This paper accounts for the larger demographic context by investigating the issue across different neighborhood types and including controls for spatial dependency. Vo (2018) studied the racial diversification of New York City neighborhoods and found spikes in 311 calls related to quality-of-life issues in recently diversified areas.

These findings support the prediction that conflict and social tensions will rise between racial groups that inhabit the same area. This paper argues that in reaction to this tension, dominant group members rely on mechanisms of formal control to support the social hierarchy.

Criminalization

The next few paragraphs provide a summary of research related to the concept criminalization. Alvare (2017) argues that prevalent criminal narratives tie innocuous behaviors associated with minorities to illegal activities, allowing law enforcement to target individuals based on race. Pattillo (2007) describes this process as "criminalization". Quillian and Pager (2001) studied criminalization at the neighborhood-level in Chicago, Seattle, and Boston. The authors captured this concept by comparing perceptions of neighborhood criminality with neighborhood racial composition, controlling for crime rates and other relevant characteristics. The authors found that minority neighborhoods are perceived as higher crime areas, even after accounting for the neighborhood's actual crime rate. This supports Alvare's argument that perceptions of minority criminality exceed actual crime rates for these groups. This also supports the current study's argument that dominant group members will perceive innocuous minority behavior as violations of various norms.

Using qualitative methods, Patillo (2007) finds that new residents in gentrifying neighborhoods exert influence with civic leaders and local institutions to increase police patrols in neighborhoods, and as a result arrests increase for quality-of-life offenses. At numerous Advisory Neighborhood Committee (ANC) meetings in the District, neighborhood lieutenants receive requests for increased police presence

and increased enforcement of quality-of-life offenses. This paper asserts that dominant group members direct formal social controls at minority groups, not in response to criminal activity, but in order to resolve social tensions.

Carmichael and Kent (2014) examined the relationship between criminalization and inequality at the metropolitan-level, using police force size to measure criminalization. The authors hypothesized that when lower- and upper-classes coexist, the upper class asserts social control through the criminal justice system, and predicted larger police forces in cities with greater inequality. Their study found a significant positive relationship between inequality and police force size which supports Black's (1976) arguments that dominant group actors rely on law enforcement and formal control to assert their preferences. Kane et al. (2013) studied the relationship between quality-of-life misdemeanor arrests and the residential racial composition of Washington, D.C. census tracts. The authors found that an increase in black representation between 1990 and 2000 was associated with a higher level of black arrests in 2000, only in historically white census tracts.

In urban affairs literature, Sharp (2013) introduced the postindustrial policing hypothesis which argues that as city economies become more tourism- and amenities-based, local governments increase the policing of innocuous behaviors (curfew or loitering violations, disorderly conduct, truancy, etc.) amongst members of the working class in an effort to appease the bourgeoisie. Using cross-sectional crime data from large U.S. cities, Sharp found that postindustrial economies are significantly related to larger proportions of arrests being order-maintenance related. Laniyonu's (2017) extended Sharp's post-industrial policing hypothesis, testing the

relationship between gentrification and stop and frisks in New York City census

tracts. She used several different measures of gentrification, including percent change

in the share of the population with bachelor's degrees or postindustrial employment,

and a categorical measure accounting for changes in rent and income from 2000 to

2014. Laniyonu compared her gentrification measures to 2014 levels of stop and

frisks, finding no gentrification effect in focal tracts, but a significant positive effect

of adjacent tract gentrification.

In summary, qualitative studies indicate that members of different racial

groups may hold differing expectations of each other that clash during social

interactions. A small body of quantitative research explores the extent to which the

racial composition of a neighborhood relates to social tension, often measured using

311 calls. The findings thus far support the prediction that higher levels of racial

diversity are associated with higher levels of social tension. These studies are cross-

sectional in nature however, and cannot address how social tensions respond to

changes in racial diversity. Quantitative research also finds that dominant social

groups rely on the criminal justice system to control minority behavior, but use cross-

sectional dependent variables. These studies examine how racial diversity and

inequality relate to criminalization, but do not incorporate the mediating factor of

social tension.

Chapter 3: Present Study and Hypotheses

Using data compiled from various publicly-available government datasets, this paper explores how the social characteristics of neighborhood transitions relate to criminalization of minorities. This paper looks at demographic change that occurred in Washington, D.C. between the years 2011 and 2016. These changes are compared to changes in police stops, with variables lagged to 2012 and 2017 to establish temporal ordering.

The current study builds on prior research in several ways. Longitudinal data for both the independent and dependent variables allow this study to examine how changes in these concepts relate to each other over time. Additionally, 311 call data test the argument that social tensions mediate the relationship between racial diversity and criminalization. Lastly, this study uses police stops to measure criminalization. In many urban jurisdictions, minority and low-income residents argue that police use this practice to harass them as individuals and communities (Cherkis, 2000; Flatow, 2014; Sadanadan, 2013; Kutner, 2015). This controversy indicates that stops are a possible tool used by law enforcement to influence minority individuals.

Existing literature and the propositions of racial threat and behavior of law indicate four hypotheses**.**

Hypothesis 1. predicts that increases in racial diversity will be associated with increases in criminalization, generally.

Hypothesis 1.b. predicts that increases in racial diversity will be associated with greater criminalization of minorities than whites.

Hypothesis 2. predicts that the relationship between racial diversity and criminalization will differ across census tracts depending on their baseline racial composition. Neighborhoods cycles through distinct phases in which their social and economic characteristics change. Scholars debate the catalyst for these cycles and often cite phenomena such as gentrification or immigration (Smith, 2014). It is possible that the nature of criminalization differs depending on the phenomena of change, for example gentrification versus immigrant-influx. Hypothesis two will test this possibility. Tracts that increased in racial diversity and were over 70% white in 2011 are likely historically white neighborhoods that experienced immigrant in-migration. The study site also contains tracts that were over 70% black in 2011, and experienced gentrification. The relationship of interest may differ significantly across different types of neighborhood transitions.

Hypothesis 3. predicts that the relationship between racial diversity and criminalization will be partially mediated by social tension.

To test these hypotheses, this paper conducts several tests to investigate any spatial dependencies in the data. After accounting for these dependencies, a series of fixed effects models estimate the relationship between racial diversity and police stops. Next, the role of 311 calls in this relationship is tested. Lastly, this paper explores how findings vary for black, white, and Latinx subgroups, and across neighborhoods categorized by baseline racial composition.

Chapter 4: Data and Methods

This section presents the benefits of the case-study approach, then describes the data sources utilized for analysis. The variable measurements and analytic strategy follow.

Study Site

This study focuses on Washington, D.C. as a study site in order to capture the complex concepts and relationships involved in the main hypothesis. A site's initial racial composition and history of race relations may influence how increasing neighborhood racial diversity relates to criminalization (Brown-Saracino, 2017; Hwang, 2015). Additionally, police departments in different cities develop unique characteristics, such as reporting practices and relationships with minority communities. Using the same outcome measure across sites could produce measurement error in multi-site studies.

Washington, D.C. offers several strengths as a study site, including quantitative and qualitative evidence that neighborhood transition occurred over the study's timeframe. The District experienced dramatic demographic and economic change between 1970 and 2010 that is well-documented by census data, residents, community groups, local government agencies, media outlets, and research organizations. These changes are widely depicted as waves of young white professionals settling in predominantly black low-income neighborhoods (Asch and Musgrove, 2017; Jaffe and Sherwood, 2014; Hyra and Prince, 2015).

The District also serves as an ideal study site because numerous sources document growing social tension and criminalization in transitioning DC neighborhoods. The Atlantic documents a particular incident that occurred during the late 1990s in Northwest D.C.'s Malcolm X/Meridian Hill Park (even the name is a source of social tension as residents argue over which to use). New neighborhood residents clashed with a predominantly black drum circle that had played in the park for decades. The new residents circulated a petition that resulted in the enforcement of park curfew (Fayyad, 2017). This is an example of social tensions leading to the "criminalization" of behaviors associated with minorities. The Washington City Paper analyzed neighborhood list serves in gentrifying neighborhoods and found numerous complaints of "low-income eyesores" and "criminally-minded black youth" (Cherkis, 2005), demonstrating the presence of income- and race-based negative perceptions in diversifying D.C. neighborhoods.

Data

This project uses two publicly available databases of police reports to measure levels of criminalization in Washington D.C. census tracts in 2012 and 2017. These databases are maintained by MPD for administrative purposes and became publicly available in 2016 due to public pressure (Nadeau, 2019). The term stop and frisks generally refers to incidents in which police officers stop individuals and search their persons for weapons. MPD officers complete different reports depending on whether or not the stop featured a frisk. Stops featuring frisks are more invasive but the concept of criminalization includes any increase in social control of the target population, including incidents in which officers simply stop and detain an individual.

Officers complete the appropriate report (stop and frisk or field contact event) for whichever interaction occurred and enter it into the appropriate database according to official department policy found in MPD General Order OPS-304.10. MPD limited the released stop data to exclude police stops that led to further enforcement actions such as arrest (Madden, 2018). This limitation is not ideal, but should operate in favor of the hypotheses. The discretion involved in police stops allows officers to use this tool to address innocuous behavior, or other behavior that is against middle-class norms but non-criminal. Stops that lead to further enforcement action, such as citation or arrest, likely involve low discretion. This paper is interested in police stops related to innocuous behavior, whereas stops that lead to further enforcement action are likely related to criminal behavior.

Social tensions are measured in 2011 and 2016 using 311 calls. All call data are available on the District's open data portal, including the callers request, caller comments, and geographic coordinates. In Washington, D.C., MPD does not respond to 311 calls, according to interviews with MPD officials. If callers mistakenly report a crime to 311, the callers are transferred to 911 services.

The racial diversity independent variable is constructed using the Census Bureau's American Community Survey 2011 and 2016 data. The Census also provided data for many of this study's control variables. Several control variables are measured using additional datasets found on D.C.'s open data portal, including Metro ridership and police precincts

Dependent variable: police stops

Police stops capture the concept of criminalization due to the nature of behaviors that trigger social tension in racially diversifying neighborhoods. These conflicts generally involve quality-of-life issues that may not be eligible for arrest, so law enforcement utilizes alternative tools to assert community preferences, such as stop and frisks (Kane, 2013; Ousey & Lee, 2008; Rosenfeld, Fornango, & Rengifo, 2007). These police-citizen interactions serve as a proxy for current levels of criminalization as Broken Windows style policing encourages officers to enforce community preferences regarding minor behaviors, as part of a broader strategy. Police stops will capture a shift in community preferences towards the criminalization of behaviors associated with minorities, particularly those behaviors implicated by social tensions. This paper argues that law enforcement will play this role in racially diversifying communities based on the propositions of Black and Blalock stating the criminal justice system's complicity in maintaining the dominant group's social status.

Stop and frisks allow officers to detain individuals without probable cause, if specific and articulable facts lead the officer to suspect criminal activity. [1] Officers may question the individual, and in some circumstances search the individual's outer clothing for weapons. Additional precedent-setting cases allow officers to seize illicit items detected during the search and arrest individuals found in possession.[2] MPD uses the term "field contact event" to refer to less invasive interactions that occur

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[1] Terry v. Ohio, 392 U.S. 1 (1968)
[2] Coolidge v. New Hampshire, 403 U.S. 443 (1971); Michigan v. Long, 463 U.S. 1032 (1983); Minnesota v. Dickerson, 508 U.S. 366 (1993)

when an officer lacks articulable facts but believes circumstances warrant some

investigative inquiry. Both types of stops are recorded as event-level data with

demographic information, in which each observation represents one incident of an

officer stopping an individual. These events were aggregated to census tract-level

2012 and 2017 counts. Some police stop reports featured insufficient or missing

address information. These stops are excluded and compose 4% of all police stops.

On average, there were 25 stops per census tract per year, ranging from 0 to 224 for

178 census tracts[3].

Independent variable: racial diversity

This paper uses the Simpson Diversity Index (SDI) to measure changes in

racial diversity. The Simpson Diversity Index (Hwang and Sampson 2014; Guajardo,

2016) represents the probability that two individuals drawn at random from a

population will be different races. This index captures census-tract levels of racial

diversity, with higher values indicating greater diversity. Equation (1) presents the

SDI formula used to calculate racial diversity:

$$\Pr(Different\ Race) = 1 - \sum_{i=1}^{R} p_i^2 \quad (1)$$

The current study calculated the 2011 and 2016 SDI scores using the following racial

groups: black, white, Hispanic/Latinx, Asian, and other. Using 2011 and 2016

measures of racial diversity imposes temporal ordering on the relationship between

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[3] Tract 6202 was dropped from the study. This tract is composed entirely geographical anomalies such as the National Mall, the Potomac River, Potomac Park, and a major section of Interstate 395, and is not eligible to experience the social processes involved in this study's arguments (Hwang and Sampson, 2014; Timberlake and Johns-Wolfe, 2017; Boggess and Hipp, 2006; Kane et al. 2013). This tract experienced 172 police stops in total for 2012 and 2017.

this variable and criminalization (which is measured in 2012 and 2017). This temporal lag ensures against including police stops that occurred prior to measured levels of racial diversity. On average, the probability that two individuals drawn at random from a census tract are from different races is .37, ranging from 0 to .72.

Mediating variable: social tension

The current study uses 311 call types related to social interactions or resident behavior to measure the concept of social tension. The information contained in the 311 event-level data illustrate through comments left by callers that residents utilize city services to resolve social tension. For example, one caller reporting parking violations commented: "A red Cadillac with no tags illegally parked on street, please ticket and have towed." Call types such as parking violations are included as the comments demonstrate social tension motivations, while calls requesting Christmas tree removal or dead animal pickup are not included. Several peer-reviewed articles and news media pieces demonstrate the utility of 311 calls differentiated by type (Vo, 2018; Legewie and Schaeffer, 2016; Wheeler, 2017). Table 1. reports the top ten most frequent call types and their classifications. There are 173 call types in total and 35 were classified as social tension-related. Appendix A contains the full table of call types and classifications. Calls generally fell into four modal categories, social tension, physical repair, administrative, and basic services. Physical repair refers to requests to fill potholes, repair streetlights, etc. Essentially, any 311 calls related to physical infrastructure as opposed to social processes. Basic services refers to yard waste removal, garbage and recycling collections, etc. Essentially, any 311 calls related to standard services provided by municipalities as opposed to social processes.

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The administrative category contains 311 calls originated by employees of the call center. Again, 311 calls related to physical repair, basic services, or administration were excluded from the current analysis, which focuses on calls related to social tension. On average, there were 746 social tension calls per census tract, ranging from 29 to 2,994.

Moderating variables: baseline racial composition

Previous studies find that the effect of neighborhood change on various criminal justice outcomes varies depending on historical demographic characteristics of the neighborhood (Kane et al. 2013; MacDonald et al. 2013). This study created three binary variables indicating the racial majority of the census tract at the beginning of the study period. There were 80 tracts in the sample that were over 70% black in 2011, 35 tracts that were over 70% white, and 63 tracts in which no race group composed 70% or more of the population.

[INSERT FIGURE 1 HERE]

Control variables

This study includes as control variables tract-level population density, volume of metro riders, index crime rate, unemployment, and proportion of the population between 18 and 24. These controls capture the routine activities of a census tract, which influence police activities as well as the tract's likelihood of experiencing demographic change (Saiz and Watcher, 2011). Census tracts vary in population and size, with denser tracts more likely to experience greater police scrutiny and more likely to attract development (Kane, 2017). The residential population per square foot, the number of WMATA Metrorail riders per square foot, and unemployment levels

control for residential population density and pedestrian traffic patterns (Liu and Griswold, 2019). The index crime rates account for differential police resource allocation in response to crime patterns.

Methods

      This paper analyses the relationship between neighborhood transition and police stops in Washington, D.C. census tracts in a series of negative binomial fixed effects models. The dependent variable police stops is a skewed non-negative rare event which violates the Ordinary Least Squares normality assumption, justifying the use of a count distribution, such as the Poisson or Negative Binomial. Guimaraes (2008) and Allison and Waterman (2002) demonstrate that the traditional negative binomial fixed effects model fails to truly control for all time stable unobserved unit characteristics. These articles provide two alternative options, which are used here. First, the unconditional negative binomial regression model with binary variables for each census tract and year controlling for fixed effects. Second, as a robustness check, the conditional Poisson fixed effects model with standard errors inflated by the dispersion parameter. Additionally, the key variables may autocorrelate based on the spatial proximity of the tracts, violating the OLS assumption of independent error terms.

      The analysis begins by addressing spatial dependency in the data. According to Arbia (2014), a study's topic and design generally indicate the type of spatial correlation present in the data. For example, social interactions often demonstrate a "diffusion" or "contagion" effect while the use of administrative boundaries often produce unobserved spatial heterogeneity by failing to reflect the true neighborhood

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boundaries. Different types of spatial dependency are best represented by different types of spatial weights matrices. The more accurately spatial relationships are represented in matrix form, the more spatial dependency is accounted for in the model (Tita and Radil, 2011). If the study's topic suggests several possible matrix specifications, diagnostic tests can help distinguish the best option (Anselin, 1988).

This paper's topic leads to two competing matrix specifications. Many crime-related research topics select a distance-between-centroids matrix, which are appropriate for "contagion"-type variables. Distance-based matrices often consider all units as neighbors, with their influence on each other weighted by the inverse-distance between unit centroids. "Contagion" variables are those for which the focal tract value directly affects values in neighboring tracts. For example, homicide in one tract can prompt retaliatory homicide in another tract (Boggess and Hipp, 2006). Alternatively, there could be indirect spatial dependencies. This often occurs when unit boundaries fail to reflect true neighborhood boundaries (Coulton et al., 2001). In other words, the independent variables in neighboring units could affect outcomes in focal units if the underlying data generating process treats these units as part of the same neighborhood. This would suggest the use of a queen contiguity matrix to capture the influence of racial diversity in neighbor tracts on police stops in the focal tract. A queen contiguity matrix considers units to be neighbors if they share a common boundary or corner. Due to these competing justifications, this study considers both an inverse-distance matrix and a first-order queen contiguity matrix, both row-standardized (Tita and Radil, 2011; Nivette, 2012).

Using these matrices, this paper created a spatial lag of the racial diversity variable. This paper then ran baseline models regressing police stops on racial diversity and the control variables. The residuals from this baseline model were also spatially lagged. The racial diversity spatial lag is essentially the weighted average of the racial diversity of neighbor tracts. This lag will account for the influence of racial diversity in adjacent tracts on police stops in the focal tract, net of all possible covariates (Arbia, 2014). Traditional spatial methods use a Spatial Durbin Model in the presence of this type of dependency, but researchers also include spatial lags of independent variables in non-spatial models (Kane et al., 2013; Lyons, 2008). The Spatial Error Model (SEM) SEM is appropriate when units of analysis suffer from unobserved heterogeneity that produces spatial correlation in of the error terms, (Arbia, 2014). Unobserved spatial heterogeneity often reflects the failure of the units of analysis to reflect the true boundaries of the underlying data generating process. Unfortunately, the SEM does not allow for non-normal distributions so this study includes a spatial lag of model residuals for each unique model specification.

After creating the spatial lag variables, the analysis ran three negative binomial fixed effects regressions, each with a unique specification to control for spatial dependency. Moran's I tests of the residuals from these three models, in addition to model fit statistics, indicated the model that best accounted for spatial dependencies in the data. The Moran's I statistic indicates the degree of autocorrelation in a variable, weighted by the spatial distance between units.

Next, the analysis explored whether the relationship between racial diversity and police stops differs for black, white, and Hispanic/Latinx subgroups. Then, whether

or not these predicted relationships differ depending on the baseline racial composition of the tract. This portion of the analysis uses interactions between the main racial diversity variable and the binary baseline racial composition variables, using neighborhoods in which no race group exceeded 70 percent of the tract population as the reference category.

Next, the analysis examined how 311 calls mediate the relationship between racial diversity and police stops. The mediating role of 311 calls, or social tension, is allowed to differ across neighborhood types, and across the race of police stop subjects. This paper added the 311 variable to models regressing police stops on racial diversity and control variables, with interactions for neighborhood types, to test if social tension mediates the relationship between racial diversity and criminalization. It is possible that any change to the racial diversity coefficient from models in table 6. indicate a mediating role of 311 calls. Social tension is hypothesized to increase criminalization, so the racial diversity coefficient is expected to decrease upon the addition of the 311 calls variable. Lastly, all models used tract-clustered standard errors, and the tract's population as an exposure variable.

Chapter 5: Results

Descriptive Statistics

Table 2 lists the descriptive statistics for key variables pooled across all years. These figures demonstrate that police primarily stopped black individuals across 2012 and 2017. Census tracts experienced on average about 24 stops of blacks and only about 6 stops of whites, Hispanic/Latinx, or other individuals combined. For racial diversity, there was about a 37% likelihood of drawing two individuals of different race at random from a tract's population. However, no tract exceeded a 71% likelihood in either 2011 or 2016.

[INSERT TABLE 2 HERE]

The pooled descriptive statistics mask important changes that occurred between 2011/2012 and 2016/2017. During 2012, MPD reports stopping 3,613 people, or 6 per 1,000. This increased to 7,122 people in 2017, or a rate of 10 per 1,000. The racial composition of police stops decreased slightly for blacks from 85% to 83%, but increased for Hispanic/Latinxs and whites. About 4.5% of people stopped in 2012 were Hispanic/Latinx, increasing to 7.1% in 2017. The proportion of white people stopped was also about 4.5% in 2012 and increased to 10.2% in 2017. In 2012, whites composed 39.5% of the general population, blacks 51.1%, and Hispanic/Latinx 9.3% (American Community Survey). The white and Hispanic/Latinx population increased slightly by 2017 to 40.7% and 10.7% respectively. The black population decreased to 47.7% of the general population.

On the neighborhood level, DC census tracts experienced an average of 20 police stops per year. Nine tracts experienced zero stops during 2011 and two tracts

experienced zero stops during 2016. All but one of these tracts were located west of Rock Creek Park, a historically white area of the District. The northeast neighborhood Brentwood experienced 275 stops in 2016, the maximum out of the study period. Brentwood also experienced the largest increase in police stops, growing by 212 stops between 2017 and 2012. Figure 2 maps changes in police stops by tract, and indicates a small cluster around Brentwood that experienced large increases. In 2011, Brentwood was 97% black, 2% white, and 1% Hispanic/Latinx. By 2017, the black population decreased to 85%, while whites increased to 9% and Hispanic/Latinx increased to 4%. A census tract in the Shaw neighborhood experienced the largest decrease in police stops, declining from 174 in 2012 to 135 in 2017 (still over six times the district-wide average). In 2011, this tract was 30% black, 53% white, and 12% Hispanic/Latinx. By 2017, the black and Hispanic/Latinx population decreased to 17% and 6% respectively, while whites increased to 68%.

[INSERT FIGURE 2 HERE]

Spatial Dependency

This study created two spatial weights matrices to represent the spatial relationships between D.C. census tracts. Moran's I tests for spatial dependency consistently detected a greater amount of spatial dependency among key variables when using the queen contiguity matrix compared to the inverse-distance matrix. This indicates the queen contiguity matrix is preferable. It is possible that the inverse-distance matrix underestimates spatial dependency due to considering all tracts neighbors, even those separated by great distance and dissimilarities. In addition to this empirical evidence, a queen contiguity matrix is also better suited to the present

study's topic. It's likely that census tract demographic characteristics are influenced by the demographics of neighboring tracts, but not necessarily those in distant parts of the city. The remainder of the analysis utilized spatial lags created with the queen contiguity matrix.

Spatial Lag Models

Table 3 compares the results of models that use different approaches to account for spatial dependency in the data. Model one includes the racial diversity lag, model two includes the residual lag, and model three includes both the racial diversity and residual lag. The racial diversity coefficient remained significant regardless of the spatial lag combination. The residual lag coefficient was significant in all models while the racial diversity lag was not significant in any model. This is surprising as the literature generally finds that the characteristics of neighboring communities or census tracts exert an influence on crime-related outcomes in the focal area (Boggess and Hipp 2014). One possible explanation for this study's finding relates to the nature of the influence from nearby tracts. The racial diversity spatial lag is intended to capture the direct effect of racial composition in a neighbor tract on police stops in the focal tract. It could be that this relationship is more indirect. For example, the racial diversity of nearby tracts may be relevant because these areas are actually part of the same neighborhood that is misrepresented by census tract boundaries. If this is the case, these spatial dependencies are accounted for by the residual spatial lag. The residual lag model finds a significant positive relationship between racial diversity and police stops, indicating support for hypothesis one. Racial diversity would have to increase by about 3.5 percent on the SDI (in other

words, the likelihood that two residents, drawn at random, are from different race groups) for a tract to experience an additional stop per year. Business activity and population density were also significant predictors, but to a smaller magnitude.

[INSERT TABLE 3 HERE]

Black Stops, White Stops, Hispanic Stops

Table 4 displays results from models that limit the dependent variable first to blacks only, then to whites only. Models that limited the dependent variable to Hispanic/Latinx stops only did not converge, so descriptive statistics are provided in Table 5. The results in Table 4 indicate that increases in racial diversity are significantly related to increases in police stops for blacks only. The coefficient suggests that if racial diversity increases by 2 percent on the SDI, the tract will experience an additional stop per year. For white stops, the racial diversity coefficient is negative and not significant. In the white stops model, none of the predictors achieve significance, except for metro ridership which is marginally significant. These findings support hypothesis 1.b., which predicted that increases in racial diversity will be associated specifically with the criminalization of minorities. For Hispanic/Latinx stops, detailed descriptive statistics for police stops and are displayed in Table 5. While this information doesn't reveal anything about statistical significance, it is still important. It appears that Hispanic/Latinx stops experienced minimal amounts of change during the study's time period. The median change across different neighborhood types is generally zero, and the mean between 0 and 1. As the fixed effects models estimate within-tract change, there is likely a lack of sufficient data.

[INSERT TABLE 4 HERE]

[INSERT TABLE 5 HERE]

Baseline Racial Composition

Table 6 contains the results from models that allow the relationship between changes in racial diversity and police stops to vary depending on the racial composition of the tract in 2011. Kane et al. (2013) find that the baseline racial composition of a census tract moderates the relationship between racial encroachment and misdemeanor arrests. The relationship between racial diversity and police stops is allowed to vary by interacting the racial diversity variable with each of the three binary indicators of baseline racial composition, using tracts in which no race group exceeded 70 percent as the reference group. The first column reports findings from a model regressing all stops on predictors, the second column from a model regressing black stops, and the third column from a model regressing white stops. Again, Hispanic/Latinx stops did not converge so descriptive statistics are reported in Table 5.

The results provide support for hypothesis two; the relationship between racial diversity and criminalization differs across neighborhood types. Criminalization responses likely differ depending on the characteristics of the local dominant and minority group that pre-date neighborhood transition. Whites defending historically white tracts may behave differently than whites who are gentrifying historically black tracts. Additionally, minorities migrating into historically white tracts may be criminalized differently than minorities residing in gentrifying tracts. Results from the first model find a stronger positive association between racial diversity and police

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stops in baseline white tracts compared to tracts that were racially mixed at baseline. In tracts that were baseline Black, the association between racial diversity and police stops is significant and negative compared to baseline mixed tracts. Altogether, the models in Table 6 indicate that increases in racial diversity are only associated with increases in police stops if tracts were over 70 percent white in 2011. Figure 3 displays the predictive margins of racial diversity across the three neighborhood types. The predicted counts of police stops are relatively stable across different levels of racial diversity in baseline Black and baseline mixed tracts. In baseline white tracts however, the predicted counts clearly increase with racial diversity.

[INSERT FIGURE 3 HERE]

Column two contains results from a model that limited the dependent variable to black stops only. Similar to the findings for all police stops, this model indicates that changes in racial diversity did not significantly influence police stops in tracts that were racially mixed in 2011. Compared to these however, tracts that were over 70 percent Black in 2011 demonstrated a strong positive association between changes in racial diversity and police stops. This suggests an increase in the criminalization of Blacks in gentrifying tracts. Results also differed from the All Stops model in tracts that were over 70 percent white in 2011. Compared to the reference category, these tracts experienced a significant and negative relationship between racial diversity and police stops. In the All Stops model however, this relationship was positive. It's possible that white or Hispanic stops were driving the direction of the coefficient in the All Stops model. The results for baseline white tracts also contradict hypothesis 1.b. It is possible that historically white tracts were subject to a policing strategy

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based on officer perceptions of "belonging." In this scenario, minorities will be criminalized to a greater extent if officers perceive them as "out of place" in a certain neighborhood. When historically white tracts diversify, more race groups naturally appear to belong. Figure 4 displays the predictive margins of racial diversity across the three neighborhood types. It's clear from this graph that the positive relationship between racial diversity and police stops is strongest in baseline Black tracts. The line for baseline Black tracts slopes upward sharply, while the other neighborhood types decline or remain stable.

[INSERT FIGURE 4 HERE]

Column three contains results from a model that limited the dependent variable to white stops only. The relationship between racial diversity and police stops of whites was not significant in any of the neighborhood types. This provides additional support for hypothesis 1.b. Figure 5 displays the predictive margins of racial diversity across the three neighborhood types. This graph makes clear the lack of relationship between racial diversity and police stops of whites. The predictive margins are relatively stable and similar to each other across neighborhood types.

[INSERT TABLE 6 HERE]

[INSERT FIGURE 5 HERE]

Mediating Analysis

In Table 7, 311 calls are added to the analysis as a mediating variable. This study argues that neighborhood racial diversity relates to the criminalization of minorities, partly due to social tension between race groups. The 311 call variable is a proxy for this social tension. Results indicate that social tension may play a small

mediating role in the criminalization of Blacks. The 311 coefficient is small in magnitude in all models and is significant only when modeling Black police stops. In the Black Stops model, the racial diversity coefficient switches from significant to marginally significant. Additionally, the racial diversity coefficient decreases very slightly in magnitude (from 0.743 to 0.702) compared to the Black Stops model excluding the 311 call variable, but this difference is not significant. This provides partial support for hypothesis three. Additionally, the significance of the 311 coefficient in the Black Stops model indicates that increases in social tension are associated with increases in the criminalization of blacks, net of changes in racial diversity and other covariates. Future research should explore this potential additive effect.

The overall lack of support for the mediating role of social tension leaves us wondering what mechanism links changes in racial diversity to changes in police stops in tracts other than baseline Black tracts. It is possible that residents communicate social tension to law enforcement and government actors through alternative means, like neighborhood association meetings. It is also possible that law enforcement and government actors proactively address social tension without ques from neighborhood residents. The Office of Planning report mentioned on page 11 advocates for an aggressive campaign against both real and perceived threats to safety and cleanliness, stating that "MPD has shown a willingness to work proactively in other areas" (Office of Planning, 2004). By emphasizing threats to perceived safety, this report indicates government support of formal social control of a broader array of behaviors than strictly those codified in law as "criminal". Further research is

required to understand the role of the local government in guiding police enforcement strategies. The implications of these finding are discussed in the conclusions below.

[INSERT TABLE 7 HERE]

Robustness Checks

This paper employs negative binomial fixed effects models. Allison and Waterman (2002) and Guimaraes (2008) demonstrate that the conditional negative binomial fixed effects model is not a true fixed effects model. To address the concerns of these authors, this paper re-ran all models using Poisson fixed effects and standard errors inflated by the dispersion parameter. Using this method, only the coefficients related to black stops remained significant. These are the primary coefficients of interest for this paper. Their stable significance across methods lends support for their validity. This paper also employed different specifications of neighborhood type to ensure findings were not contingent on the arbitrary 70 percent threshold. Using a 65 percent threshold produced slightly different coefficient magnitudes, but significance levels remained stable. Lastly, this paper also modeled each neighborhood type separately. One could argue that the style of policing used in historically black tracts differs systematically from the style of policing used in historically white tracts. This would suggest modeling the relationship of interest separately for each neighborhood type. This produced a similar pattern to the robustness checks above. Coefficient magnitudes changed slightly, but none remained significant. The loss of significance is likely related to the small samples created by dividing Washington, D.C. into three samples by neighborhood type. Overall, the

pattern of results indicates we can interpret the coefficients related to black stops, but

should exercise caution interpreting any other coefficients.

Chapter 6: Discussion and Conclusion

This study investigated the relationship between changes in racial diversity and the criminalization of minorities. Existing research suggests that racial diversity relates to levels of social tension in a neighborhood (Walker et al. 2018; Chaskin and Joseph, 2015). Studies also suggest that law enforcement actions against minorities change in relation to a neighborhood's racial composition (Kane et al. 2013; Lamberth, 2006). This study attempted to link changes in racial diversity to changes in police stops of black individuals through social tension, finding partial support.

Hypothesis 1 and 1.b. predicted that increases in racial diversity will be associated with greater criminalization, particularly of minorities. Table 4 provides strong evidence in support of this hypothesis. The relationship between racial diversity and black stops is positive and highly significant, but for white stops the coefficient is negative and null. Unfortunately, this paper cannot speak to the criminalization of Hispanic/Latinx persons. Less than 7 percent of incidents in the police stop data involved Hispanic/Latinx subjects, making it difficult to parse out any relationships. The descriptive statistics in Table 5 also indicate very little change occurred in Hispanic/Latinx stops at the tract-level. Tracts experienced, on average, an increase of two Hispanic/Latinx stops between 2017 and 2012, with a median of zero.

Hypothesis two predicted that the relationship between racial diversity and criminalization will differ across census tracts depending on their baseline racial composition. Table 7 provides support for this prediction across black and white stops. However, given the results of robustness checks, the findings related to white

stops are not entirely trustworthy. Looking only at black stops, we still find support

for hypothesis two. Increases in racial diversity appear to result in criminalization of

blacks, only in tracts that were over 70 percent black in 2011. Thus, minorities

residing in gentrifying neighborhoods may be at greater risk than minorities residing

in, or migrating to predominantly white neighborhoods.

Hypothesis one predicted that increases in racial diversity will be associated

with increases in criminalization, generally. Results in Table 5 provide evidence in

support of this hypothesis. If tract-level racial diversity increases by 3.5 percent on

the SDI, it will experience an additional stop per year, on average. Hypothesis three

predicted that the relationship between racial diversity and criminalization will be

partially mediated by social tension. Results in Table 4 fail to find evidence in

support of this hypothesis. There are several possible explanations. First, 311 calls

used to measure social tension in this study may be a poor indicator. These

government hotlines differ between municipalities. Prior studies, such as Legewie and

Schaeffer (2016), used New York City 311 calls. These data feature calls related to

noise complaints, public drinking, and blocking a driveway. Washington, D.C. 311

calls do not feature complaints related to these issues, which are instead handled by

other agencies. Another explanation is that changes in racial diversity relate to

criminalization through some mechanism other than social tension. One possibility is

local government intervention. Take for example the role of the Office of Planning

(OP) in the policing of the 7th Street Corridor (also referenced on page 11). The (OP)

advocated for aggressive policing against both real and perceived threats to safety and

cleanliness, stating that "MPD has shown a willingness to work proactively in other

areas" (Office of Planning, 2004). Future research on this topic should attempt to explore social tension, local government intervention, and additional mechanisms. It's possible that numerous structural and neighborhood factors mediate the relationship between racial diversity and criminalization.

These findings have important implications for urban planning agencies and law enforcement departments. Anecdotal accounts of police stops or jump outs claim officers use this tactic in combination with unjustified racial profiling. This paper presents preliminary support for such claims, as blacks were stopped with increasing frequency after controlling for crime and other variables related to policing. According to Kutner (2015) and Rios (2017), the subjects of police stops experience negative outcomes such as fear and alienation (Kutner, 2015; Rios, 2017). According to Lerman and Weaver (2014), neighborhoods that experience heightened levels of stop and frisks exhibit lower levels of civic engagement. Existing literature also questions the legitimacy of using law enforcement to exert formal control over non-criminal behavior (Vitale, 2017).. Heightened fear and decreased community engagement could in turn generate higher crime rates. When criminalization increases due to growth in racial diversity, minority residents may additionally lose trust in law enforcement. At a time when police-community relations are generally tense, law enforcement needs to consider how various strategies affect community trust.

There are several potential solutions. First, law enforcement agencies could establish stop and frisk criteria that reduce the use of racial profiling in stop and frisk strategies. For example, law enforcement policies could prohibit stops motivated by the crime rates of the surrounding neighborhood, which are permitted under Supreme

Court precedent. Numerous studies document the increased likelihood of minorities

to live in neighborhoods with crime rates higher in relation to predominantly white

neighborhoods. This simple change could reduce the increased exposure of minorities

to police surveillance, independent of their actual behavior. Additionally,

neighborhood associations could become more involved in ensuring equitable

transitions. These associations could host events at which residents may discuss

public space norms and grievance procedures for perceived violations. For example,

neighborhood residents may benefit from mediation services offered by several

organizations in the D.C. area. During mediation sessions, residents can resolve social

tension without involving the criminal justice system.

Limitations

These findings may not generalize directly to municipal areas other than D.C.,

because this paper constructed variables with the District's context specifically in

mind. The study site differs from alternative locations on important characteristics

like the police per capita ratio and unique government structure. Future research

should explore these dynamics in different settings. Washington, D.C. experienced an

influx of white residents during the study's time period, but these propositions must

be tested in areas that feature multiple transition trajectories in order to hold.

This study uses police stops in 2012 and 2017, however several incidents

occurred during this period that may influence data collection practices. Advocacy

organizations in the District supported the successful passage of a crime prevention

bill that shifts resources away from traditional policing and towards preventative

strategies. This bill, titled the Neighborhood Engagement Achieves Results (NEAR)

Act, mandates the MPD to collect more detailed data on stop-and-frisk incidents and to release said data to the public (Cohen, 2017). The Act passed the DC Council in 2016 and within a year most provisions were funded by the mayor's office. This increased public scrutiny surrounding stop and frisks may affect officer behavior. However, these changes occurred across the whole District and may not interfere with detecting a relationship between neighborhood change and criminalization within tracts.

Several changes also occurred to MPD personnel and organization during this study's timeframe which are relevant to the topics of interest. First, Police Chief Cathy Lanier re-organized the vice and guns squads by eliminating precinct-based units and centralizing them in the MPD's headquarters. Lanier claimed that productivity of these squads declined over recent years as illicit organizations adopted new strategies (Jaffe, 2015). Vice and gun squads engage in a greater proportion of proactive policing than other police units so this re-organization may affect stop-and-frisk rates. Again, these changes occurred across the whole District and thus may not present any issues.

Tables

Table 1. Call Types and Classifications

Call type	Frequency	Percent	Classification
Parking Enforcement	55,631	17.66	Social Tension
Disorder Complaints	26,415	8.42	Social Tension
Abandoned Vehicle	6,481	2.07	Social Tension
Illegal Fireworks	1,663	0.53	Social Tension
Illegal Posters	321	0.10	Social Tension

Table 2: Pooled Descriptive Statistics

Variable	N	Mean	St. Dev.	Min	Max
Dependent Variables					
All Stops	356	30.15	34.37	0	275
Black Stops	356	24.90	29.17	0	244
Hispanic/Latinx Stops	356	1.862	5.078	0	48
White Stops	356	2.522	5.605	0	43
Independent Variables					
Racial Diversity	356	0.374	0.215	0	0.715
Interactions					
Racial Diversity x Over 70% Black in 2011	356	0.096	0.169	0	0.698
Racial Diversity x Over 70% White in 2011	356	0.078	0.163	0	0.604
Racial Diversity x No Racial Majority in 2011	356	0.194	0.272	0	0.715
Control Variables					
Business	356	88.86	96.92	3	938
Total Population	356	3,519	1,351	1,043	7,923
Population Density	356	16,597	11,654	745.5	67,155
Metro Ridership	356	7,184	16,888	0	107,665
311 Calls	355	282.8	376.2	1	2,908
Over 70% Black in 2011	356	0.225	--	0	1
Over 70% White in 2011	356	0.101	--	0	1
No Racial Majority in 2011	356	0.677	--	0	1

Table 3. Spatial Lag Models – Marginal Effects

Variables	Both Lags	Racial Diversity Lag	Residual Lag
Racial Diversity	0.251***	0.249**	0.271***
	(0.0869)	(0.0936)	(0.0838)
Racial Diversity Lag	-0.336	-0.348	--
	(0.255)	(0.283)	
Business	0.0815**	0.0837*	0.0812**
	(0.0395)	(0.0406)	(0.0384)
Population Density	-0.00260***	-0.003***	-0.00253***
	(0.000512)	(0.0005)	(0.000490)
Metro Riders	0.000808+	0.00128**	0.000718
	(0.000464)	(0.0005)	(0.000476)
Age 18 to 24	-0.0242	-0.0625	-0.0116
	(0.124)	(0.127)	(0.121)
Unemployment	-0.203	-0.196	-0.183
	(0.238)	(0.259)	(0.238)
Index Crime	0.0432+	0.0556*	0.0407
	(0.0259)	(0.0281)	(0.0257)
Residual Lag	-0.501***	--	-0.500***
	(0.117)		(0.118)
Observations	356	356	356

Standard errors in parentheses

*** p<0.01, ** p<0.05, + p<0.1

Table 4. Black Stops, White Stops, and Hispanic/Latinx Stops – Marginal Effects

Variables	All Stops	Black Stops	White Stops
Racial Diversity	0.271***	0.574***	-0.0718
	(0.0838)	(0.159)	(0.0461)
Business	0.0812**	0.189***	-0.00361
	(0.0384)	(0.0709)	(0.0102)
Population Density	-0.00253***	-0.00295***	-0.000226
	(0.000490)	(0.000852)	(0.000159)
Metro Riders	0.000718	-0.000113	0.000202+
	(0.000476)	(0.00174)	(0.000107)
Age 18 to 24	-0.0116	0.0828	-0.0164
	(0.121)	(0.253)	(0.0202)
Unemployment	-0.183	0.161	-0.0643
	(0.238)	(0.317)	(0.0896)
Index Crime	0.0407	0.0655	-0.00556
	(0.0257)	(0.0423)	(0.00770)
Residual Lag	-0.500***	-0.306***	-0.189
	(0.118)	(0.105)	(0.209)
Observations	356	356	356

Standard errors in parentheses
*** p<0.01, ** p<0.05, + p<0.1

Table 5. Descriptive Statistics for Hispanic/Latinx Stops Overall and by Neighborhood Type

Neighborhood Type	N	Mean	Median	St. Dev	Min	Max
Over 70% White in 2011	35					
2011 Stops		0.657	0	1.392	0	6
Change in Stops		0.686	0	2.083	-3	8
Over 70% Black in 2011	80					
2011 Stops		0.538	0	2.099	0	15
Change in Stops		0.913	0	3.859	-6	29
No Racial Majority in 2011	63					
2011 Stops		1.476	0	2.583	0	13
Change in Stops		3.936	1	8.09	-3	40
Total	178					
2011 Stops		0.894	0	2.205	0	15
Change in Stops		1.938	0	5.71	-6	40

Table 6. Baseline Racial Composition Models – Marginal Effects

Variables	All Stops	Black Stops	White Stops
Racial Diversity	0.0711	0.242	-0.0437
	(0.155)	(0.317)	(0.0411)
RD x Over 70% White	0.917**	-1.370**	0.0734
	(0.409)	(0.553)	(0.0706)
RD x Over 70% Black	0.233	0.743**	-0.123
	(0.199)	(0.360)	(0.0798)
Business	0.0617	0.208***	-0.00545
	(0.0423)	(0.0646)	(0.00923)
Population Density	-0.00266***	-0.00258***	-0.000262+
	(0.000502)	(0.000608)	(0.000155)
Metro Riders	0.000791+	-0.000218	0.000210
	(0.000430)	(0.00127)	(0.000130)
Age 18 to 24	0.00525	0.156	-0.0172
	(0.119)	(0.239)	(0.0191)
Unemployment	-0.234	0.195	-0.121
	(0.230)	(0.277)	(0.105)
Index Crime	0.0510**	0.0467	-0.00318
	(0.0259)	(0.0382)	(0.00755)
Residual Lag	-0.471***	-0.454***	-0.264
	(0.124)	(0.109)	(0.239)
Observations	356	356	356

Standard errors in parentheses
*** p<0.01, ** p<0.05, + p<0.1

Table 7. Calls to 311 Mediation Analysis – Marginal Effects

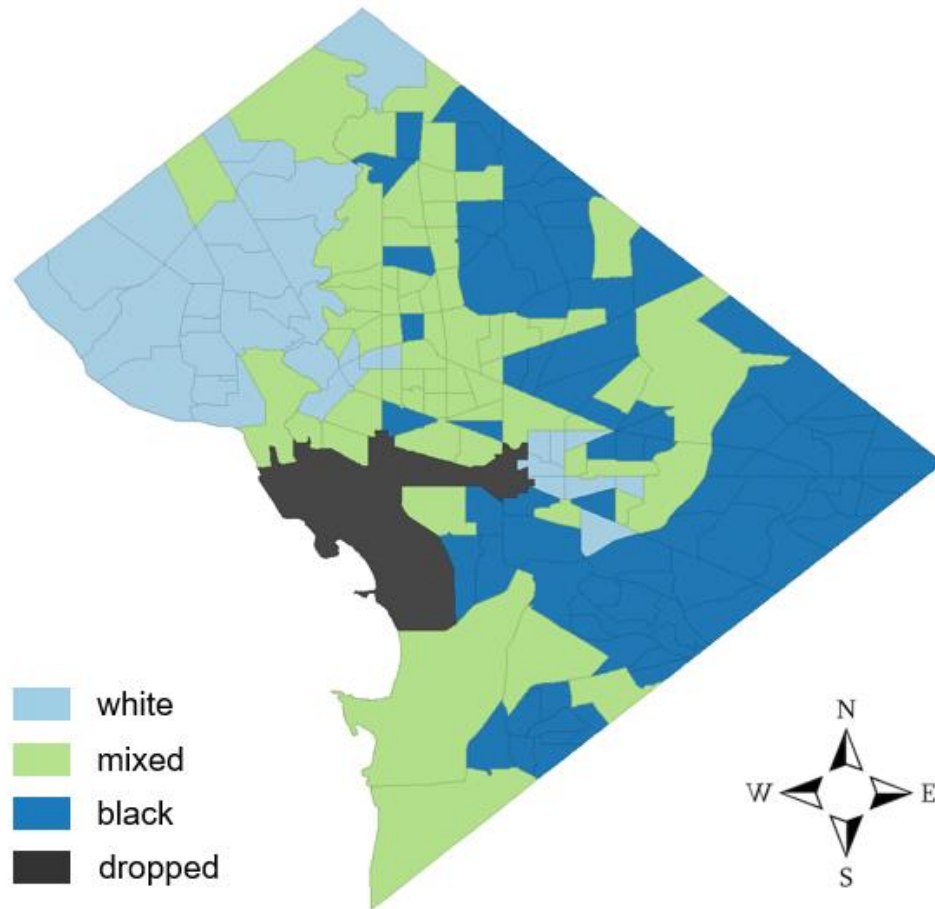| Variables	All Stops	Black Stops	White Stops
Racial Diversity (RD)	0.0810	0.203	-0.0509
	(0.153)	(0.335)	(0.0407)
RD x Over 70% White	0.901**	-1.298**	0.0615
	(0.406)	(0.623)	(0.0772)
RD x Over 70% Black	0.194	0.702+	-0.122
	(0.201)	(0.391)	(0.0793)
Calls to 311	0.00333	0.0143**	-0.00145
	(0.00564)	(0.00616)	(0.00162)
Business	0.0558	0.135+	-0.00332
	(0.0497)	(0.0755)	(0.00940)
Population Density	-0.00284***	-0.00298***	-0.000363***
	(0.000541)	(0.000735)	(0.000137)
Metro Ridership	0.000977+	0.000174	0.000227+
	(0.000506)	(0.00150)	(0.000132)
Age 18 to 24	0.00208	0.0978	-0.0191
	(0.121)	(0.252)	(0.0213)
Unemployment	-0.263	0.169	-0.122
	(0.268)	(0.303)	(0.0911)
Index Crime	0.0364	0.0278	0.000535
	(0.0272)	(0.0420)	(0.00727)
Residual Lag	0.422***	-0.00815	0.0131
	(0.134)	(0.147)	(0.270)
Observations	356	356	356

Standard errors in parentheses
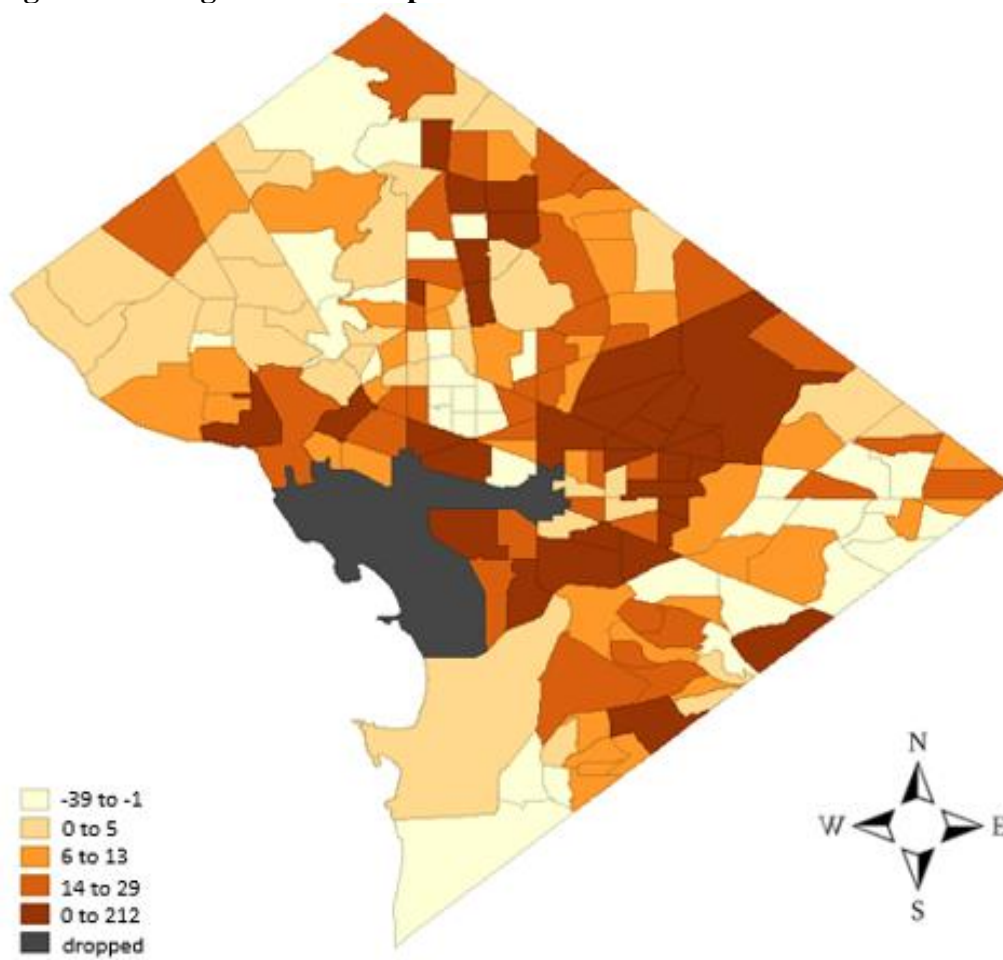*** p<0.01, ** p<0.05, + p<0.1

Table 8. Correlation Statistics

	Stops	Racial Diversity	311 Calls	Business	Pop. Density	Metro	Unemp.	Crime	Residual Lag
Stops	1.00								
Racial Diversity	0.062	1.00							
311 Calls	0.45	0.25	1.00						
Business	0.47	0.24	0.48	1.00					
Pop. Density	0.04	0.32	0.20	0.07	1.00				
Metro	0.09	0.21	0.11	0.61	0.01	1.00			
Age 18 to 24	-0.01	0.06	-0.07	0.09	-0.05	0.10			
Unemp.	-0.08	-0.56	-0.22	-0.28	-0.22	-0.19	1.00		
Crime	0.65	0.14	0.39	0.78	0.09	0.47	-0.06	1.00	
Residual Lag	-0.09	0	0.07	0.05	0.10	0.02	0	0	1.00

Figures

Figure 1. D.C. Neighborhood Types in 2011

Figure 2. Change in Police Stops between 2012 and 2017

Legend:
- -39 to -1
- 0 to 5
- 6 to 13
- 14 to 29
- 0 to 212
- dropped

Figure 3. Predictive Margins – All Stops

Predictive Margins of Racial Diversity with 95% CIs

Legend: Baseline Mixed, Baseline Black, Baseline White
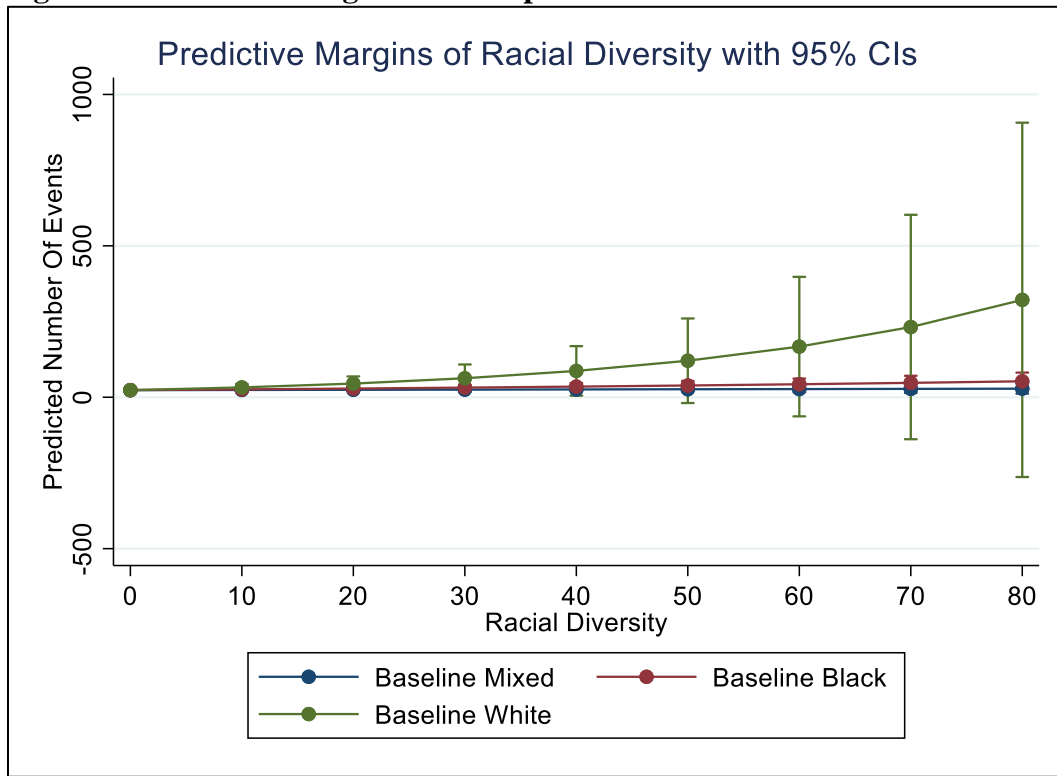
Figure 4. Predictive Margins – Black Stops

Predictive Margins of Racial Diversity with 95% CIs

Legend: Baseline Mixed, Baseline Black, Baseline White
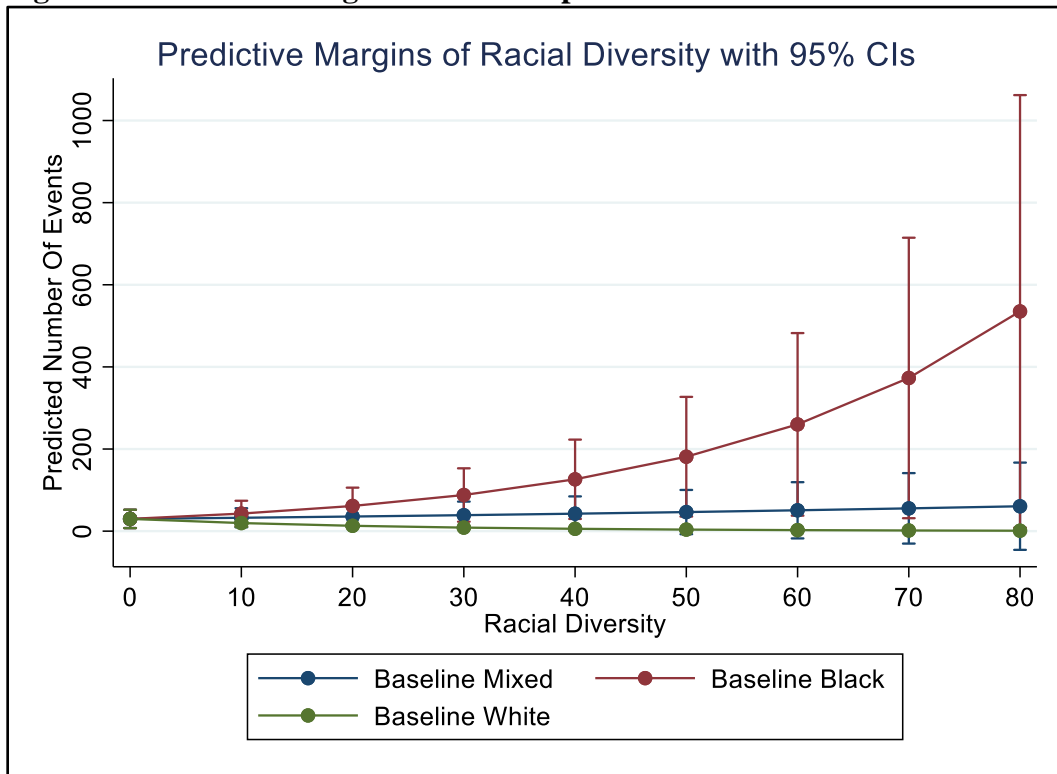
Figure 5. Predictive Margins – White Stops

Predictive Margins of Racial Diversity with 95% CIs
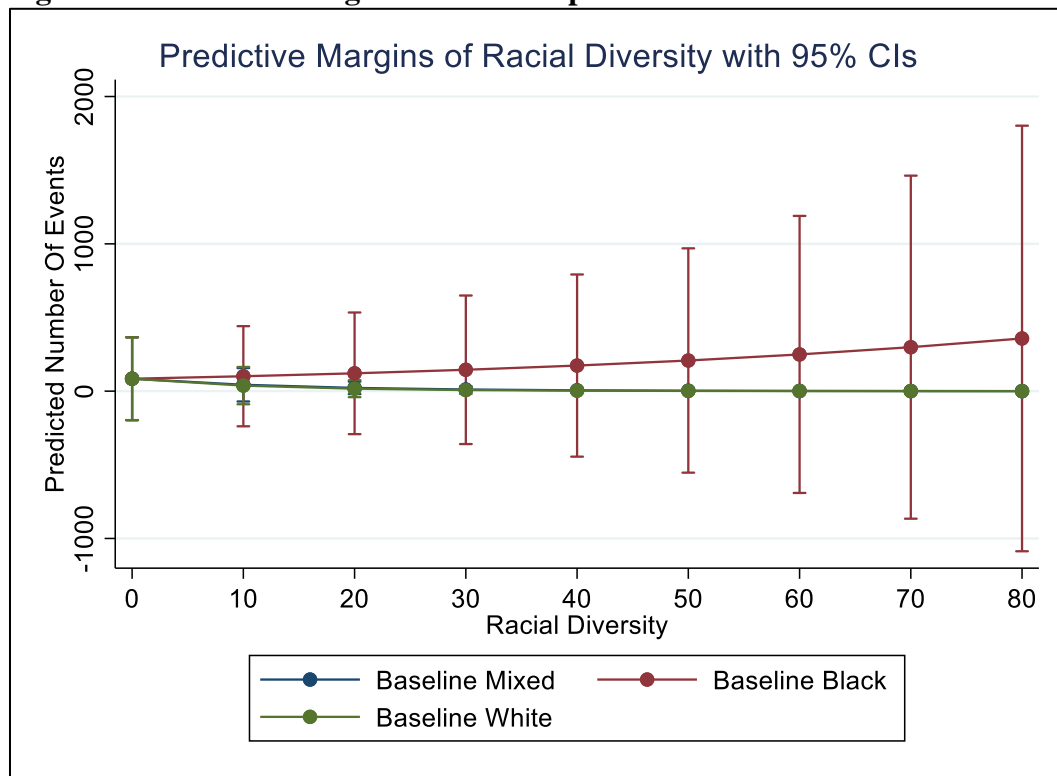
Appendix A.

Call type	Frequency	Percent	Classification
Bulk Collection	45990	14.67	Basic services
Parking Meter Repair	36050	11.50	Basic services
Parking Enforcement	35607	11.36	Social tension
Emergency No-Parking Verification (2016 only)	12644	4.03	Social tension
Sign New Investigation	12380	3.95	Social tension
Pothole	11301	3.60	Physical repair
Trash Collection - Missed (2016 only)	8159	2.60	Basic services
Alley Cleaning	7380	2.35	Social tension
Residential Parking Permit Violation	7122	2.27	Social tension
Sanitation Enforcement	6655	2.12	Social tension
Snow/Ice Removal	6175	1.97	Basic services
Sidewalk Repair	5816	1.85	Physical repair
Sidewalk Shoveling Enforcement Exemption (2016 only)	5777	1.84	Basic services
Illegal Dumping	5563	1.77	Social tension
Street Cleaning	5453	1.74	Social tension
xxx_Wires Down LOOK UP ONLY	5432	1.73	Administrative
Residential Snow Removal (ServeDC) (2016 only)	5336	1.70	Basic services
xxx_Abandoned House LOOK UP ONLY	4973	1.59	Administrative
Abandoned Vehicle - On Public Property	4953	1.58	Social tension
Tree Pruning	4084	1.30	Physical repair
DMV - Drivers License/ID Issues (2016 only)	3993	1.27	Basic services
Tree Inspection	3889	1.24	Physical repair
Rodent Inspection and Treatment (2016 only)	3531	1.13	Physical repair
Out of State Parking Violation (ROSA)	3043	0.97	Social tension
Snow/Ice Removal (Roadways AND Bridge walkways ONLY) (2016 only)	2858	0.91	Basic services
Tree Planting	2692	0.86	Physical repair
Dead Animal Collection (2016 only)	2654	0.85	Basic services
DMV - Vehicle Registration Issues (2016 only)	2600	0.83	Basic services
TRU Report	2536	0.81	Social tension
Tree Removal	2433	0.78	Physical repair
Sign Replacement	2356	0.75	Basic services
Traffic Signal Maintanence (2016 only)	2141	0.68	Basic services
Alleylight Repair (2016 only)	2134	0.68	Physical repair
Street Repair	1887	0.60	Physical repair

Illegal Fireworks	1663	0.53	Social tension
Yard Waste - Missed (2016 only)	1639	0.52	Basic services
DC Government Information (2016 only)	1583	0.50	Unknown
Abandoned Vehicle - On Private Property	1528	0.49	Social tension
Trash Cart - Delivery (2016 only)	1498	0.48	Basic services
Alley Repair	1427	0.46	Physical repair
Container Removal (2016 only)	1373	0.44	Physical repair
Grass and Weeds Mowing	1415	0.45	Physical repair
Supercan - Delivery (2016 only)	1226	0.39	Basic services
Streetlight Repair Investigation	1184	0.38	Physical repair
Snow Removal Complaints for Sidewalks (2016 only)	1109	0.35	Basic services
Abandoned Bicycle (2016 only)	1046	0.33	Social tension
How's My Driving – Complaint	1,342	0.43	Social tension
Curb and Gutter Repair	881	0.28	Physical repair
Roadway Signs (2016 only)	865	0.28	Physical repair
Rat Abatement	833	0.27	Physical repair
FEMS - Community Events (2016 only)	825	0.26	Basic services
Traffic Signal Issue (2016 only)	799	0.25	Basic services
Vacant Lot	778	0.25	Mixed
DMV - Copy of Ticket (2016 only)	752	0.24	Basic services
DDOT Citation (2011 only)	719	0.23	Social tension
DMV - Vehicle Title Issues (2016 only)	594	0.19	Basic services
Sign Missing Investigation	537	0.17	Basic services
Leaf Season Collection (2016 only)	475	0.15	Basic services
Traffic Calming (2016 only)	469	0.15	Social tension
DMV - Forms, Applications, and Manuals Request (2016 only)	459	0.15	Basic services
Public Space Litter Can-Installation/Removal/Repair (2016 only)	446	0.14	Basic services
Public Space Litter Can-Collection (2016 only)	425	0.14	Basic services
Wire Down / Power Outage	507	0.16	Basic services
Sign Removal investigation (2016 only)	427	0.14	Basic services
DOEE - General Environmental Concerns (2016 only)	406	0.13	Physical repair
Roadway Repair (2016 only)	382	0.12	Physical repair
Traffic Calming Investigation (2011 only)	352	0.11	Mixed
Alleylight Repair Investigation	341	0.11	Physical repair
Trash Cart Repair (2016 only)	339	0.11	Basic services
DMV - Hearings (2016 only)	333	0.11	Basic services
DCRA - Trash and Debris (2011 only)	325	0.10	Social tension
DOEE - Construction – Erosion Runoff (2016 only)	308	0.10	Basic services

DMV - Online Processing Issues (2016 only)	301	0.10	Basic services
CSR Reported Issues (2011 only)	291	0.09	Mixed
FEMS - Smoke Alarm Application (2016 only)	291	0.09	Basic services
Bus/Rail Issues (2016 only)	276	0.09	Physical repair
Christmas Tree Removal-Seasonal (2016 only)	258	0.08	Physical repair
Marking Installation	391	0.12	Physical repair
DMV - Refunds - Tickets (2016 only)	252	0.08	Basic services
Emergency - Heating and Cooling	250	0.08	Basic services
Resident Parking Permit (2016 only)	241	0.08	Social tension
Traffic Safety Investigation (2016 only)	233	0.07	Social tension
Signed Street Sweeping Missed (2016 only)	224	0.07	Basic services
DMV - Vehicle Insurance Lapse (2016 only)	187	0.06	Basic services
Emergency - Trees	172	0.05	Basic Services
Illegal Poster	321	0.10	Social tension
Insects	261	0.08	Basic services
DOEE - Nuisance Odor Complaints (2016 only)	158	0.05	Social tension
Recycling Cart - Repair (2016 only)	154	0.05	Basic services
Signs Conflicting (2016 only)	150	0.05	Basic services
Utility Repair Issue (2016 only)	137	0.04	Physical repair
DMV - Processing Center Manager (2016 only)	114	0.04	Basic services
Snow Metro Bus Shelter/Stop (2016 only)	114	0.04	Basic services
DMV - Ticket Payment Dispute (2016 only)	99	0.03	Basic services
Roadway Marking Maintenance	102	0.03	Physical repair
DMV - Adjudication Supervisor (2016 only)	93	0.03	Basic services
Snow Towing (2016 only)	90	0.03	Basic services
xxx_Building Code Violation LOOK UP ONLY (2011 only)	88	0.03	Administrative
DMV - Driver Record Issues (2016 only)	84	0.03	Basic services
DMV - Driver and Vehicle Services Refund (2016 only)	77	0.02	Basic services
Curb and Gutter Repair Investigation (2016 only)	75	0.02	Physical repair
Safe Routes to School (2016 only)	73	0.02	Basic services
Pedestrian Safety Program (2011 only)	64	0.02	Mixed
DMV - Drivers License/ID Reinstatement (2016 only)	57	0.02	Basic services
DOEE - Engine Idling Tips (2016 only)	55	0.02	Social tension
DMV - eTIMS Ticket Alert Services Issues (2016 only)	51	0.02	Basic services
DMV - Appeal (2016 only)	47	0.01	Basic services
311Force Reported Issues (2016 only)	45	0.01	Administrative

How Is My Driving - Compliment	76	0.02	Social tension
Snow Ticket Reimbursement (2016 only)	37	0.01	Basic services
Bicycle Services (2016 only)	34	0.01	Basic services
Homeless Services - Winter/Hypothermia Season (2016 only)	32	0.01	Basic services
Recycling- Information Request (2016 only)	31	0.01	Basic services
DMV - Offset Tracking (2016 only)	29	0.01	Basic services
Roadway Marking Modification	28	0.01	Physical repair
DOEE - Ban on Foam Food Containers (2016 only)	26	0.01	Social tension
Emergency - Power Outage/Wires Down (2016 only)	25	0.01	Basic services
DMV - Vehicle Inspection Issues (2016 only)	25	0.01	Basic services
School Crossing Guard (2016 only)	22	0.01	Basic services
Street Paving Schedule (2011 only)	21	0.01	Physical repair
Litter Can - Installation/Removal/Repair (2011 only)	20	0.01	Basic services
Light-Tunnel/Underpass Light Repair (2016 only)	19	0.01	Physical repair
Emergency - Power Outage / Wires Down (2011 only)	18	0.01	Basic services
OUC NYE Test (2016 only)	17	0.01	Administrative
Emergency - Supplies	16	0.01	Basic Services
Bed Bugs (2011 only)	15	0.00	Basic services
Light-Overhead Guide Sign Lighting Repair	14	0.00	Physical repair
Marking Removal (2016 only)	18	0.01	Physical repair
Recycling - Information Request (2011 only)	11	0.00	Basic services
Hypothermia Shelter Information (2016 only)	11	0.00	Basic services
Snow Other	10	0.00	Basic services
Child Safety Seat Program (2016 only)	10	0.00	Basic services
Trash Collection - Missed Customer Follow-up (2011 only)	9	0.00	Basic services
xxx_Housing Inspection LOOK UP ONLY (2011 only)	9	0.00	Administrative
Yard Waste - Missed - Customer Follow-up (2011 only)	9	0.00	Basic services
DCRA - Vacant Building (2011 only)	8	0.00	Social tension
Recycling Collection - Missed - Customer Follow-up (2011 only)	8	0.00	Basic services
Recycling - Commercial Only	8	0.00	Basic services
Streetcar (2016 only)	7	0.00	Unknown
Supercan - Repair	6	0.00	Basic services
DOEE - Bag Law Tips (2016 only)	6	0.00	Social tension

Sanitation Enforcement - Customer Follow-up (2011 only)	5	0.00	Social tension
Utility Repair Investigation	5	0.00	Physical repair
Bicycle Issues	5	0.00	Physical repair
Recycling Cart Delivery	4	0.00	Basic services
xxx_Public Space - Defects (Under Investigation) LOOK UP ONL (2011 only)	3	0.00	Administrative
Recycling - School Program (2016 only)	3	0.00	Basic services
Emergency - Senior Assistance (2016 only)	3	0.00	Basic services
Bulk Collection – Unscheduled (2011 only)	2	0.00	Social tension
Graffiti Removal - Paint Voucher Customer Follow-up	2	0.00	Social tension
xxx_Parking - Handicapped LOOK UP ONLY	2	0.00	Administrative
DPW Correspondence Tracking (2016 only)	2	0.00	Unknown
Report Invalid Address to GIS Dept (2016 only)	2	0.00	Administrative
Emergency - Flooding (2016 only)	2	0.00	Basic services
Bus Shelters	1	0.00	Physical repair
Eviction	1	0.00	Social tension
Graffiti Removal (2011 only)	1	0.00	Social tension
Leaf Collection	1	0.00	Basic services
Recycling Collection - Missed	1	0.00	Basic services
School Crossing Guard Program	1	0.00	Basic services
Supercan - Repair - Customer Follow-up	1	0.00	Basic services
Traffic Camera Location Map	1	0.00	Basic services
xxx_DHS MISC LOOK UP ONLY	1	0.00	Administrative
xxx_DPW MISC LOOK UP ONLY	1	0.00	Administrative
xxx_XXX Vacant Property LOOK UP ONLY (2011 only)	1	0.00	Administrative
School Transit Subsidy Program (2016 only)	1	0.00	Basic services
SalesForce DC311 Application Request (2016 only)	1	0.00	Unknown
Light-Light Pole (2016 only)	1	0.00	Physical repair
Ticket Ombudsman (2016 only)	1	0.00	Unknown
DDS - Serious Medication Error (2016 only)	1	0.00	Basic services
FEMS - Fire Safety Education (2016 only)	1	0.00	Basic services
DOEE - Foam Ban Tips (2016 only)	1	0.00	Social tension
Citation (2016 only)	1	0.00	Administrative

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