Neighborhood Differences in Enforcement Activity in the City of St. Louis from 2002 – 2017:
An Exploration of Neighborhood Arrest Trends and the Consequences of Concentrated Enforcement on Communities

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In some communities, criminal justice system contact is the primary way people interact with the state (Weaver, Hacker, and Wildeman, 2014). Most police-citizen encounters are routine and are in response to violations of local ordinances or misdemeanors; however, enforcement of low-level offenses can have serious consequences for those involved and the broader community. For example, individuals may become more deeply entrenched in the criminal justice system if court dates are missed or fines go unpaid, and even short periods of detention can lead to job loss or gaps in child care (Kohler-Hausmann, 2018; Natapoff, 2018). High levels of enforcement also can harm communities by disrupting social networks, fostering political alienation, and leading to disengagement from the police and government institutions (Burch, 2015; Lerman and Weaver, 2014; National Academies of Sciences, Engineering, & Medicine, 2018). For these reasons, it is important to understand where enforcement is concentrated and how it has changed over time, as well as the impact it has on communities.

RESEARCH PROJECT BACKGROUND AND GOALS
This research describes trends in arrests in the City of St. Louis for 2002 – 2017 and examines how concentrated enforcement is related to resident engagement with the local and federal government. This research has three parts. First, we present trends in arrests for felony and low-level offenses for St. Louis and each of its 79 neighborhoods. Second, we examine how these trends vary across neighborhoods with different characteristics. Finally, we focus on the consequences of high levels of enforcement for communities by exploring the relationship between the number of arrests in a neighborhood and the extent to which residents engage with different government agencies/institutions.

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POLICING IN THE CITY OF ST. LOUIS
From 2002 – 2017, a number of important changes took place related to policing in St. Louis. First, like most U.S. cities, St. Louis experienced a decline in serious non-violent crime, which decreased by half from 2002 to 2017 (see Figure 1). In comparison, the serious violent crime rate remained steady, dropping by 2%. Second, the St. Louis Metropolitan Police Department (SLMPD) underwent a number of structural and organizational changes. For example, the number of officers declined from 1,103 in 2002 to 910 in 2017, a 17% decrease. Finally, the social context of policing shifted. The killing of Michael Brown by a Ferguson, Missouri police officer in August 2014 catalyzed protests throughout the nation and created immense pressure for police agencies to change the way they enforce the law. There were assertions that this increased scrutiny leads police officers to “pull back” their enforcement efforts, particularly in Black communities.2

Figure 1: Non-Violent and Violent Crime Rates for the City of St. Louis, 2002–2017

DATA
Several different sources of data were used to create neighborhood-level measures that capture police enforcement, government engagement, and other community characteristics.3

2 See Slocum, Greene, Huebner, and Rosenfeld (2019) for an examination of the Ferguson Effect in St. Louis.
3 In St. Louis, neighborhoods have distinct characteristics and hold meaning for residents. Therefore, when we describe trends in enforcement, we do so for each of the city’s 79 neighborhoods. However, the U.S. Census uses a different set of boundaries to approximate communities—block groups. In the analyses that utilized Census data, block groups are used to approximate neighborhoods. The City of St. Louis contains 360 block groups.
Enforcement: We measure the number of arrests in each neighborhood, which are divided into four types based on the most serious charge: felony, misdemeanor, municipal violation, and bench warrant.

Engagement with Government Institutions: We examine the consequences of enforcement for residents’ engagement with three different government agencies/institutions. For each neighborhood, measures were created to capture: 1) the percentage of registered voters who participated in the 2018 general election; 2) the percentage of households who responded to the 2010 US Census; and 3) the number of calls per 1,000 neighborhood residents that were made to the city’s Citizen Service Bureau (CSB) in 2017, which handles complaints about neighborhood problems, such as potholes, trash, and broken lights.4

Neighborhood Characteristics: Information on the characteristics of communities was obtained from U.S. Census’ American Community Survey (ACS). Measures were created to capture the number of people in each neighborhood, as well as racial composition, economic disadvantage, age of residents, homeownership, residential mobility, education, housing vacancy, and household composition.

Crime and Calls for Service to the Police: Data provided by SLMPD were used to create several measures to account for differences across neighborhoods in crime and resident demand for police services. Counts of serious violent and property crimes were generated using Uniform Crime Report (UCR) data. The number of calls made by residents to request police services for crime- and disorder-related issues was also provided.

ANALYZING THE DATA
We began by creating graphs and maps that display arrest trends for the City of St. Louis and each of its 79 neighborhoods for 2002 – 2017. Next, we examined how these arrest trends varied across neighborhoods with differing characteristics. Regression techniques that are appropriate for describing trends were used, and control variables were included to isolate the relationship between each neighborhood characteristic and arrests. Finally, we generated maps that describe how levels of government engagement varied across neighborhoods and used regression to assess whether engagement is related to the number of felony and non-felony arrests in the neighborhood. These analyses were cross-sectional, meaning that we assessed the neighborhood-level relationship between the number of arrests in one period and civic engagement in the following year.5

RESULTS
Trends in Enforcement for the City of St. Louis, 2002 – 2017
Figure 2 depicts changes in the rate of enforcement by offense type for St. Louis from 2002 to 2017. Arrests for both municipal violations and misdemeanor offenses decreased at a relatively steady rate during this period. Municipal arrests declined by approximately two-thirds. The reduction in misdemeanor enforcement (76%) was even more pronounced. Bench warrant arrests were the most common type of enforcement for most of the study period; however, they dropped sharply after 2013, and declined by 68% between 2002 and 2017. Felony arrests exhibited a more modest decline, dropping by 35% over the study period.6

4 More information on the 2010 Census mail return rates can be found in Letourneau (2012) and can be accessed via the Census 2012 Planning Database at https://www.census.gov/topics/research/guidance/planning-databases.2012.html.

5 The arrest measures are based on three-year averages in case a neighborhood had an unusually high number of arrests in a given year.
Figure 2: Enforcement Rates in St. Louis City, 2002 – 2017
per 100,000 Residents Age 17 and Older

Differences in Neighborhood Enforcement Trends
Enforcement rates generally declined in neighborhoods across the city, but there was some variability in the trends. Figure 3 displays the percent change in the number of non-felony arrests (municipal, misdemeanor, and bench warrant) from 2002 to 2017 by neighborhood. This map indicates that with one exception, declines in non-felony arrests were universal; however, reductions in non-felony arrests tended to be larger in the northern part of the city. Figure 4 provides the same information for felony arrests. As compared to non-felony arrests, more neighborhoods exhibited increases in felony enforcement from 2002 to 2017, and increases tended to be more prevalent in the south, while neighborhoods in the north experienced greater declines. The Appendix presents trends in the number of enforcement actions and serious crimes separately for each neighborhood.

To better understand neighborhood variability in enforcement, we examined how trends in arrests differed by community characteristics using regression analyses. Several findings emerged. First, all else equal, neighborhoods with higher levels of socioeconomic disadvantage had more arrests for all offense types. Second, arrest levels and trends varied among neighborhoods depending on racial composition.

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6 For more information on arrest trends, including race-, age-, and sex-specific trends, see Slocum, Huebner, Rosenfeld, and Greene (2018).
Figure 3: Percentage Change in the Number of Non-Felony Arrests from 2002 to 2017 for Neighborhoods in St. Louis
Figure 4: Percentage Change in the Number of Felony Arrests from 2002 to 2017 for Neighborhoods in St. Louis

Percentage Change in Felony Arrests by Neighborhood

1. Carondelet
2. Patch
3. Holly Hills
4. Boulevard Heights
5. Bevo Mill
6. Princeton Heights
7. South Hampton
8. St. Louis Hills
9. Lindewood Park
10. Ellendale
11. Clifton Heights
12. The Hill
13. Southwest Garden
14. North Hampton
15. Tower Grove South
16. Dutchtown
17. Mount Pleasant
18. Marine Villa
19. Gravois Park
20. Kosciusko
21. Soulard
22. Benton Park
23. McKinley Heights
24. Fox Park
25. Tower Grove East
26. Compton Heights
27. Shaw
28. Botanical Heights
29. Tiffany
30. Benton Park West
31. The Grove District
32. Lafayette Square
33. Peabody Park West
34. LaSalle Park
35. Downtown
36. Downtown West
37. Midtown
38. Central West End
39. Forest Park South East
40. Kings Oak
41. Cheltenham
42. Clayton-Tamm
43. Franz Park
44. Hi-Pointe
45. Wydown Shaker
46. Shaker DeBaliviere
47. DeBaliviere Place
48. West End
49. Visitation Park
50. Wells Goodfellow
51. Academy
52. Kingsway West
53. Fountain Park
54. Lewis Place
55. Kingsway East
56. Greater Ville
57. The Ville
58. Vandeventer
59. Jeff Vanderlou
60. St. Louis Place
61. Carr Square
62. Columbus Square
63. Old North St. Louis
64. Near North Riverfront
65. Hyde Park
66. College Hill
67. Fairground Neighborhood
68. O'Fallon
69. Peurosse
70. Mark Twain I-70 Industrial
71. Mark Twain
72. Walnut Park East
73. North Pointe
74. Baden
75. Riverview
76. Walnut Park West
77. Covenant Blu-Grand Center
78. Hamilton Heights
79. North Riverfront
80. Carondelet Park
81. Tower Grove Park
82. Forest Park
83. Fairground Park
84. Peurosse Park
85. O'Fallon Park
86. Belfontaine-Calvary Cemetery
87. Missouri Botanical Garden
88. Wilmot Park

% Change
- Increased
-25,0
-(50,-25]
-(75,-50]
-100,-75]
- Park

Legend: Increased, Decreased, Percentage Change
To better describe these differences, we used the results from the regression analyses to graph the number of arrests in neighborhoods in which 0%, 50%, and 100% of residents are Black, after controlling for other neighborhood characteristics, including calls for police services (see Figures 5 – 8). As depicted in Figure 5, municipal arrests declined over time at a relatively constant rate. Although neighborhoods with a higher percentage of Black residents had more municipal arrests overall (not shown), after controlling for differing levels of demand for police services and other community characteristics, neighborhoods with more Black residents had fewer arrests for violating municipal laws. These findings suggest there may be less vigorous police responses to resident calls related to minor crimes and disorder in predominantly Black areas (Klinger, 1997). Misdemeanor and bench warrant arrests also declined throughout the study period, although at varying rates (Figures 6 & 7). Both types of arrests were more prevalent in neighborhoods with more Black residents in 2007, but enforcement dropped at higher rates in minority communities, and arrest trends for neighborhoods of differing racial compositions converged for misdemeanors in 2013 and a few years later (2016) for bench warrants. Thus, by the end of the study period, the number of arrests for these offenses was similar in Black and White neighborhoods that had comparable characteristics. Unlike other types of enforcement, felony arrests remained more prevalent in Black communities throughout the study period, although the gap narrowed somewhat by 2017 due to greater declines in felony arrests in Black communities (Figure 8).7

**Figure 5. Municipal Arrest Trends from 2007 – 2017 for St. Louis Neighborhoods with Different Percentages Black Residents**

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7 More detail on these analyses can be found in Slocum, Huebner, Greene, and Rosenfeld (2019).
Figure 6. Misdemeanor Arrest Trends from 2007 – 2017 for St. Louis Neighborhoods with Different Percentages of Black Residents

Adjusted Predictions

<table>
<thead>
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<th>Year</th>
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</tr>
<tr>
<td>2017</td>
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</table>

0% Black, 50% Black, 100% Black

All other variables at means.
Figure 7. Bench Warrant Arrest Trends from 2007 – 2017 for St. Louis Neighborhoods with Different Percentages of Black Residents

Adjusted Predictions

All other variables at means.
Consequences of Concentrated Enforcement for Civic Engagement

Voter turnout, participation in the US Census, and rates of reports to the city’s CSB varied significantly across the city, as displayed in Figure 9. When we examined the relationship between these forms of government engagement and the number of felony and non-felony arrests, we found the following.

Voter turnout. Results indicated that although neighborhoods with more non-felony and felony arrests had lower rates of voter participation in the 2018 election, this relationship was accounted for by community differences in serious crime. In other words, for neighborhoods with similar levels of crime, there were no differences in voter turnout at varying levels of arrests; instead, neighborhoods with more crime tended to have lower voting rates.

Participation in 2010 Census. In neighborhoods with more arrests for felony and non-felony arrests, fewer households participated in the 2010 U.S. Census, even after accounting for community characteristics and crime. For every 10 non-felony arrests in a neighborhood, participation in the U.S. Census decreased by 1.9 percentage points, and for every 10 felony arrests, participation dropped by 6.3 percentage points.
Figure 9. Spatial Patterning of Government Engagement by Census Block Group

Percent of Registered Voters who Voted in the 2018 Midterm Election by Census Block Group

2010 Census Return Rate by Census Block Group

2017 Calls to Citizen Service Bureau per 1,000 residents by Census Block Group
Calls to the Citizen Service Bureau. After differences in neighborhood crime were taken into account, we found no evidence that the number of arrests in a neighborhood was related to the rate at which residents called the CSB to report neighborhood problems.

IMPLICATIONS AND CONCLUSIONS

Arrests have declined over time in the City of St. Louis, particularly for low-level offenses. While enforcement of misdemeanor and municipal violations was dropping before the killing of Michael Brown and the ensuing protests, there was a precipitous decline in bench warrant arrests following these events. Between 2002 and 2017, reductions in misdemeanor and bench warrant arrests were greater in communities with a higher percentage of Black residents, eliminating the race gap in enforcement levels for these offenses in neighborhoods with similar characteristics. Municipal arrests, however, remained more prevalent in neighborhoods with a higher percentage of White residents, after controlling for calls to the police. This finding is consistent with work that finds officers are more likely to downgrade the seriousness of crime and disorder in predominantly Black areas, leading to less vigorous enforcement of minor offenses (Lum, 2011). In comparison, felony arrests remained higher in predominantly Black neighborhoods, suggesting a continued emphasis on enforcement of more serious crimes in minority communities. Greater declines in arrests for low-level offenses and bench warrants in neighborhoods with more minority residents could be viewed as positive news for communities that historically have been subject to disproportionately high levels of enforcement (Fagan et al., 2010). In addition, reductions in discretionary arrests combined with a sustained focus on more serious felony offenses may help reduce crime if residents begin to exhibit greater trust in law enforcement and become more willing to report crime and cooperate with the police (Rengifo et al., 2019). Enforcement of all types was higher in more socioeconomically disadvantaged neighborhoods. Given the role of the criminal justice system in generating inequality and the financial costs associated with being arrested, going to court, and paying fines and fees, these findings suggest a need for policies or strategies to mitigate these differences in enforcement and/or reduce the costs and consequences for people as they navigate the justice system.

The findings also contribute to work that documents the consequences of high levels of enforcement on community life. Although enforcement was unrelated to community rates of voter participation or calls to the CSB, neighborhoods with more arrests tended to have lower response rates for the 2010 Census, particularly for felony offenses. While our analyses cannot address the mechanisms driving this association, it is possible that high levels of enforcement generate distrust in the government or reduce residents’ willingness to engage with agencies that have the potential to track them, particularly if they have existing warrants. We also cannot determine if arrests have a causal effect on census participation or whether this relationship is correlational. Regardless, census non-response has serious consequences. Missouri forfeits $1,272 in federal funds for each person who is missed in the count (Reamer, 2018). Census data also guide local decisions and facilitate resource allotment. As a result, communities with more arrests may be left with fewer resources to address the underlying issues driving crime and physical disorder. Therefore, in heavily policed, high-arrest communities it is critical that resources are devoted to removing barriers to participation in the 2010 Census and to educating residents about its importance.

We also generated neighborhood-specific trends in arrests and crimes. It is our hope that these will spur conversations between the community and law enforcement about existing gaps between current enforcement activity in the neighborhood and how residents would like policing to look. These discussions are particularly important for minority communities, as they can simultaneously feel both
over-policed and underserved by law enforcement (Leovy, 2015). Our findings can also provide police with an opportunity to share the factors that influence enforcement levels with community members, such as crime and calls for service. Furthermore, if generated on a regular basis, neighborhood enforcement reports can be used to promote police accountability, and, when law enforcement has been responsive to community concerns, they can be used to document these positive changes. In this way, data sharing has the potential to help improve strained relationships by fostering communication and understanding between the police and communities.
WORKS CITED


