

MAPPING THE COMMUNITY CONTEXT OF THE NORTHSIDE ACHIEVEMENT ZONE

A collaborative project between the
Macalester College Geography Department
and the Northside Achievement Zone

Table of Contents

AUTHORS	3
ACKNOWLEDGEMENTS	4
EXECUTIVE SUMMARY	5
REFERENCE MAPS	6
INTRODUCTION	8
HOUSING FINANCE	9
HOUSING STABILITY	19
EMPLOYMENT AND ACCESSIBILITY	53
COMMUNITY CHARACTERISTICS AND RESOURCES	83
HISTORICAL DEMOGRAPHICS	121
CONCLUSION	151
REFERENCES	152



MACALESTER
COLLEGE



Cover photos courtesy of NAZ

Authors

The authors of this report were enrolled in the Urban GIS course in the Geography Department at Macalester College during the spring semester of 2017.

Students

Alexander Abramson
Rachel Auerbach
Ruth Buck
Martine Cartier
Alex Edelmann
Nina Escrivá Fernandez
Regan Fruh
Lee Guekguezian
GG Gunther
James Hargens
Aramis Mendez
Henry McCarthy
Eleanor McGrath
Gordon Moore
Eleanor Noble
Abby Raisz
Karlyn Russell
Olivia Thorp

Course Instructors/Report Editors

Laura Smith, Associate Professor of Geography
Ashley Nepp, GIS Instructor
Nathaniel Yackel, Teaching Assistant

Report Layout Designer

Jessica Del Fiacco, Alex Edelmann & Ashley Nepp



Photo credit:
Macalester
College

Acknowledgements



Photo credit:
Nathaniel Yackel

The authors of this report greatly appreciate all those who have guided, aided, and worked with us this spring. We first thank the Northside Achievement Zone organization, which graciously continued to collaborate with our course this year in order to build upon the work completed by students in last year's course. Our thanks also go to Danyika Leonard, Erin Lewis, and Marin Byrne of NAZ, and to Barbara McCormick of Project for Pride in Living, for providing insightful feedback and guidance on our work throughout the semester. In particular, we extend our deepest gratitude to Northside Achievement Zone President and CEO, Sondra Samuels. She not only provided us with an opportunity to apply our GIS knowledge to a worthy cause, but introduced us to the Minneapolis Northside. In light of our student team's inherently limited timespan to engage with this work, it is crucial to emphasize the deep and enduring commitment displayed by NAZ and its partners to the communities they serve. We are humbled and honored to have been able to contribute to their work in some small way via this project.

We are also grateful to Rob Grunewald, Michael Williams, and the Community Development staff of the Federal Reserve Bank of Minneapolis for their generous provision of time, data, and expertise, not to mention the physical space for the presentation of our findings. Thank you as well to Zoe Thiel of the City of Minneapolis for supplying data on eviction filings, and to Paul Schadewald and the Macalester College Civic Engagement Center for providing course funding and support. Finally, the authors wish to thank professor Laura Smith and lab supervisor Ashley Nepp. They worked ceaselessly to organize, supervise, and otherwise facilitate this collaboration. Without their vision, support, and technical knowledge this project would not have been possible.

Executive Summary

The mission of the Northside Achievement Zone (NAZ) is to close the achievement gap and end generationally persistent poverty in North Minneapolis. To do this, NAZ utilizes a “wraparound” framework. Instead of trying to resolve one problem at a large scale, NAZ takes a place-based approach, centering on one geographic area (the “Zone” in North Minneapolis) and tackling the achievement gap from many different angles. This approach has shown early successes, and aligns with geographers’ understanding that particularities of place are of utmost importance. As one’s surrounding environment is a major determinant of one’s future outcomes, the Northside Achievement Zone’s philosophical comprehensiveness and geographic focus are an ambitious yet sensible strategy to achieve its mission.

Our Spring 2017 Urban GIS (Geographic Information Systems) class aimed to support NAZ in its mission to eliminate the historically persistent achievement gap facing the Northside by producing data-driven analyses and visualizations. These are the visualizations and information found in this report. While as students and researchers we are guided by principles of impartiality and objectivity in the formulation of this report, we embrace the values and mission of the Northside Achievement Zone.

We patterned our study after NAZ’s multifaceted approach, and organized our work under the two broad categories of housing and population. Our consideration of housing in the Northside focuses particularly on themes of financing and stability; our consideration of population focuses particularly on themes of employment and accessibility, of community characteristics and resources, and of historical demographics. In the spirit of NAZ’s approach, we believed none of these issues could be adequately addressed independent of the others, and gave equal weight to all of them in conducting our analyses.

Within the category of housing, the housing finance group explored the affordability of both renter- and owner-occupied housing for residents of the Northside and the operation of major federal housing assistance programs in the area. The housing stability group explored multiple potential stressors on Northside

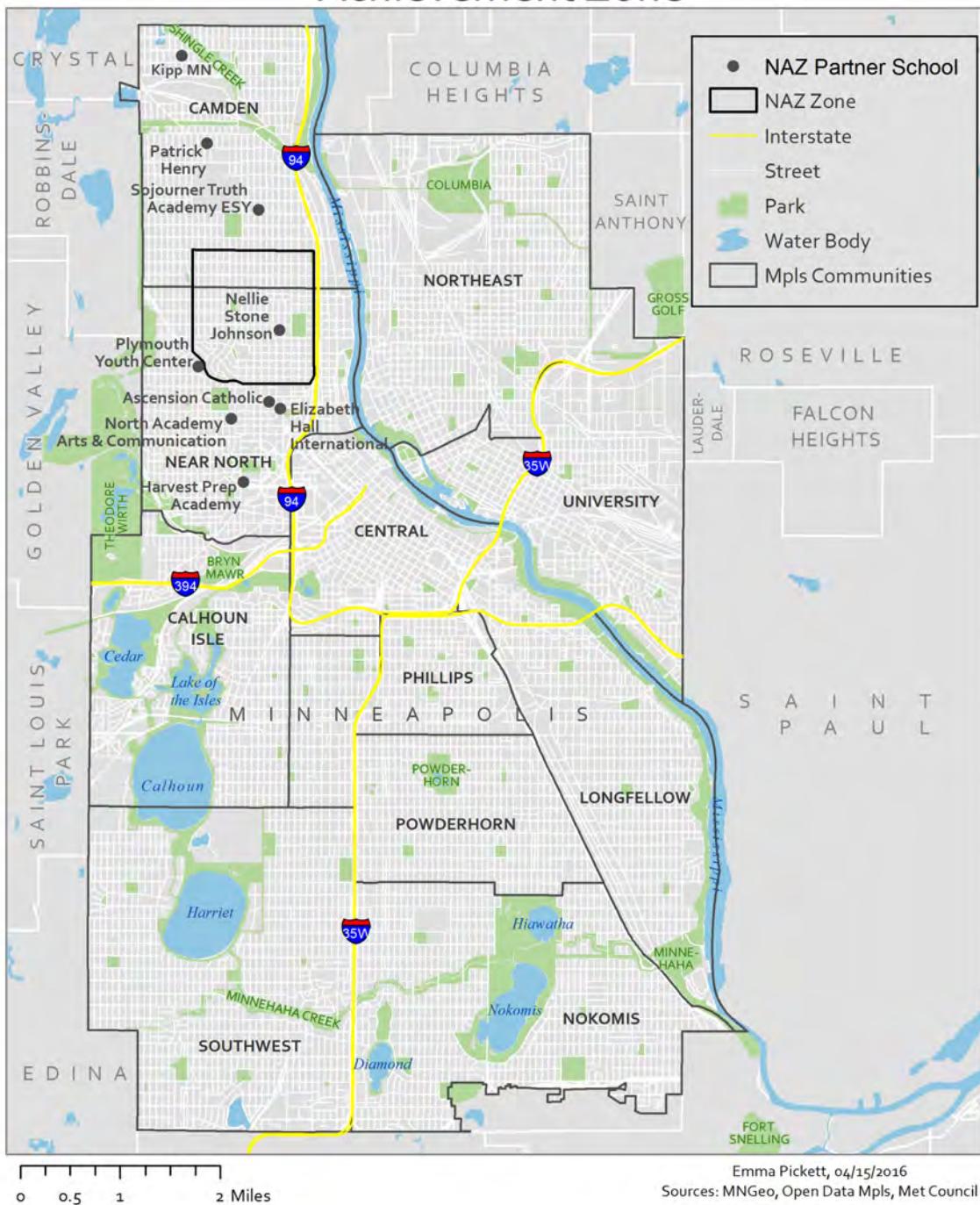
residents’ housing situations, including patterns of evictions, high residential mobility, conversion of properties from ownership to rentership, decreasing market values, vacancies, corporate and absentee landlords, and susceptibility to gentrification.

Within the category of population, the employment and accessibility group examined the sectoral breakdown of jobs available on the Northside and jobs in which Northside residents work, the difficulties of commuting, and the significant spatial mismatch between work and home for many residents. The community characteristics and resources group examined multiple social and economic factors which impact Northside residents’ daily lives, from employment to early childhood education and childcare resources, health outcomes such as life expectancy, and outdoor recreation. Finally, the historical demographics group sought to provide a deeper understanding of current conditions on the Northside by visualizing long-term changes in the demographic composition of the area over the past century, and examining the legacy of historical discriminatory policies such as redlining.

The overlapping patterns between variables considered in all of our themes, and the visible disparities between the Northside and other areas of Minneapolis, provide substantial support for the wraparound, place-based approach of the Northside Achievement Zone program. Our findings suggest that the achievement gap cannot be solved through schools alone and that combatting generational poverty requires examination of multiple variables. The condition of the physical and social environment greatly affects early childhood achievement and life outcomes onward, including educational, health, and wealth attainment. Research like this can help to identify additional issues, connections, and potential partners for the NAZ program in the future, and the continued assessment of selected variables can contribute to evidence-based measurement of progress toward eradicating disparities. We hope that the research and visualizations we present here can support the work of the Northside Achievement Zone and its partners in closing the achievement gap and advocating for children and families in the Northside.

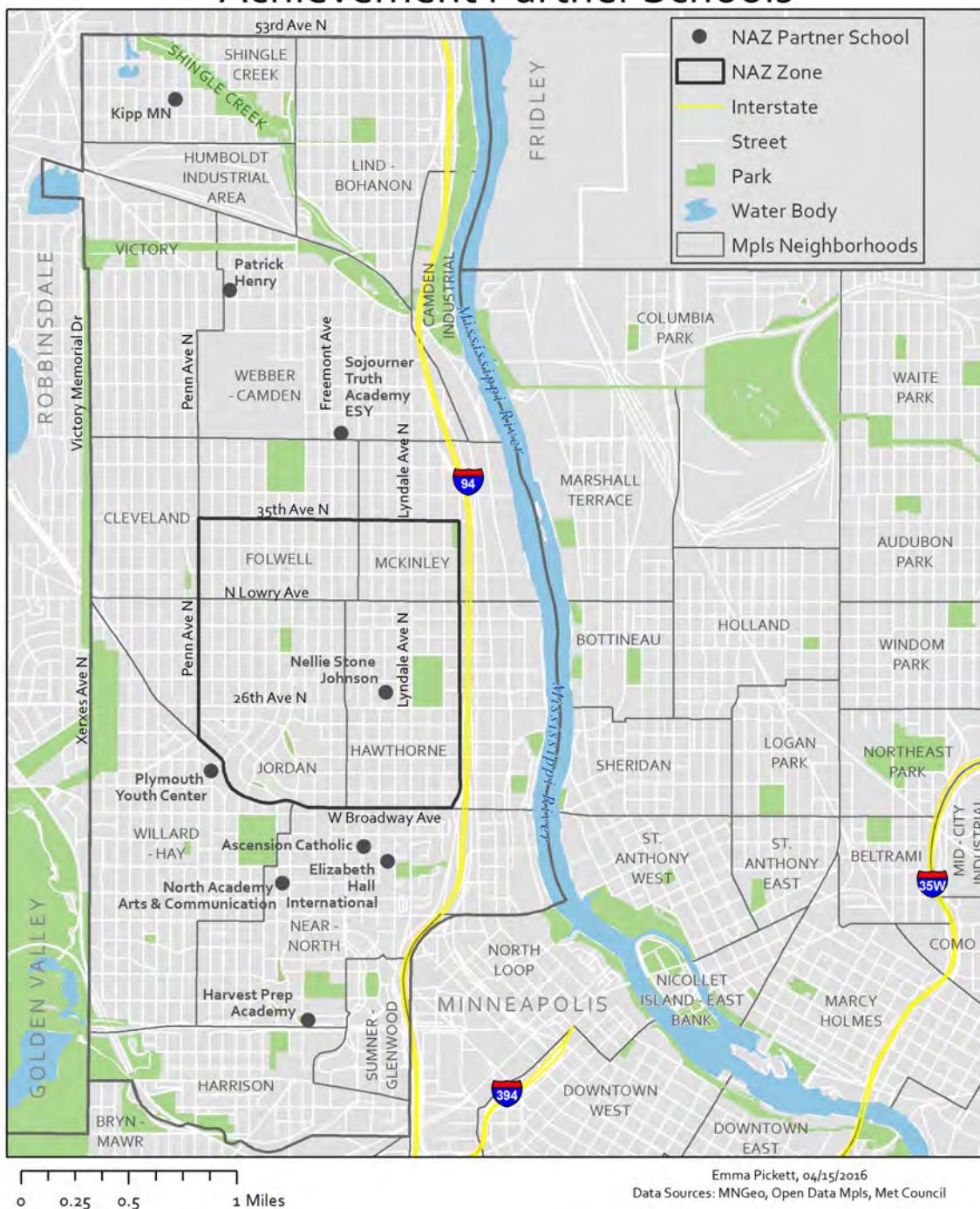
Reference Map: Minneapolis

Minneapolis Communities and the Northside Achievement Zone



Reference Map: Northside

North Minneapolis and the Northside Achievement Partner Schools



Introduction

During Spring 2017, students in the Urban GIS (Geographic Information Systems) course participated in a community partnership with the Northside Achievement Zone (NAZ). The goals of the Northside Achievement Zone are to close the achievement gap and end generationally persistent poverty in North Minneapolis. While the impact of NAZ extends to the whole Northside, its work is centralized around the “Zone,” an 18-by-13 block area of North Minneapolis (see Reference Maps). In collaboration with partner organizations and schools, NAZ works alongside families to support children throughout their education and put them on a path to college. To accomplish this, NAZ employs a wraparound framework that includes supporting families in housing, employment, and health. This holistic approach accounts for the many factors that can get in the way of children graduating high school with the skills and resources needed to continue their education in college.

Through our continued partnership with NAZ, we build upon work completed by students in the Spring 2016 Urban GIS class (Macalester College, 2016). Our primary goal was to research and visualize factors that impact the lives of Northside residents, and to present this work in a manner that supports the holistic and place-based approach taken by NAZ to close the achievement gap and end generational poverty in North Minneapolis.

Our report is structured around five themes of analysis, grouped within the two broad categories of housing and population. Within the category of housing, we focus particularly on the themes of financing and stability. Within the category of population, we focus particularly on themes of employment and accessibility, of community characteristics and resources, and of historical demographics.

In the subsequent chapters, each group has analyzed specific variables related to these five themes and presented them in compelling visual formats. To help illustrate the spatial disparities that contribute to the achievement gap in the Northside – and the persistence and intensity of challenges on the Northside as compared to other areas of Minneapolis – many of the variables are compared between the Northside and the Phillips neighborhood, as well as to the city of Minneapolis as a whole.

It is our hope that these visualizations will be of use to NAZ in telling their story, reinforcing their efforts, and informing future work, as well as serving as a resource for those hoping to develop a fuller appreciation of the challenges facing the Northside. Ultimately, we hope that the research and visualizations we present here can support the work of the Northside Achievement Zone and its partners in closing the achievement gap and advocating for children and families in the Northside.



Photo credit:
NAZ

Section I: Housing Finance

Karlyn Russell - James Hargens

Affordable Housing

Access to affordable housing remains one of the most pervasive and persistent problems in cities throughout the country. Rapidly increasing rents in urban areas have put low-income neighborhoods under increasing pressure, with more and more household income going towards housing in these areas. Rent-burdened families pay more for housing and have fewer financial resources to put towards other goods and saving for future uncertainties. This can be particularly burdensome on families with aspirations of sending their children on to college for several reasons. Without a roof over their heads, children are less likely to get the stability they need to excel in the classroom at younger ages. Research has shown that these early years are pivotal to developing core competencies and that as children get older, they struggle to catch up (Green et al, 2012). Families who are rent burdened, or who pay more than 33% of household income towards housing, will have fewer financial resources to put towards their children's education in the future. Furthermore, the rising costs of education mean that for many families, saving early can be the only option to avoid taking on large amounts of debt.

Owner- vs. Renter-Occupied Housing Stock

To assess the state of affordable housing on the Northside, we focused on both rental and owner-occupied housing. According to 2014 American Community Survey data, in Minneapolis as a whole, 37% of households are renter-occupied. On the Northside, that number rises to 44.5%, with some block groups up to 98% renter-occupied housing.

In **Figure 1.1**, we use Esri's 2014 Consumer Expenditure data to analyze the affordability of rental housing across Minneapolis and on the Northside. These data track average expenditures by block group for every category of household expenses, including housing, for the year 2014. Because the expenditure data are aggregated by block group, and distinctions are not made between

owner- and renter-occupied households, spending on rental housing is higher in areas where more homes are rented and vice versa. To remedy this, we employ a cartographic design technique to fade the areas where less than 60% of units are renter-occupied. This allows us to discern both the areas which contain the highest concentrations of rental properties in Minneapolis, but also the areas where people pay more in rent.

Figure 1.1 shows the prevalence of rental housing in the Northside, one of the darkened areas on the map. The three areas with the highest renter-occupancy levels in the city are the area around the University of Minnesota, which is full of student rentals, the Loring Park and Uptown area, which caters to young professionals, and the Northside. Although rent as a percent of total expenditure is highest downtown and along Hennepin Avenue, it is important to note that the quality of these units is much higher than the quality of units found on the Northside. Thus, residents of the Northside often end up paying a comparable portion of their income for inferior housing, which has large impacts on quality of life for families and children. Clearly, understanding the affordability of rental housing is key to understanding the challenges facing NAZ and the Northside as a whole.

Low Income Housing Tax Credit Projects

Federal programs have long tried to address the discrepancies between the supply and demand of affordable housing. The Low Income Housing Tax Credit Program (LIHTC) has been the main tool for affordable development in the last 30 years. Under the program, financial institutions are able to claim tax credits by investing in affordable housing developments. By law, a certain number of these units must be kept affordable for a fixed duration, with families qualifying if they earn 50-60% of the Area Median Income (AMI). The program does not, however, outline the distribution of affordable units across geographies. Investors can receive

an additional 30% credit allocation for units built within more distressed areas (named Qualified Census Tracts), but distribution of units can vary widely across a metropolitan area. Taking a closer look at the Northside, one must ask whether the LIHTC program provides housing to those with the greatest need.

Data are gathered from the Department of Housing and Urban Development's ArcGIS data resources. LIHTC projects since the program's inception in 1986 up through 2014 are cataloged. These data include the number of units in each development, as well as their funding amounts and year of completion. Because HUD relies on reporting at the municipal level to collect these data, there are some omissions from backlogged reporting. Not all entries contain complete information and projects completed since 2014 are not included. One can still examine the overall distribution of affordable housing projects despite these omissions.

Figure 1.2 illustrates the distribution of LIHTC projects throughout Minneapolis, and poverty levels by block group. According to these HUD data, there are 114 LIHTC projects in Minneapolis completed since 1986. Of these, 18 projects or 15.7% of the total are located in North Minneapolis. While the Northside only accounts for about 15% of the total area of Minneapolis, the lack of projects particularly in the Camden neighborhood suggests a discrepancy in the number of LIHTC projects located there compared to the rest of the city.

Poverty level data are from the US Census and display poverty levels by city block group. The federal poverty line is determined by multiplying by three the basic food requirements for a family and incorporating information about family size to determine different thresholds. In 2016, an individual making less than \$12,060 per year was below the federal poverty line while the threshold for a family of four was \$24,600. Higher poverty levels are concentrated on the Northside and Phillips neighborhoods. High poverty levels in Prospect Park are attributed to the University of Minnesota and can be ignored for the purposes of this analysis.

Because federal poverty data are gathered at the block group level (a smaller unit than a census tract), the margins of error on these estimates are quite large. The poverty estimates for Minneapolis block groups may therefore vary widely. For example, the pocket of high poverty around the Heritage Park development might vary by as much as 20 percentage points. This means that in a block group with a reported 47% of households below the federal poverty line, that number may actually be as low as 27%. While these errors are difficult to overcome, block group poverty levels on the Northside are still higher relative to other neighborhoods in the city.

Perhaps most importantly, the units on the Northside may not be serving the most disadvantaged families. Because those living at or below the federal poverty line may not meet the 50-60% AMI qualifications needed to be considered for LIHTC assistance, they cannot necessarily take advantage of these subsidized housing options. The 2016 AMI in Minneapolis for a family of four was \$85,800, meaning that a family of the same size at the federal poverty line (\$24,600) is only at about 29% AMI. Extremely low income households will therefore struggle to qualify for traditional LIHTC housing assistance.

Though low income housing tax credit projects look to address a shortage of affordable housing, local political conditions may make their construction more difficult in disadvantaged communities. The degree to which LIHTC projects concentrate poverty is still open for debate, but anecdotal evidence from some developers suggest that city government may impede construction in some neighborhoods on the basis of combating this concentration. Cities are generally a sub-allocator of tax credits by scoring projects before they can apply for tax credit awards directly. If a city places more weight on locating LIHTC projects in areas of low poverty, projects in other neighborhoods can score lower and communities with existing shortages may not be serviced. If this is the case, then disadvantaged areas like the Northside may actually experience less LIHTC development in a concerted effort to combat concentrated poverty.

Housing Choice Vouchers (HCV) and Layered Subsidy

Section 8 vouchers offer households an alternative path to affordable housing. HUD issues these vouchers to applicants, who can then use them to rent market rate units in the area. Recipients are required to pay 30% of their income towards rent, with the federal government paying the rest. This is a far more flexible program than LIHTC because it allows the subsidy renters receive to vary with income, instead of being set at a specific AMI.

Figure 1.3 uses HUD reporting data again to examine areas of high HCV concentration. There is a stark contrast between the Northside and the rest of the city. Almost 1 in 4 renters use housing choice vouchers in some census tracts in the Camden neighborhood, significantly higher than any other part of Minneapolis. HCV usage in Near North is high as well, with more than 15% of renters utilizing some form of voucher subsidy. Comparison neighborhoods like Phillips have far fewer voucher users, while also a slightly higher concentration of LIHTC projects. If extremely rent burdened households are looking to pay the least amount of rent possible, they can try to use Section 8 vouchers in LIHTC projects to claim what would effectively be a “double subsidy.” There is little evidence that this is occurring in either neighborhood. Tracts on the Northside with the highest concentration of voucher recipients have few if any LIHTC projects, while Phillips has more affordable projects but fewer voucher holders. This suggests a discrepancy in affordable housing services among residents on the Northside, and in particular a clear opportunity for more LIHTC development inside the Zone and in Camden.

Community Development Block Grants

The Community Development Block Grant has historically been another important source of funding for housing and economic projects. Funding can go towards site acquisition, housing rehabilitation, public services, and economic development. While not earmarked for housing development specifically, these funds play an important role in the upgrading

and maintenance of affordable housing options in low-income neighborhoods. In **Figure 1.4**, two sets of CDBG aggregation methods are mapped. The choropleth (shaded) layer illustrates the total amount of CDBG funding that a census tract received for all projects since 1999. Individual housing improvement projects are then mapped on top, and include both multi-family housing improvement and public housing rehabilitation. This map shows only housing rehabilitation activities, but there are many other variables relating to service improvements and other development projects in the data as well. Because grantees are responsible for reporting back addresses and funding data, there are some measurement errors. It is understandable that some tracts without any multifamily or public housing rehabilitation projects still receive funding for other projects (seen in the northern part of Camden, for example). However, there are several housing-related projects that fall into tracts without any overall funding. Likely due to a reporting error, these are mostly upgrades to single family homes and administrative buildings that may have been incorrectly classified in HUD’s data.

The distribution of CDBG projects closely mirrors that of LIHTC projects both on the Northside and in Minneapolis overall. Areas closer to downtown Minneapolis still saw more CDBG housing rehabs over the period, though this is likely due to the greater general distribution of units in these areas. Housing rehabs concentrated closer to downtown are mostly multi-family improvements, with clustering around northwestern Phillips. On the Northside, projects cluster between Penn Avenue and Fremont Avenue, likely due to a greater concentration of multifamily units in this census tract. The number of housing related projects inside the Zone is an encouraging sign as well. Almost 40% of the Northside’s twenty-one housing rehabs are in the Zone, providing families with better quality housing conditions that provide healthier and cleaner home environments. If the greater number of units here correspond to higher achievement numbers and health outcomes for NAZ residents, the CDBG program can offer benefit to the area without the need for substantial new construction.

Mortgage Payments

We turn next to owner-occupied housing, which makes up 63% of all housing in Minneapolis and 55.5% of housing on the Northside. **Figure 1.5** employs a cartographic design technique to highlight block groups where over 60% of households are owner-occupied and to fade the areas where less than 60% of households are owner-occupied. There is a large concentration of predominantly owner-occupied block groups in South Minneapolis, with few in the Northside, as can be expected based on the prevalence of renter-occupied housing on the Northside. Indeed, only 2 of the block groups within the NAZ are over 60% homeowners. Figure 1.5 also displays the share of 2014 annual household expenditure spent on mortgage, again employing the Esri Consumer Expenditure data (as in Figure 1.1). Using these data, we can see that the part of the Northside that does have a higher rate of owner occupancy (mostly in Camden) also faces a relatively high mortgage burden relative to the rest of Minneapolis.

Owner-occupied housing is important to the work of NAZ for a variety of reasons. The stability inherent in owning one's own home provides a better learning environment for children and promotes better educational outcomes (Green et al, 2012). Homeowners are more invested in their communities, since they have a stake in the quality of the neighborhood, and may devote more time and resources to the upkeep of homes and community facilities. Homeownership is also one of the best ways to increase wealth in the United States, especially due to the effects of programs like the Mortgage Interest Tax Deduction that offer a subsidy to homeowners and help boost the middle class. Lastly, homeowners are generally more financially stable than renters, since they are not at the whim of a landlord who may raise rents.

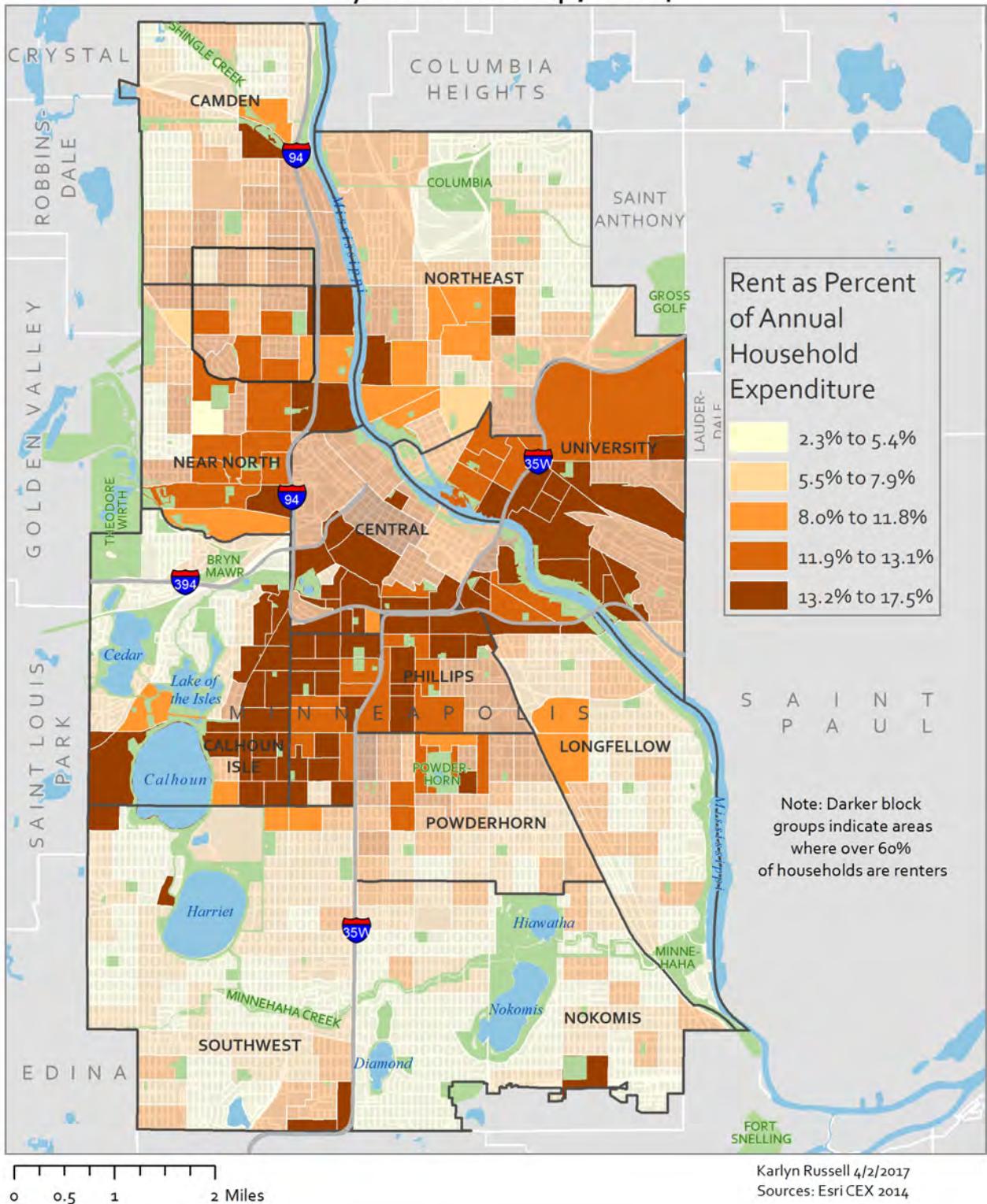
However, the 2008 financial crisis and accompanying Great Recession revealed that these benefits of homeownership are not necessarily true for all Americans. In the lead-up to the housing crisis, many lower-income people in inner-city communities of color were unjustly targeted by big banks for

subprime mortgages. These mortgages offer low "teaser" rates to lure in borrowers who are often forced into foreclosure when a much higher interest rate kicks in after two years. Although they have been highly regulated, subprime mortgages are not completely eradicated and many communities like the Northside still feel their impact today.

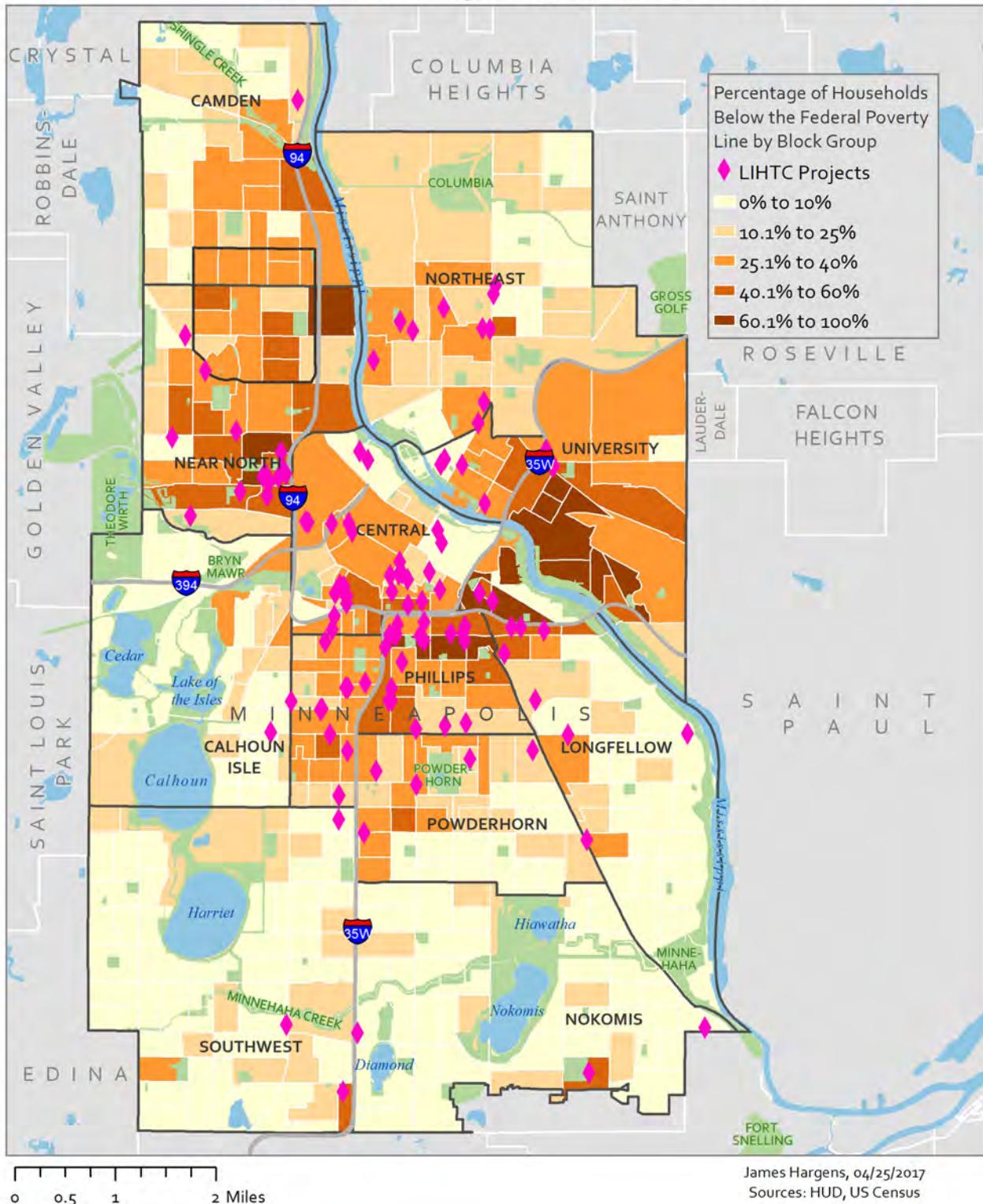
Figure 1.6 employs the Esri Consumer Expenditure data and depicts the spending on mortgage interest by block group as a percentage of total original mortgage value by block group. A higher value indicates that, on average, homeowners in this block group are paying more in mortgage interest. This could have two potential causes: first, a higher value could indicate a younger mortgage. Because most mortgage contracts are structured so interest is paid off before principal, interest spending relative to the original mortgage amount would be higher in the earlier years of the mortgage. Secondly, this could indicate the kind of damaging adjustable-rate mortgages discussed above. As Figure 1.6 shows, the highest interest-to-mortgage ratios are found in the Northside and Phillips, two lower-income, predominantly minority areas that could certainly be the victim of predatory lending. If true, this would have a huge negative impact on the NAZ and its families.

Housing is the foundation for the work done at NAZ. Without the strong base and stability of affordable housing, children on the Northside will face worse educational outcomes and the community will not be as strong as it could be. To further these educational outcomes, we have contributed our analysis of the state of affordable housing on the Northside. This area has many more renters than Minneapolis as a whole, yet remains underserved by federal rental housing grants. Further, residents who do own their own homes are potentially the victims of predatory lending practices. Housing finance remains unstable and potentially damaging to the children of the Northside, and demands attention from the city and the community in order to best further the work of NAZ.

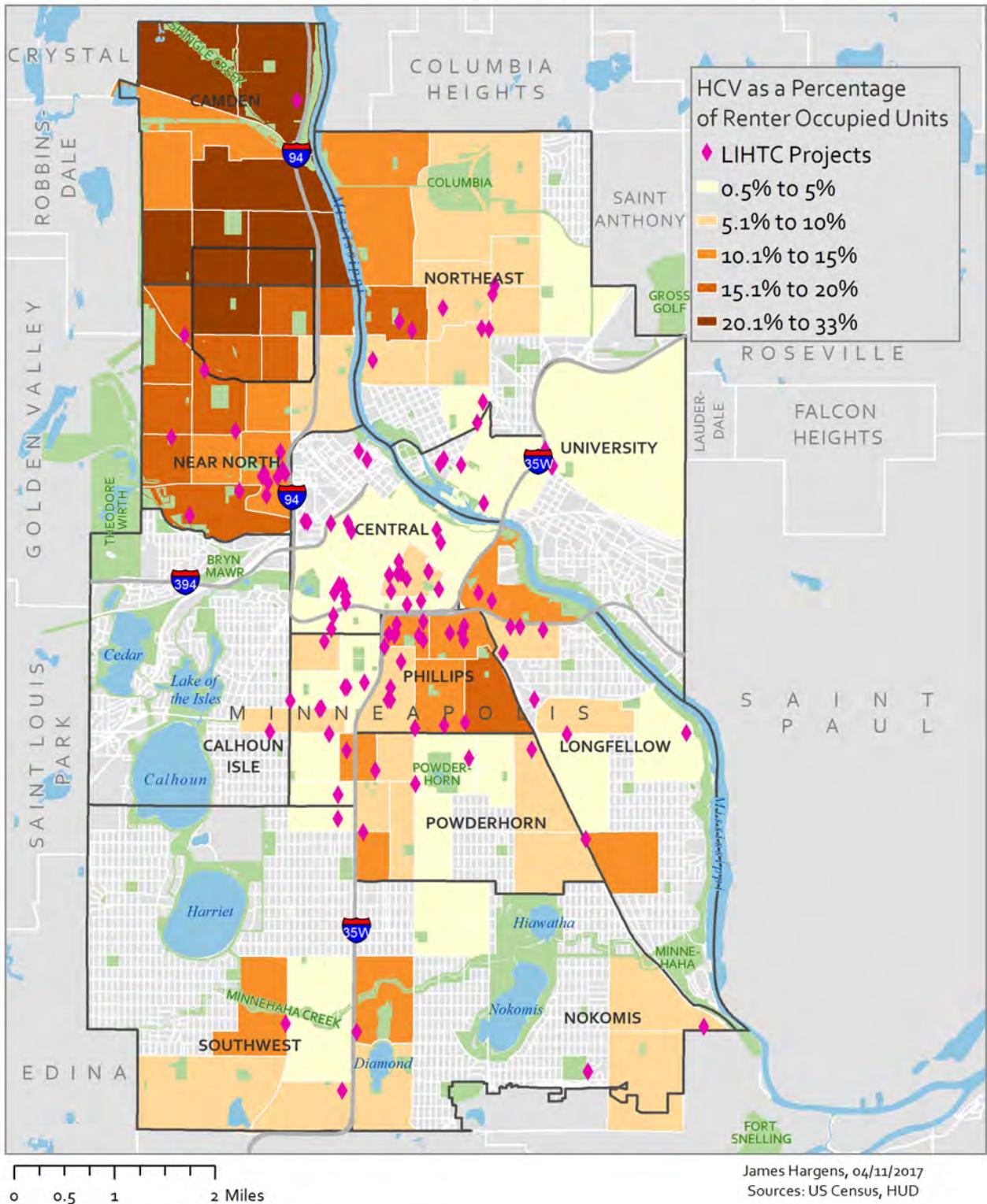
Rent as Percent of Household Expenditure by Block Group, 2014



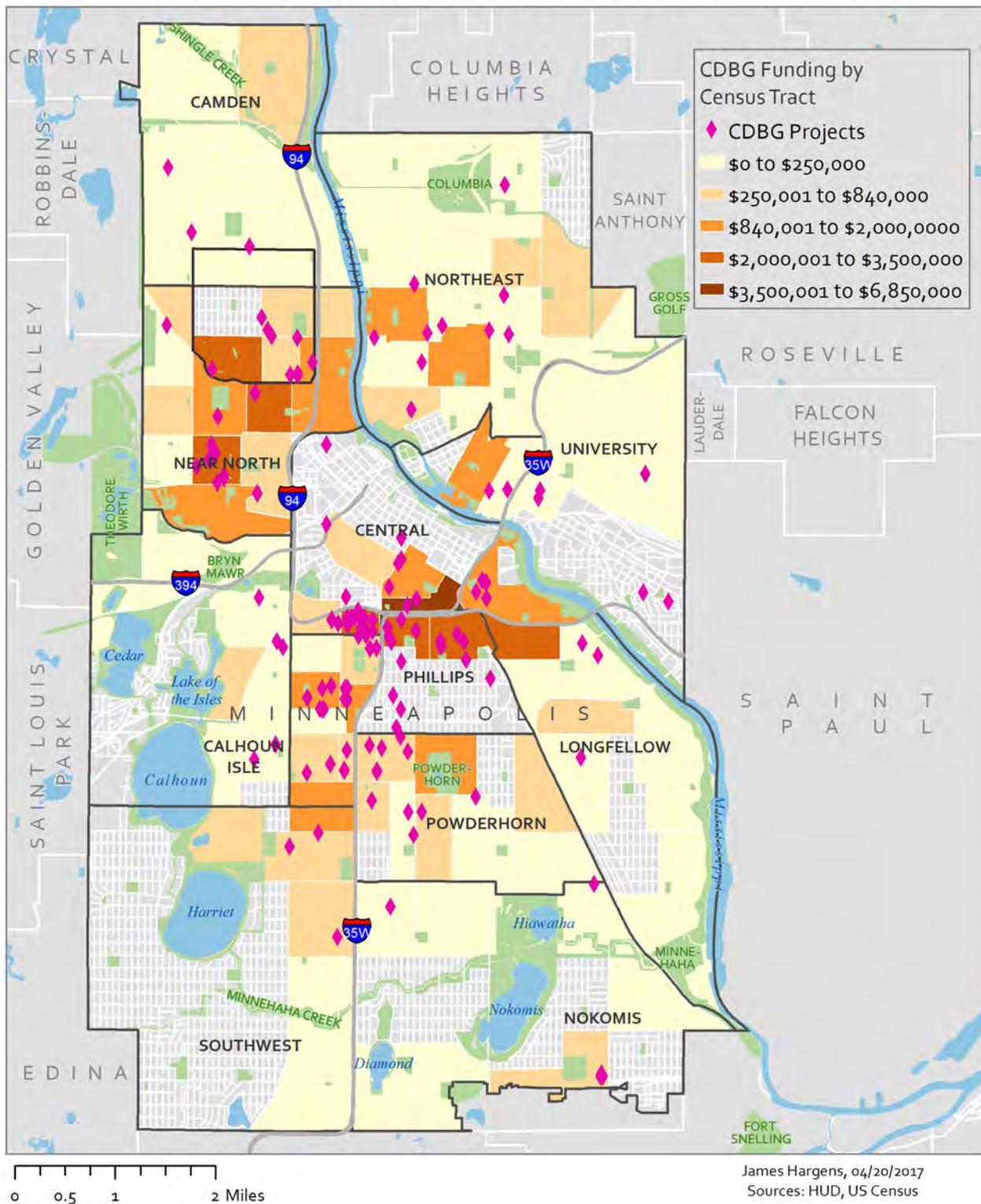
Minneapolis Low Income Housing Tax Credit Projects, 1987 to 2014



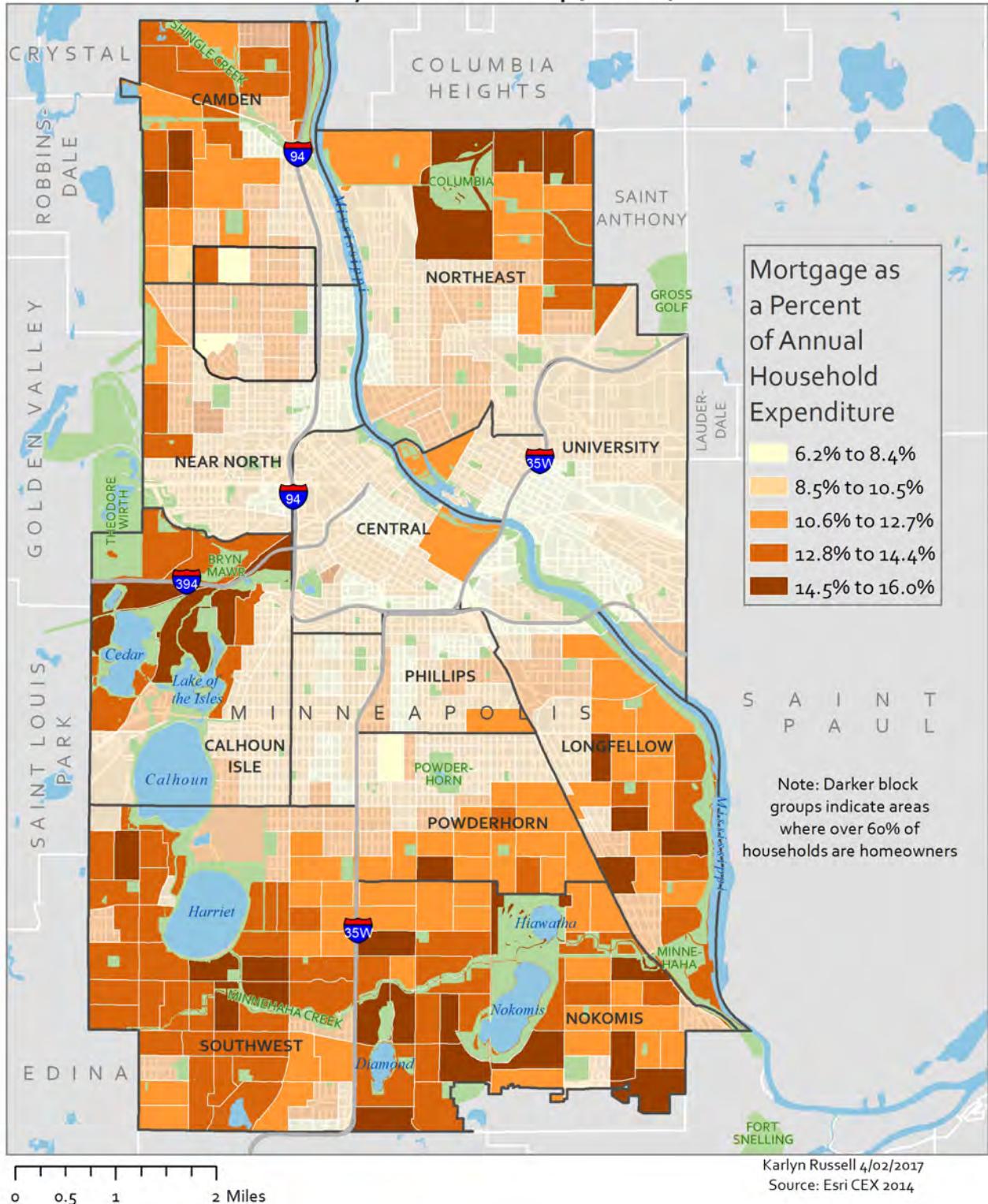
Low Income Housing Tax Credit Projects and Housing Choice Vouchers by Census Tract, 2014



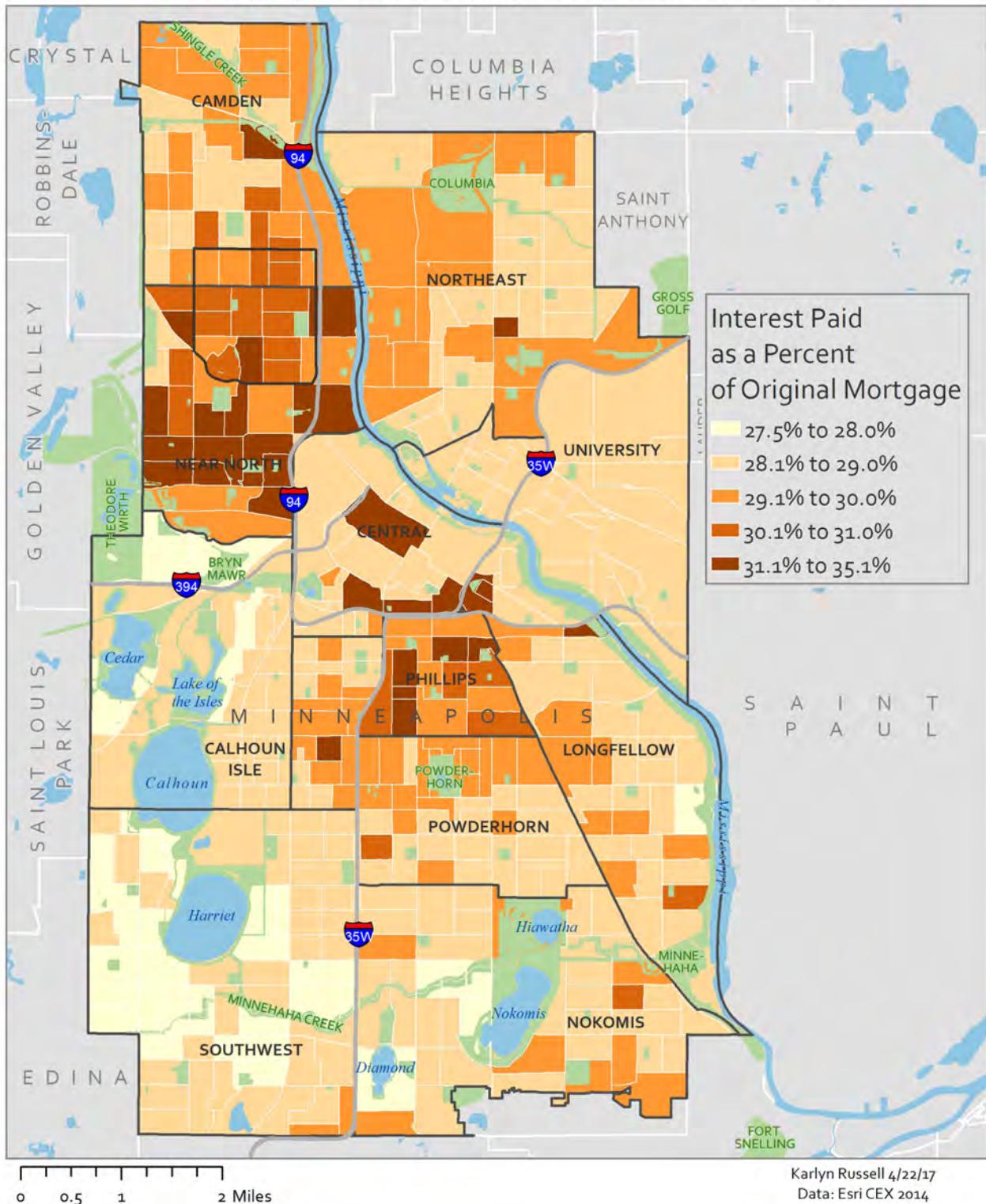
Community Development Block Grants: Multifamily and Public Housing Renovations by Census Tract, 1999 to 2015



Mortgage Payments as Percent of Household Expenditures by Block Group, 2014



Interest Expense as a Percent of Original Mortgage Amount, by Block Group, 2014



Section 2: Housing Stability

Alexander Abramson - Lee Guekguezian - GG Gunther - Eleanor Noble - Abby Raisz

Introduction

It is the Northside Achievement Zone's purpose to close the achievement gap in North Minneapolis and ultimately end generational poverty via what they describe as a "cradle to career ecosystem," a multifaceted approach to addressing the range of issues that contribute to multigenerational poverty and the achievement gap. One of the most important factors in this ecosystem is housing, in addition to factors such as health, K-12 education, college, career and finance, parent education and early childhood. As housing stability is one of the main factors in NAZ's approach to combating multigenerational poverty and the achievement gap, it is therefore important to analyze the status of North Minneapolis' housing stability. Research has shown that housing stability is crucial to reducing poverty. Lack of stable housing for poor families can cause dire consequences such as ability to access basic necessities (clothing, food, medical care), worsening of mental illness, and domestic abuse and neglect (Urban Institute, 2016). Furthermore, housing instability can have particularly negative effects on education, often causing frequent moves, high rates of absenteeism, and low test scores (Urban Institute,

2016). Creating housing stability is therefore key to breaking the cycle of multigenerational poverty and paramount to closing the educational attainment and achievement gap in North Minneapolis.

Following up on the work of last year's Urban GIS class' broad analysis of housing in North Minneapolis, this year's group specifically honed in on housing stability, with the goal of measuring its status in North Minneapolis. In order to accomplish our goal, we created the subgoals of analyzing how housing stability has changed in the past 5-10 years and analyzing how we envision housing stability changing in the years to come. Lastly, while last year's class laid the foundation for a general analysis of housing in the area, this year's group sought to analyze housing stability in a way that could be effective and useful for NAZ in its place-based, multifaceted approach. Our research looks at five different aspects of housing stability that pertain to North Minneapolis. They include overall evictions rates, residential mobility, residential vacancies, market values of residential and commercial properties, and susceptibility to gentrification. While they are broken down into different sections, it is imperative



Photo credit:
Laura Smith

that we illustrate how the variables are connected and influence each other. For example, evictions and mobility are highly related, as an eviction filing can often lead to displacement and forced moves. Similarly, decreasing estimated market value and the increased presence of corporations on the Northside are interconnected, as outside firms search for the most cost-efficient locations. Lastly, an increased presence of corporations could signify potential gentrification, as indicated by the gentrification susceptibility index found in the last section.

Evictions

Information from Matthew Desmond's *Evicted* is a detailed ethnography of Milwaukee that provides an in-depth look at the history of evictions, the rental market, federal housing policy, poverty, and race in America. More importantly, he shows how all of these are interconnected by exposing the relational aspects of poverty and the exploitation that both created it and allows it to survive. Desmond begins his ethnography by highlighting the relevance of his work: "We have failed to fully appreciate how deeply housing is implicated in the creation of poverty. Not everyone living in a distressed neighborhood is associated with gang members, parole officers, employers, social workers, or pastors. But nearly all of them have a landlord" (Desmond, 2016, p. 5). The narrative of the "urban slumlord" is especially present in North Minneapolis, where evictions occur

at disproportionate rates. This can be seen in **Figure 2.1**, which shows raw counts of eviction filings throughout the City of Minneapolis. It is important to note that this map represents filings, rather than actual court judgements that lead to displacement, a settlement, tenant redemption, or a dismissal. The Northside (Near North and Camden) show higher counts, but the Near North neighborhood where NAZ is located appears to have the greatest number of filings by census tract. (While raw counts are generally not used to make choropleth maps, normalizing these data with a variable such as "total renter households" would likely show a very similar pattern.)

Figure 2.2 examines eviction filings at the smaller scale of the Near North Neighborhood, and shows the number of evictions that were filed by the top five offenders within the City of Minneapolis (defined as the five landlords who filed the greatest number of evictions throughout the city during 2015). About 15% of the eviction filings that occurred in Near North were filed by one of the top five offenders in the City of Minneapolis. In North Minneapolis, there are notorious "slumlords" such as Mahmood Khan and Steven Meldahl, who continuously face legal opposition from the City and community organizations. **Table 2.1** shows that while their filings may not account for a majority of filings in Near North, they have high rates of filings among the properties they own. For example, Steven Meldahl's evictions accounted for 5.8% of total filings

Landlord	Raw count of eviction filings in MPLS	Number of properties owned in Near North	Eviction Filings Near North	Percent of total filings in Near North	Percent of properties owned in Near North that had a filing
Mahmood Khan	52	33	18	3.7%	51%
Stephen Frenz	145	0	0	0	0
Steven Meldahl	61	48	28	5.8%	58%
MPLS Public Housing Authority	375	220	26	5.4%	11%
George Sherman	73	2	2	0.01%	100%

Table 2.1: Breakdown of eviction filings by landlord.

in Near North, but he filed an eviction at over half of his properties owned in 2015. These proportions are important to examine due to the fact that raw numbers can be misleading, especially when looking at larger housing authorities such as the Minneapolis Public Housing Authority (MPHA). MPHA filed 5.4% of the total evictions in Near North, but these filings only occurred in 11% of their properties owned in the community, as opposed to the much higher rates of Khan and Meldahl.

Table 2.1 also illustrates the pattern of “slumlords” working and owning properties in distinct neighborhoods and communities, rather than operating at a city-wide level. All of Stephen Frenz’s eviction filings occurred in central Minneapolis, while most of George Sherman’s evictions occurred in the Northeast section of the city. Following a similar trend, all but two of Khan’s filings occurred within North Minneapolis. When looking at **Figure 2.3**, it becomes clear that the top 5 offenders do not file as many evictions in Camden as in Near North. The data indicate that this is because these landlords do not own as many properties in the Camden community, rather than other causes such as a difference in tenant behavior.

The data provided by the City of Minneapolis do have some limitations that are important to note. The data provided represent a single point in time, so a case that has been expunged would still be reflected as an eviction filing because it is not continuously updated. The City also describes the information about property owners as an “informed estimate”; the Minneapolis Department of Regulatory Services connected LLCs and other management groups to a common owner, based on the defendant address and then validated for accuracy (Minneapolis Innovation Team, 2016). Perhaps the most important limitation is that informal evictions are not included within the dataset, but have been shown to make up a large percentage of the total evictions that occur in a city. While completing his ethnography of Milwaukee, Matthew Desmond met a landlord who reaffirmed the notion that most evictions never see the inside of a court:

“Joe Parazinski, a white building manager who lived and worked in the majority-black inner city—and who preferred paying tenants \$200 to leave over taking them to eviction court, as the former option often was cheaper—once told me, ‘For every eviction I do that goes through the courts, there are at least 10 that don’t.’” (Desmond, 2016, p. 108)

While this testimony cannot be directly applied to Minneapolis, it can be assumed that similar patterns occur. Lastly, eviction cases filed in housing court are largely standard residential rental cases, but may also include some commercial evictions, bank foreclosures, and contract-for-deed cases. There is no official coding to indicate which cases are of which type.

Examining evictions in relation to the work of NAZ is crucial, due to the fact that children are almost always detrimentally affected in the process. They are often forced to change schools, losing immediate access to meaningful relationships formed with peers and teachers. Experiencing eviction has many negative consequences for parents, which inherently affect children. A study using a nationally representative dataset found that single mothers who had been evicted experienced much higher levels of stress, anxiety, and depression than women who had not been displaced (Desmond and Kimbro, 2015). Further, an analysis of aggregate data performed by Desmond shows that neighborhoods with a high percentage of children experience increased evictions. An analysis of individual data based on an original survey shows that among tenants who appear in eviction court, those with children are significantly more likely to receive an eviction judgment. The data explored and cited in this section emphasize the need for policy makers to address slumlords using quantitative evidence. In addition, there needs to be a focus from policy makers on maintaining housing when it is obtained, especially in areas with high percentages of children, that are more susceptible to eviction.

Ownership vs. Rentership

The disturbing patterns of eviction in the Northside highlight the danger in putting housing stability in the hands of landlords, and highlight homeownership as an alternative. Homeownership is a commonly used predictor of housing stability, on the level of the individual household and of the neighborhood of which that household is a part. Changes in the ownership vs. rentership status of a household, then, reflect changes in the housing stability of that concerned household, and on a macro scale, aggregate changes in the status of these housing units signify real impacts in the housing stability of the community as a whole. To this effect, changes in the composition of homeownership in the NAZ community, the Northside, and Minneapolis as a whole reveal the vastly different challenges facing NAZ's households (Rossi and Weber, 1996; Rohe and Stewart, 1996).

Minneapolis as a whole is facing a trend of conversion of housing stock from ownership to rentership, with an almost 10 percent shift towards rentership from 2005 to 2016. The Northside is facing an even more acute manifestation of this trend, with an aggregate shift of over 14 percent. The Northside Achievement Zone in particular is even more impacted, with a 16 percent shift towards rentership. **Table 2.2** displays the downward trend in homeownership across the entire city, but most prominently in the Northside and the Northside Achievement Zone.

Figure 2.4a depicts change in ownership and rentership levels between 2005 and 2016 on the block level for Minneapolis as a whole. Darker purple-shaded blocks are those which saw a greater

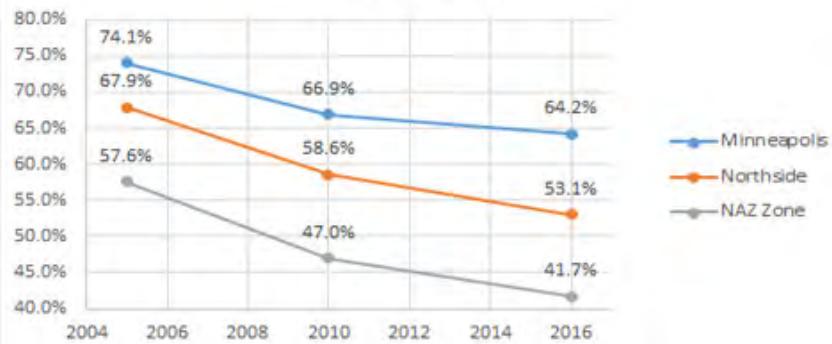
decrease in homeownership, and darker brown-shaded blocks are those which saw a greater increase in homeownership. Clearly the decline in homeownership is most acute in the Northside.

Figures 2.4b and 2.4c depict change in owner/renter occupancy between 2005 and 2016 on the scale of the individual parcel, for the Northside and the Northside Achievement Zone respectively. In each of these maps, purple parcels are ones which were owner occupied in 2005 and became renter occupied by 2016. Orange parcels are ones which were renter occupied in 2005 and became owner occupied by 2016. Gray parcels are ones which remained the same at both the start and end of the time period. Clearly the purple parcels outnumber the orange parcels. However, the magnitude of this deficit is greater in the area of the Northside Achievement Zone.

The implications of this outcome are straightforward. As homeownership becomes harder to come by, organizations like NAZ or Urban Homeworks will face an increasing need for assistance in ensuring stable housing situations for Northside residents. The importance of maintaining effective and useful relationships with landlords will become more important as landlords hold increasing power over Northside residents' housing situations. Likewise, providing residents with resources to effectively navigate their relationships with landlords will become imperative in enabling residents to advocate for themselves. Since this trend could result in decreased housing stability, NAZ and partner organizations might do well by increasing services to residents transitioning between housing units.

Table 2.2

Percentage of Properties Owner-Occupied
2005-2016



These maps were constructed using parcel-level property data compiled and distributed by the Metropolitan Council. Data was pulled using years 2005, 2010, and 2016. Homeownership was inferred from use of the Homestead tax credit; owner-occupied households who did not make use of this tax credit would have been interpreted as renter-occupied in this analysis. Change from owner-occupancy to renter-occupancy was calculated by measuring differences in a parcel's use of the Homestead tax credit between 2005 and 2016. These parcel-level data were aggregated to the block level to produce Figure 2.4a.

Ownership Status

As owner-occupancy becomes less prevalent in the Northside, it is important to examine the characteristics of the Northside's landlords. An unsettling trend over the past few years has been the increasing movement of institutional investors into the residential housing market (Fields, 2014). The presence of institutional investors in the housing market has many known negative effects for extant and potential non-institutional homeowners and tenants (Dreier and Sen, 2015; Fields et al., 2016). Current residents who are trying to make the jump from renters to owners find themselves priced out of the market, unable to compete with deep-pocketed companies who can offer a full cash payment upfront (Edelman et al.). When institutions buy up property for the purpose of future redevelopment, housing units suited to the current demographic profile of the neighborhood are taken off the market and replaced with units that are often unaffordable to current residents (Call et al., 2014). When institutional investors sit on the properties to wait for market appreciation, the investors tend to put as little as possible into the upkeep of property, and the

neighborhood suffers from the lack of personally-engaged homeowners; the inherently short-term nature of this housing arrangement also discourages long-term personal and monetary investment by residents and owners into the community (Cos, 1982). In areas hit hard by the housing crisis, undervalued housing stock represented a rare opportunity for community organizations to build a stock of affordable housing for the future; competition from institutional investors hurts this effort.

In the past ten years, the presence of institutional investors in Minneapolis's housing market has increased drastically, despite the puncturing of the housing bubble in the late 2000s. This trend has occurred throughout the city, but has been most pronounced in the Northside communities, and the area of the Northside Achievement Zone in particular (Roper, 2014). Previously, this trend had been a source of concern to engaged community members, with anecdotal evidence suggesting that such companies as Blackstone, HavenBrook, and Invitation Homes, often hedge fund vehicles, had been increasingly cornering the market on Northside properties (Roper, 2016). The data bear this out; while Minneapolis as a whole sees an increase of 3.6% in the percentage of properties owned by corporations, this figure rises to 7.8% for the Northside, and 14.5% within the NAZ boundary. **Table 2.3** presents these increasing percentages of properties owned by corporations.

The location of the property owner is also a significant factor in predicting their engagement with and investment in the community. In other words, owners who actually live in the neighborhood tend to be more interested in the neighborhood's success. The Northside sees a disproportionate percentage of

Percent of Properties Owned by Corporations			
	2005	2010	2016
Minneapolis	15.1%	17.5%	18.7%
Northside	13.2%	17.9%	21.0%
NAZ	11.6%	21.5%	26.1%

Table 2.3

Percent of Properties whose Owners do not Live in Minneapolis	
	2016
Minneapolis	15.1%
Northside	21.7%
NAZ	28.0%

Table 2.4

its properties owned by those living, and specifically paying taxes, at addresses outside of Minneapolis. **Table 2.4** displays the percentage of properties whose owners do not live in Minneapolis.

Figure 2.5 depicts the change in the percentage of properties owned by corporations between the years 2005 and 2016 on the Northside, with an inset map of values for the whole of Minneapolis for the purpose of comparison. The data are presented on the block group scale. Areas shaded darker brown are those which have seen greater increases in the percentage of properties owned by corporations; areas shaded purple are those which have seen a decrease in the percentage of properties owned by corporations. The inset map makes clear that the Northside contains one of the most extensive and concentrated clusters of rapid increase in corporation ownership. Within the Northside, corporation ownership is increasing fastest in an area centered on the Folwell neighborhood. This area of concern comprises the northern half of the Northside Achievement Zone.

Figure 2.6 depicts the percentage of renter-occupied residential properties in 2016 whose owners reside outside Minneapolis. Areas shaded darker are those in which a greater proportion of properties have owners living outside of Minneapolis; areas shaded lighter are those which have a greater proportion of owners living inside Minneapolis. Figure 2.6 clearly demonstrates that the Northside has an unusual abundance of landlords who do not reside within the city of Minneapolis

The implications of these analyses are varied. With increased competition from deep-pocketed investors, the strategy of purchasing housing stock to ensure its survival as affordable housing will become much more expensive and difficult. However, it is worth bearing in mind that many of these institutional investors are not usually interested in investing in the Northside over the long run. Given their motive to convert these assets to profit as quickly as possible, there is a good chance that their interest in the Northside will wane over the next decade. If this is the case, the Northside will face challenges and opportunities. If institutional investors divest from their Northside properties as quickly as they came, they might briefly depress the housing market. Such a depression would, however,

represent an opportunity for affordability-minded groups to accumulate affordable housing stock. The Northside's higher proportion of properties owned by corporations and out-of-town owners will make engaging property owners particularly difficult, yet extremely beneficial for the health and stability of the Northside communities. NAZ and its partner organizations will likely have to stretch farther to engage with these landlords.

These maps were constructed using parcel-level property data compiled and distributed by the Metropolitan Council. Data was pulled using years 2005, 2010, and 2016. Corporation ownership was determined by the presence of the phrases "Co.," "Inc.," and "LLC" in the name of the parcel's taxpayer; corporations which did not feature any of these phrases in their name would not have been interpreted as corporations in this analysis. Minneapolis-located ownership was determined by taxpayer address for each parcel. Parcels whose taxes were paid by a Minneapolis address were counted as Minneapolis-located; parcels whose taxes were paid elsewhere were not. These parcel-level data were aggregated to the block group level to produce Figures 2.5 and 2.6.

Mobility

As detailed by various reports, 25% of NAZ-enrolled families struggle with homelessness and high mobility. Securing safe and stable housing is key for students to show up to school ready to learn. By identifying high-mobility, high-turnover areas throughout the Northside, we can better identify high-need, perhaps underserved populations. As Coulton et al. (2012) explain, housing relocation can disrupt social ties and undermine a family's social capital, particularly with children whose parents provide modest emotional support and involvement.

Figure 2.7 displays geographic mobility for children in both North Minneapolis and Phillips. The ACS collected the data over a one-year period from 2014 to 2015. The first map shows us, by census tract, children age 1-4 who no longer live in the same household in 2015 as they did in 2014. Therefore, higher percentages indicate higher mobility, higher turnover, and higher housing instability. By contrast, the second map displays geographic mobility for

children under 18 for the same one-year period. Areas with the highest percentages on the first map are also areas with the highest percentages on the second map. The two neighborhoods with the highest rates of mobility for children under 18 are the north end of Willard-Hay with 53%, and Near North with 51% of kids under 18 having moved in this time period. They are closely followed by Jordan with 33%, the southern section of Near North with 33%, and Harrison also with 33%. Most of the NAZ partner schools are located in or near these neighborhoods, not including those farther north in Camden. In addition, compared to 2 census tracts in the highest mobility category for children under 18, there are 8 census tracts in this highest mobility category for children age 1-4.

What this tells us is that kids under 18, particularly in Near North and Willard-Hay, are living in more unstable housing conditions than those in other sections of the Northside, particularly Camden. What's more, children age 1-4 are living in the most unstable conditions of any age group, particularly in the following neighborhoods: Near North with 53%, Harrison with 35%, Willard-Hay with 47%, McKinley with 37%, and the southern section of Jordan with 36%. A mobility rate of 30-50% is high for any population, particularly children.

By identifying the areas of highest mobility, we can begin to explore why they may be more susceptible to such high turnover rates, and how NAZ can use these data to better target housing programming towards specific populations. While these data inform our understanding of mobility and housing stability, their large margins of error must not be disregarded. Unlike the US Census, the American Community Survey constitutes only a sample of the total population, meaning there is far more room for error. However, after evaluating potential data sources for analyzing mobility, the ACS was the only source that provided detailed enough data at a small enough aggregation (i.e. census tract level instead of county level).

Next we move to residential vacancies, another variable strongly connected to housing stability and more specifically, geographic housing mobility.

Residential Vacancies

Figure 2.8 illustrates residential vacancies in Minneapolis by both block group and individual points (each dot = 1 vacant property). These vacancy data for 2011 and 2016 were provided by the City of Minneapolis. The data were provided by address, which was converted into points. Additionally, the data were aggregated into block groups to illustrate temporal patterns more easily. One of the limitations of the data is the definition of “vacancy,” as there are many other types of vacant properties that were not considered in this section. In addition, only two individual years were considered.

What is immediately apparent in Figure 2.8 is that there has been a significant decrease in vacancies between the two years. In 2011 there were 772 and in 2016 there were 549 vacant residential properties, for a total of 223 fewer vacancies. One of the greatest concentrations of vacancies for both years occurs in the block group located next to Folwell Park between Fremont and Dupont Avenues; this block group had 25 vacancies in 2011 and 19 in 2016. By contrast, the highest count of vacancies per block group in Phillips did not exceed 10 vacancies in either 2011 or 2016.

What this tells us is that while the city of Minneapolis, the North Side included, may be experiencing an overall decrease in vacancies, the concentration of existing vacancies remains disproportionately high in the Northside, particularly in the NAZ boundary. This reaffirms the need for NAZ to continue to prioritize housing stability. It is important for NAZ, among its partners, to “transform existing uninhabitable vacant housing stock in and adjacent to the Zone into livable and affordable units accessible to NAZ families” (Northside Achievement Zone, 2014). That way, housing can be made available to high-need families, and dilapidated conditions as a result of slumlords or absentee landlords could potentially decrease.

While vacant lots and houses can provide barriers to overall housing stability in a neighborhood, they can also provide new opportunities for investment and growth. Using these data, we can seek out areas for new housing, recreational, or even commercial developments to help decrease the Northside’s vacancy rates.

Estimated Market Value (EMV)

Estimated Market Value (EMV) is defined as the value for which a parcel of land, with a structure or several structures on it, would sell under normal market conditions. There are several factors reflected in the estimated or “total” market value, including internal and external characteristics, property condition, year built, square feet, lot size, demand, and location. EMV was chosen for use in this analysis as a variable for assessing housing stability: it is a basic comparative measure that can be viewed easily over time, after being adjusted for inflation. EMV highlights areas of particularly low and high values and is comparable at different scales. This, in turn, can help identify commercial corridors and residential areas with valuable or inexpensive homes, and may even reflect the condition of the housing stock in these areas. Additionally, EMV identifies areas with the highest and lowest residential, commercial, and land values, thus revealing the affordability and level of demand for various types of properties.

In order to fulfill our group’s goal of analyzing both the current status of housing stability and housing stability over the past 5 to 10 years, EMV is analyzed for 2005, 2010, and the most recent year, 2016. This builds off of last year’s research, which analyzed only 2010 and 2015. We believe it is important to map the most up-to-date EMV information possible as issues of affordability and gentrification have become more pressing. Thus, our analysis looks at a longer time range of time (2005-2016) than analyzed previously, including data from before NAZ was fully formed and solidified as an organization, up through the most recent full year of data. Housing stability is also heavily impacted by a changing real estate market. Historically, the Northside has claimed some of the lowest property values in the city and larger Twin Cities region, potentially making it susceptible to gentrification and speculation. Finally, last year’s class did not map land uses separately, so this analysis expands on their work in this regard as well. Mapping the EMV by different land uses and at different scales more accurately compares how home and commercial values have changed over the past decade. Separating by land use makes the comparison more accurate and easier to use given that the range of values varies so greatly from land use to land use.

The EMV data used in this analysis are drawn from the Metropolitan Council and are available for the years 2002 through 2016. This data set is at the parcel level, which is very detailed and allows for easy visual comparison at scales up to as large as the city level, and is especially useful for large-scale maps, such as those at the neighborhood and block level. The data contain value information for each individual parcel, including the parcel’s land EMV (land only), building EMV (any structure(s) on the parcel), and total EMV (value of land + value of any structure(s)). The data also contain the land use description for each parcel.

The EMV map series has been divided into three sets of maps, for commercial, residential, and land value by acre, respectively. In order to separate different land uses, each use was put into either the residential or the commercial category based on their land use descriptions (see **Table 2.5**). Five land uses were excluded because they were neither residential nor commercial and would skew the land use values most relevant to the residents of the Northside. The residential and commercial parcel maps contain only parcels with the specific designations listed in Table 2.5. The land value by acre maps are a combination of both the residential and commercial parcels, divided by acreage, in order to show value per acre. The commercial-only and residential-only map series are

Land Use Descriptions	
Residential	<i>Apartment, Apartment Condominium, Blind, Blind Joint Tenancy, Condo Garage/Misc, Condominium, Cooperative, Disabled, Disabled Joint Tenancy, Double Bungalow, Housing - Low Income < 4 units, Housing - Low Income > 3 units, Nursing Home, Res'dl Misc & Bed & Breakfast, Residential, Residential-Zero Lot Line-DB, Seasonal Residential Rec, Sorority/Fraternity Housing, Townhouse, Triplex, Vacant Land - Apartment, Vacant Land - Residential, Non 4BB Compliant (Mpls only)</i>
Commercial	<i>Commercial, Vacant Land - Commercial, Golf Course - Reduced Rate, Commercial Telephone</i>
Excluded	<i>Industrial, Railroad, Vacant Land - Industrial, Utility, Common Area (no value)</i>

Table 2.5

mapped for the years 2005, 2010, and 2016 and are presented at the scale of the NAZ, neighborhood, and city. The land value map series is mapped for the years 2010 and 2015 only because of data limitations.

Figures 2.9a, 2.9b, and 2.9c show the estimated market value, by parcel, for parcels in the Northside with commercial uses for the years 2005, 2010, and 2016. All three figures also feature an inset map comparing the Northside to the rest of Minneapolis with regard to commercial values. For all of the maps in this series, the darker brown shades represent the higher commercial values, while the lighter yellow shades represent lower values. Looking at the three maps, it is clear that the two clusters of highest commercial value, from 2005 through 2016, are located on West Broadway Avenue on the southern boundary of the zone, and south of that location, next to highway I-94 on Glenwood Avenue. Currently, this commercial space is occupied by International Market Square. Between 2005 and 2010, some new higher-value commercial parcels appear to the east of I-94, in a primarily industrial corridor near the Mississippi River. From 2010 to 2016 not as many of these commercial parcels appear in this same corridor; many of the commercial parcels in the Northside appear to have been converted to other uses. This pattern of commercial parcels reflects the general economic trend of the past decade: from 2005 to 2010 as values increased before the Great Recession, the number of medium-to-high value parcels increased as well. From 2010 to 2016, however, the overall number of commercial parcels decreased and many parcels on the Northside changed from commercial use, possibly indicating vacancy. This phenomenon may affect housing stability because with abundant cheap commercial property and vacancies, businesses and corporations may increasingly buy property in the Northside and consequently raise home values to a degree that may become unaffordable to residents or potential residents.

Figures 2.10a, 2.10b, and 2.10c show the estimated market value, by parcel, for parcels in the Northside with residential uses for the years 2005, 2010, and 2016. All three figures also feature an inset map comparing the Northside to the rest of Minneapolis with regard to residential values. From 2005 to 2016, the values in the Northside appear to decrease

overall, as the shading on the maps lightens over time. The greatest change in values, however, appears to be from 2010 to 2016. The areas that retain somewhat higher value appear to be along the western boundary of the Northside on Victory Memorial Boulevard and Xerxes Avenue. This may be due to the fact that these parcels are on the border of Minneapolis and the suburbs of Golden Valley and Robbinsdale. Examining values within the NAZ boundary, there is an overall decrease in values from 2005 to 2016. The most dramatic change can be seen from 2010 to 2016, as was the case for commercial parcels, with housing values dropping drastically. This reflects the economic trend over the past decade following the Great Recession. The overall lessening of residential values in the Northside could also indicate that purchasing power was greater overall in 2005 and 2010 than in 2016. These low values also could indicate the potential for gentrification in the future.

Figures 2.11a and 2.11b show the estimated market value of residential land only for parcels in the Northside for 2010 and 2015, respectively. Both also feature an inset map comparing the Northside to the rest of Minneapolis. This pair of maps was created by dividing parcel land values by polygon acres to compute the value of residential land per acre. This was done in order to analyze land values only, and exclude any structures on the land that may disproportionately affect total market values. This provides a better measure of the overall demand for land in the Northside and Minneapolis. In Figure 2.11a, the higher land values appear to be in the northwest part of the Northside, while lower values populate the rest of the neighborhood and the NAZ. Figure 2.11b shows an overall decline in land values throughout the Northside, but maintains the same pattern of higher values in the northwest portion and lower values in the southern portion. Overall, there appears to be a decrease in residential land values from 2010 to 2015, following the Great Recession.

Figure 2.12 depicts the percent change in land value by parcel for the longer time span of 2005 and 2016, for parcels in the Northside. High values (shaded dark) represent areas where land has appreciated the most relative to its initial value. Low values (shaded light) represent areas that have seen little

appreciation or even depreciation in land values since 2005. This map shows that land value has been rising fastest relative to its initial value – oftentimes a very low initial value – in the Near North community, particularly in the Harrison, Willard Hay, and Near North neighborhoods, and edging into Jordan and Hawthorne. Significantly, this area of high land appreciation relative to initial land value includes the southern half of the NAZ. If higher land value relative to initial value reflects an increasing desire for previously undervalued land, the current uses of property may be outbid in the future. This trend might presage a wave of teardowns and upscaling of property uses spreading outwards from downtown and slowly progressing northwards through the NAZ, causing increasing stress on current households and business owners in the NAZ.

Overall, both the land value and total value of parcels on the Northside appear to decrease in value from 2005 to 2016. This includes both residential land and total market values, as well as commercial total market values. This reflects the overall effect of the Great Recession and the housing collapse with which it is associated. Additionally, because the Northside historically has had some of the lowest land and total market values in the city and the larger region, the percentage changes in land value are dramatic. Due to the overall low land and total market values in the Northside, the area may be susceptible to gentrification in the near future. Although the housing market appears to be starting to stabilize after the recession, this trend may be jeopardized by large percentage increases in land value and real estate speculation.

Gentrification Susceptibility

The Harlem Children's Zone (HCZ) was founded in 1970 and has been touted as a successful model for the place-based approach to combatting intra-generational poverty and closing the opportunity gap. NAZ is one of 20 other replication projects pushed forward by and funded throughout the Obama administration. Yet, rapid neighborhood change in Harlem in recent years has called HCZ's mission of serving majority poverty-stricken children of color into question. Rent hikes, new condominiums, an influx of "Urban Pioneers," and

a lack of affordable housing availability are just a few signs that the Harlem Central neighborhood is undergoing change (Otterman, 2010; Greenbaum, 2014). HCZ's current shift in demographic makeup is reflective of a larger-scale change, referred to as gentrification, impacting historically poor, non-white, urban neighborhoods nationwide. These shifts make a place-based approach increasingly complicated, but necessary.

While no universal definition of gentrification exists, there are common elements that make up the general understanding of the phenomenon and are relevant to the Northside (Institute on Metropolitan Opportunity, 2016). Gentrification is often defined, particularly in the geographic context of the Twin Cities, as the change of a neighborhood from majority lower-income people of color to higher-income white residents (Clark, 2005). While the rapid nature of gentrification may be hard to predict – all neighborhoods are in flux at some level – that is not to say that the potential negative impacts of gentrification including displacement, increased criminalization of people of color, local business closure, unaffordability, lack of historic preservation, and lost social safety nets are an inevitable part of neighborhood change (Freeman, 2006). The historic processes of redlining, residential segregation, urban renewal, and predatory lending practices have also been described as neighborhood change. While gentrification may seem like an intimidating and unusual force, GIS and quantifiable measures might help NAZ better prepare for and possibly mitigate these changes.

Methodology:

In an effort to predict gentrification, a Minneapolis Gentrification Susceptibility Index was created to assign a point value to each census tract in Minneapolis. Theoretically, the higher the point value, the more likely that census tract is to experience some form of gentrification. The index includes 11 variables from the four broad categories of transit, housing, development, and demographics (see **Table 2.6**). Each variable is currently unweighted and was included in the index based on Northside geographic and historic relevance, data availability, quantifiability, operability of definition, and a literature review of gentrification trends.

Table 2.6

Susceptibility Index Variables

Category	Variable Explanation	Correlation
Demographics	% Non-family households of total households	+
	Median income	-
	% White	-
Development	New building permits per square mile	+
	Minority-owned businesses earning less than a million dollars per square mile	+
Housing	% Renter-occupied residences of total residences	+
	% Residential buildings with 3-19 units of total residences	+
	Evictions per square mile	+
	Vacancies per square mile	+
Transit	Distance from future blue line extension (1/4 mile, 1/2 mile, 1 mile, > 1 mile)	-
	% Public transit commuters of total commuters	+

A point value of zero to three was assigned to each census tract for each variable. Data for each variable was broken into quantiles (four categories of equal width), with point values assigned to quantiles based on determined positive or negative correlation with gentrification susceptibility. There were 11 total variables, and point values for each variable were added to create a final index score for each tract. The highest possible index rating is a “highly susceptible” 33, but actual scores range from 6 points to 26 points. Census tracts were then categorized as either “highly unlikely”, “unlikely”, “possible”, “likely”, or “highly likely” to gentrify (based on the natural breaks method of categorization).

Variable Explanations:

Three **demographic** variables significantly impact whether a census tract will gentrify or remain stable. The first is median income, which is seen as an important reflective measure of overall area affordability (Center for Community Innovation). Median income was split into quartiles, with the highest point value assigned to tracts with the lowest overall median income. The highest income tracts were given zero points, as high median income indicates stability and is often inaccessible to the incoming gentry.

Race is an extremely important variable to consider when analyzing gentrification. Tracts with the lowest percentage white non-Hispanic or Latino, using ACS data for years 2006-2012, were given the highest scores. The greater the percentage white the less likely a tract was to gentrify (Zuk et al., 2015).

Differing occupancy characteristics within households also impacts gentrification likelihood. Neighborhoods consisting of majority non-family households are said to be more in flux and accessible to potential gentrifiers (Center for Community Innovation). The percentage of non-family households out of total households was calculated using ACS data from 2006-2012 and then broken into quartiles. Higher percentages of non-family households earned the tract a higher score. This demographic factor is not considered as telling as race and income in forecasting neighborhood change.

Residential and commercial **development** patterns are widely accepted as critical factors in the gentrification process, but are the most sporadic and difficult to track. Large-scale new developments within a neighborhood can signal a shift in investment tactics targeted towards new, rather than long-standing, residents (Center for

Community Innovation). New building permits greater than \$100,000 per square mile in 2012 (data provided by the City of Minneapolis) was used as a proxy for significant new development in order to exclude permits for small renovations. The greater the number of permits per square mile the higher the point value assigned.

Commercial development's role in gentrification is a relatively understudied variable with no widely agreed upon quantifiable measure. Based off of Northside specific social and historical context, spatial density of small minority-owned businesses were used to predict susceptibility (Freeman, 2006). A higher density of minority-owned businesses making less than one million per year, per square mile (data provided by Mergent Intellect), resulted in higher susceptibility.

The **housing** category was the most strongly represented with four variables included. In particular, the higher the share of multi-unit buildings (with three or more units) and the higher the share of renter-occupied housing, the more likely the area is to gentrify, perhaps because change can occur more rapidly through turnover of rental units (Center for Community Innovation). Renter occupancy and multi-unit building size data were obtained from the ACS.

Decrease in vacancy rates and evictions were also included in the housing category. Fewer vacancies are considered a warning sign of an increasingly competitive housing market, and high eviction rates can signal both an unstable housing market and potentially forced removal of previous tenants by landlords (Chum, 2015; Institute on Metropolitan Opportunity, 2016). Vacancy data for 2016 was obtained from the City of Minneapolis, along with point-in-time data regarding formal eviction filings. These two variables were divided by square mile to calculate spatial density.

Finally, two variables were included within the **transit** category. The type of commuters, and the Northside-specific addition of the Blue Line Light Rail were included in this section of the index. A high proportion of residents commuting via public transit has been shown to be correlated with increased likelihood of neighborhood change. Large infrastructural changes in transit systems--light rail

in particular—have also been shown to significantly change a surrounding area's demographic and residential makeup (Center for Community Innovation). The closer a residential area was to the future light rail extension, the higher the likelihood for gentrification. Data for these variables were obtained from OnTheMap and the Metropolitan Council.

Analysis and trends:

In **Figure 2.13** the largest clusters of highly susceptible census tracts are in Near North and Phillips, our comparison neighborhood. According to this analysis, the NAZ zone will likely experience some form of rapid neighborhood change in the near future, with more than half of the census tract areas categorized as highly susceptible. There is a drastic transition from highly likely to unlikely from Harrison to Bryn Mawr, with Bassett Creek acting as a natural boundary between the unstable and stable residential areas.

It is likely that neighborhoods with a large renter market, like the University of Minnesota, were relatively overrepresented based on this index and are categorized as likely to gentrify. This is not necessarily the case for neighborhoods with a long history of continued student housing.

Southwest, which consists of majority high-income, white, family households had the largest cluster of highly unlikely gentrification susceptibility. The southernmost portion of the city, bordering Richfield, was a noticeable shift towards possible gentrification.

At this point in time, the Gentrification Susceptibility map is too inaccurate to be considered useful in gentrification prediction. Census tracts in the majority rich and white Calhoun and Lake of the Isles neighborhoods are deemed likely and highly likely to gentrify, which does not match the previously stated definition of gentrification. Predictions are more accurate in the Southwest, Phillips, and Northeast neighborhoods. Southwest is often used as an example of a highly stable residential neighborhood which matches the index's prediction. On the other side of the spectrum, Phillips and Northeast are seen as experiencing some stages of gentrification, which is reflected on the map and shows that the index has promise.

Limitations:

Factors defining quantifiable gentrification susceptibility were limited by historic relevance, data availability, quantifiability, operability, and relevance to future susceptibility rather than signs of current change. This meant that other potentially telling variables including education levels, historic housing stock, and green space accessibility were excluded.

Variables are currently unweighted in the point system, meaning that a census tract with a larger public transit commuter population earning very high incomes would receive the same score as a low-income tract, though low median income is a much more telling determinant of gentrification than public transit commuteship. Along the same lines, variables were not tested for multicollinearity, meaning two variables (i.e. renter occupancy and number of rental units) could be depicting the same story and over-representing that variable.

Data precision is also a limitation. Many variables employ ACS data as it is much more up-to-date than Census data and gentrification is an extremely rapid and time sensitive process. The ACS has very large margins of error, particularly for variables like renter occupancy and non-family households, which means this index has placed more value on

timeliness rather than precision. That being said, the time period for data collection spans the period from 2006 to 2016, with data for many variables available only for years before 2012.

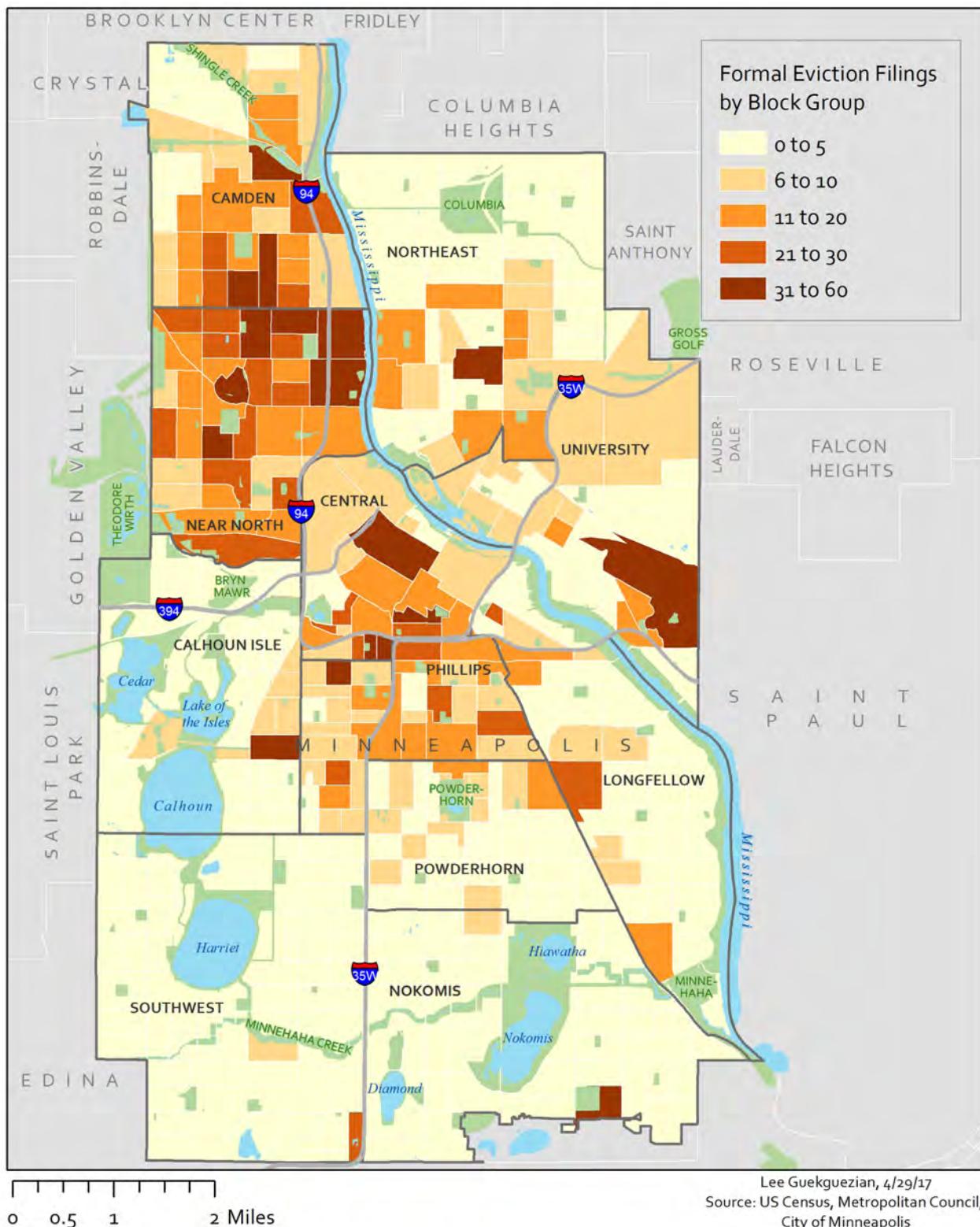
Conclusion

Research shows that housing instability has a lasting impact on families' ability to obtain basic necessities, and can lead to frequent school moves, high rates of absenteeism, and low test scores among children. Without stable housing, it is extremely difficult for a family to create and maintain the social safety net that NAZ is so reliant on in ending intra-generational poverty. Compared to the rest of Minneapolis, the Northside is experiencing owner to renter conversion at a disproportionately high rate, high mobility for children under 18, decreasing home market values, and higher rates of eviction with the presence of slumlords. While the future of housing stability on the Northside is hard to predict, it is likely that neighborhood change will impact NAZ in the form of gentrification. All of these results confirm that housing stock, usage, ownership, and tenure on the Northside is changing rapidly and will likely remain a challenge for NAZ. Similar to NAZ's ecosystem of support, housing stability should be viewed as an ecosystem in itself, as the variables examined above are deeply connected.

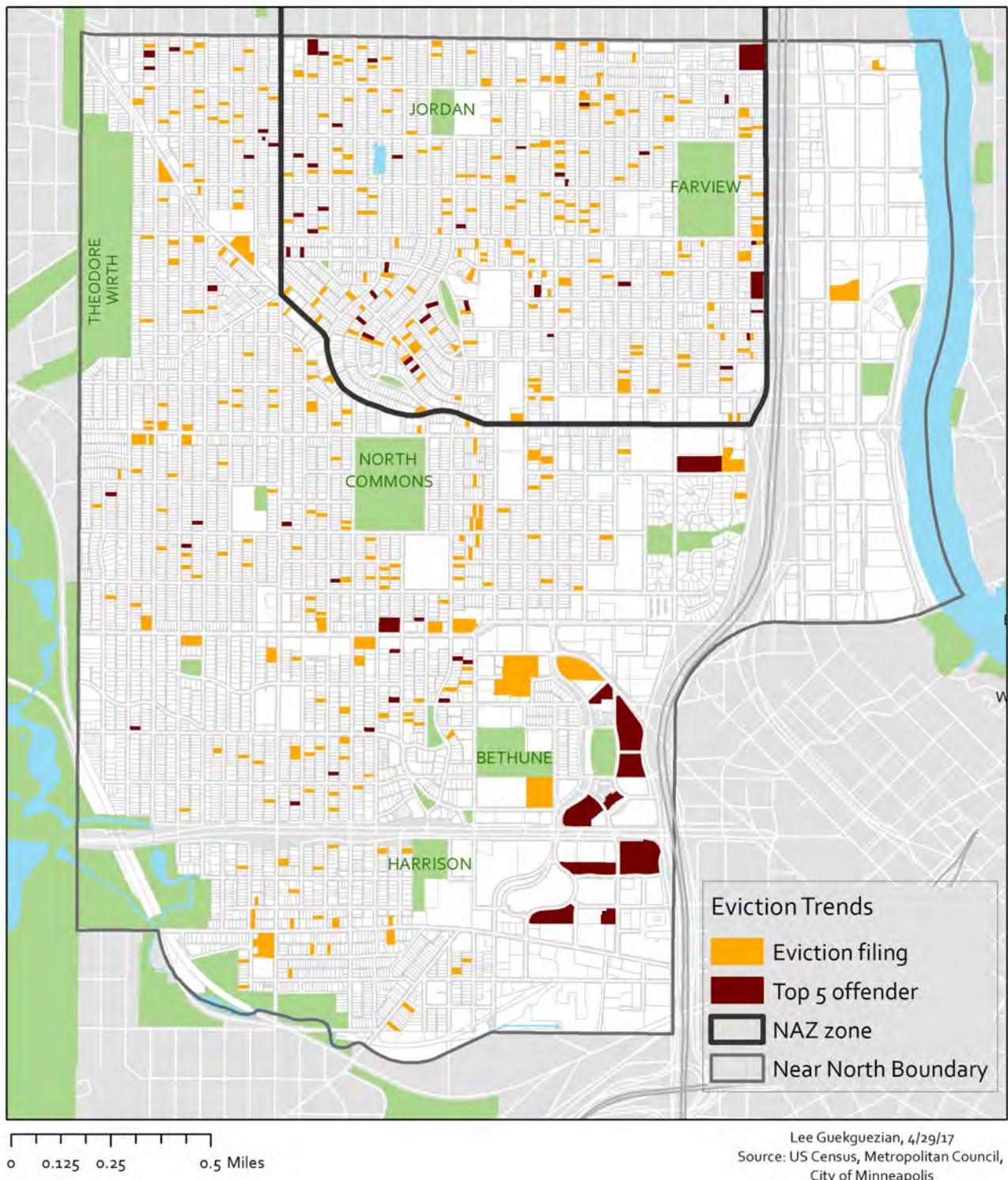


Photo credit:
NAZ

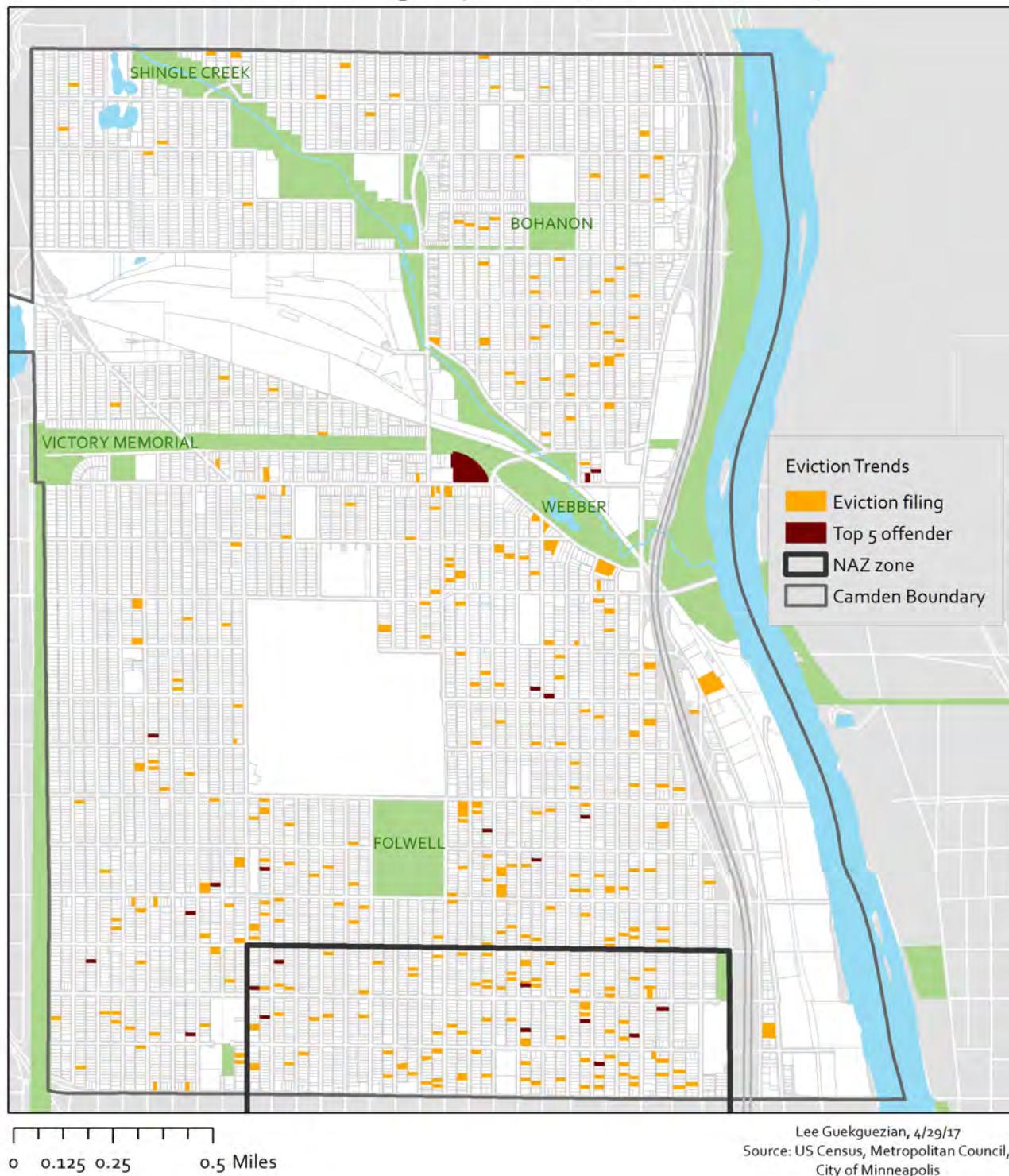
Eviction Filing Count by Block Group, Minneapolis, 2015



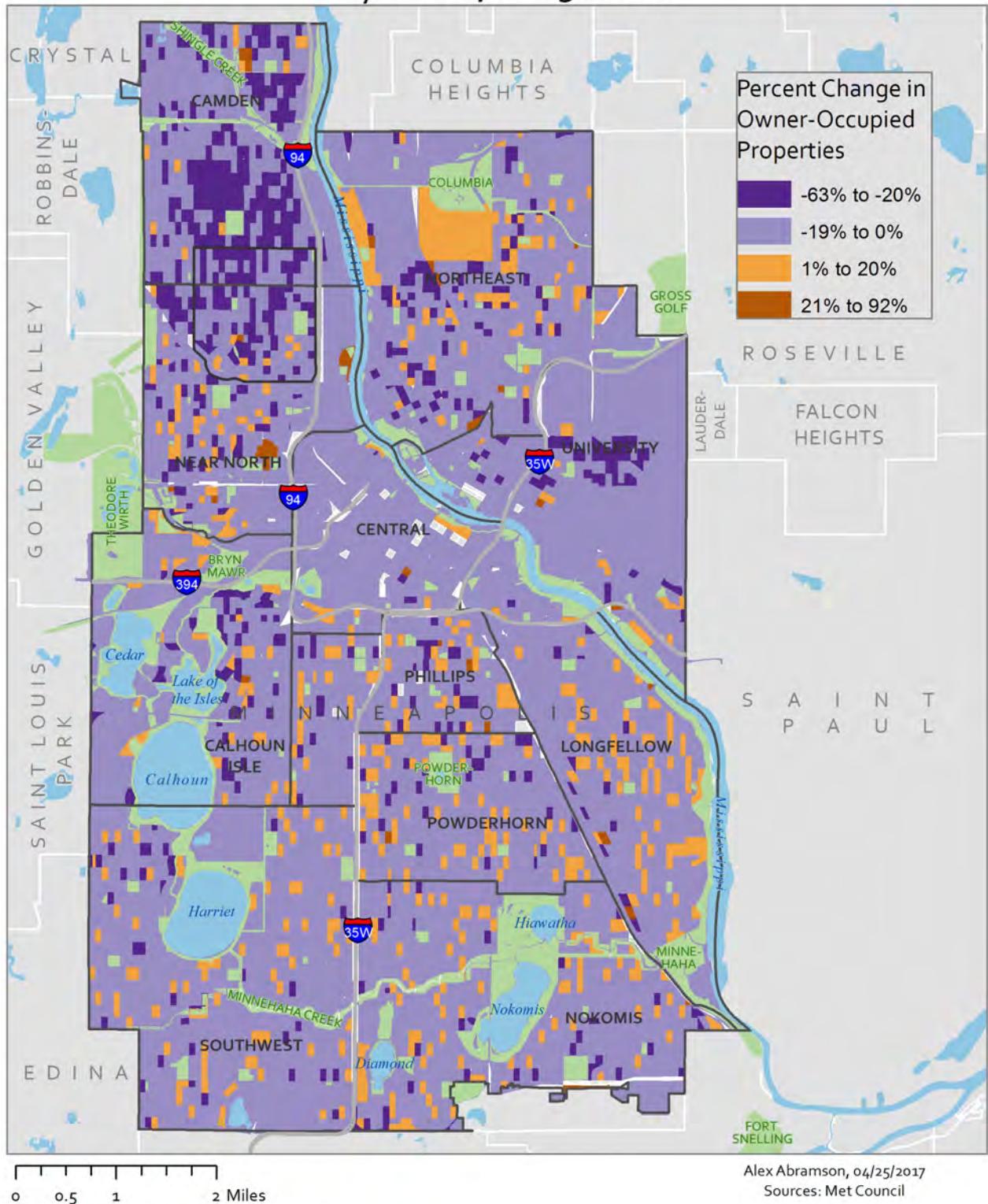
Eviction Filings by Parcel, Near North, 2015



Eviction Filings by Parcel, Camden, 2015

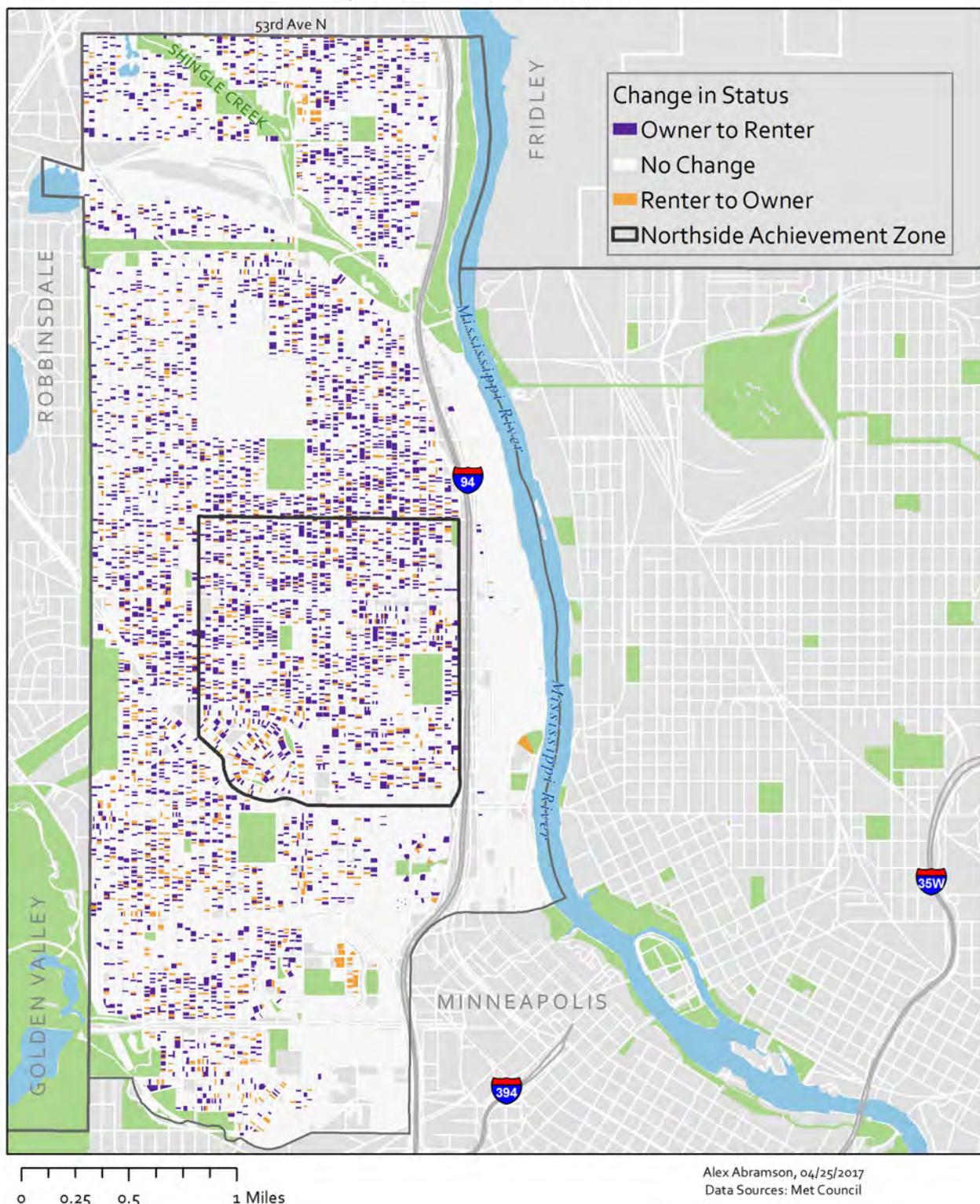


Change in Owner Occupancy, by Block, 2005-2016

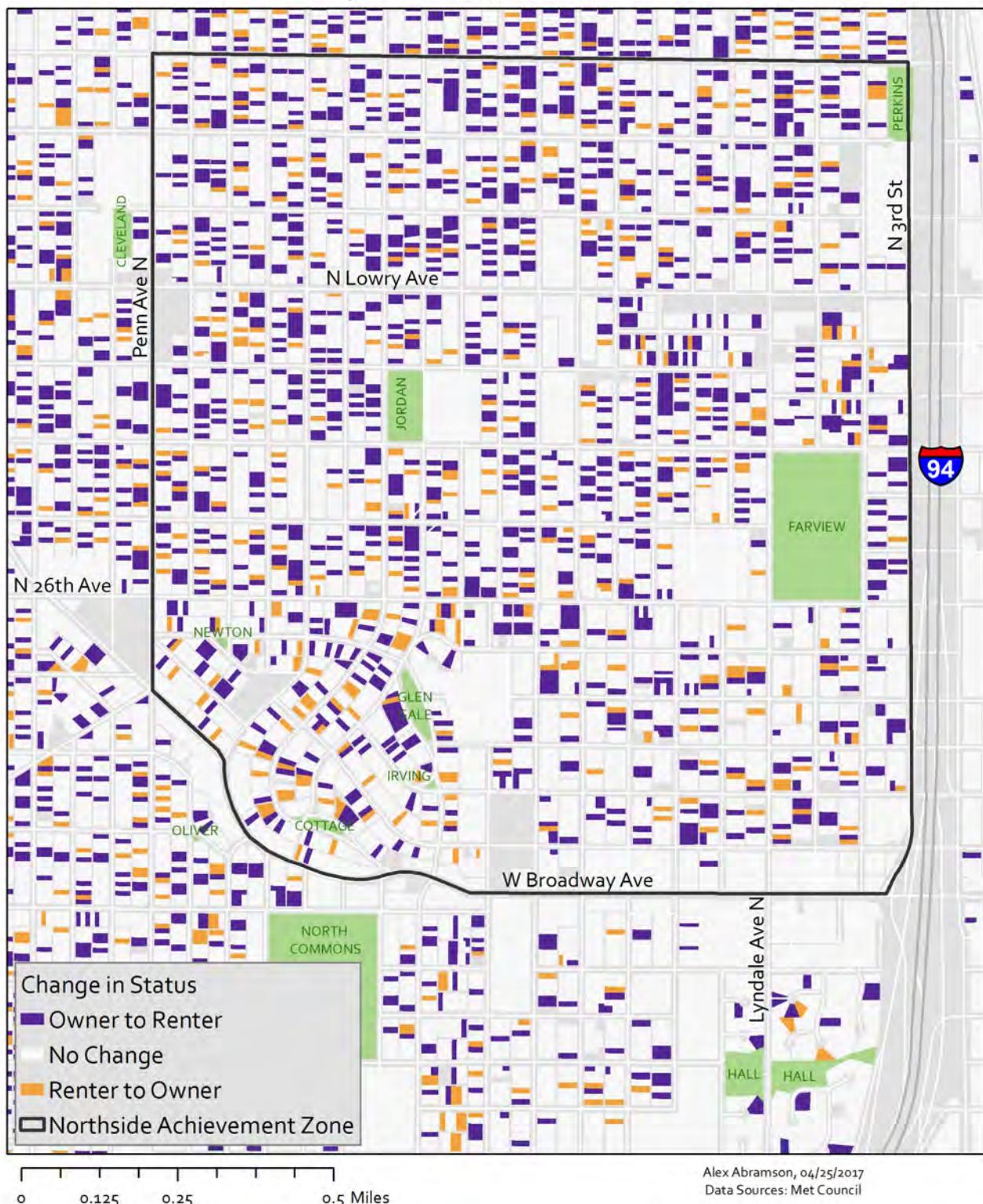


2.4b

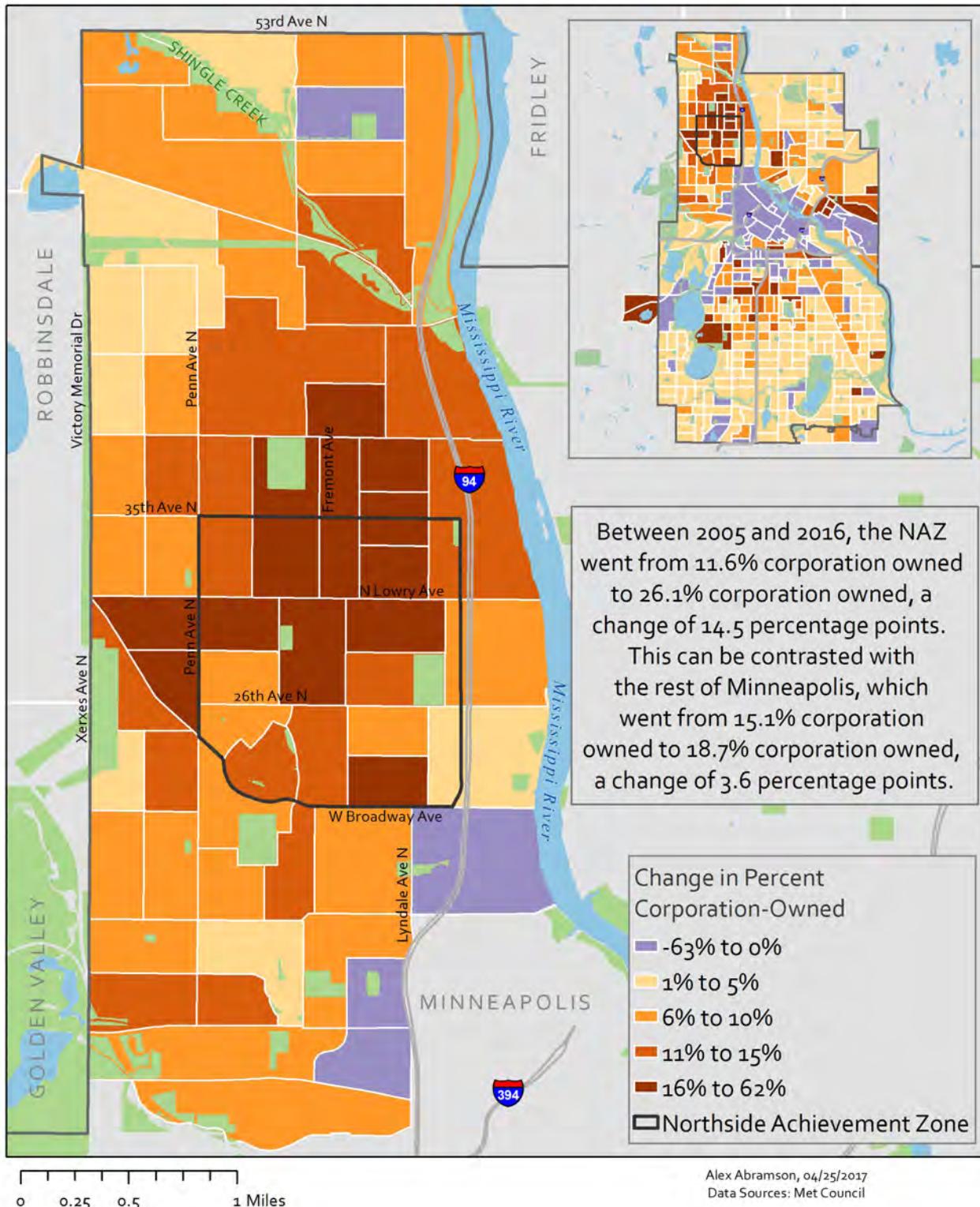
Change in Owner/Renter Occupancy, by Parcel, 2005-2016



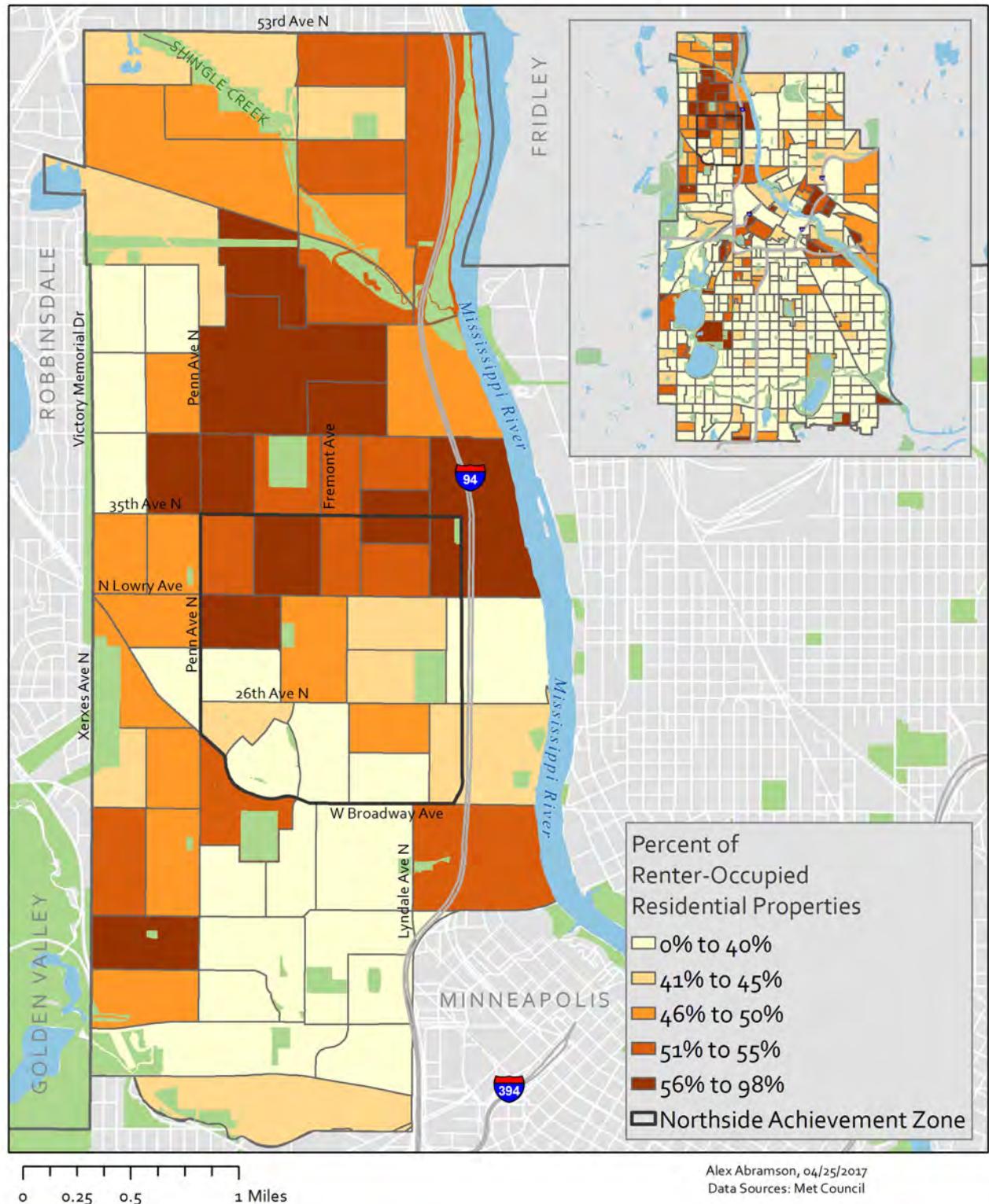
Change in Owner/Renter Occupancy, by Parcel, 2005-2016



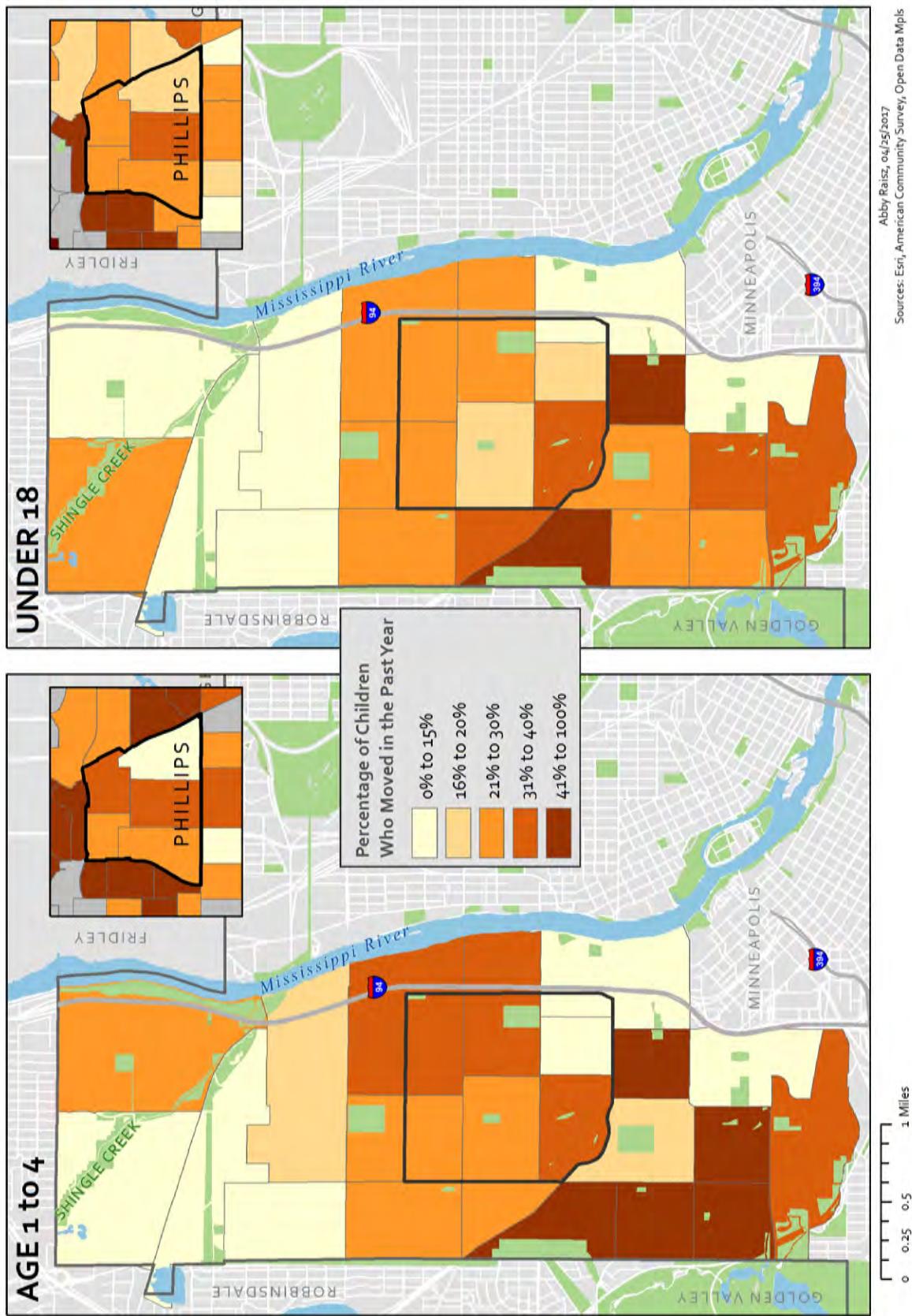
Change in Percent of Properties Owned by Corporations, by Block Group, 2005 to 2016



Renter-Occupied Residential Properties with Owner Located Outside Minneapolis, by Block Group, 2016

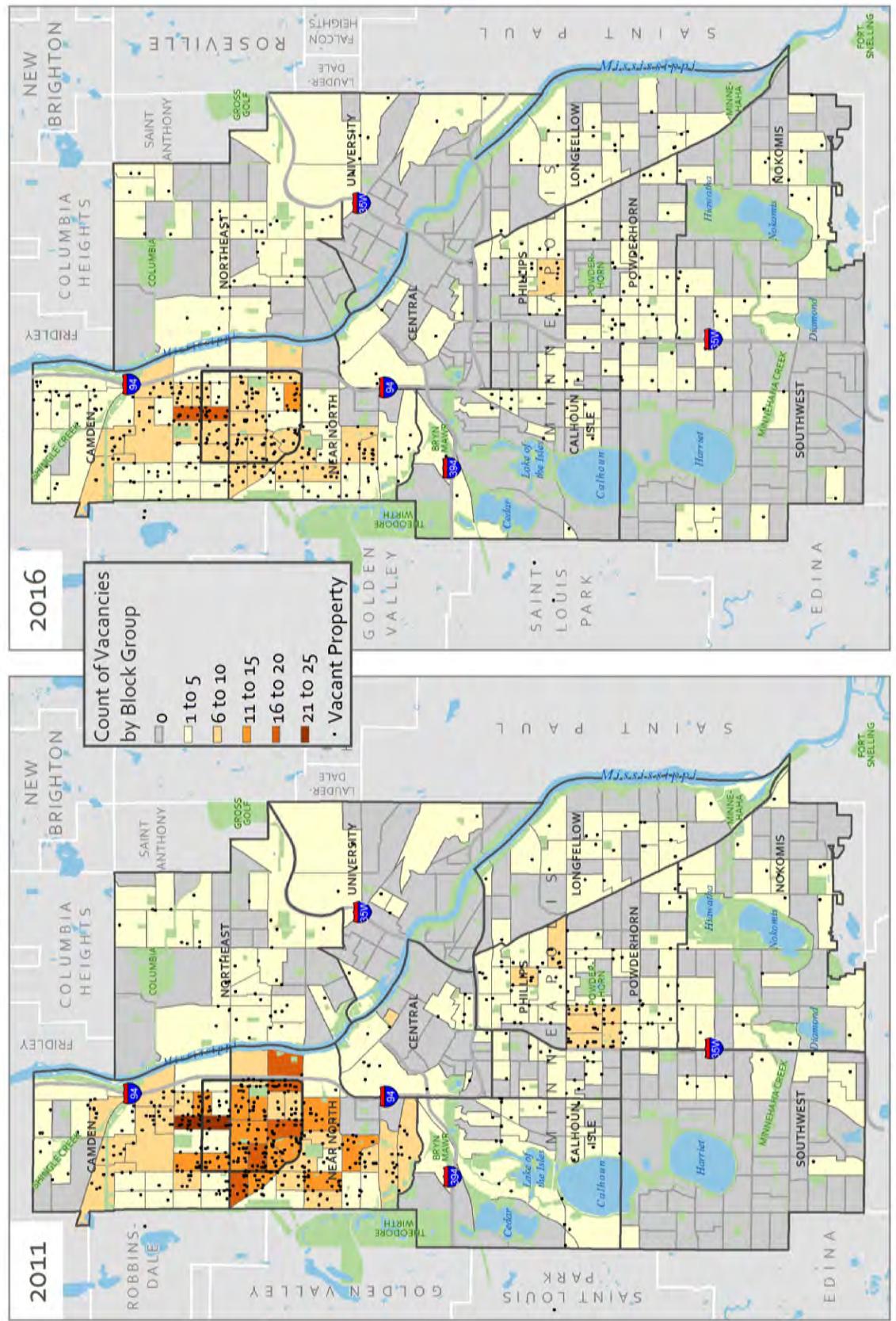


Geographic Mobility for Children by Census Tract in North Minneapolis and Phillips, 2014-2015



Sources: Esri, American Community Survey, Open Data Mpls
Abby Rajz, 04/25/2017

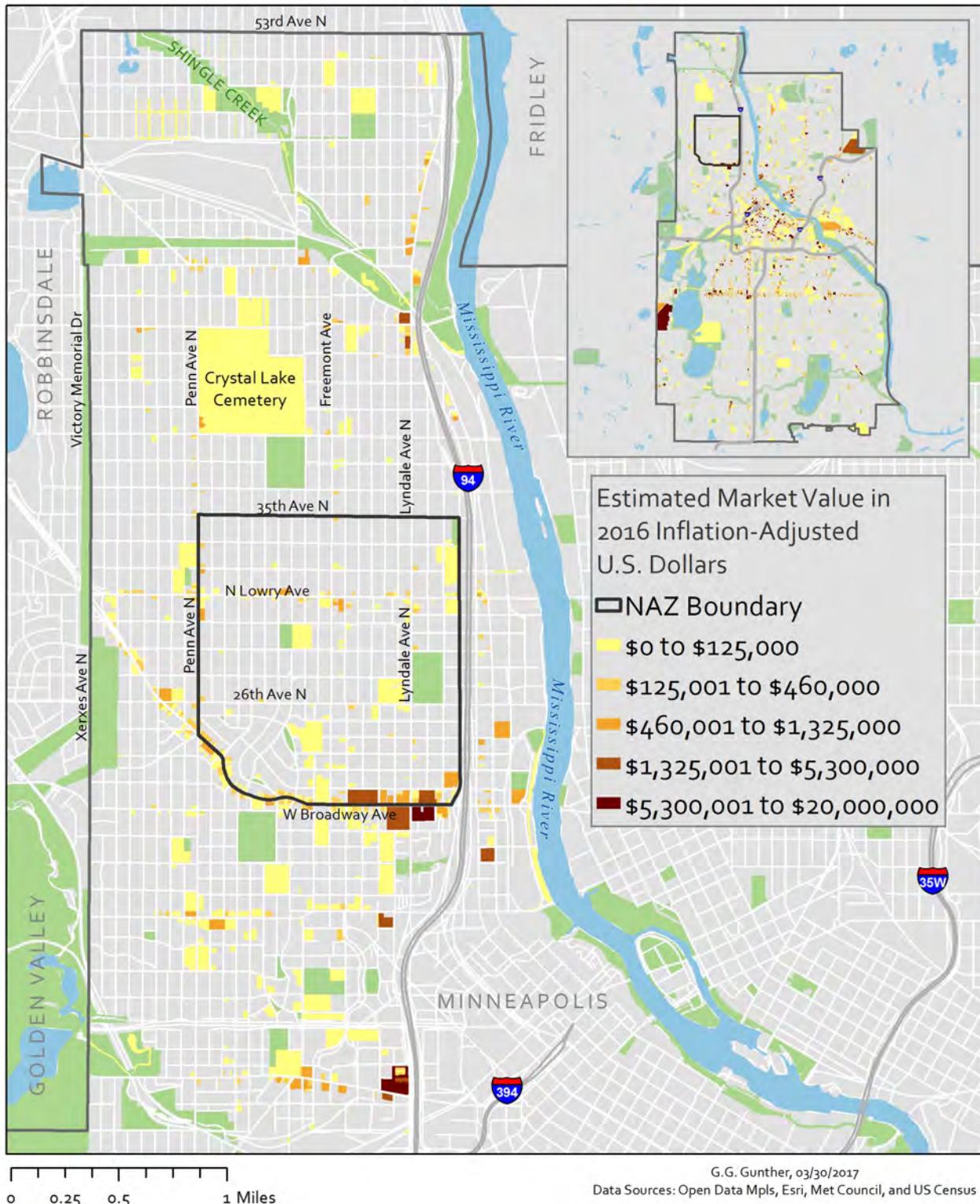
Residential Vacancies in Minneapolis



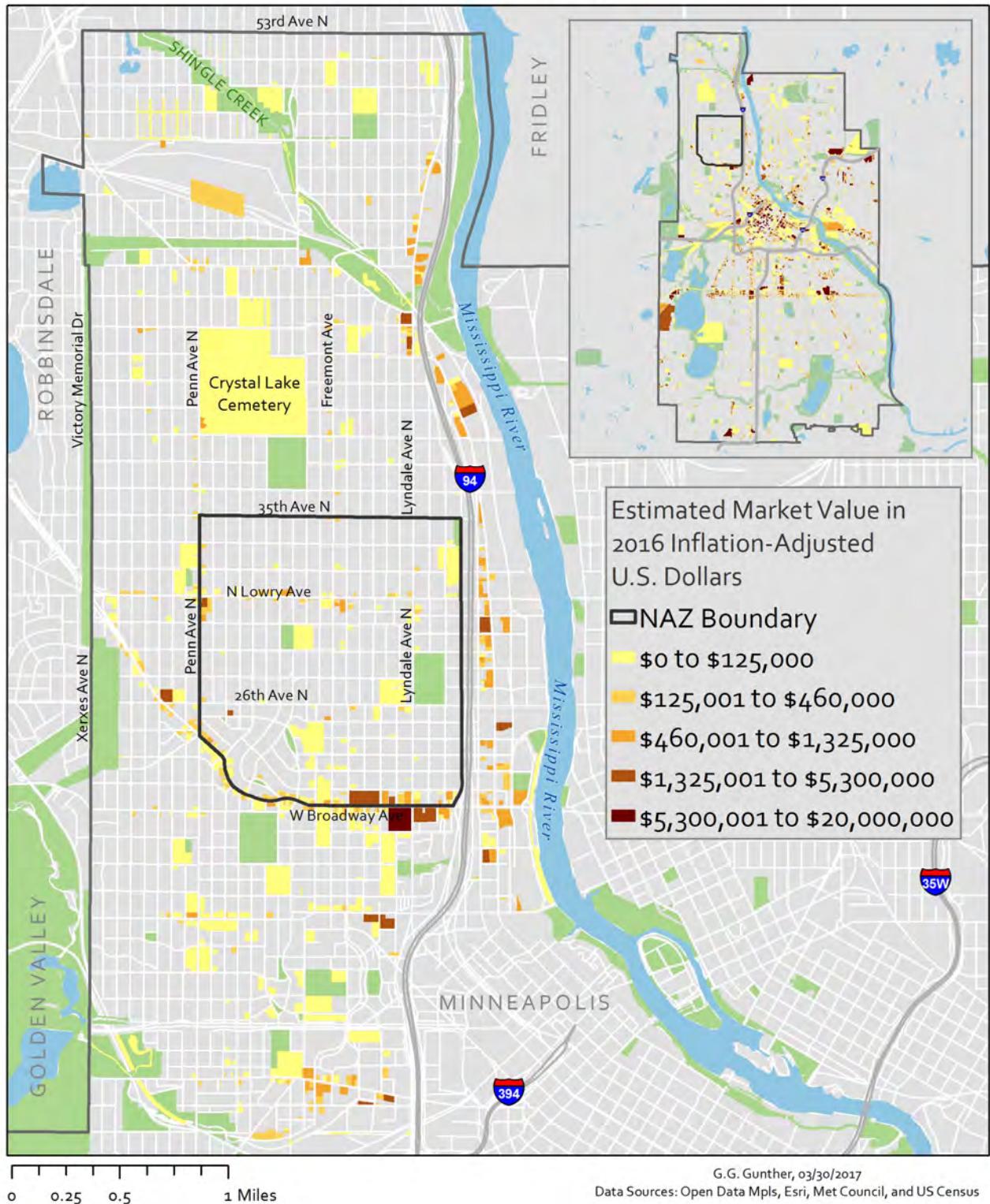
Abby Raizel, 04/25/2017
Sources: Esri, City of Minneapolis, Open Data Maps

2.9a

Commercial Values in North Minneapolis by Parcel, 2005

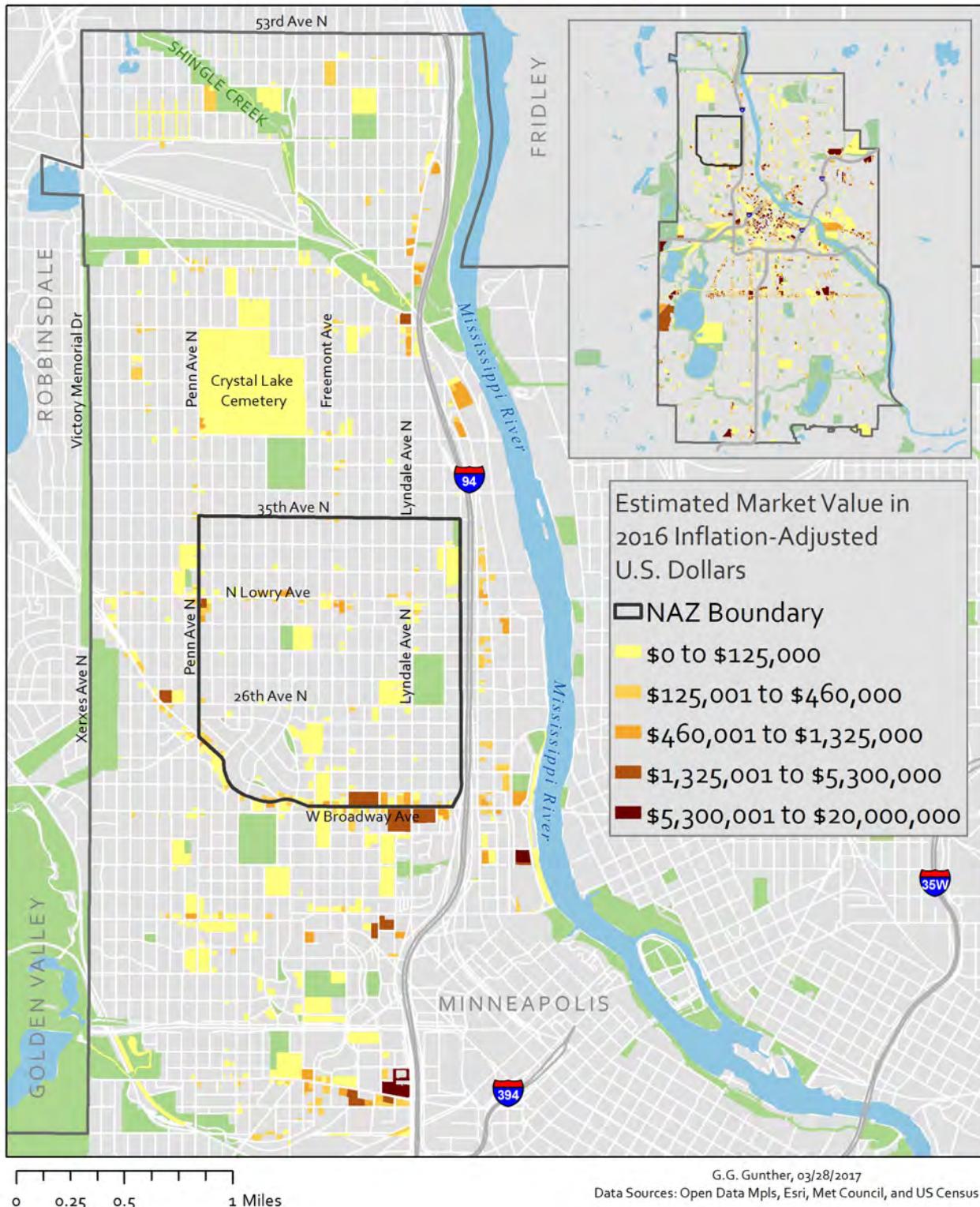


Commercial Values in North Minneapolis by Parcel, 2010

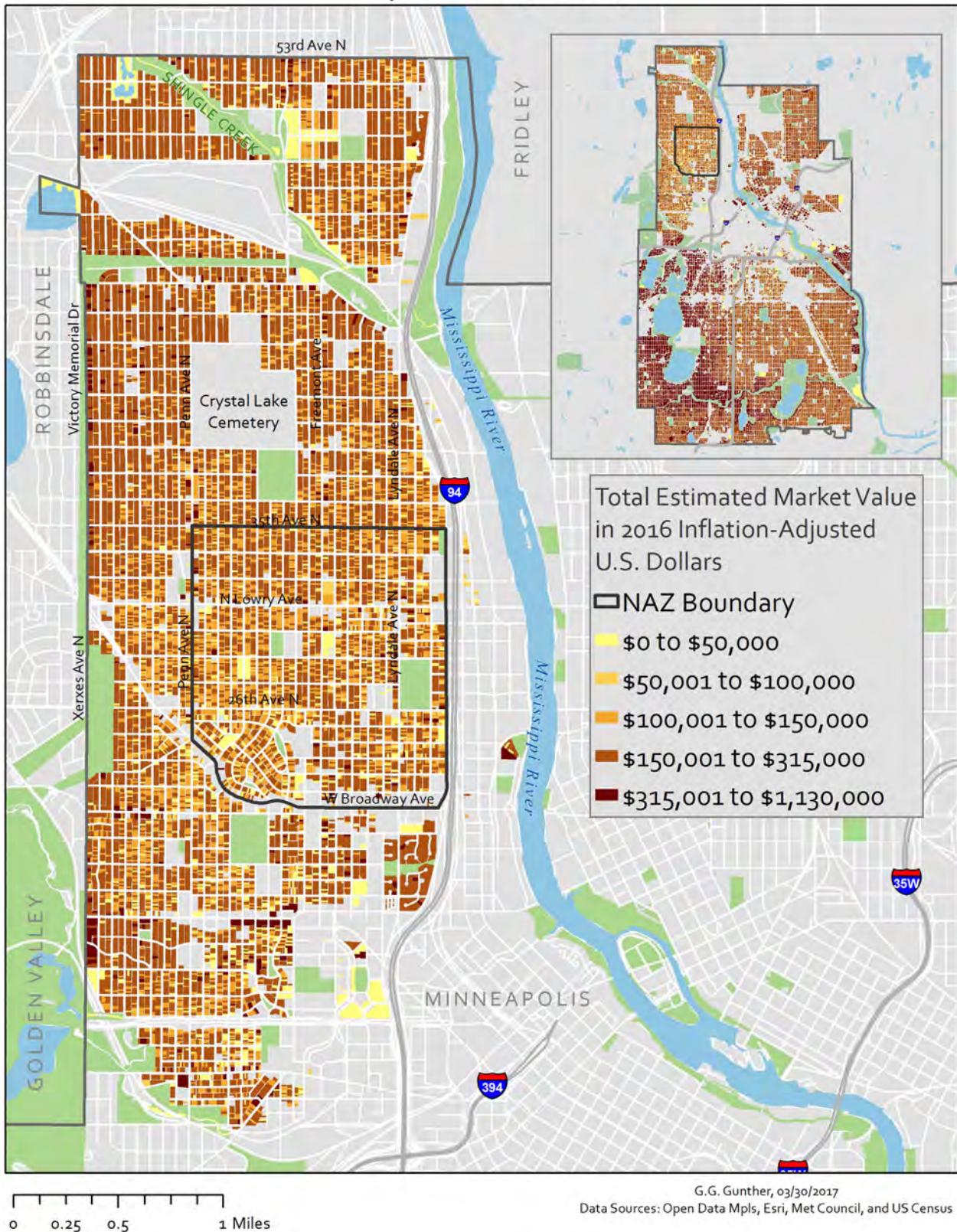


2.9c

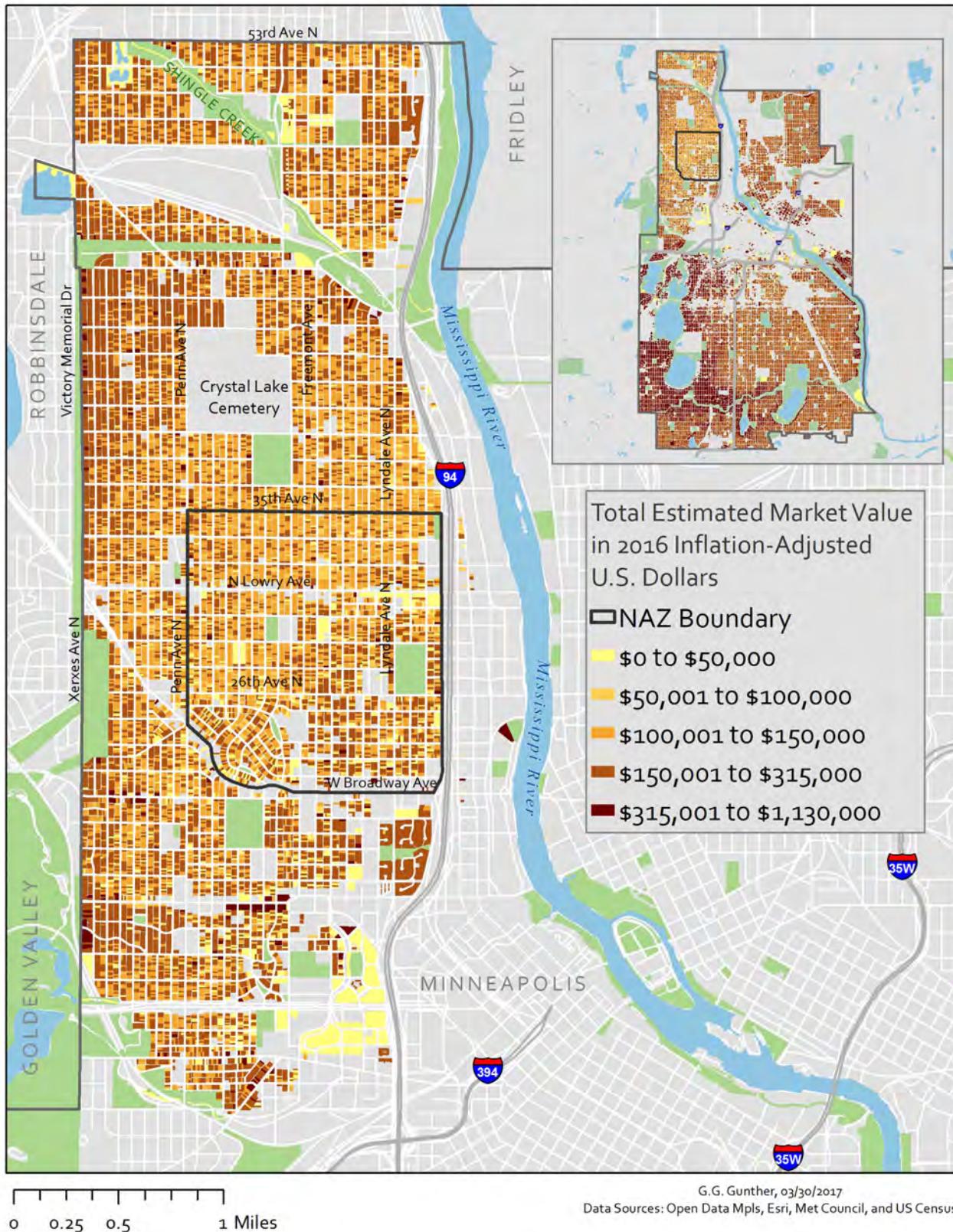
Commercial Values in North Minneapolis by Parcel, 2016



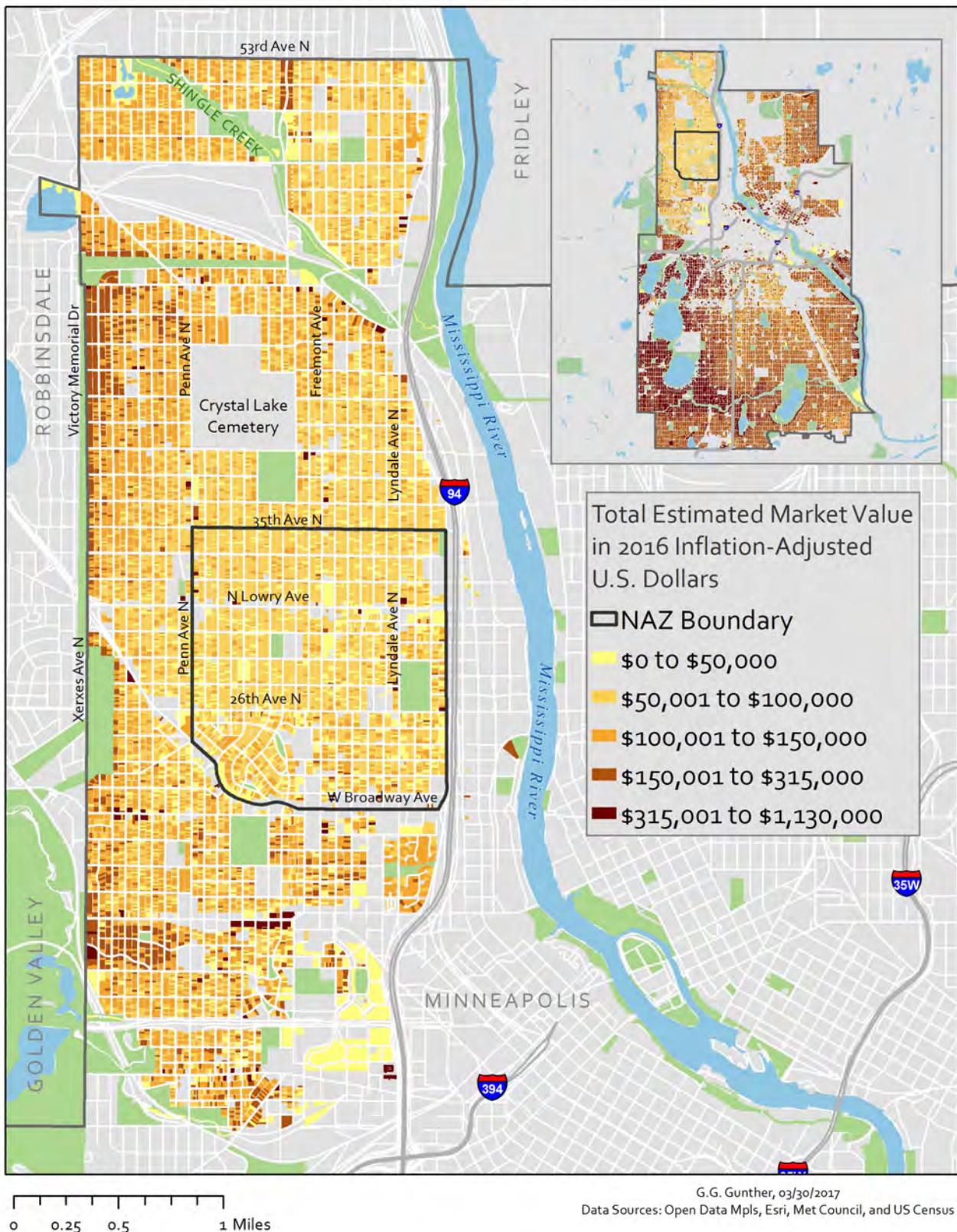
Residential Values in North Minneapolis by Parcel, 2005



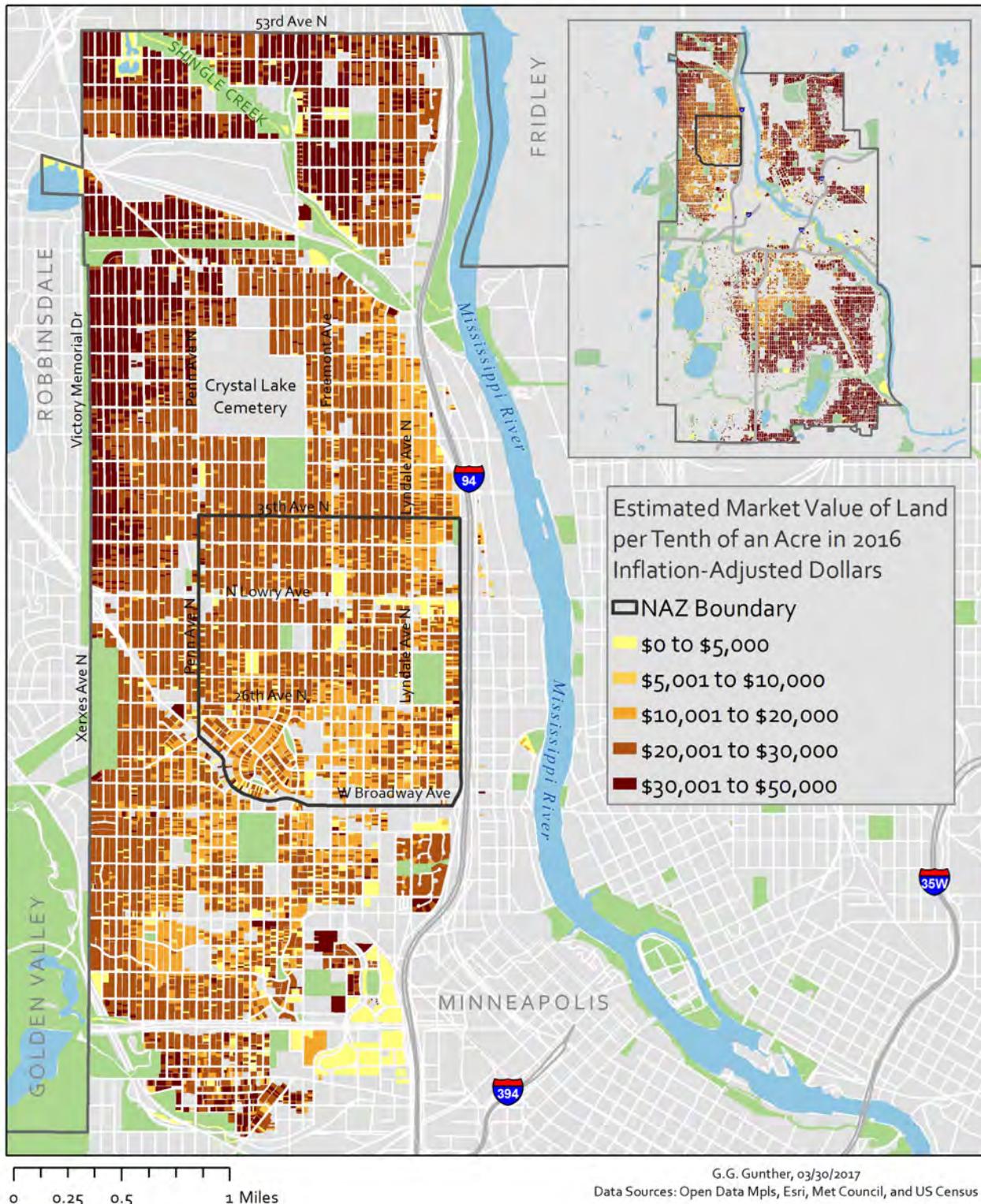
Residential Values in North Minneapolis by Parcel, 2010



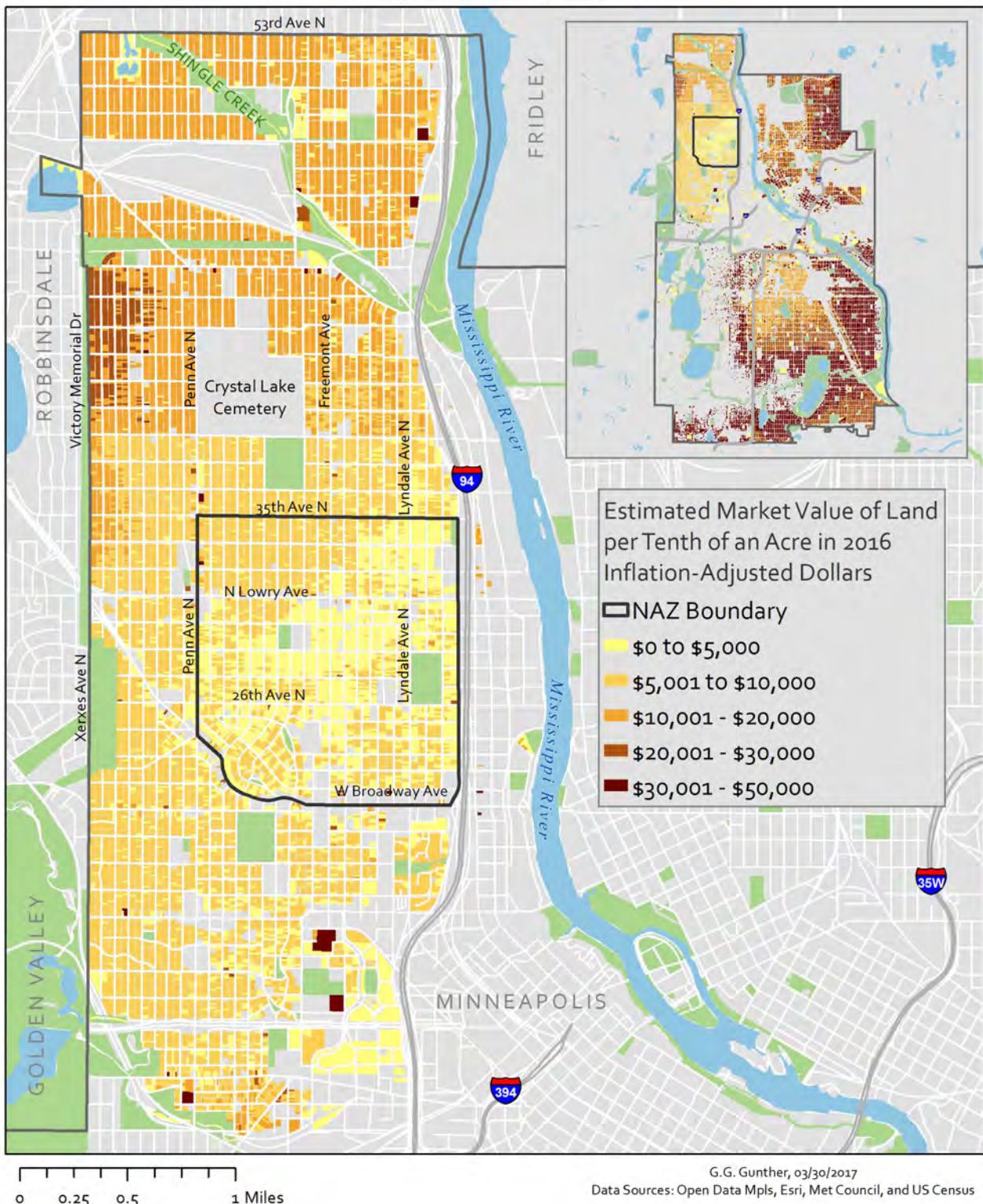
Residential Values in North Minneapolis by Parcel, 2016



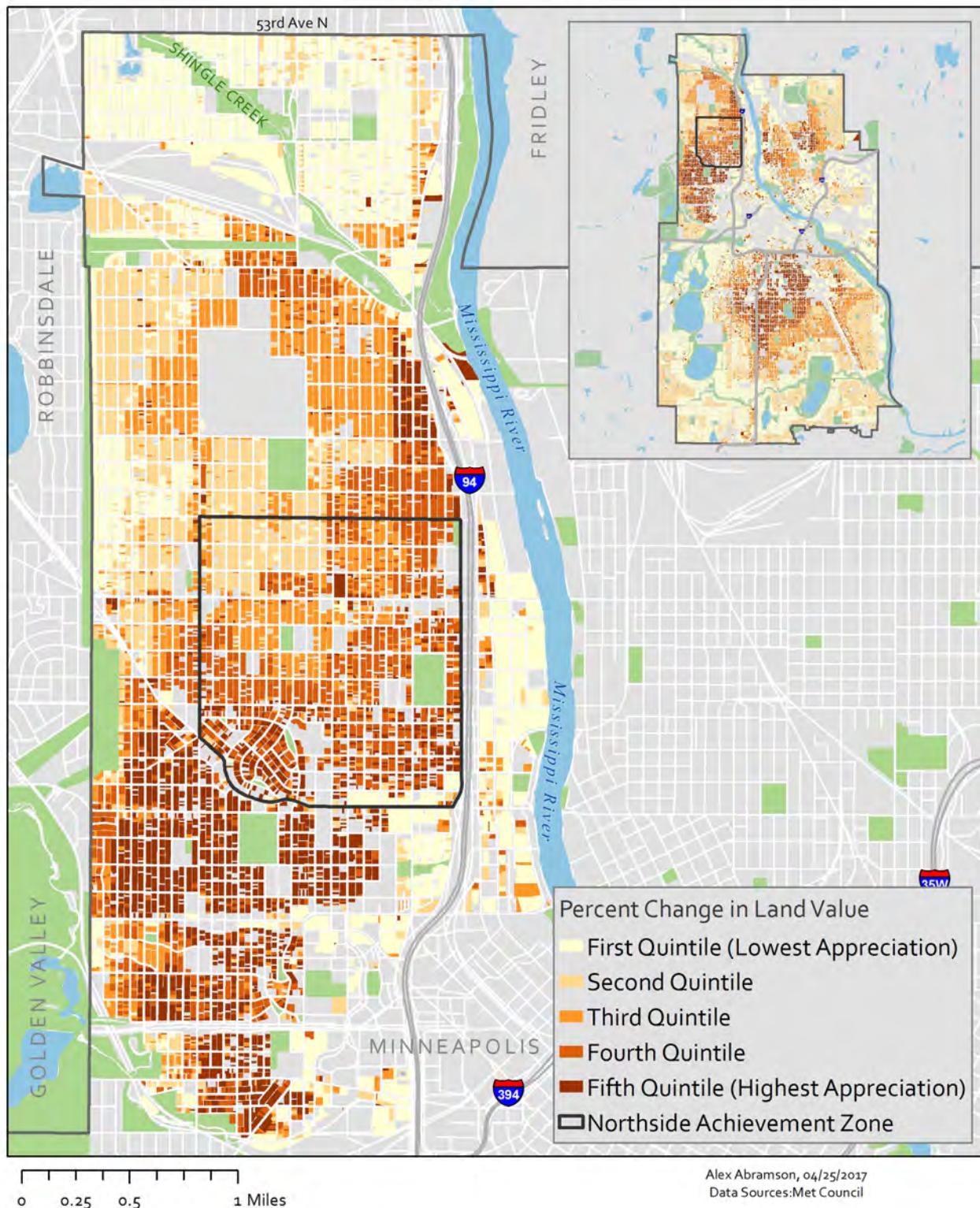
Residential Land Values in North Minneapolis by Parcel, 2010



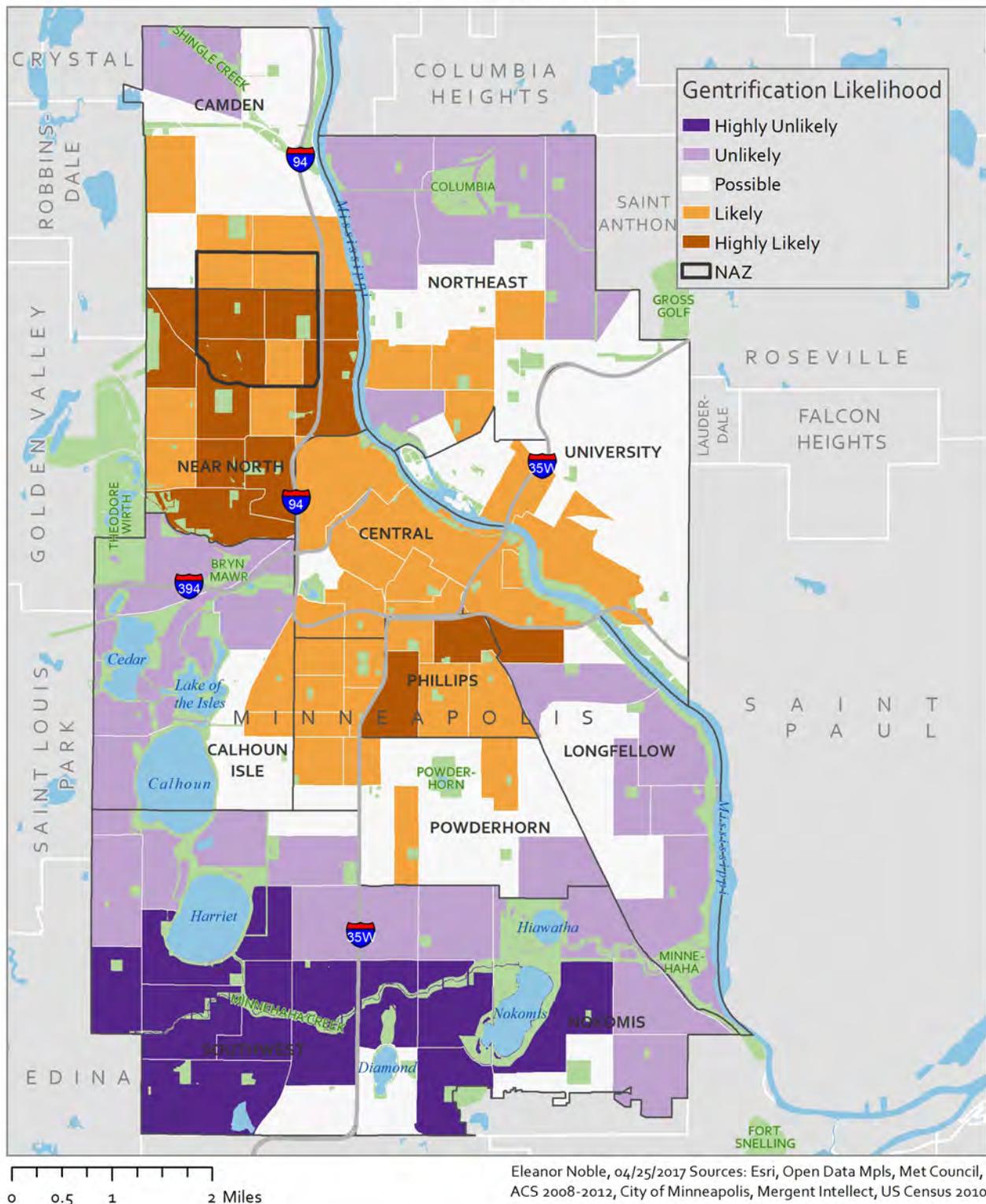
Residential Land Values in North Minneapolis by Parcel, 2015



Percent Change in Land Value by Parcel, 2005 to 2016



Gentrification Susceptibility in Minneapolis by Census Tract



Section 3: Employment & Accessibility

Martine Cartier - Alexander Edelmann

Introduction

An understanding of Northside residents' employment characteristics remains essential to tailoring the Northside Achievement Zone's (NAZ) comprehensive approach to residents' wellbeing and stability. Employment is a critical component of a stable life and essential for the provision of care to children. In addition to providing a source of income, employment characteristics also affect family dynamics and home life. Shift workers may have an inconsistent schedule that limits family time or impedes their ability to pick up children from school or activities. Long commutes increase and extend these challenges even to those not working erratic or late shifts. People may be forced to grapple with the decision of accepting gainful employment with a long commute time or choosing family time, both of which are important to an individual's and family's wellbeing. For those who prefer to stay close to home, the option of local employment is a necessity. Those who commute to work must have access to efficient transportation to and from the workplace to maximize their ability to live and participate in their families and communities. Through an analysis of employment characteristics on the Northside, we can begin to understand how work shapes residents' lives through economic and time constraints and responsibilities.

In this chapter, we seek to assess the nature of jobs worked by residents of the Northside, determine the availability and efficiency of transportation to and from job sites, and explore the spatial mismatch present between work and home for many Northside families. In order to determine the Northside's specific needs for further investment and future policy, we compared area characteristics to those of Phillips, a community with a similar demographic makeup, and to the city of Minneapolis as a whole. We employed a range of Geographic Information Systems (GIS) techniques and data visualization approaches to demonstrate the nature of employment and transportation in the study areas, sourcing information from a variety of local and

national data sources. We hope that the information provided concerning the realities and experiences among the communities of the Northside will assist NAZ in refining programs and obtaining funding for future projects.

Research Questions

- Are the jobs that are present within North Minneapolis similar to the jobs that are worked by residents?
- Where do residents of Northside neighborhoods travel to reach employment?
- How accessible is employment for those living in North Minneapolis and how are jobs reached by Northside residents? How do levels of access compare to other neighborhoods?

Variables

Employment

To explore employment characteristics on the Northside, we focused our analysis on examining differences in the sectors and wages of jobs located in the Northside and the sectors and wages of Northside residents' employment. Using variables including NAICS (North American Industry Classification System) sectors and monthly wages of residents and job opportunities on the Northside, we compared the area's employment dynamics to those of other neighborhoods and to the city at large. Data provided within this section demonstrate that jobs worked by residents of the neighborhoods included in this study are located in areas distant from workers' residences. We also visualized large businesses that employ many workers. These "anchor businesses" provide both local employment and opportunities for the growth of "support businesses" that many employees will patronize on their daily commute or lunch break. Such anchor businesses therefore not only provide employment, they also spur additional economic growth and local entrepreneurship in an area.

Transit

A comprehensive understanding of how residents are reaching their places of employment is essential to an understanding of the social and economic well-being of a regional job market. The spatial mismatch between residency and employment, in conjunction with high transit dependency, makes an analysis of transit networks fundamental. Realizing that a high percentage of North Minneapolis residents are dependent on transit to reach employment necessitates a study of the provision of timely and evenly accessible transportation networks. Transit, as a means of reaching employment, is directly related to the success of both individual workers as well as the financial viability of neighborhood businesses.

Data

We gathered employment data collected annually by U.S. states and the United States Census Bureau's Center for Economic Studies and distributed through OnTheMap. OnTheMap is a web-based portal designed to assist with visualizations focused on employment and job markets. OnTheMap also provides data about the employment offered in a selected geography, and identical data regarding the employment of residents of the selected area. The online tool allows for the display of data collected from the Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics dataset maintained by the Census and participating state data collecting bodies. Data sourced from OnTheMap were used to determine the employment destinations traveled to by many residents of the Northside, which we utilized in our transportation-focused analysis. Sectoral employment data and wage data were also sourced from OnTheMap.

Business data were obtained through Mergent Intellect, a web interface that links to Dun and Bradstreet's extensive international business database. The extensive dataset included records of all businesses in our selected geographies (we chose citywide and zip-code specific geographies)

with information ranging from the company name and address to sales volume and employee count to details about executives. These data were used primarily to identify the largest employers and job density. However, one limitation of this dataset was that it only included one year's worth of data for most of the business characteristics, and for others, such as select financial information, records ranged only from 2010 to 2013. This short time range limited comparisons of businesses over time.

Methods

Sectoral employment maps and graphics were generated using OnTheMap data. The maps show the percent of residents that work in a given sector out of the total number of working residents from each block group in the city. The accompanying cluster maps were generated using Local Indicators of Spatial Association (LISA statistics) to identify statistically significant groupings of block groups with similar sectoral employment characteristics.

In figures in which we compared characteristics between the Northside and Phillips, we used identical class breaks in the two geographies to facilitate comparison. To compare wage characteristics of the two areas, shown in Figures 3.9a - 3.9c and Figures 3.10a - 3.10c, we normalized the numbers of workers within each wage range by the total number of workers, at the scale of the block group.

Transportation access was determined using a series of Origin-Destination cost matrix analyses. These tools calculate walking times between each home in the study area and the two closest bus stops. Two stops were used in the calculations, as it is unusual for the single closest stop to service all destinations from a given household. Each parcel in the Northside and Phillips neighborhoods was given a score based on the average travel times to bus services. To determine if the scores were spatially clustered, a Local Indicators of Spatial Association test was run for both neighborhoods. The test looks for statistically significant proximal clusters of high- or low-access values by parcel.

Employment

Figure 3.1 displays the 10 largest employers in the Northside and in Phillips. This map highlights the “anchor businesses” of an area, or those businesses at which a large number of community members might find employment. Phillips, which is a fraction of the size of the Northside, has much greater employment counts at its top employers, such as the Children’s Hospital.

Table 3.1 further highlights the differences between the two areas by displaying specific employment counts of the top businesses. Phillips employs over two times as many workers as the Northside in its top ten employment centers. The top employer in Phillips is four times as large as the largest Northside employer.

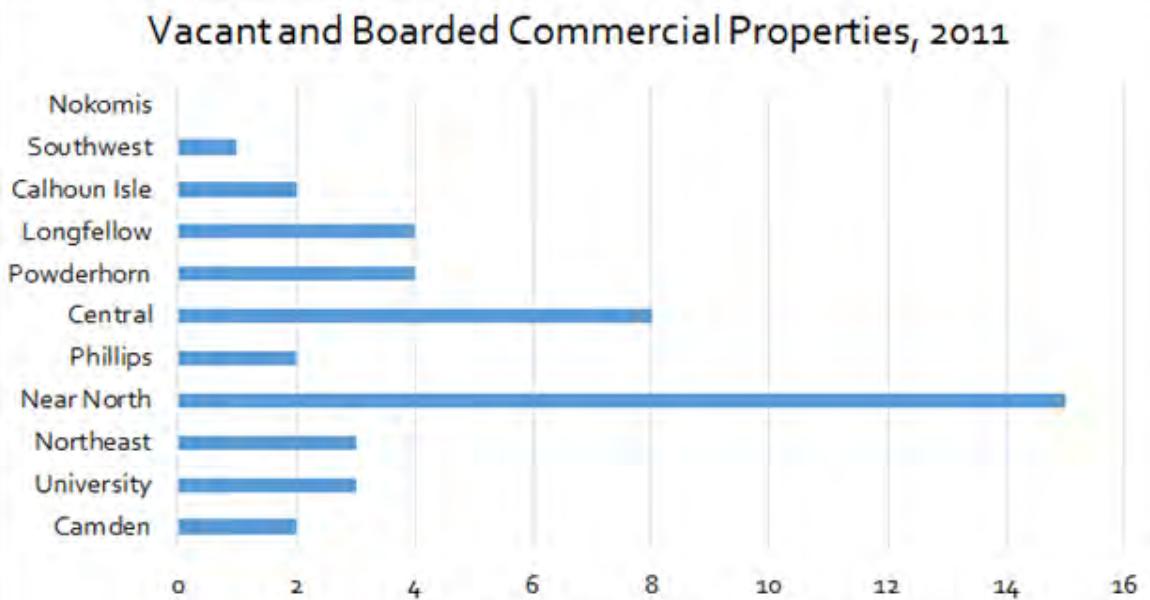
Figure 3.2a shows the commercial vacant and boarded (CVBR) properties in each community of Minneapolis in the year 2011. At 15 CVBR properties, Near North had a far greater number of commercial vacancies than other communities, with nearly twice as many as Central (Downtown) Minneapolis.

Figure 3.2b displays commercial vacant and boarded (CVBR) properties for the year 2011 overlaid on the commercially-zoned parcels of Minneapolis. This map highlights the large number of CVBR properties on the Northside, particularly on West Broadway Avenue. Of the 15 vacant and boarded properties in Near North, 9 of them were located on West Broadway Avenue. Despite being primarily residentially zoned, the Northside experiences higher commercial vacancy counts than areas zoned almost exclusively for commercial use, such as Central or the northern section of the University community.

Table 3.1

Northside Top Ten Employers		Phillips Top Ten Employers	
Employer	Number of Employees	Employer	Number of Employees
Americlean Janitorial Services	610	Children's Hospitals And Clinics Of Minnesota	2,340
Minneapolis Public School District	490	Allina Health System	1,200
Coloplast Corp.	277	Augustana Care	600
Metropolitan Transit Commission (Inc)	240	Augustana Chapel View Homes, Inc	500
Wedge Community Co-Op, Inc.	238	Midwest Home Health Care Inc	400
A & M Business Interior Services, Llc	210	The Minneapolis Society Of Fine Arts	300
Ctc Distribution Services, Llc	185	Mentormate, Inc.	240
Satcom Marketing, Llc	180	Providence Place	235
Eden Rs	160	Jefferson Partners Limited Partnership	220
Framing Systems Inc	150	The Children's Theatre Company	200
Total	2,740	Total	6,235

Figure 3.2a



Sectors

This section examines sectoral employment characteristics of the Northside and compares them with citywide trends, traits of the Phillips community, and top employers.

Figure 3.3a displays sectoral employment information for the Northside. Across most sectors, we see that the number of residents employed exceeds the number of jobs available in the Northside. This means that residents must search for employment outside of their community. This graphic also shows that more residents work in the health sector than any other sector, but jobs in the health sector on the Northside lag behind this count.

Figure 3.3b, analogous to that of Figure 3.3a, displays sectoral employment information for the Phillips community. Residents in Phillips tend to work in the same sectors as residents of the Northside; however, the number of jobs present in Phillips far exceeds the number of residents working. In the health sector in particular, abundant opportunities exist for residents to find employment locally.

Figures 3.3c, 3.3d, and 3.3e display the sectoral employment rates of residents for the Northside, Phillips, and Minneapolis, respectively. In both Phillips and the Northside, the primary sectors in which residents find employment are health, manufacturing, retail trade, hospitality, and administrative/support services. The city of Minneapolis displays similar trends of high employment in health, retail trade, and hospitality as the Northside and Phillips. However, the city also displays higher rates of workers in the management and professional/scientific sectors. In health, manufacturing, and administrative/support services, the Northside and Phillips communities have higher proportions of residents working in those sectors than does the city of Minneapolis.

The next series of maps displays sectoral employment rates for residents across the city of Minneapolis by block group. We have chosen to map the five sectors with the highest representation from Phillips and the Northside: health, manufacturing, support services, retail trade, and hospitality. In the accompanying cluster maps, the cluster analysis was run using the same data as the choropleth (shaded by percent employed) maps from 2014; the top employer data are from 2013.

Figure 3.3a

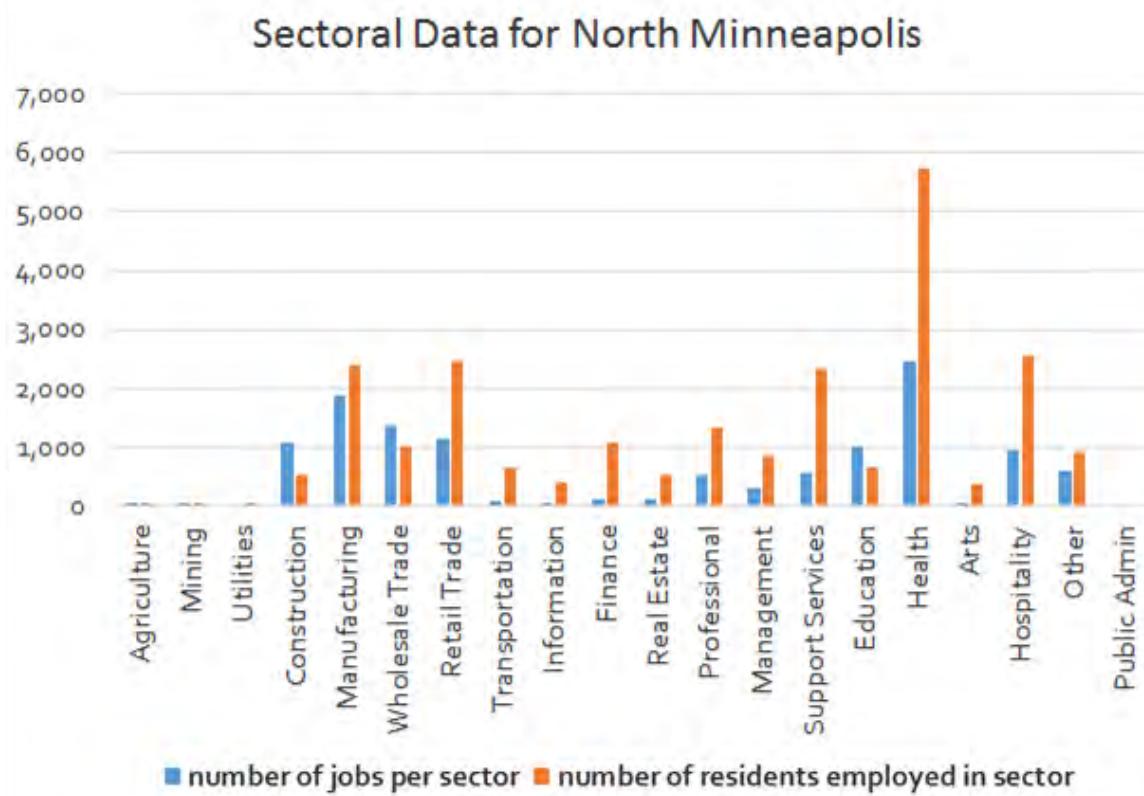


Figure 3.3b

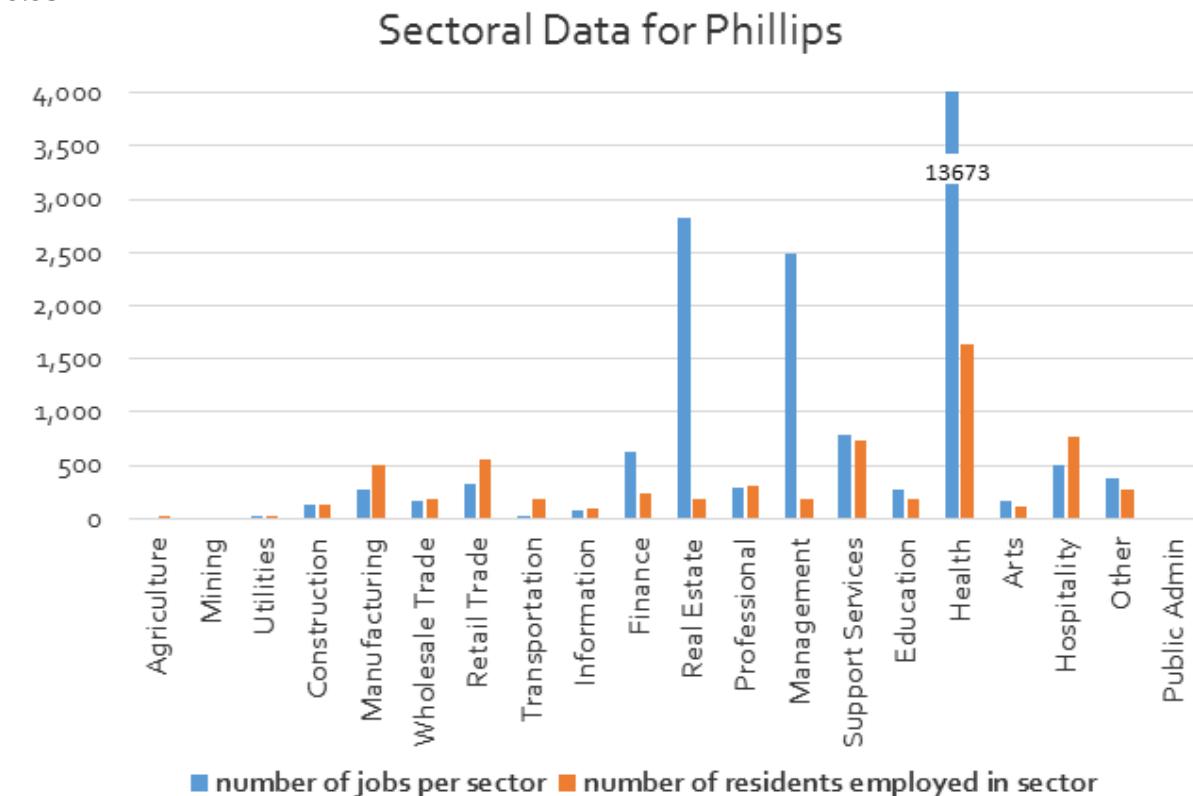


Figure 3.3c

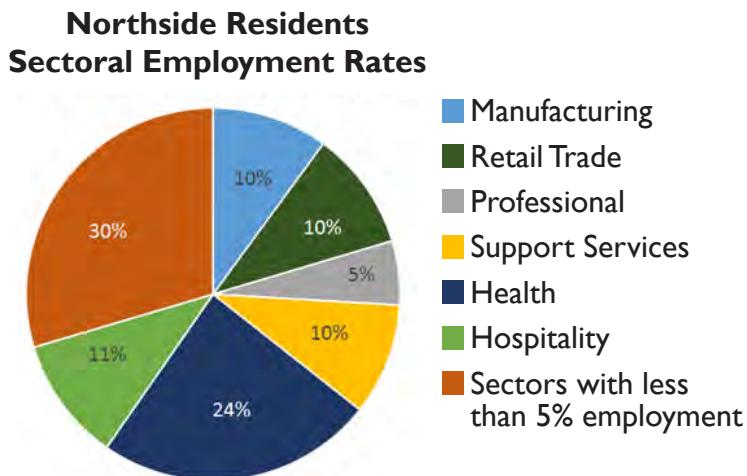


Figure 3.3d

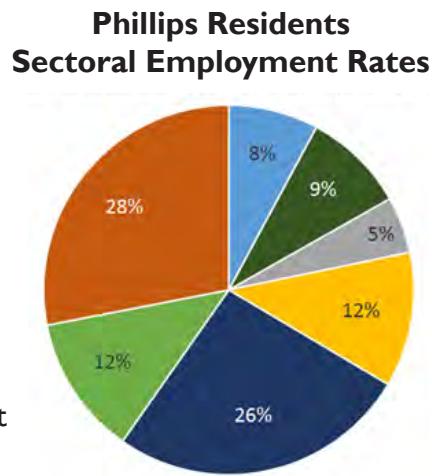


Figure 3.3e

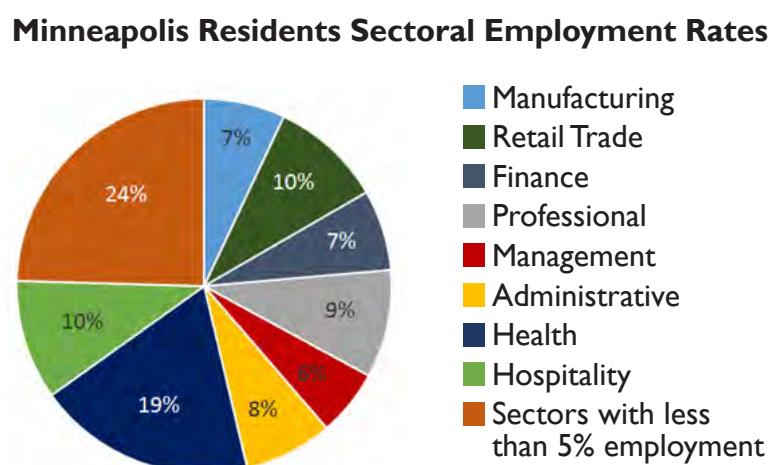


Figure 3.4a displays the percent of residents from each block group in Minneapolis that work in the Health Services sector, NAICS code 62. Higher percentages of residents from the Northside, Phillips, and the East Bank work in this sector than residents of other communities. There are particularly low rates of employment through downtown and towards the lakes in Uptown. **Figure 3.4b** shows there are statistically significant clusters that match the concentrations visible in Figure 3.4a. On this map we have also displayed the top health employers identified by OnTheMap. Although many Northside residents work in the health sector, large employers are found primarily in Phillips and its surrounding areas and none are located in North Minneapolis.

Please note that in the following sectoral maps, the maximum percentage of residents employed in a given sector does not exceed 25 percent. Therefore, although the concentrations may initially appear similar to those displayed for health services, these maps display much lower concentrations than the previous health maps.

Figure 3.5a displays the percent of residents from each block group employed in manufacturing, NAICS codes 31-33. While high-concentration block groups can be seen in various communities in the city, North Minneapolis shows consistently high rates of residents employed in manufacturing in relation to the rest of the city. Two areas of statistically significant clusters of manufacturing

workers exist, shown in **Figure 3.5b**. First, we see that the only high-rate cluster is located in the Northside, primarily in Camden. The low-rate cluster shows consistently low rates of residents employed in manufacturing near the lakes and south of Downtown. This map also highlights the spatial mismatch between jobs and workers; most of the top 50 employers are located in the suburbs and of the major manufacturing employers within the city limits, only one is located in North Minneapolis.

Figure 3.6a explores the concentrations of residents working in the administrative, support, waste management, and remediation sector, NAICS code 56. North Minneapolis and Phillips again both stand out as having high concentrations of residents working in this sector compared to the rest of the city. The cluster analysis shown in **Figure 3.6b** confirms this claim, while also highlighting the areas with the lowest employment in this sector – around and southwest of the lakes, and along the river in Longfellow. For this sector, 25 of the top 35 employers are located in the suburbs of Minneapolis. Most (nine of ten) top employers in the city are not located in the Northside, but five are found in Central, adjacent to the Northside. However, that still totals only six of the top 35 support service employers, or about 17 percent, being proximal to Northside residents.

The map in **Figure 3.7** examines sectoral employment in the hospitality sector, NAICS code 72. No statistically significant clusters of high or low employment exist for this sector, but it is evident that there are low rates of employment in this sector in the wealthy block groups surrounding the lakes and higher concentrations of hospitality workers residing in a ring around the central business district of Minneapolis.

There are not any visible employment trends or statistically significant clusters for city residents employed in the retail sector. Instead, **Figure 3.8** shows a random distribution of concentrations of residents working retail, NAICS codes 44-45, throughout Minneapolis. Retail employment rates in North Minneapolis tend to match citywide rates.

Wages

This next section explores the spatial dimensions of monthly wages in the Northside. We chose to specifically compare the Northside community to the Phillips community rather than the whole of Minneapolis because general household economic trends were explored in the 2016 Urban GIS report and we hoped to explore in more detail the characteristics of North Minneapolis. We mapped the wages jobs located on the Northside pay (Figures 3.9a - 3.9c) as well as the wages Northside residents earn (Figures 3.10a - 3.10c).

Using the wage categories provided by OnTheMap, the series of maps in Figures 3.9a - 3.9c display the concentrations of jobs paying different wage levels. From **Figure 3.9a**, it is evident that there are higher concentrations of low-paying jobs (less than \$1,250 per month) towards the center of North Minneapolis, while the industrial edge along the river and the north edge of Camden offer relatively few low-wage jobs. Phillips also has no high concentrations of low-wage employment.

Almost the inverse of Figure 3.9a, **Figure 3.9c** displays the percent of jobs that pay more than \$3,333 per month. Areas that showed very low low-wage employment rates, such as the industrial strip along the Mississippi River in North Minneapolis and the block groups bordering Lake Street in Phillips where the major hospitals are located, have the highest concentrations of high-wage employment. **Figure 3.9b**, showing the concentrations of mid-wage jobs (\$1,250 to \$3,333 per month), has a more even distribution, appearing to act as an intermediary step between the two extremes.

Complementing this job wage visualization, Figures 3.10a - 3.10c show concentrations of monthly wages for residents of each block group. It is important to note that for these maps the class breaks are significantly lower than those displayed in Figures 3.9a - 3.9c for the job wages. In Figures 3.10a - 3.10c, the highest concentration of residents' wages reaches only 50% of the population, while the highest concentration of job wages (in Figures 3.9a - 3.9c) reaches 100% of jobs.

Figure 3.10a shows higher proportions of residents earning low wages near the intersection of Penn Ave. and Broadway Ave., while low-wage employment rates for residents decrease in the northern block groups of Camden. In Phillips, the high concentrations of residents earning low wages occurs primarily along the southern edge of Franklin Ave., and the lowest concentrations of low-wage workers occur in the block groups surrounding the major health facilities and the Midtown Global Market.

Conversely, **Figure 3.10c** displays a pattern of high concentrations of high-wage earning residents in Camden, particularly on the western edge closest to the suburbs. Residents who earn over \$3,333 per month are minimally dispersed through the block groups of Near North and the areas closest to NAZ's borders. There are no concentrations of high-wage earning residents in Phillips. Again, the middle-wage earning group of residents (**Figure 3.10b**) appears more evenly distributed, with some higher concentrations of these residents on the eastern edge of the Northside. In comparison, Phillips has a larger proportion of block groups with residents earning an income between \$1,250 and \$3,333 per month.

Transportation

Figure 3.11 displays access to transit from the employers in the study area with the largest numbers of employees. The majority of the firms displayed in Figure 3.11 are located in high-accessibility areas, with low average walking times to the closest two Metro Transit stops. However, firms located in the industrial area closer to the river in North Minneapolis are farther from transit stops and have some of the largest employee counts. This visualization is also useful in highlighting the difference in scale between the counts of employees at the largest employers in the two neighborhoods. We see that Phillips has relatively low travel time to transit stops in comparison to the Northside, and hosts a range of very large employers.

Figure 3.12 displays the spatial clustering of high and low access to transit stops. This map employs a Local Indicator of Spatial Association model to determine clustering of either high or low access values. These clusters are shown along with the vacant and boarded commercial building locations. This map indicates that there is not a strong association between commercial vacancy and transit accessibility, as all vacant commercial properties are located in high-access, high-traffic corridors. Nine of the fourteen commercial vacancies present in the Northside are along Broadway Avenue, demonstrating the significant burden of commercial vacancy on the corridor. High access to transit is clustered along bus routes, on high traffic corridors, and in the surrounding neighborhoods. Low access is particularly prevalent in the Heritage Park development and in the Jordan neighborhood north of Broadway, featuring longer distances to stops.

Figures 3.13, 3.14, and 3.15 represent data collected from Metro Transit's online trip planner program. Travel times were calculated between neighborhood centroids and seven large work sites in the Twin Cities metro area. Trip planner services were queried across all neighborhoods for morning commute times, specifically Monday at 8:00 AM. Morning commute times are generally more stable and less varied than evening commute times. This study is by no means comprehensive but it is illustrative of the differential levels of access to employment between Phillips and North Minneapolis. Despite being similar in many socio-economic characteristics, transportation access varies greatly between the two communities. Travel times in North Minneapolis average 18 minutes longer than comparable trips from Phillips, a difference between 30 minutes and 48 minutes. The minimum transit times calculated by Metropolitan Transit were collected and analyzed, meaning that these times do not include missed transfers, delays, and other time factors. As Figure 3.15 makes clear, Northside residents' travel times are substantially longer than Phillips residents' travel times, requiring transit-dependent residents to devote more of their day to commuting.

Figure 3.13

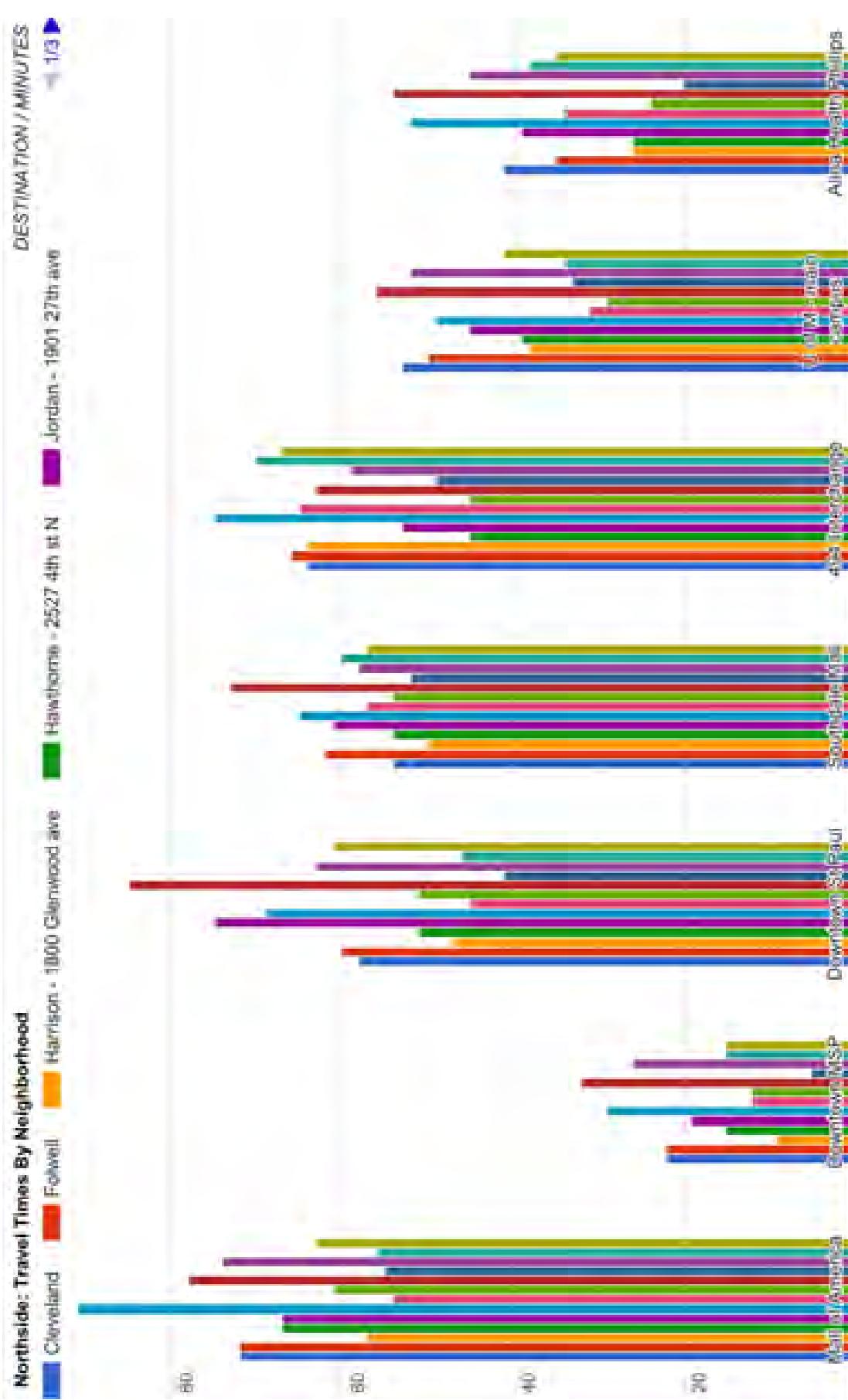


Figure 3.14

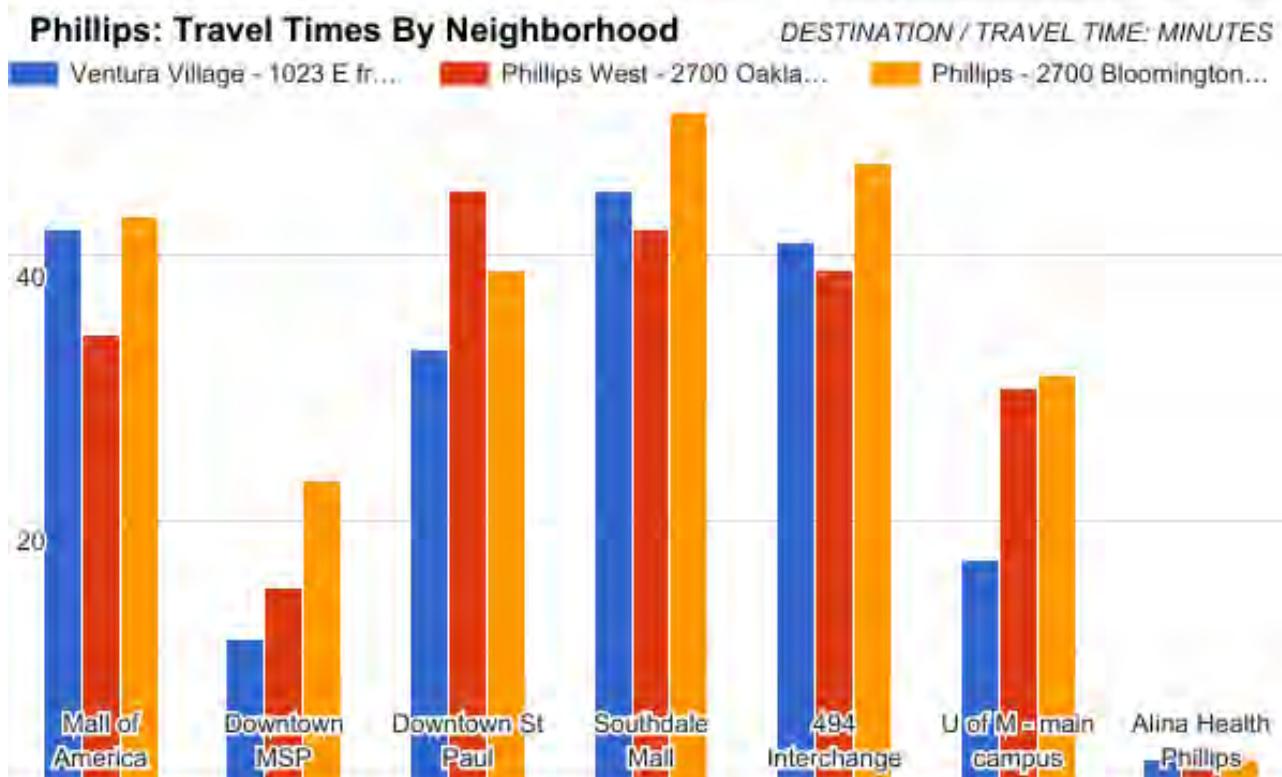


Figure 3.15

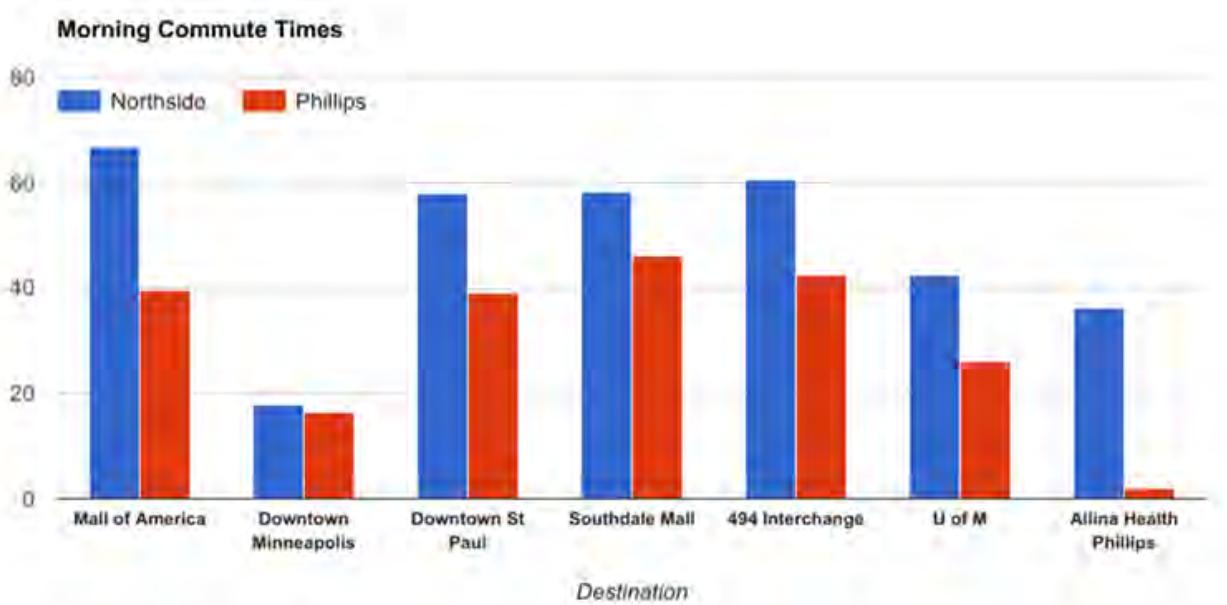


Figure 3.4-i

Discussion

Employment characteristics, transit access, and economic vitality vary greatly between the Northside and Phillips, as well as between the Northside and Minneapolis as a whole. While the Northside and Phillips do share similar sectoral employment characteristics, they differ in respective investment and allocation of resources. Phillips, for example, has significant employment opportunities due to large employers such as the Children's Hospital and Allina Health. Employers of this scale are lacking in the Northside. The large hospitals and healthcare providers open the possibilities of secondary services associated with large numbers of employees, including food and entertainment services. This suggests that Phillips residents have both increased opportunities for local employment as well as increased entrepreneurial opportunities due to the potential for successful support businesses around these anchor institutions. Large businesses provide a degree of economic stability to the area and can serve as catalysts for further economic development and growth.

The economic vitality of the Northside is further impacted by its large number of commercial vacancies. Near North, in particular, faces much higher commercial vacancy counts than any other community in the city, despite being primarily residentially zoned. Broadway Ave., a highly trafficked corridor with high access to transit, is home to the majority of Near North's vacant or boarded commercial properties. Broadway Ave. is experiencing intense underdevelopment, in spite of its high transit access and centrality; no other major commercial thoroughfare in the city faces these levels of economic disinvestment and vacancy. The causes behind this corridor's high levels of vacancy deserve further focused investigation.

In addition to the visualizations of large employers and lack thereof in the Northside, the wage maps also highlight disparities in economic vitality. These maps show that the block groups in Camden, especially those adjacent to the suburbs, are home to greater concentrations of high-wage workers while low-wage workers are primarily concentrated in Near North. Similarly, jobs located in Camden and along the industrial edge of the Mississippi River tend to be higher paying than those located in central Near

North. The combination of these variables shows that places with higher-paying jobs correspond with the locations of higher-earning residents. While this does not necessarily mean that residents are working in the local high-wage jobs, it does indicate a higher level of investment and economic activity in an area.

Additionally, the prevalence of higher-earning residents in Camden also follows the pattern of higher clusters of manufacturing workers (Figure 3.5b). Although further exploration is required, this correlation suggests that employees working in manufacturing earn comparatively high wages. This hypothesis is somewhat confirmed by data regarding the industrial strip along the Mississippi River. According to the map in Figure 3.9c, these companies bring comparatively high-wage employment to the Northside. These businesses offer local, well-paying jobs to a portion of the 10 percent of residents that work in the manufacturing industry. However, as shown in Figure 3.3a, the number of residents working in manufacturing exceeds the number of manufacturing jobs available in the community; many residents must travel outside the city to top manufacturers in other neighborhoods or in the suburbs (as shown in Figure 4.1 in the next chapter).

The sectoral employment maps further demonstrate the need for Northside residents to travel out of their community to reach employment. Although high concentrations of residents from the Northside work in health, manufacturing, and support services, very few top employers in these sectors are located in or are proximal to North Minneapolis. Rather, these employers are distributed throughout other neighborhoods in the city, including Phillips, Central, and the suburbs. Job distribution throughout the metropolitan area and the growth of suburban employment centers has impacted North Minneapolis more significantly than other neighborhoods; many jobs previously located in downtown Minneapolis have relocated to the suburbs, necessitating long travel times for Northside residents. Figure 3.15 highlights this fact, showing that, on average, transit-based travel times for Northside residents are 18 minutes longer than those of Phillips residents, significantly increasing the burden of long commutes. Long travel times and long distances to bus stops for Northside residents can have significant impacts on their abilities to

balance employment and family.

With regard to the variables considered in this chapter, it is evident that Near North especially faces significant disinvestment and barriers to growth. The commercial corridor of Broadway Ave. faces high rates of commercial vacancy. The community also contains a higher proportion of block groups with low access to transit than Camden, despite being located close to downtown and having more business activity and commercial thoroughfares. In addition to these physical attributes, the wage maps highlight disparities in social and economic characteristics in Near North. High concentrations of both low-wage jobs and low-wage earning residents characterize this section of the city; these variables highlight the persistent disinvestment in Near North. The combination of low transit access, high vacancy rates, concentrations of low-wage residents, and a lack of well-paying local jobs disadvantages residents and impedes their ability to increase their standard of living. NAZ's location is therefore optimally situated in the Northside, and efforts within and in the near proximity of the Zone target those most affected by structural inequality and disadvantage.

Conclusions

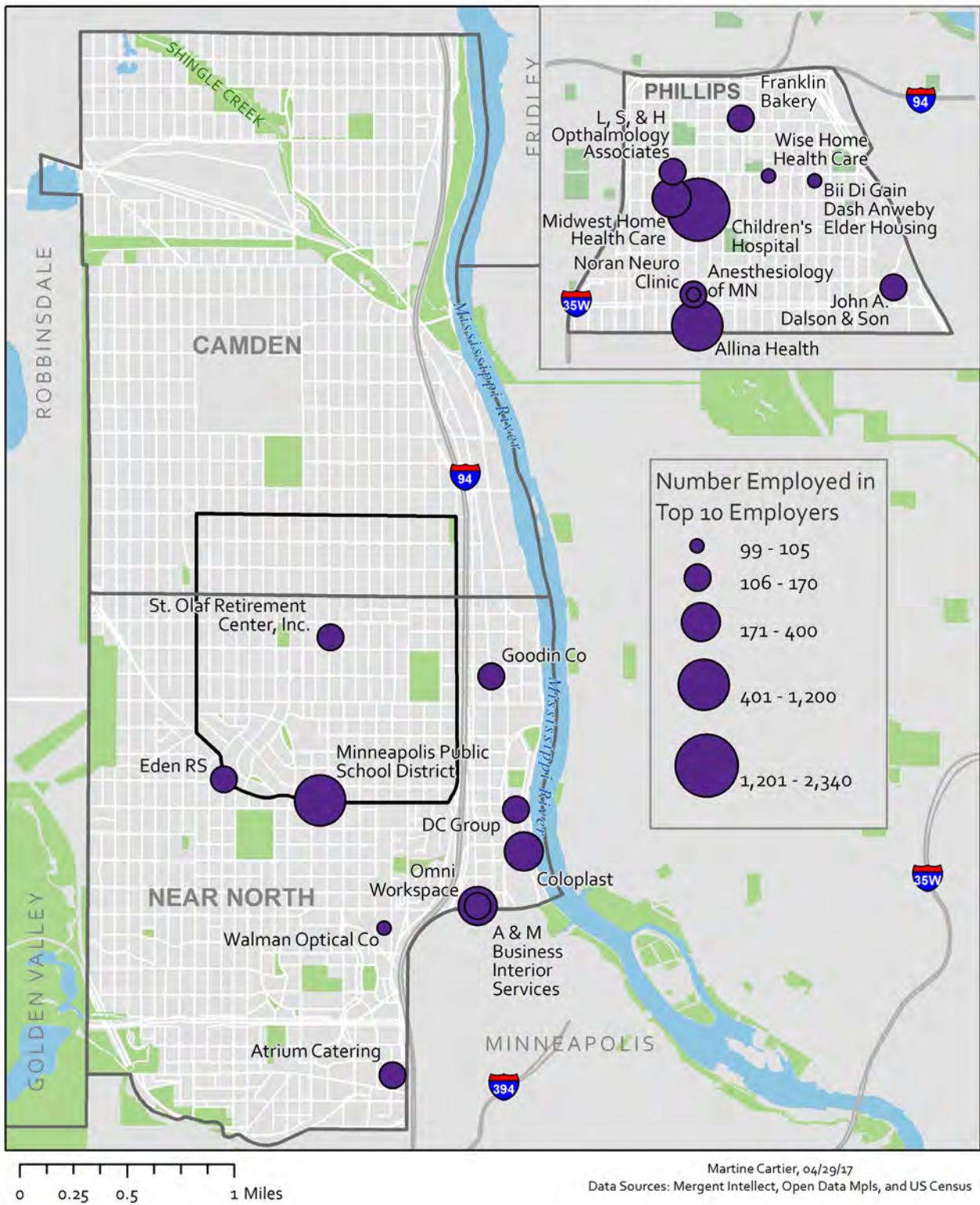
Through these visualizations, it is clear that Northside residents experience a significant spatial mismatch between employees and employers. Jobs worked by Northside employees are often distant, in other parts of the city or metro area. Industry profile visualizations indicate similarities in concentrations of workers in both Phillips and Northside, but despite similar employment characteristics, the difference in

levels of spatial access between the two communities is significant. Residents of the Northside travel longer distances via public transit to reach jobs that are comparatively accessible to Phillips residents. Phillips' centrality to the city as a whole and to employment opportunities make it less vulnerable to the mismatch experienced by Northside residents.

Extended travel times and multiple transfers between major bus lines evidence the lack in uniformity of transit services in the Twin Cities. There are clear shortcomings in the present network, as other neighborhoods throughout the city have not been impacted by the same low levels of transit access. The social and economic implications of extended commutes on family and domestic life are well documented. Allocating a prolonged period of your day to travel impinges on opportunities for food preparation, child care, school preparedness, and economic viability.

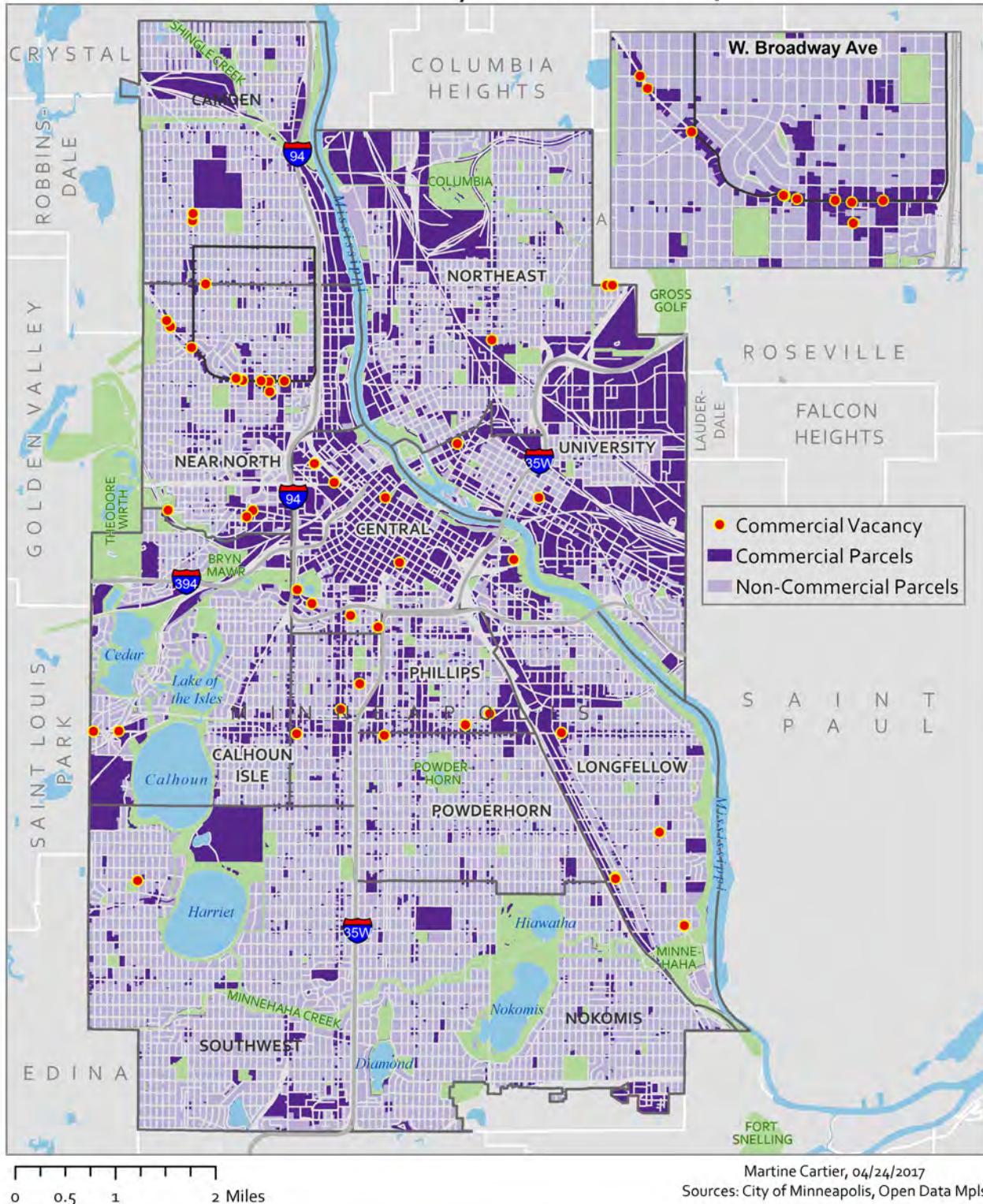
The work of NAZ may benefit from industry-specific career-focused programming in the healthcare sector, the largest employment sector among Northside residents. Programming that is flexible to the unusual hours worked by health employees would offer increased possibility for advancement in economic stability. Furthermore, a more detailed understanding of the spatial mismatch between employers and employees would enable NAZ to focus their career-based efforts on encouraging healthy development of business in the Northside. Finally, continued partnership with Metro Transit through future transportation extensions and developments would enhance efforts to reduce commute times and increase transit accessibility for working residents.

Top Employers in North Minneapolis and Phillips, 2013

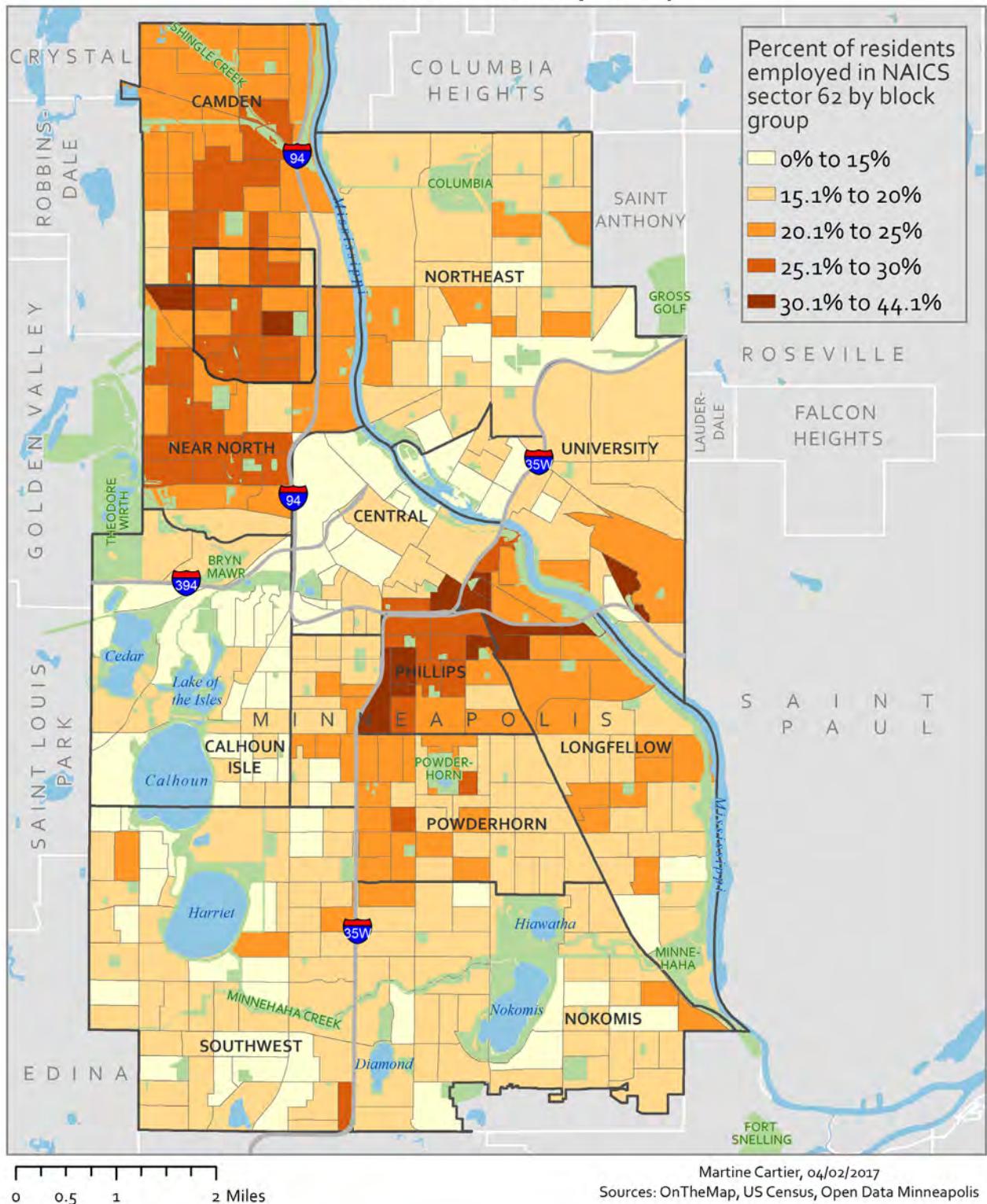


3.2b

Commercial Vacant and Boarded Buildings with All Commercially Zoned Parcels, 2011



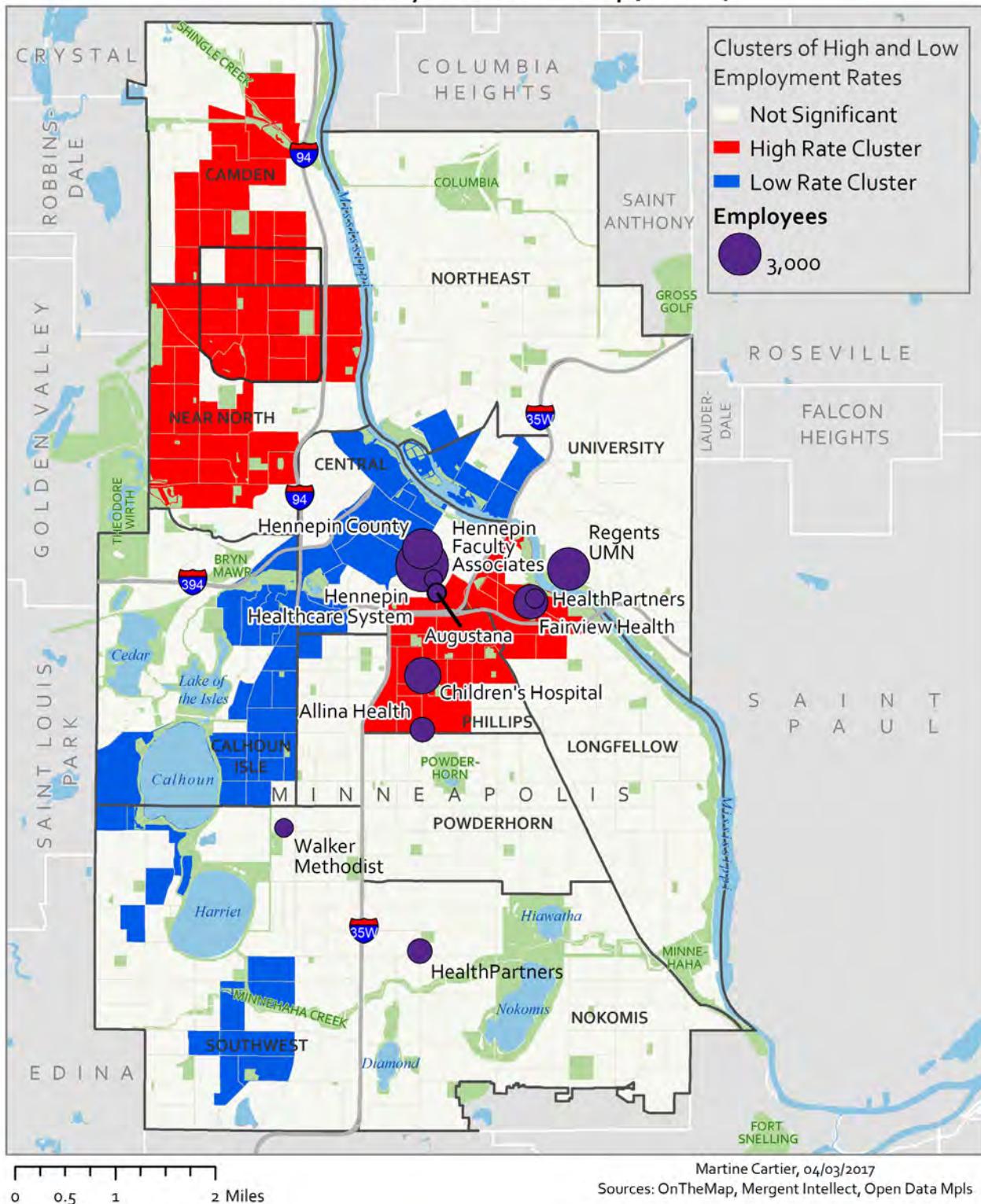
Percent of Residents Employed in Health Services Sector, 2014



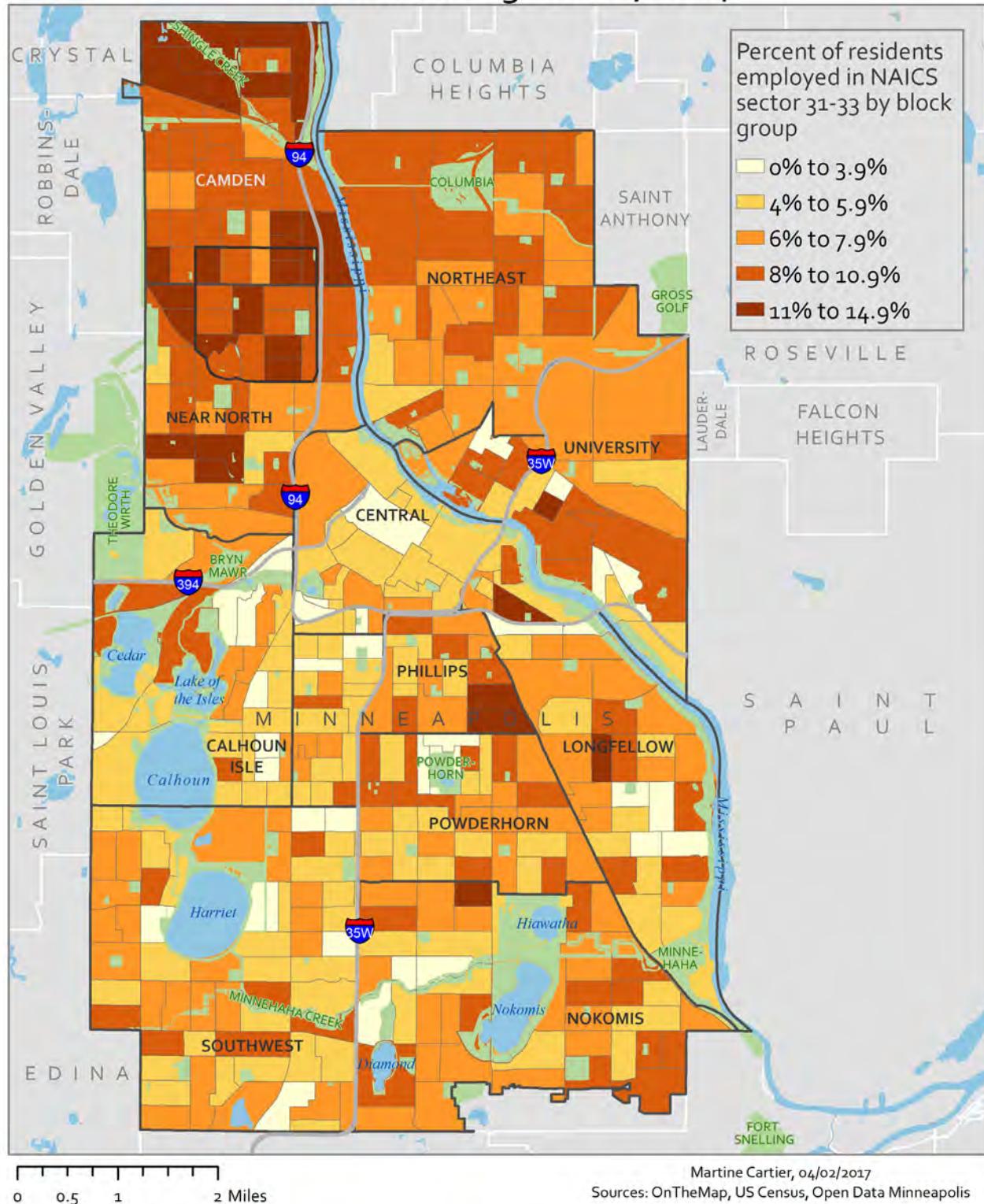
Martine Cartier, 04/02/2017

Sources: OnTheMap, US Census, Open Data Minneapolis

Clusters of Residents Employed in the Health Sector by Block Group, 2014

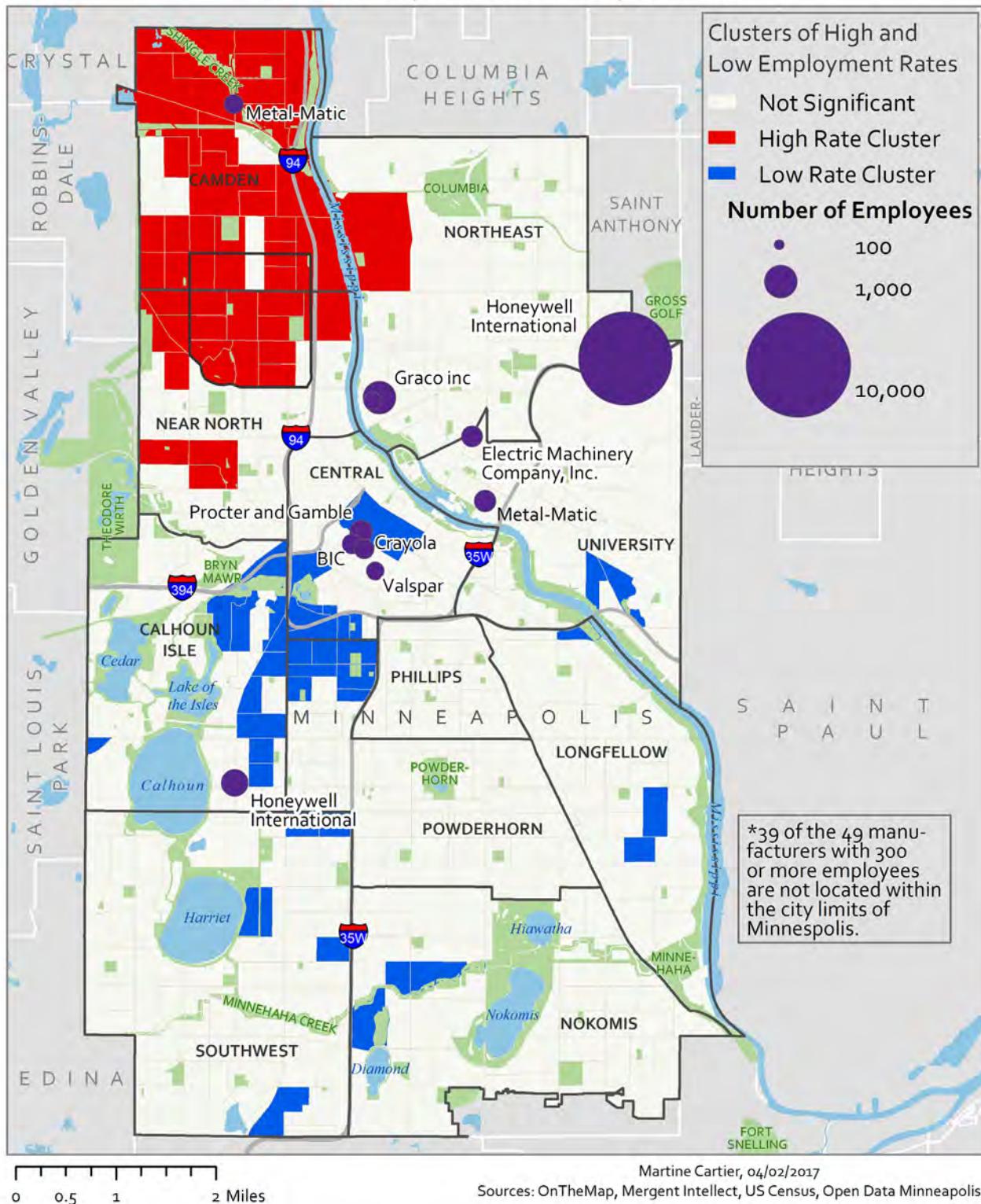


Percent of Residents Employed in the Manufacturing Sector, 2014

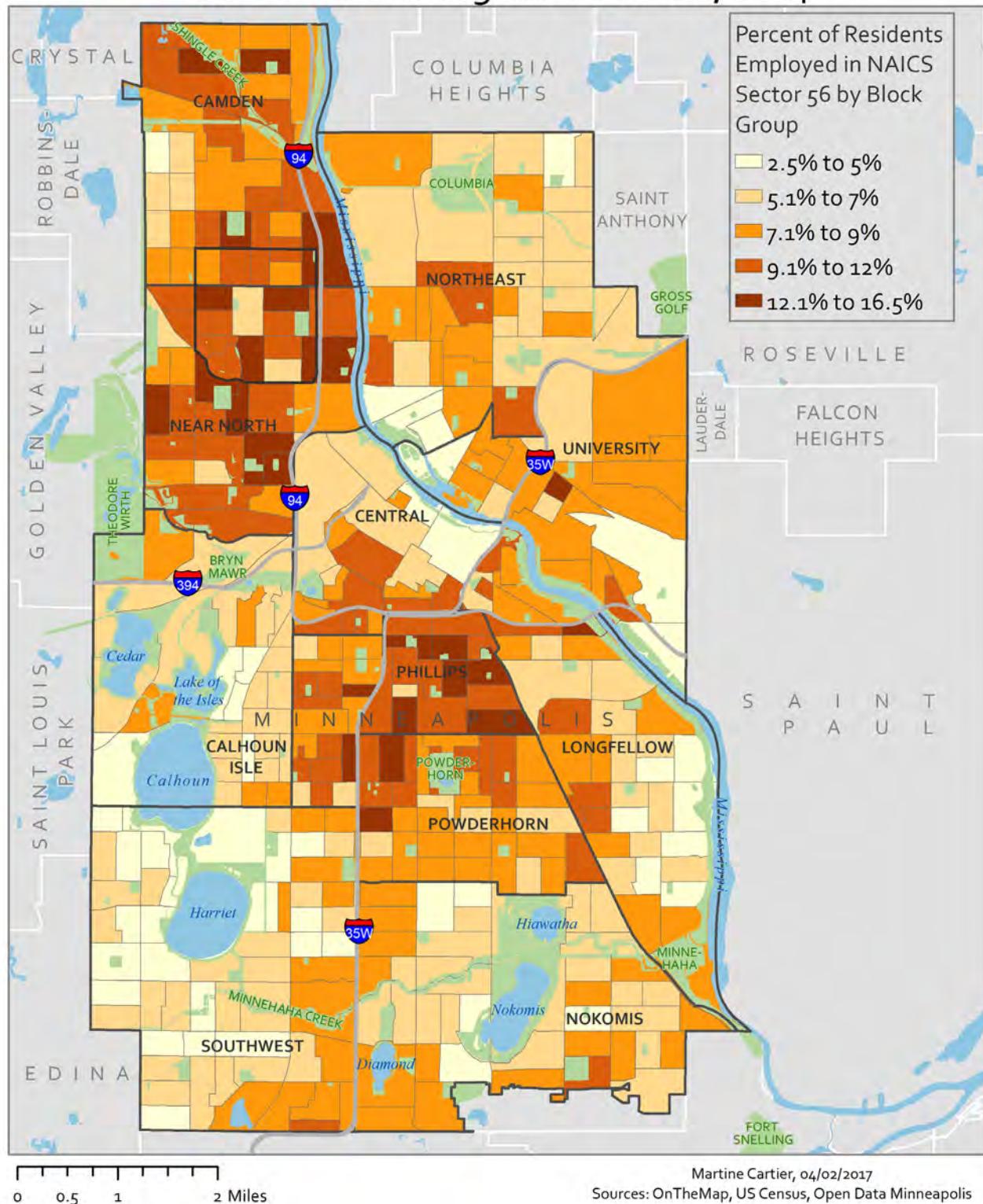


3.5b

Clusters of Residents Employed in the Manufacturing Sector by Block Group, 2014

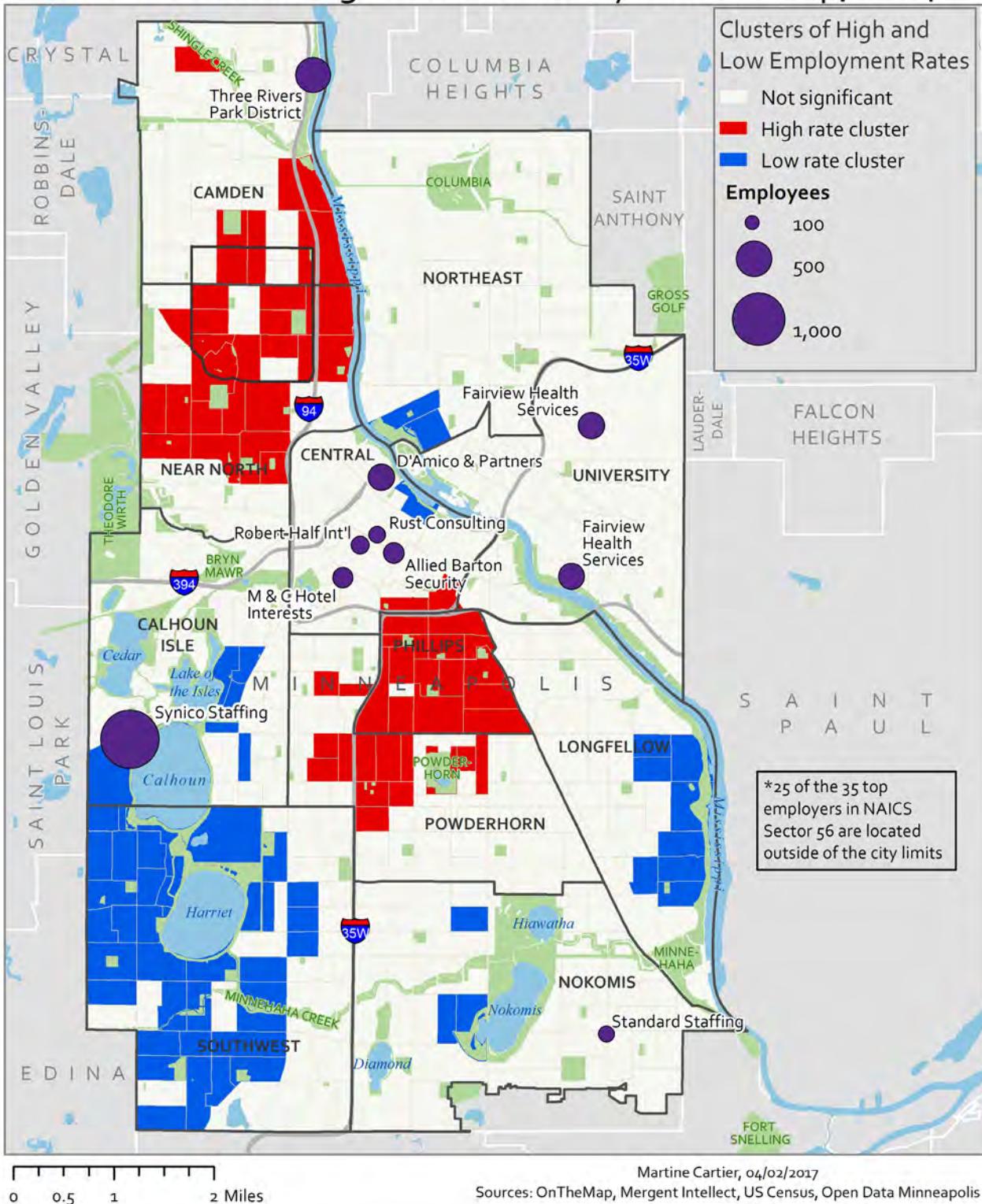


Percent of Residents Employed in Administrative, Support, and Waste Management Sector, 2014

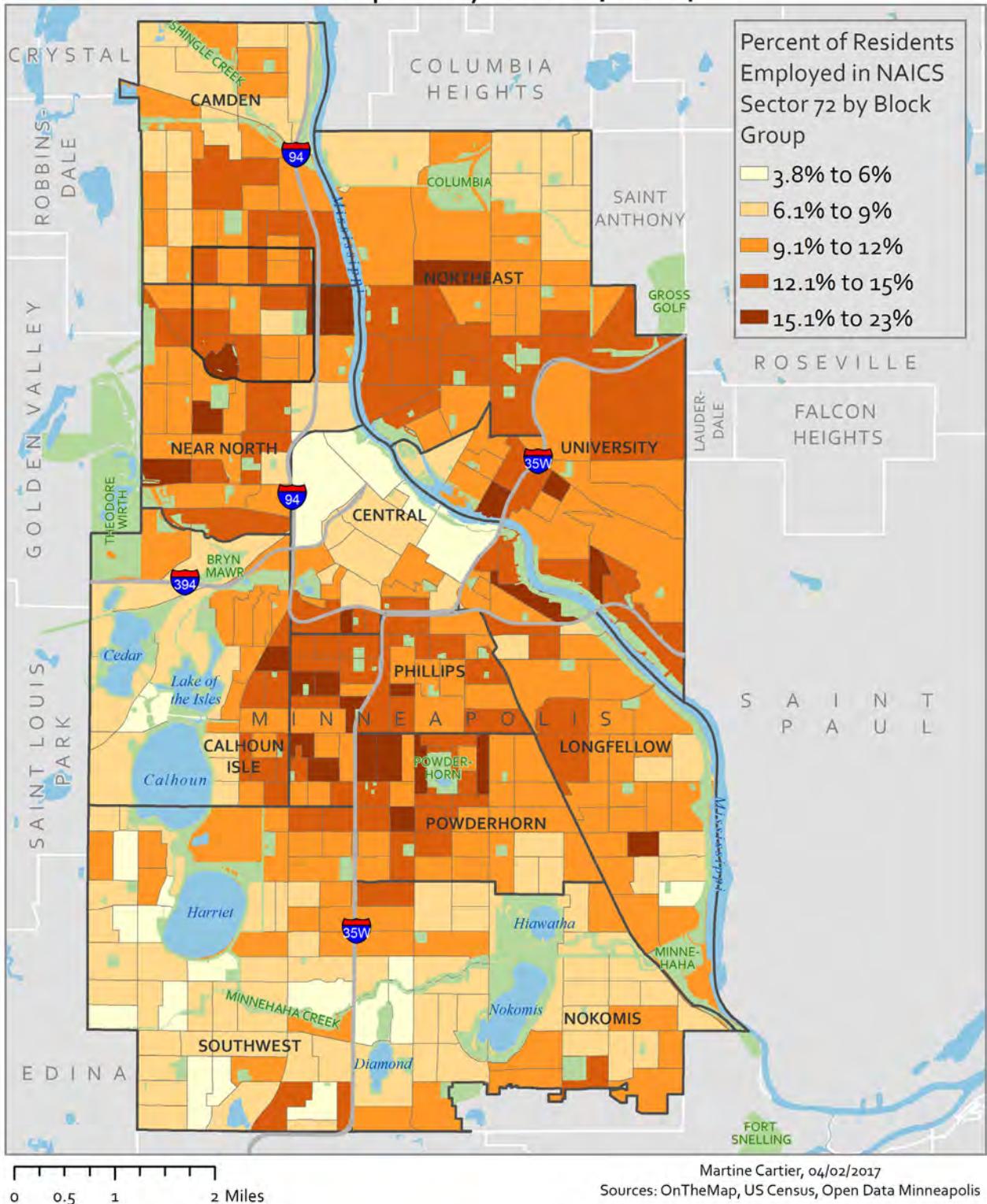


3.6b

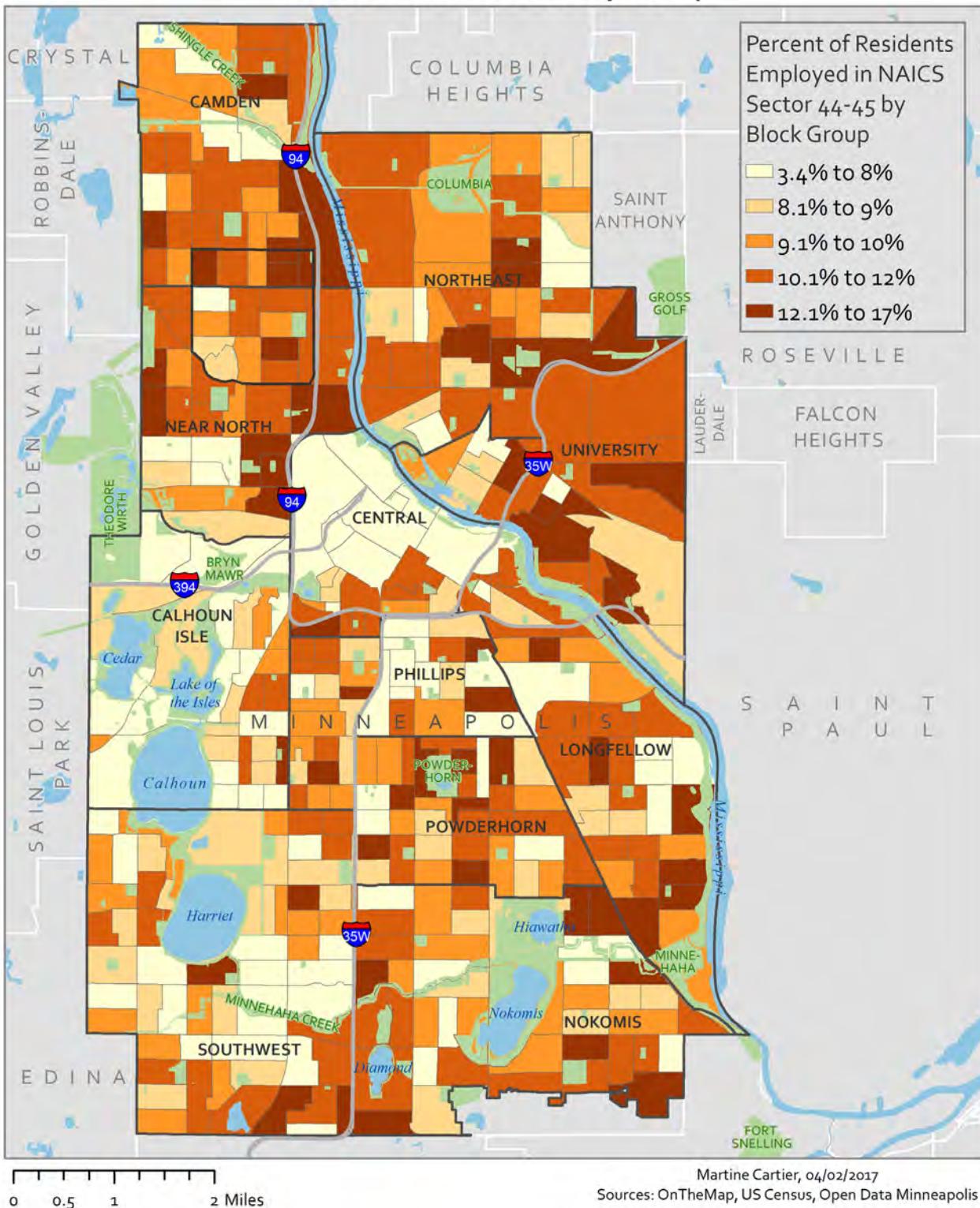
Clusters of Residents Employed in Administrative, Support, and Waste Management Sector by Block Group, 2014



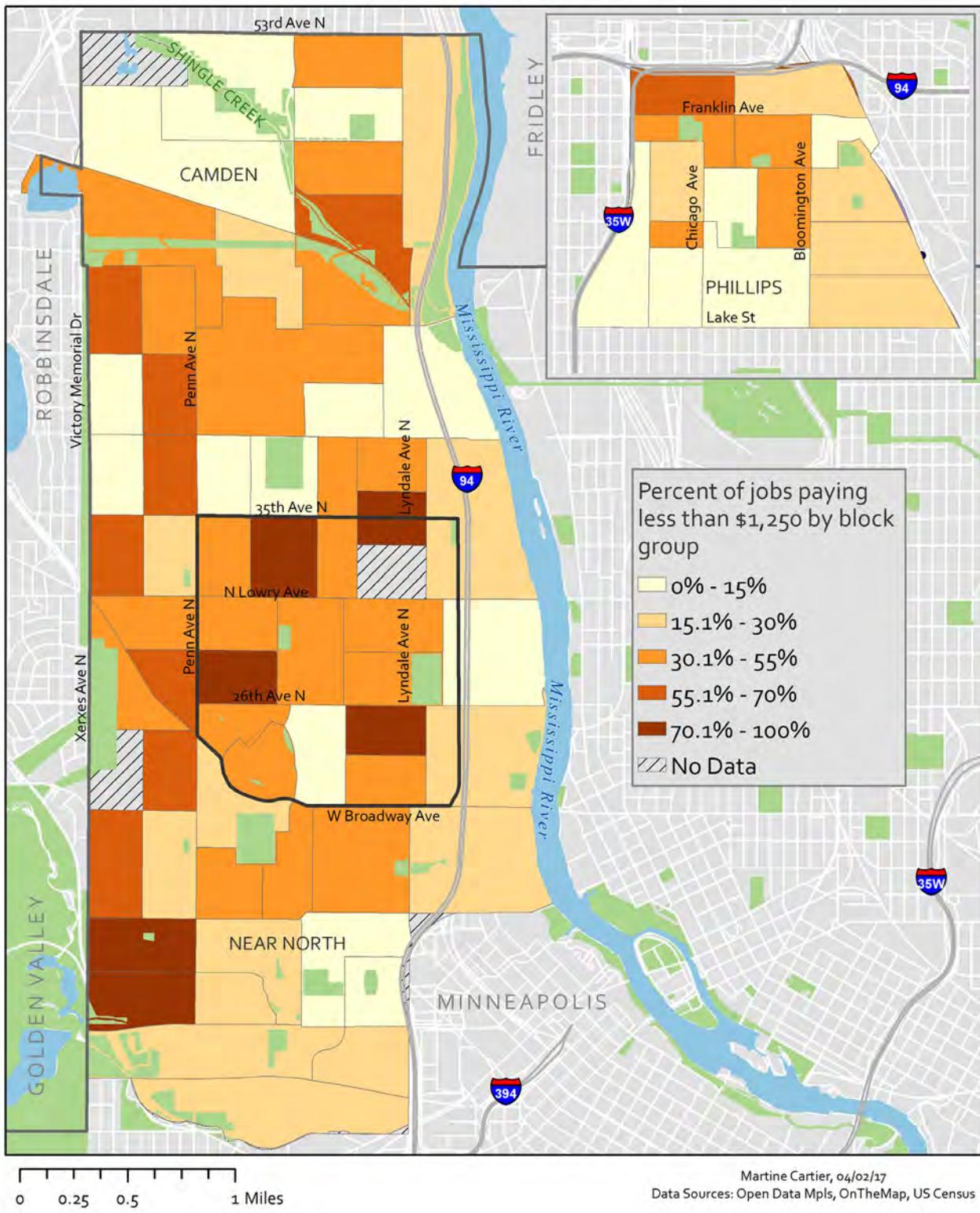
Percent of Residents Employed in Hospitality Sector, 2014



Percent of Residents Employed in Retail Trade Sector, 2014

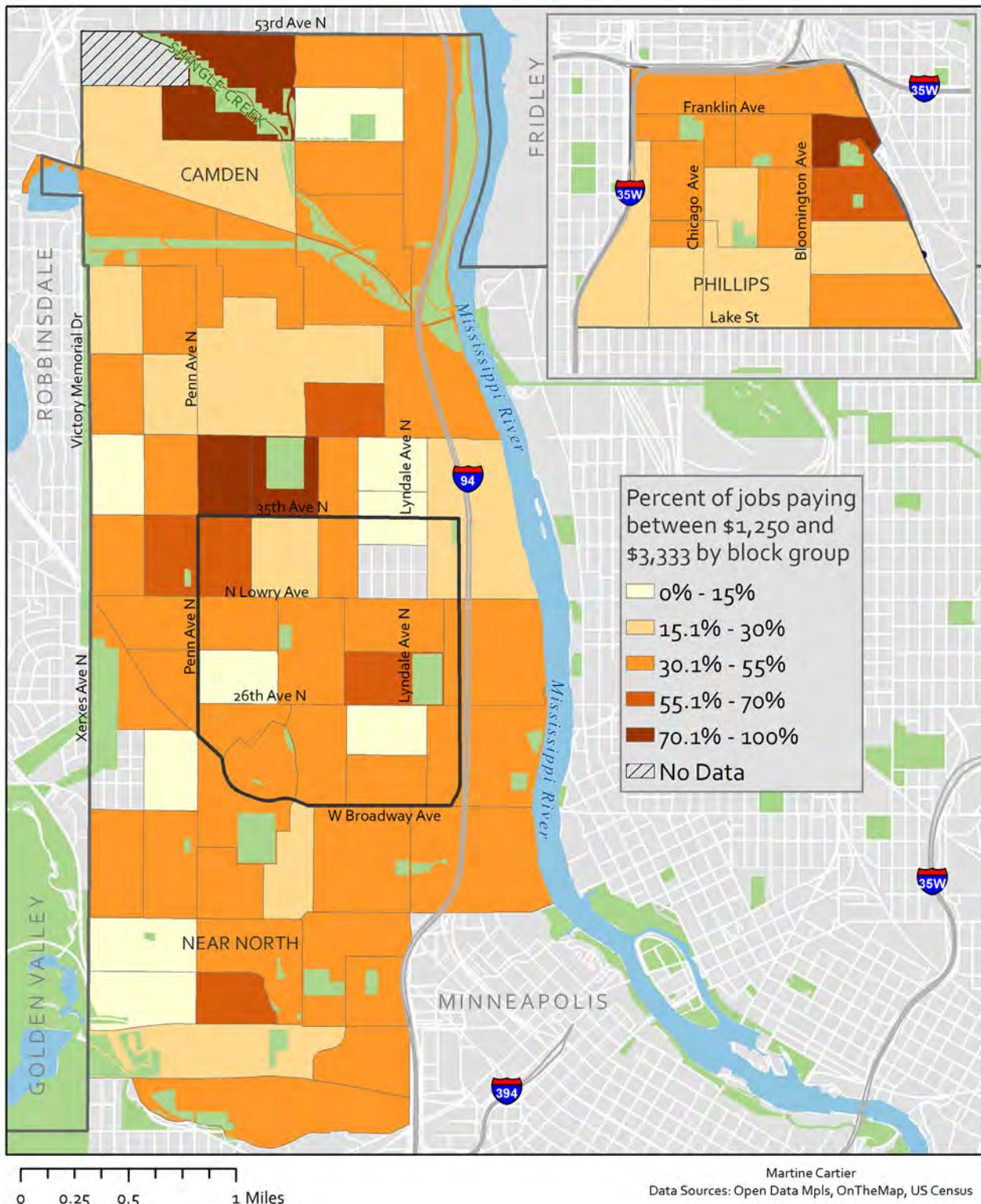


Percent of Jobs Paying \$1,250 or Less per Month, 2014



3.9b

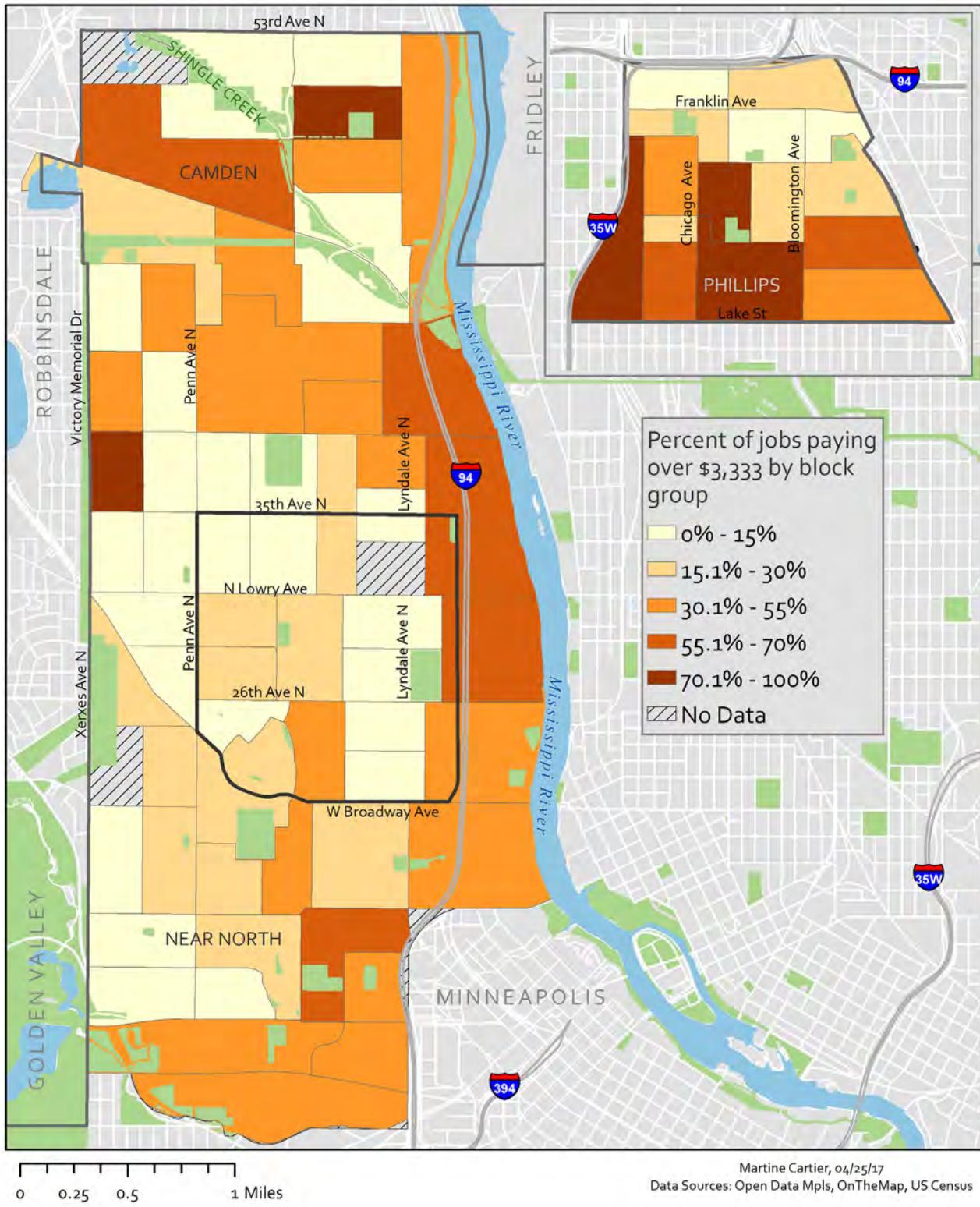
Percent of Jobs Paying between \$1,250 and \$3,333 per Month, 2014



Martine Cartier

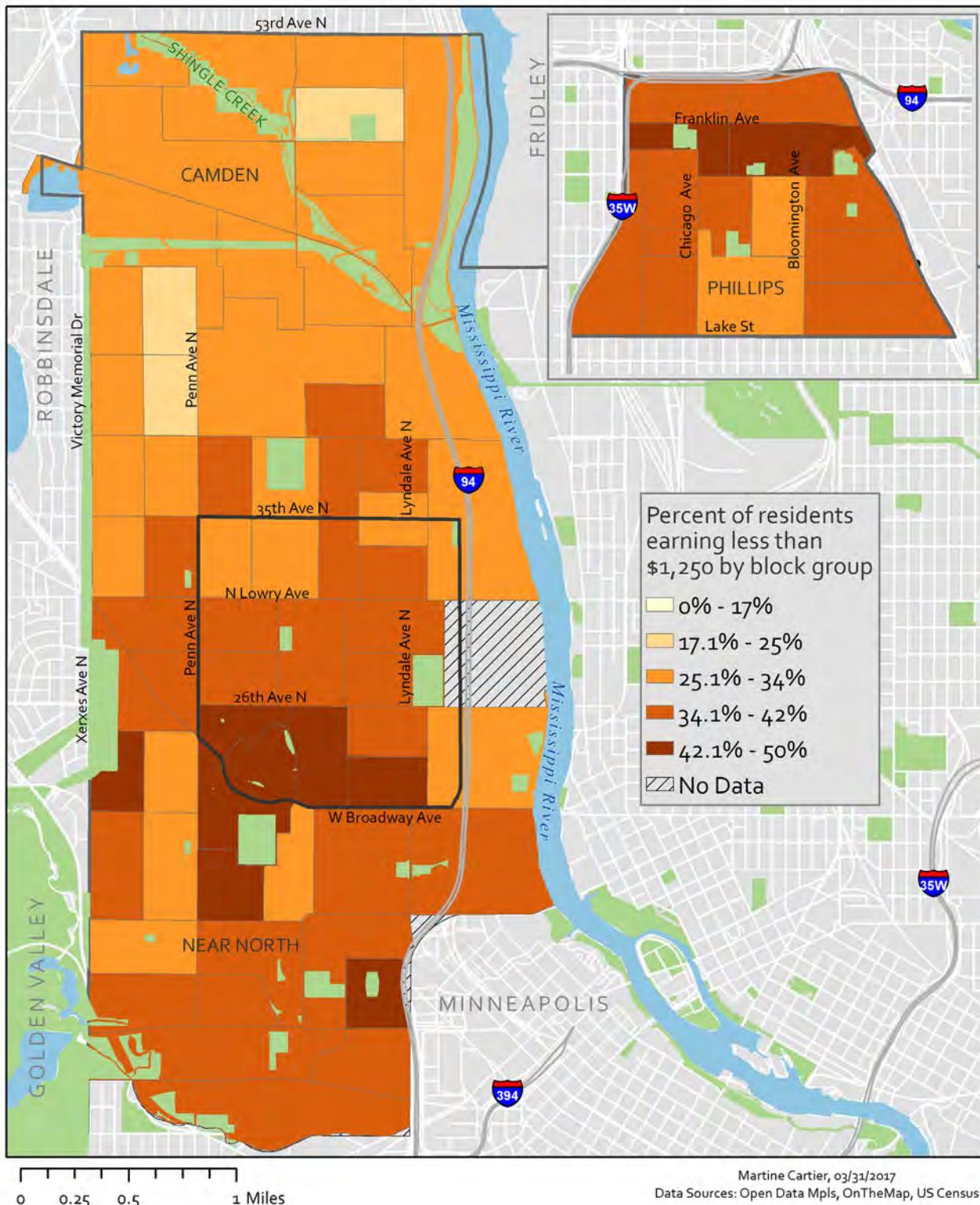
Data Sources: Open Data Mpls, OnTheMap, US Census

Percent of Jobs Paying over \$3,333 per Month, 2014

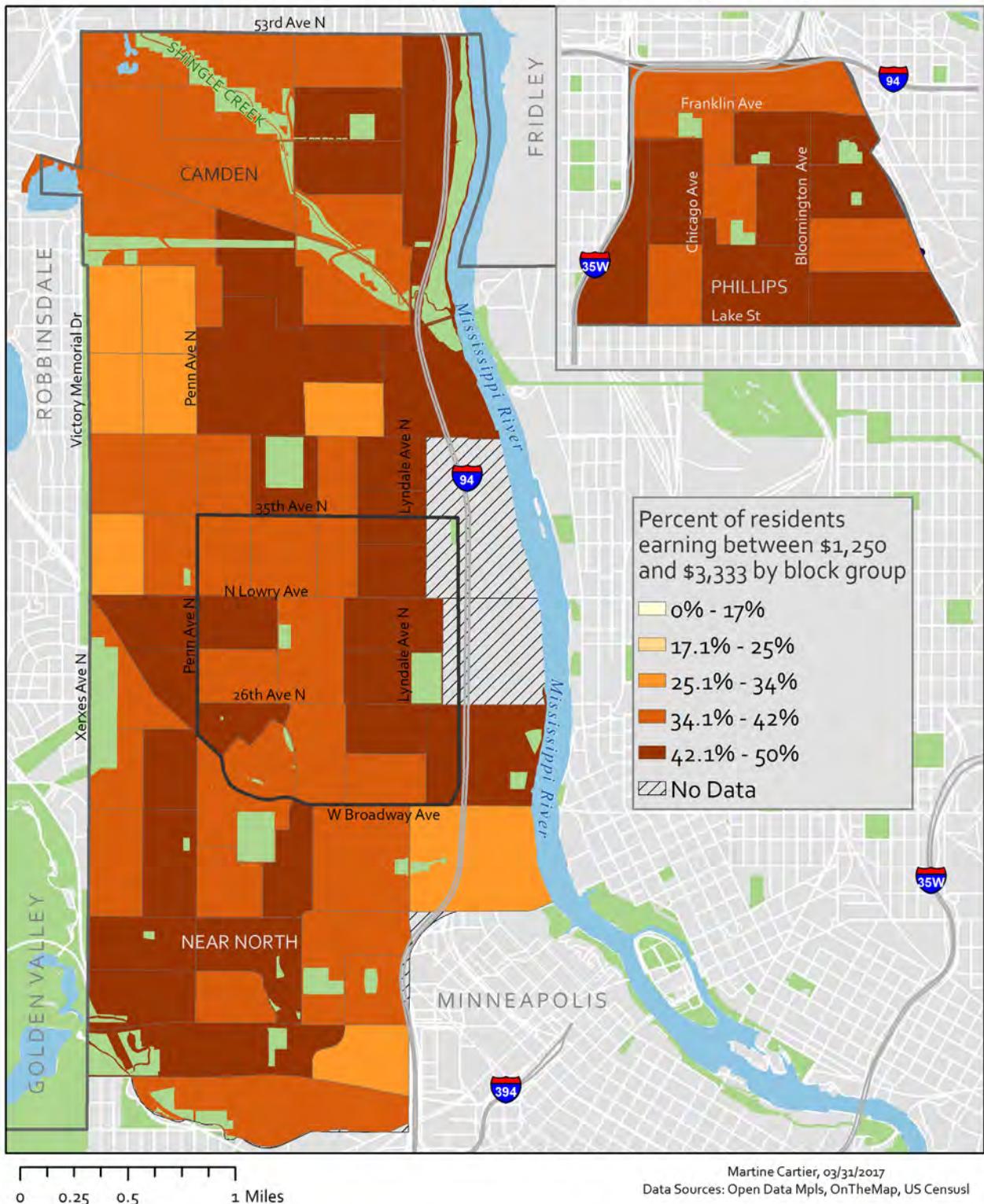


3.10a

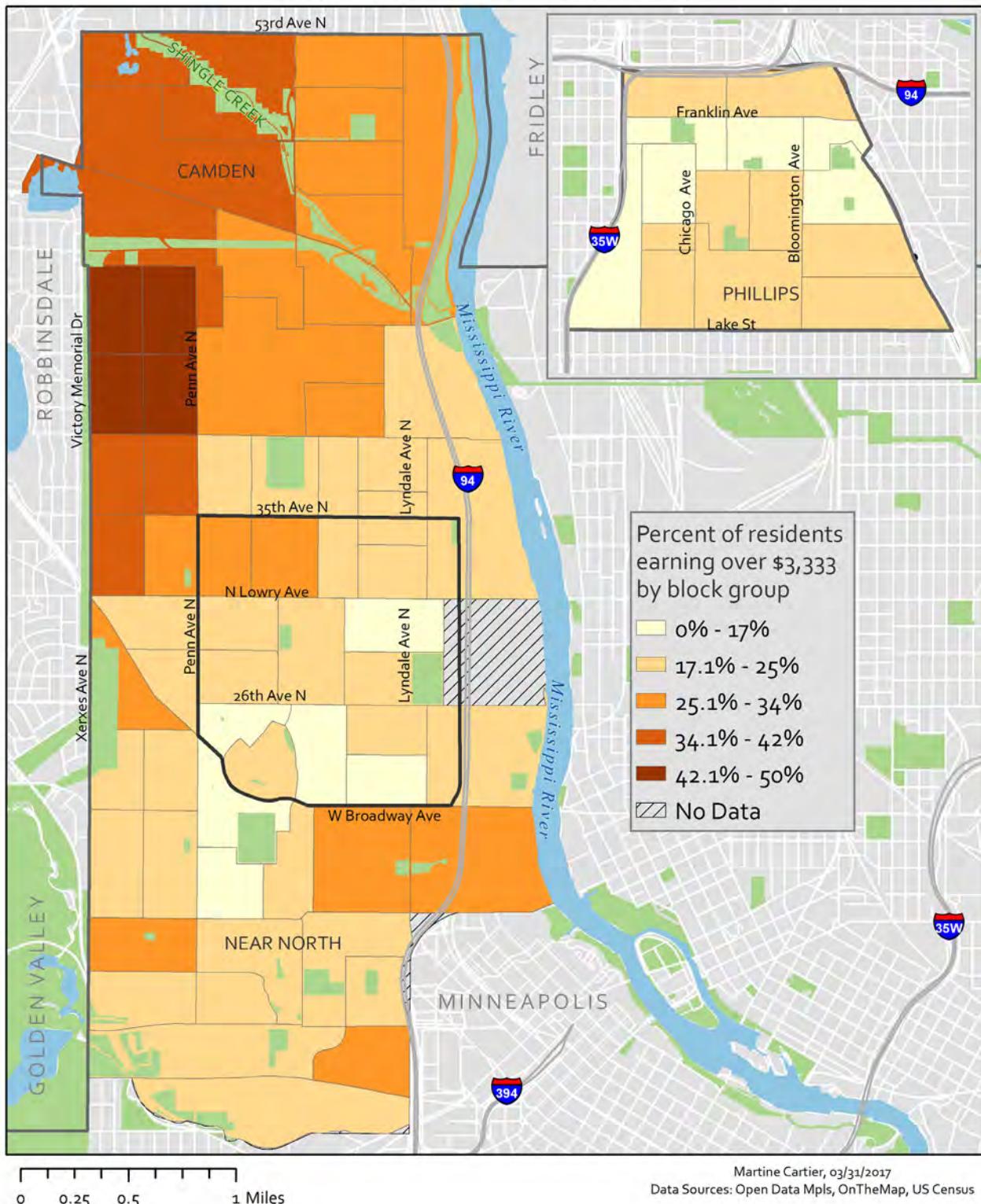
Percent of Residents Earning Less than \$1,250 per Month, 2014



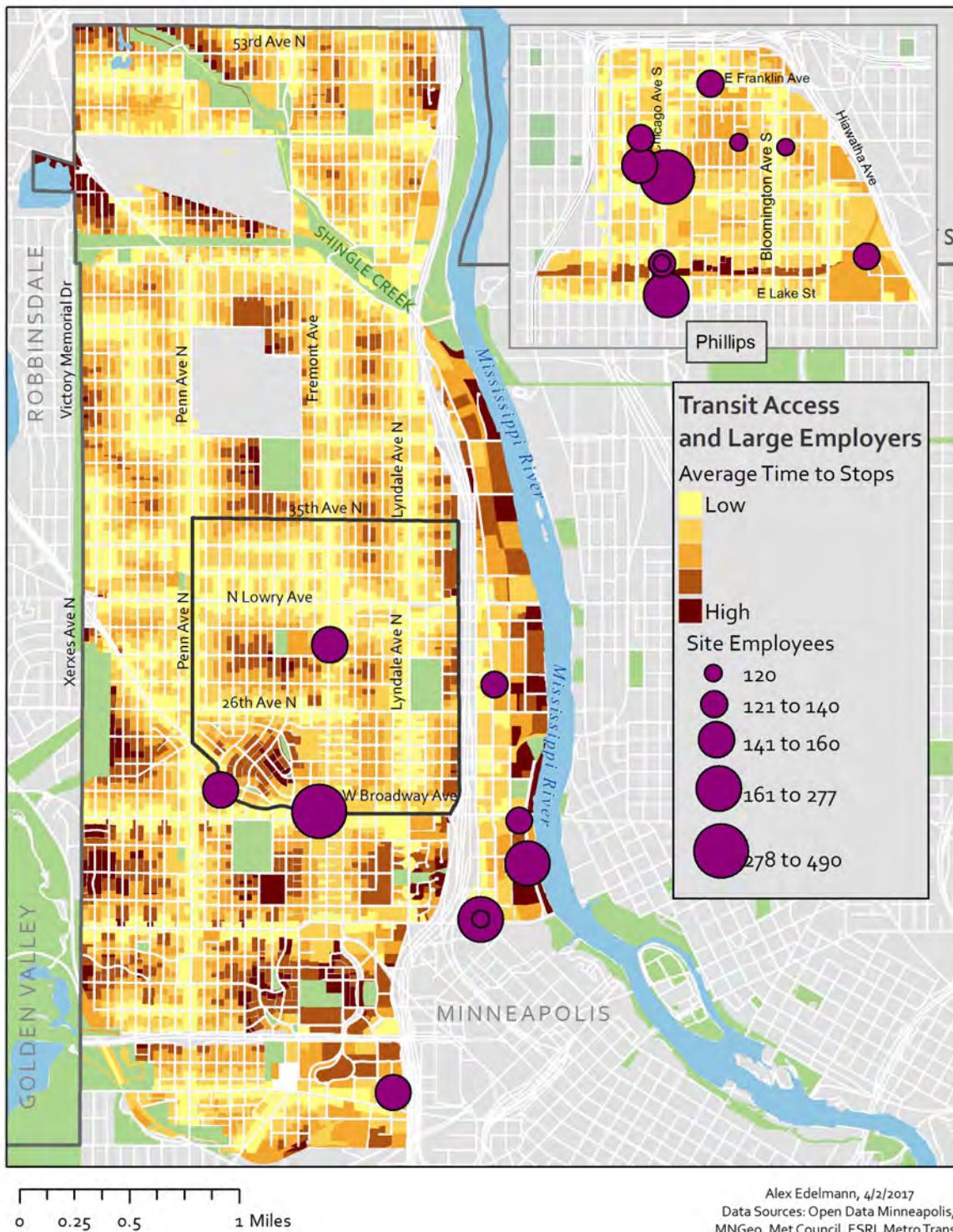
Percent of Residents Earning Between \$1,250 and \$3,333 per Month, 2014



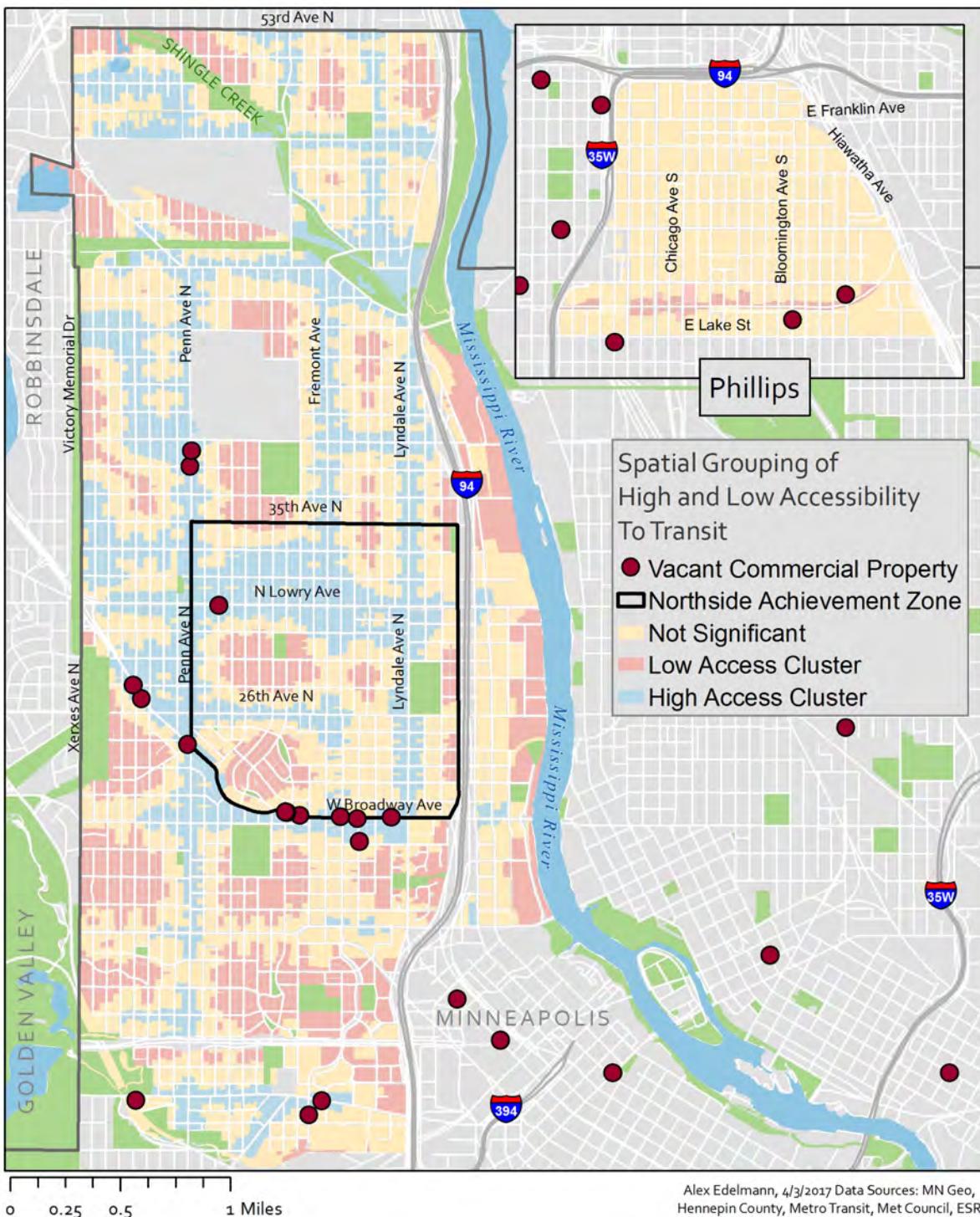
Percent of Residents Earning over \$3,333 per Month, 2014



Transit Accessibility and Top 10 Largest Employers, Northside and Phillips, 2013



Transit Access Clusters and Commercial Vacancy, Northside and Phillips



Section 4: Community Characteristics & Resources

Rachel Auerbach - Regan Fruh - Aramis Mendez - Gordy Moore - Olivia Thorp

Introduction

The Northside faces many challenges given the structural policies and historical legacies that have shaped the neighborhood. These challenges are manifested in the everyday lives of Northside residents. In order to create a fuller picture of what factors affect the Northside community, we identified several themes that relate to the lived experiences of Northside families. In particular, we focus on issues that come up in the daily lives of employees, mothers, and children. Specifically, we attempt to answer the question “what are some of the social, economic, and community characteristics that impact the lives of Northside families, especially the lives of mothers and children?” Looking at these variables can help us better understand the context in which the Northside operates, and how NAZ can best address the everyday needs of residents.

We identified five main themes to explore: employment, female livelihoods, early childhood education and childcare resources, life expectancy, and outdoor recreation. While we have broken these into sections for the sake of this chapter, the interconnection between these themes means that each variable is affected by the others.

Employment

Minneapolis and the broader Twin Cities metropolitan region are often lauded for their economic prosperity and array of Fortune 500 companies. Articles such as “The Miracle of Minneapolis” (Thompson, 2015) praise the region’s corporate success and also emphasize that Minneapolis-St. Paul is one of only a few metropolitan regions “...where at least half the homes are affordable for young middle-class families.” The region’s unemployment rate in early 2016, meanwhile, was a mere 3.1 percent – one of the lowest in the nation (Eligon, 2016). Although Minneapolis’ unemployment rate is generally higher than the region’s (7.6 percent according to the American Community Survey’s 2015 5-year estimates), the city’s Northside residents experience another reality.

A 2014 report for the Northside Funders group found that 21.6 percent of all residents were unemployed, compared to the city’s 9.5 percent rate at the time. Black Northside residents face 28.9 percent unemployment, with Asian residents (20.9 percent) not far behind (Northside Funders, 2014). Hispanic/Latino residents had a lower but still elevated rate of 13.6 percent. Disparities in income are also stark: citywide, white residents had a \$60,000 median income in 2012, but black residents made \$40,000 less. While white Northside community members had a median income of \$45,923, black community members had a median income of only \$25,301 (Northside Funders, 2014).

Clearly, elevated unemployment – along with a long-standing lack of jobs (Gilyard, 2016) – remains a major challenge for the Northside. While programs and development seeking to address systemic neighborhood employment challenges are ongoing (Board, 2015; Halter, 2017), much work remains to be done. Building on the work presented in Chapter 3, this analysis seeks to further explore patterns and trends in employment and job opportunities on the Northside, including an examination of the employment/unemployment status of Northside residents, where they commute to work, and their demographic characteristics. It will also analyze the demographic characteristics of commuters to the Northside.

Female Livelihoods

There are numerous factors and processes that affect the quality of female livelihoods in the Northside. We focused on two primary factors: 1) incidents of domestic violence and 2) single-mother households. Through an exploration of the family structures present in the Northside, we find that the Northside, along with other comparison neighborhoods, has a disproportionate percentage of female-headed households with children and no husband present. For this reason, we focus on the factors that directly affect the quality of life of single mothers and

their children. Our two selected variables help us understand the conditions that could hinder positive childhood development.

For the first factor – incidents of domestic violence – we explore the relationship between the raw count of reports of domestic violence of the first, second, and third degree in the entire city of Minneapolis for 2016, and high concentrations of youth populations under the age of 18. The U.S. Department of Justice estimates that over 200,000 children are exposed to domestic violence annually; furthermore, children were present in more than a third of all documented cases of domestic violence. This number is likely substantially higher because in 15.5% of cases, it was unknown if children were present (Sousa et al., 2011, 112). This trend is a major, widespread public health concern and has serious implications for mothers and children. Children often witness the physical injuries and emotional pain inflicted on their parent; this exposure oftentimes has the same deleterious effects of child abuse (Sousa et al., 2011, 112). Previous research establishes links to later delinquency in youth, aggression, violence, school dropout, substance use, and depression (Sousa et al., 2011, 113). For these reasons, it is important to investigate incidents of domestic violence in the Northside because of the potential detrimental effects on children who witness the abuse.

It is also important to understand the family structure and burden on working mothers in the Northside. We find it imperative to evaluate the conditions for single mothers because of their responsibilities to the household. Single-mother households share a higher burden of providing for the family than a two-parent household because they are usually the only caretaker responsible for making money and food, and must take on all the responsibilities of the family. This leads into our next topic of childcare. The level of access that single parents have to childcare directly affects their ability to work and earn income. The following section will discuss early childhood education and childcare resources to analyze their importance for children and families in the Northside.

Early Childhood Education and Childcare Resources

Early childhood education and childcare resources are crucial for several reasons. First, early childhood education and childcare facilities provide parents with supervision for their children while they are at work. Second, early childhood education and childcare is instrumental in children's development and preparedness for beginning kindergarten.

The presence and quality of early childhood education is one of the best indicators of success in school, and also one of the places where the opportunity gap begins. While middle- and upper-class families can pay to send their children to private preschools or daycares, this is often not possible for those without disposable income. When children begin kindergarten with no previous school experience, it may be difficult or impossible for them to catch up with their peers who have already been in preschool for several years. Children who attend some form of early childhood education are at an advantage in terms of reading level, vocabulary, social skills, independence, and appropriate school behavior.

The first five years of a child's life are crucial in development of the brain and personality; early childhood care has lasting effects. According to a longitudinal study done by the National Institute of Child Health and Human Development (NICHD), "even after controlling for multiple child and family characteristics, children's development was predicted by early child-care experience. Higher-quality child care, improvements in the quality of child care, and experience in center-type arrangements predicted better preacademic skills and language performance at 4 ½ years" (NICHD, 2002, 133).

Given that publicly-funded early childhood education is not universally available, oftentimes the costs associated with early childhood education are prohibitive to families. On the Northside, where average income is among the lowest in the metropolitan area, the added expense of early childhood education is a barrier that leaves many children unable to attend preschool, putting them at a disadvantage when they begin elementary school. While public programs such as Head Start, Early Childhood Family Education (ECFE), and High Five are available, they are often underfunded and

have limited resources and capacity. Because of these limitations, they are often unable to provide the same quality of care as private early childhood education and childcare facilities.

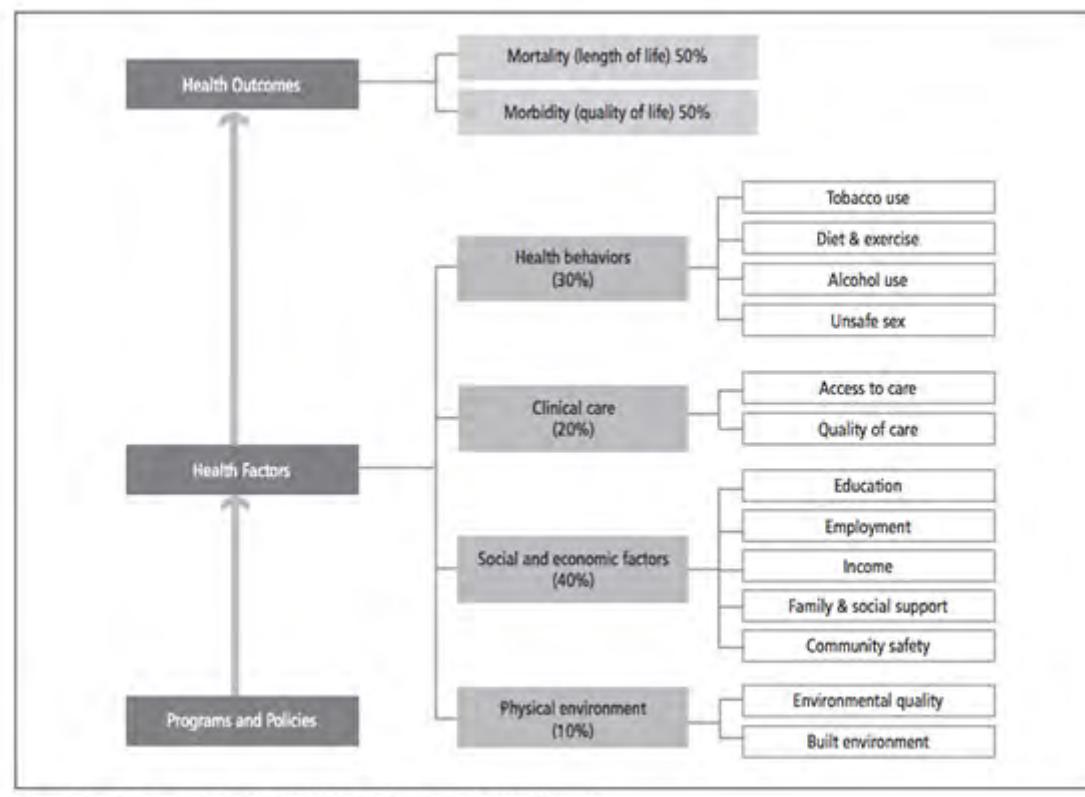
This section aims to evaluate the quality and availability of early childhood education and childcare on the Northside, to see if and how it differs from other parts of Minneapolis. In gaining a comprehensive view of early childhood resources on the Northside, we can explore the ways in which it fits the childcare needs of families on the Northside, or how it can be improved to benefit children and families.

Life Expectancy

In order to understand the effects of the inequalities present across Minneapolis and the aspects of life on the Northside that we have discussed thus far, we also wanted to investigate health outcomes across the city. To do this, we looked at life expectancy in the greater Twin Cities area. We chose the variable of life expectancy because it is a good representation of many aspects of health that are affected by the

kinds of community resources and livelihoods that we discuss in the rest of this chapter. We hope that this theme will help connect the realities of life on the Northside to residents' well-being to demonstrate the need for investment and increased resources. A report completed by the Wilder Foundation in 2012 concluded that life expectancy is strongly tied to income, race, education, and location within the city (Ferris, 2012, 30). In fact, life expectancy for white residents in the greater Twin Cities area is 81 years, but for people of color it is only 79.9 (Ferris, 2012, 15). Variation in life expectancy results from many of the other variables discussed in this report that show unequal distribution across the city; life expectancy is a direct outcome of public policies as well as lifestyle.

The variable of life expectancy acts as a representation of the effects of multiple inequities in categories that span from early childhood to adulthood (as seen in the graphic below portraying factors that affect life expectancy). We hope these data will support the argument for investment in improvement in both social and economic factors and the physical environment of the Northside.



Source: University of Wisconsin Population Health Institute (www.countyhealthrankings.org/).

Outdoor Recreation

For the theme of outdoor recreation, we provide an assessment of the parks in the Northside and within the Phillips neighborhood. Specifically, we created a Park Amenity Index to provide a qualitative analysis of the parks and their amenities for children. In completing the index, we analyze how child-friendly and accessible parks are for the children who reside in the neighborhoods. Our analysis provides insight into the condition of parks, rather than simply counting their presence. Additionally, we enhance this qualitative study by mapping how park conditions vary over space. Does the Northside or Phillips have a higher concentration of “good condition” parks? How does the condition of parks relate to where families reside and work? These questions help broaden our use of the index into a deeper analysis about space.

Inspired by the Park and Facility Condition Assessment executed in Pierce County, Washington (Pierce County, 2007) we created an index of parks based on a combination of stated amenities as provided by the Minneapolis Parks and Recreation Board and our own personal field observations. Although our index is inspired by Pierce County’s assessment, there are two key differences. First, our index uses an ascending 1-3 scale where 1 is “poor condition” and 3 is “good condition” rather than Pierce County’s descending scale where 1 is “good condition” and 3 is “poor condition.” Second, Pierce County’s assessment focuses primarily on the ways its parks are accessible to people with disabilities. Our analysis, however, compares the ways that parks serve children. This focus will drive our assessment and our analysis of park accessibility for children from the neighborhood.

Variables and Data

Employment

Our central research question about employment on the Northside is: Who is employed or unemployed on the Northside? To investigate this question, we used several key variables:

- The demographics and number of employed residents from OnTheMap
- The demographics and number of unemployed residents from the American Community Survey (ACS), specifically unemployment by race
- The spatial distribution of unemployed Northside residents from the ACS
- The spatial distribution of employed Northside residents from OnTheMap
- The spatial distribution of people employed on the Northside from OnTheMap
- The net inflow and outflow of employees/residents to and from the Northside

It is difficult to find accurate and demographically detailed employment data. Data availability became one of the main considerations – or constraints – when deciding which variables to explore for this section. The data we used came from the American Community Survey and OnTheMap, a web-based mapping application and data source facilitated by the U.S. Census Bureau’s Center for Economic Studies. We used 2010 and 2015 ACS five-year estimates and 2014 (the most recent) data from OnTheMap. Phillips was used as a comparison neighborhood for this section as it is throughout this report.



Photo credit:
Laura Kigin

We focused on demographic characteristics of workers and unemployed residents in order to connect the issue of employment to female livelihoods and the burdens faced by Northside families in general. It is important that we look at who is employed and unemployed, not just the overall numbers. We also wanted to connect the demographics with other data contained in OnTheMap, such as the location of jobs/where Northside residents commute.

Inflow-outflow data from OnTheMap told us that almost 25,000 Northside residents commute out of the neighborhood for work, with barely over 1,600 employed on the Northside. Thus, it seemed critical to explore where and how far these commuters have to travel each day. We looked at the top 10 census tracts for Northside commuters and compared this pattern to commuters from Phillips. We also examined the top census tracts for commuters coming into the Northside to work.

The OnTheMap application is one of the most comprehensive and reputable sources of employment-specific data that also includes extensive demographic, wage-earning, and other information. However, results must be carefully explained as there is high potential for misinterpretation. The ACS data face the usual limitations due to large margins of error. Some of the variables used in our analysis did suffer from high margins of error that could affect data interpretation, especially racial, gender, and other characteristic-specific unemployment data. Therefore, we only present unemployment data for the total population and African American population from 2010 to 2015 in this report.

Female Livelihoods

For our first factor – incidents of domestic violence – we explore the relationship between the total count of reports of domestic violence of the first, second, and third degree in the entire city of Minneapolis for 2016 and block groups that contain the largest percentage of youth under the age of 18. Crime data are collected from the Minneapolis Open Data portal; demographics data are from the American Community Survey (ACS) from 2011-2015. Again, the ACS data suffers from larger margins of error in their population estimates, but we felt that 2010 Census data would be too out-of-date and that the

ACS would provide a more timely representation.

Our second factor considers female-headed households and the burden on working mothers. One variable included is the percentage of female-headed households with children under 18 and no husband present. We also focused specifically on data about females who leave for work between the hours of 4pm and 12am. This time block is significant for a few reasons. First, it tells us what percentage of women in the Northside, for various reasons, work at that time. Whether it is due to a lack of employment opportunities or the need to work a second job, having to work during after-school hours sheds light on how families live. Second, it suggests the additional burdens created for the household: child-care expenses, relationships with extended relatives and caregivers, and parental contact with children. By analyzing these data spatially, we can draw conclusions about how mothers and their children in the Northside live when compared to other neighborhoods. This comparison provides insight into how employment, the composition of families, and the burden on working mothers have shifted in just a few years. One of the most salient factors affecting the lives of working mothers on the Northside is access to childcare.

Early Childhood Education and Childcare Resources

In order to evaluate early childhood education and childcare resources in Minneapolis, we used data from Parent Aware, Minnesota's branch of NACCRAware, a national nonprofit that collects information about childcare by state. Parent Aware is a combination product of the Minnesota Department of Human Services, the Minnesota Department of Education, the Minnesota Department of Health, and the Minnesota Office of Early Learning. The organization tracks capacity, hours, type of program, full time/part time status, ages that the program serves, availability of summer programming, availability of languages other than English, whether the program accepts Child Care Assistance (CCAP), and several other factors.

In addition to compiling data on early childhood education and resources, Parent Aware rates programs on a four-star scale, with four-star

programs being the highest quality, and one-star programs being the lowest quality. Parent Aware uses four measures to come up with a rating: physical health and well-being, teaching and relationships, assessment of child progress, and teacher training and education (Minnesota Department of Human Services, 2015). This system is part of the Quality Rating and Improvement System (QRIS), an initiative “to use rating and improvement strategies to elevate the quality of care in state early care and education systems and to support and improve children’s development” (QRIS Network). In order to receive a rating, programs must request to be evaluated and go through a screening and evaluation process that is supposed to give an objective quality rating. Of 461 childcare programs in Minneapolis, 161 have a NACCRRAware rating. While NACCRRAware ratings may not comprehensively be indicative of quality of care or education, since many programs have not gone through the ranking process, the ratings are one way to evaluate the accessibility of quality programs. By using these data in conjunction with demographic and population data, we can see patterns regarding access to high quality early childhood education.

NACCRRAware data are limited by the fact that not all early childhood education and childcare centers are ranked, and thus it is difficult to compare them. Minnesota began using the rating system in 2013, and since facilities must opt-in to the rating system, it is not universally used. Additionally, for the facilities that are rated, their quality is based on how well they prepare children for kindergarten. While kindergarten readiness is one method of evaluating programs, not all parents have the same priorities for their children’s experiences so the ratings cannot objectively rate the quality of early childhood education or childcare. However, for the purposes of this report, we use the star ratings as a measure of quality.

In order to investigate the cost burden of childcare for families on the Northside compared to families in Phillips, we analyzed the percentage of total annual household expenditure that was spent on childcare. Data on total annual household expenditures and annual expenditures on childcare came from Esri’s Consumer Spending database for 2014. Additionally, we used data from the American Community

Survey 5-year estimates for 2014 on total number of households with one or more people under 18 years of age. To calculate the average percentage spent on childcare by households with one or more people under 18 years of age, we divided the total spent on childcare per block group by the number of households with one or more people under 18 years of age in that block group. We then took that average amount and divided it by the average annual household expenditure per block group to get the percent of annual household expenditure spent on childcare.

There are several limitations to these data and calculations that are important to note when interpreting Figure 4.18. The first is that because the American Community Survey data on households with one or more people under 18 years of age is based on 5-year estimates and has fairly small sample sizes there are large margins of error. The 5-year period this data covers is particularly important to note as a limitation because of the high mobility of residents on the Northside, and many households may have moved during that period. The second limitation is that this calculation does not account for the number of children present in each household, only whether or not people under the age of 18 are present. This means that our calculation does not take into account that families with more kids will likely spend more on childcare, nor does it take into account families that have older kids, who may be mature enough not to need childcare services.

Life Expectancy

For our map of life expectancy, we sourced data from a 2012 report by the Wilder Foundation. Wilder was commissioned by the Blue Cross and Blue Shield of Minnesota Foundation to produce a report titled, “The Unequal Distribution of Health in the Twin Cities.” Wilder analysts utilized 2000 Census data and death records from the Minnesota Department of Health to calculate a value for average life expectancy by census tract. This value represents the expected longevity for a person living in a particular census tract. These values are expressed as ranges rather than singular values. The lowest range is less than 75 years, followed by 75 to 78 years, 79 to 83 years, with the highest being greater than 83 years.

The Wilder report found that neighborhood was a key determinant in life expectancy. This is evidenced by the wide range of life expectancies across the city of Minneapolis. The report also showed that neighborhoods with the lowest life expectancies tended to be located in the central city, with the lowest incomes and highest concentrations of people of color (Ferris, 2012, 2). Based on this conclusion, we wanted to look more specifically at life expectancy on the Northside to understand how aspects of life on the Northside can affect the health, well-being, and longevity of its residents. We hope this will help connect some of the other inequities we have explored to broader health outcomes.

Outdoor Recreation

Our Park Amenity Index analysis involves fieldwork and observation. Complemented by a quantitative translation of our subjective observations, the index helps us score and rank the parks according to their amenities. This fieldwork approach took shape through our visits, journaling, discussion, and photography of the parks. Other than the availability of restrooms (which was measured on a no/yes, 0/1 scale), the amenities we measure are all given equal weight in our index – they all contribute equally to our assessment of quality of the park. Though the index and our scales may be subjective, they represent a standardized approach for us to begin uniformly studying parks across the city. In this case, we studied parks in the Northside as well as in the Phillips neighborhood. Although Phillips has fewer parks, our index reflects park quality rather than quantity. Inclusion of the Phillips parks in our analysis helps show how parks in Northside compare to similar neighborhoods.

Our process of determining which parks to visit and what amenities to study is basic but intentional. First, we visited the Minneapolis Parks and Recreation Board website where they list the addresses and amenities of each park in the city. After determining the parks in the Northside and Phillips based on their addresses, we focused on identifying particular amenities that are, for the most part, consistent throughout city parks. Such amenities (e.g.,

playgrounds, courts, lighting, parking, restrooms, and shelters) provide the subject of our observations. Our index measures the condition of these amenities and how they specifically cater to a child's activity, well-being, and safety. At the foreground of these observations are issues of accessibility to both the parks and the contents within for children from the neighborhood.

Our index incorporates nine park characteristics from two larger categories of amenities: recreation and site amenities. Under recreation amenities, we study the spaces available for children that give them the opportunity to engage in healthy play. Specifically, we study the characteristics of playgrounds, courts, fields, and walking/bike paths, considering their level of condition and potential need for repair. For site amenities, we look at characteristics of the site itself as a space that is accessible and safe for children. Within this category, we focus on landscape, shelter, restrooms, accessibility, and litter. We score each of these categories using our own ascending 1-3 scale where 1 represents "poor condition" and 3 represents "good condition." Because all the restrooms were still closed for the winter when we visited, restrooms are measured on a 0-1 scale; the park either has them or does not. Each of the characteristics has its own description for the conditions that warrant that score (see chapter **Appendix**). In this way, we are able to compare specific park amenities, and ultimately parks, across space and neighborhoods.

In order to explore the spatial patterns of our qualitative study, we incorporate GIS as a method to show the spatial trends of park conditions. We map the parks based on their index score to help us make general conclusions about community access to parks. What is most important is understanding how this analysis – the geography of park conditions – relates to NAZ's focus of closing the achievement gap and ending generational poverty. The geography of park conditions is as much about investment as it is about public perception of the importance of quality parks. Even more so, it reflects where children can feel safe to go to parks and experience healthy physical and psychological development.

Discussion and Analysis

Employment

Figure 4.1 displays the general distribution of where all workers from the Northside and Phillips commute to each day. We chose a narrow geographic range for this map so we could best show the areas of highest employment density within Minneapolis/St. Paul and their first-ring suburbs. On this map, the darker colors represent the highest density of jobs/employment, and the lighter colors represent a smaller number of jobs. Grey areas mean that no Northside or Phillips residents are employed in that area. As discussed in the previous chapter, residents of the Northside have generally higher travel/commute times than residents of Phillips do, and that dynamic is clearly visible in the spatial distribution of jobs. Although the Northside has a greater number of jobs held by residents – and likely therefore, a higher level of commuting – than Phillips (see Table 4.1), we can still see from this map that the density is much more pronounced and concentrated in Minneapolis proper for Phillips than it is for the Northside. The commuting burden on working families, single mothers, and other disadvantaged populations is definitely higher on the Northside.

Table 4.1

Total number of jobs held by Northside residents

Total All Jobs		2014	
		Count	Share
Total All Jobs		26,577	100.0%

Total number of jobs held by Phillips residents

Total All Jobs		2014	
		Count	Share
Total All Jobs		6,872	100.0%

The demographic data from OnTheMap that accompany this visualization of general employment/commuting distribution are also important to analyze. As previously discussed, the Northside has many more residents, and a much greater number of jobs held by residents, than Phillips does. However, in both the Northside and Phillips, workers under the age of 29 constitute a fairly large share of the working population, at 29 and 32 percent, respectively (see Table 4.2). While both areas

have a majority of workers in the prime working age category of 30-54 years, it is still important to note how many young adults and young people are employed in these communities, and to consider what that means for the lives of working people and single-parent households.

Table 4.2

Age of Employed Northside Workers

Worker Age		2014	
		Count	Share
Age 29 or younger		7,708	29.0%
Age 30 to 54		14,754	55.5%
Age 55 or older		4,115	15.5%

Age of Employed Phillips Workers

Worker Age		2014	
		Count	Share
Age 29 or younger		2,196	32.0%
Age 30 to 54		3,656	53.2%
Age 55 or older		1,020	14.8%

While the populations of both the Northside and Phillips are majority-people of color, the racial and ethnic composition of employed residents does not reflect this reality, further emphasizing the persistence of the racial employment gap even within communities that are predominantly people of color. For example, Phillips is only 20 percent white, yet 57.8 percent of employed Phillips residents are white (see Table 4.3). The Camden community, which comprises the northern half of the Northside, is 41 percent white (and the Near North community even less); despite this, whites comprise about 50 percent of all employed Northside residents. Lessening this employment gap is an important aspect for the work of NAZ.

There also exists a marked gap in the gender balance of employed Northside and Phillips residents. As is shown in maps later in this report, the Northside has a high concentration of single-parent households, children, and similar characteristics. The data we display here also show a striking difference between the percentage of employed residents that are male and female. On the Northside, 53.4 percent of employed residents are female, while only 46.6

Table 4.3

Race/Ethnicity of Employed Northside Workers

Worker Race		2014	
		Count	Share
White Alone		13,461	50.6%
Black or African American Alone		9,248	34.8%
American Indian or Alaska Native Alone		272	1.0%
Asian Alone		2,851	10.7%
Native Hawaiian or Other Pacific Islander Alone		37	0.1%
Two or More Race Groups		708	2.7%

Worker Ethnicity		2014	
		Count	Share
Not Hispanic or Latino		25,206	94.8%
Hispanic or Latino		1,371	5.2%

Note: Data for non-binary workers were not available from OnTheMap or associated Census data sources.

percent are male (see **Table 4.4**) – nearly a six percent gap. Phillips, meanwhile, is nearly flipped, with 52.2 percent male and 47.8 percent female. This demographic statistic, while small, demonstrates again that support for working mothers on the Northside and in NAZ is vital. We can also see that in relation to the oft-cited comparison neighborhood of Phillips, the Northside faces distinct challenges.

Table 4.4

Sex of Employed Northside Workers

Worker Sex		2014	
		Count	Share
Male		12,390	46.6%
Female		14,187	53.4%

Sex of Employed Phillips Workers

Worker Sex		2014	
		Count	Share
Male		3,588	52.2%
Female		3,284	47.8%

Figure 4.2 uses dots of gradually increasing size to display the destinations for all workers from the Northside and Phillips who commute 10-

Race/Ethnicity of Employed Phillips Workers

Worker Race		2014	
		Count	Share
White Alone		3,972	57.8%
Black or African American Alone		2,136	31.1%
American Indian or Alaska Native Alone		231	3.4%
Asian Alone		354	5.2%
Native Hawaiian or Other Pacific Islander Alone		11	0.2%
Two or More Race Groups		168	2.4%

Worker Ethnicity		2014	
		Count	Share
Not Hispanic or Latino		6,035	87.8%
Hispanic or Latino		837	12.2%

24 miles to work. Each dot, as noted in the map's legend, represents a certain range for the count of workers. The data source used for this variable also includes data for workers commuting shorter and longer distance intervals, which are easily accessible through OnTheMap. The Northside has many more destinations of high employment than Phillips; this is again partly due to their larger population, which makes clusters more likely and possible. This map is interesting in terms of both the spatial pattern and the clustering that exists; Phillips resident workers are much more evenly spread among the first-ring suburbs while Northside resident workers display more specific clusters.

Delving into the statistics behind this map helps us to better understand the spatial dynamics of employment and view more concretely the differences between the Northside and Phillips. **Table 4.5** shows all four commuting interval categories from OnTheMap: 10 miles or less, 10-24 miles, 25-50 miles, and greater than 50 miles. The data show that 80.1 percent of Phillips residents commute 10 miles or less to work each day, while only 72.5 percent of Northside residents enjoy this short commute – about an 8 percent difference. Around 23 percent of Northside residents must travel the 10-24 miles depicted in Figure 4.2,

but only around 14.5 percent of Phillips workers commute that distance. This nearly 10-percentage point difference is even more striking when looking at the raw numbers involved: over 6,000 Northside workers commute 10-24 miles daily, while only about 1,000 Phillips residents do. It is important to note the great need for transportation resources that the Northside has – especially when considering the community's vulnerable populations that often work low-paying jobs.

Table 4.5

Distance Traveled to Job by Northside Workers

Jobs by Distance - Home Census Block to Work Census Block		
	2014	
	Count	Share
Total All Jobs	26,577	100.0%
Less than 10 miles	19,281	72.5%
10 to 24 miles	6,149	23.1%
25 to 50 miles	182	0.7%
Greater than 50 miles	965	3.6%

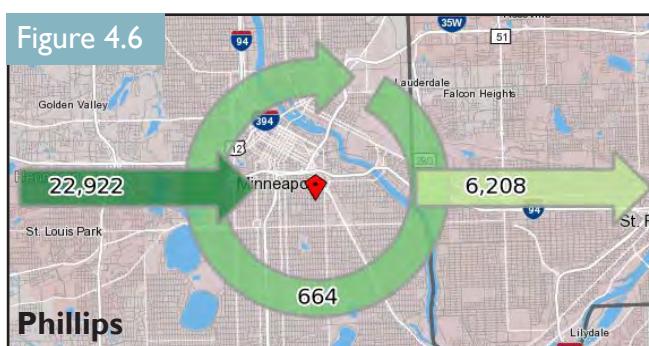
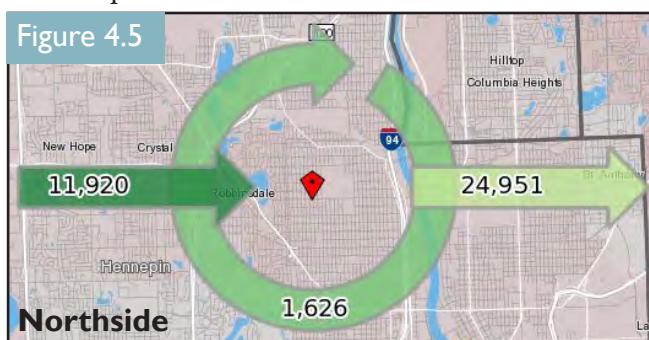
Distance Traveled to Job by Phillips Workers

Jobs by Distance - Home Census Block to Work Census Block		
	2014	
	Count	Share
Total All Jobs	6,872	100.0%
Less than 10 miles	5,507	80.1%
10 to 24 miles	1,006	14.6%
25 to 50 miles	78	1.1%
Greater than 50 miles	281	4.1%

Figure 4.3 displays the top ten census tracts, by total number of workers, to which Northside and Phillips residents commute. It is clear, again, that Northside residents face a much greater commuting burden; only one of Phillips' top ten tracts is outside the city of Minneapolis, while three of the tracts are within the Phillips community itself. The rest of Phillips' top tracts are either clustered downtown or are still relatively close and accessible via transit. In contrast, well over 1,000 Northside residents travel to four suburban tracts (located in Plymouth, Bloomington, Edina, and Golden Valley) for work. From our analysis, it is evident that Northside residents have limited employment options in their community, and the commuting burden falls especially hard on working families and single parents.

The data displayed on **Figure 4.4** allow us to see where those who are employed within the Northside and Phillips communities live. The top ten census tracts of origin, by total number of workers, are displayed. The majority of the top ten census tracts of origin for Phillips are located within or very near the community, as is also the case for the Northside (but with lower total numbers of workers overall). This shows us that a greater number of Phillips residents are working jobs in their own neighborhood, despite the lower overall resident population. This analysis adds to past research that a gap exists between the skills and education Northside employers need and the skills training or educational levels of Northside residents. It may also suggest that the NAZ and other Northside organizations continue to work to recruit businesses and increase local job opportunities, and provide education-skill development programs for residents.

Figures 4.5 and 4.6 provide a visual representation of the daily employment flows in and out of the Northside and Phillips. The number in the dark green arrow on the left represents all workers commuting into the Northside or Phillips each day, and the number in the light green arrow on the right represents the number of workers who leave the neighborhood each day for work. The number at the bottom of the circular arrow is the number of employees who both live and work in the Northside or Phillips.



These figures are powerful when considered in light of the lived experiences and realities they represent. For the Northside, almost 25,000 residents leave the community each day for work and only 1,626 have the opportunity to both live and work in the community. At the same time, about 12,000 workers commute into the Northside to work. While there are over 13,000 jobs available on the Northside, only 12 percent of these positions are held by Northside residents. This fact again emphasizes that the economic success and daily lives of community members could be improved by helping residents capture the existing job opportunities in their community.

The Phillips community faces similar employment dynamics in this regard. Only 664 of its residents are employed in the neighborhood, out of over 23,000 neighborhood jobs. About 6,200 residents find their place of work outside of their community. This disparity illustrates some of the education and skills gaps that exist in disadvantaged Minneapolis communities.

Although the majority of our focus in this analysis is on employment dynamics and the characteristics of employed Northside residents as compared to Phillips, we also wanted to provide an overview of unemployment rates on the Northside compared to the rest of the city of Minneapolis. **Figures 4.7 and 4.8** show the unemployment rate, by census tract, for the years 2010 and 2015. Figure 4.7 shows the general unemployment rate for the two years, and Figure 4.8 presents the unemployment rate for the African American population for both years. These maps confirm the well-documented spatial and racial dynamics of unemployment on the Northside versus Minneapolis. It is, however, important to note that the unemployment data we used are American Community Survey data, which as discussed earlier is associated with high margins of error. For this reason, and because of extensive prior documentation of unemployment, we did not delve into unemployment by gender or comparisons by race. Significant margins of error for the unemployment estimates make such comparisons difficult.

Even with prior documentation, the spatial patterns of unemployment in Minneapolis are still startling.

In Figure 4.7, the boundaries of the Northside and Phillips communities are demarcated by their elevated unemployment rates compared to the rest of the city. This is true for both 2010 and 2015, albeit with generally lowered unemployment rates in 2015. Still, almost half of the Northside's census tracts in 2015 had unemployment rates in the two highest categories, ranging from 15 up to 44 percent. No tract in the Northside in 2015 (beyond the Harrison neighborhood) had below 6 percent unemployment. Similarly, post-recession in 2010, all but two of the Northside's tracts had unemployment rates over 10 percent. Although scattered tracts in Powderhorn, Cedar-Riverside, and in the University of Minnesota area had elevated unemployment in both years, no neighborhood save Phillips reaches comparable levels to the Northside.

Figure 4.8, showing black unemployment rates by census tract, must be read carefully due to the margins of error present in ACS data. The much higher black unemployment rates across Minneapolis are in line with the elevated rates included in reports like those cited in the introduction of this chapter. In 2015, the black unemployment rate stood at 20 to 40 percent for citizens living in ten of the Northside's 24 census tracts. Racial disparities in unemployment are persistent across time and must be addressed for the Northside and its residents to see future economic success.

Female Livelihoods

In **Figure 4.9**, there is spatial clustering of domestic assault incidents in the Near North and Camden communities of Minneapolis. Additionally, this area is home to a relatively higher youth population compared to the rest of Minneapolis. Within North Minneapolis, there are more reports of domestic assault in the Near North community; this area also has higher percentages of children under the age of 18. There is additional spatial clustering of domestic assault incident reports in central Minneapolis around the Phillips community, but overall the Northside is disproportionately represented in this category.

There are a number of potential reasons for this spatial clustering of domestic assault incidents in North Minneapolis. First, it is possible that there

are greater social and economic stresses in these communities because of the existence of fewer employment opportunities. As a result, most residents must commute out of their neighborhoods to get to work. Additionally, incomes and housing and property values in North Minneapolis are relatively lower when compared to the rest of Minneapolis. These factors may create environments that are less focused on family cohesion and unity because of additional stress that more privileged families avoid.

In regards to the burden on working mothers, **Figure 4.11** shows the percentage of employed women that leave for work between 4:00 p.m. – 12:00 a.m. These data demonstrate the burden on working females that work the late shifts, and show changes in the spatial pattern over time. We learn a few things from this map: first, we note the overall change in percent of employed women leaving for work within this time period. In the northern part of Camden, there is an increase in these percentages; from 2005-2009 to 2011-2015, the maximum percentage of women that leave for work at that time increased by more than 100%, doubling from 6% to more than 12%. In contrast, however, the opposite occurs in the southern part of Near North. The block groups that contain the Seed Academy, Ascension Catholic, and Elizabeth Hall International decreased in percentage from 2005-2009 to 2011-2015, indicating that the percentage of women that leave for work while children are home from school decreased in this area.

When we analyze these data in conjunction with **Figure 4.10** we can draw broader conclusions. In some areas of the Northside, the percentage of female-headed households with children decreased between the years studied, especially in the northern part of Camden (in the Shingle Creek and Lind-Bohanon neighborhoods) and in the Hawthorne and Harrison neighborhoods. However, some block groups saw an increase in the percentage of female-headed households with children, such as in the Jordan, Folwell, Webber-Camden, and Sumner-Glenwood neighborhoods. Overall, there are slightly fewer high-concentration block groups from 2011-2015 than there were from 2005-2009.

When we combine these data, we see that in some areas of the Northside (such as the northern part of

Camden) higher percentages of employed women per block group are working shifts that begin between 4:00 p.m. – 12:00 a.m. (when their kids would be home from school), but this is accompanied by an overall decrease of female-headed households with children in these block groups. In other areas, there is a decrease in both the percentage of employed women leaving for work between 4:00 p.m. – 12:00 a.m. and the percentage of female-headed households with children (such as in the Harrison neighborhood), or an increase in both (such as within the NAZ boundary). Though these variables are not necessarily directly correlated, the trends may suggest a few things. It is possible that due to changing economic circumstances, women in the Northside are working more in the evenings. Or perhaps more younger women without children are entering the workforce in the Northside. Because the data on employed women includes all women over the age of 16, some proportion may be constituted by high school-aged females without children who work in the service industry during these times. Further analysis of these variables may lead to additional, novel conclusions.

Early Childhood Education and Childcare Resources

Figure 4.12 shows all of the early childhood education and childcare facilities in Minneapolis. According to the map, facilities are distributed quite evenly throughout the city. However, **Figure 4.13** shows that access to high quality early childhood education and care is not equal across all parts of the city. While the Near North neighborhood has several four-star rated facilities, Camden has very few. For an area that is mostly residential, this means that if parents want to send their children to a four-star rated facility, they must travel a further distance.

Another challenge that parents on the Northside may face is finding childcare that is open outside of standard working hours. For parents that are working jobs outside of traditional office job hours, finding childcare can be a burden. **Figure 4.14** shows that extended-hours high quality early childhood education and childcare is extremely limited throughout all of Minneapolis. Of all of the four-star rated facilities in Minneapolis, only 12 are open past 6:00 p.m.

The lack of afterhours care is more of a problem in lower socioeconomic areas like the Northside, because more parents work in industries where they need to work nontraditional hours. **Figure 4.15** shows four-star rated early childhood education and childcare facilities that are open past 6:00 p.m. on the Northside, as well as the percent of employed women leaving for work between 4:00 p.m. – 12:00 a.m. When women with children are working when their children are not in school, they presumably must find childcare for their children. This map shows that in all of North Minneapolis, there are only six four-star rated facilities that are open past 6:00 p.m., meaning that parents may have to sacrifice quality when finding childcare that can accommodate their schedules. The other variable in this map shows that there are several block groups on the Northside where between 12.1 and 27 percent of women leave for work outside of traditional hours. The inset map of the whole city of Minneapolis shows that rates of women leaving for work between 4 p.m. – 12:00 a.m. is higher on the Northside than in many other parts of Minneapolis, meaning that the burden of finding high-quality childcare that is open when mothers need coverage is significant.

Aside from presenting a challenge for parents who work late shifts, the lack of childcare facilities open outside of standard hours is also a barrier for parents who must work on weekends. **Figure 4.16** shows facilities that are open on the weekend in all of Minneapolis. While North Minneapolis has several facilities that are open on the weekends, given the high percentage of children on the Northside it is likely that the need for weekend childcare overwhelms the supply. Twelve facilities on the Northside offer weekend childcare; of those, only a limited number are Parent Aware four-star rated.

In order to dig deeper into access to high-quality childcare, **Figure 4.17** shows all of the four-star rated facilities that accept subsidies from the Child Care Assistance Program (CCAP). While many of the four-star facilities do accept CCAP, there are many that do not, meaning that they may be less accessible to Northside families who are using tuition assistance to pay for their children's care.

Finally, to further examine the cost burden of childcare for residents of the Northside, we calculate

and map the proportion of annual household expenditures that families spend on childcare. This is important to our larger story because cost can be a burden to families and having access to quality affordable childcare sets children up for success later in life. **Figure 4.18** shows the average percent expenditure on childcare, out of total annual household expenditures, for households with members under the age of 18. In this map, we see that across both the Northside and Phillips, there is a fairly varied distribution of the percentage spent on childcare. There are five block groups within the Northside that fall into the highest category of expenditure (3.5 to 6.2%), and no tracts in Phillips that fall into this category. This could suggest that these areas face a higher burden of childcare than other parts of North Minneapolis and Phillips. However, given the limitations of the data (see the discussion of these data in the “Variables and Data” section above), more research should be done to corroborate these findings.

Life Expectancy

As **Figure 4.19** shows, the largest concentration of census tracts with the lowest life expectancies (74 years or fewer) occurs in the Northside. This is in stark contrast to the suburban areas directly to the west of North Minneapolis, such as Golden Valley, which has the highest category of life expectancy (83 years or more) despite sharing an immediate border with areas of the Northside experiencing the lowest life expectancies. Theodore Wirth Park appears to act as a boundary between these residential areas of high and low life expectancies. Looking to the southern border of the Northside, we see that the affluent and white Kenwood neighborhood and the Chain of Lakes beyond form the greatest concentration of tracts with the highest life expectancies. These contrasts show that for the Northside, the lack of resources, high rates of crime, and history of systemic disinvestment go hand-in-hand with a shorter lifespan for people who live there.

Looking at our comparison neighborhood, the census tracts in the Phillips neighborhood also represent a small cluster of tracts with the lowest life expectancy, but do not represent as large of an area or population as the cluster on the Northside. Throughout the Twin Cities, residents with lower

incomes and people of color are more likely to experience a shorter lifespan. A child born into a census tract with an average income of \$35,000 or less will have an average life expectancy of 76 years, but a child born into a census tract with an average income of \$75,000 or more will have an average life expectancy of 84 years, an eight-year difference (Ferris, 2012, 3). There are additional unequal health outcomes when comparing the race of residents; for white residents the average life expectancy is 81, but for black residents it is only 74, a seven-year difference (Helmstetter et. al., 2010, 4). Spatial, racial, and economic inequalities all persist in the Twin Cities area and come together to produce differential health outcomes, highlighting the importance of NAZ's multifaceted approach.

Outdoor Recreation Opportunities - Park Amenity Index

As mentioned earlier, we evaluate the condition of neighborhood parks through our park amenity index. The index measures the accessibility and usefulness of Northside and Phillips parks by looking at the condition of their recreation and site amenities. This section outlines our results and observations and analyzes spatial variation in park conditions.

For the Northside, we considered 21 parks that span the entire community from Near North to Camden. By doing so, we are able to explore general trends and patterns, pointing out areas of strength and areas with room for improvement. An example of this is the category of accessibility. For the most part, these parks are highly accessible physically to children and families in the neighborhood. Except for one, they all received perfect scores on accessibility due to their locations in residential areas near homes and schools. Additionally, almost every park is ADA-compliant and makes specific accommodations for people with disabilities. Aside from their geographic accessibility, parks in the Northside also scored well on the condition of walking/biking paths. The

paths are well maintained and paved, making them conducive for use by walkers and bikers. This could in turn influence how active and healthy community residents are.

The amenities with the most variance are courts and litter. For these categories, parks received scores from 1 to 3. For courts, we observed the condition of basketball and tennis courts. Some are well-paved, well-maintained, and are regularly utilized. Other courts are cracked, have no rim or tennis court nets, or have weeds growing out of them. Litter also varies greatly throughout the parks in the Northside. While a few parks had litter, the majority were clean and provided trash bins throughout.

Figure 4.20 shows the spatial distribution of quality recreation spaces available to children in the Northside. For the most part, there is no distinct clustering of poor-quality or high-quality parks; a range of index scores are represented. These scores represent each park's amenity score as determined by our observations and index. The highest score a park can receive is 2.75. As a neighborhood, Phillips has an average score of 2.28, while the Northside has an average score of 2.21. Though at first glance it appears as if Phillips' parks are in better condition, only four parks are represented by this average, while the Northside has a total of 21. It is worth noting, however, that the two parks that scored lowest on the index (Cottage and Jordan) are both within the NAZ boundary. These parks had significantly more litter than any others, and their playgrounds are poorly maintained, with more broken or rusted parts. However, many other parks are well-maintained and clean; Harrison and North Commons (in Near North), Farview (inside the NAZ boundary), and Webber and Bohanon (in Camden) all scored in the highest index category. This distribution of higher-quality parks may be a sign of recent investment in outdoor recreation spaces for children in the Northside.

Conclusions and Recommendations

Our analysis sheds light on the social, economic, and community characteristics that impact the lives of Northside families, particularly the lives of mothers and children. Though our study (and our selection of variables) is not exhaustive, it does highlight important considerations for understanding the everyday lives of Northside residents. From the time mothers leave for work, to where they work, to the resources available for childcare, to the park spaces available for children to play, and finally, to community residents' life expectancy, these variables provide a wide overview of the daily experiences of a Northside resident.

All of these variables combine to tell a story of life on the Northside that supports the existence of NAZ. The discrepancies in resources we found in our research show that the work of NAZ towards closing the achievement gap and ending multigenerational poverty is as important as ever. NAZ is dedicated to understanding the root causes of poverty and working towards addressing them. This report affirms the need for their work. How children are served in their early years and in childcare settings is directly tied to their performance in school, and as a result, the existence of an achievement gap. Where mothers travel to work and when they leave for work are measures of employment opportunity and generational poverty. What parks are available for children to engage in healthy physical activities and what violence occurs at home affect if and how children in the Northside develop healthy lives. In a way, the variables we considered use the household as the scale from which to measure impact of the community and the household on a child's development.

Future Directions

Future extensions of this research project can add depth to our analyses or incorporate different variables altogether. Doing so will paint an even more detailed picture of the Northside and the community characteristics that impact residents. One possible area of extension in future reports is our assessment of parks and park amenities. Because we only compared Northside parks to those in the Phillips neighborhood, our analysis is geographically limited. Future reports could compare the Northside

with very different neighborhoods, which could suggest how park conditions vary across space along racial and class lines. Additionally, the park amenities and characteristics we selected to observe could be replaced with others that we did not include in this particular study. In the future, variables could also be weighted to better represent their relative importance for the children who use them, e.g. characteristics like natural areas, site furnishing, and sport-specific courts and fields.

Our analysis of park amenities also relied on our own personal understanding of how accessible, useful, and safe selected parks were for children in the neighborhood. Future studies, alternatively, might read the landscape through a different lens. Our inspiration for this report, the Park and Facility Condition Assessment produced by Pierce County, Washington, focused its analysis on how accessible its amenities were for disabled persons. Perhaps a different characteristic, like age, disability, or lifestyle, could influence the way parks score even on our own index. We hope that any future extensions of our park amenity index will add to our findings and NAZ's understanding of recreational opportunities for children in the Northside.

Other possible areas of extension include the data sources used and variables selected. For example, a future group that wants to focus on Northside families may choose to explore data on both men and women that leave for work between 4:00 p.m. – 12:00 a.m. rather than women alone. Similarly, they could focus on all households with children under 18 rather than only female-headed households.

Our analysis of early childhood education and childcare resources begins to assess what kinds of early childhood education and childcare resources are available on the Northside and in Minneapolis as a whole. In the future, breaking this down into in-home daycare and school-based programs could be telling of patterns. Additionally, looking at the capacity of early childcare education and childcare centers on the Northside could indicate whether there is a need for more facilities, or if the current capacity matches the current demand. Lastly, a more in-depth analysis of Parent Aware's rating system could shed light on how the system defines high quality, as well as how to compare rated facilities

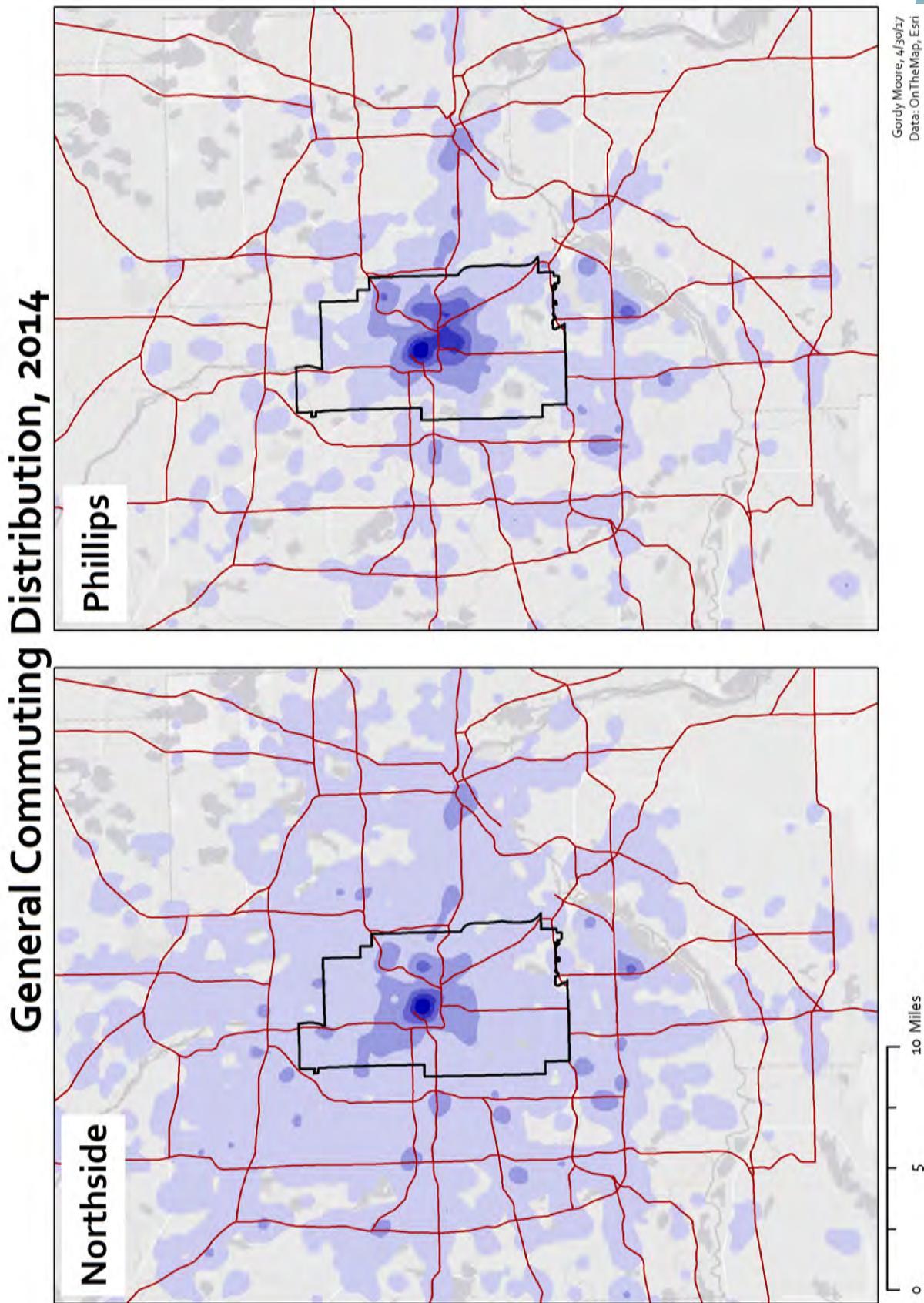
with unrated facilities.

To expand on how aspects of life on the Northside affect broader health outcomes, life expectancy data could be overlaid on other variable or tested for correlation with factors such as race, income, or the presence of important resources. Additionally, it would be useful to map the presence of other aspects of health to understand why the Northside has such low life expectancy compared to its neighboring suburbs. For example, a future study could map rates of specific diseases or conditions like asthma, cancer, or diabetes to determine which are of greatest concern on the Northside. We hope that there is an opportunity to do more specific research into what aspects of health are of the greatest concern for the Northside, to better inform the work of NAZ.

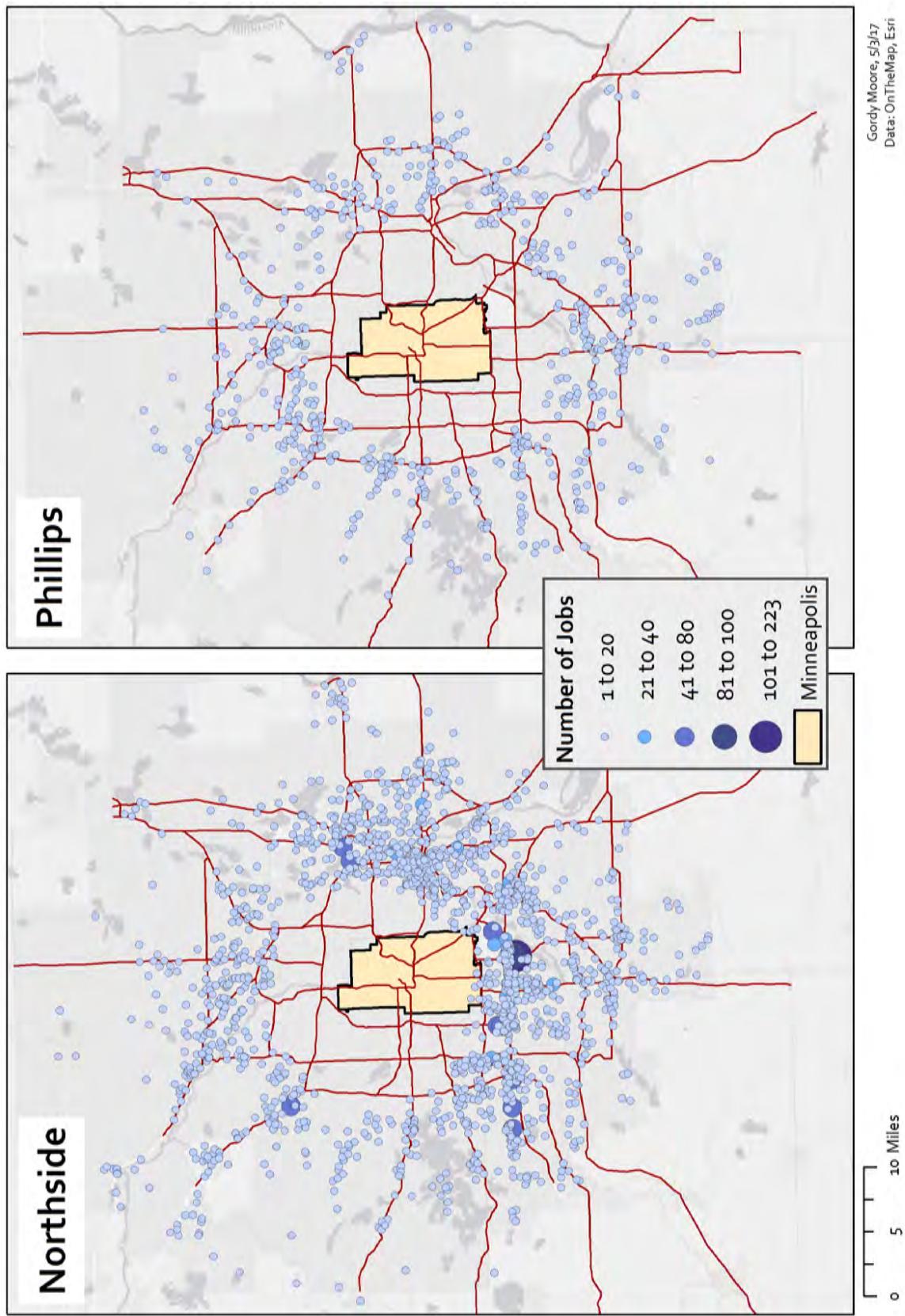
To conclude, our study helps show the ways that Northside families work, live, and play. We study the conditions that affect Northside residents by focusing on the family, and in doing so, affirm NAZ's work. The place-based approach to solving problems in the Northside is a model for other neighborhoods to follow. Moving forward, we recommend that NAZ continues promoting and investing in programs designed to increase the number of Northside families employed to encourage economic empowerment and reduce the commuting burden of Northside residents. There is a need to decrease the burden on single-parent households who must travel outside the community for employment.



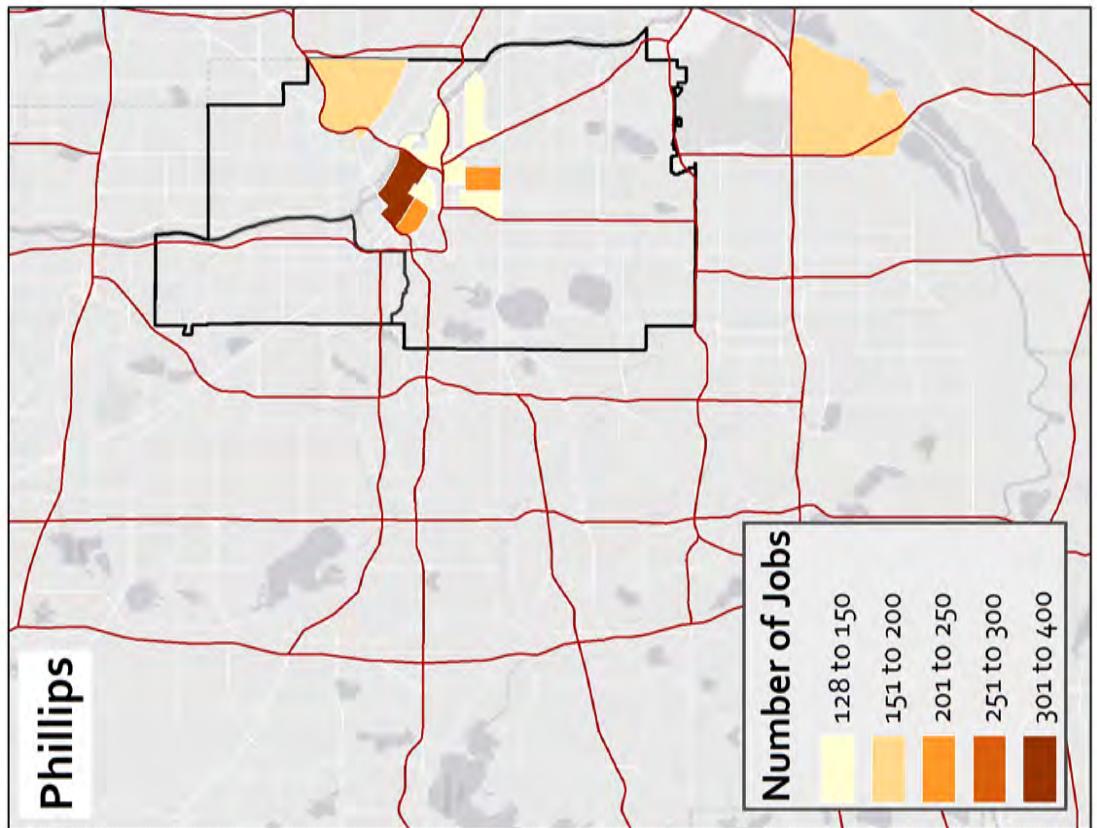
Photo credit:
NAZ



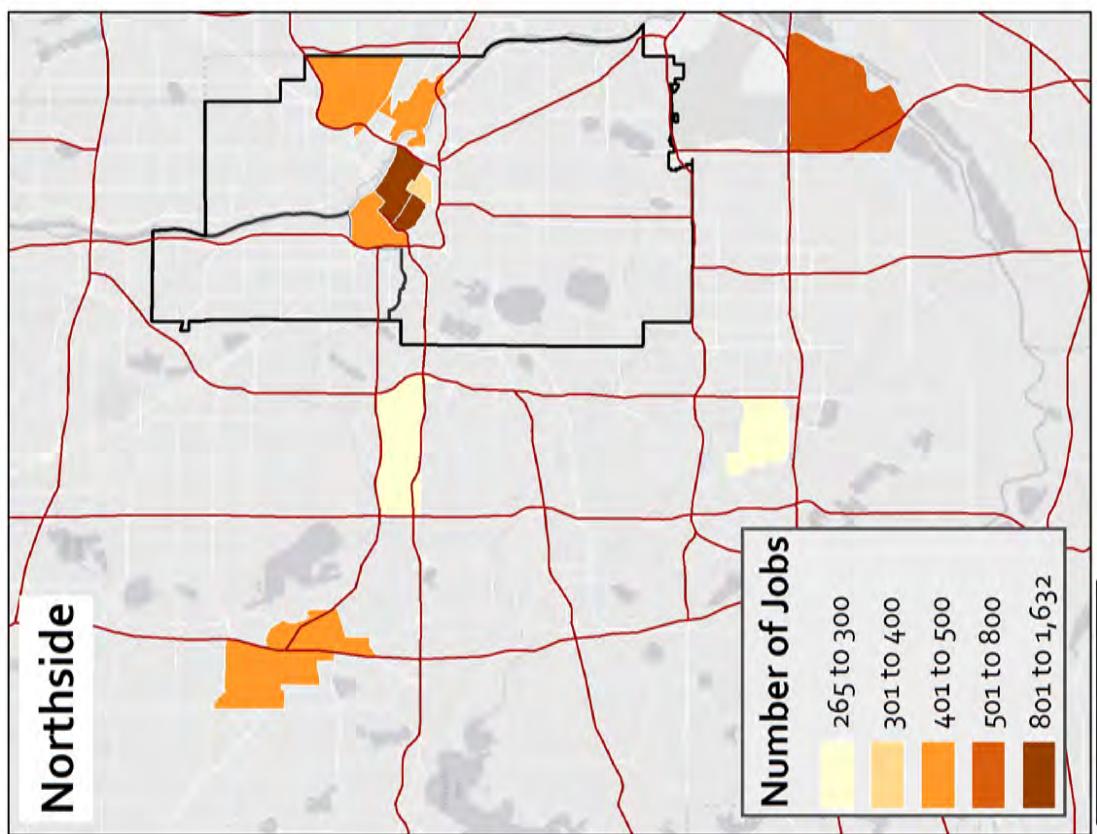
All Workers Commuting 10-24 Miles, 2014



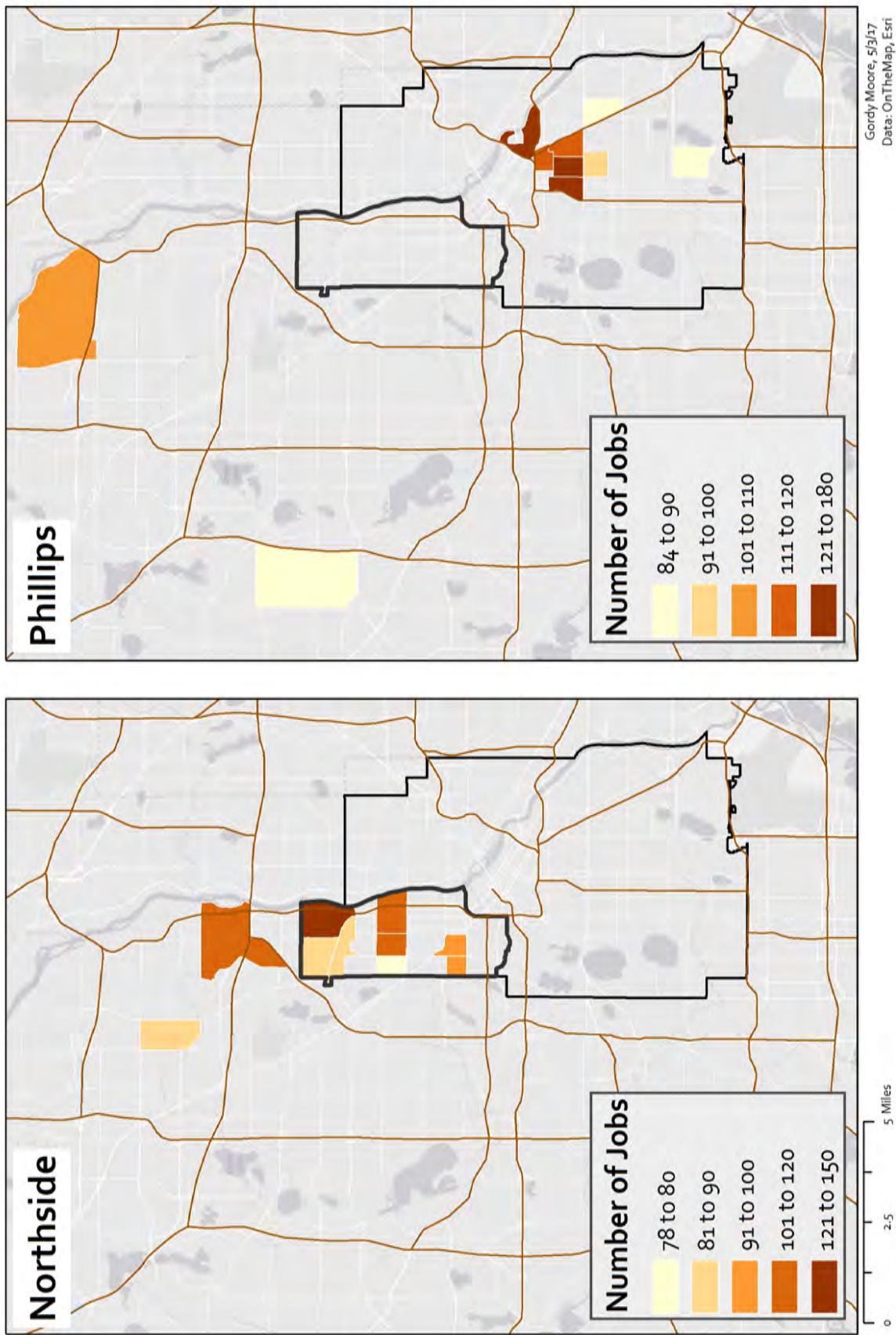
Top 10 Worker Destination Census Tracts, 2014



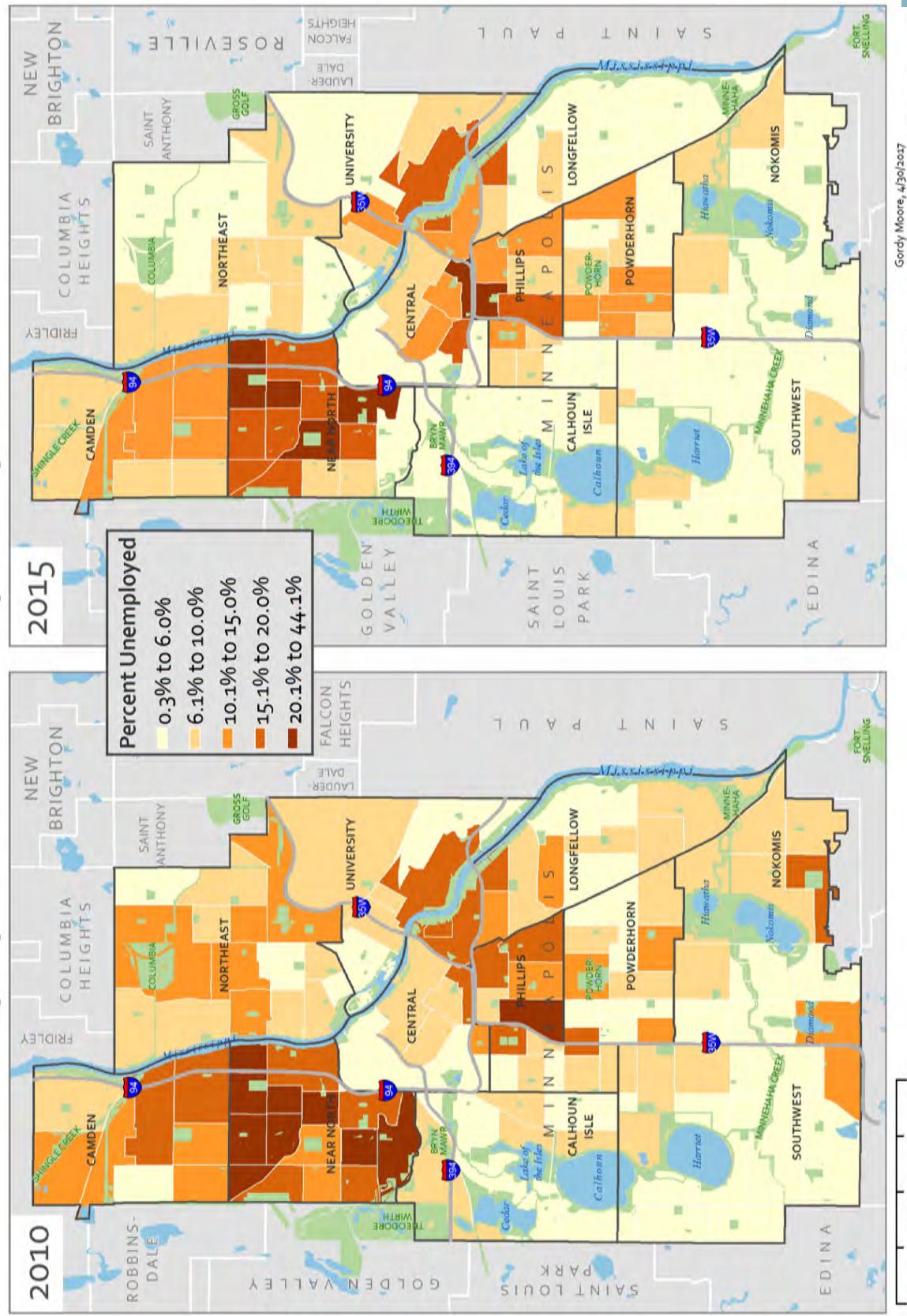
Northside



Top 10 Worker Origin Census Tracts, 2014

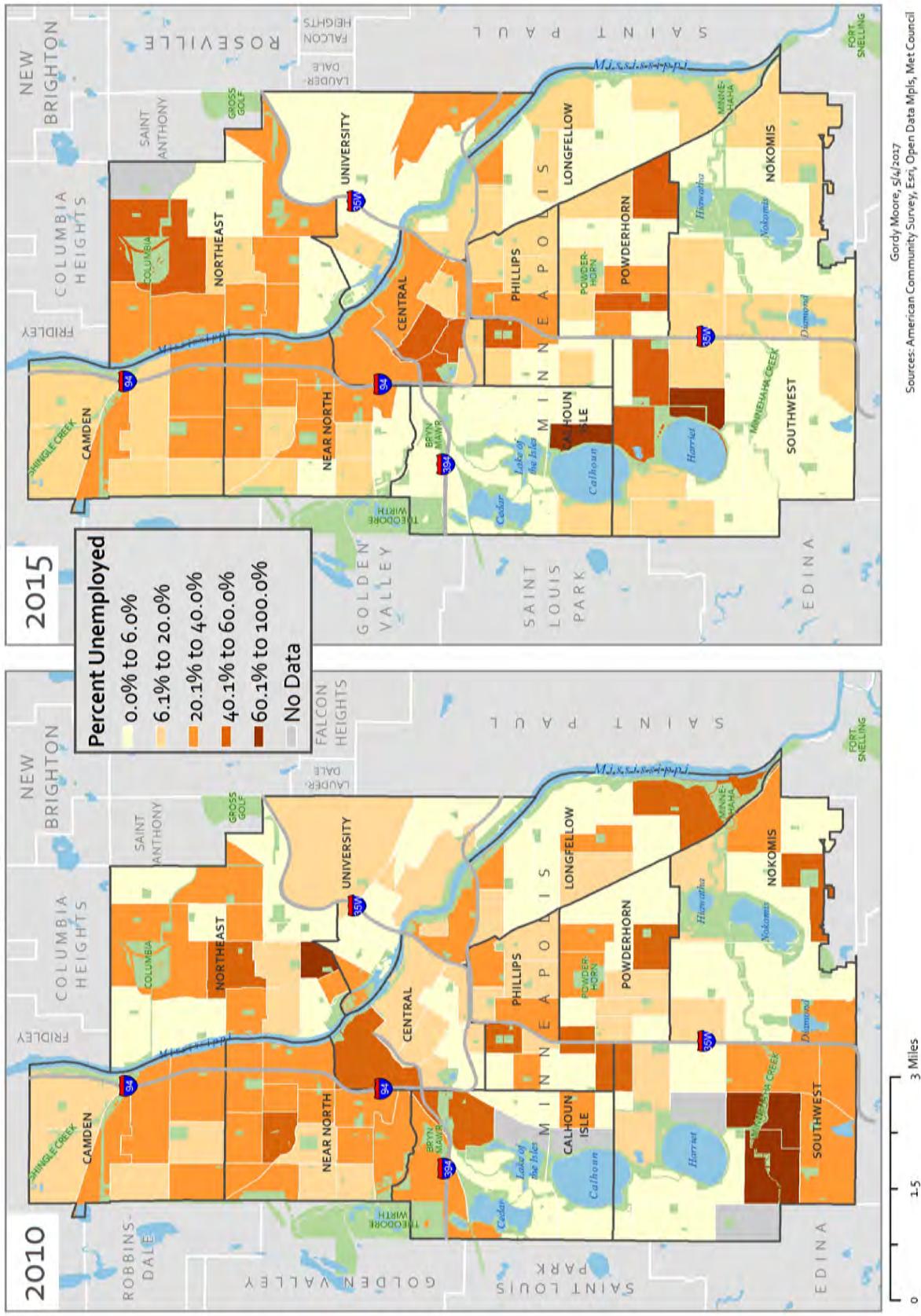


Unemployment in Minneapolis by Census Tract



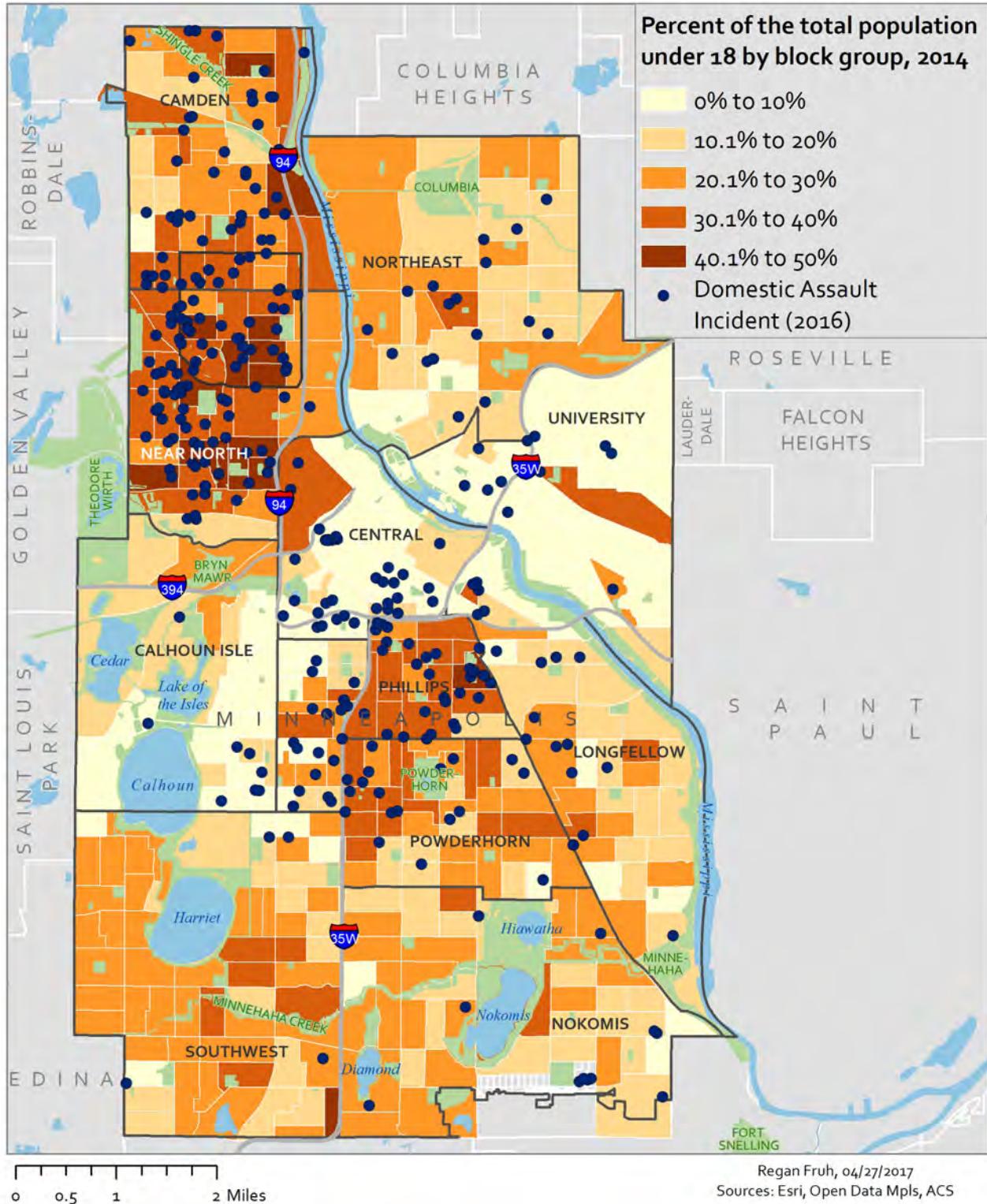
Sources: American Community Survey, Esri, Open Data Mpls, Met Council

Black Unemployment in Minneapolis by Census Tract

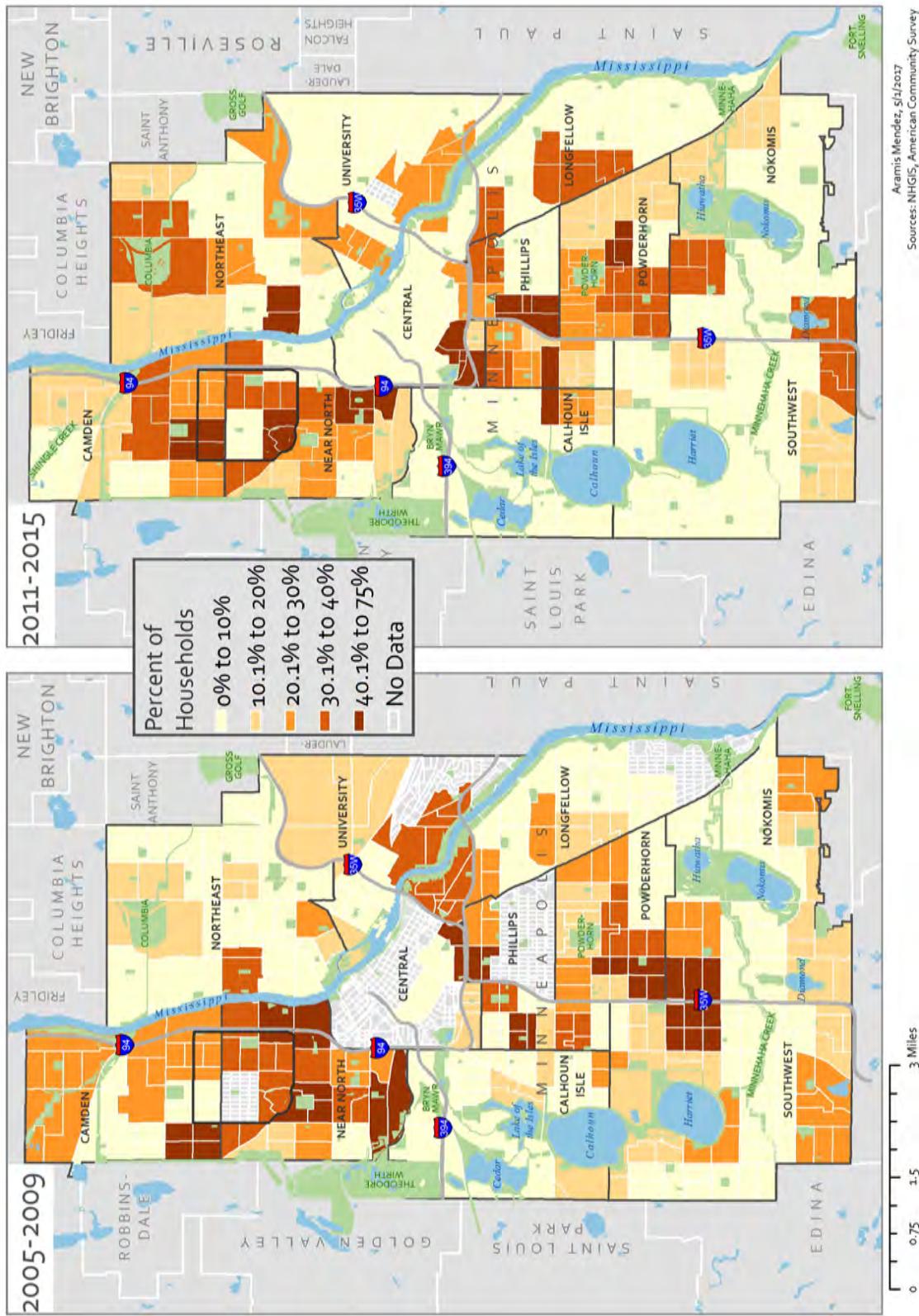


Gordy Moore, 5/4/2017
Sources: American Community Survey, Esri, Open Data Mpls, Met Council

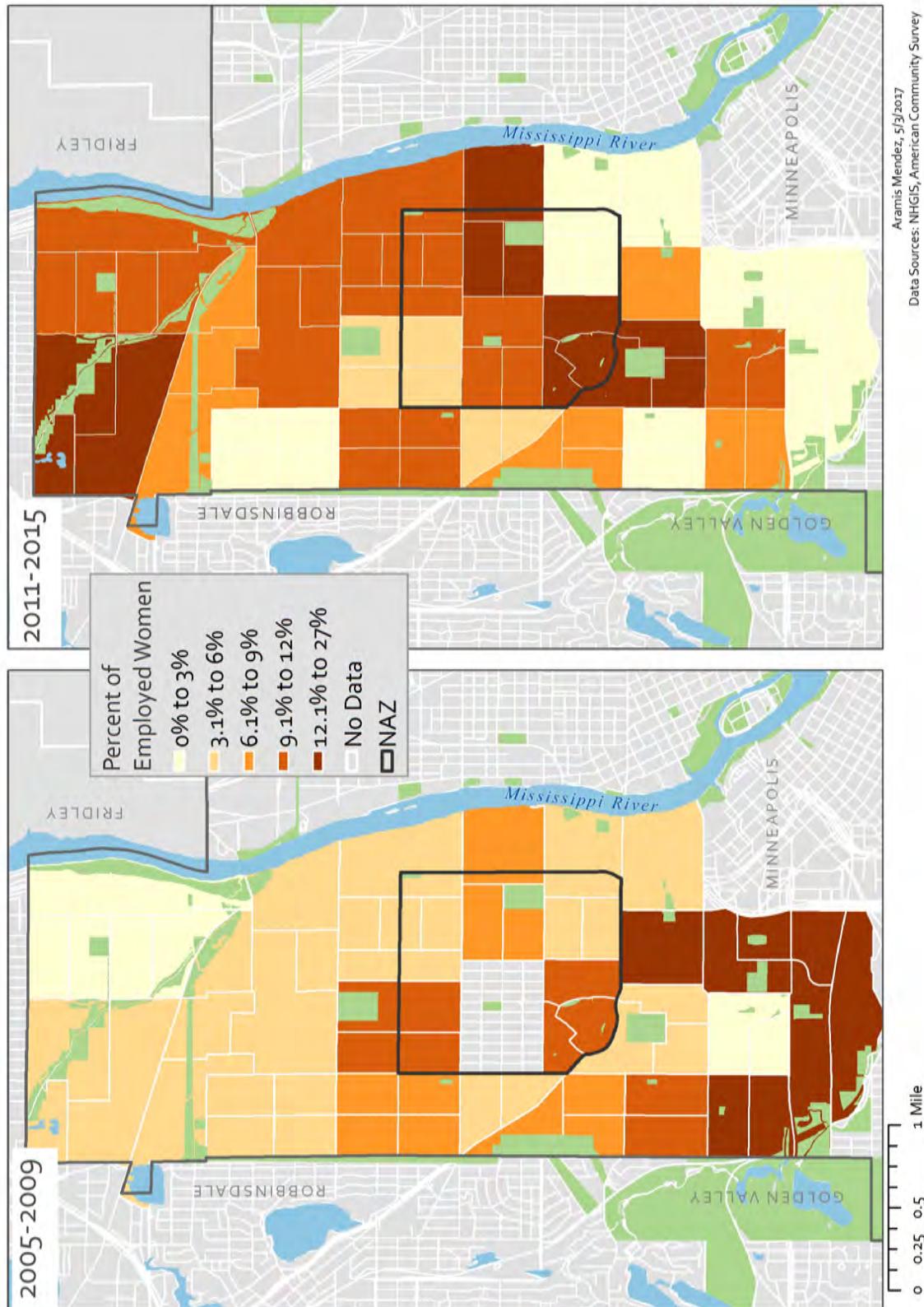
Domestic Violence Incidents and Youth Population in Minneapolis



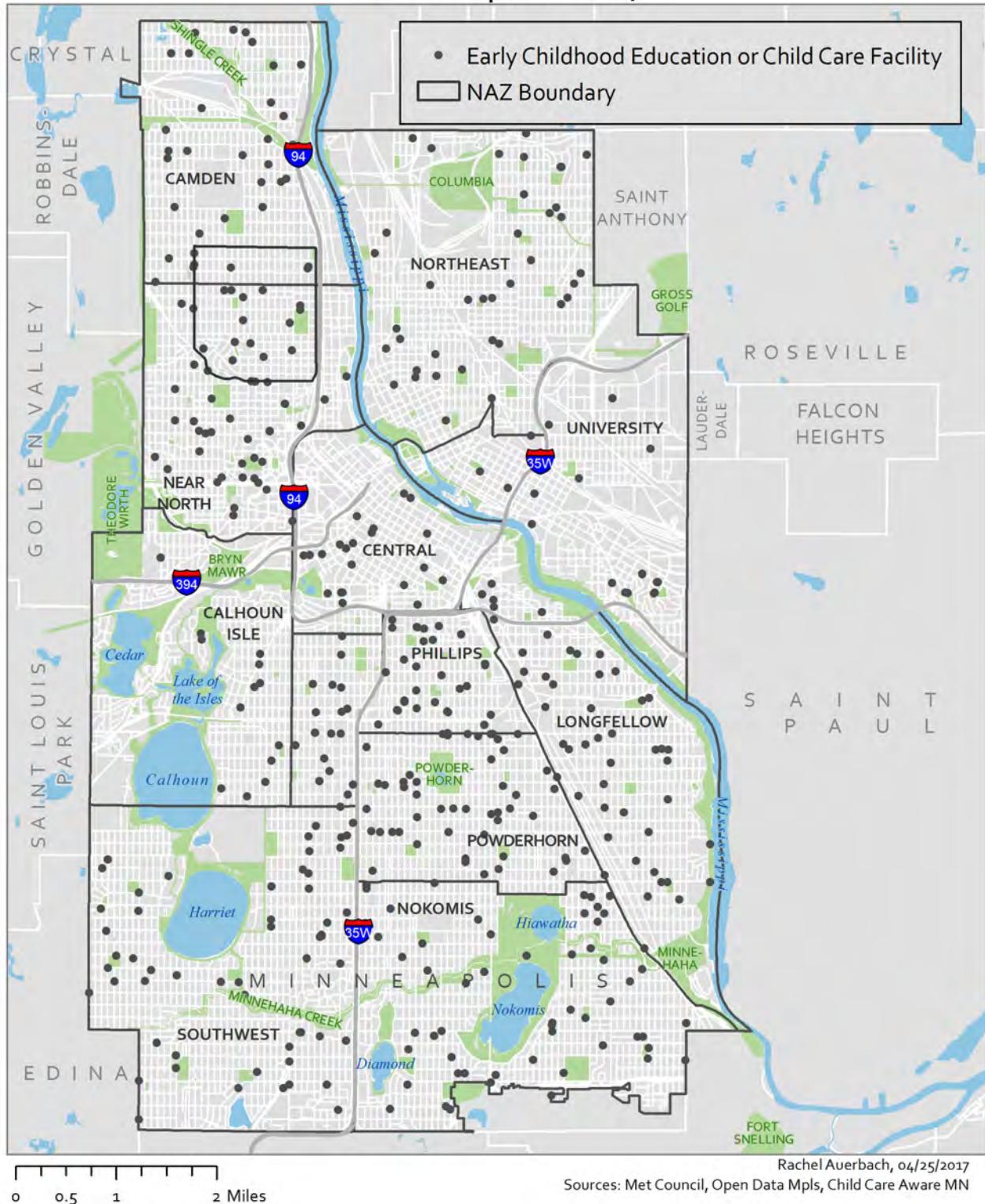
Female-Headed Households with Children Under 18 by Block Group



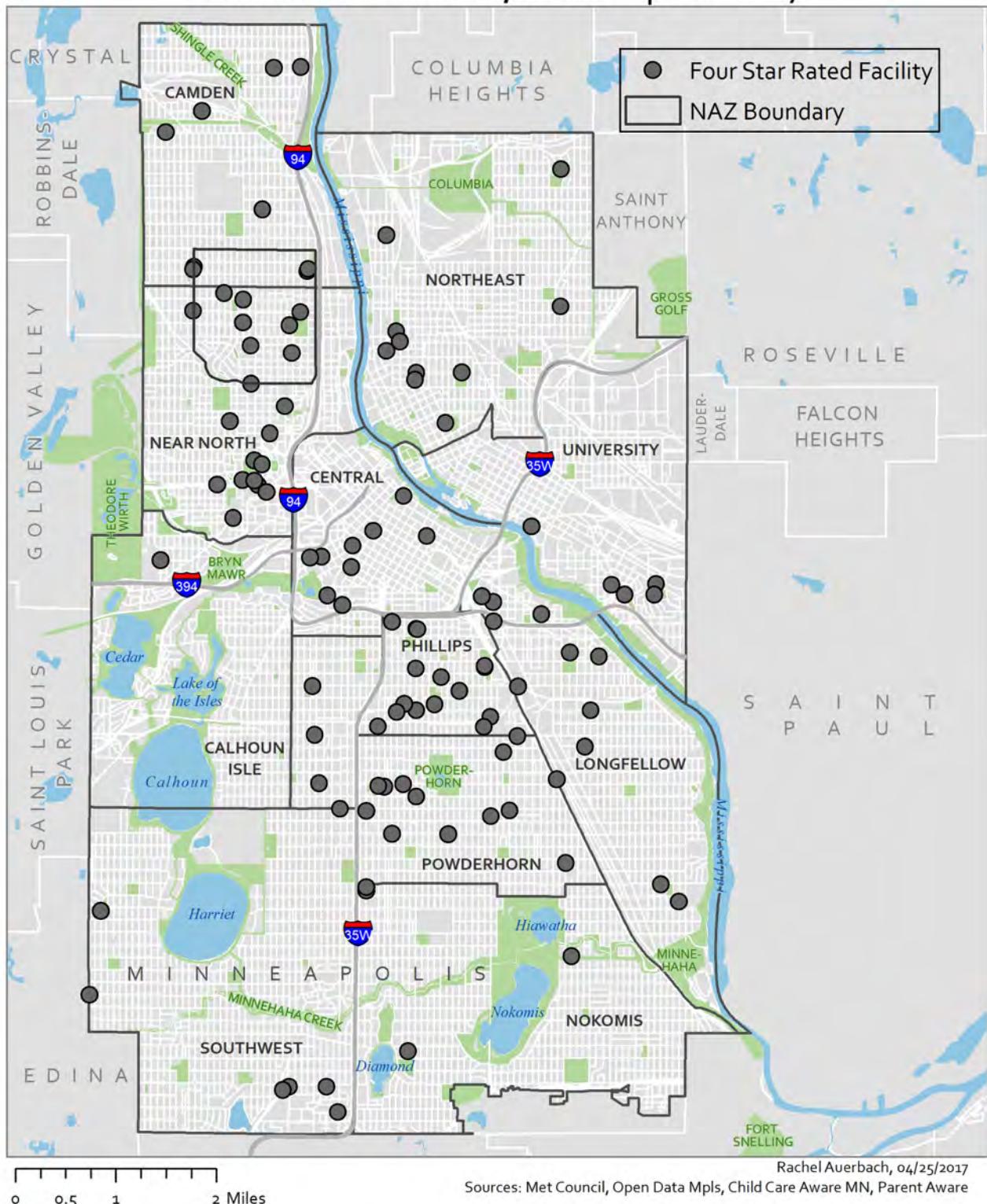
Employed Women Leaving for Work Between 4pm and 12am in North Minneapolis by Block Group



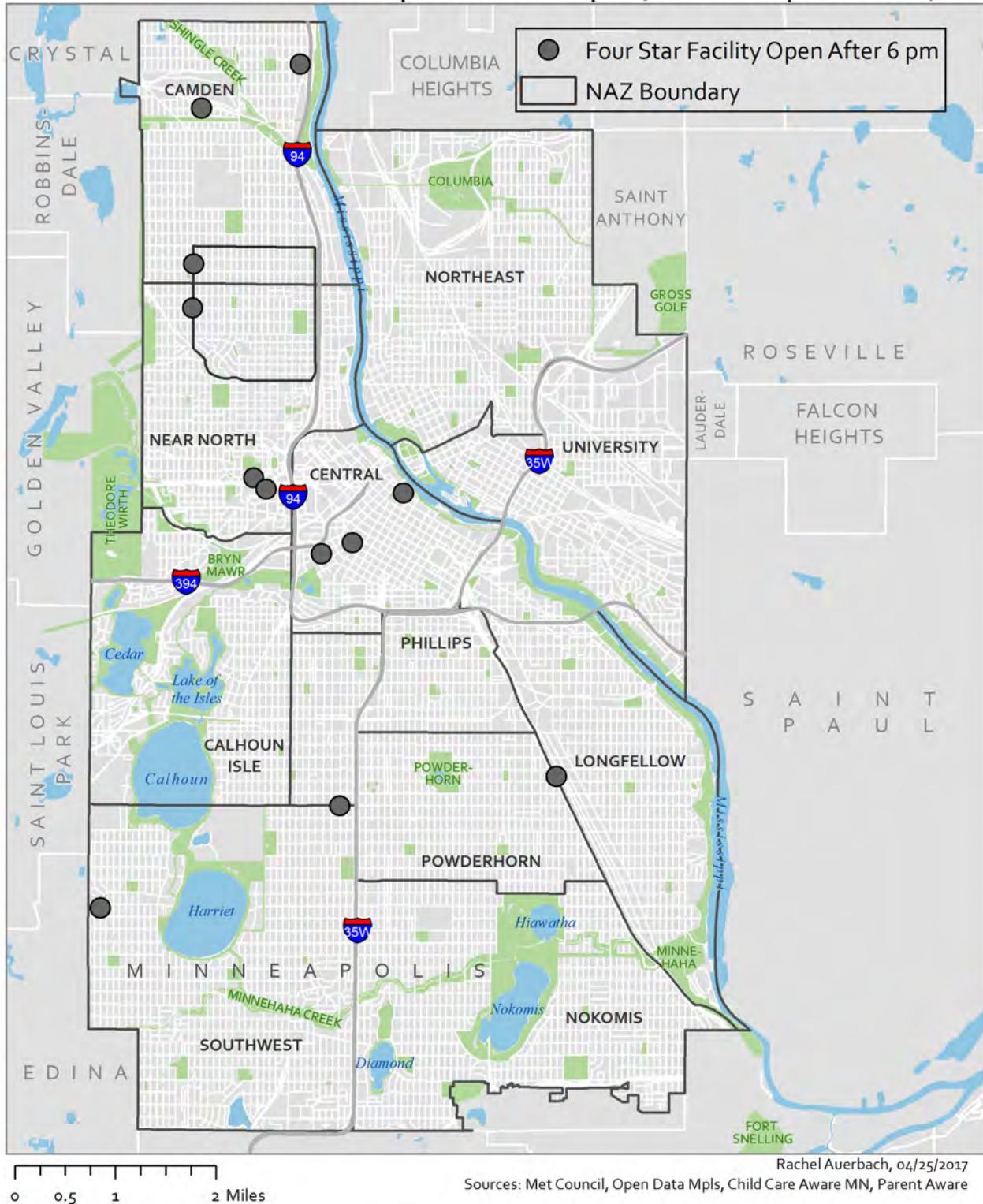
Early Childhood Education and Child Care Facilities, Minneapolis 2017



Four Star Rated Early Childhood Education and Child Care Centers, Minneapolis 2017



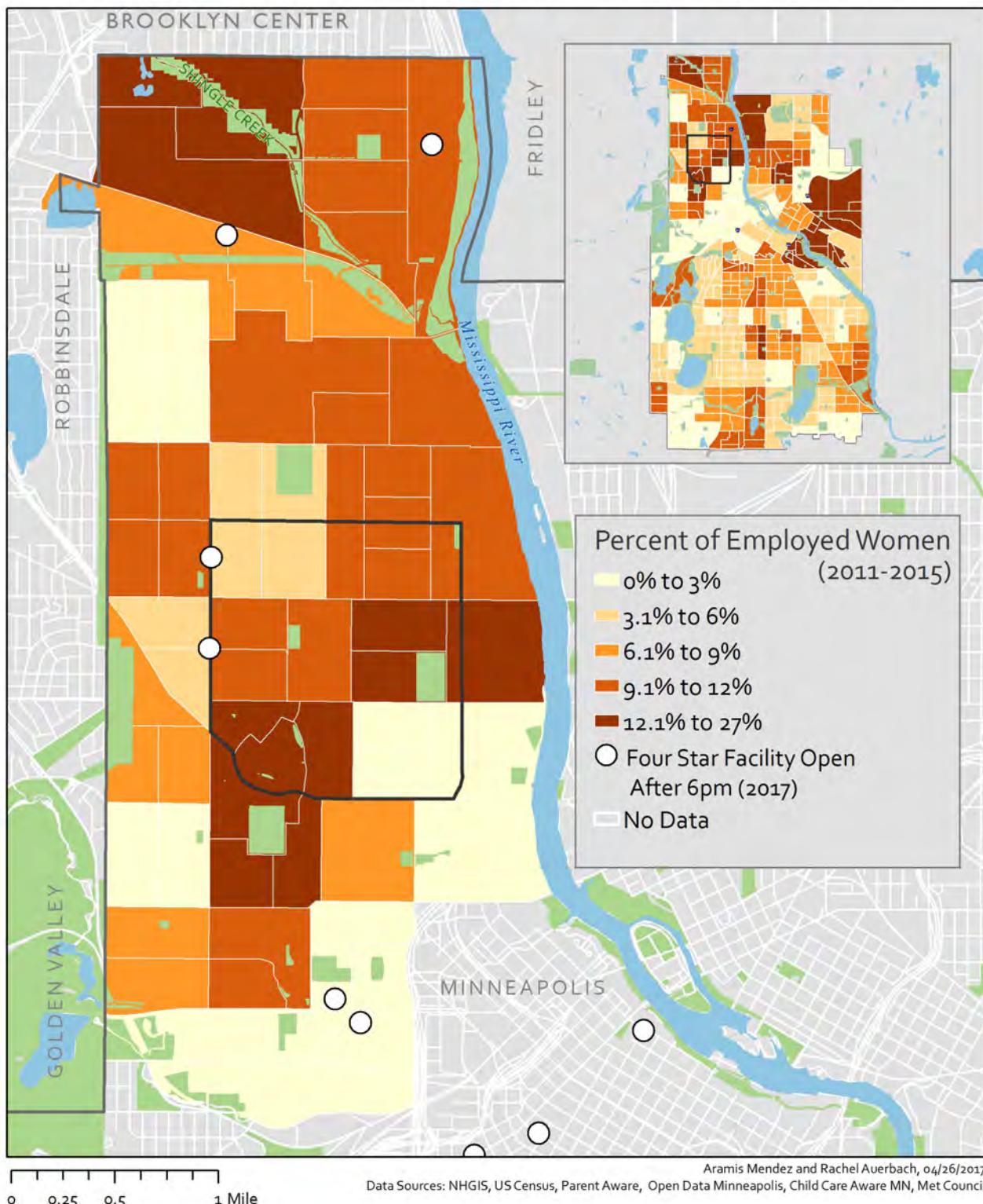
Four Star Rated Early Childhood Education and Child Care Centers Open After 6 pm, Minneapolis 2017



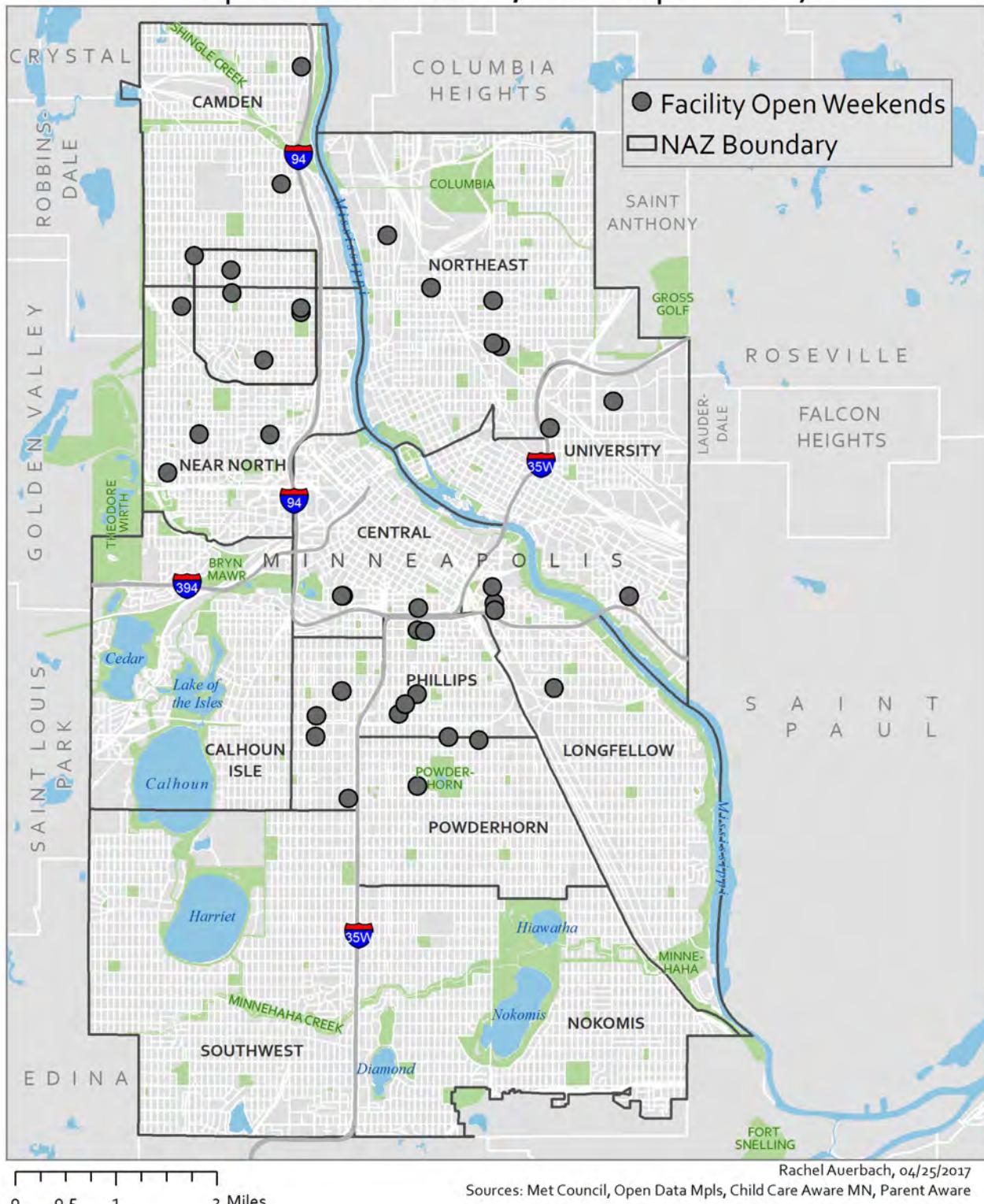
Rachel Auerbach, 04/25/2017

Sources: Met Council, Open Data Mpls, Child Care Aware MN, Parent Aware

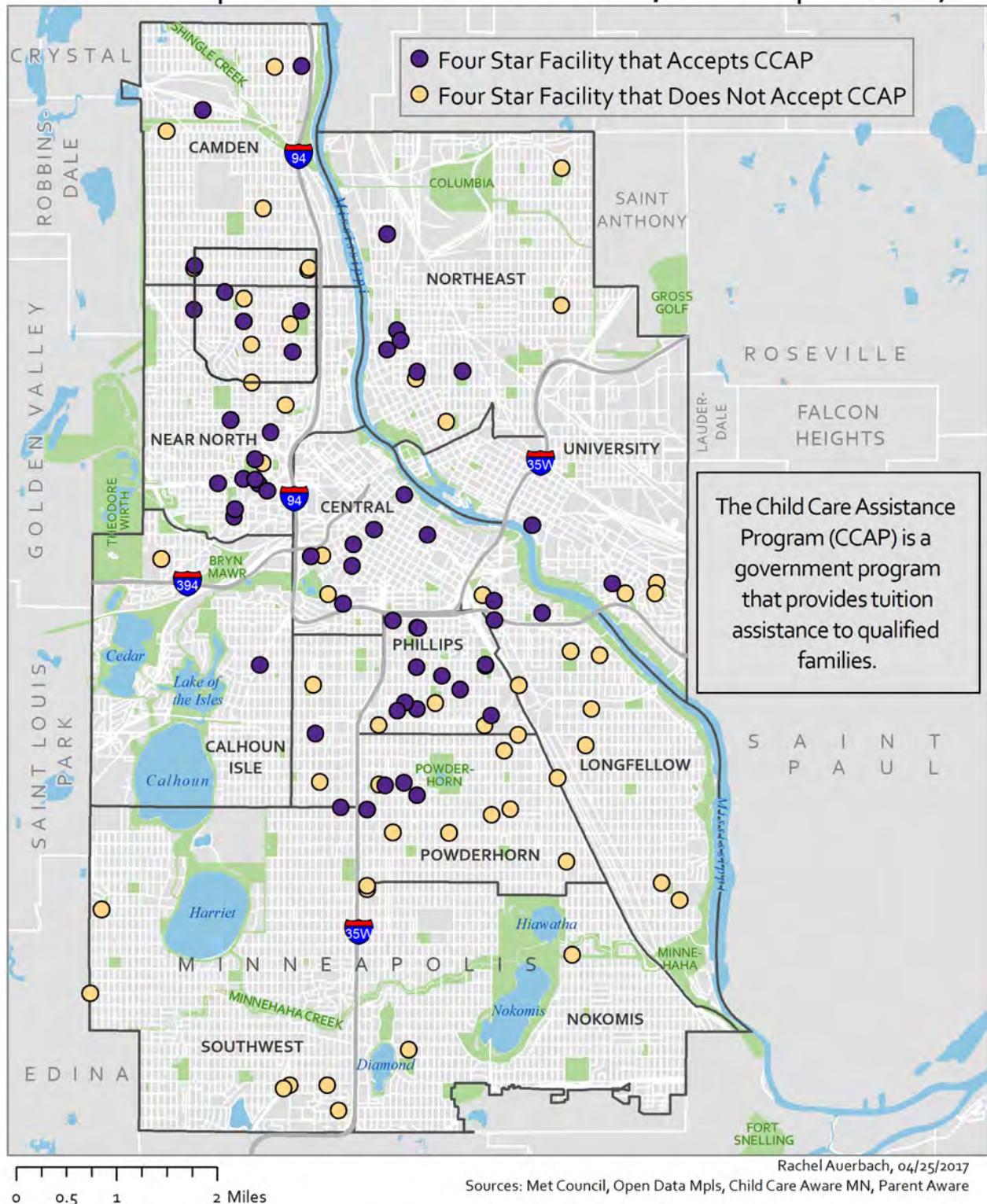
Employed Women Leaving for Work Between 4pm and 12am in North Minneapolis by Block Group and 4 Star Child Care Open Late



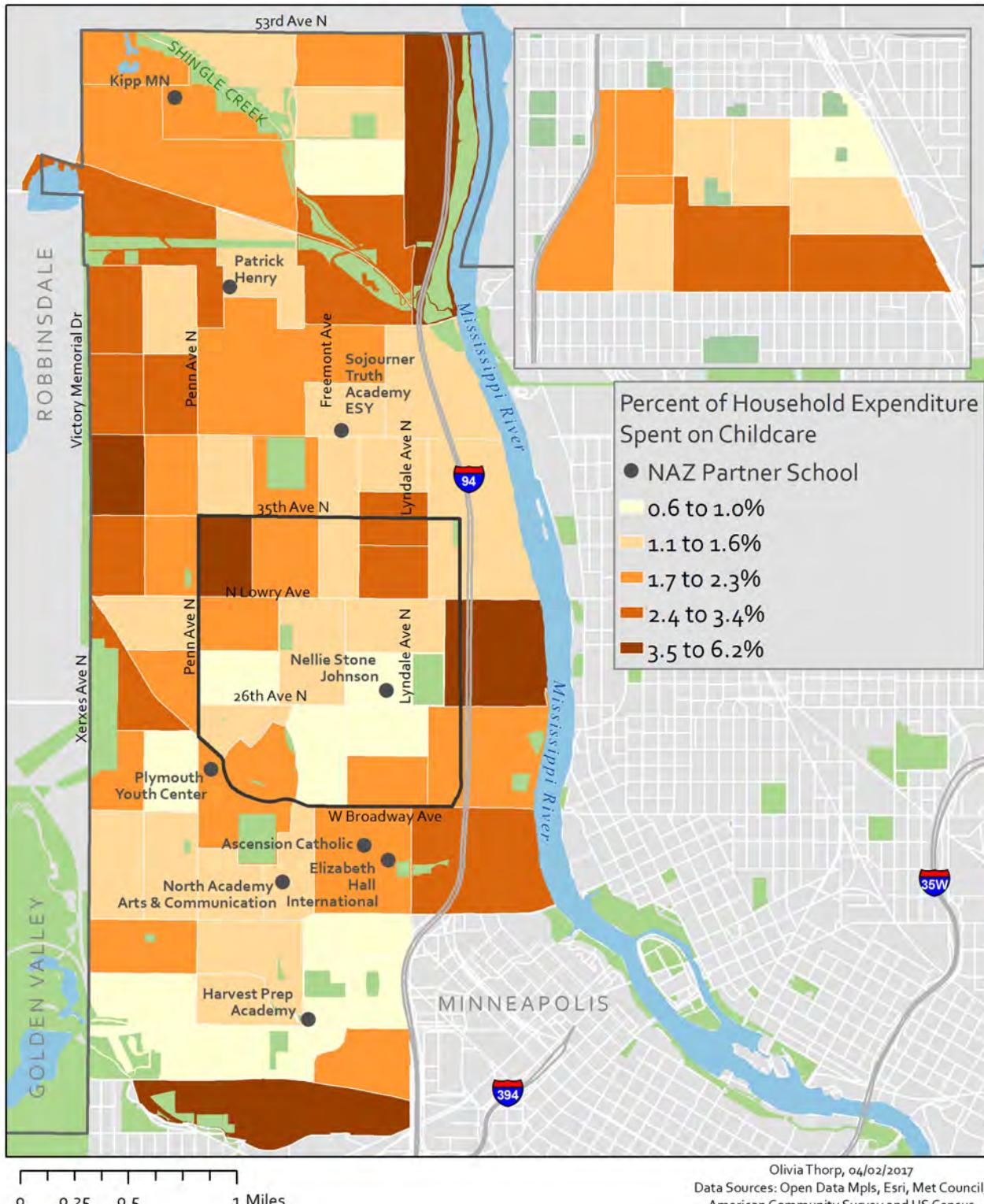
Child Care and Early Childhood Education Open on Weekends, Minneapolis 2017



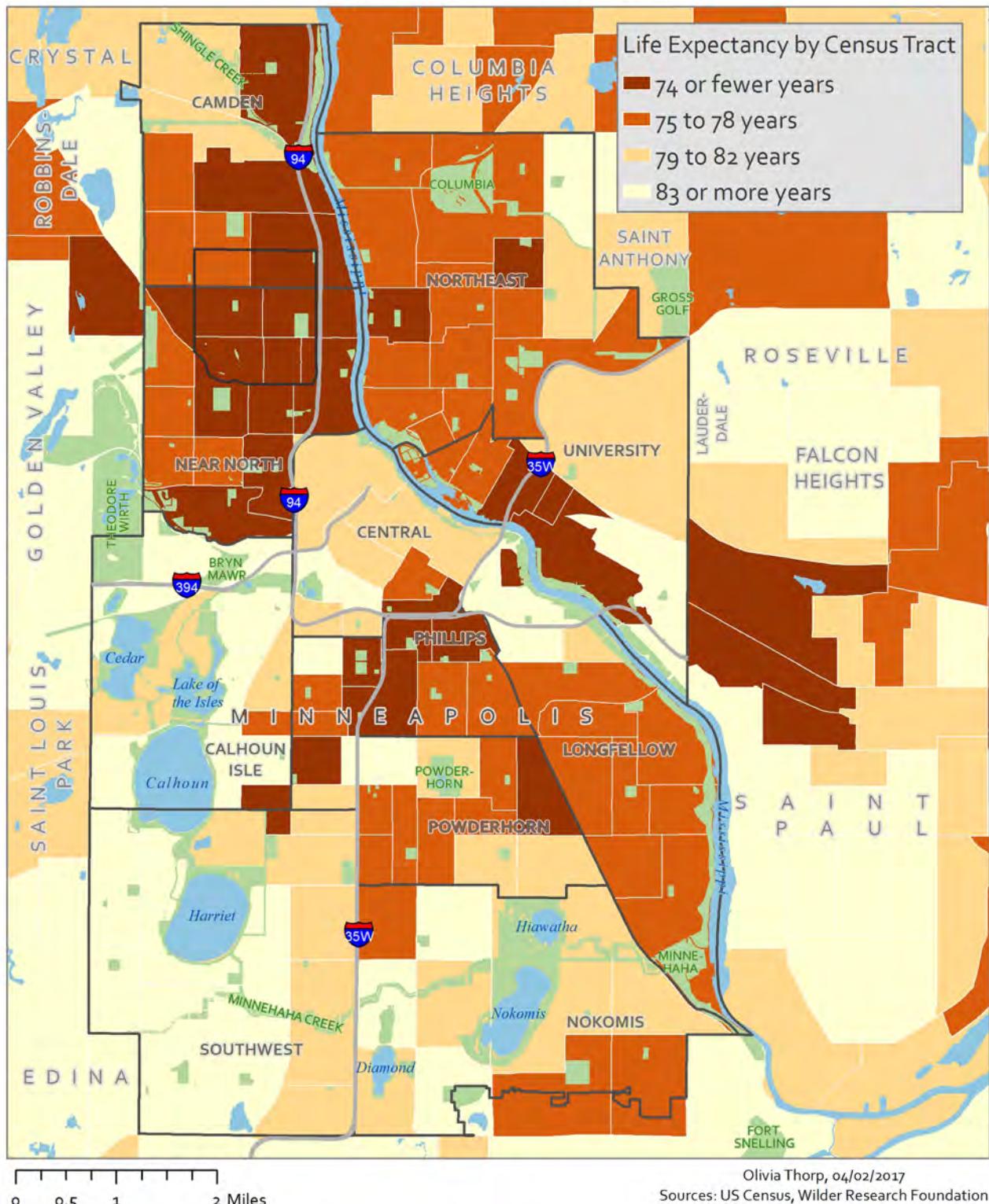
Four Star Early Childhood Education and Child Care Facilities that Accept CCAP Tuition Assistance, Minneapolis 2017



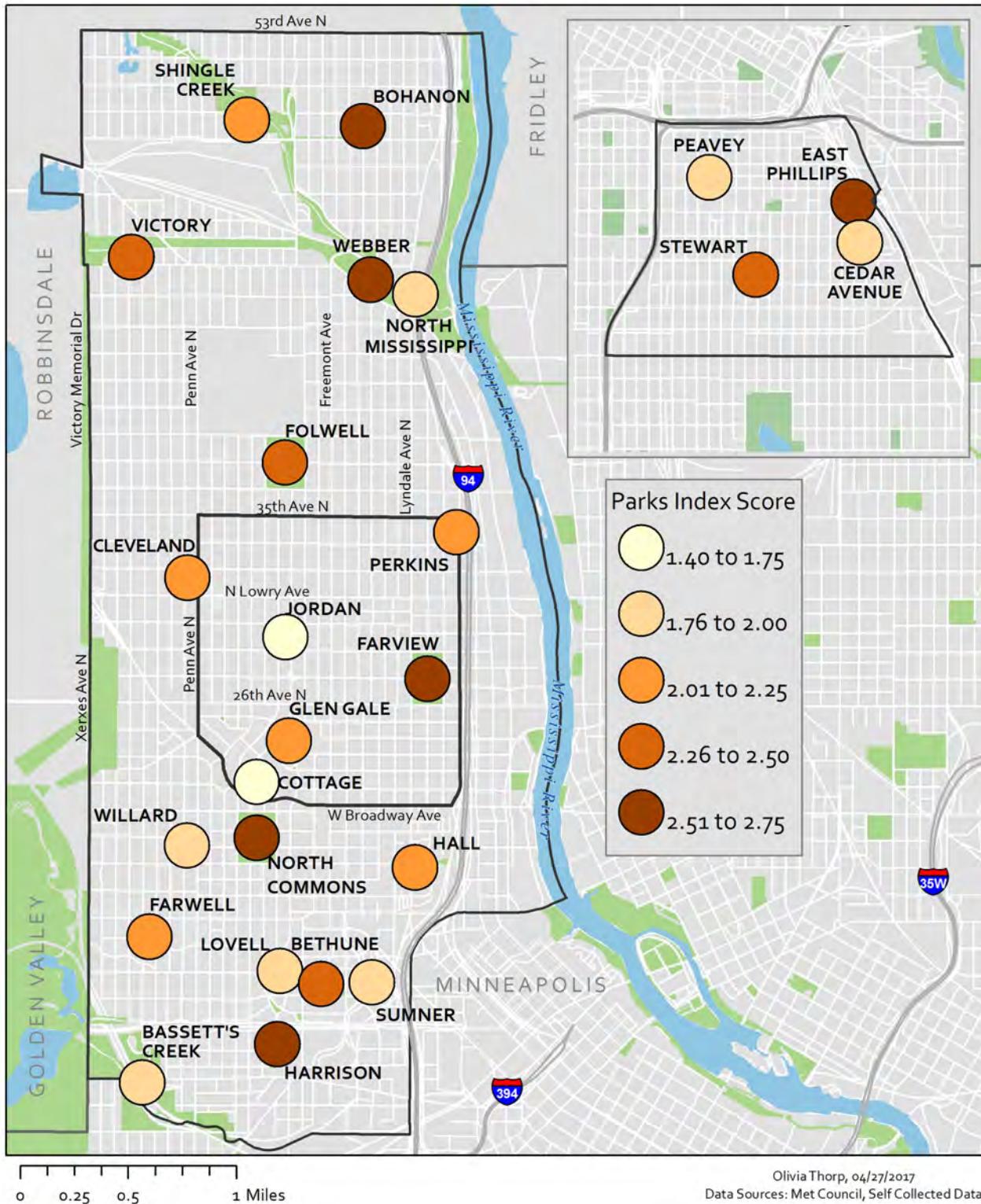
Childcare Expenditure in North Minneapolis and Phillips by Block Group, 2014



Average Life Expectancy in Greater Minneapolis, by Census Tract, 2007



Quality of Parks in North Minneapolis and Phillips, 2017



Appendix: Park Amenity Index

The following index is an assessment tool for the public parks in the Northside and Phillips communities. Our analysis is based on park accessibility to children in the Northside; our ratings are based on how well these parks cater to children specifically.

Index results are shown in **Figure 4.21**; parks are listed alphabetically and our assessment is subjective.

Rating System

A rating system based on a three-point scale was developed for the assessment:

1. Amenity is in poor condition
2. Amenity is in fair condition
3. Amenity is in good condition

Evaluation Criteria	Rating	Description
Playgrounds	1	In poor condition: Significant material deterioration; needs repair or replacement.
	2	In fair condition: Some material deterioration.
	3	In good condition: No material deterioration; safety surfacing with a border at the site.
Courts	1	In poor condition: cracks, surfacing required; fencing has large protrusions, holes/passages or defects; painting and striping are patchy and color has faded dramatically.
	2	In fair condition: cracks, some surfacing required; fencing has minor protrusions, or holes/passages that do not affect game play; painting and striping have flaking or color fading.
	3	In good condition: no cracks in surfacing; fencing is functional, free of protrusions, and free of holes/passages; painting and striping are appropriately located, whole, and uniform in color.
Fields	1	In poor condition; bare areas throughout the year, uneven playing surface, overgrown grass/patches, improper layout and/or orientation; fencing has large protrusions, holes/passages or defects.
	2	In fair condition; grass with bare turf areas in high-use locations, may not have proper layout and/or orientation, fencing if present has minor protrusions, or holes/passages that do not affect game play.
	3	In good condition: grass with few bare spots; proper slope and layout; fencing if present is functional, free of protrusions, and free of holes.
Paths	1	In poor condition; non-existent.
	2	In fair condition; uneven surfaces in places; some cracking; needs repair.
	3	In good condition; surface generally smooth and even; little to no repair.

Landscape	1	In poor condition; no signage; few/no trees
	2	In fair condition; needs maintenance
	3	In good condition; plenty of trees appropriately located to provide shade; beautifying landscape makes the space welcoming
Litter	1	A lot of litter; no trash cans available
	2	Some litter; trash cans are available
	3	Little/no litter; park is kept clean; an abundance of trash cans
Accessibility	1	Not in the neighborhood or no immediate housing nearby.
	2	Somewhat accessible. No/few bike racks.
	3	Very accessible on foot/bike. Located in the neighborhood. Plenty of bike racks
Restrooms	0	No restrooms available
	1	Restrooms available
Shelters	1	In poor condition; non-existent
	2	In fair condition; shelter available but no amenities or furnishings
	3	In good condition; well-kept facilities with amenities (grill, seating area, etc.).

PARK AMENITY INDEX SCORESHEET

BY: Rachel Auerbach, Regan Fruh, Aramis Mendez
Gordy Moore, Olivia Thorp

URBAN GIS, GEOGRAPHY DEPARTMENT
MACALESTER COLLEGE

4/29/2017

PARK NAME	RECREATION AMENITIES				SITE AMENITIES					SCORE
	Playgrounds	Courts	Fields	Paths	Landscape	Shelter	Restrooms	Accessibility	Litter	
BETHUNE	3	3	2	3	3	1	1	3	3	2.38
BASSETTS CREEK	2	1	3	3	3	1	0	3	3	2.00
BOHANON	2	3	3	3	3	3	1	3	3	2.63
CLEVELAND	3	2	2	3	2	2	1	3	2	2.25
COTTAGE	2	0	0	2	3	1	1	3	1	1.44
FAIRVIEW	3	2	3	3	3	3	1	3	3	2.63
FARWELL	3	0	2	3	2	0	3	3	3	2.11
FOLWELL	2	1	3	3	3	3	1	3	3	2.38
GLEN GALE	3	0	2	3	2	0	3	3	3	2.11
HALL	3	2	1	3	2	3	1	3	3	2.25
HARRISON	3	3	3	3	2	3	1	3	3	2.63
JORDAN	3	0	2	2	2	1	1	3	1	1.67
LOVELL	2	1	1	3	3	1	1	3	3	1.88
NORTH COMMONS	3	3	3	3	3	3	1	3	3	2.75
NORTH MISSISSIPPI	3	1	1	3	3	3	1	1	3	2.00
PERKINS HILL	3	3	2	3	2	2	0	3	1	2.25
SHINGLE CREEK	2	2	3	3	2	1	1	3	3	2.13
SUMNER FIELD	1	1	2	3	3	1	1	3	3	1.88
VICTORY	3	3	2	3	2	2	1	3	3	2.38
WEBBER	3	3	3	3	3	3	1	3	3	2.75
WILLARD	3	1	2	3	2	2	1	3	1	2.00

CEDAR AVENUE	2	2	2	3	3	1	0	3	3	2.00
EAST PHILLIPS	2	3	3	3	3	3	1	3	3	2.63
PEAVEY	1	3	2	2	3	1	1	3	3	2.00
PHILLIPS	Park was under renovation and will not be evaluated in this index									
STEWART	3	1	3	3	3	3	1	3	3	2.50

Section 5: Historical Demographics

Ruth Buck - Nina Escrivá Fernandez - Henry McCarthy - Eleanor McGrath

Introduction

In this final chapter, we seek to provide a deeper understanding of the Northside community by examining the legacy of historical racial and economic disparities and how they have contributed to demographic changes in Minneapolis over the course of the twentieth and twenty-first centuries. Our focus for this study was to look at the demographics of the Northside throughout history and explore how these patterns may have contributed to current conditions. We obtained decennial Census data from the U.S. Census Bureau from the years 1900 to 2010 to create our visualizations.

In our research, we focused on two central questions. First, we seek to identify and illustrate trends in how the demographic composition of the Northside, and Minneapolis as a whole, has changed since 1900. Second, we examine how past policy decisions and historic demographic trends continue to influence the Northside today.

Data and Methods

The Northside Achievement Zone is an organization that strives to close the achievement gap in the Northside of Minneapolis using a place-based strategy. Fundamental to a successful place-based strategy is an understanding of the factors that, over time, create structures which contribute to gaps in graduation rate, income, housing stability, and more. In our historical research of the Northside, we wanted to look at certain variables which we believe are critical to understanding how the achievement gap came to be so substantial. The variables we selected were race, age, areas of concentrated poverty, and discriminatory housing policies. By examining these variables over extended periods of time, it is possible to pick out larger, temporal trends in the demographic profile of Minneapolis' Northside. It is our hope that the following visualizations and interpretations will be of benefit to the Northside Achievement Zone.

One of the primary variables that drove our research

was race. Based on our existing knowledge that the demographic makeup of the Northside is predominantly Black/African American (Macalester College, 2016), we chose to map the percent of Black/African American population of Minneapolis through a series of comparison maps. Using historical decennial Census data from the National Historical Geographic Information System (NHGIS) and the National Archives and Records Administration (NARA), we created a series of maps that allowed us to compare the demography of Minneapolis from decade to decade. There are some limitations to using decennial Census data, which we used for all maps from 1900 to 1980. One particular historic limitation is that prior to 1960, the census taker noted the race of the residents and residents were not allowed to self-identify. This significantly decreased the accuracy of historical censuses, as the way that the census taker was instructed to make this determination changed from year to year. In addition, there was no way to identify people of multiple races until the 2000 Census. Finally, in large-scale census surveys, it can be difficult to account for the entire population, and this often leads to an underrepresentation of certain portions of the population. These factors all contribute to the limitations of using Census data.

For the years 1900, 1920 and 1940 the National Archives has census data at the individual level. These data were released to the public by NARA at the individual level 72 years after it was originally collected. We accessed these individual records using FamilySearch, an ancestry website that hosts digital files of the records and has partially indexed them. From that point, we copied the indexed records, transcribed the remaining handwritten records into a Microsoft Excel file, and aggregated the individual records to the enumeration district level. Enumeration districts are the pre-1950 equivalent of census tracts and were defined as the area that a single census enumerator would be able to cover on foot. In addition, using digital copies of enumeration district maps, which had also been published by NARA, we digitized the enumeration districts from each year

in order to map the tabular data for these decades. From 1950 to 1980, our data are aggregated to the census tract level and from 1990 onward to the block group level. These data were downloaded from the NHGIS website, which provided both the tabular data and digitized shapefiles for the historical census tracts. Visualizations of the changing demographics of Minneapolis and the Northside coupled with contextual information of the various decades helps to refine our knowledge of the Northside.

In addition to a population that is primarily Black/African American, the Northside also has a significantly high concentration of young people compared to the rest of Minneapolis. To improve our understanding of age dynamics in the population, we mapped the prevalence of young people living in Minneapolis for the various decades that we studied. Although the young people living in Minneapolis several decades ago are clearly not in that age bracket today, our study of age over time provides insight into how the concentration of young people has changed as well as how population booms and declines are visible in space. To gain a proper understanding of the youth population in Minneapolis and the Northside, we chose to break down the age range into two groups: 0 to 5 and 0 to 18. This choice to look at age in two different ways allows us to develop a broad understanding of young people in Minneapolis as well as a more refined understanding of the youngest inhabitants of the city and its suburbs.

Another important variable that we incorporated in our research was Areas of Concentrated Poverty. These areas are defined as neighborhoods in which at least 40% of the population is living on an income that is at or below 185% of the federal poverty threshold, which, for the year 2015, would be \$44,875 for a family of four (U.S. Census Bureau, 2017). Residents in Areas of Concentrated Poverty in Minneapolis, and in the United States as a whole, are disproportionately children or members of minority groups. The demographic group most likely to live in an Area of Concentrated Poverty is poor Black/African American children under the age of six, 28% of whom live in high-poverty neighborhoods (Jargowsky, 2015). Understanding where these areas exist in Minneapolis and what their demographics are is important to NAZ's work in closing the

achievement gap and combatting generational poverty. Using data from the American Community Survey (ACS) and the Metropolitan Council, we were able to visualize Areas of Concentrated Poverty in Minneapolis and how they intersect with variables such as race and age. It is important to note, however, that ACS data often have large margins of error which indicate uncertainty in the data values. We deal with this issue in data quality by using five-year estimates, which generally have smaller margins of error and thus are more accurate than the ACS one-year estimates.

In our research we also examined the legacy of discriminatory housing policies implemented during the 1930s by Minneapolis' local government, which were based on the "residential security" appraisal maps produced by the federal Home Owner's Loan Corporation (HOLC). Using digital copies of historic maps and other documents, we were able to analyze demographic trends in neighborhoods in Minneapolis that had been characterized as "slums" and unfit for development. Our research on historical discriminatory public policies focused primarily on the practice of redlining and on the 1935 "Natural Areas" map provided to us by NAZ CEO Sondra Samuels. Redlining is the discriminatory practice in real estate lending or buying where certain geographic areas are disinvested in and devalued based on the race of residents. While the practice was outlawed in the Fair Housing Act of 1968, the legacy of redlining is still felt in many communities across the country and is continued to be seen as a major impediment to Black/African American home ownership and accumulation of wealth today (Nelson et al., 2016). We obtained digitized copies of the HOLC residential security maps from the University of Richmond Digital Scholarship Lab's Mapping Inequality: Redlining in America project.

The 1935 "Natural Areas" map was a descriptive map published in 1937 by the Minneapolis Council of Social Agencies and the Bureau of Social Research that identified so-called "natural areas" in Central Minneapolis. We digitized the original map (see Figure 5.21), essentially converting it into a format that we could overlay on maps of other data. This allows us valuable insight into how conditions present in the early twentieth century persist today. While it is important to note that the 1935

“Natural Areas” map was descriptive in nature and not necessarily used in shaping public policy, there is significant correlation between the areas designated as “slums” or “workingmen’s homes” and areas that were redlined during the same period.

Discussion/Analysis

While individual maps that show a variable in a single decade offer a glimpse into that specific point in time, temporal change is best illustrated by examining each decade as part of a series. To properly analyze our data, it was critical to visualize as many decades as possible for the variables we chose. The most thorough series of maps that we produced were those depicting the age and race demographics of the Northside and Minneapolis as a whole (these maps range from 1900 to 1980 with the exception of 1910 and 1930 due to a lack of available data). As mentioned above, we also analyzed the prevalence of Areas of Concentrated Poverty on the Northside as well as the legacy of discriminatory housing policies established in the 1930s.

The current population of North Minneapolis is predominantly Black/African American, but this has not always been the case. The maps that display race in the Northside, Minneapolis, and its suburbs over the decades of the 20th century enhance our understanding of how the Northside’s racial makeup came to be what it is today. It is worth noting that the suburbs of Minneapolis were included in several of these maps to help answer questions about “white flight,” the exodus of white populations in the mid-20th century from urban places with increasing minority populations.

In 1900, the Northside, like many parts of the region, was overwhelmingly white. **Figure 5.1** shows the Black/African American population in 1900 as a percent of total population. At this point in time, most of the Northside was white with many enumeration districts having recorded no Black/African American residents at all. The highest concentration of African American/Black residents was 6.4% of the district’s total population. Important to note is that at this time, the census enumerator decided the race of the citizen (not until the 1960 were citizens allowed to fill out their information themselves).

As the years of the early 20th century progressed, the Northside began to gradually diversify and in 1920 (**Figure 5.2**) the highest concentration of Black/African American residents in any district reached 18.6%, almost three times the highest concentration in 1900. Between 1920 and 1940 (**Figure 5.3**), the highest concentrations of Black/African American residents in the Northside nearly doubled from 18.6% to 36.2%. While these increases are significant, the effects of discrimination are quite evident as these concentrations are highly localized and the majority of the Northside remained white over the first 40 years of the 20th century.

Figure 5.4 presents a comparison of 1950 and 1960 Black/African American populations and shows that during these decades the highest concentrations of African-American people, as well as the largest increases in percentage, were located in the Near North and Powderhorn neighborhoods. The lightest yellow shading represents tracts with Black/African American populations between 0 and 10%, a significantly greater range of values from the lightest yellow ranges in the earlier figures. The darkest brown census tracts show Black/African American populations between 40.1% and 55% Black/African American. This time period is significant as it marks the first time that any census tracts had reached a Black/African American population more than half of the total population of the area.

The comparison of the decades of 1970 and 1980 in **Figure 5.5** suggests that the concentration of the Black/African American population continued to increase not only in the Northside but in certain parts of the suburbs as well. In 1970, the Northside was still predominantly white (with about half of the census tracts between 0% to 1% Black/African American), but by 1980 there was a significant increase in the percentage of Black/African American inhabitants (with only two census tracts remaining in the 0% to 1% range), particularly in the Near North community. The increased percentage of Black/African American residents across Minneapolis as a whole may hint at diversification of the city, but there are clearly defined clusters of very high percentage Black/African American population. This fact has substantial implications when discussing access, income, and achievement.

An alternative visualization of the demographic changes that occurred between 1970 and 1980 is presented in **Figure 5.6**, which shows white flight out of Minneapolis (especially from areas of the Northside) to suburban Hennepin County. Depicting positive (purple symbols) and negative (orange symbols) change in the total white population from 1970 to 1980, the map quite clearly illustrates the loss of white population from the city of Minneapolis (and the gain of white population in the southern and western suburbs) that occurred during this time period. Looking back to Figure 5.4, it is likely that the emergence of census tracts with majority populations of Black/African American residents set the stage for a later exodus of the white population in the Northside. The substantial white flight that occurred between 1970 and 1980 presents a shift in the dominant racial group of the Northside, leading to the modern demographic makeup of the area.

Given NAZ's focus on children, we decided to also explore the history of age demographics in the area. Figures 5.7 to 5.16 illustrate changes in the age profile of Minneapolis. More specifically, Figures 5.7 to 5.11 focus on the youth population aged 0 to 5 and Figures 5.12 to 5.16 on the youth population aged 0 to 18. Again, the suburbs are included in some of these maps in order to illustrate broader trends such as the post-WWII baby boom. These maps create a framework of understanding that allows for further research into the age dynamics of the Northside. Historical and present factors such as spikes in birth rates may have significant implications for the Northside today.

Figure 5.7 shows the percentage of the population aged 0 to 5 in North Minneapolis in 1900. We can see that throughout the Northside, this population was greater than 10% in all enumeration districts. **Figures 5.8 and 5.9** depict the population aged 0 to 5 in the years 1920 and 1940. From 1900 to 1920, the Northside experienced an increase in the concentration of very young children, while there is a notable decline in the percentage of very young children present in the area in 1940. **Figure 5.10** compares the percentage of total population aged 0 to 5 between the decades of 1950 and 1960. Moving from Figure 5.9 to Figure 5.10, we see that the greatest concentrations of children aged 0 to 5 in the Northside remained fairly consistent from 1940 to

1950 and 1960, with higher percentages present in the areas of the Northside bordering downtown and along the northern suburban boundary. It is also interesting to note the extremely high percentages of very young children in the suburbs in both 1950 and 1960, reaching all the way to between 20.1% and 25% of the population in New Hope and in part of Brooklyn Center in 1960. **Figure 5.11** shows a decline in the overall percentages of population aged 0 to 5 by the decades of 1970 and 1980, but also shows that the cluster of very young children has persisted in Near North, representing the highest proportions anywhere in the city.

In addition to looking at the youth population aged 0 to 5, we also considered the broader youth population aged 0 to 18. In **Figures 5.12 and 5.13**, we see that overall, the percentage of youth population aged 0 to 18 decreased slightly between 1900 and 1920, especially in the Near North community. Similar to the trends we saw with the youth population 0 to 5 in Figure 5.9, **Figure 5.14** displays a notable decline in percentage of youth aged 0 to 18 present in the Northside by 1940. **Figure 5.15** compares the percentage of total population aged 0 to 18 between the decades of 1950 and 1960. It is clear from these maps that the greatest concentrations of youth in the mid-20th century occur in the suburbs (from 40.1% to 55% population aged 0 to 18), but it is also clear that the Northside has a greater concentration of youth (primarily in the range of 30.1% to 40%) than the rest of the city of Minneapolis. **Figure 5.16** shows a decline in the overall percentages of population aged 0 to 18 by the decades of 1970 and 1980, but again also shows that the cluster of youth population in Minneapolis remains in the Northside, and the Near North community specifically.

A comparison of Figures 5.10 and 5.11 illustrates the aging of the post-WWII baby boom generation, as the percentages of population aged 0 to 5 drop significantly between 1960 and 1970 across all areas of the city and nearby suburbs. Comparing Figure 5.11 to Figure 5.16 suggests that by 1970 the majority of the youth population (aged 0 to 18) was older than five years of age. Figure 5.16 shows a population in 1970 that is noticeably younger than the population in 1980; the high percentages of young people aged 0 to 18 in 1970 are indicative of the later years of the baby boom (which ended in

approximately 1964). However, both Figures 5.16 and 5.11 clearly demonstrate that the Northside remains as the area of greatest concentration of overall youth population and of very young children within the city of Minneapolis and its surrounding suburbs. By comparing the same area over the decades, it is possible to see the effects of events such as the baby boom.

Figure 5.17 illustrates the Areas of Concentrated Poverty in Minneapolis in the year 2015 with the lighter shade of purple. Neighborhoods that are overlaid with darker purple hatching indicate Areas of Concentrated Poverty where 50% or more of the residents are people of color, also known as Racially Concentrated Areas of Poverty (RCAP). The NAZ boundary itself falls within one such Racially Concentrated Area of Poverty, as does the majority of North Minneapolis.

Figures 5.18 and 5.19 show that many of the high poverty neighborhoods without 50% or more residents who are people of color still tend to have relatively high percentages of Black/African American and Hispanic residents. Additionally, Figure 5.18 clearly demonstrates that in most RCAPs, Black/African American residents comprise a majority of the 50% of the population that are people of color. It is important to note here that while Figures 5.18 and 5.19 have the same color scheme, the class breaks on these two maps are different. In Figure 5.18, for example, the darkest shade of brown indicates areas with 50.1 to 90% Black/African American population whereas the darkest shade in Figure 5.19 represents block groups with 40.1 to 70% Hispanic population. These visualizations help to illustrate the relationship between concentrated poverty and race in Minneapolis.

Based on comments from Sondra Samuels regarding the disproportionate presence of young children in the Northside, we decided to visualize and run statistical tests on the number of children under the age of five and the relationship of clusters of youth to areas of concentrated poverty. **Figure 5.20** uses five-year data estimates from the ACS on the percentage of children in each block group under the age of five to depict statistically significant clusters of either above average or below average rates of children under five. This map supports NAZ's understanding of the

Northside as an area with high numbers of young children, showing large clusters of block groups with children under five both in the Northside and within the NAZ boundary more specifically. Areas of Concentrated Poverty are also included on this map because, as stated earlier, poor children are one of the demographic groups most likely to live in high poverty neighborhoods, something that has a highly adverse impact on future economic and social mobility. Figure 5.20 shows that all of the clusters of above average rates of children under five on the Northside, as well as most of the clusters of high rates of children under five throughout Minneapolis, exist in Areas of Concentrated Poverty.

Figure 5.21 is a reproduction of the 1935 "Natural Areas" map that was provided to us by NAZ CEO Sondra Samuels. Earlier in this chapter we described the correlation between the areas designated on this map as "slums" or otherwise undesirable, with areas that were subsequently redlined. **Figure 5.22** shows these so-called "natural areas" overlaid on a map of grades the Home Owner's Loan Corporation assigned to Minneapolis neighborhoods in the 1930s. Figure 5.22 clearly shows that areas that were designated by HOLC as "hazardous" or "definitely declining" were the same areas described as "slums" or "workingmen's homes" by city planners in Minneapolis. Residents in these areas, which Figure 5.23 shows were often nonwhite, were systematically excluded from the economic growth other Americans experienced from New Deal policies.

Figure 5.23 emphasizes the role of race in 1930s housing policy, overlaying the 1935 "Natural Areas" map on data from the 1940 decennial Census showing the percentage of the total population that was nonwhite by census tract. Areas designated as "slums," "workingmen's homes," and "heavy industrial" all have significantly higher nonwhite populations than areas such as the "Gold Coast" which were described as more desirable for investment. In **Figure 5.24** we overlaid the 1935 "natural areas" on top of 2011-2015 ACS data on the percentage of the total population that is Black/African American by block group. While Figure 5.24 uses the same color scheme as Figure 5.23, the class breaks are different, with the darkest shade of brown now indicating block groups with 50.1 to 90% Black/African American population. Figure 5.24 clearly illustrates

the continued legacy of historical discriminatory policies today. Areas that were redlined in the 1930s continue to have generally higher percentages of Black/African American residents today than areas that were marked as desirable for investment almost a century ago.

Conclusions

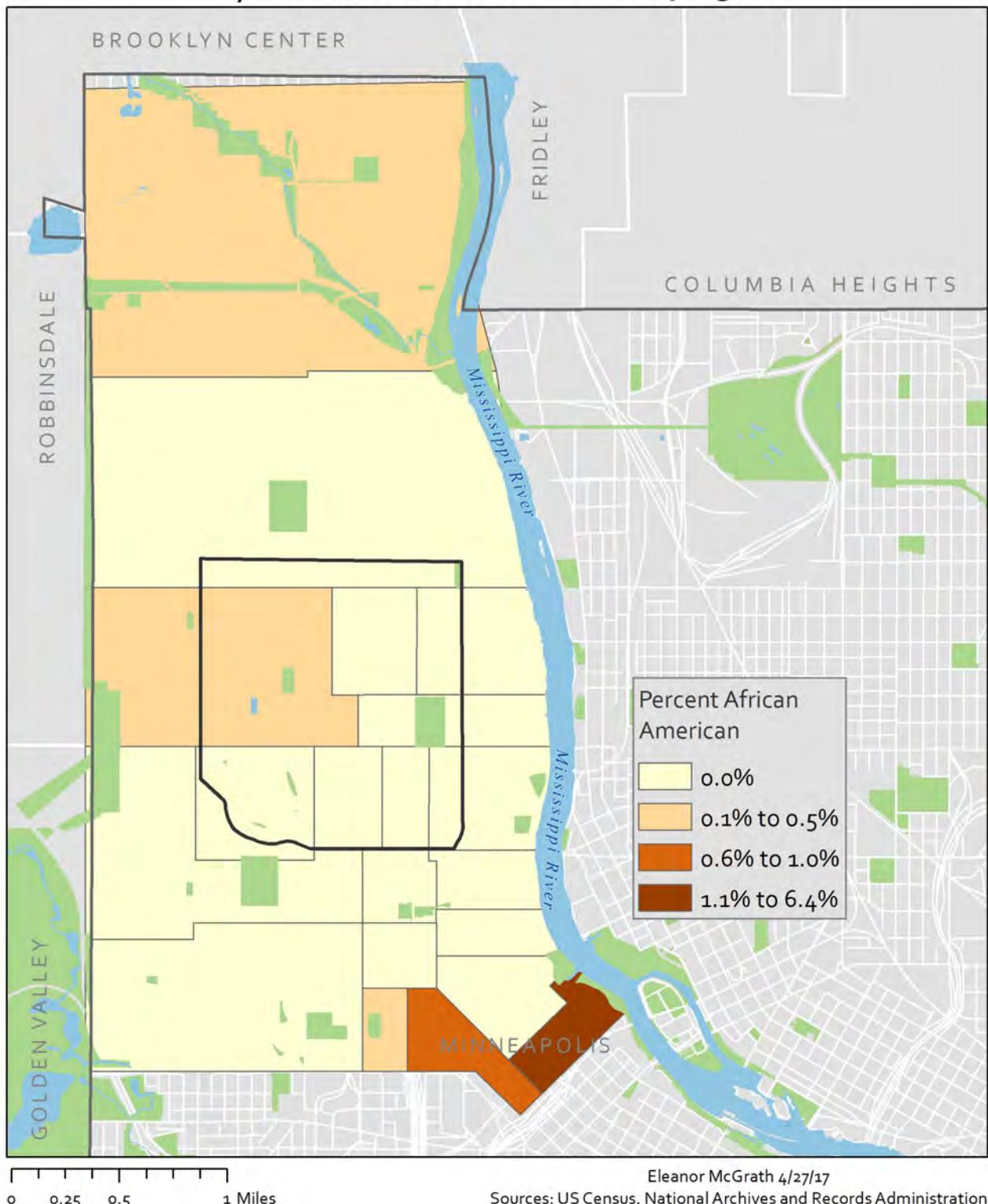
NAZ is well aware of demographic changes and trends within North Minneapolis. While the Northside is predominantly Black/African American today, this has not always been the case. The most important findings from our demographic research are, not unexpectedly, that historical conditions and trends persist; this is especially evident in our analysis of redlining maps. Our maps also visibly illustrate historical processes such as white flight and the post-WWII baby boom. Examining historical trends helps to deepen our understanding of the current demographics of the Northside. With the arrival and departure of different demographic groups, access to resources in the Northside has changed over time. Nowadays, North Minneapolis and its residents are still affected by the legacies of the historical processes we have portrayed in our maps.

While last year's report included detailed maps depicting the current demographic characteristics of North Minneapolis, the maps we have created illustrate a bigger picture of change on the Northside by adding a historical perspective that is not always presented visually. It is our hope that these maps will aid NAZ in telling the story of North Minneapolis by adding a new, visual component. The maps of race and age on the Northside in the year 1900 are, to our knowledge, the first of their kind, as are the overlays of the 1935 "natural areas" on maps depicting historical redlining and current racial demographics. The influence of discriminatory legislation established in the 1930s is visible in North Minneapolis today, as well as shifts in population such as the white flight that occurred from 1970 to 1980. More than anything, our visualizations create a base of knowledge that enhances the findings of our classmates' research on current issues the Northside faces. The maps we have produced speak to the significant, long-term effects of structural racism, which have allowed some residents to improve their social status while discriminating against others and barring them from doing the same.



Photo credit:
NAZ

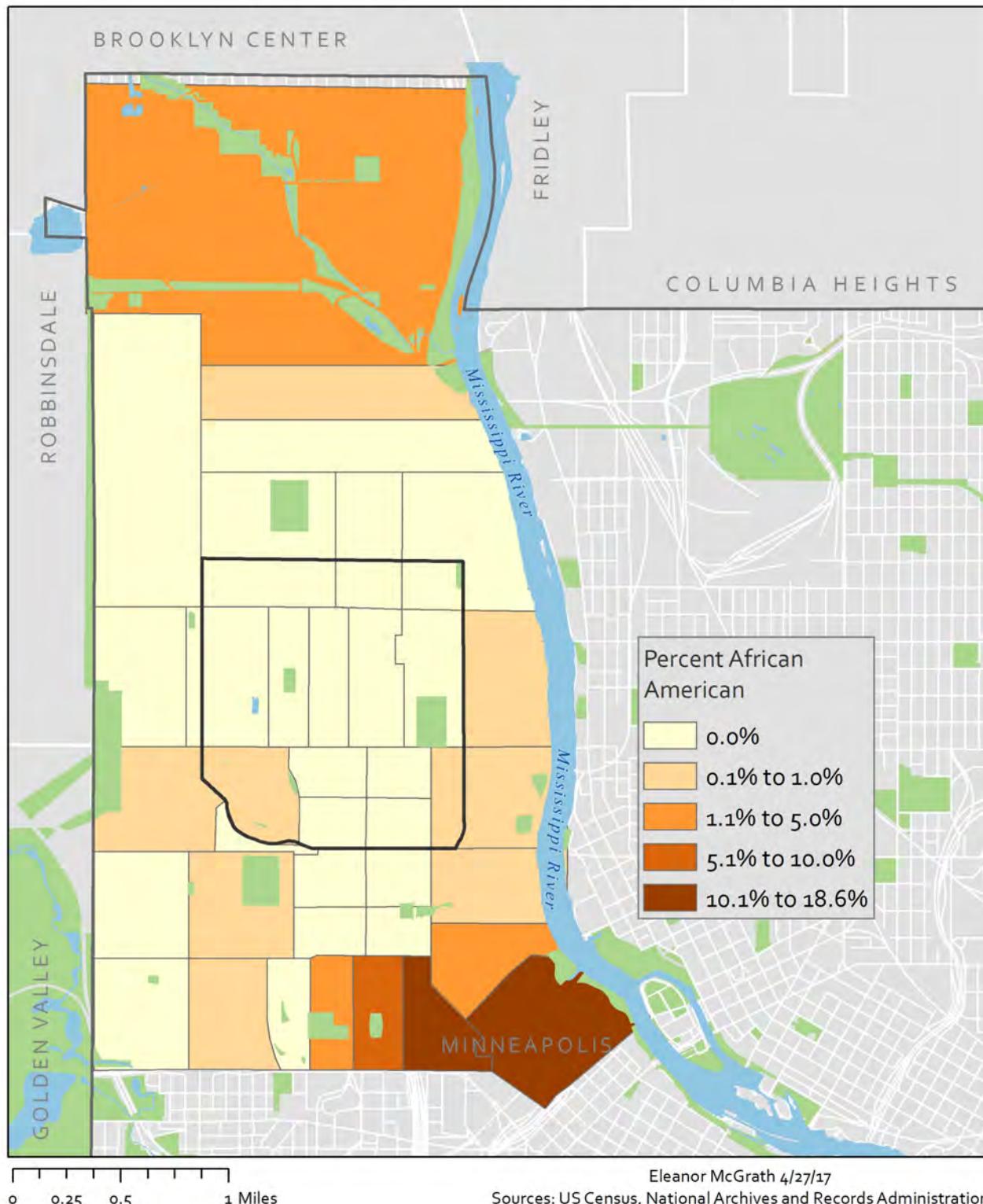
African American Population in North Minneapolis by Enumeration District, 1900



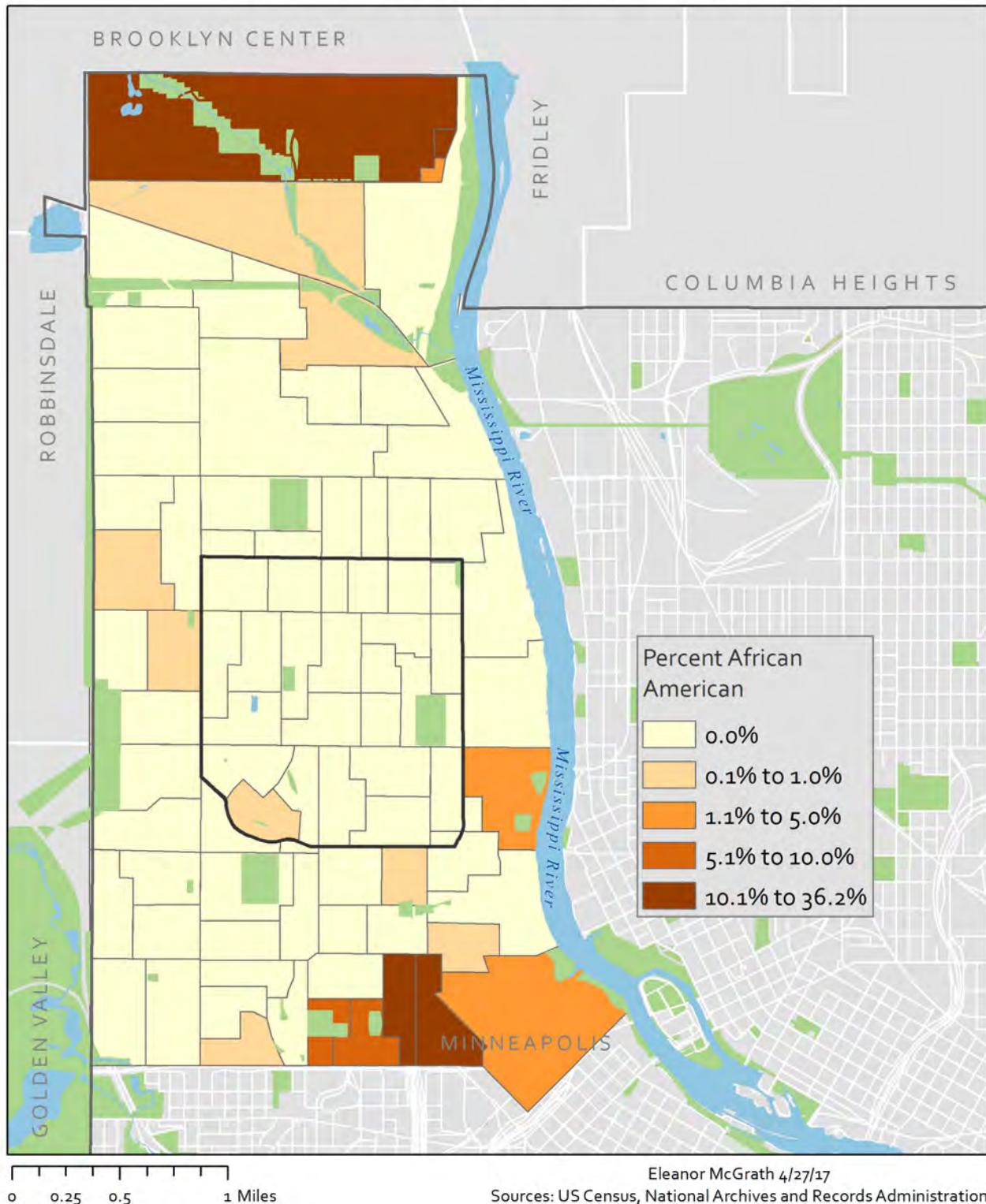
Eleanor McGrath 4/27/17

Sources: US Census, National Archives and Records Administration

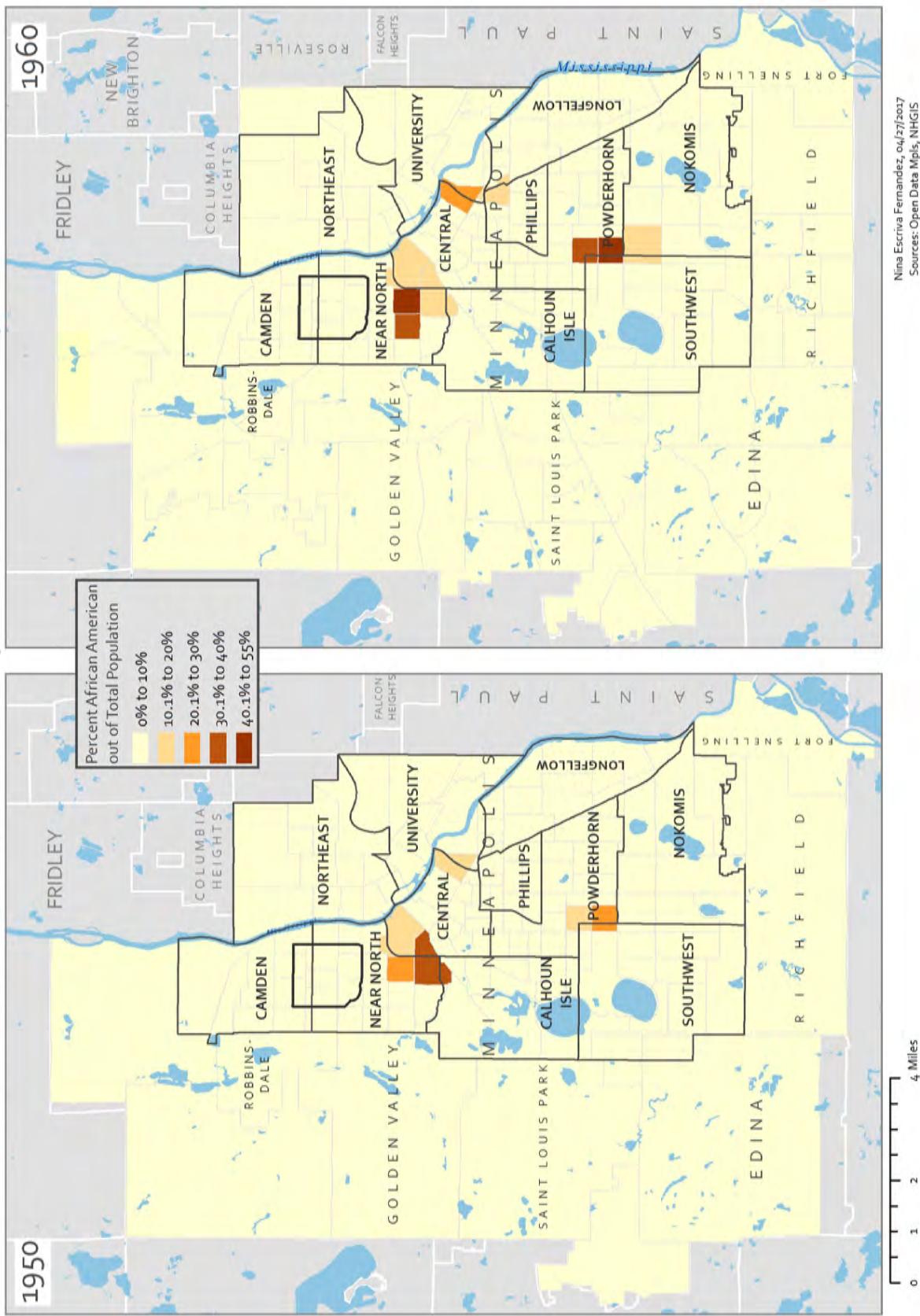
African American Population in North Minneapolis by Enumeration District, 1920



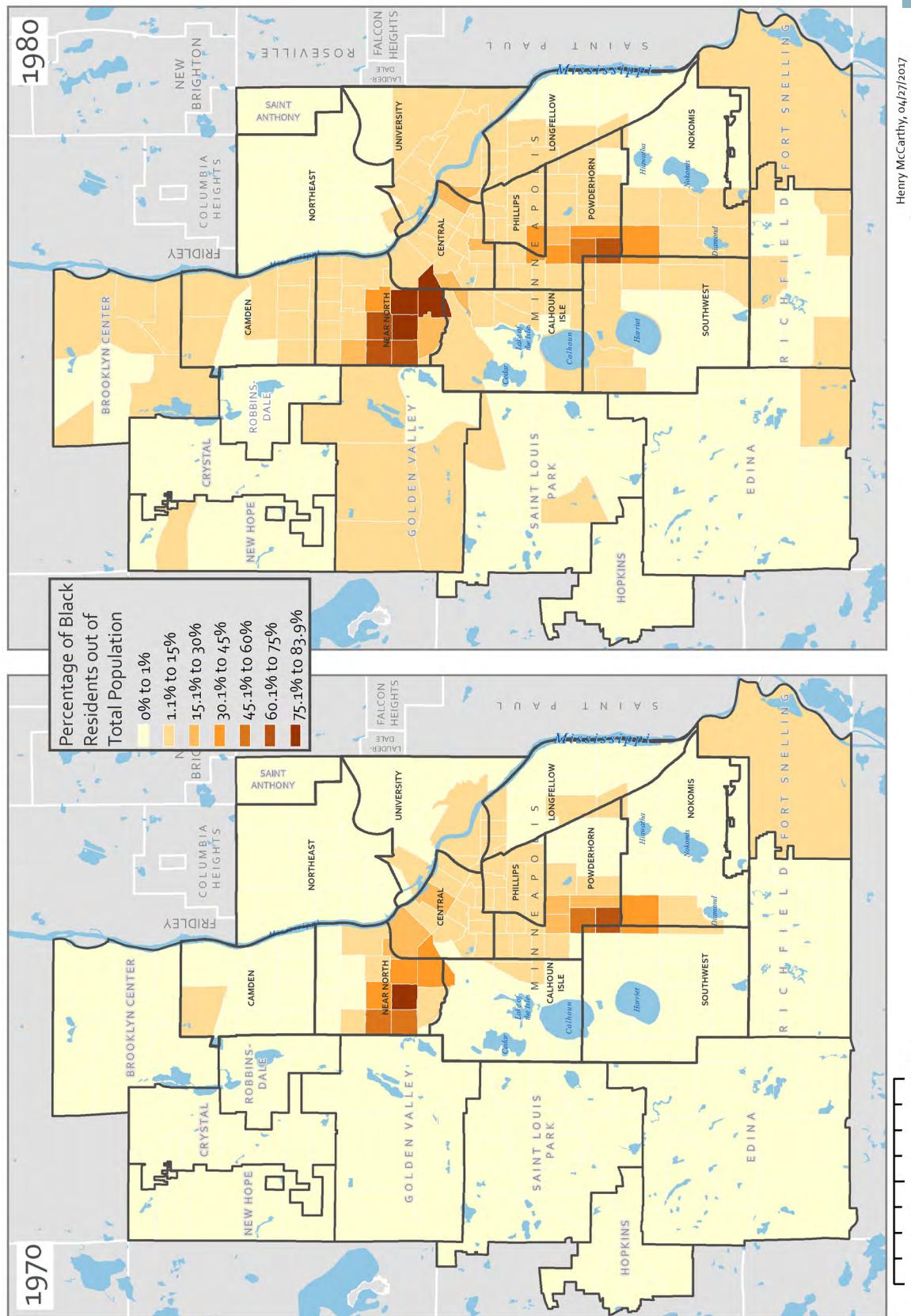
African American Population in North Minneapolis by Enumeration District, 1940



Percent African American in Minneapolis and Suburbs by Census Tract

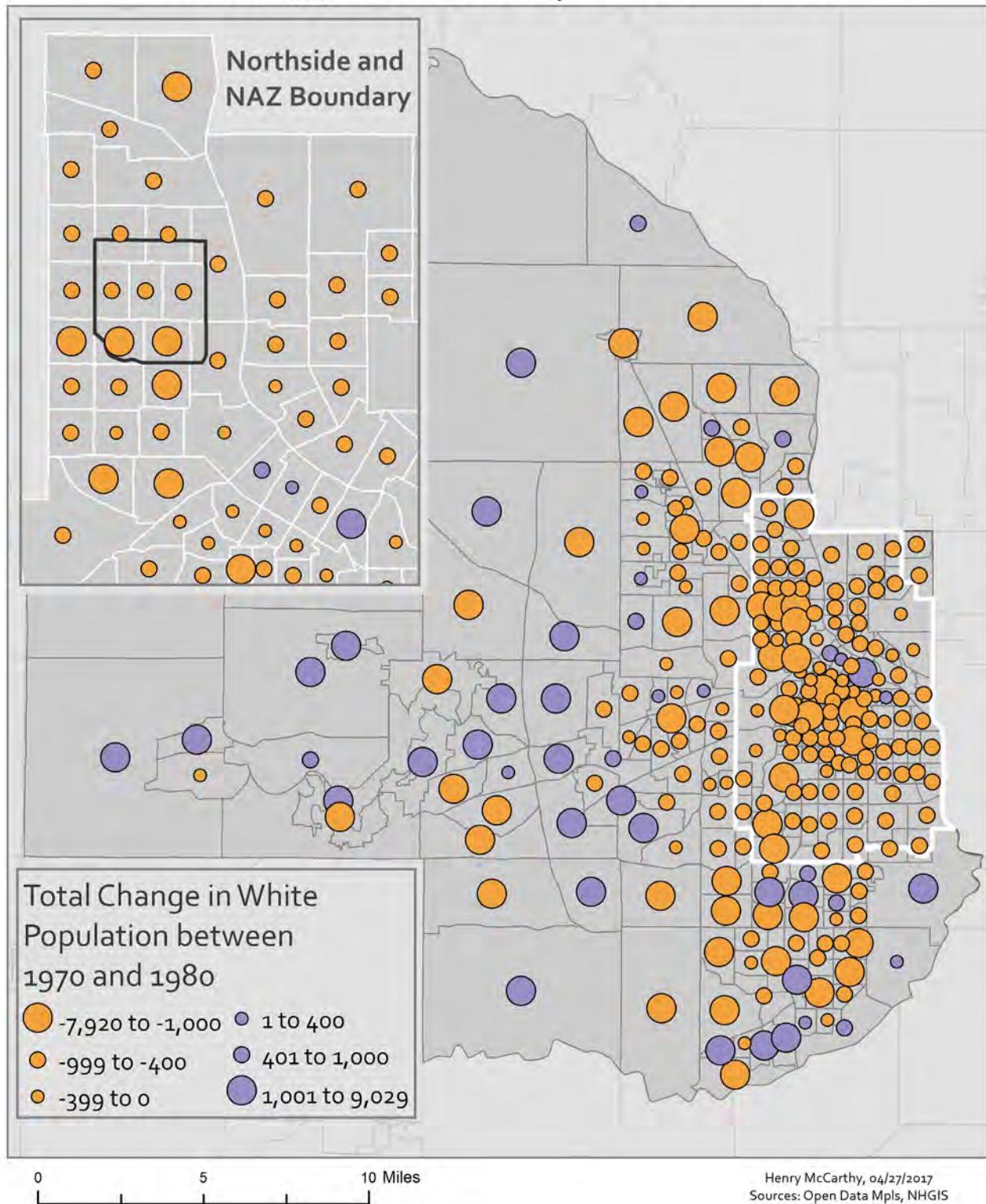


Percent Black in Minneapolis and Suburbs by Census Tract

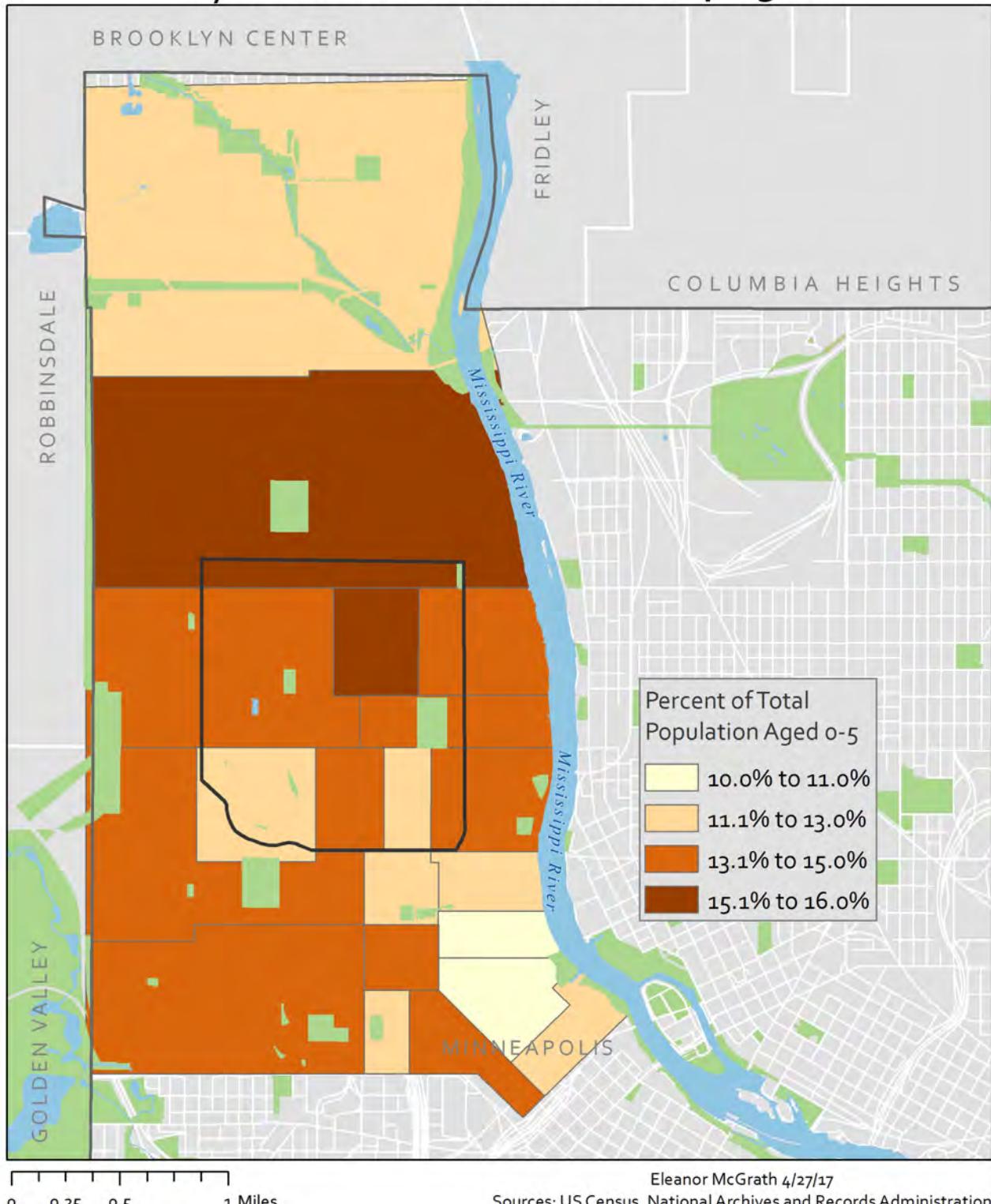


Henry McCarthy, 04/27/2017
Sources: Open Data Mpls, NHGIS

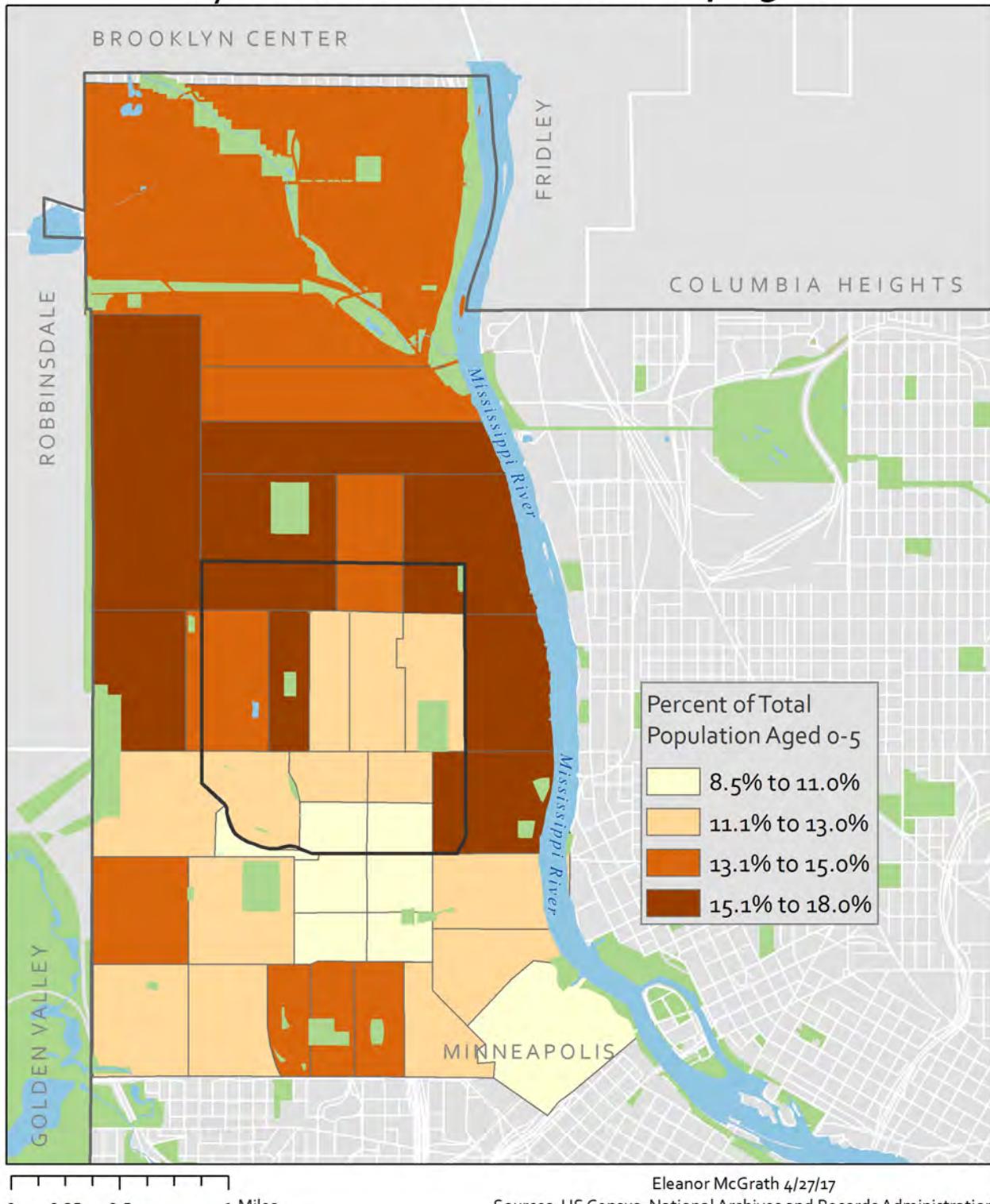
White Flight to Hennepin County Suburbs from 1970 to 1980 by Census Tract



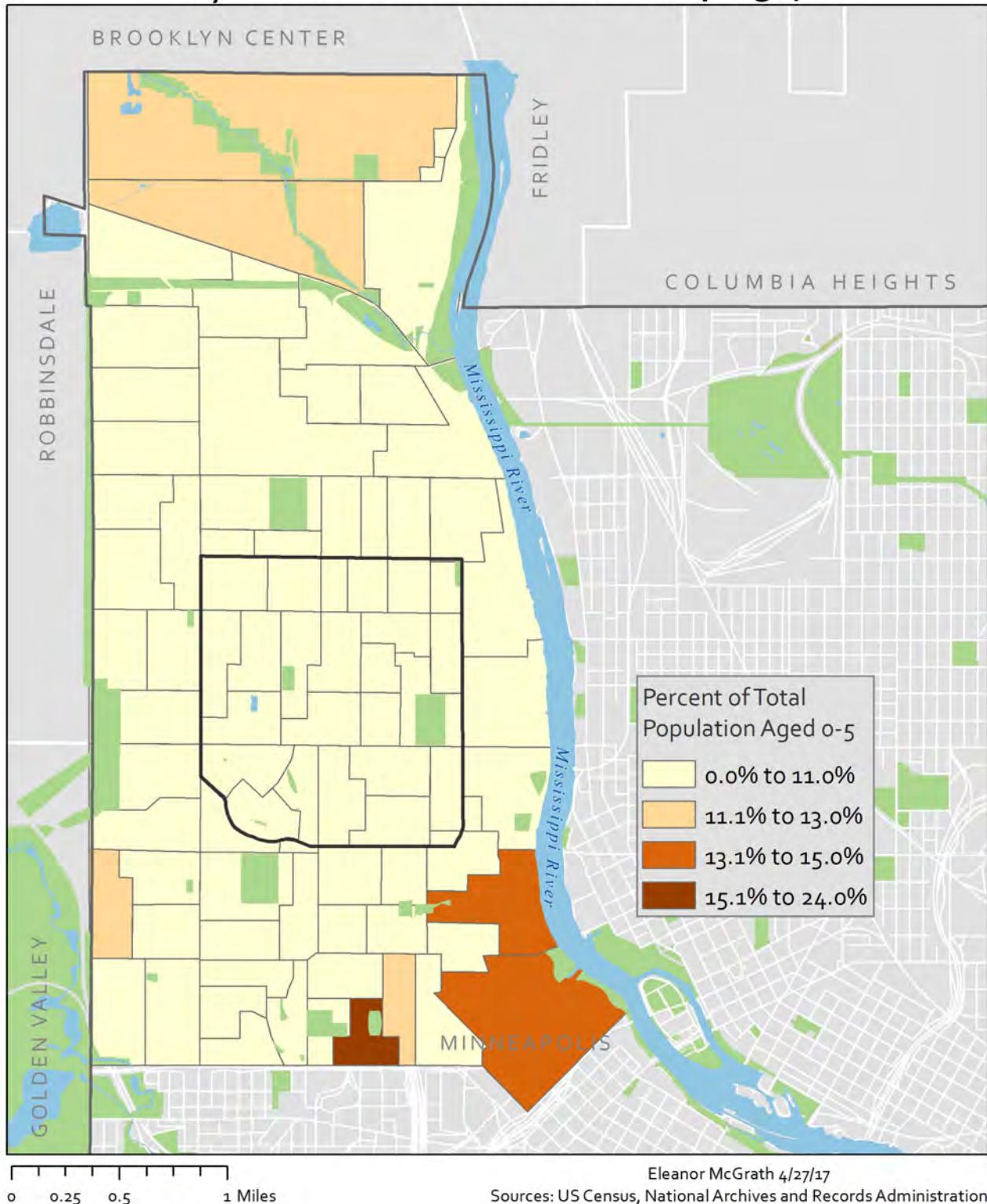
Percent Population 0-5 in North Minneapolis by Enumeration District, 1900



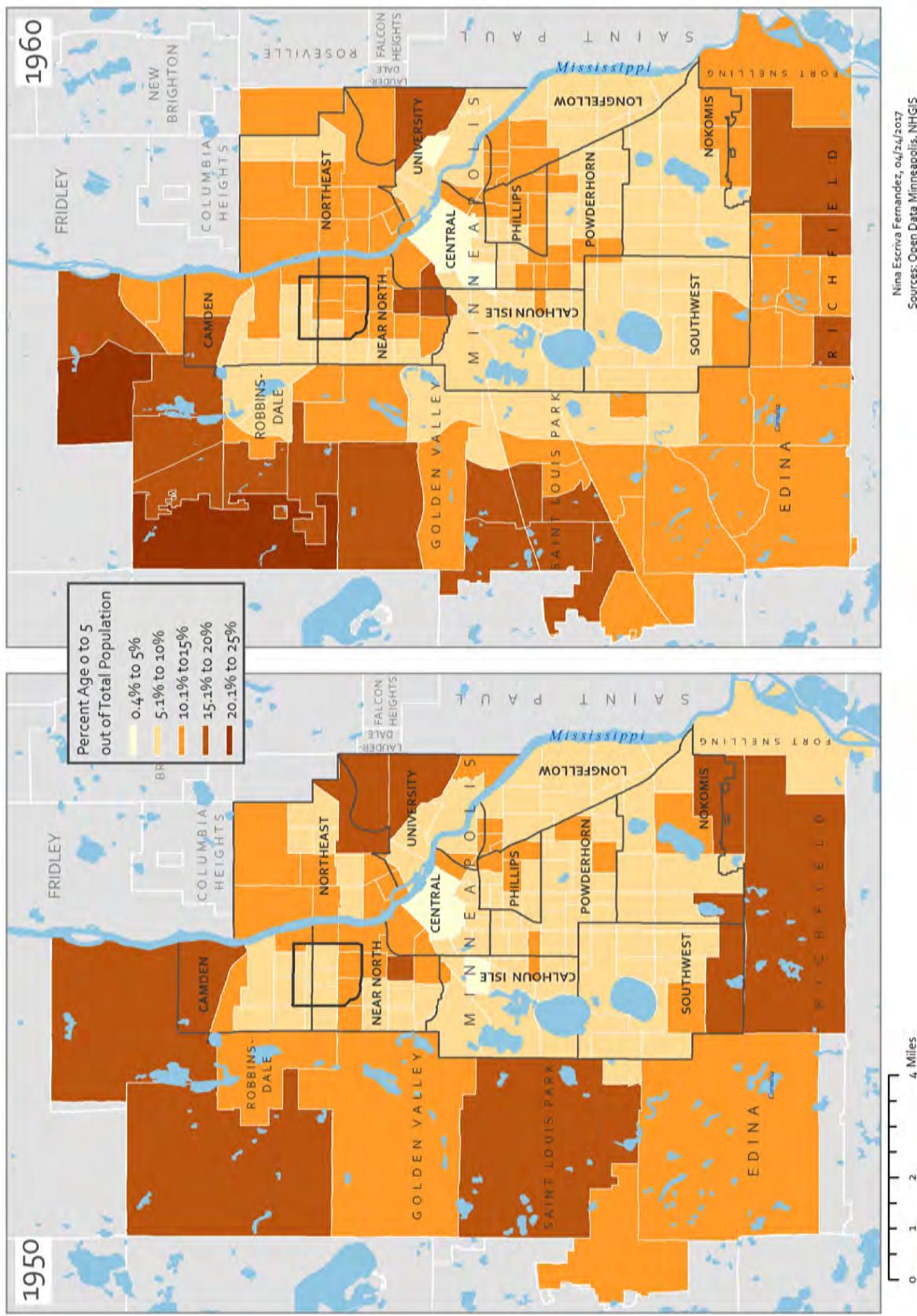
Percent Population 0-5 in North Minneapolis by Enumeration District, 1920



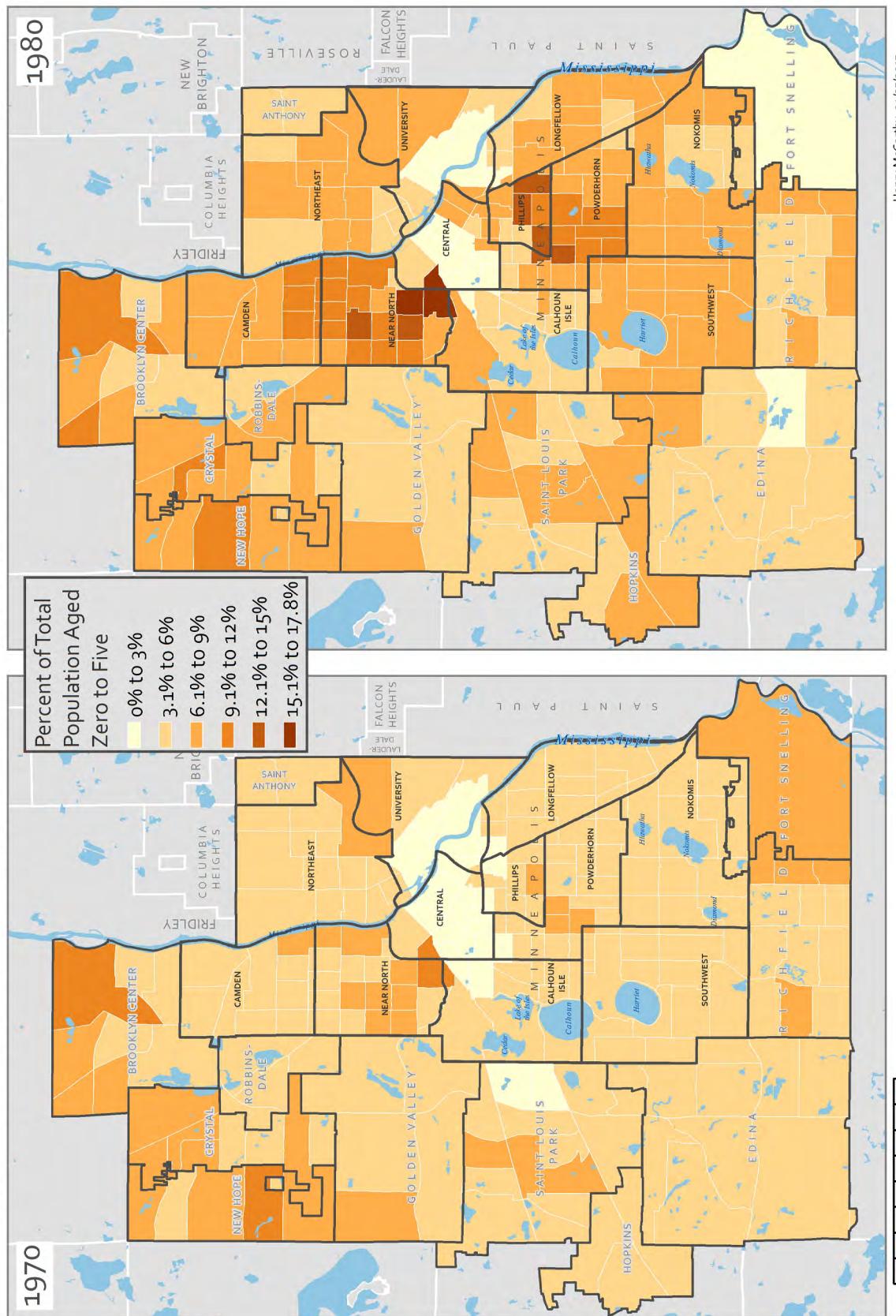
Percent Population 0-5 in North Minneapolis by Enumeration District, 1940



Percent Population Age 0 to 5 in Minneapolis and Suburbs by Census Tract

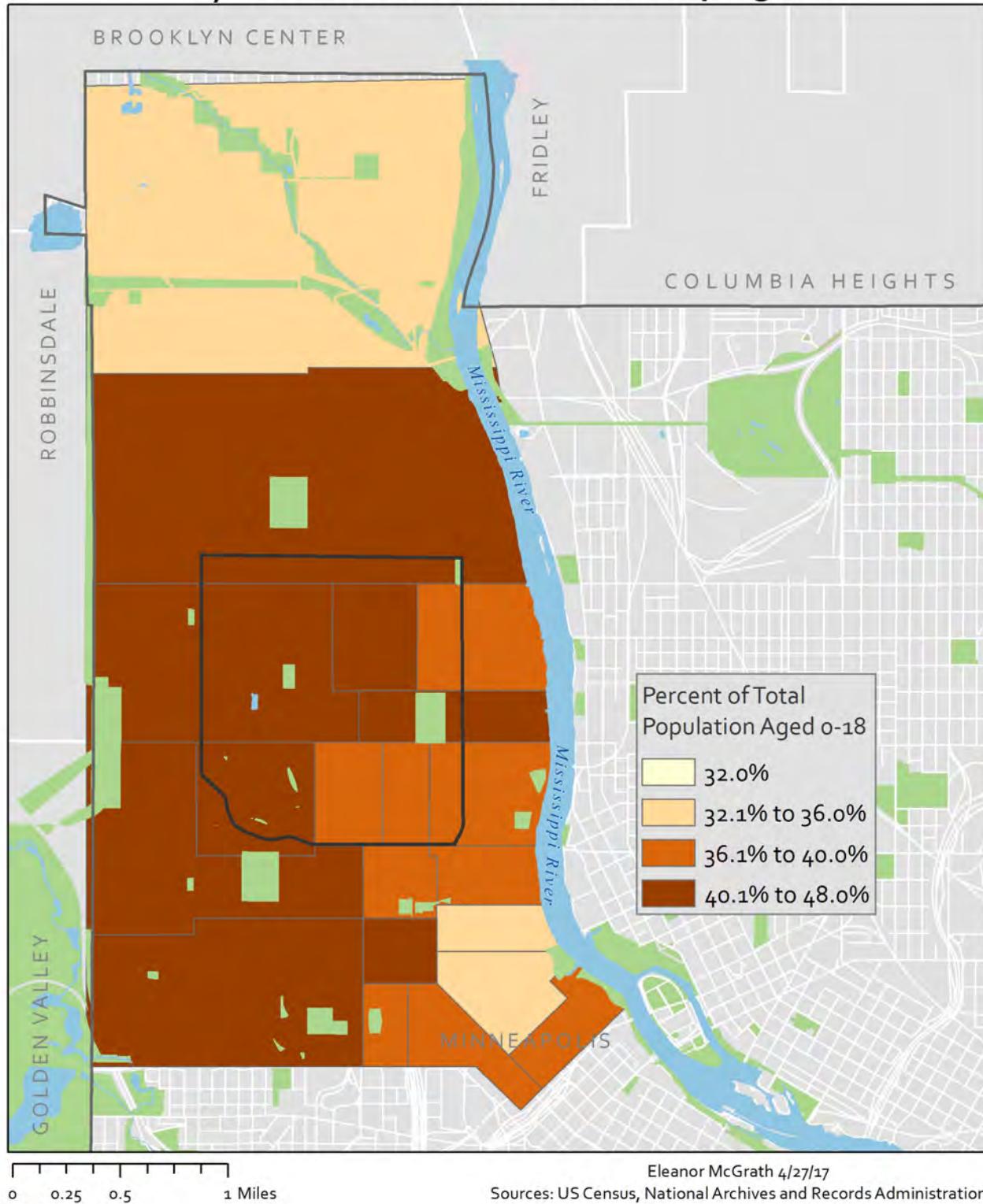


Percent Population 0 to 5 in Minneapolis and Suburbs by Census Tract

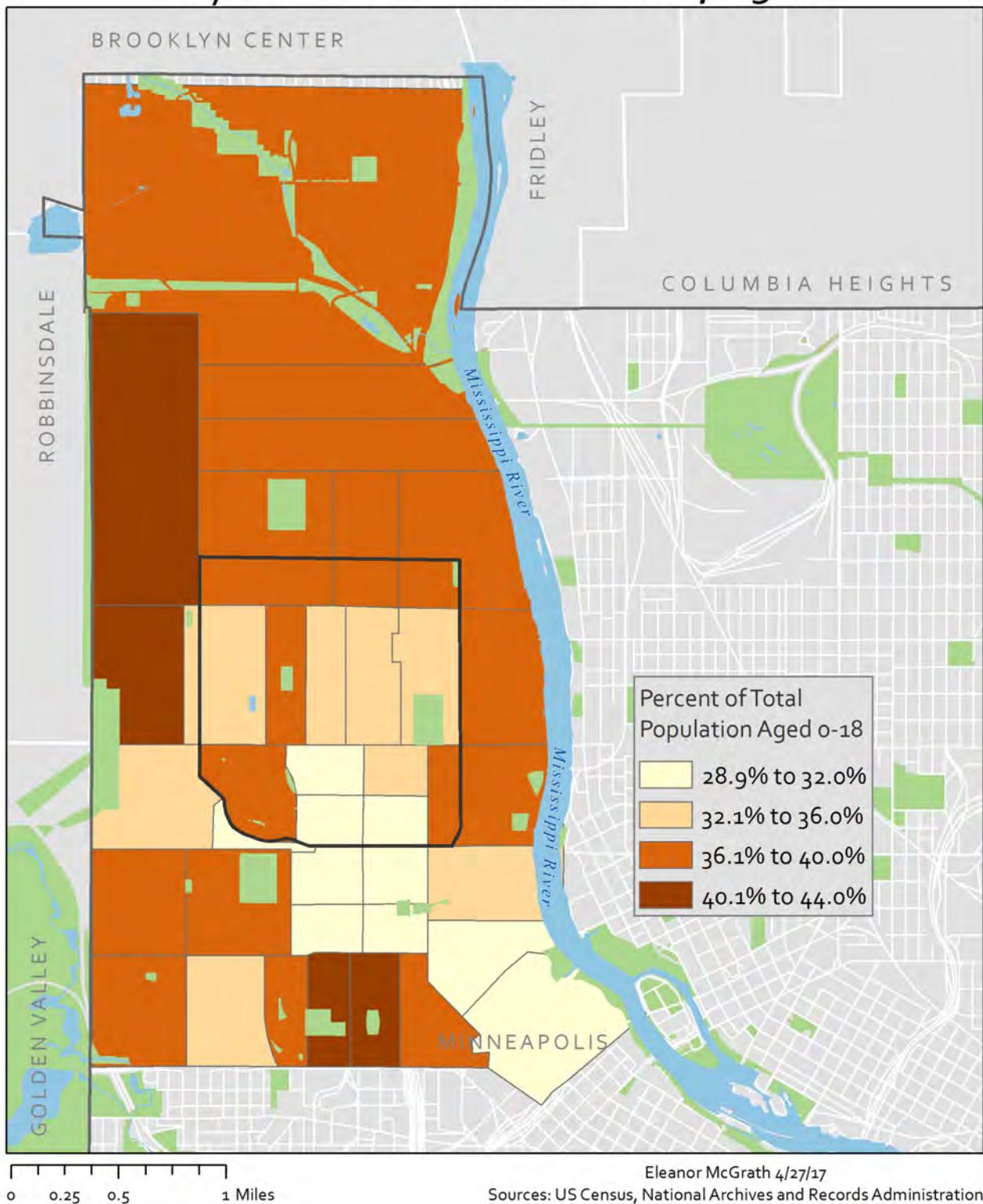


Henry McCarthy, 04/27/2017
Sources: Open Data Mpls, NHGIS

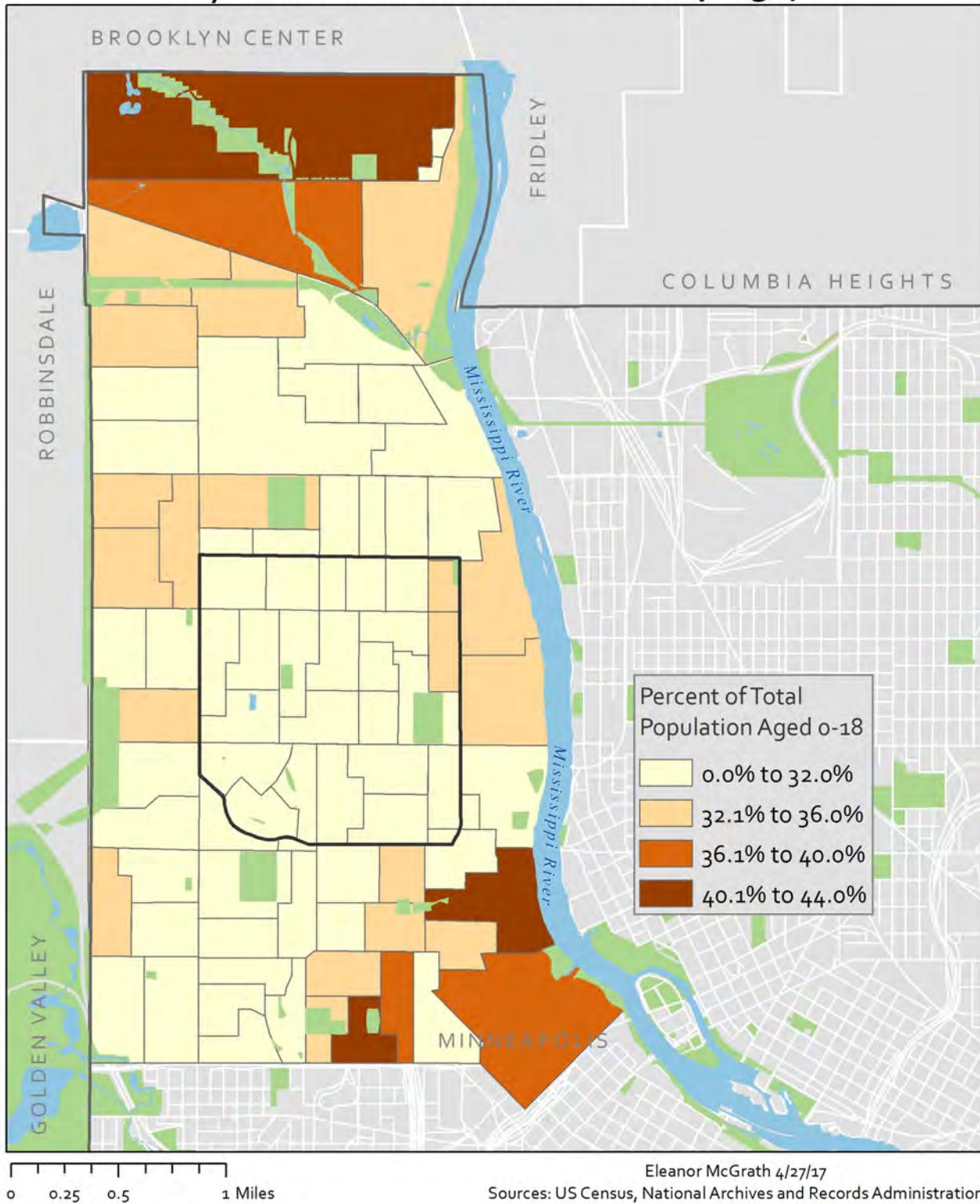
Percent Population 0-18 in North Minneapolis by Enumeration District, 1900



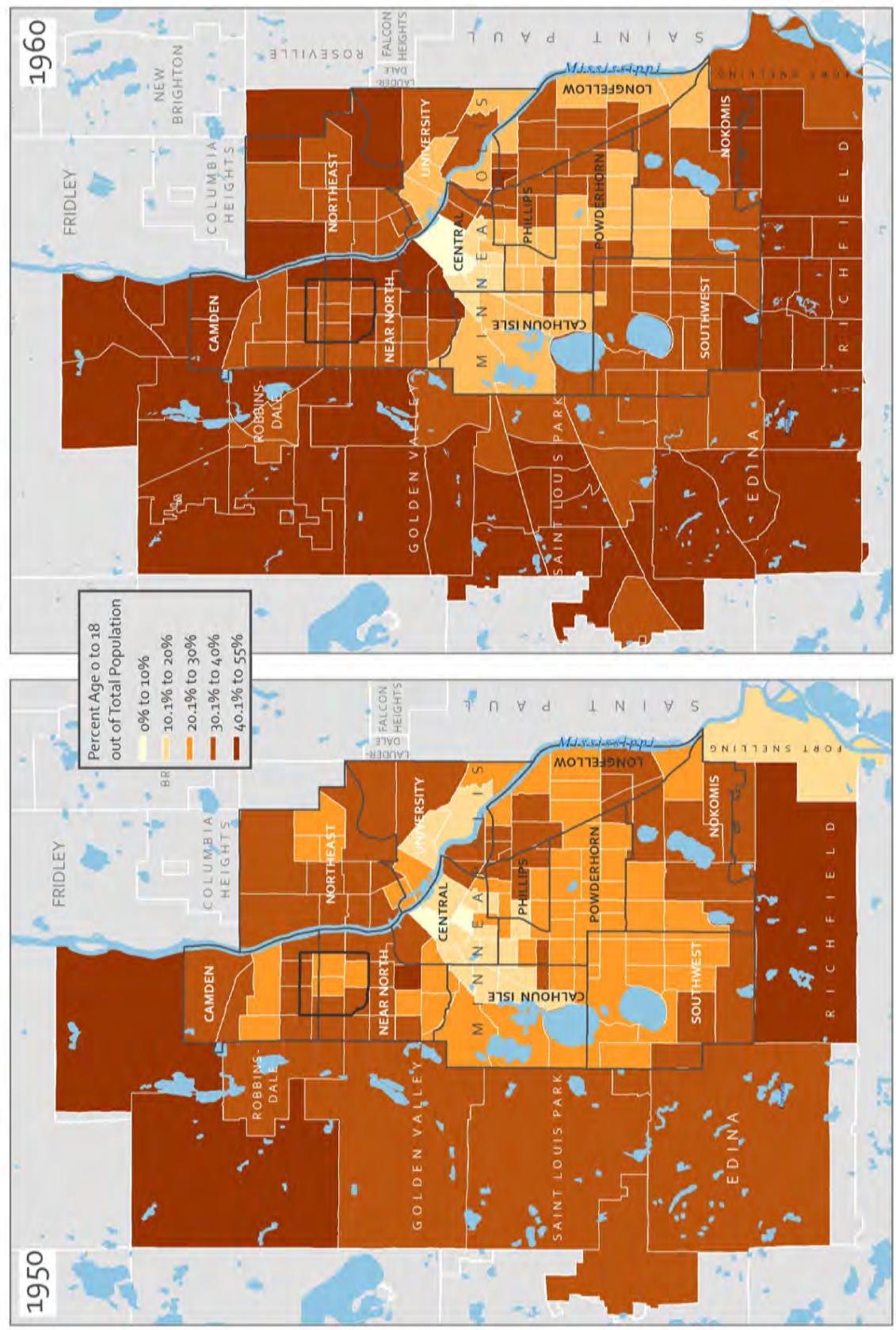
Percent Population 0-18 in North Minneapolis by Enumeration District, 1920



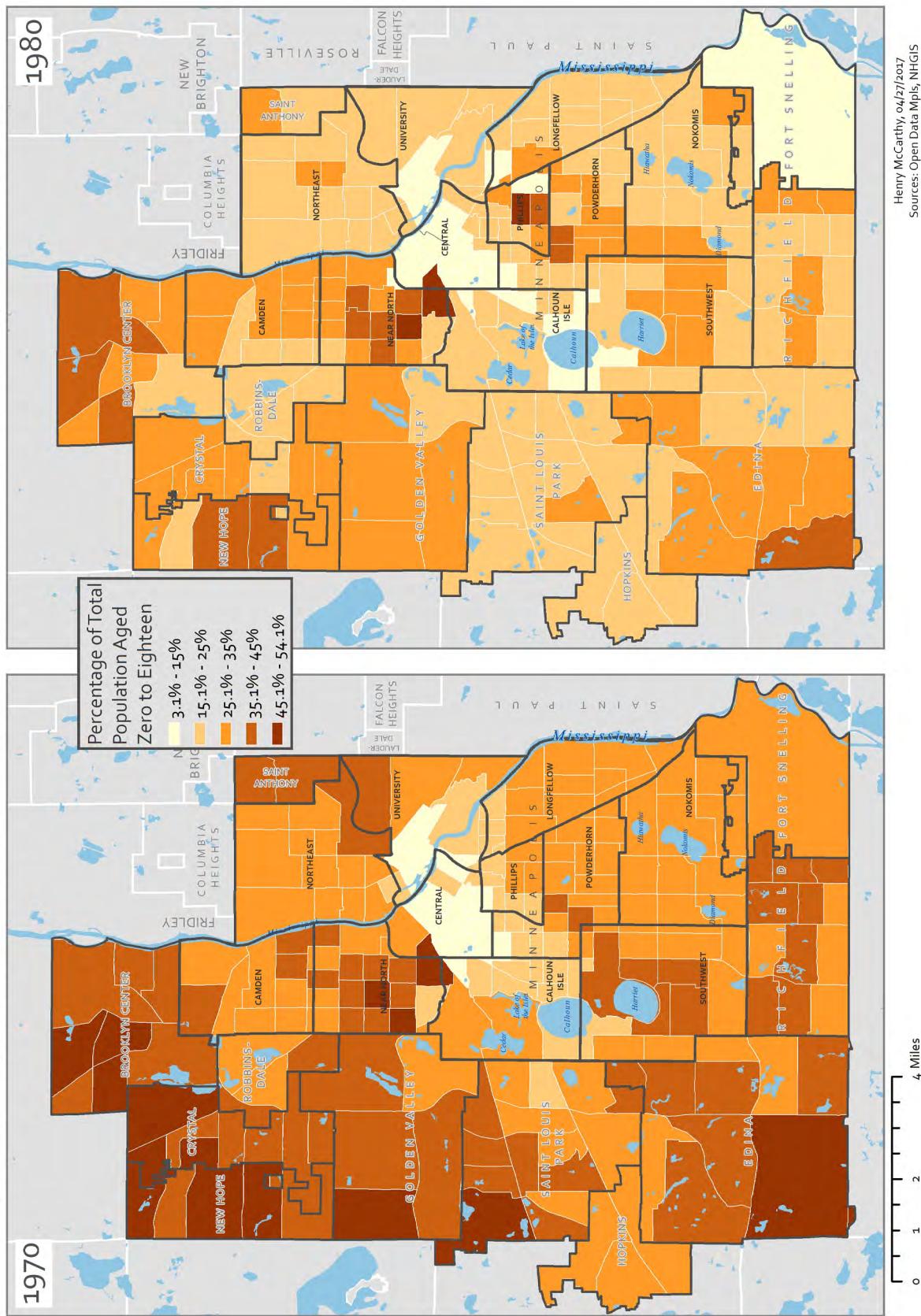
Percent Population 0-18 in North Minneapolis by Enumeration District, 1940



Percent Population Age 0 to 18 in Minneapolis and Suburbs by Census Tract

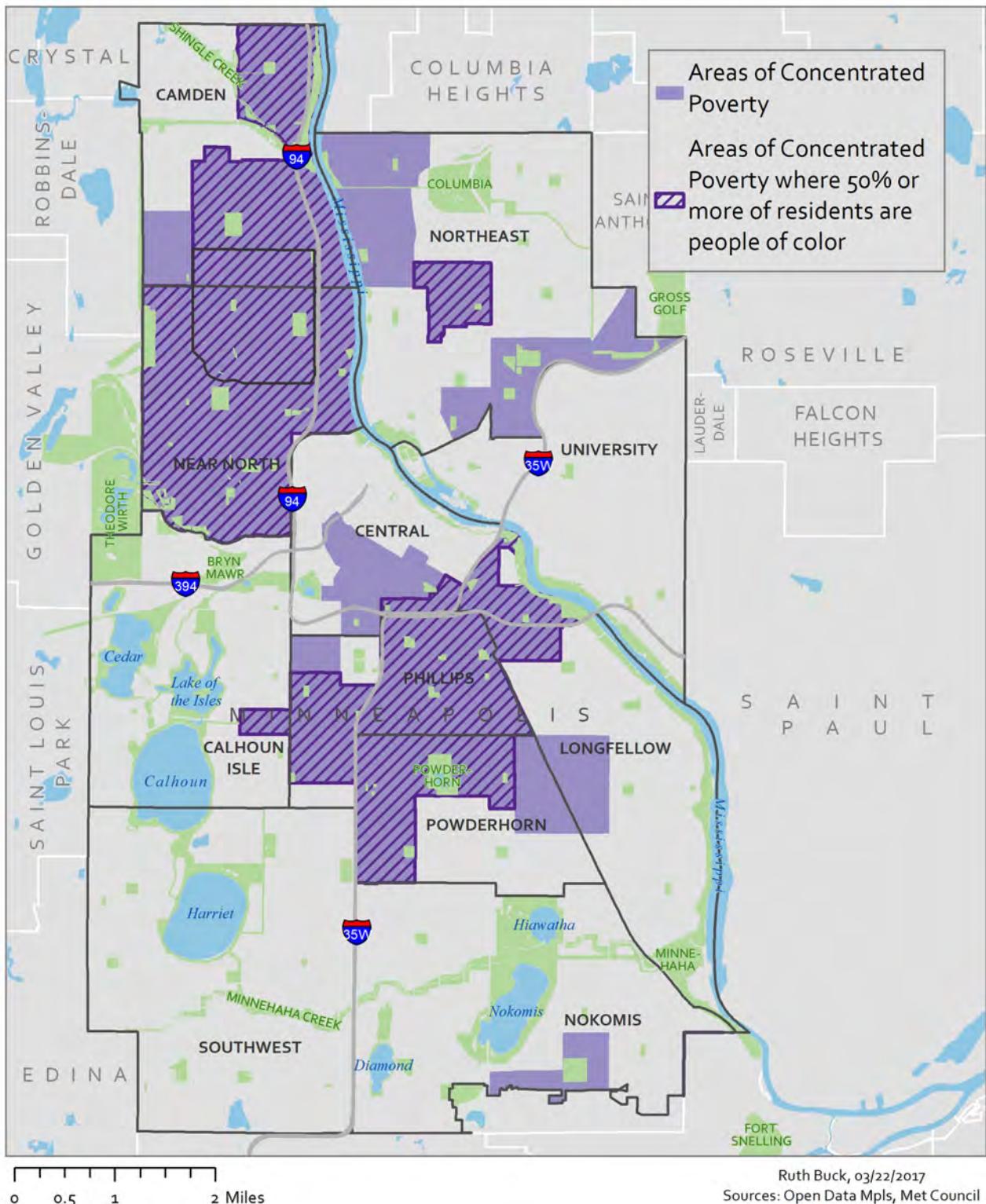


Percent Population 0 to 18 in Minneapolis and Suburbs by Census Tract

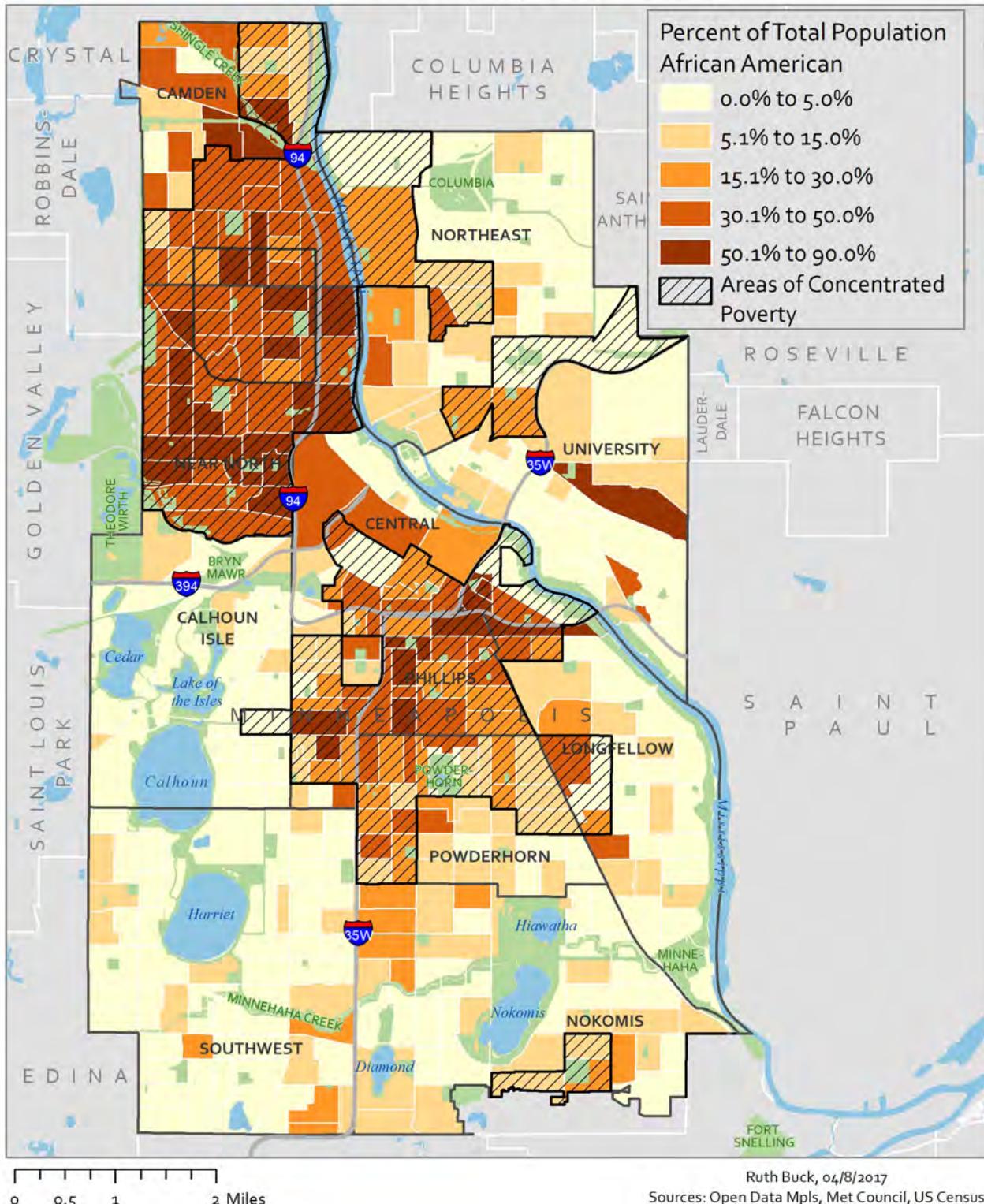


Henry McCarthy, 04/27/2017
Sources: Open Data Mpls, NHGIS

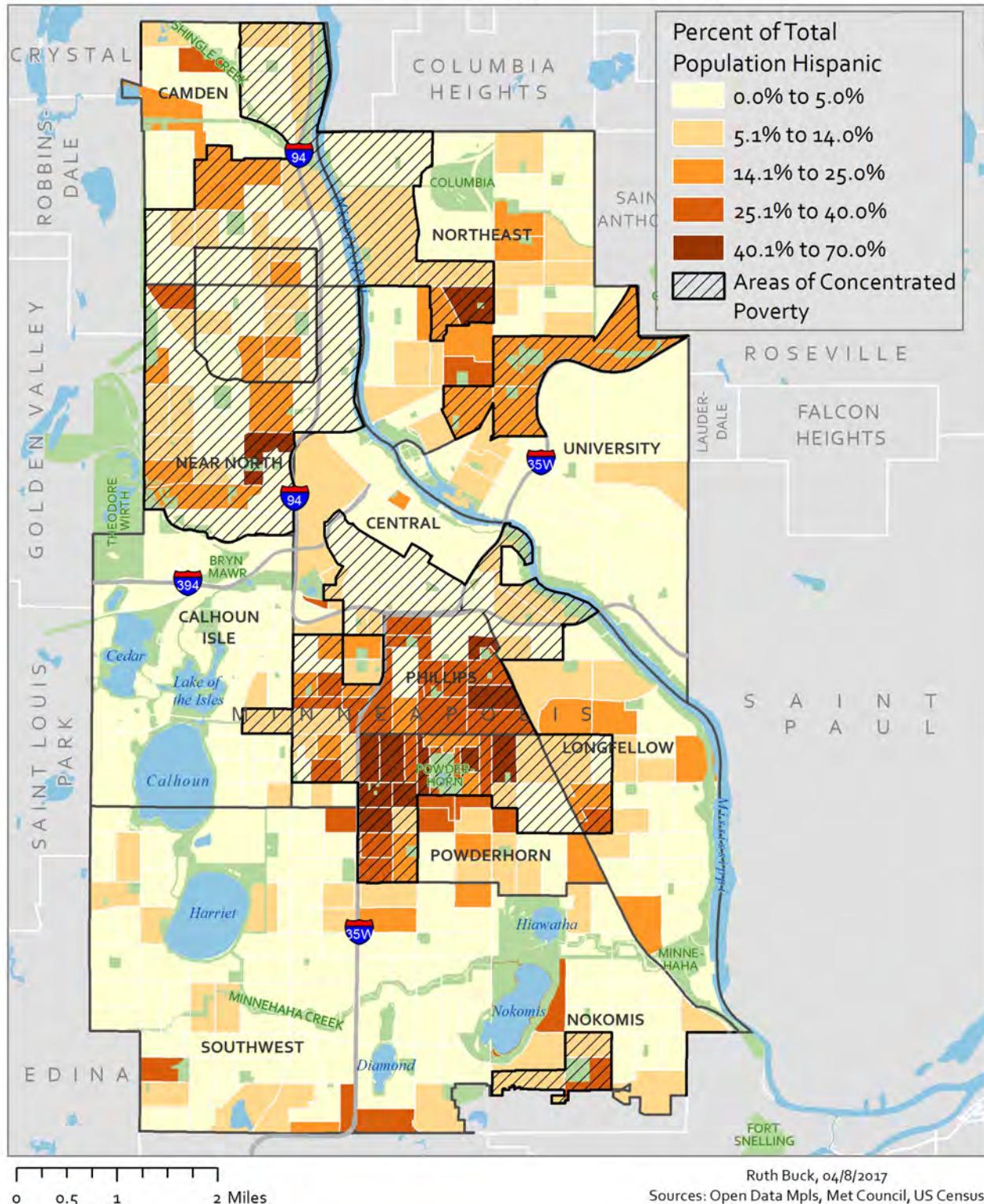
Areas of Concentrated Poverty in Minneapolis, 2015



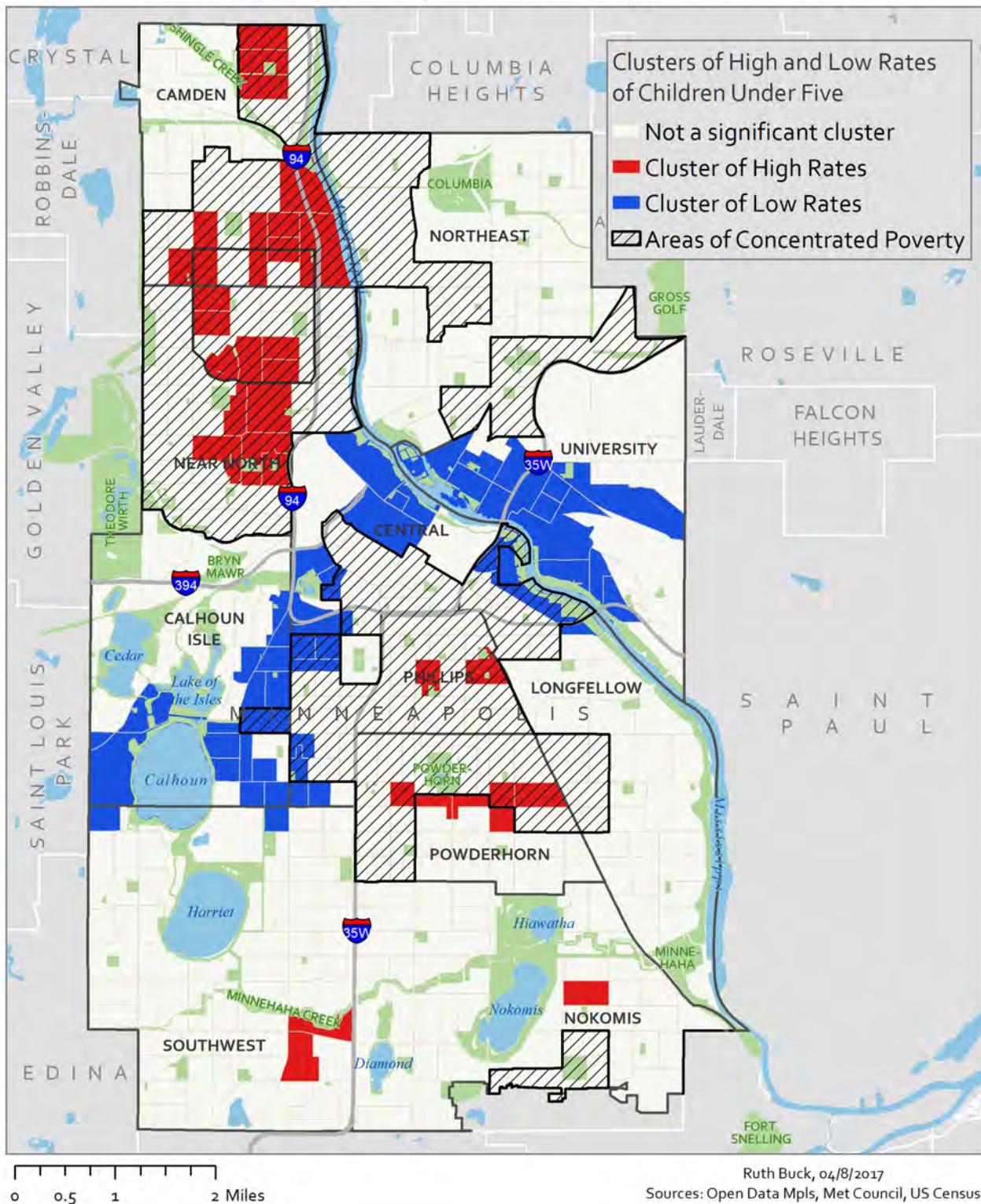
Percent of Population African American in Minneapolis by Block Group, 2011-2015



Percent of Population Hispanic in Minneapolis by Block Group, 2011-2015



Statistically Significant Clusters of Children Under Five in Minneapolis by Block Group, 2011 - 2015



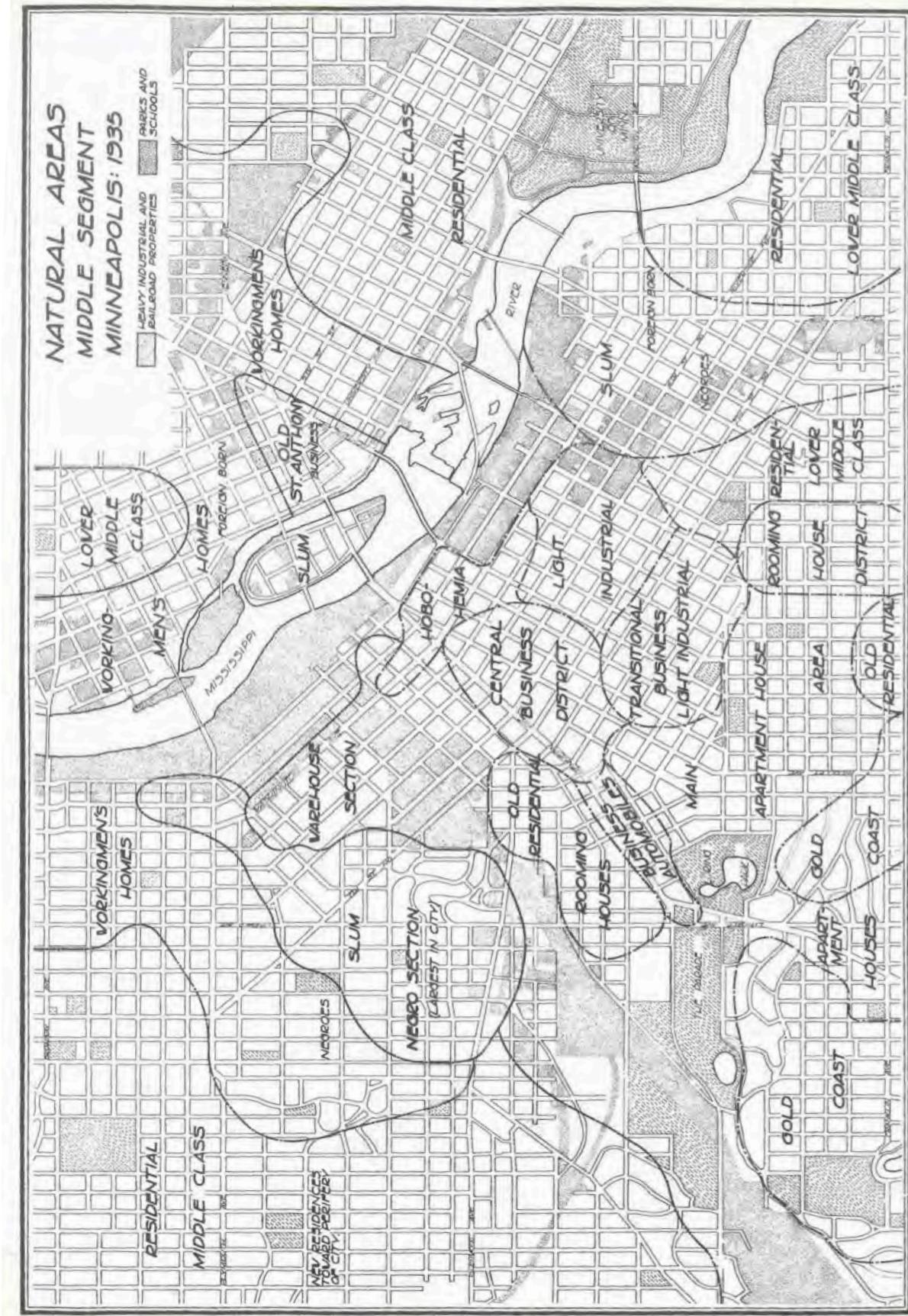
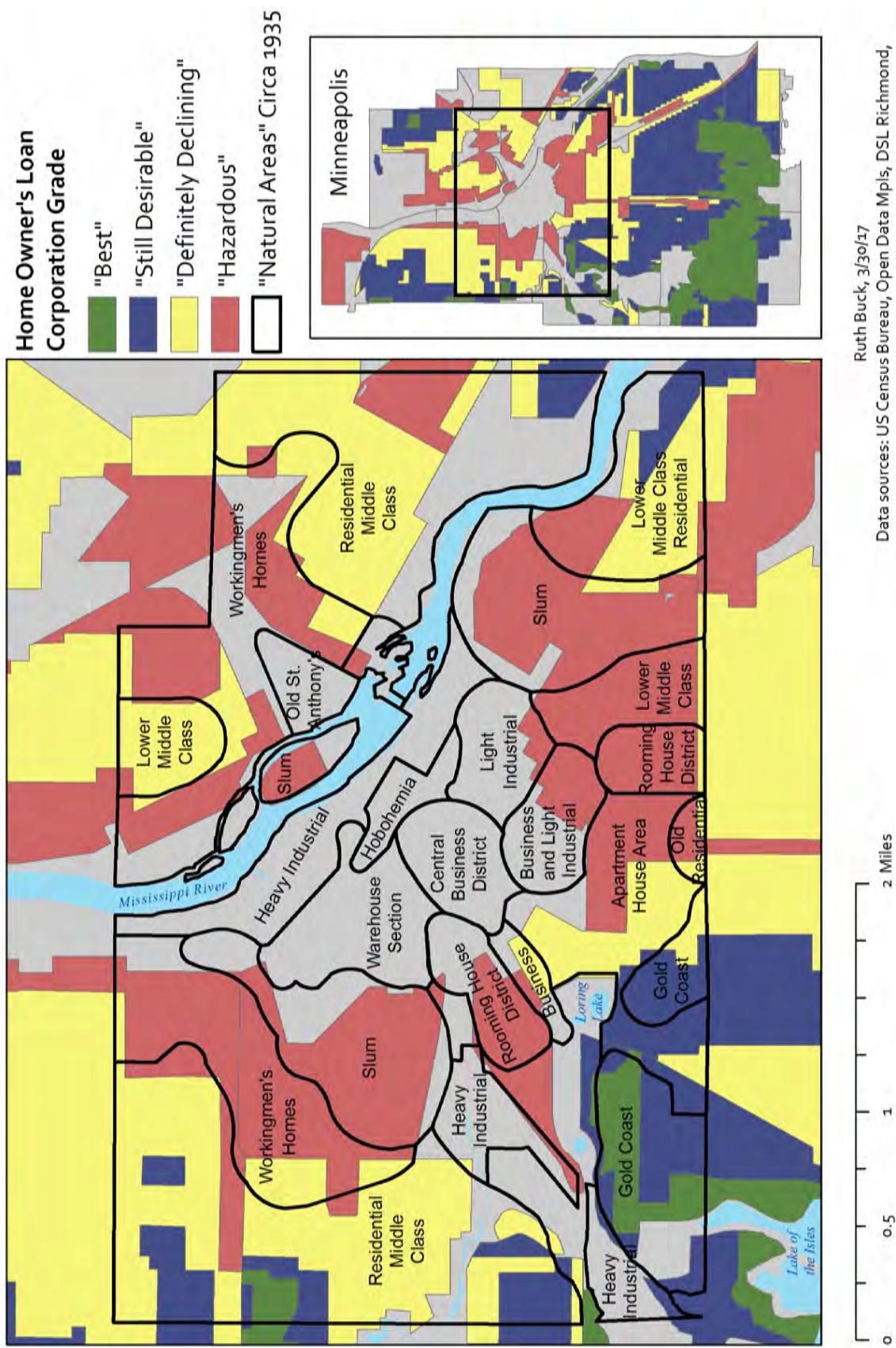


CHART 22

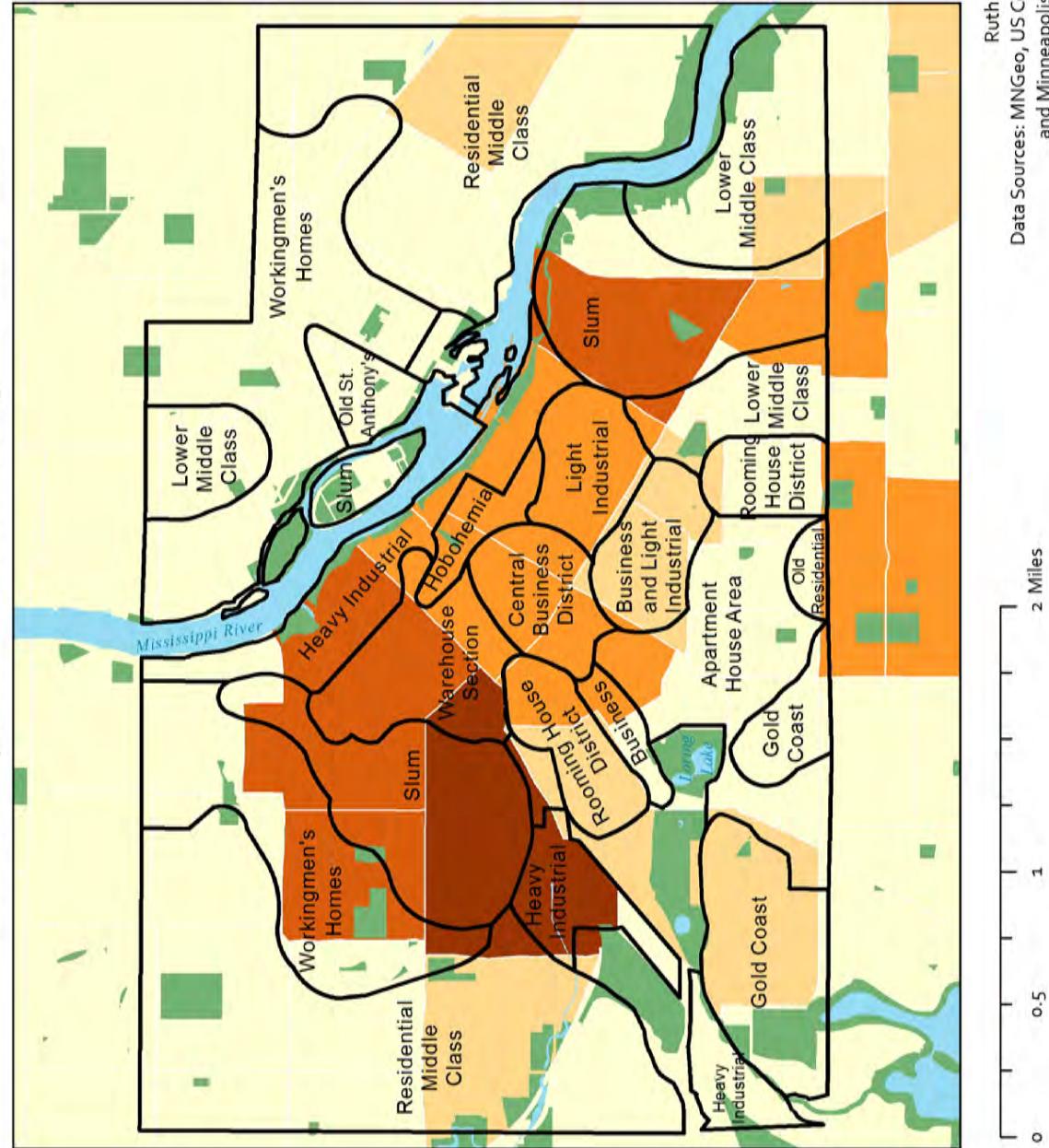
Image from: Schmid, C. F. (1937). *Social Saga of Two Cities: An Ecological and Statistical Study of Social Trends in Minneapolis and Saint Paul*. Minneapolis, MN: The Minneapolis Council of Social Agencies, Bureau of Social Research.

Redlining in Central Minneapolis, 1935 - 1940

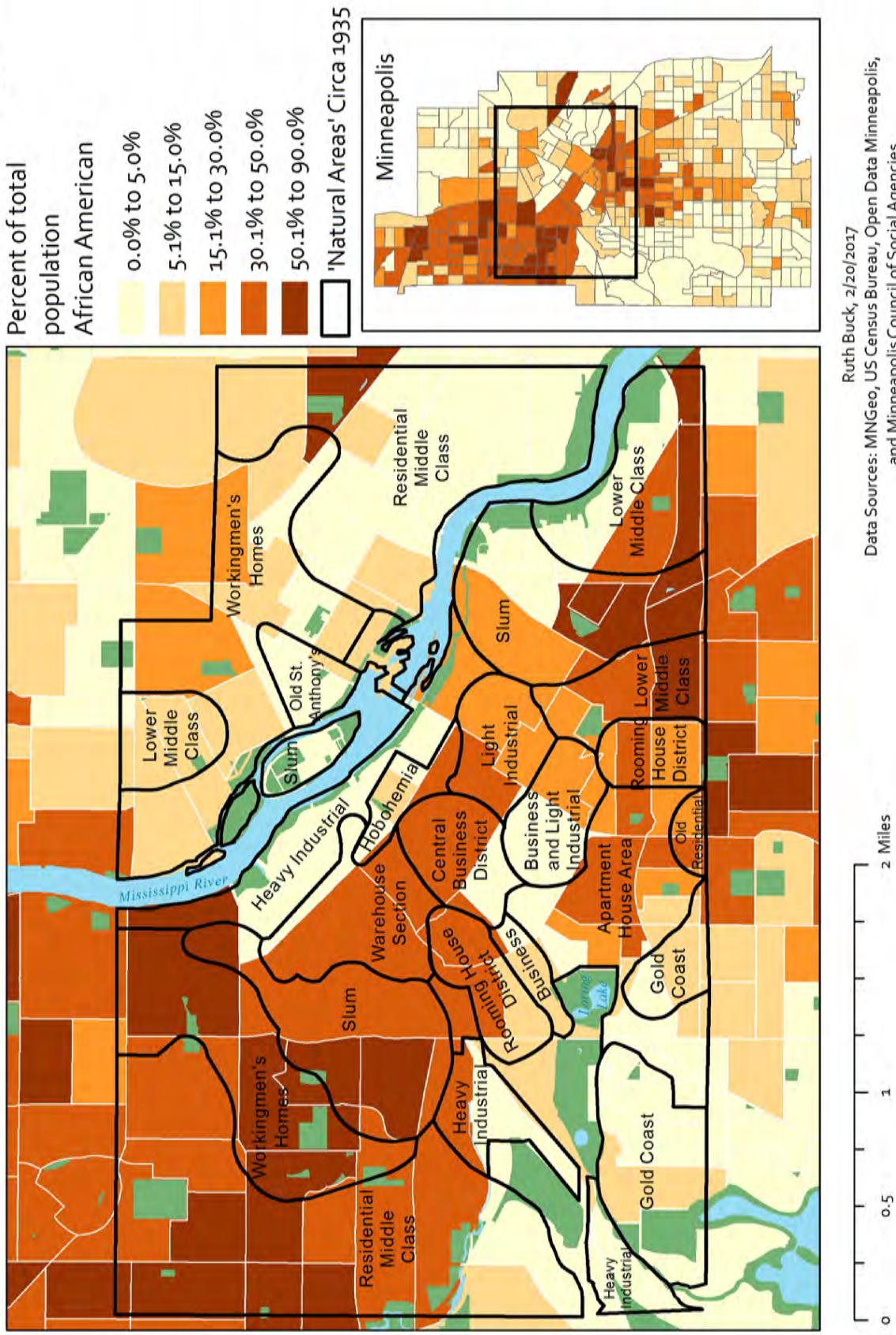


Ruth Buck, 3/30/17
Data sources: US Census Bureau, Open Data Mpls, DSL Richmond,
Minneapolis Council Of Social Agencies

Percent of Population Nonwhite by Census Tract in Minneapolis, 1940



Percent of Population African American by Block Group in Minneapolis, 2011-2015



Ruth Buck, 2/20/2017
 Data Sources: MNGeo, US Census Bureau, Open Data Minneapolis,
 and Minneapolis Council of Social Agencies

Conclusion

The goals of this study were to research and visualize the challenges facing the Northside and provide support for the Northside Achievement Zone's efforts to close the achievement gap and end generational poverty in North Minneapolis. Combining analyses of both the housing and population profiles of the Northside, our team reached several important conclusions.

Unsurprisingly, we found affordability and stability of housing to be critical challenges for Northside residents. Not only do renters pay more for their units relative to their income, the Northside is more reliant on housing choice vouchers and underserved by LIHTC developments. That renters face a disproportionate burden in the Northside is particularly unfortunate considering that the citywide trend away from homeownership has been most pronounced in the Northside. The Northside also sees higher rates of evictions and the presence of slumlords, an inordinate amount of absentee and corporate landlords, and susceptibility to potential future gentrification, all culminating in increased mobility and turnover of area residents, especially children. This is particularly troubling, as unstable housing situations make it difficult for families to obtain basic necessities and lead to higher rates of absenteeism and lower test scores among children.

These deficient housing situations work in tandem with several other factors to make day-to-day life challenging for Northside residents. The long distance and lack of adequate transit access to jobs puts employment out of reach for many residents, and makes commuting a significant burden on families. The Northside is particularly hard hit by longer commutes given its higher proportion of female-headed households, the many women working shifts that start later in the evening, and the lack of childcare facilities open at these hours. The challenge of finding childcare resources puts

even more jobs out of reach for Northside residents. Ultimately, the confluence of social and economic disparities can produce differential health outcomes, such as lower life expectancies for Northside residents.

One of our most important findings was that the current social and economic conditions of the Northside did not occur by chance, but are a continued legacy of long-term demographic trends and historical discriminatory public policies designed to concentrate poverty and disadvantage. Areas of concentrated poverty, African-American populations, and other non-white populations correspond neatly to areas deemed disagreeable and hazardous to investment by policymakers 80 years ago.

The overlapping patterns between variables considered in all of our five themes, and the visible disparities between the Northside and other areas of Minneapolis, provide substantial support for the wraparound, place-based approach of the Northside Achievement Zone program. Our findings suggest that the achievement gap cannot be solved through schools alone and that combatting generational poverty requires examination of multiple variables. The condition of the physical and social environment greatly affects early childhood achievement and life outcomes onward, including educational, health, and wealth attainment. Research like this can help to identify additional issues, connections, and potential partners for the NAZ program in the future, and the continued assessment of selected variables can contribute to evidence-based measurement of progress toward eradicating disparities. We hope that the research and visualizations we present here can support the work of the Northside Achievement Zone and its partners in closing the achievement gap and advocating for children and families in the Northside.

References

Introduction

Macalester College Urban GIS course. (2016). Examining the context of the Northside Achievement Zone. Retrieved from https://www.macalester.edu/academics/geography/civicengagement/URBAN_NAZ_S2016_FINAL.pdf

Housing Finance

Green, Richard K., Painter, Gary D., & White, Michelle J. (2012). Measuring the benefits of homeownership: The effects on children, redux. Research Institute for Housing America. Retrieved from <https://lusk.usc.edu/sites/default/files/Measuring-the-Benefits-of-Homeowning-11.05.12.pdf>

National Association of Realtors. (2017). A field guide to the benefits of homeownership. National Association of Realtors. Retrieved April 2, 2017, from <https://www.nar.realtor/field-guides/field-guide-to-social-benefits-of-home-ownership>

Rohe, William M. & Lindblad, Mark. (2013). Reexamining the social benefits of homeownership after the housing crisis. Joint Center for Housing Studies, Harvard University. Retrieved from <http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/hbtl-04.pdf>

Housing Stability

Call, R., Powell, D., & Heck, S. (2014). Blackstone: Atlanta's newest landlord. Occupy Our Homes Atlanta. Retrieved from <http://homesforall.org/wp-content/uploads/2014/04/BlackstoneReportFinal0407141.pdf>

Center for Community Innovation. (n.d.). Mapping Susceptibility to Gentrification: The Early Warning Toolkit. Retrieved from <https://communityinnovation.berkeley.edu/reports/Gentrification-Report.pdf>

Chum, A. (2015). The impact of gentrification on residential evictions. *Urban Geography*, 36(7), 1083-1098. doi:10.1080/02723638.2015.1049480

Clark, Eric. (2005). The order and simplicity of gentrification: A political challenge. *Gentrification in a Global Context: The New Urban Colonialism*. New York: Routledge. 256-64.

Coulton, C., Theodos, B., & Turner, M. A. (2012). Residential mobility and neighborhood change: Real neighborhoods under the microscope. *Cityscape*, 55-89.

Desmond, Matthew. (2016). *Evicted: Poverty and Profit in the American City*. New York: Crown.

Desmond, Matthew, & Kimbro, Rachel Tolbert. (2015). Eviction's fallout: Housing, hardship, and health. *Social Forces*. Retrieved from <https://scholar.harvard.edu/mdesmond/publications/eviction%20%99s-fallout-housing-hardship-and-health>

Dreier, Peter, & Sen, Aditi. (2015). Hedge funds: The ultimate absentee landlords. *The American Prospect*. Retrieved Apr 24, 2017, from <http://prospect.org/article/hedge-funds-ultimate-absentee-landlords-fall-preview>

Edelman, Sarah, Gordon, Julia, & Sanchez, David. (2014). When Wall Street buys Main Street. Center for American Progress. Retrieved from <https://www.americanprogress.org/issues/economy/reports/2014/02/27/84750/when-wall-street-buys-main-street-2/>

Fields, Desiree. (2014). The rise of the corporate landlord: The institutionalization of the single-family rental market and potential impacts on renters. Right to the City Alliance: Homes for All. Retrieved from <http://homesforall.org/wp-content/uploads/2014/07/corp-landlord-report-web.pdf>

Fields, D., Kohli, R., & Schafran, A. (2016). The emerging economic geography of single-family rental securitization. Federal Reserve Bank of San Francisco. Retrieved from <http://www.frbsf.org/community-development/publications/working-papers/2016/january/emerging-economic-geography-single-family-rental-securitization/>

Freeman, L. (2006). *There Goes the Hood*. Philadelphia: Temple University Press.

Greenbaum, S. (n.d.). Obama's Promise Zones. Retrieved April 03, 2017, from <http://america.aljazeera.com/opinions/2014/1/barack-obama-promisezones.html>

Institute on Metropolitan Opportunity. (2016). Are Minneapolis and St. Paul gentrifying? Debunking myths about neighborhood change in the Twin Cities. Retrieved from <https://www1.law.umn.edu/uploads/51/3c/513ca42623b8c7952747430296f494be/are-minneapolis-and-stpaul-gentrifying-jan2016.pdf>

Minneapolis Innovation Team. (2016). Evictions in Minneapolis. Retrieved May 10, 2017, from <https://www.housinglink.org/docs/default-source/MainLibrary/evictionsinminneapolis2016.pdf?sfvrsn=2>

Northside Achievement Zone. (2014). Housing Solution Plan. Retrieved April 25, 2017, from http://northsideachievement.org/naz-partner/i/Housing-Solution-Plan_FINAL.pdf

Otterman, S. (2010). Lauded Harlem schools have their own problems. *New York Times*. Retrieved April 03, 2017, from <http://www.nytimes.com/2010/10/13/education/13harlem.html>

Rohe, William M., & Stewart, Leslie S. (1996). Homeownership and neighborhood stability. *Housing Policy Debate* 7(1), 37-81.

Roper, Eric. (2014). Out-of-state investor targets North Side homes. *Star Tribune*. Retrieved April 24, 2017, from <http://www.startribune.com/may-2014-out-of-state-investor-targets-north-side-homes/258396511/>

- Roper, Eric. (2016). Homes in low-income neighborhoods rake in rent for out-of-state investors. *Star Tribune*. Retrieved April 24, 2017, from <http://www.startribune.com/homes-in-low-income-neighborhoods-rake-in-rent-for-out-of-state-investors/399170271/>
- Rossi, Peter H., & Weber, Eleanor. (1996). The social benefits of homeownership: Empirical evidence from national surveys. *Housing Policy Debate* 7(1), 1-35.
- Urban Institute. (2016). Reduce poverty by improving housing stability. Retrieved May 9, 2017, from <http://www.urban.org/urban-wire/reduce-poverty-improving-housing-stability>
- Zuk, M., Bierbaum, A. H., Chapple, K., Gorska, K., Loukaitou-Sideris, A., Ong, P., & Thomas, T. (2015). Gentrification, displacement and the role of public investment: A literature review. Retrieved from <http://www.frbsf.org/community-development/publications/working-papers/2015/august/gentrification-displacement-role-of-public-investment/>
- ### **Community Characteristics and Resources**
- Board, E. (2015). Here's a smarter plan to address black unemployment in North Minneapolis. *Star Tribune*. Retrieved April 4, 2017, from <http://www.startribune.com/here-s-a-smarter-plan-to-address-black-unemployment-in-north-minneapolis/340472691/>
- Eligon, J. (2016). Minneapolis's less visible, and more troubled, side. *New York Times*. Retrieved April 4, 2017, from https://www.nytimes.com/2016/01/11/us/minneapoliss-less-visible-and-more-troubled-side.html?_r=0
- Ferris, M. (2012). Health inequities in the Twin Cities. Amherst H. Wilder Foundation. Retrieved from <https://www.wilder.org/Wilder-Research/Publications/Studies/Health%20Inequities%20in%20the%20Twin%20Cities/Health%20Inequities%20in%20the%20Twin%20Cities%202012,%20Full%20Report.pdf>
- Gilyard, B. (2016). Why North Minneapolis struggles to attract businesses – and why that may be changing. Retrieved April 1, 2017, from <https://www.minnpost.com/twin-cities-business/2016/03/why-north-minneapolis-struggles-attract-businesses-and-why-may-be-chang>
- Halter, N. (2017). Target will back Thor's North Minneapolis project. *Minneapolis/St. Paul Business Journal*. Retrieved April 1, 2017, from <http://www.bizjournals.com/twincities/news/2017/01/17/target-will-be-office-tenant-in-thor-s-north.html>
- Helmstetter, C., Brower, S., & Egbert, A. (2010). The unequal distribution of health in the Twin Cities. Amherst H. Wilder Foundation. Retrieved from <https://www.wilder.org/Wilder-Research/Publications/Studies/Health%20Inequities%20in%20the%20Twin%20Cities/The%20Unequal%20Distribution%20of%20Health%20in%20the%20Twin%20Cities%202010,%20Full%20Report.pdf>
- Minnesota Department of Human Services. (2015). The Parent Aware quality rating and improvement system: Increasing accessibility for families and early care and education programs. Legislative Report. Retrieved from <https://www.leg.state.mn.us/docs/2015/mandated/150239.pdf>
- NICHD Early Child Care Research Network. (2002). Early child care and children's development prior to school entry: Results from the NICHD study of early child care. *American Educational Research Journal*, 39 (1), 133-164.
- Northside Funders Group. (2014). North Minneapolis workforce report. Retrieved April 1, 2017, from <http://northsidesfunders.org/wp-content/uploads/2014/03/5.3-NorthMpls-Workforce-Report-June-2014.pdf>
- Pierce County, Washington. (2007). Appendix C: Park and Facility Condition Assessment. Parks, Recreation & Open Space Plan.
- QRIS National Learning Network. (2015). Our purpose. Retrieved from <http://qrismetwork.org/>
- Sousa, C., Herrenkohl, T. I., Moylan, C. A., Tajima, E. A., Klika, J. B., Herrenkohl, R. C., & Russo, M. J. (2011). Longitudinal study on the effects of child abuse and children's exposure to domestic violence, parent-child attachments, and antisocial behavior in adolescence. *Journal Of Interpersonal Violence*, 26(1), 111-36. doi:10.1177/0886260510362883
- Thompson, D. (2015). The miracle of Minneapolis. *The Atlantic*. Retrieved April 1, 2017, from <https://www.theatlantic.com/magazine/archive/2015/03/the-miracle-of-minneapolis/384975/>
- ### **Historical Demographics**
- Jargowsky, P. (2015). Architecture of segregation. Retrieved April 02, 2017, from <https://tcfdotorg.atavist.com/architecture-of-segregation>
- Macalester College Urban GIS course. (2016). Examining the context of the Northside Achievement Zone. Retrieved from https://www.macalester.edu/academics/geography/civicengagement/URBAN_NAZ_S2016_FINAL.pdf
- Nelson, R., Winling, L., Marciano, R., Connolly, N., et al. (2016). Mapping inequality: Redlining in New Deal America. Retrieved April 24, 2017, from <https://dsl.richmond.edu/panorama/redlining/#loc=4/36.71/-96.93&opacity=0.8&text=about>
- Schmid, C. F. (1937). *Social Saga of Two Cities: An Ecological and Statistical Study of Social Trends in Minneapolis and Saint Paul*. Minneapolis, MN: The Minneapolis Council of Social Agencies, Bureau of Social Research.
- U.S. Census Bureau. (2017). Poverty thresholds. Retrieved April 02, 2017, from <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>