

CITY GOAL

results
minneapolis

3rd Grade Reading Proficiency among Minneapolis
Public and Charter School Students

December 2, 2015

What is this?

City Goal Results Minneapolis roundtables are focused on answering the question “are we there yet?” by reporting progress on our community indicators. These reports are analytical in nature and focused on making connections with cross-sector data. Creating these reports requires input from multiple departments and, in many cases, external participants. The goal of this initiative is to reflect the realities being experienced in our communities. The objectives of the report and roundtable are to 1) have a new and different understanding of the indicator and 2) think differently about solutions.

Why 3rd grade reading proficiency?

Until the end of 3rd grade, most students are *learning to read*. In 4th grade, most curricula changes over to *reading to learn*, using reading skills to gain more information about a variety of subjects.¹

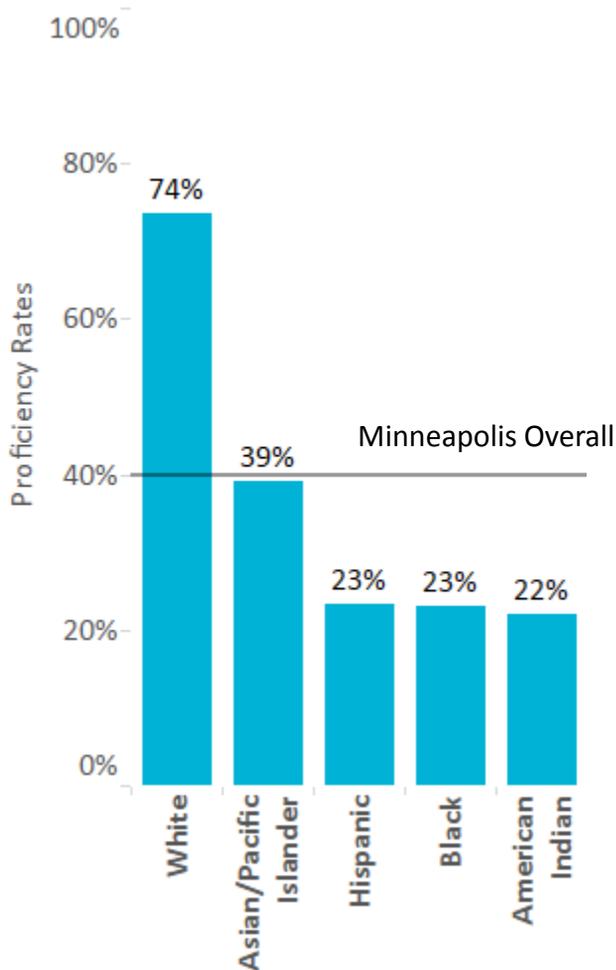
- Up to half of printed 4th grade curricula is incomprehensible to students who read below grade level.¹
- Three-quarters of students who are poor readers in 3rd grade will remain poor readers in high school.¹
- A student who can't read at grade level by 3rd grade is four times less likely to graduate by age 19 than a child who does read proficiently by that time. Add poverty to the mix, and a student is 13 times less likely to graduate on time than his or her proficient, wealthier peers.²

1: From the Early Warning! Why Reading by the End of Third Grade Matters. Annie E. Casey Foundation (2010)

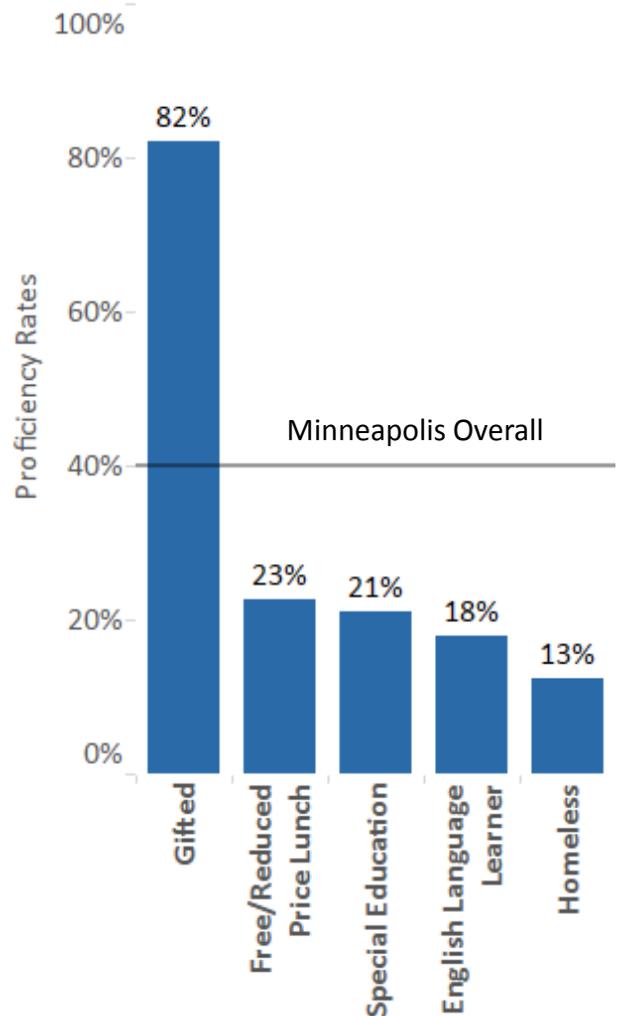
2: Sparks, S. Study: Third Grade Reading Predicts Later High School Graduation. Education Week (4/8/2011)

Indicator: 3rd grade reading proficiency

3rd grade reading proficiency rates by race, 2015



3rd grade reading proficiency rates by student category, 2015



- Definition of 3rd grade reading proficiency: Percent of third grade students meeting or exceeding proficiency standards.
- The burden of factors that influence low test scores falls disproportionately on students living in poverty.
- These are proficiency rates for public school students in Minneapolis Public Schools (MPS) and Minneapolis charter schools. It does not include students enrolled in private schools.

Data Source: Minnesota Department of Education

Insights

An analysis of both Minneapolis Public Schools and charter school student achievement data and City data yielded the four insights below, which resulted in a set of questions for the roundtable to consider.

There is a wide and persistent racial achievement gap in Minneapolis.

- The 3rd grade reading achievement gap between white and black third grade students was 51 percentage points in 2015.
- This achievement gap remains relatively unchanged in Minneapolis. With the exception of Asian and Pacific Islander students, the gap is consistently 50 percentage points or more for students of color.

Third grade classes in Minneapolis schools are segregated.

- Only 30% of public elementary schools in Minneapolis public and charter schools have enough white and black third grade students to calculate an achievement gap.

Stability is an important factor in the achievement of students, whether it is in the home, at school or in a community.

- Proficiency rates are impacted by a student's mobility in and out of schools; stability in a child's community and family life impact student outcomes as well.
- This includes parents with stable employment and incomes as well as predictably safe homes, neighborhoods and environments.

Investments that promote stability are happening in geographic areas with the lowest proficiency rates.

- Resources are concentrating in areas with schools that have the lowest proficiency rates. Examples include: federal investments and quality rated childcare, and City investments, like housing and workforce development.

Questions

1. **Low achievement in 3rd grade reading proficiency is linked to chronic stress and trauma resulting from instability** - how does lack of stability contribute to these factors?
2. What touchpoints does the City have to influence stability?
3. Stability could mean limiting disruption for families and it also could mean creating opportunity for upward mobility. How could we consider these different impacts when making policy decisions?

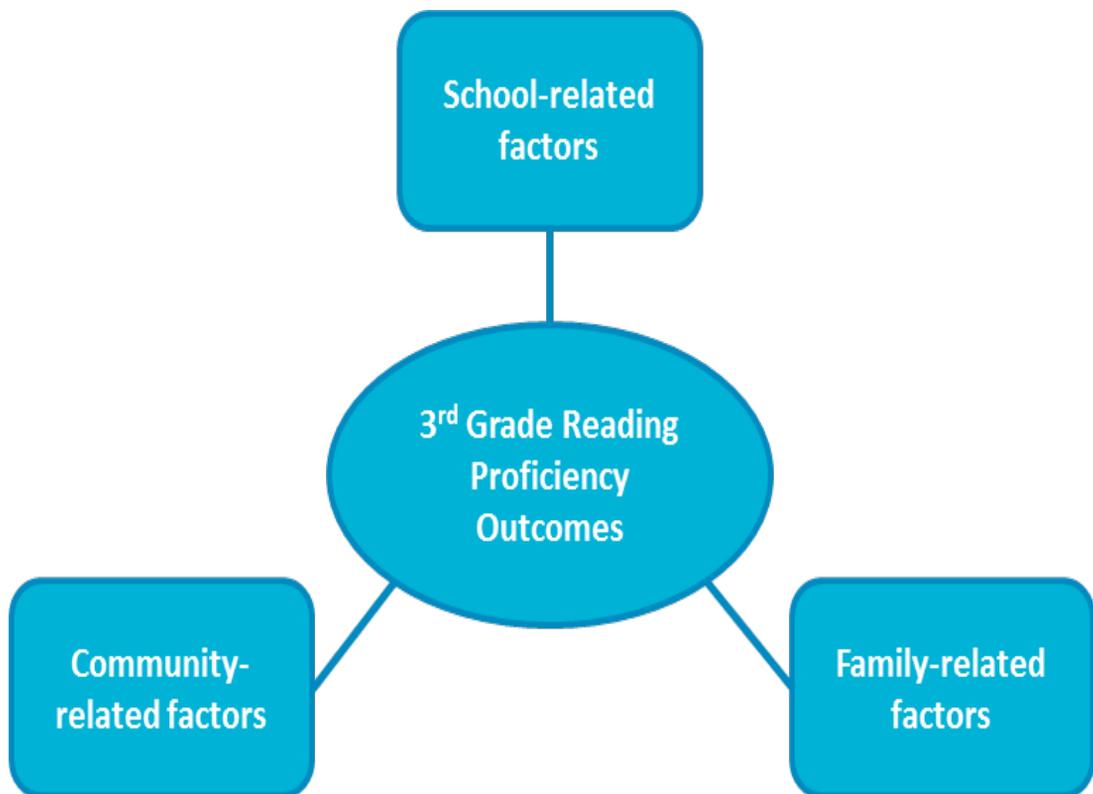
3rd grade reading proficiency

UNDERSTANDING THE ISSUE

To better organize data and guide analysis, a framework was used. This framework takes into account complex and intersecting factors that influence student achievement. The interaction of these factors is important to understand, as is understanding the current state of achievement.

Student achievement outcomes are a “three-legged stool,” where school, family and community factors all influence a child’s ability to achieve in school.

- This framework was used as a foundation to group and gather data.
- In doing so, we were able to see where there were overlapping themes across all three factors and understand which factors the City has the biggest opportunities to influence.

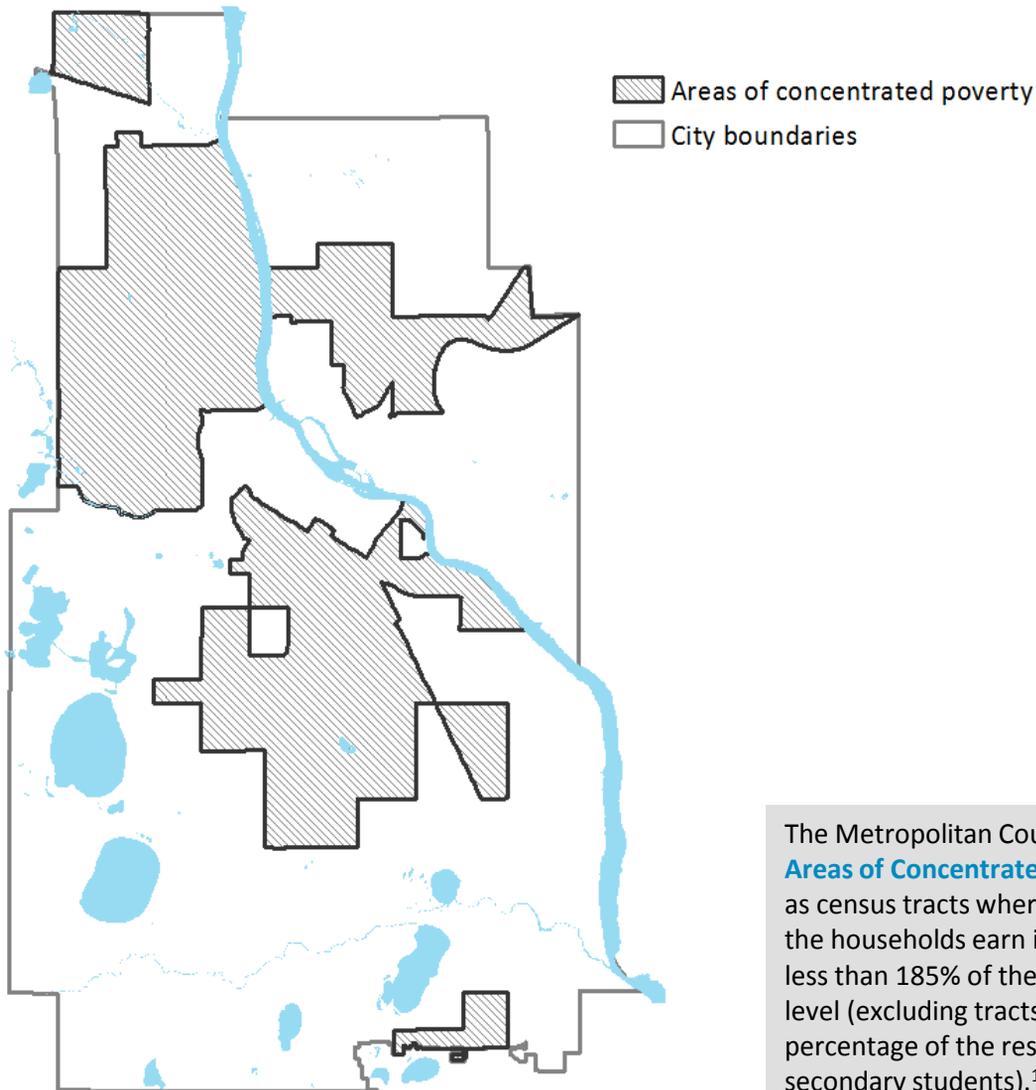


NOTE: The framework used a systems-level approach to understanding and analyzing student achievement. Individual student factors, such as learning disabilities, were not included because student-level data could not be gathered for analysis and because the system issues will influence student-level factors.

Concentrated areas of poverty are important to consider when assessing data geographically.

- Concentrated poverty isolates residents from the resources and networks they need to reach their potential and deprives the larger community of the neighborhood's human capital.
- An outline of these areas is included in all maps used in this analysis.

Areas of concentrated poverty (2009-2013)



The Metropolitan Council has defined **Areas of Concentrated Poverty (ACP)** as census tracts where 40% or more of the households earn incomes that are less than 185% of the federal poverty level (excluding tracts where a large percentage of the residents are post-secondary students).¹

Big Picture

Birth

The gap begins at birth for children born low birthweight, prematurely, with congenital heart problems, or affected by prenatal exposure to toxic substances.

Low-birthweight babies are at greater risk for neurodevelopmental problems, behavioral problems and attention deficit hyperactivity disorder (ADHD).

Newborns whose mothers have low levels of education are more likely to have been exposed prenatally to cigarette smoke, alcohol, drugs and folic acid deficiencies, which can cause pre-term birth, intrauterine growth retardation and long-lasting effects on the child's cognition and behavior.

Birth-K

The readiness gap continues between birth and kindergarten due to differences in children's resources and opportunities for physical, linguistic, cognitive, social, emotional, and behavioral development.

Too many children from low-income families lack early interactions that foster linguistic development.

[by age 4, a child from a high income family will hear 30 million more words, on average, than one from a low income family¹]

Low-income children have a higher incidence of health problems that interfere with learning.

Some children don't develop the social and emotional skills needed to function in a structured environment before they reach school-age.

Low-income children are less likely than middle-income children to participate in high-quality early childhood and pre-kindergarten programs that prepare children to succeed in school.

K-Grade 3

The readiness gap becomes an achievement gap when children enter school and this gap persists over the students' school experience.

Too many children attend low-performing schools or schools that are "not ready" to teach to high standards.

["not ready": schools whose curricula is not designed to provide an adequate roadmap for learning]

Too many children miss too much instructional time due to chronic absence.

Too many children lose ground during the summer months.

Too many children are distracted by childhood hunger and food insecurity, housing insecurity and family mobility.

Beyond 3rd Grade

3rd grade literary proficiency impacts a student's future academic success.

Students with poor 3rd grade reading proficiency are less likely to obtain a post-secondary degree.

Students with poor 3rd grade reading proficiency are less likely to graduate from high school, putting them at greater risk for incarceration and unemployment.²

Source: Early Warning! Why Reading by the End of Third Grade Matters, Annie E. Casey Foundation (2010)

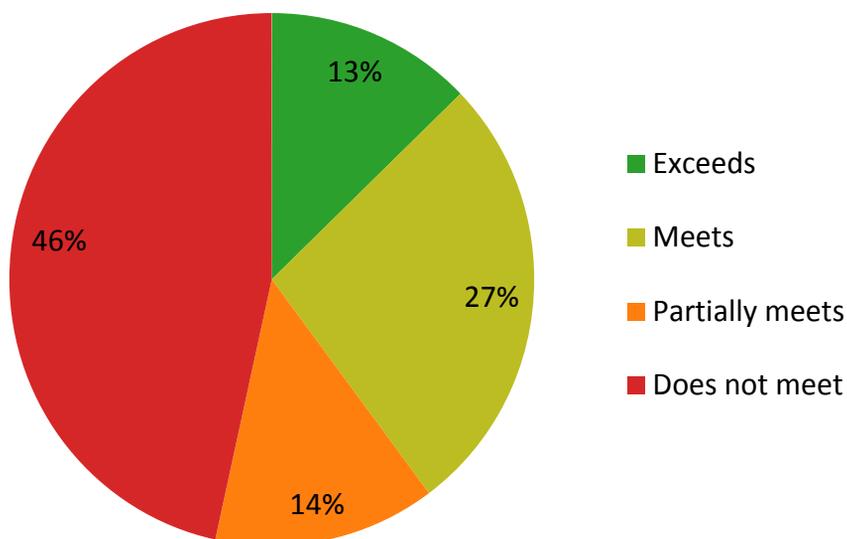
1. Hart, B. & Risley, T.R. "The Early Catastrophe: The 30 Million Word Gap by Age 3". American Educator (2003)

2. Sum, A., Khatiwada, I., McLaughlin, J., and Palma, S. "The Consequences of Dropping out of High School" Northeastern University (2009).

Too many 3rd grade students in Minneapolis public and charter schools are far from prepared to make the fourth grade transition from “learning to read” to “reading to learn”.

- There are about 4,000 3rd grade students enrolled in Minneapolis public and charter schools.
- 47% (2,338) of 3rd grade students in Minneapolis schools are far from meeting reading proficiency standards in 2015.
- These students are positioned for later difficulty in school and life.

Number of 3rd graders in each achievement level, 2015



What do the achievement level categories mean?

“Achievement Level Descriptors” describe the Minnesota Academic Standards' four levels of achievement. These help to distinguish between students who are close to proficiency and students who are far from proficiency.

3rd grade reading proficiency

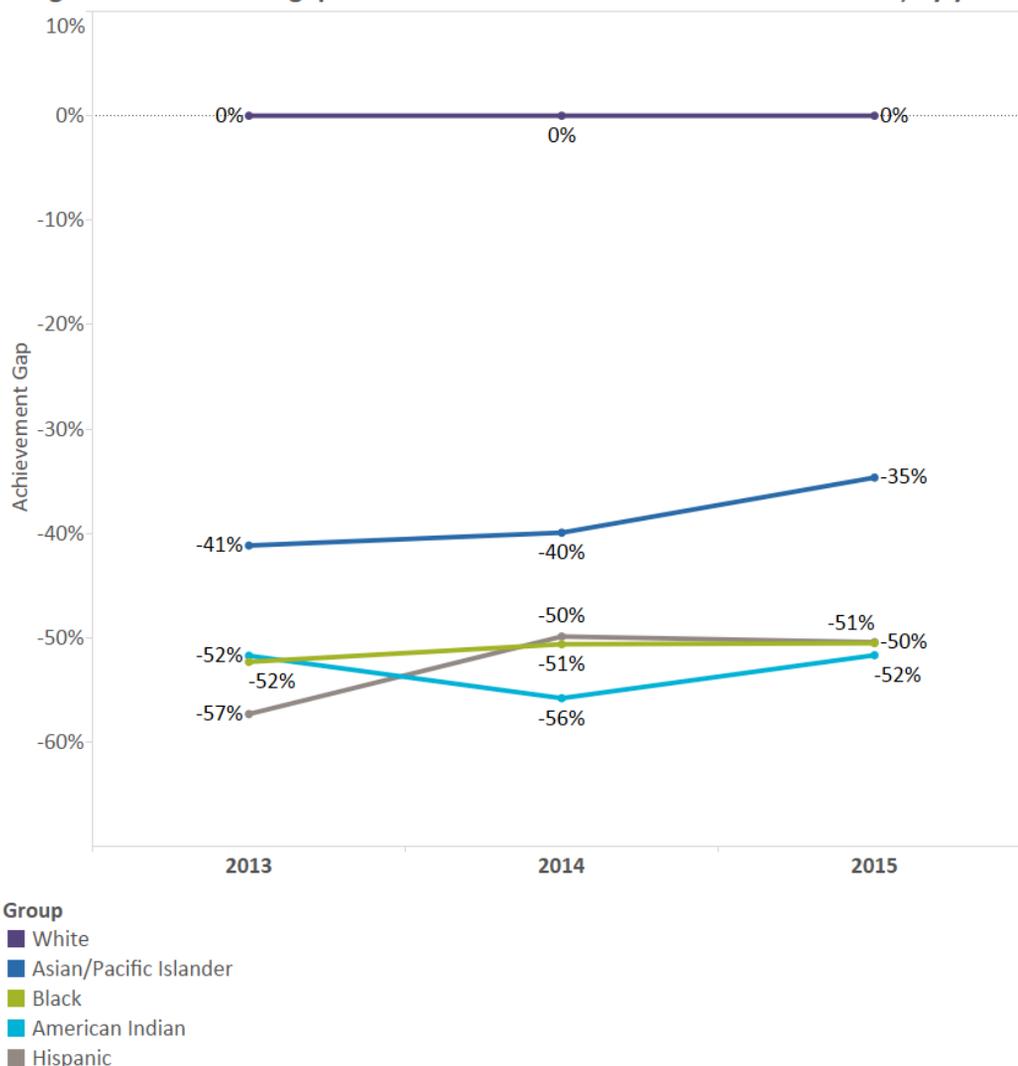
THERE IS A WIDE AND PERSISTENT ACHIEVEMENT GAP IN MINNEAPOLIS

This well-known gap has existed in Minneapolis for many years and continues to persist.

Minneapolis has some of the largest 3rd grade reading proficiency achievement gaps in the nation¹ and there has been little change over time.² Additionally, achievement gaps persist by race and socio-economic status.

- The 3rd grade achievement gap is measured as the percentage point difference between White student proficiency and proficiency of students of color.

3rd grade achievement gap as measured from white student achievement, by year



Data Source: Minnesota Department of Education

1: DeArmond, M., Denice, P., Gross, B., Hernandez, J. and Jochim, A.. Measuring Up: Educational Improvement and Opportunity in 50 Cities. CRPE Reinventing Public Education (2015)

2: Matos, A. "State Identifies 119 Schools Making Significant Progress in Closing Achievement Gap. Star Tribune (9/1/2015)

3rd grade reading proficiency

THIRD GRADE CLASSES IN MINNEAPOLIS ARE SEGREGATED

A considerable majority of Minneapolis 3rd grade classes did not have the minimum racial diversity needed to calculate an achievement gap.

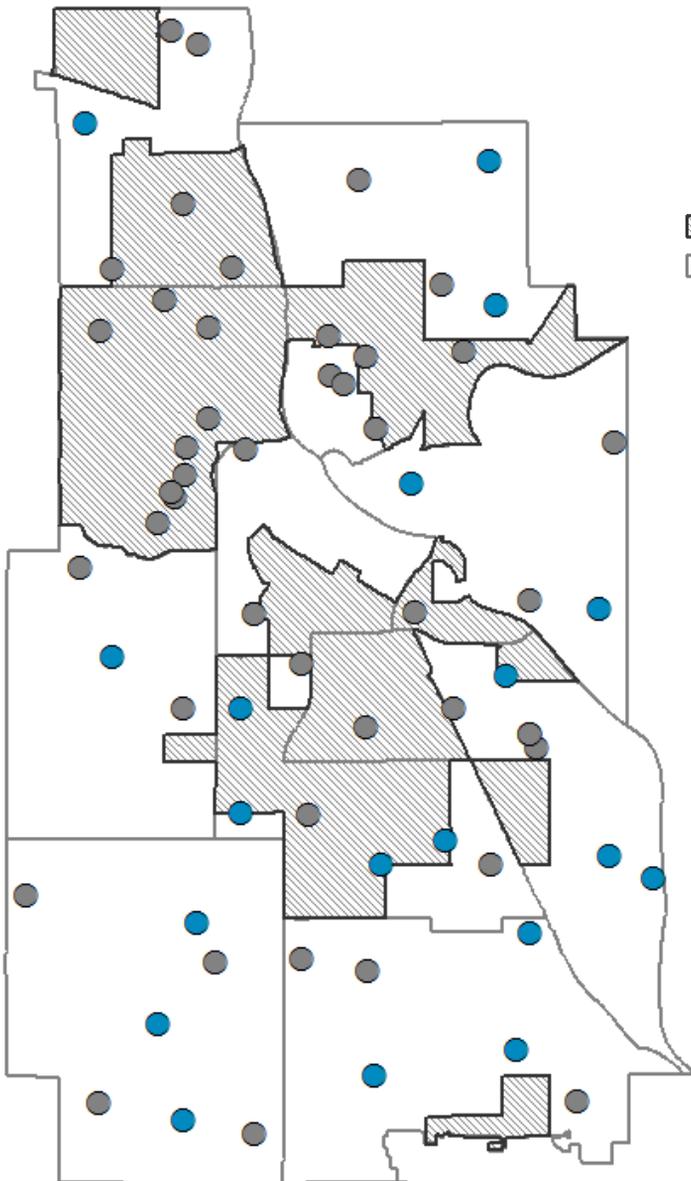
Most 3rd grade classes in Minneapolis schools are too segregated to allow calculation of achievement gaps.

- Calculation of within-school Black-White achievement gap requires each school to have more than ten students of each race in 3rd grade.
- Only 19 of 63 schools in Minneapolis (30%) have 3rd grade classes with more than ten Black students and more than ten White students. These schools can be seen in the map below in blue.

Elementary school segregation (2015)

Calculation of school achievement gaps

- Schools with enough white and black students to calculate an achievement gap (19 schools)
- Schools with too few white or black students to calculate an achievement gap (44 schools)
- Areas of concentrated poverty
- Minneapolis Communities



- The average size of a school's 3rd grade student body was 193 in 2015 (the median was 216).
- The smallest grade size was 33 students, and the largest was 556.

3rd grade reading proficiency

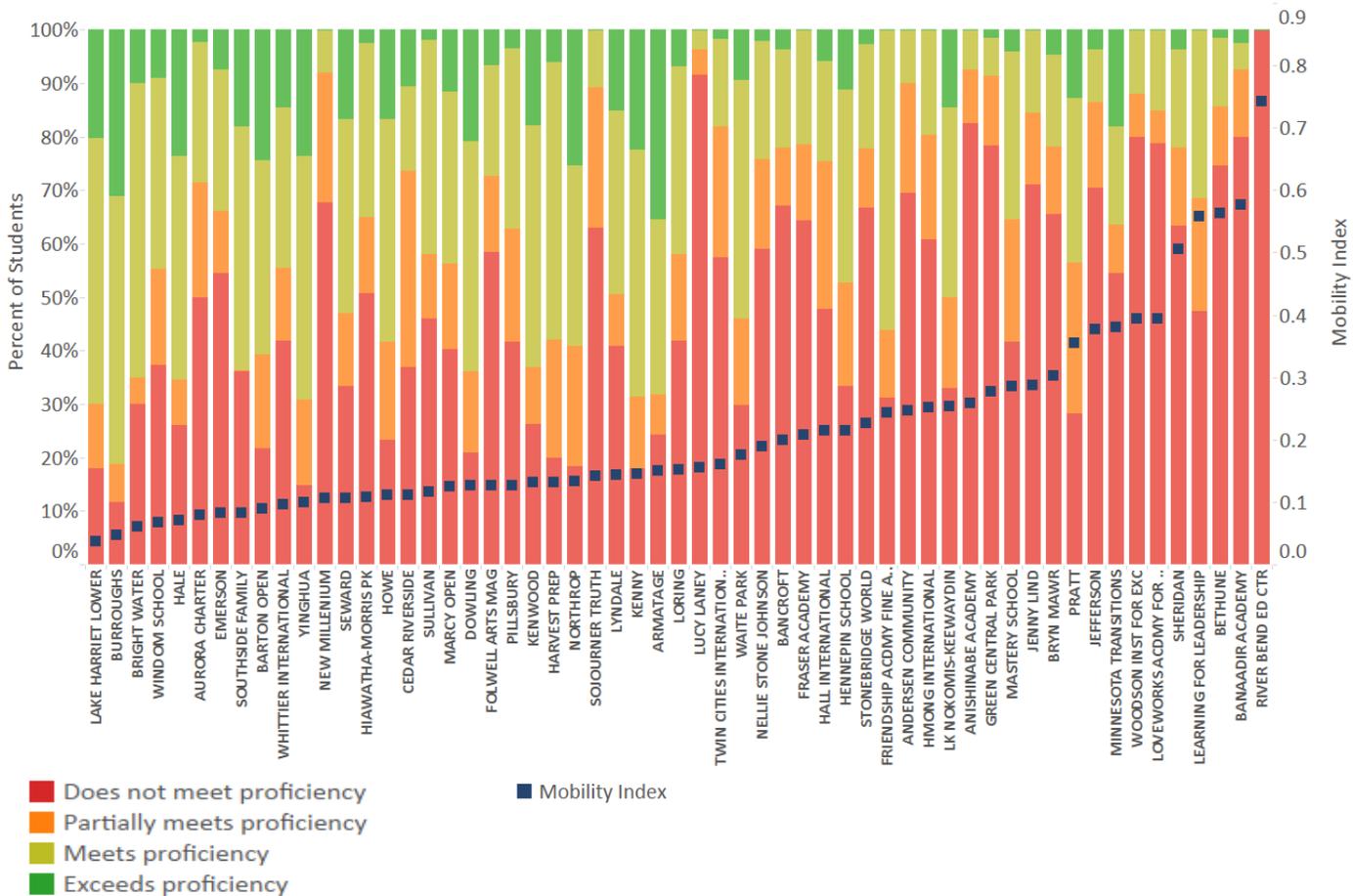
STABILITY IS AN IMPORTANT FACTOR IN THE ACHIEVEMENT OF STUDENTS, WHETHER IT IS IN THE HOME, AT SCHOOL OR IN A COMMUNITY

Variables of stability intersect with student achievement and can be categorized into school, family and community factors. This report focused on elements the City can measure. The report did not examine causality between these factors and student outcomes.

The proportion of students who are far from proficiency increases as mobility of students within the 3rd grade increases.

- The mobility index is a measure of student transfers in and out of a school, not necessarily a measure of if their housing is mobile. It is measured as a ratio of number of students transferring in and out of the school compared to total enrollment on October 1.

3rd Grade Achievement Levels and Mobility Index, by school, 2014



What do the achievement level categories mean?

“Achievement Level Descriptors” describe the Minnesota Academic Standards’ four levels of achievement. These help to distinguish between students who are close to proficiency and students who are far from proficiency.

The stress of not having control over life circumstances is an important factor in discussions about stability and advancement. More work should be done to understand the stress from employment instability and how it affects families.

What we know

- Long bouts of unemployment have been shown to cause increased instability in family systems. Attachment to the labor force is an important factor in understanding economic outcomes.
- Employment and economic stability and security are critical through-lines across the primary factors that determine student outcomes in 3rd grade reading.
- Constantly worrying about day-to-day issues, such as the ability to get healthy food, undermine a child's ability to concentrate, focus and regulate emotions. These skills are necessary to succeed in school¹.
- Research suggests that chronic scarcity and wage stability as well as uncertainty and lack of agency in work-schedule can lead to thought patterns which perpetuate anxiety and depression.¹
- When stability improves, children are more socially and emotionally equipped, which improves their ability to succeed socially and professionally.²

What we don't know

- A clear definition of employment stability – a person can be employed stably in a low paying job, or someone may change jobs because they are experiencing upward mobility. Both of these may be reflected as instability with distinctly different affects on infants and children.
- A nuanced understanding of economic and employment stability, in order to know when instability is good and when it is disruptive.

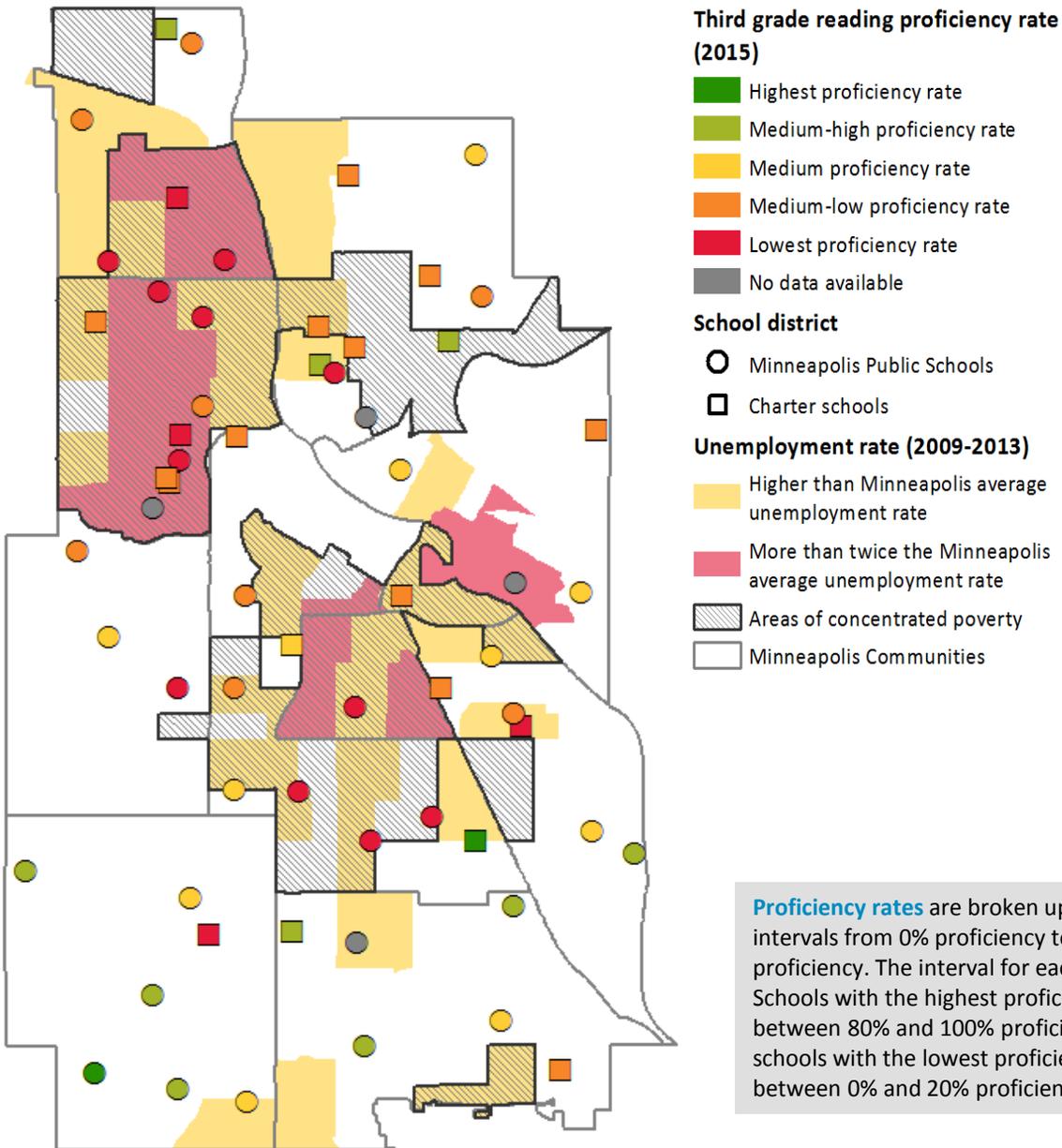
1 Thompson, Ross. "Stress and Child Development". *The Future of Children* 24 (2014)

2. Mullainathan, Sendhil and Shafir, Eldar, *Scarcity: Why Having Too Little Means So Much*. New York, NY: MacMillan Publishers (2013)

Geographic areas with a high unemployment rate tend to also have low-performing 3rd grade classes.

- This pattern is reversed when looking at areas of high employment which tend to have higher proficiency rates.
- The average unemployment rate by Census tract from 2009-2013 was 9.6%.

Unemployment rate by Census tract (2009-2013) and third grade reading proficiency rate (2015)



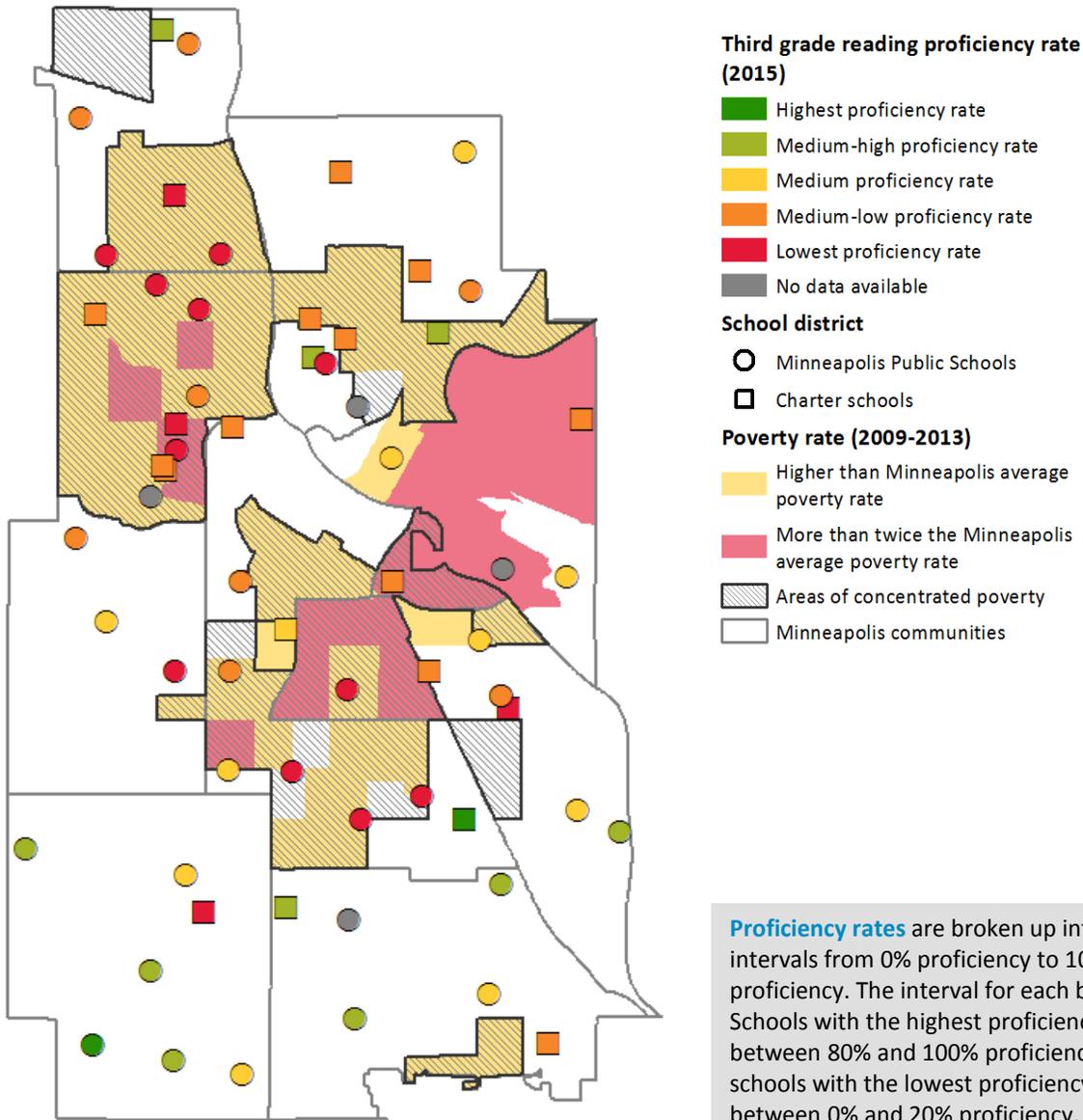
Proficiency rates are broken up into even intervals from 0% proficiency to 100% proficiency. The interval for each band is 20%. Schools with the highest proficiency rates have between 80% and 100% proficiency and schools with the lowest proficiency have between 0% and 20% proficiency.

Data sources: Minnesota Department of Education, U.S. Census Bureau, Metropolitan Council, City of Minneapolis

Areas with higher than average poverty rates tend to be the same areas with schools that have low 3rd grade reading proficiency rates.

- This was mapped using 100% of the poverty rate.
- The average poverty rate by Census tract from 2009-2013 was 22.5%.

Poverty rate by Census tract (2009-2013) and third grade reading proficiency rate (2015)



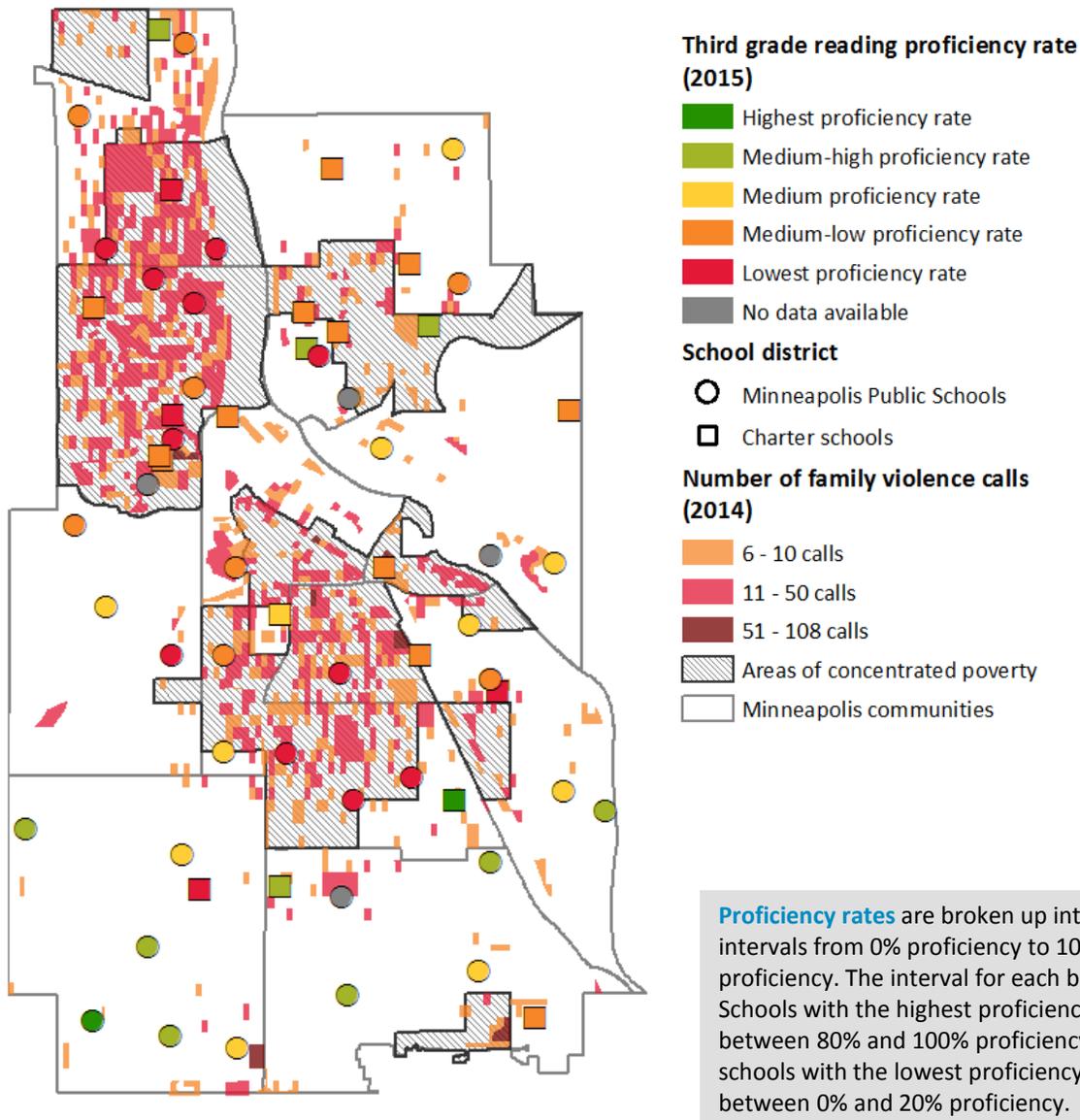
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Data sources: Minnesota Department of Education, U.S. Census Bureau, Metropolitan Council, City of Minneapolis

Family violence calls, a measure of community stability, represent a disproportionately large number of calls in the same areas where schools have low proficiency rates.

- Family violence calls represent only 4 of 160 possible call codes but are 25% of police calls received.
- These codes are 1) domestic 2) domestic abuse - report only 3) domestic abuse - in progress) and 4) domestic with weapons.

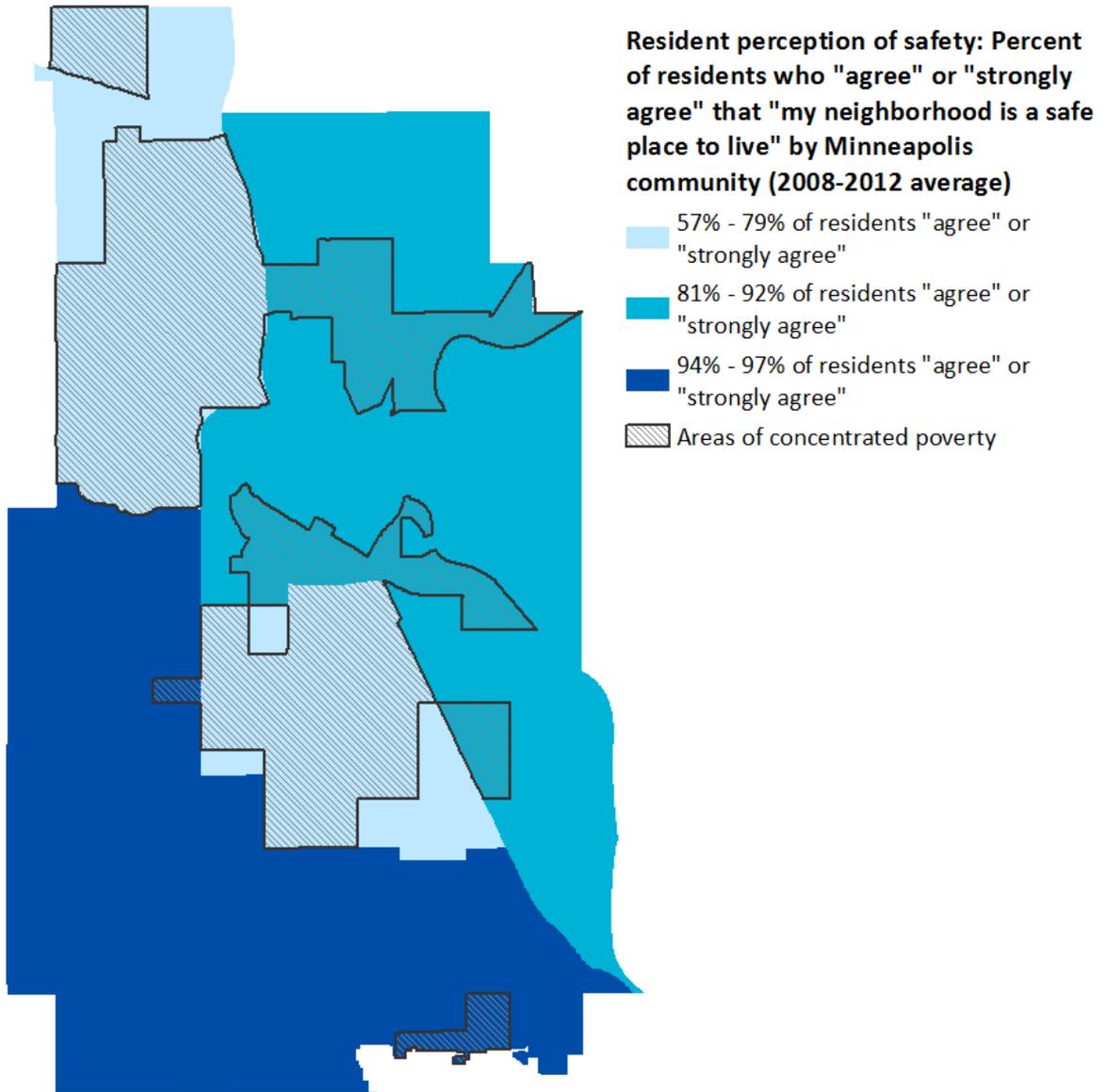
Number of family violence calls to Minneapolis Police Department (2014) and third grade reading proficiency rate (2015)



Data sources: Minnesota Department of Education, Minneapolis Police Department, Metropolitan Council, City of Minneapolis

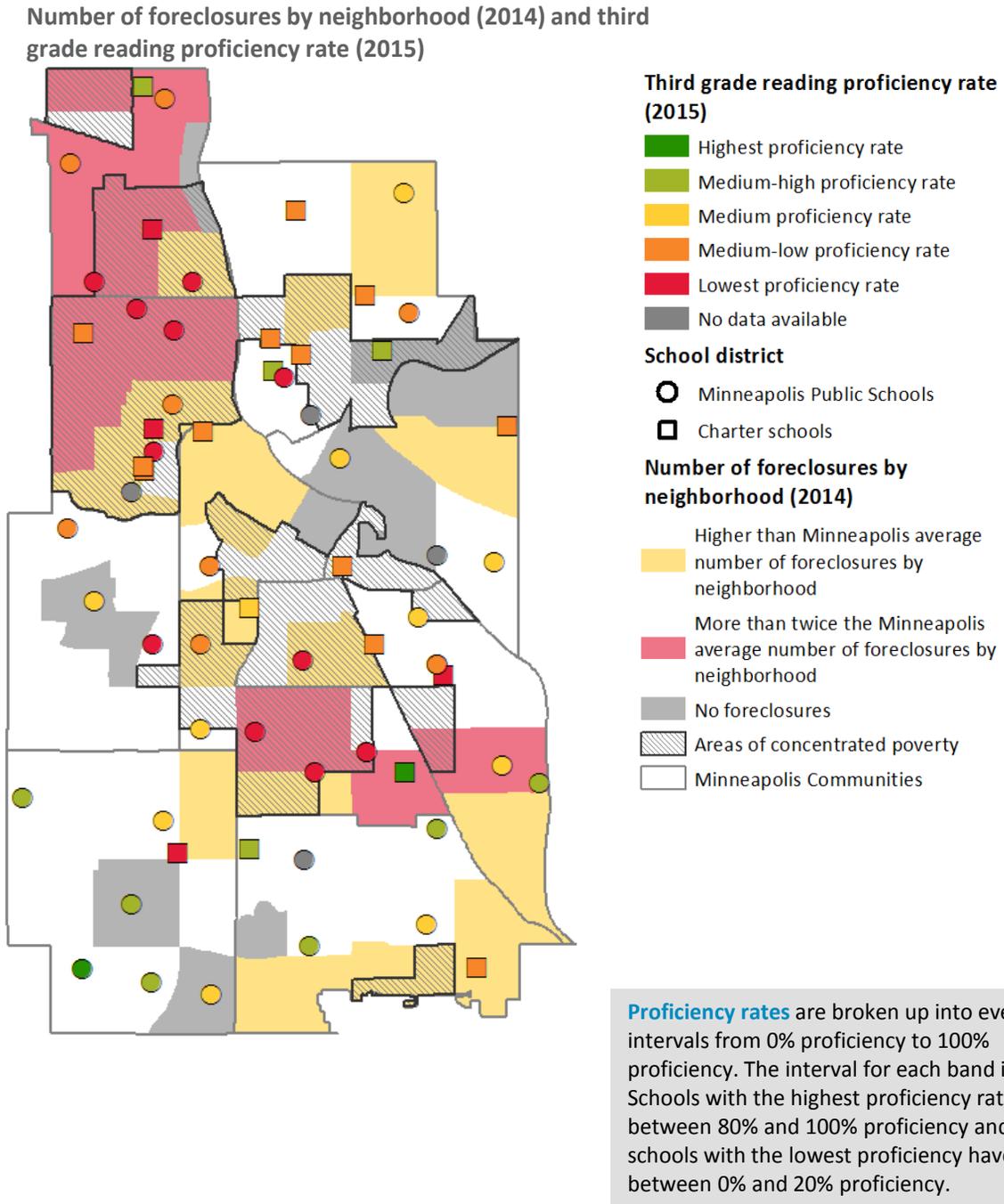
In the same areas that where there are a high number of family violence calls, residents experience lower sense of safety in their community.

Resident perception of safety (2008-2012 average) by community



Areas with high numbers of foreclosures tend to be the same areas with low-performing 3rd grade classes.

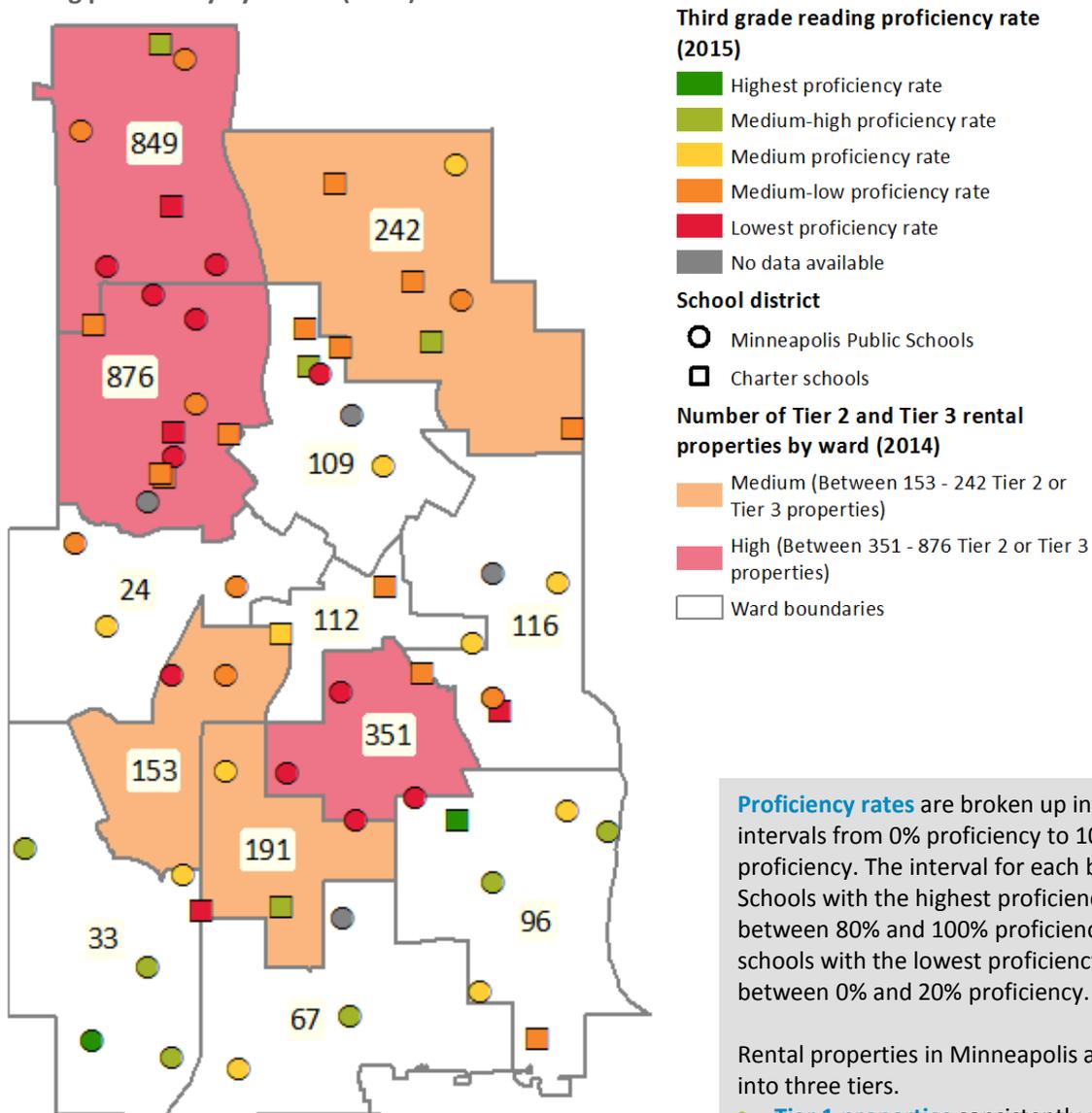
- The average number of foreclosures by neighborhood in 2014 was 7.



Low quality housing can pose safety hazards and is a potential source of stress for families. Stress has important effects on child health and wellbeing.

- Lower-quality rental housing stock is concentrated in North Minneapolis.
- Wards with the most Tier 2 and Tier 3 rental properties tend to have schools with lower reading proficiency rates.
- More than half (54%) of Tier 2 and Tier 3 properties are located in Wards 4 and 5.

Tier 2 and Tier 3 rental properties by ward (2014) with reading proficiency by school (2015)



Proficiency rates are broken up into even intervals from 0% proficiency to 100% proficiency. The interval for each band is 20%. Schools with the highest proficiency rates have between 80% and 100% proficiency and schools with the lowest proficiency have between 0% and 20% proficiency.

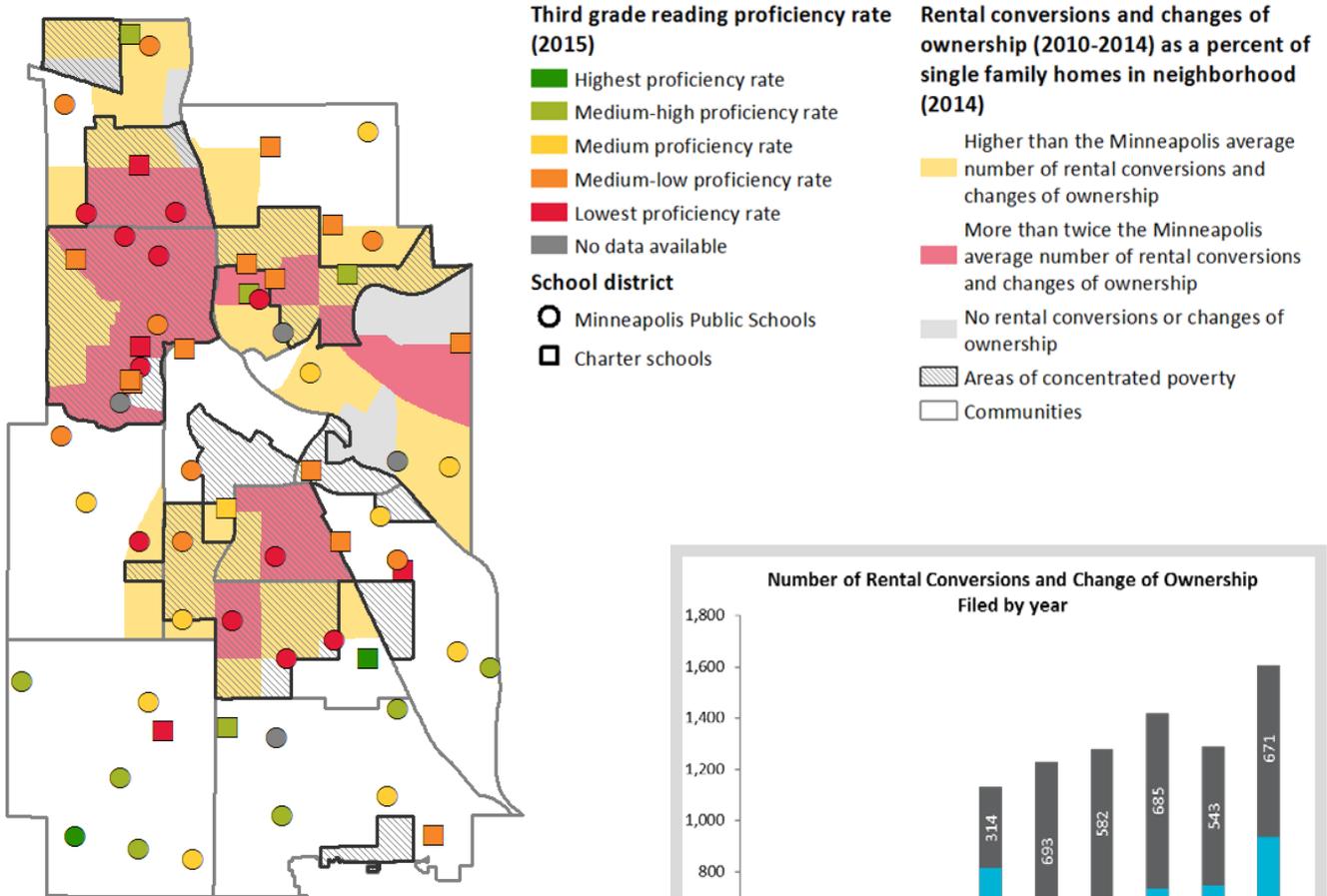
Rental properties in Minneapolis are divided into three tiers.

- **Tier 1 properties** consistently meet building code standards.
- **Tier 3 properties** are in need of the most work.

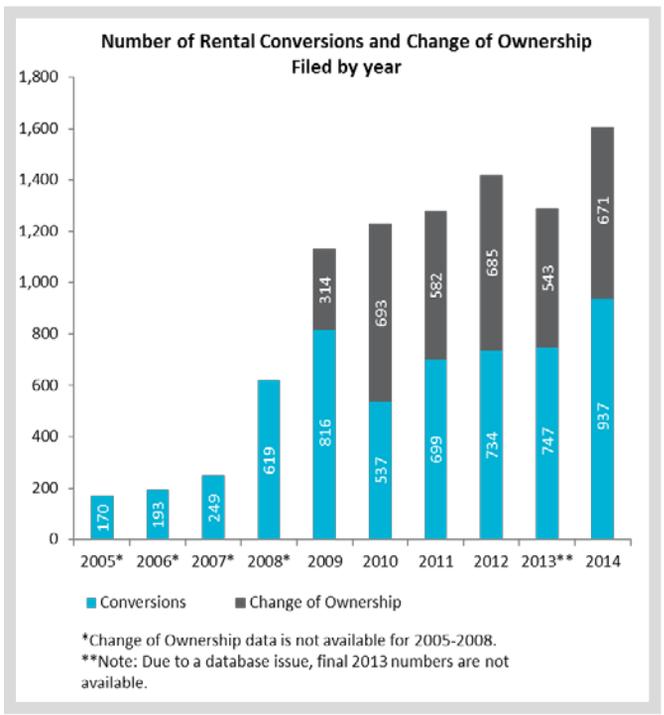
The increase in rental conversions since the recession might signal a move toward short-term housing solutions. This could impact the mobility and transience of families.

- Rental conversions illustrate a move from home ownership toward rental properties.
- Properties that change ownership can indicate housing instability since a tenant’s lease does not have to be transferred to the new owner.
- The average percent of homes subject to rental conversions or changes of ownership by neighborhood was 10%.

Rental conversions and changes of ownership (2010-2014) as a percent of single family homes in neighborhood (2014) and third grade reading proficiency (2015)



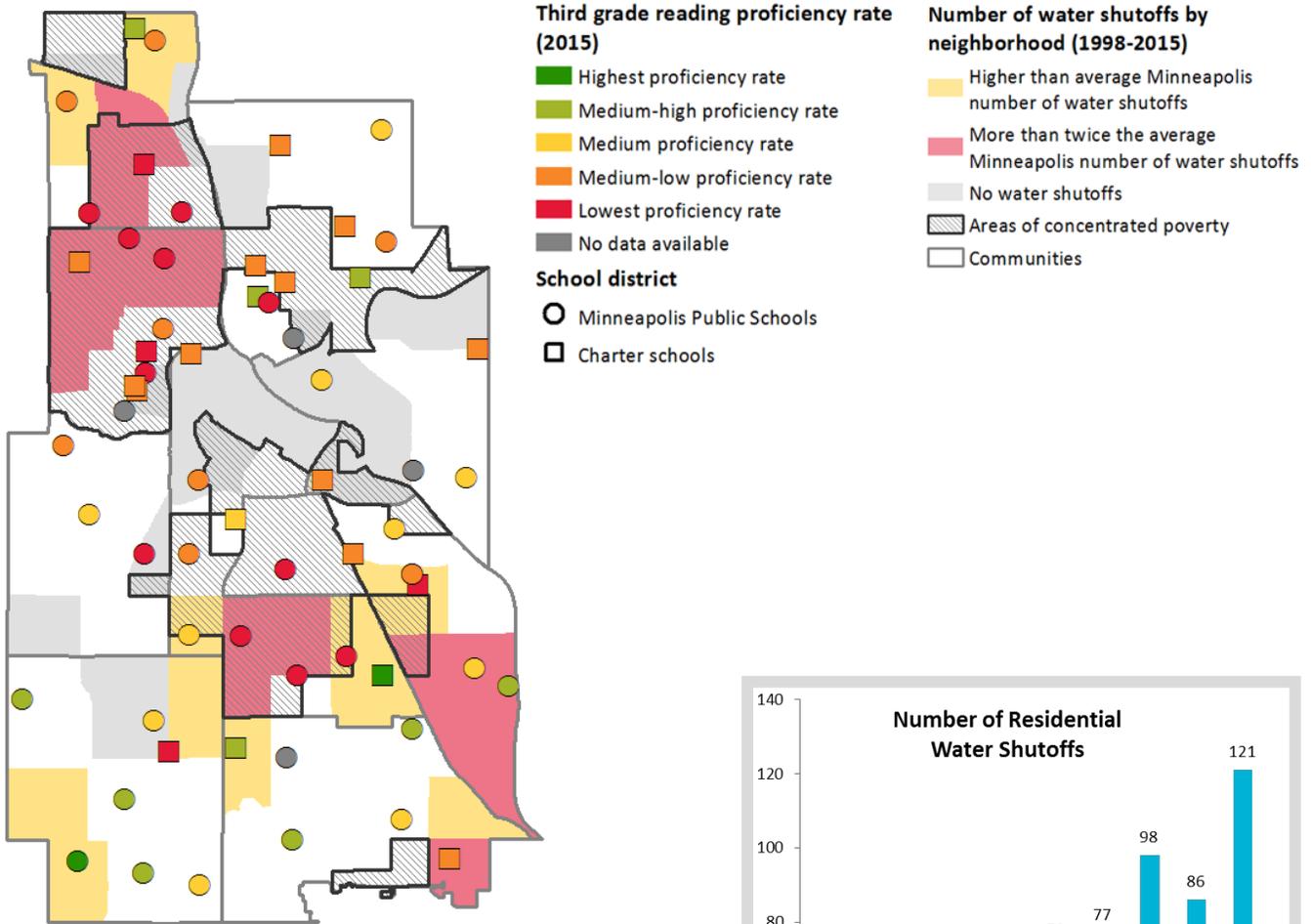
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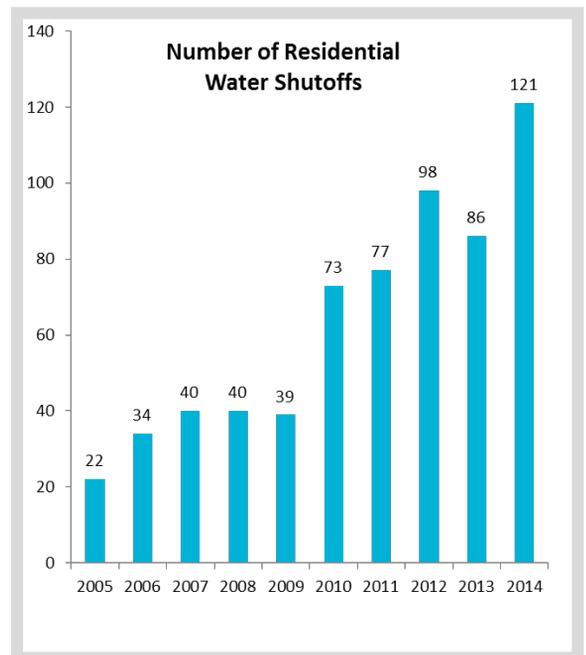
Nearly half of residential water shutoffs, a possible predictor of family housing displacement, were in North Minneapolis. Water shutoffs have been steadily increasing in number.

- Since water in multi-unit buildings is typically paid by the owner, residential water shutoffs are mostly an issue for single-family homes.
- The average number of residential water shutoffs by neighborhood from 1998-2015 is 5.

Residential water shutoffs by neighborhood (1998-2015) and third grade reading proficiency (2015)



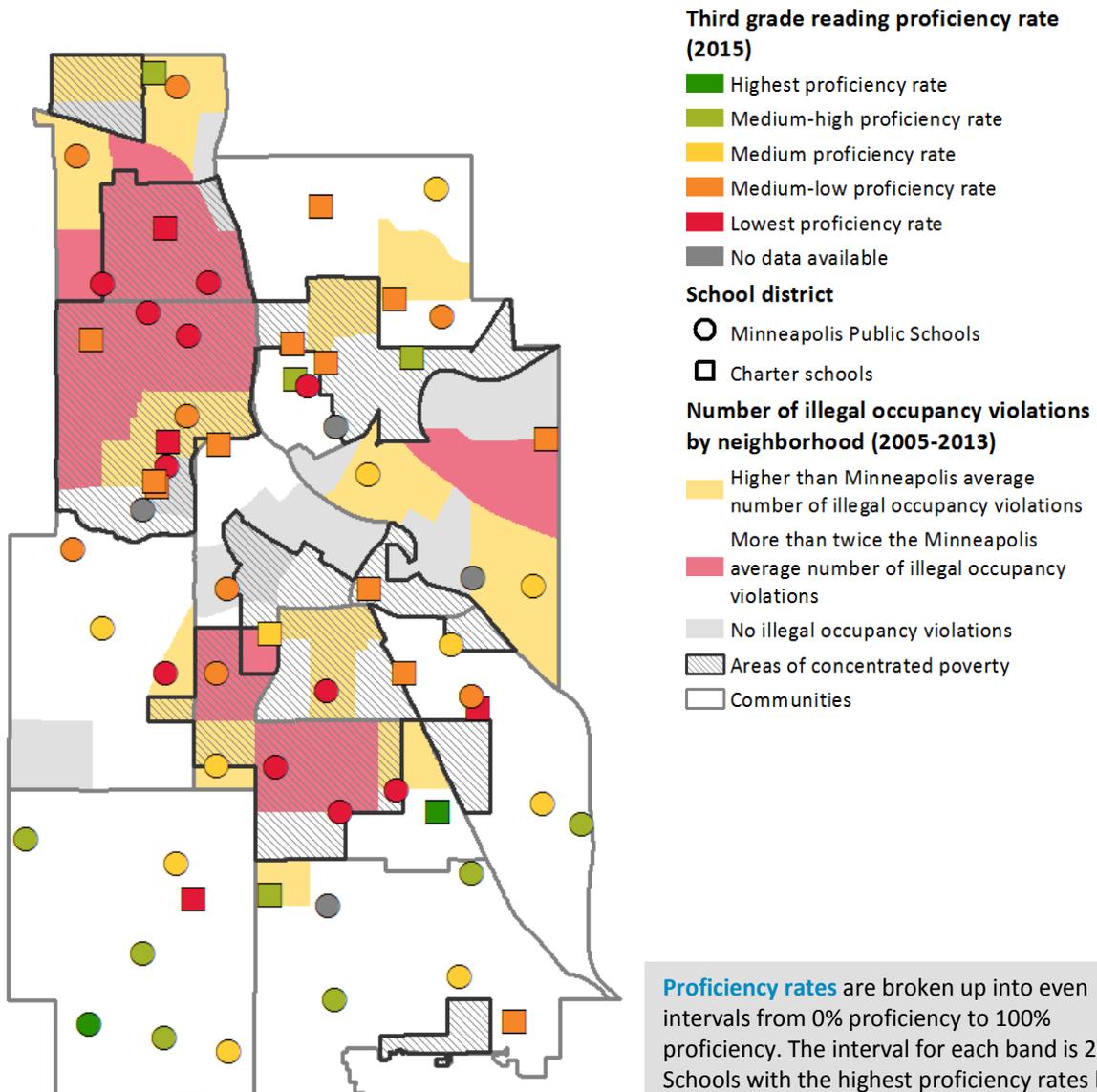
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Illegal occupancy is a symptom of housing instability, both for the individual or family and for neighbors.

- The definition for illegal occupancy of between one and three housing units is tied to the zoning of the building. For most of the properties included in this map, it is legal to have one family and two unrelated people living together in a single unit.
- Properties are flagged through both proactive inspections and complaints.
- The average number of illegal occupancy violations by neighborhood from 2005-2013 was 20.

Illegal occupancy violations by neighborhood (2005-2013) and third grade reading proficiency (2015)



Proficiency rates are broken up into even intervals from 0% proficiency to 100% proficiency. The interval for each band is 20%. Schools with the highest proficiency rates have between 80% and 100% proficiency and schools with the lowest proficiency have between 0% and 20% proficiency.

Source: City of Minneapolis, Regulatory Services

3rd grade reading proficiency

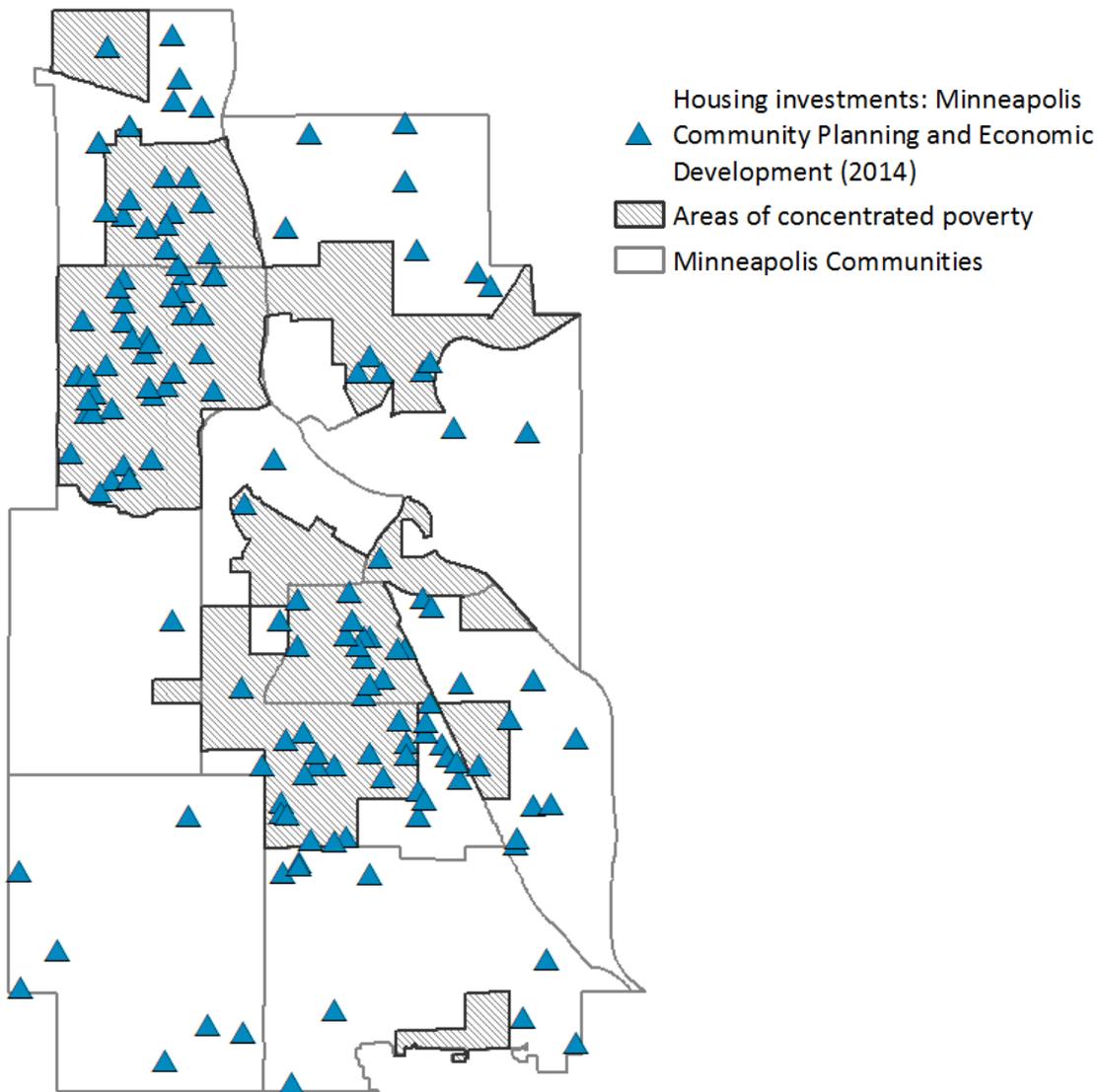
INVESTMENTS THAT PROMOTE STABILITY ARE HAPPENING IN GEOGRAPHIC AREAS WITH THE LOWEST PROFICIENCY RATES

There are concentrations of City resources going into the areas that have schools with the lowest proficiency rates. A similar pattern can be seen with other public and private resources as well.

Minneapolis housing investments are concentrated in the areas that tend to have the lowest 3rd grade reading proficiency rates.

- Community Planning and Economic Development housing investments are concentrated in south central Minneapolis.

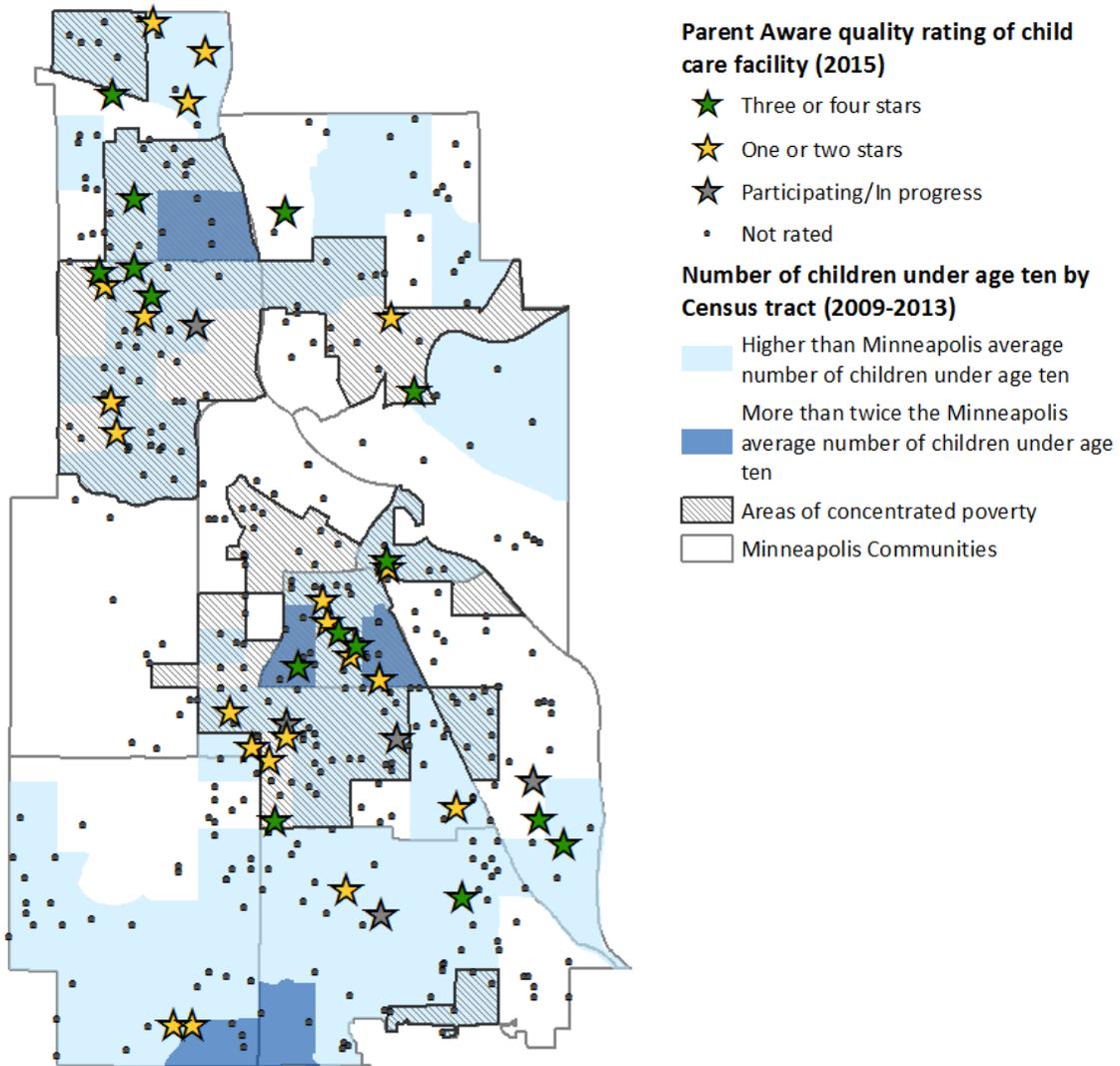
Housing investments: Minneapolis Community Planning and Economic Development (2014)



Most Parent Aware-rated child care centers are located in areas with high concentrations of young children and schools with the lowest 3rd grade reading proficiency rates.

- The low number of rated child care facilities overall is partially due to the newness of the rating system; not all child care facilities have had the chance to become rated.
- The geographic concentration of rated programs in concentrated areas of poverty might also be driven by the fact that recipients of early learning scholarships are required to send their children to 3 and 4 star rated programs.
- The average number of children by Census tract from 2009-2013 was 423.

Number of children under age ten by Census tract (2009-2013) and Parent Aware quality rating of child care facilities (2015)

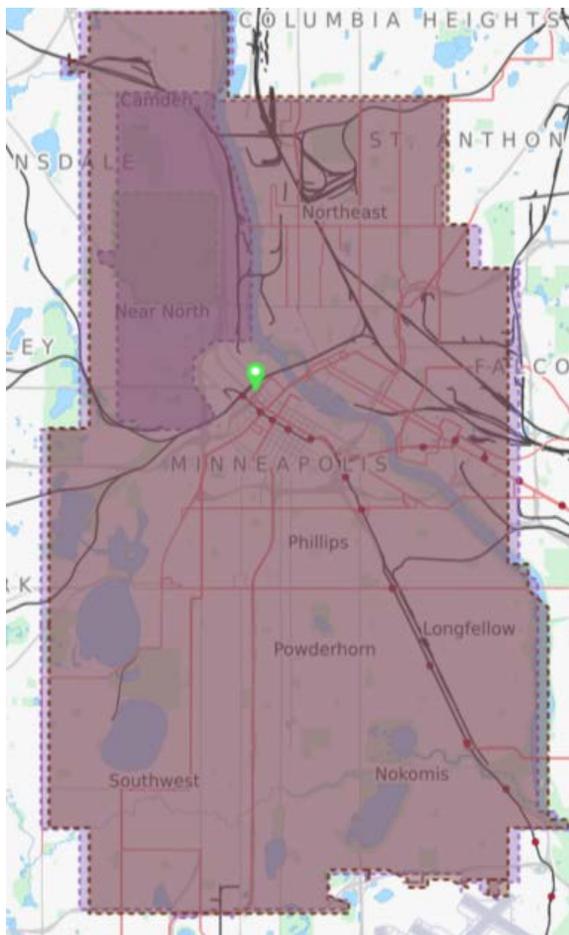


Data sources: Minnesota Department of Health and Human Services, Minnesota Department of Health, U.S. Census Bureau, Metropolitan Council, City of Minneapolis

There are a number of federal grants and programs concentrated in the Twin Cities, Minneapolis and within neighborhoods with the lowest proficiency rates.

- Nine federal partnerships are working with the Minneapolis community.¹
- Four of these partnerships are serving residents of north and central Minneapolis.¹

Federal initiatives in Minneapolis and the region



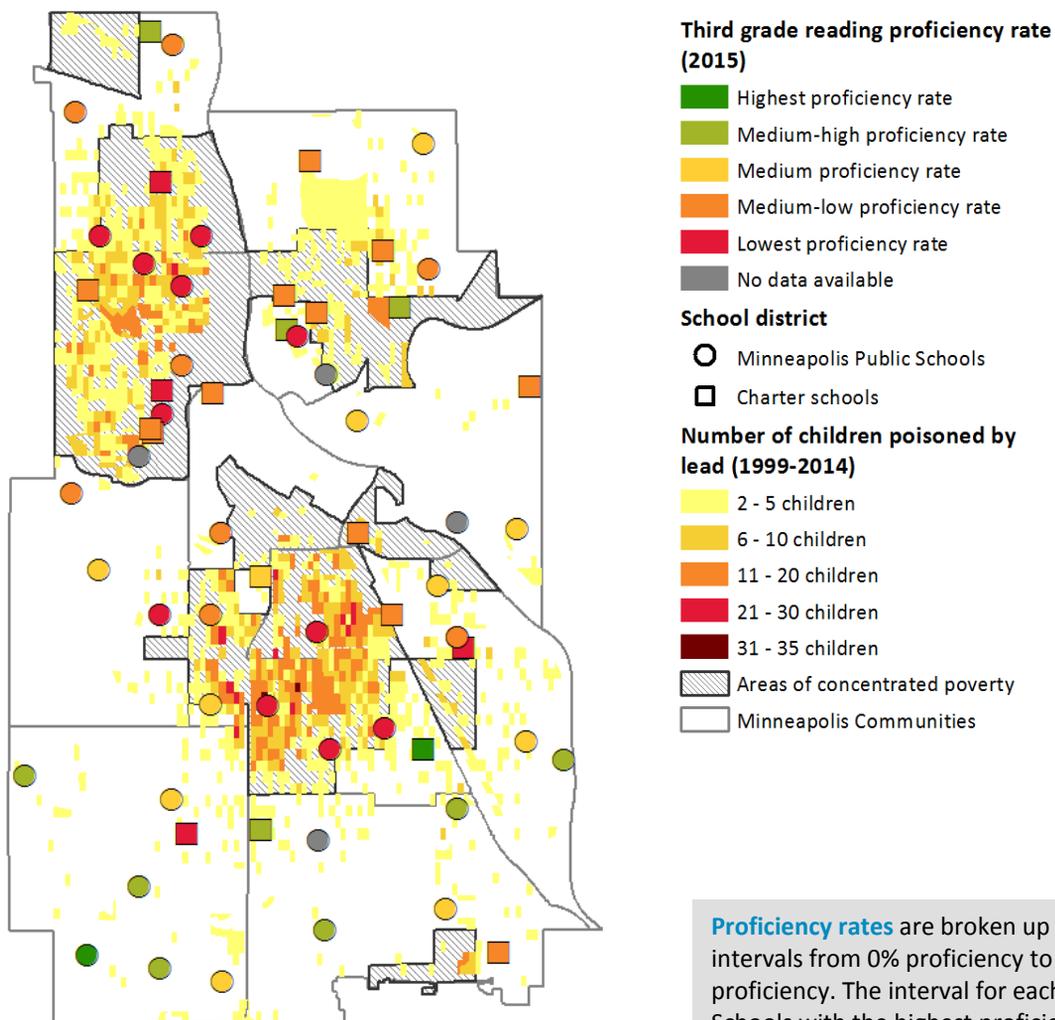
- Climate Action Champions**
Minneapolis, Minnesota
- CNCS State Offices**
Minneapolis, Minnesota
- Mayor's Challenge to End Veterans Homelessness**
Minneapolis, Minnesota
- My Brother's Keeper Community Challenge**
Minneapolis, Minnesota
- National Initiative for Building Community Trust**
Minneapolis, Minnesota
- Promise Zones**
Minneapolis, Minnesota
- PSC - Sustainable Communities Regional Planning**
Metropolitan Council
- TechHire**
Minneapolis, Minnesota
- TIGER Grants**
Hennepin County Regional Railroad Authority
- Youth Violence Prevention Forum**
Minneapolis, Minnesota

Source: Donovan, Shaun. "Here's How the Federal Government is Working with Local Communities to Create Change, in One Map" : <https://www.whitehouse.gov/blog/2015/08/25/heres-how-federal-government-working-local-communities-create-change-one-map>, 8/26/2015

There is a strong connection between blood lead levels and neurological function, which impacts a child's ability to succeed in school.

- The data represents only those children who are tested. For children who are not tested, elevated blood levels are often discovered much later.
- Any blood lead level poses an adverse health risk. The Health department tests at 5 micrograms/deciliter because that's the most sensitive testing that can be achieved with current technology.
- Within the data points, some cases have been resolved and some have not.

Number of children poisoned by lead (1999-2014) and third grade reading proficiency rate (2015)



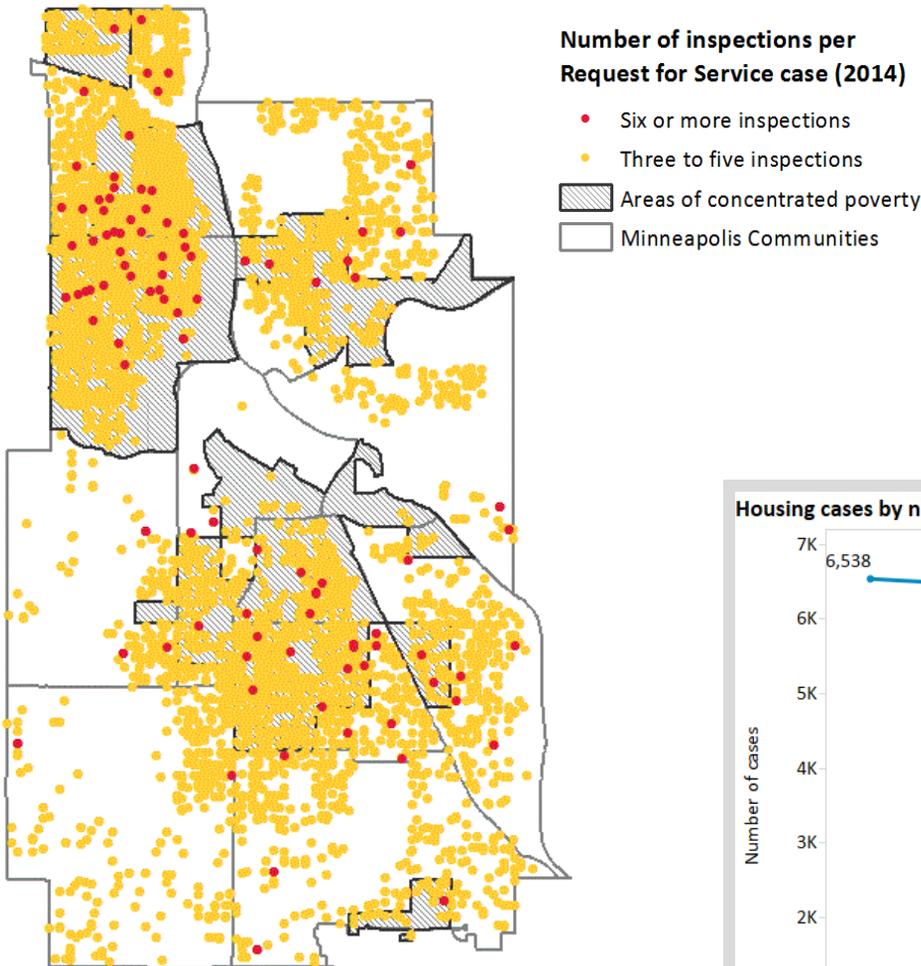
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Data sources: Minnesota Department of Education, Minneapolis Health Department, Metropolitan Council, City of Minneapolis

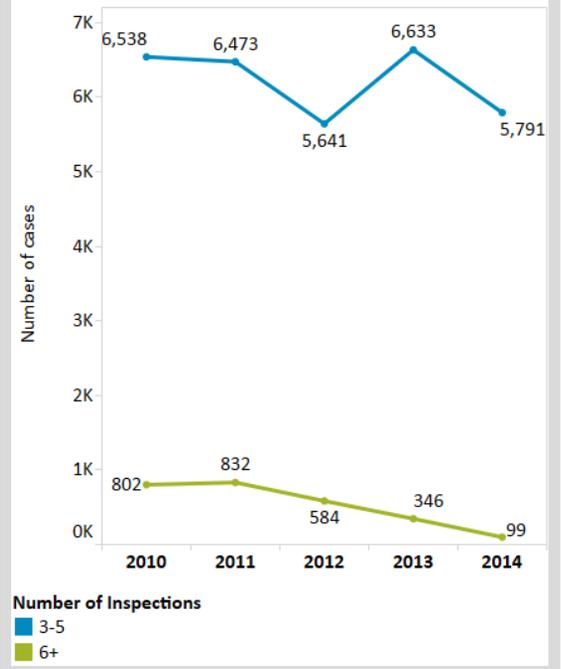
The number of inspections required to resolve a housing violation highlights the amount of time a tenant and surrounding community has been affected by subpar housing conditions.

- Cases requiring 3-5 inspections has remained somewhat steady, but the number of cases with 6 or more inspections have been in decline.
- The majority of housing violations occur either in rental properties or are exterior violations in homesteaded properties.
- A typical violation requires two inspections, one to verify the violation is occurring and the second to verify that it has been rectified. Once a violation reaches five inspections, it is typically upgraded to an administrative citation.

Number of inspections per Request for Service case (2014)



Housing cases by number of inspections, over time



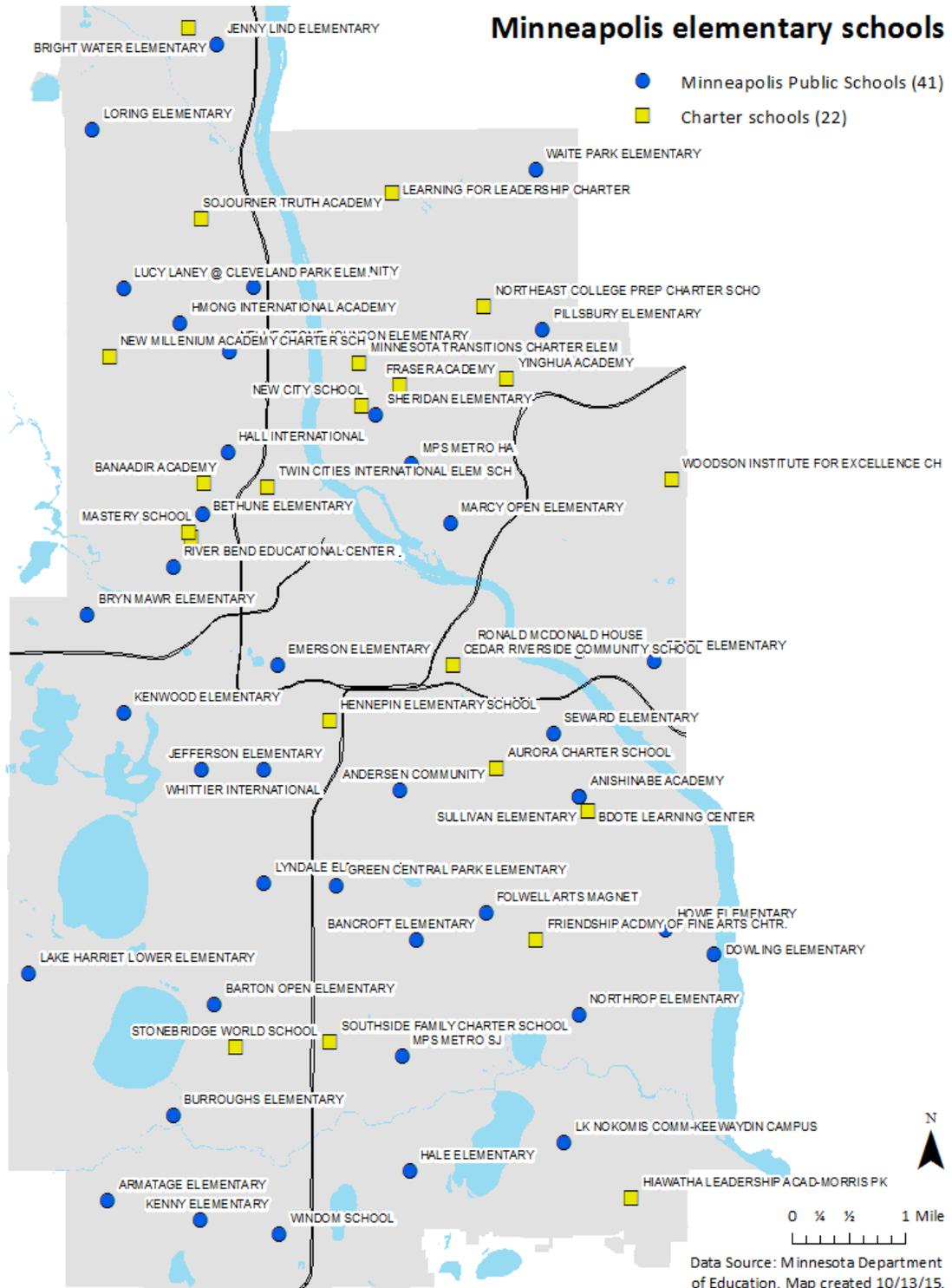
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Data sources: Minneapolis Regulatory Services Department, Metropolitan Council, City of Minneapolis

3rd grade reading proficiency

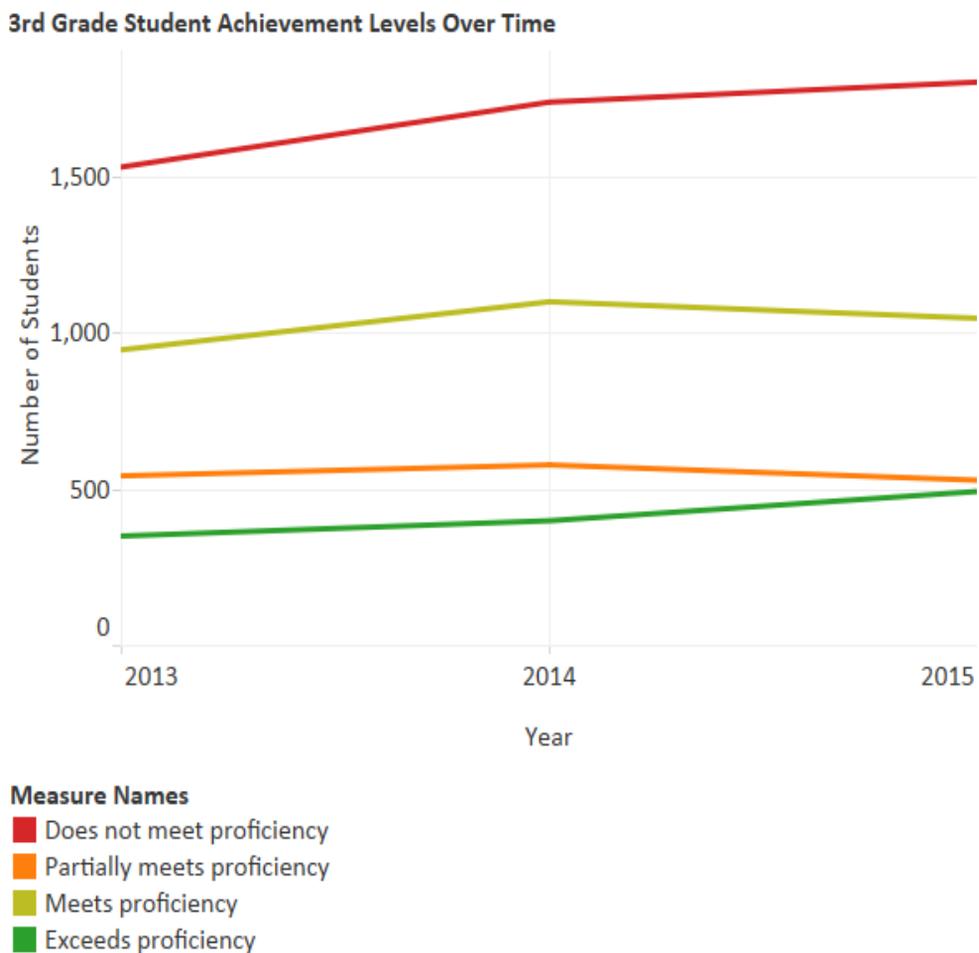
APPENDIX

Map of Minneapolis public and Minneapolis charter elementary schools



The achievement gap between Minneapolis’s highest-performing students and lowest performing students remains relatively constant.

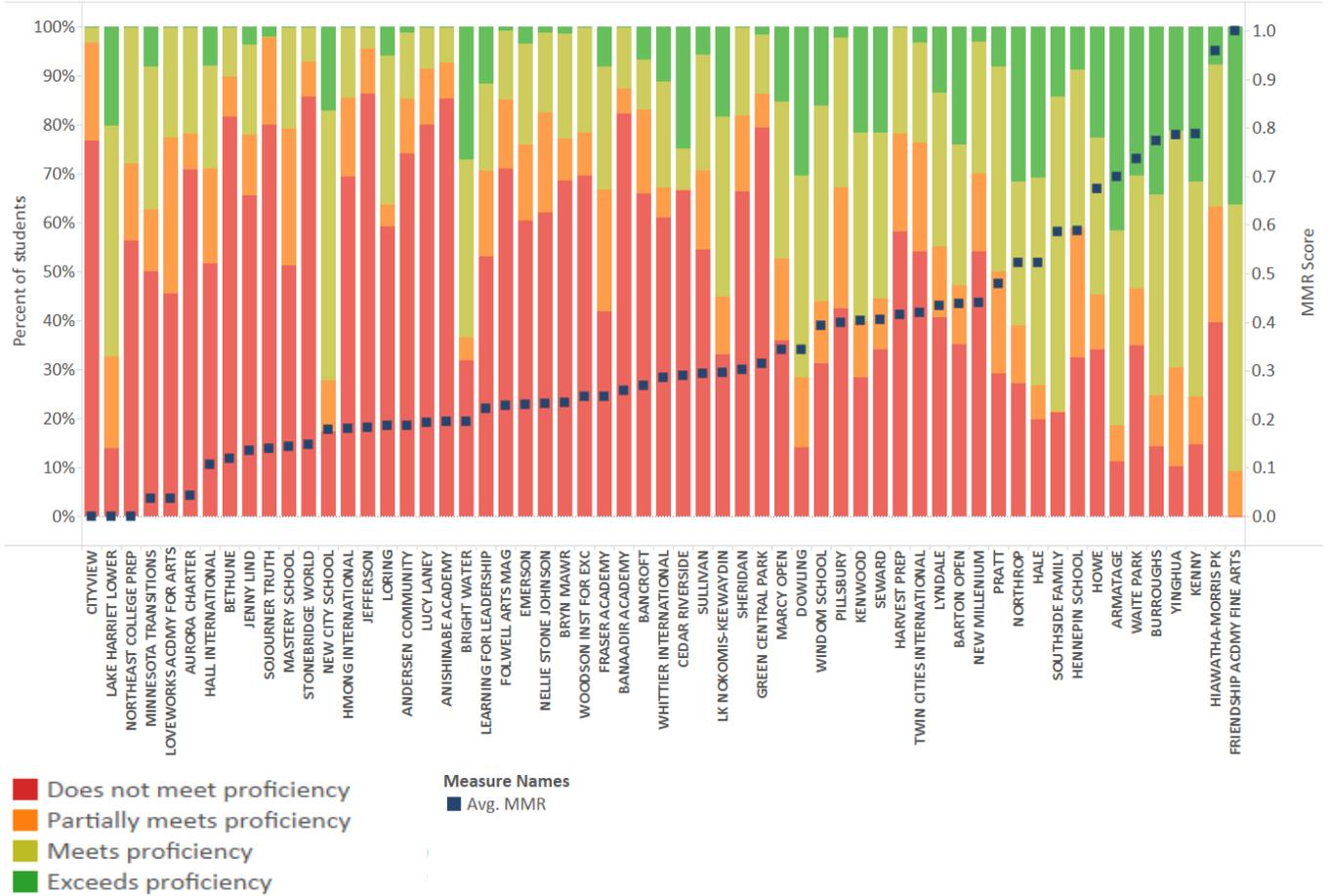
- While the number of students exceeding proficiency is increasing, the number of students far from proficiency is also increasing. The number of students at the middle achievement levels is shrinking.



The percent of students meeting or exceeding proficiency increases as MMR scores (which serve as a proxy measure for school quality) increases.

- School proficiency is one of the measures used to determine the MMR, so we would expect to see a relationship here.

3rd Grade Achievement Levels and MMR, by school, 2015



What do the achievement level categories mean?

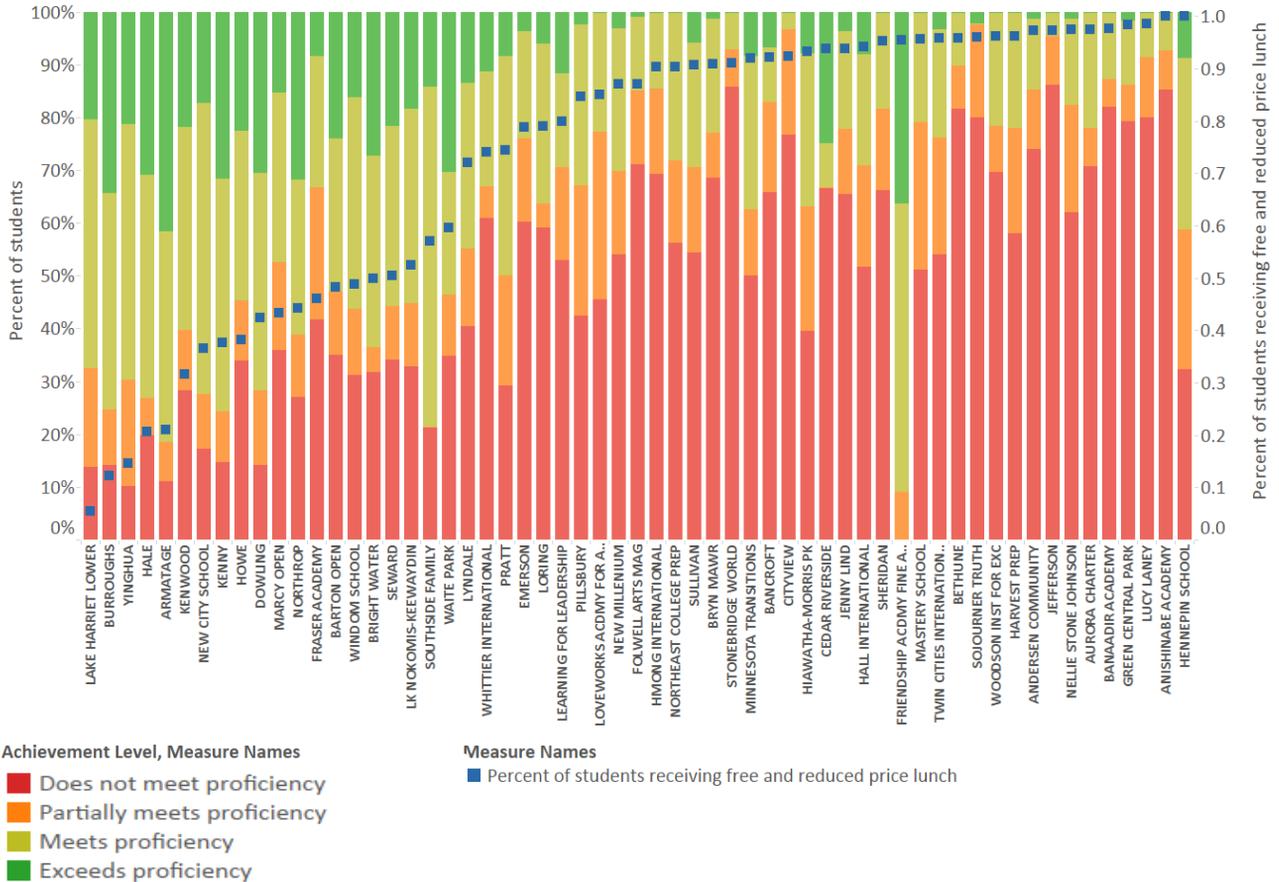
“Achievement Level Descriptors” describe the Minnesota Academic Standards' four levels of achievement. These help to distinguish between students who are close to proficiency and students who are far from proficiency.

Multiple Measurements Rating (MMR) measures school performance in the areas of proficiency, growth, achievement gap reduction and graduation rates. MMR can be considered a moderate proxy for school quality.

As the number of students at a school receiving free and reduced priced lunch increases, there is a general trend of more 3rd grade students at that school falling far behind proficiency.

- Free and reduced priced lunch is often used as a proxy for poverty.

3rd grade achievement level and student of color density, by school, 2015



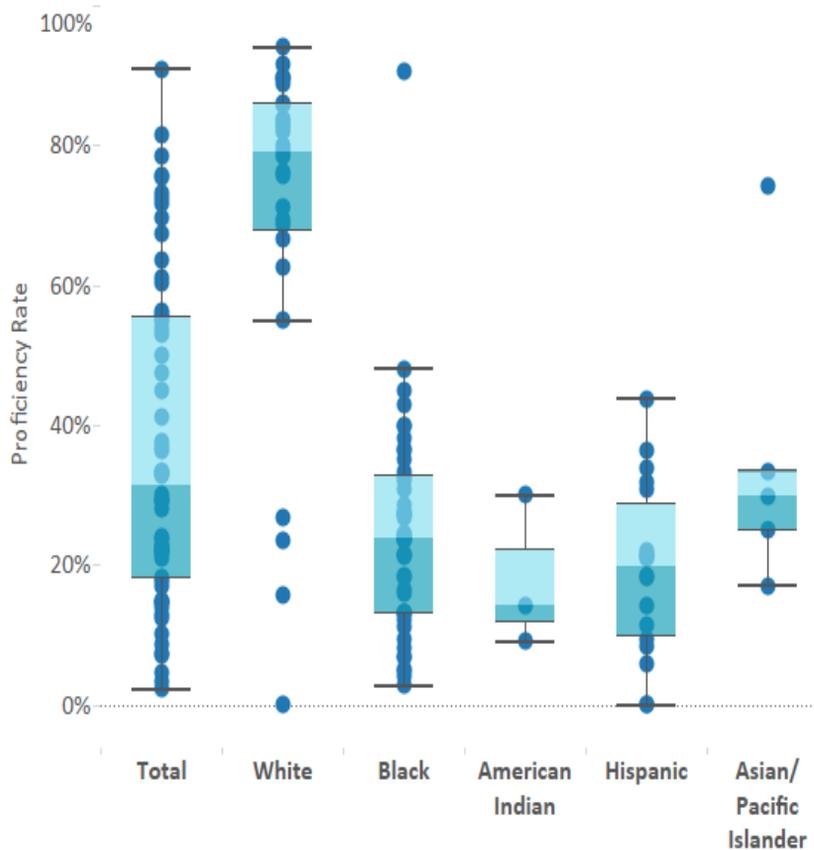
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With the exception of outliers, schools with the lowest-performing White student populations still exceed the performance of schools with the highest-performing Black, American Indian, Hispanic or Asian/Pacific Islander students.

- Each dot represents a single school's population of a particular racial or ethnic group.
- The important thing to look at here is the variance, or the spread, of data. Essentially we can see how wide the gap is between White students and every other racial category.

School performance of 3rd grade classes, by race, 2015



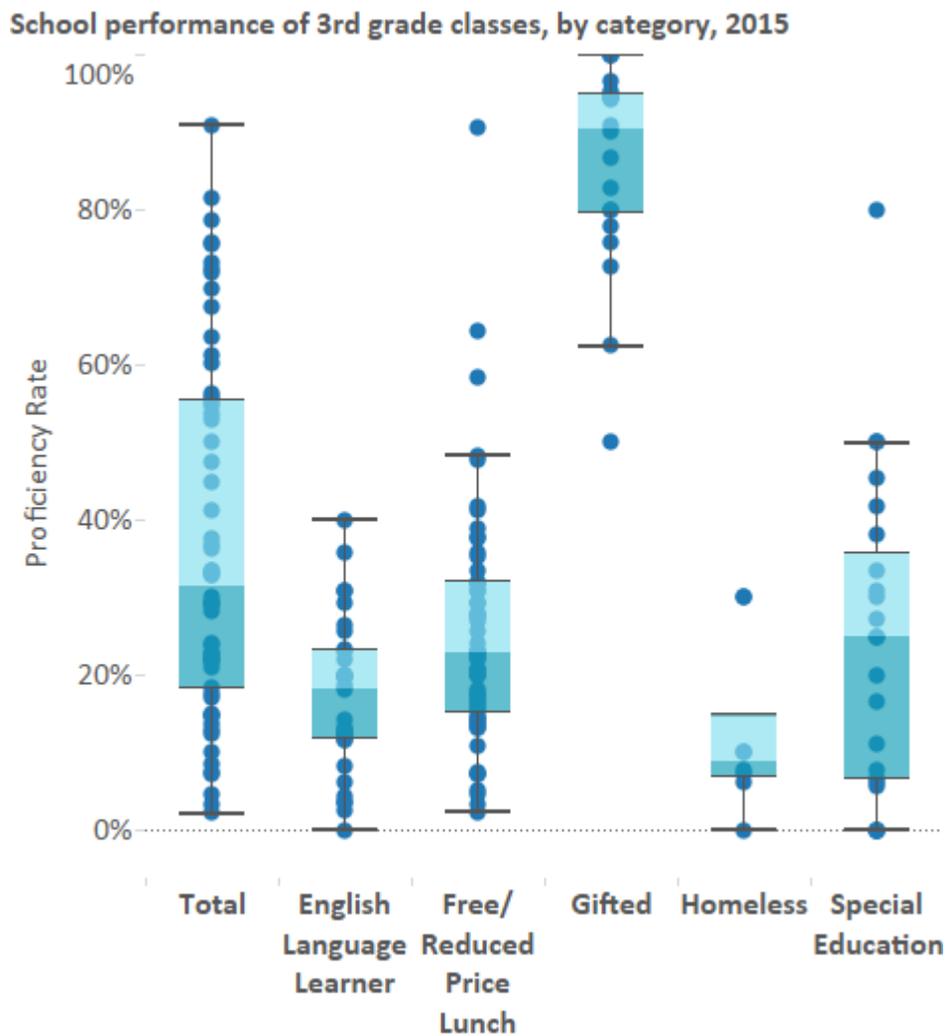
Quick refresher:

Box-and-whisker plots are a common statistical tool that depict the distribution of a set of data.

- The middle line indicates the median.
- Boxes above and below the middle line indicate the middle 50 percent of the data (the middle two quartiles of the data's distribution).
- The “whiskers” extend to the nearest data points within 1.5 times the interquartile range (distance between the upper and lower quartiles).

Achievement gaps persist across social and economic and boundaries.

- Homeless students perform similarly to the lowest quartile of all schools.



Quick refresher:

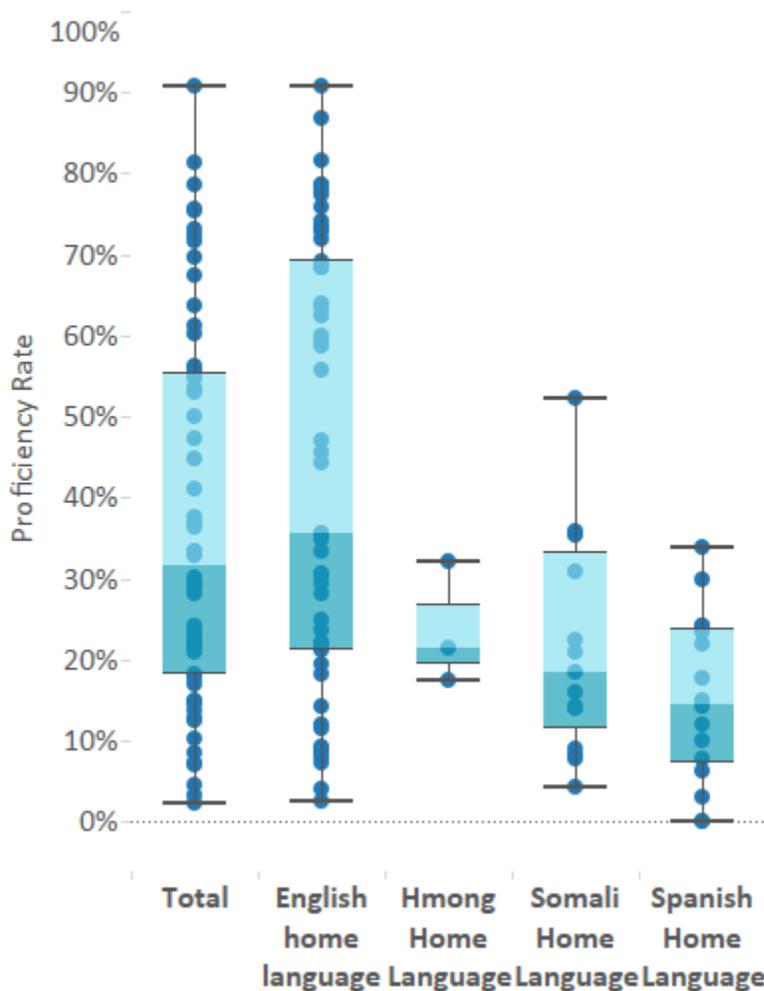
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Achievement gaps persist across language boundaries.

- All student school populations with primary home language of Hmong or Spanish score below the median of student school populations with English as primary home language.
- Few student school populations with primary home language of Somali exceed the median of student school populations with English as primary home language.

School performance of 3rd grade classes, by language at home, 2015



Quick refresher:

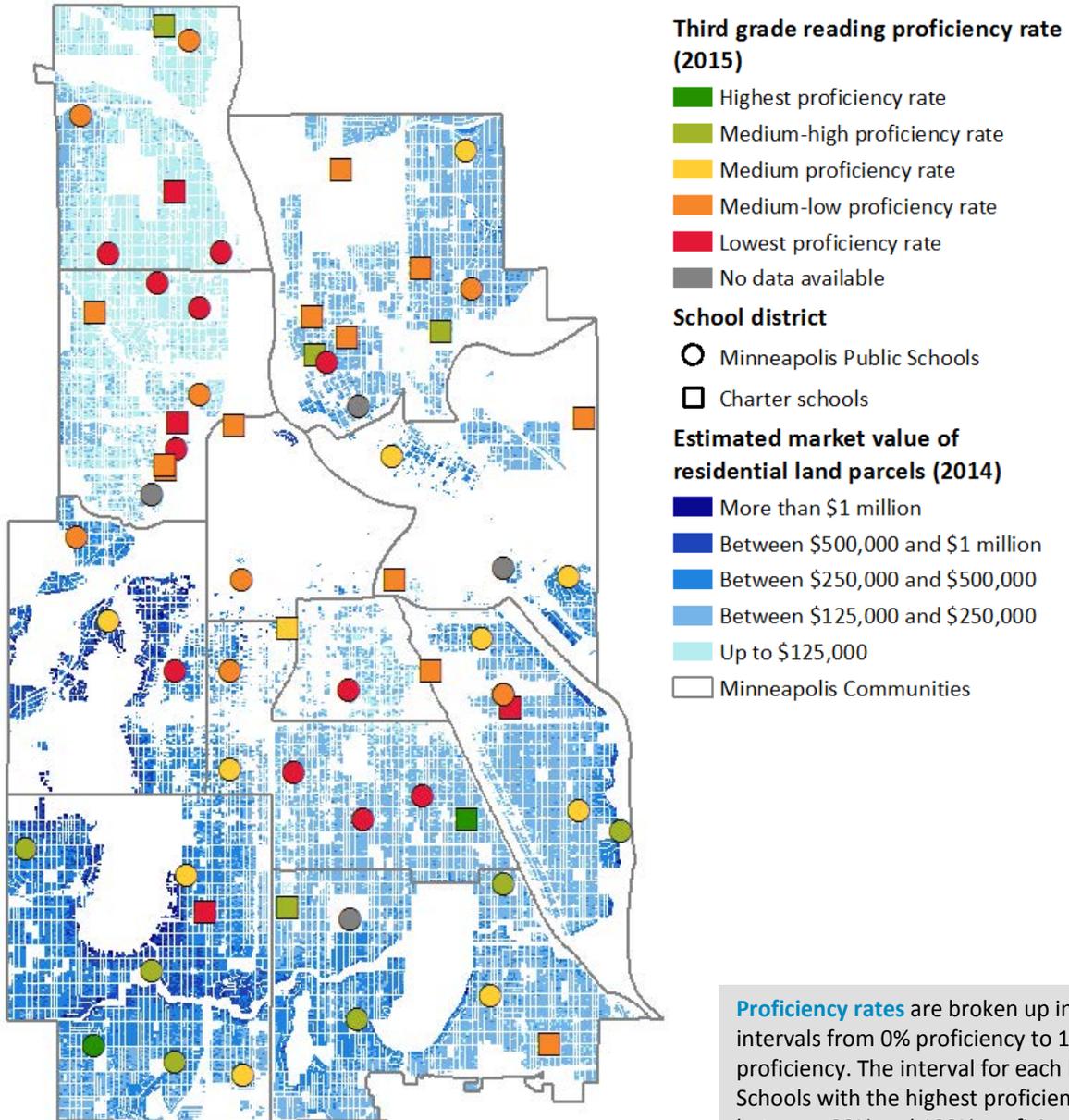
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Areas with high property values tend to be the same areas with high-achieving 3rd grade classes.

- For the most part, areas with high property values also tend to have 3rd grade classes with higher proficiency rates, and vice versa. However, some schools do show the opposite outcome.
- This demonstrates the importance of high-performing schools to Minneapolis property values.

Estimated market value of residential land parcels (2014) and third grade reading proficiency rate (2015)



Proficiency rates are broken up into even intervals from 0% proficiency to 100% proficiency. The interval for each band is 20%. Schools with the highest proficiency rates have between 80% and 100% proficiency and schools with the lowest proficiency have between 0% and 20% proficiency.