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### Introduction

The Greater Frogtown Community Development Corporation service area is bound to the west by Lexington Parkway, to the north by the Burlington Northern Railroad, to the east by I-35 and to the south by Selby Avenue (Map 1). The area contains the Frogtown neighborhood, which since its settlement in the mid-1800s has served as a gateway neighborhood for immigrant communities in the Twin Cities, as well a piece of the Summit-University neighborhood, which historically served as a center for the St. Paul African-American community. Currently, outsider perception and knowledge of the service area is centered around the contentious construction of the Central Corridor light rail and the disproportionate impact of the foreclosure crisis. In the midst of these challenges, one must be aware of the historical significance of the two neighborhoods, which have represented and continue to represent culturally diverse and vibrant communities.

While examining this chapter, there are a few boundaries that delineate trends within the service area. In particular, one will notice the strength of the housing market south of I-94. Weaker areas tend to be centered east of Victoria Street and west of Rice Street. Our measure of the strength of the housing market tends to be slightly higher on the south side of University Avenue, but remain lower than the area south of the Interstate. Lastly, the northwest corner on Lexington Avenue is a location that seems to be developing a sub-market, with higher homeownership rates and better value retention. In the coming years, we expect this corner to continue its growth.

### History

Frogtown was originally settled between the 1860s and 1890s as settlement expanded west from downtown St. Paul. The development of Frogtown was largely driven by transportation routes. In the 1880s a railway was built along the north edge of the neighborhood. Shops along the route provided jobs for local residents until the 1970s. In the last decade of the nineteenth century streetcar lines were installed on a number of the area's major roads, the largest and busiest of which was the University Avenue line. This streetcar line became the first one to link the cities of Minneapolis and St. Paul.

The housing stock in Frogtown today reflects this long history. Many versions of Victorian, Queen Anne, Eastlake and Colonial Revival style architecture remain intact to this day. The neighborhood also contains many architecturally and historically significant churches.

Frogtown has a rich history as a home to immigrants. The first waves of immigrants were Polish, German, Irish and Scandinavian. More recently the area has served as an enclave for

Vietnamese and Hmong immigrants. In the 1960s the area saw another demographic shift as African American residents, displaced from the Rondo neighborhood by the I-94 freeway, moved north of University Avenue into Frogtown. The area remains a diverse and vibrant neighborhood (Ramsey County Historical Society, 2012).

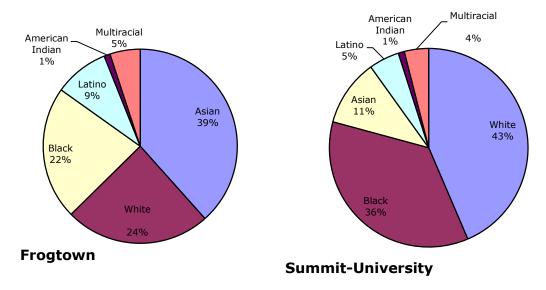
The Summit-University neighborhood is bound to the west by Lexington Parkway, to the north by University Avenue, to the east by Marion Street and to the south by John Ireland Boulevard and Summit Avenue. The portion of Summit-University contained within the Greater Frogtown CDC service area is truncated at Selby Avenue. Major commercial corridors within the neighborhood include University and Selby Avenues. The neighborhood is known for its turn-of-the-century architecture and historic housing stock of Victorian and Colonial Revival style homes.

Summit-University was originally settled by farmers in the mid-1800s. Annexation and rapid settlement shortly followed with the expansion of the St. Paul streetcar line into the territory. By the 1930s the neighborhood had become a vibrant enclave for St. Paul's African American population, a majority of which had recently migrated from the south. In the 1960s numerous homes and businesses integral to the community were razed by the government to make way for I-94, uprooting the tightly-knit community that had formed.

The neighborhood subsequently experienced significant disinvestment. More recently, pieces of the neighborhood have been reinvested in and a new housing market has developed around the neighborhood asset of a well-preserved housing stock. White and Asian populations have increased.

### **Demographics**

The demographics of Frogtown and Summit-University represent the distinct history and the diverse communities of the present-day Twin Cities. The following is a summary of some of the demographics of the neighborhood (Wilder Research, 2004):



Demographic Characteristic	Frogtown	Summit-University
Total population	17,248	18,192
Population growth (1990-2000)	19% increase	<1% decrease
Youth population	5,512 (52% Growth from 1990-2000)	3,693
Percent of Households with children	44%	25%
Average household size	3 people	2.35 people
Percent of residents born outside of U.S.	33%	12%
Percent of residents that speak a language other than English at home	50%	18%

Housing Characteristic	Frogtown	Summit-University
Percent owner-occupied	45%	40%
Percent renter-occupied	55%	61%
Percent of homeowners paying more than	45%	23%
30% of income on housing		
Percent of renters spending more than	30%	35%
30% of income on housing		
Median household income	\$27,874	\$35,336
Percent of residents that "agreed a lot"	9%	7%
with the statement that Frogtown has		
affordable attractive housing		
Percent or residents that agreed "a lot"	5%	30%
that residents take pride in the outward		
appearance of the neighborhood		
Percent of neighborhood residents that	41%	36%
have lived in the same home for the past		
five years		
Percent of housing built before 1940	54%	58%
Percent of housing built between 1940 and	16%	10%
1959		
Percent of housing built since 1960	31%	32%

### **Current Issues in Frogtown**

During our investigation of the neighborhood and in conversation with the community representatives, a number of issues emerged. Frogtown has a median income that is well below the average for Ramsey County; as a result, homeowners and renters are spending more than one-third of their income on housing, and are overburdened by mortgage and rent payments. The housing market is around 55% renters and 45% home owners, and has seen low investment in the housing stock. Less than one percent of the building permits issued in St. Paul last year were issued in Frogtown. This may indicate a lack of investment in homes (Greater Frogtown CDC, 2012).

Following the housing market crash, Frogtown suffered a large depreciation in housing stock value, seeing a property value decline of \$85 million since 2007. As a result of the housing crisis, and coupled with other neighborhood problems, there has been an increase in the number of vacant lots and vacant homes. Many of these homes have been burglarized, vandalized, or used for other illegal activities. Additionally, a number of the families that lost their homes following the economic crisis have moved into rental properties, and are unable or not ready to look for another mortgage (Greater Frogtown CDC, 2012).

Finally, on the west side of the neighborhood nearest to Lexington Parkway, a slow process of gentrification has begun. This is the result of relatively higher pricing in the bordering neighborhoods and comparatively low investment on the east side of Frogtown which contains more rental properties.

In discussions with the community representatives, they expressed interest in how rental properties affected the trends of the neighborhood, what areas may be likely to gentrify, and what blocks have been hit the hardest by the housing bubble. Lastly, we question how vacant lots and city plans to land bank until the construction of the University Avenue Light Rail will affect the housing stock.

### **Determination of Residential Units**

The following are the categories from the regional parcel dataset that we determined to be residential, and utilized in our analysis:

- ½ Double Dwelling
- Condominium
- Double Dwelling
- Other Residential
- Single Family Dwelling
- Three Family Dwelling
- Townhome-inner
- Townhome-outer
- Two Family Dwelling

### Minimum Threshold

In order to portray neighborhood trends and block patterns accurately, we eliminated blocks that had fewer than eight residential parcels. This number is consistent with the minimum threshold used in the Folwell Report; the number of parcels per block in Frogtown is similar to the number of parcels per block in North Minneapolis.

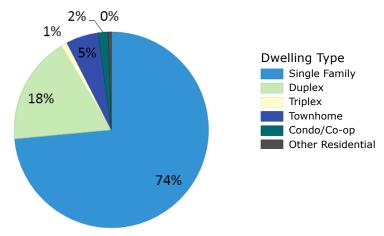
### **Analysis & Discussion**

### **Reference Maps**

"Residential Dwelling Type in 2011" (Map 2) maps the distribution of the various housing types located throughout the Greater Frogtown area. Each parcel was categorized into one of six categories: single-family dwelling, duplex, triplex, townhome, condo/co-op, and other. These categories were determined by grouping together the more specific dwelling-type classes assigned to each parcel by Ramsey County that we identified as residential uses. Single-family includes only parcels labeled as "single family dwelling" by Ramsey County. The duplex category consists of "multi family dwelling," "two family dwelling," and "two residences on one parcel." The triplex category is composed of parcels labeled as "three family dwelling." Townhome includes "townhome - inner", "townhome - outer", "double dwelling," and "1/2 double dwelling". Condo/Coop is classified the same as in the Ramsey County data. The Other category lumps together parcels labeled as "other" as well as those classified as "vacant land" that were determined to be falsely categorized. This classification scheme does not include apartments.

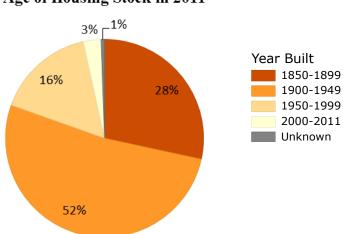
By far the majority of homes in the neighborhood are single-family dwellings, numbering 3,356 as of 2011. The second most prominent housing type is duplexes, concentrated north of University and south of I-94. There are 817 of these, 46 triplexes, 245 townhomes, 76 condos or co-ops, and 24 parcels labeled as "Other". The majority of condos or co-ops are located at the fringe of the neighborhood, in particular south of I-94, with some larger structures in the northwest corner.

### **Residential Dwelling Types in 2011**



"Age of Housing Stock in 2011" (Map 3) depicts the ages of the residential units in Frogtown by categorizing residential parcels based on the year they were built. These data were derived from the Ramsey County Assessor's data. Due to the wide range of values, the dates were classified into five categories: 1850-1899, 1900-1949, 1950-1999, 2000-2011, and unknown.

The majority of the housing stock in Greater Frogtown was built prior to 1950. The oldest houses can be found in the region west of Victoria Street and north of University Avenue, where many of the homes date back to the 19th century. There is an additional concentration of older homes west of Victoria Street and south of I-94. The eastern edge of the service area is relatively younger than the rest of the neighborhood, dating mostly from the 20<sup>th</sup> century. A pocket of recent development can be seen between University and I-94, and Dale and Western. Across the neighborhood very few houses have been constructed since the year 2000.



Age of Housing Stock in 2011

### **Owner-Occupancy**

"Greater Frogtown Owner- Occupancy Rates by Block" (Map 4) depicts the percentage of homes that are owner- occupied within each residential block in the Greater Frogtown CDC service area. Homeownership data for this map were obtained from 2010 Census data; the number of owner-occupied units was divided by the total number of units per block.

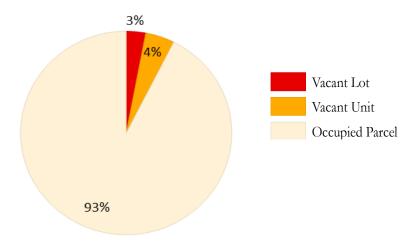
The highest rate of homeownership for a block within the service area is 100% and the lowest rate is 0%. The mean homeownership rate is 37.5% with a standard deviation of 31.4%. The map reveals that homeownership rates are relatively diverse throughout the service area. A cluster of blocks with higher homeownership rates exists in the northwest corner of the service area. There is also a cluster of blocks with lower owner-occupancy rates adjacent to the service area's eastern boundary.

### Vacancy

"Vacant Residential Parcels in 2012" (Map 5) shows the location of vacant parcels throughout the neighborhood. Parcels are categorized either as vacant residential units, vacant residential lots, or occupied residential. Vacant units were determined by using U.S. Postal Service data, which is the most up-to-date inventory of homes deemed unoccupied. Vacant units only represent vacancies within existing structures. Conversely, vacant lots represent residential parcels lacking any sort of structure. These locations were defined as parcels with a building estimated market value of \$0, meaning there is no building on the lot.

This map indicates that there are a total of 210 vacant units and 143 vacant lots in the Greater Frogtown area. The majority of these vacancies occur east of Victoria Street and north of University Avenue. The two types of vacant parcels are distributed relatively evenly throughout this section of the neighborhood. The area north of University and west of Victoria Street towards Lexington Parkway has relatively few vacancies. The area between University Avenue and I-94 has a number of vacant units, concentrated between Victoria Street and Dale Street, but few vacant lots. The pattern changes slightly south of I-94. Here the majority of vacant units lie west of Victoria Street. Vacant lots, on the other hand, fall mostly to the east.

### Residential Vacancy in 2012



"Vacant Residential Units by Block in 2012" (Map 6) shows the percentage of vacant units per block in the neighborhood. This map aggregates the vacant unit parcel data from the previous map to the block level to analyze broader spatial trends in residential vacancy. Rates of vacancy were determined by dividing the total number of vacant units per block by the total number of residential parcels. Only blocks consisting of eight or more residential parcels were included in this analysis in order to account for outliers. Blocks were then categorized into one of five classes based on natural breaks.

There are 201 vacant units included in the block-level analysis (nine were excluded because their blocks did not meet the minimum threshold of 8 or more residential parcels). The mean number of vacant units per block in Greater Frogtown is 0.94, and standard deviation is 1.23.

The greatest number of vacant units per block is 6, while the lowest is 0. The average percentage of vacant units per block is 4.24%, with a standard deviation of 5.33%. The highest percentage of vacant units per block is around 25%, with the lowest again being 0%.

This map confirms some of the trends evident in the parcel-level vacancy map. The blocks with the highest percentage of vacant units are concentrated east of Victoria Street and north of University Avenue, though there are also relatively high rates of vacancy west of Victoria and south of University. The parts of Greater Frogtown with the lowest rates of vacant units per block are in the northwest and particularly the southeast corner, where the rates approach zero in many cases.

"Vacant Residential Lots by Block in 2011" (Map 7) shows the percentage of vacant lots per block in the neighborhood. This map was created using the same process as the previous map, with parcel-level data aggregated to the block level to calculate rates by block. This time rates were calculated by dividing the number of vacant lots by the number of total residential parcels for each block. Again only blocks containing eight or more residential units were included in the analysis. Categories were developed using natural breaks.

There are 129 vacant lots included in the block-level analysis (fourteen were excluded because their blocks did not meet the minimum threshold of eight residential parcels). The mean number of vacant lots per block is 0.58; the standard deviation is 0.88. The largest number of vacant lots per block is 5, while the lowest is 0. The average percentage of vacant lots per block is 3.10%; the standard deviation is 5.18%. The highest percentage of vacant lots per block is around 33%, with the lowest again being 0%.

This map produces different spatial trends than the map of rates of vacant units. Here the higher values are shifted south and east. They remain concentrated in the area north of University and east of Victoria, but are also much higher south of I-94. For the most part there are very low rates of vacant lots west of Victoria and north of I-94, with the exception of one block near Lexington that falls into the highest category. This block contains only nine residential parcels, however, so it is not necessarily representative of that portion of the neighborhood.

### **Housing Condition**

"Greater Frogtown Residential Condition by Parcel" (Map 8) depicts the condition of residential units within the Greater Frogtown service area at the parcel level. "Greater Frogtown Residential Condition by Block" (Map 9) depicts the same condition ratings aggregated to the block level as an average. Residential condition data are synthesized by the Ramsey County Assessor, a government body responsible for estimating property values to help determine a property's tax capacity. Assessors must reevaluate a property's condition and value at least once every five years. Assigned values are impacted by physical changes to a property's condition and changing market conditions. The condition scale ranges from 0 to 9; 0 represents a rating of "Unsound" and 9 represents "Excellent" condition.

The condition data utilized in this map are from the Ramsey County Assessor's most recent appraisal, assembled January 2<sup>nd</sup> of 2012. Condition ratings for each parcel were averaged for each block, yielding an average appraised housing condition for each block. The lowest average block condition rating within Frogtown is 2.54, which equates to "Poor" housing condition. These blocks with a rating of "Poor" are contained north of University Avenue between Victoria and Rice Street. The highest average block condition is 7.3, which equates to a rating of "Good." The average block condition score is 4.43, or "Fair," with a standard deviation of 0.78. The majority of blocks within the service area have an average rating between 3 and 4.99, equating to "Fair" condition. A cluster of blocks with higher condition exists in the northwest corner. Higher condition scores in this area correlate with higher market values and homeownership rates beginning to develop in this subsection of the neighborhood. Blocks south of I-94 also display higher average condition ratings, likely reflecting the presence of a beautiful turn-of-the-century housing stock present in this piece of the service area.

### **Value Retention**

Frogtown is dominated by single-family dwellings, representing 73% of residential dwellings. In 2007, Greater Frogtown had a mean estimated market value of \$168,912, and a standard deviation of \$60,592.

"Greater Frogtown 2007 Estimated Market Value" (Map 10) shows that the area south of Interstate 94 and north of Selby Avenue tends to have higher home values. The lowest home values are found east of Victoria Street and north of University Avenue, and in the area bounded between I-94, Dale Street and University Avenue (with the exception of a few outliers). Parcel values are slightly higher along Lexington Avenue than the adjacent neighborhood, but still remain significantly lower than the area south of I-94.

"Greater Frogtown 2011 Estimated Market Value" (Map 11) shows that values south of I-94 were relatively high, while values north of I-94, especially north of University Avenue were much lower. The mean value of residential parcels in 2011 was \$119,204, which is a decrease of \$49,708 since 2007. The standard deviation in 2011 is \$64,661, similar to the 2007 value.

"Greater Frogtown Estimated Market Value Change 2007-2011" (Map 12) depicts the change in estimated market value between January 2007 and October 2011. While almost all homes lost value, the loss was not as pronounced south of I-94, where most homes lost between 10.0 and 29.9 percent of their value. In the Thomas-Dale neighborhood, home values decreased significantly more with the exception of a few scattered homes. It is important to note that only two categories on this map shows positive values, while all others represent loss of value. The mean percent value change is -30.9%, and the standard deviation is 10.9%.

From "Estimated Market Value Change by Block" (Map 13) we can see that only one block, located on Selby Avenue, had a positive average change during the period of 2007-2011. This block had a positive change because of one outlying house, whose value increased 324% over this period due to renovation.

As is the case with the other EMV maps, this value retention map has a distinct trend with University Avenue, Victoria Street, and I-94 as the boundaries. The lowest value retention is centered to the east of Victoria Street and north of University Avenue. Just south of University Avenue, value retention is slightly stronger. South of I-94 is where value retention was the strongest, though still negative due to the housing market.

### **Housing Market Index**

The Housing Market Index (HMI) is a combination of the four variables of value retention, vacancy, owner-occupancy, and condition; each one of the variables was assigned a weight according to the importance of the variable to our community partner. Vacancy received a 9, estimated market value 8, owner-occupancy 7, and housing condition 10.

The HMI shows the strength of the block following the housing market crash (Map 14). The trend is very much what was expected, showing strong values south of I-94. North of I-94 there is a larger disparity among values by block, some representing a stronger market and others much weaker. The lower values demonstrate blocks that would strongly benefit from reinvestment, and further investigation using the other maps would clarify which variable had the largest impact on the corresponding block.

### HMI with Vacant Lots

In order to paint a better picture of how vacant lots affect the neighborhood, we created a map that incorporates vacant lots with a value of 9 into the Housing Market Index (Map 15). By doing this, we intend to show that vacant lots have an impact on the strength of a block as much as vacant homes do because vacant lots are often not aesthetically pleasing or kept up.

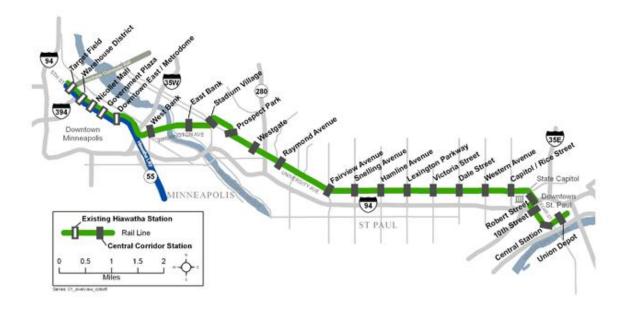
This map lacks a distinct change in trends from the original map, but varies when investigated by block to block change. We had predicted that there would be a more significant change, but the lack of variance may be a result of vacant lots occurring in the same areas where vacant homes likely occur.

### Conclusions & Recommendations

### **Future Directions for Research**

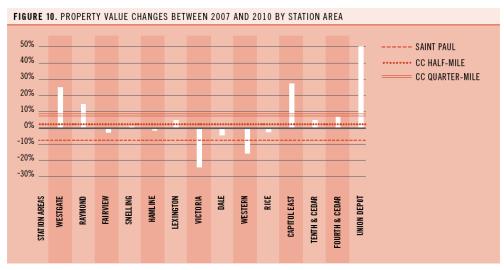
After identifying multiple spatial patterns relating to the housing market that remained consistent throughout the mapping of multiple variables, we began to wonder how light rail construction might reinforce or challenge these existing spatial patterns. An initial scan of the literature suggests that light rail development has potential to significantly alter some of the patterns we see present today.

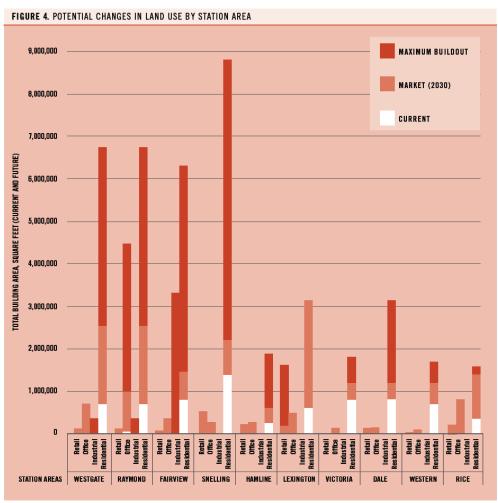
Looking at the following graphic of the Central Corridor light rail we see that there are five planned stops within the Greater Frogtown service area.



"Healthy Corridor for All", an impact study of the Central Corridor development put together by the national research institute Policy Link suggests that these stops have potential to strengthen local housing markets (Policy Link, 2011). Past impact studies on light rail construction suggest that housing markets proximate to LRT stops generally experience decreased vacancies and increased market values. The caveat of such housing market revitalization is the potential risk of displacement as land values increase. Neighborhoods with high renter occupancy, such as the Greater Frogtown service area, are particularly susceptible to this risk.

Projected development and visible trends suggest mixed impact of light rail development on local housing markets in the context of the Greater Frogtown service area. It is estimated that in the next 20 years light rail development will bring over \$6.78 billion of investment to the corridor and that over 7,000 new residential units will be built around station areas by 2030. Land values within a quarter-mile of station areas have risen by an average of 8% since 2007. Despite this general increase, the following graph (figure 10) contained within Policy Link's report shows that all stops in the service area with the exception of Lexington have lost value. Furthermore the second graph (figure 4) suggests that potential increase of residential land use at all service area stations except for Lexington is relatively limited in comparison to other projected station capacities.





As the light rail construction comes to an end, the housing market in Frogtown and elsewhere along University Avenue may change greatly. Research throughout construction and after completion will allow residents and community organizations to be prepared for the changing

market. This will be essential to maintain a strong housing market, where both renters and homeowners exist within a vibrant community.

To expand upon the research of the Housing Market Index, research should be done on the strength of the rental market within Frogtown. Using variables such as building permits, landlord residence to determine participation, and percentage by block overburdened by rental costs may be possible ways to explore these trends. However, the Housing Market Index for our study area of Greater Frogtown is not as biased towards homeowners because of the dominance of single-family homes as the housing type, which are used by both homeowners and renters.

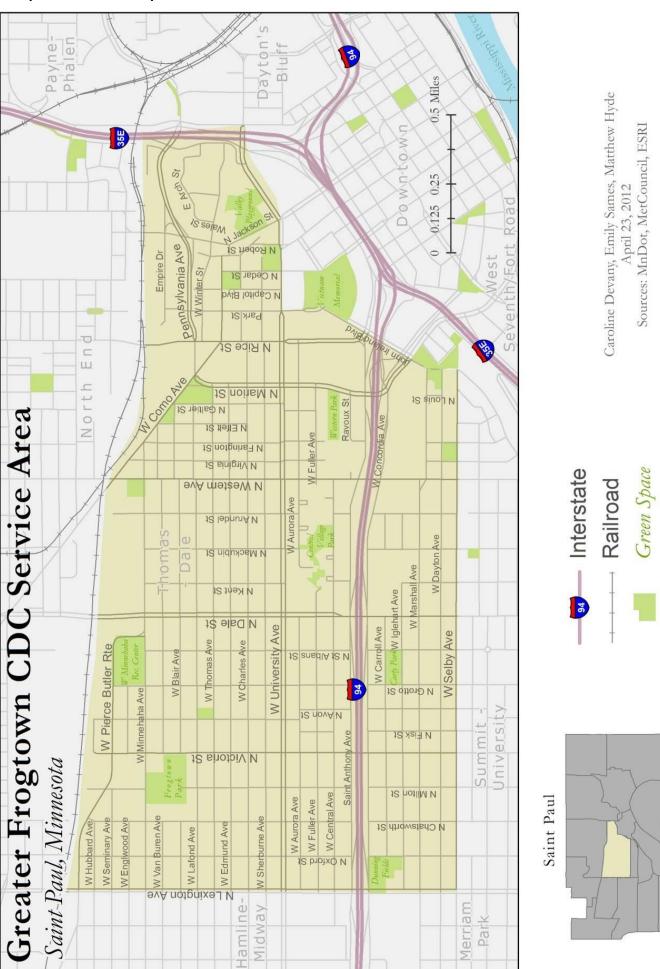
### Summary

Based upon the display of the vacancy, housing condition, value retention, owner-occupancy, and collective Housing Market Index, one can see that the pattern of housing market strength corresponds very highly to the hypothesized results. We had predicted that south of I-94 would show a stronger housing market based on the higher values of homes and high rate of owner-occupancy. Based on the HMI and the other maps, the market south of I-94 differs greatly from the area between Victoria Street and Western Avenue and north of University Avenue.

Using the results of the maps, the community can examine blocks with weaker HMI values as not necessarily just a block with high vacancy percentage or low value retention, but as an opportunity for investment to strengthen that block. These blocks represent a chance for property renovation, new homes, or subsidized housing. Further investigation of the maps and the data provided will lead to better application of the goals of the Greater Frogtown Community Development Corporation.

While the provided maps display a number of variables, they fail to predict trends of the future that will affect the neighborhood. The construction of the University Avenue Light Rail may have a large impact on surrounding housing, leading to higher home values near the convenient transit. A similar situation may occur with the impact of commercial center construction surrounding Lexington Avenue and University Avenue. Additionally, the development of an improved Housing Market Index to analyze the rental market and the possibility of gentrification within the neighborhood will lead to improved planning and completion of community goals in the coming years.

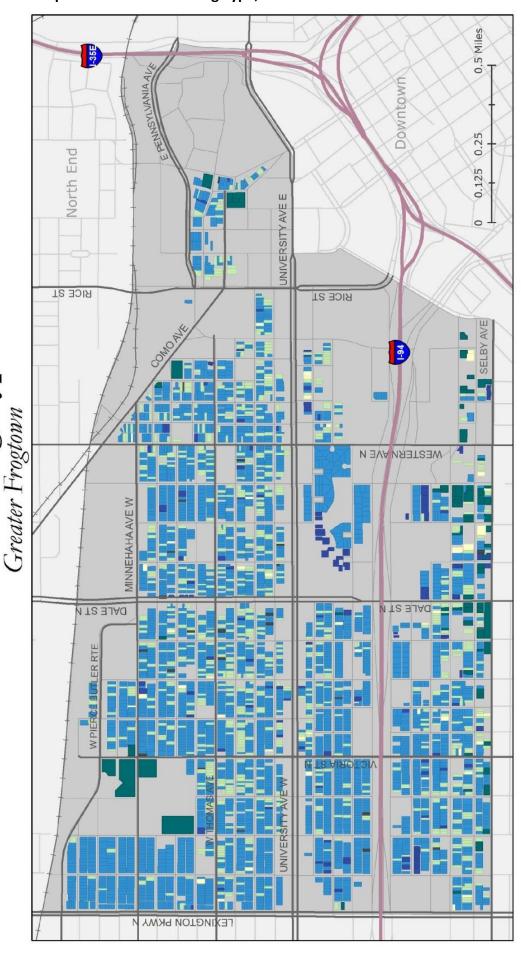
Map 1: Reference Map



Water Body

Map 2: Residential Dwelling Type, 2011

Residential Dwelling Type in 2011



Residential dwelling type is derrived from Ramsey County Assessor data. Duplex includes parcels designated as multi-family dwellings, two-family dwellings, and two residences of one parcel. Triplexes are parcels labeled as three-family dwellings. Townhome 1/2 double dwellings, double dwellings, and townhomes (detached, inner and outer). Condo/co-op does not include apartments as these were selected out earlier. Other residential encompasses parcels classified as other as well as those falsely classified as vacant land.

### Owelling Type

Single Family

Duplex

Triplex
Townhome
Condo/Co-op
Other Residential

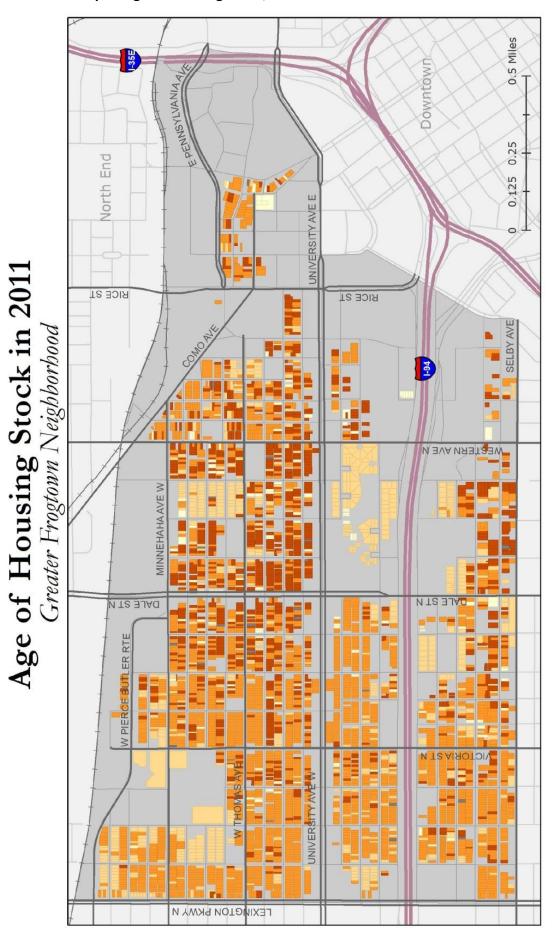
Emily Sames, Matt Hyde, Caroline Devany Apr 24, 2012 Projection: NAD83 UTM Zone 15N Sources: ESRI, MNDOT, MetroGIS

Number of Parcels:

Single Family: 3,356 Duplex: 817 Triplex: 46 Townhome: 245

Condo/Co-op: 76 Other: 24

Map 3: Age of Housing Stock, 2011



24 April, 2012 Projection: NAD83 UTM Zone 15N Sources: ESRI, MNDOT, MetroGIS Emily Sames, Matt Hyde, Caroline Devany

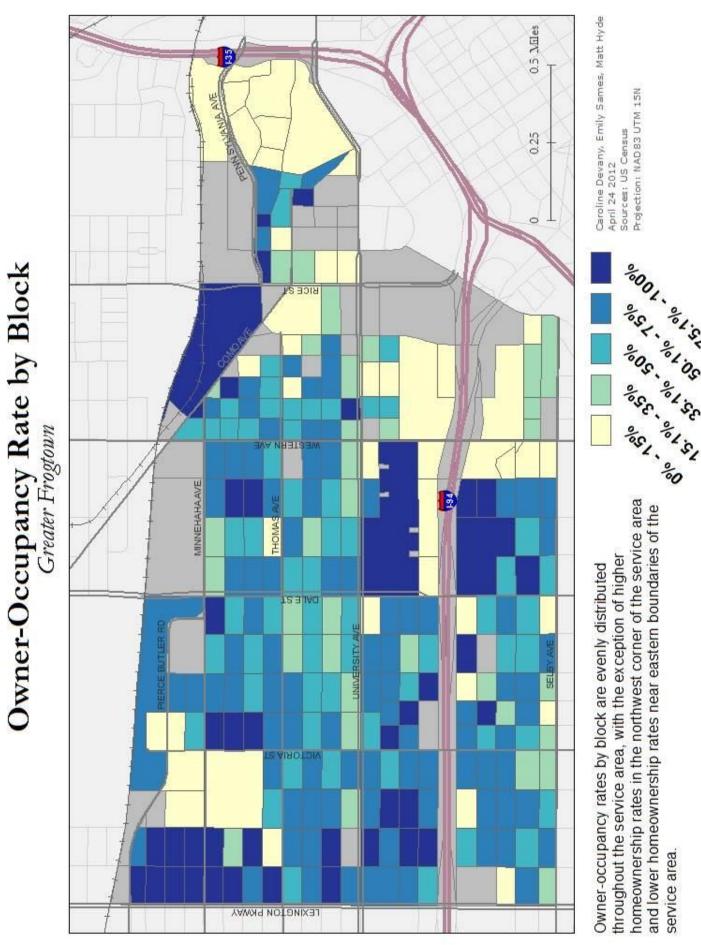
This map shows the age of the housing stock in Greater Frogtown by categorizing the residential parcels by the year in which they were built.

### Number of Residences: 1850-1899 1900-1949 Year Built

1850 - 1899; 1,148 1900 - 1949; 2,522 1950 - 1999; 736 2000 - 2011: 133 Unknown: 25 1950-1999 2000-2011

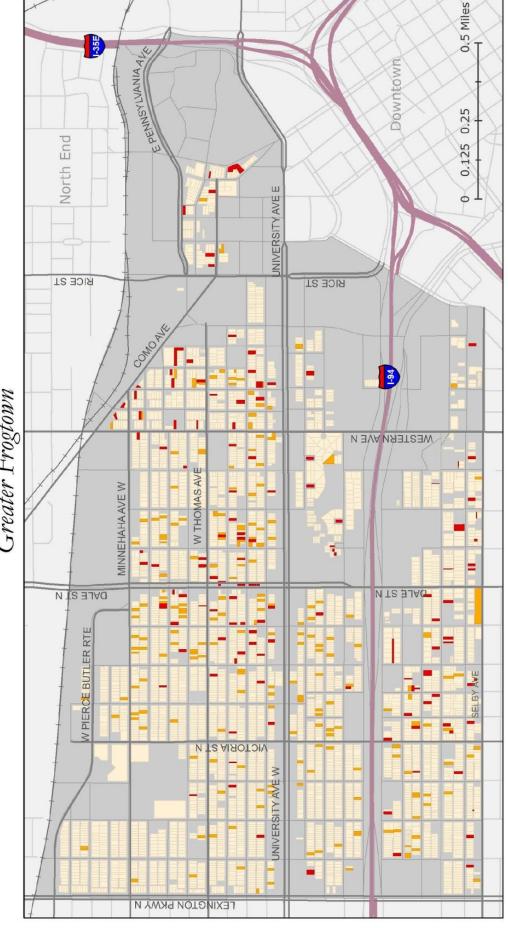
Unknown

Map 4: Owner-Occupancy by Block



Mean Owner-Occupancy Rate: 37.1%

### Residential Vacancy in 2012 Greater Frogtown



lots and vacant residential units in Greater Frogtown. Vacant lots represent parcels with building estimated market values of 0. Vacant units represent parcels This map shows the location of vacant residential with existing structures that have been designated as vacant by the U.S. Postal Service.

Number of Vacant Parcels:

Occupied Parcels: 4354 Vacant Units: 210 Vacant Lots: 140

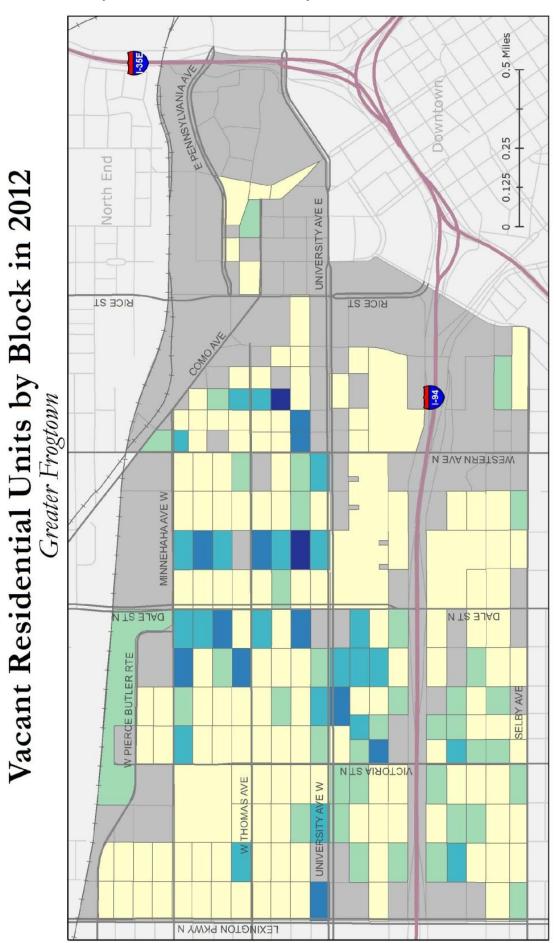
Occupied Parcel

Vacant Unit

Vacant Lot

Emily Sames, Matt Hyde, Caroline Devany Apr 24, 2012 Projection: NAD83 UTM Zone 15N Data Sources: ESRI, U.S.P.S., MNDOT, MetroGIS

Map 6: Vacant Residential Units by Block, 2012



Emily Sames, Matt Hyde, Caroline Devany Apr 24, 2012 Projection: NAD83 UTM Zone 15N Sources: ESRI, U.S.P.S., MNDOT, MetroGIS

Number of Vacant Percent Vacant Units by Block

5.1% - 10% 0% - 5%

8 residential parcels. Vacant units represent parcels

with existing structures that have been designated

as vacant by the U.S. Postal Service.

per residential block in the Greater Frogtown area. Residential blocks are defined as having more than

This map shows the percentage of vacant units

10.1% - 15%

15.1% - 20% 20.1% - 25%

Units per Block Maximum: 6 Minimum: 0

Mean percentage: 4.46% Mean number: 0.94

Map 7: Vacant Residential Lots by Block, 2011



Vacant Residential Lots by Block in 2011 Greater Frogtown Neighborhood

Residential blocks are defined as having more than per residential block in the Greater Frogtown area. 8 residential parcels. Vacant lots represent parcels This map shows the percentage of vacant lots with building estimated market values of 0.

Number of Vacant Lots per Block Percent Vacant Lots

0.01% - 5% by Block %0

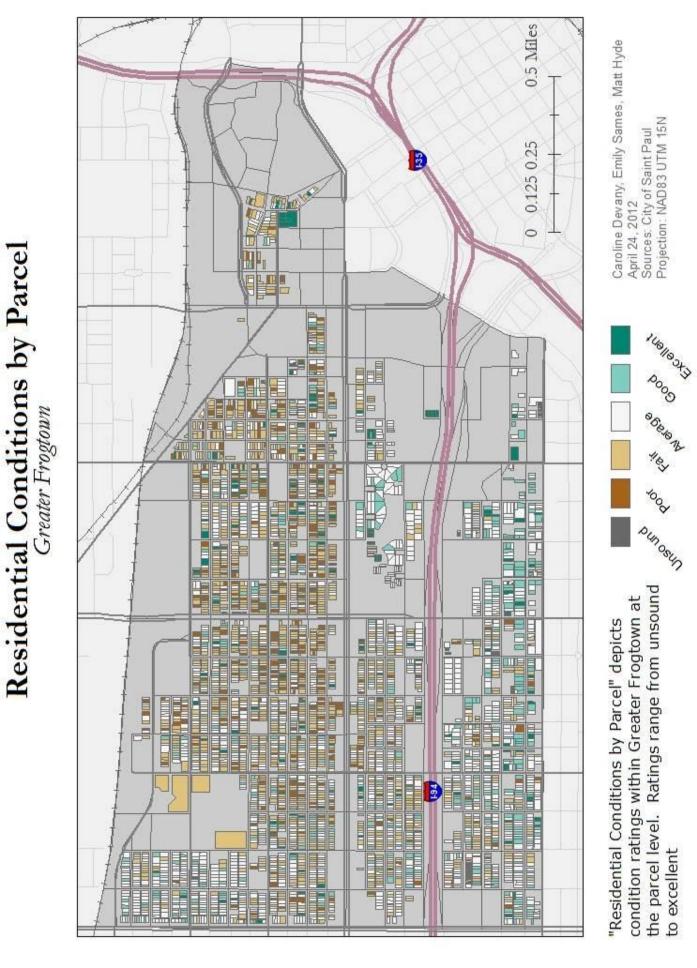
Maximum: 5 Mean: 0.58 Minimum: 0

> 9.01% - 15% 5.01% - 9%

15.01% - 33%

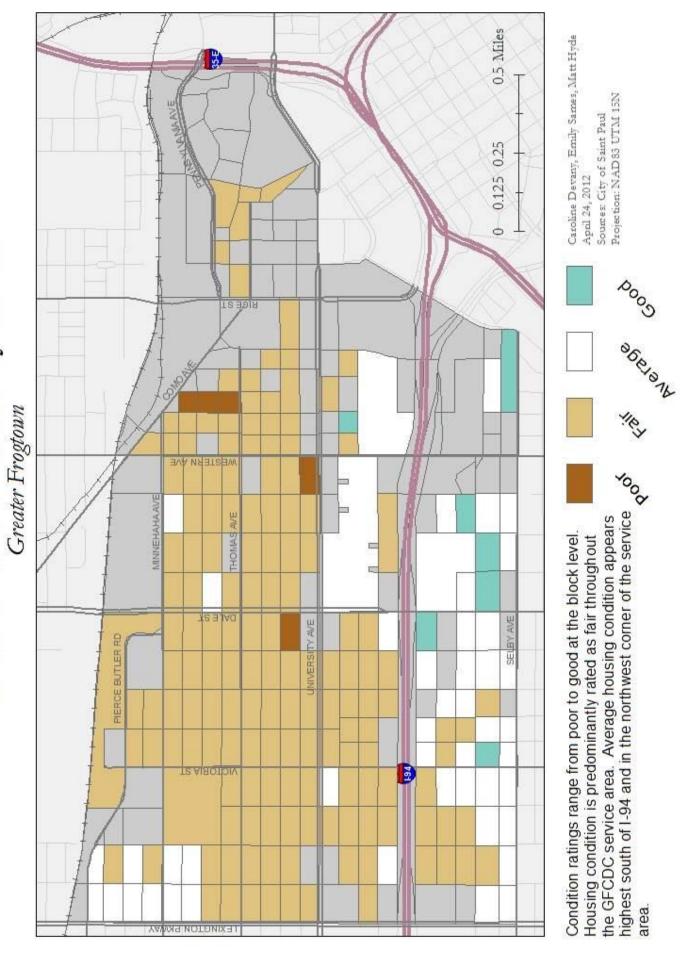
Emily Sames, Matt Hyde, Caroline Devany Apr 24, 2012 Projection: NAD83 UTM Zone 15N Sources: ESRI, U.S.P.S., MNDOT, MetroGIS

**Map 8: Residential Condition by Parcel** 

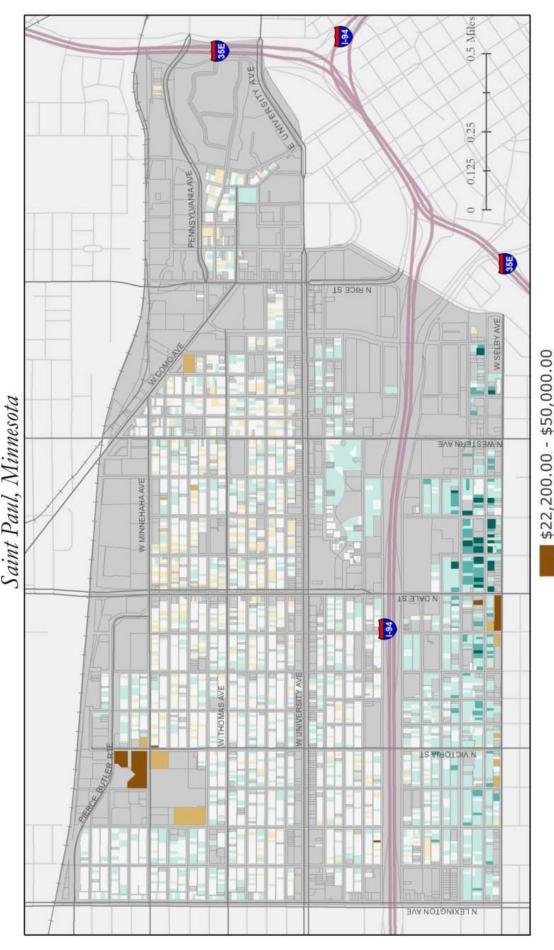


Map 9: Residential Condition by Block

Residential Conditions by Block



Map 10: Estimated Market Value by Parcel, 2007



Greater Frogtown 2007 Estimated Market Value

Caroline Devany, Emily Sames, Matthew Hyde April 10, 2010 Sources: Census 2010, Ramsey County, MnDOT, ESRI

This map depicts Estimated Market Value from January 2007. Most homes in the Thomas-Dale neighborhood are in the \$125,000-\$175,000 range, while below I-94 values are significant higher.

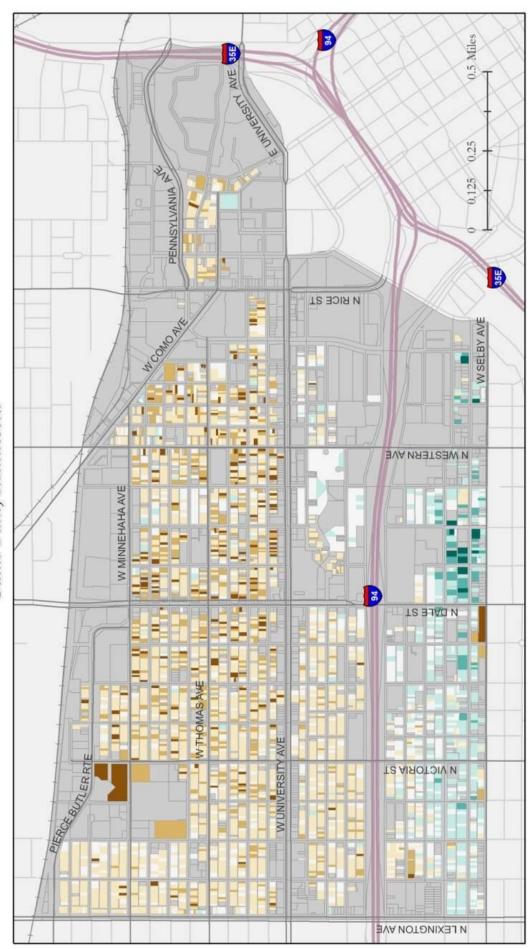
\$125,000.01 - \$175,000.00 \$175,000.01 - \$325,000.00 \$325,000.01 - \$475,000.00

\$50,000.01 - \$75,000.00 \$75,000.01 - \$125,000.00 \$475,000.01 - \$1,220,600.00

Map 11: Estimated Market Value by Parcel, 2011

## Greater Frogtown 2011 Estimated Market Value

Saint Paul, Minnesota



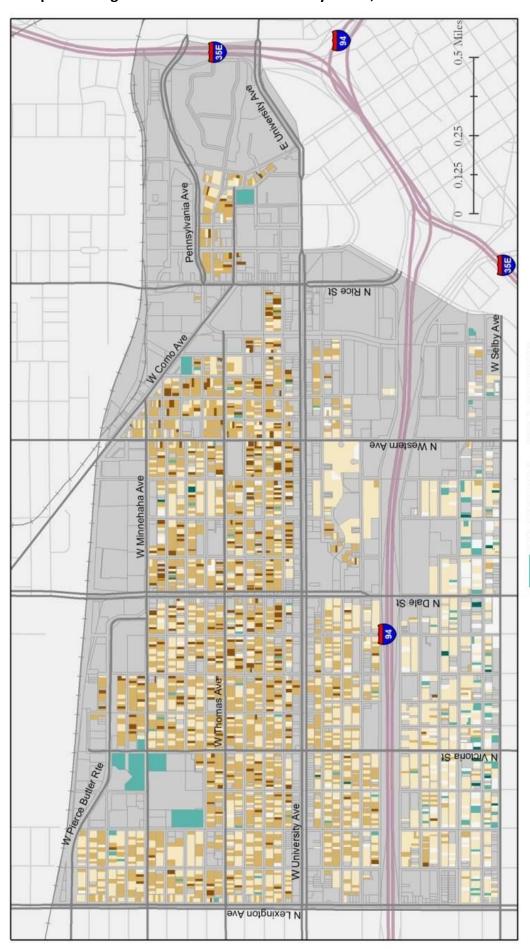
\$15,000.00 - \$50,000.00 \$50,000.01 - \$75,000.00 \$75,000.01 - \$125,000.00 \$125,000.01 - \$175,000.00 \$175,000.01 - \$325,000.00

Caroline Devany, Emily Sames, Matthew Hyde April 10, 2010 Sources: Census 2010, City of Saint Paul, MnDOT, ESRI

This map depicts Estimated Market Value from October 2011 of residential parcels in Frogtown. There is a clear trend with higher values below I-94, and values tend to be lower above the interstate, especially above University Avenue and east of Victoria St.

# Greater Frogtown Estimated Market Value Change 2007-2011

Saint Paul, Minnesota



This map depicts Estimated Market Value change from 2007-2011, also know as value retention. As seen in many of the other maps, I-94 and University Avenue act as a gradient in the neighborhood. Values below I-94 are generally higher, and below University Avenue is more sustained that the area east of Victoria and north of University.

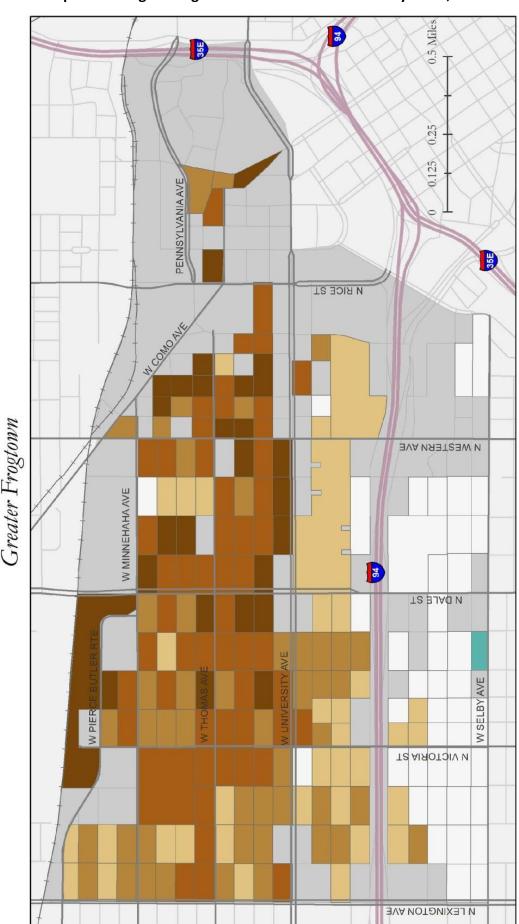
25.000001 - 324.319728

0.000001 - 25.000000

-29.999999 - -10.0000000 -56.199677 - -30.000000 -90.019960 - -56.199678

Caroline Devany, Emily Sames, Matthew Hyde April 10, 2010 Sources: Census 2010, Gity of Saint Paul, MnDOT, ESRI

Map 13: Average Change in Estimated Market Value by Block, 2007-2011



Average Change in EMV by Block

Caroline Devany, Emily Sames, Matthew Hyde April 23, 2012 Source: Ramsey County

> change between January 2007 and October 2011. To calculate block level change, only blocks with a minimum of 8 residential units were used.

Description: This map details Estimated Market Value

-42.3% to -36.4% -36.3% to -30.1% -30% to -22.2% -22.1% to 0%

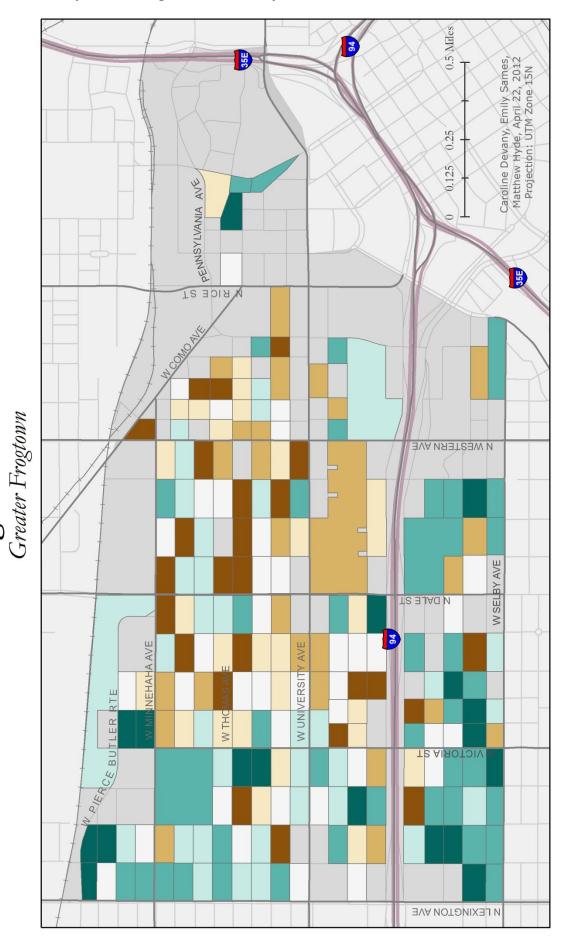
0.1% to 9.5%

-52.3% to -42.4%

Projection: UTM Zone 15N

Map 14: Housing Market Index by Block

Housing Market Index

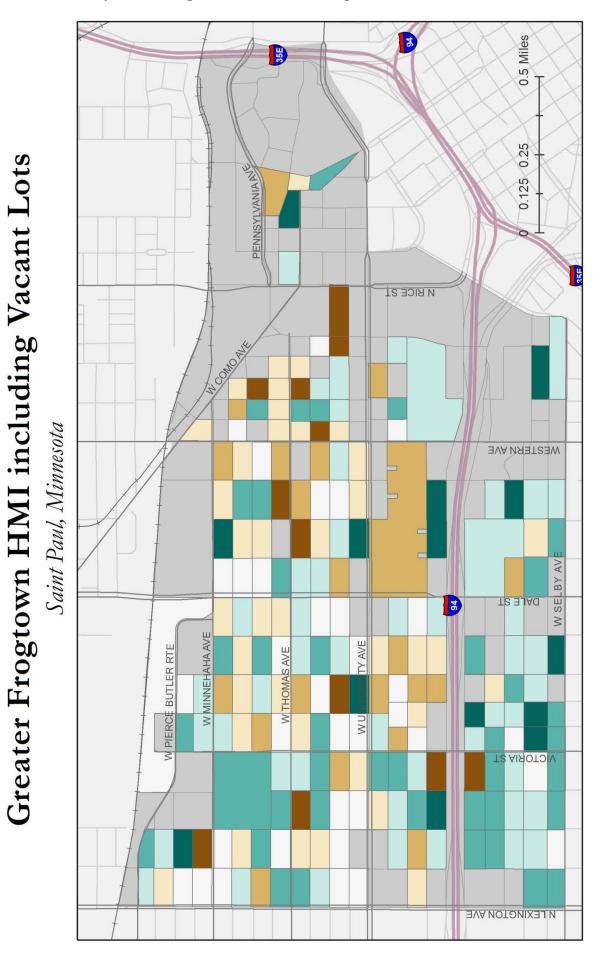


Weights: Condition 10, Vacancy 9, EMV 8, Owner Occupancy 7

In order to calculate the Housing Market Index, we used the z-scores (see report for description) of the variables Owner Occupancy, Vacancy, Estimated Market Value Change (2007-2011), and Condition. Each variable was assigned a weight: 7, 9, 8, and 10, respectively.

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Map 15: Housing Market Index including Vacant Lots



Caroline Devany, Emily Sames, Matthew Hyde April 10, 2010

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with a weight of 9. This shows a continued pattern of stronger values below I-94, a varied strength in the northwest corner, and lower values east of Victoria St.

This map combines the previous calculation of the Housing Market Index, but includes vacant lots in the calculation