



EXAMINING LOCAL HOUSING MARKETS:  
FIVE TWIN CITIES NEIGHBORHOOD PROFILES



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## EXECUTIVE SUMMARY

Communities within the Twin Cities metropolitan area - in conjunction with the rest of the United States - continue to face challenges stemming from the housing crisis of the late 2000s. In order to better understand how impacts have manifested themselves at a local level, this report examines housing market characteristics specific to five different communities within the Twin Cities area.

This report follows the methodology of the Folwell Center for Urban Initiatives (FCUI) Housing Market Index (HMI) study from October 2011. Macalester College's spring 2012 Urban GIS class has collaborated with the Minneapolis Federal Reserve's Community Development Department and five community partners: Dayton's Bluff Neighborhood Housing Services, Greater Frogtown Community Development Corporation, Longfellow Community Council, Powderhorn Park Neighborhood Association, and the City of Richfield to map the HMI results for each neighborhood.

The Housing Market Index, inspired by an index developed by the Local Initiatives Support Corporation (LISC), was designed to provide a comprehensive measure of housing market strength in a given area. The index considers the individual variables of owner-occupancy, vacancy, housing condition, and value retention in determining the strength of a market. Unique to the HMI produced in this report is its geographic specificity. Rather than evaluating the HMI at the census tract or neighborhood level, this report examines housing markets at the block level. This localized approach should allow for greater understanding of housing market phenomena within each neighborhood and for more informed mitigation and mobilization of resources.

Maps depicting the variables of owner-occupancy, vacancy, housing condition, and value retention at parcel and block levels were produced for each neighborhood. These individual variables were then aggregated to yield a block-level analysis of the neighborhood housing market. To ensure that these maps consider community-specific contexts and concerns, the mapping process included consistent collaboration and conversation with community partners. Data used to produce these maps came from various sources including: Ramsey and Hennepin Counties, the City of Minneapolis, the City of Richfield, the United States Postal Service, the Metropolitan Council, and the U.S. Census Bureau.

The resulting series of maps yields valuable information about the spatial trends of housing market conditions in each neighborhood. In some neighborhoods, maps reveal clustered patterns of housing market strength, while in other neighborhoods housing market strength is far more dispersed. The diversity of spatial patterns present in these maps affirms the varied

impacts of the housing crisis in each community and the importance of locally-informed solutions.

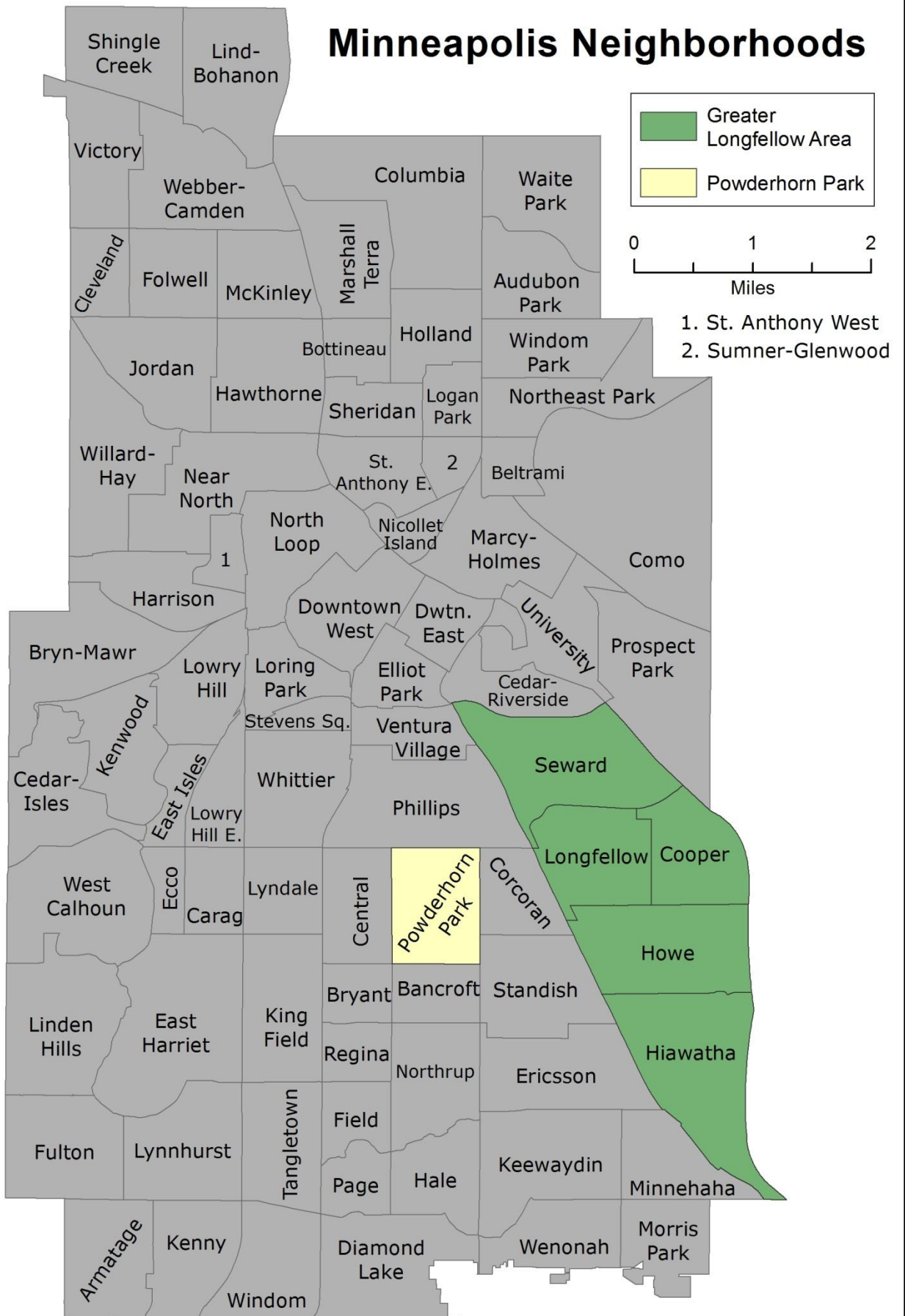


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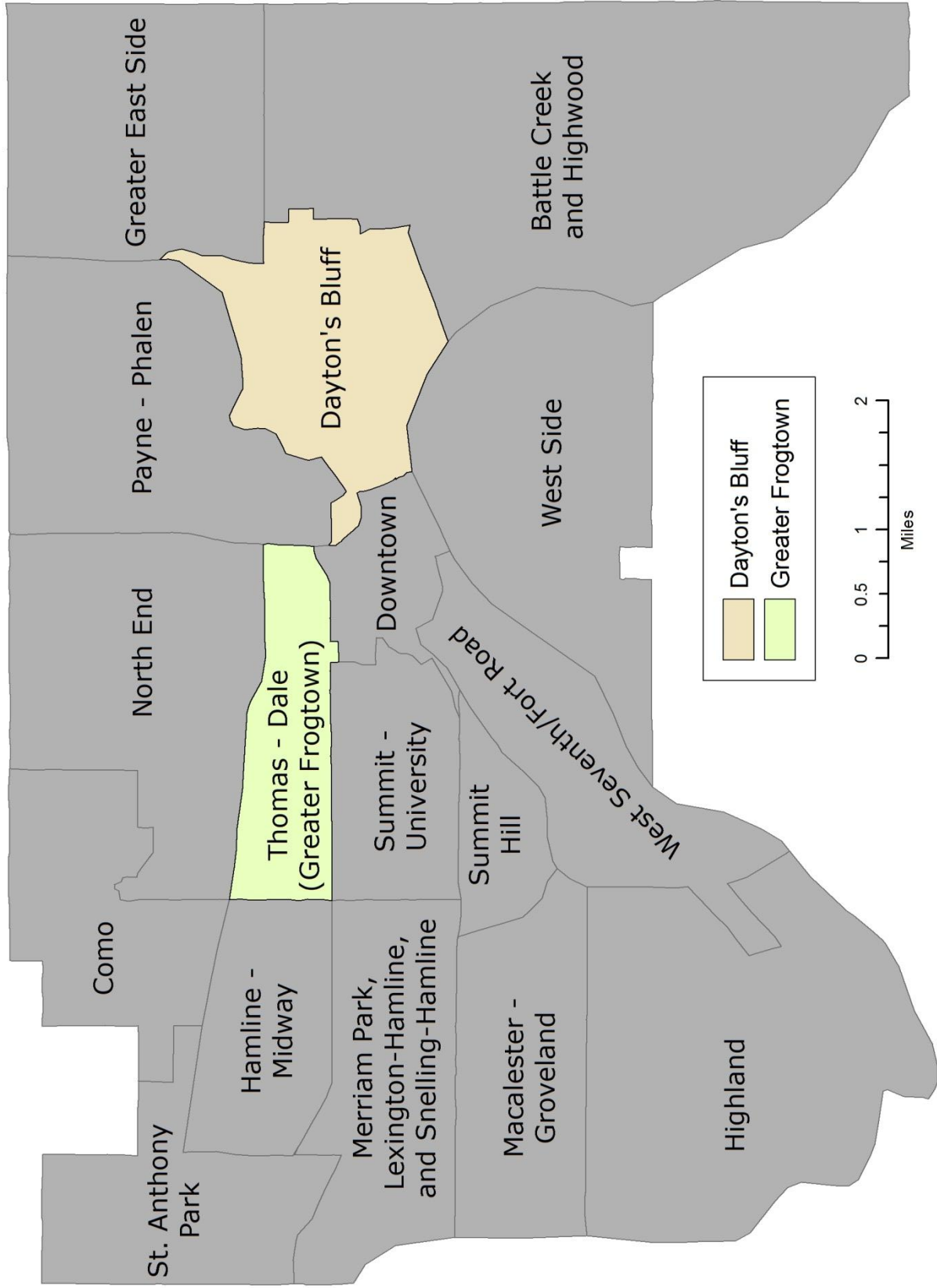
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# Minneapolis Neighborhoods





# Saint Paul Neighborhoods





## INTRODUCTION

In 2012, six years after the start of the economic recession, neighborhoods in the Twin Cities metropolitan area are still struggling to bounce back. Vacant and bank-owned housing is a prominent feature in many neighborhoods, and more individuals and families enter the foreclosure process every week. Recent metro-wide statistics do not adequately shed light on the lingering effects of the foreclosure crisis on individual neighborhoods and communities. While metro-wide housing market trends are undeniably troubling—with few signs of large-scale recovery—little is known about how post-recession housing market strength might vary *within* individual neighborhoods.

To explore local variations in housing market strength, the Folwell Center for Urban Initiatives created a Housing Market Index methodology to present a block-by-block view of housing market strength on a neighborhood scale (Folwell 2011). The Folwell study concluded that each of the twelve neighborhoods in north Minneapolis contained blocks that ran “the entire gamut of housing strength,” from weak to strong, often times in close proximity to one another (Folwell, p. V).

The Macalester College Urban GIS class has expanded upon the Folwell study by developing a Housing Market Index (HMI) for five additional neighborhoods in the Twin Cities metropolitan area: Powderhorn Park and Longfellow in south Minneapolis, Frogtown and Dayton’s Bluff in St. Paul, and the City of Richfield. The research was completed in partnership with neighborhood organizations in each of the study areas: Powderhorn Park Neighborhood Association, Longfellow Community Council, Greater Frogtown Community Development Corporation, Dayton’s Bluff Neighborhood Housing Services, and the City of Richfield.

This report utilizes the same methodology as the Folwell report. The Housing Market Index is based on a combination of four variables intended to describe much of the variation in local housing market strength. These variables include:

- (1) Owner-Occupancy – derived from 2010 U.S. Census data
- (2) Vacancy – determined by the United States Postal Service
- (3) Housing Condition – reported by the Hennepin County, City of Minneapolis, and Ramsey County Assessor’s offices
- (4) Value Retention – measured by the average change in estimated market value (EMV) by block from January 2007 to October 2011, as reported by the Metropolitan Council

This study used input from our community partners to prioritize the variables in the Housing Market Index differently for each neighborhood. In this way, we were able to capture local

knowledge concerning the best determinants of housing market strength for a unique neighborhood context.

The following report will begin with a more in-depth discussion of the overall project methodology. Each subsequent chapter will include a neighborhood-level HMI analysis, starting with the Powderhorn Park and Longfellow neighborhoods in Minneapolis, continuing with the Frogtown and Dayton's Bluff neighborhoods in St. Paul, and finishing with the city of Richfield. Each chapter will describe the local context of the respective neighborhood, an analysis of the individual variable maps on the parcel and block level, and an overall conclusion of local market conditions based off of the final Housing Market Index map.

We hope this application of the HMI methodology will serve as an informative and operational tool to enable our five partners to better support the communities they serve. The local specificity of the HMI can allow for the creation of a strong and sustainable neighborhood housing market if applied to housing-related programs, services, and community-based initiatives.



## METHODOLOGY

The basis of this study comes from the Folwell Center for Urban Initiatives report, and for the most part follows the methodology laid out therein. The Housing Market Index (HMI) is essentially an equation that combines four variables, each of which represent an aspect of a strong housing market. These variables include the rate of owner-occupancy in the neighborhood, the rate of vacancy, the condition rating of the homes, and the value retention as expressed by the average change in estimated market value from 2007 to 2011.

Because the HMI is designed for looking at the residential housing market – specifically single-family, owner-occupied units – the first step in creating the index was selecting out all parcels in a neighborhood that fit these criteria and excluding commercial or apartment buildings. Blocks included in this study were required to meet a threshold number of residential parcels to be eligible (determined by each individual neighborhood and ranging from 5 to 10).

### **Owner-Occupancy**

The owner-occupancy variable is included in the HMI because there is a demonstrated relationship between homes that are occupied by the owner and a stronger neighborhood housing market. The presence of rental properties may create high turnover in residents, impeding the development of a sense of community. Homeowners have a vested interest in the upkeep of their residences and the broader neighborhood to maintain the value of their home and investment. When rates of owner-occupancy decline it can signify that prospective buyers increasingly see ownership as a poor investment in the confines of the market.

Owner-occupancy comes from 2010 U.S. Census data, and is the only variable in this study that is available solely at the block level. Owner-occupancy estimates are produced by a simple calculation: the total number of owner-occupied units divided by the total number of units. Owner-occupants comprise both residents that own their home free and clear and residents who own their home with a mortgage.

### **Vacancy**

Rate of vacancy is included as one of the four variables that make up the HMI for many of the same reasons that owner-occupancy is deemed important; only in this case, vacancy is a negative factor. There is a demonstrated relationship between lower numbers of vacant residential properties and a stronger residential housing stock.

The vacancy data for this study were procured from the United States Postal Service (USPS), which keeps records of vacant properties for the efficient delivery of mail. A housing unit is defined as vacant when it has not received mail for 90 days. The data are available at the parcel level, so each housing unit is defined as either being vacant or not vacant. For inclusion

in the HMI the rate of vacancy was calculated at the block level, by dividing the number of vacant parcels by the total number of parcels in that block.

### **Housing Condition**

The housing condition variable is included in the HMI because it is an indication of investment and maintenance in a neighborhood. Higher condition values indicate a healthier neighborhood. The Folwell Report examined North Minneapolis, and used data from the Minneapolis Assessor's Office, which ranks buildings on a scale of 1 ("Excellent") to 7 ("Poor"). This was the same dataset used for the Minneapolis neighborhoods of Longfellow and Powderhorn. For the St. Paul neighborhoods of Dayton's Bluff and Frogtown, condition data came from the Ramsey County Assessor's Office, which rates structures on a scale of 1 ("Very Poor") to 9 ("Excellent"). The data for Richfield were acquired from the Hennepin County Assessor's Office and were based on a scale of five categories that were easily converted to a numerical scale as well.

To create the variable that was included in the HMI, the ratings for residential parcels within a block were averaged, resulting in a block-wide average condition score. Thus, even though each city uses a different scale, the scores are factored into the HMI in the same way (as an average by block). However, because the direction of the rankings is different amongst study areas – a score of 1 representing an "Excellent" rating in Minneapolis and a "Poor" rating in Richfield and St. Paul – the final variable was subtracted from the calculation in Minneapolis (representing a negative factor in the HMI) but added to the calculation in Richfield and St. Paul (representing a positive factor in the HMI).

### **Value Retention**

A measure of value retention was included in the HMI due to the clear correlation between changes in home values and the relative strength of the housing market on a block over time. Value retention was measured for the period between January 2007 and October 2011 by calculating the percent change in parcel-level estimated market values (EMV). The parcel-level EMV data were gathered from the MetroGIS regional parcel dataset. Parcels with structures built between 2007 and 2011 were excluded so as to avoid distorting block-level change in EMV. The percent change in EMV between 2007 and 2011 was calculated for each parcel using the following equation:

$$\frac{\text{October 2011 EMV} - \text{January 2007 EMV}}{\text{January 2007 EMV}}$$

After percent change was calculated at the parcel level, the parcel-level EMV data were aggregated to the block level, measuring block-level EMV change by taking the average of all parcel-level EMV changes. The final dataset that we mapped reflects average change in EMV by block.

## Generation of Housing Market Index

In order to generate a Housing Market Index value for each block, we first standardized the four component variables to make them comparable. After excluding blocks that fell below the minimum threshold for total number of residential parcels (as determined in concert with our neighborhood partners), we standardized each of the four component variables by converting the block-level values to block-level z-scores. The z-score calculation accounts for the neighborhood-wide mean and standard deviation for each variable; the z-scores depict the relative disparity between the value for each block and the average value for the neighborhood overall. This allows us to compare, for each variable, how each block fares relative to all other blocks in the neighborhood (specifically, the number of standard deviations each block varies from the overall neighborhood mean).

The four z-scores were then combined to create block-level HMI values using the following equation, in which  $x_1$ ,  $x_2$ ,  $x_3$ , and  $x_4$  are variable weights (ranging from 0 to 10) determined in collaboration with neighborhood partners:

*For St. Paul and Richfield:*

$$\text{HMI Score} = (x_1 * \text{Owner-Occupancy z-score}) - (x_2 * \text{Vacancy z-score}) + (x_3 * \text{Condition z-score}) + (x_4 * \text{EMV z-score})$$

*For Minneapolis:*

$$\text{HMI Score} = (x_1 * \text{Owner-Occupancy z-score}) - (x_2 * \text{Vacancy z-score}) - (x_3 * \text{Condition z-score}) + (x_4 * \text{EMV z-score})$$

In the original Folwell Report, the authors used factor analysis to determine the variable weights, whereas in this study, our neighborhood partners determined the weights based on their relative prioritization of the variables in contributing to the strength of the neighborhood's housing market. As in the Folwell Report, the vacancy variable is given a negative weight, since a high vacancy rate on a block has negative implications for the strength of the block's housing market. Finally, the HMI results are presented for each neighborhood on a single map that classifies blocks in the neighborhood along a scale ranging from weak to strong.