



BOTTINEAU CORRIDOR

HOUSING NEEDS & AFFORDABILITY ASSESSMENT

DEAN PORTER, TONY DAMIANO
DAVID DAVIES & WES JOHNSON

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	II
EXECUTIVE SUMMARY	V
INTRODUCTION	1
BACKGROUND	2
CORRIDOR SUMMARY STATISTICS	4
BOTTINEAU HOUSING ALREADY NOT AFFORDABLE FOR CORRIDOR RESIDENTS	5
SECTION 1: CHANGING THE CONVERSATION	5
COST BURDEN ANALYSIS	6
HOUSING MARKET SUPPLY AND DEMAND ANALYSIS	9
DEMOGRAPHIC AND HOUSEHOLD ANALYSIS	12
SECTION 1 SUMMARY	18
SECTION 2: NEIGHBORHOOD CHANGE IN THE BOTTINEAU	19
A CORRIDOR UNDER DEVELOPMENT PRESSURE	19
EXAMINING NEIGHBORHOOD CHANGE OVER THE PAST DECADE	20
NEIGHBORHOOD CHANGE INDEX IN THE CORRIDOR	22
WHO IS AFFECTED BY NEIGHBORHOOD CHANGE?	23
COST BURDENED HOUSEHOLDS & NEIGHBORHOOD CHANGE INDEX	24
PEOPLE OF COLOR & NEIGHBORHOOD CHANGE INDEX	25
LOW INCOME HOUSEHOLDS & NEIGHBORHOOD CHANGE INDEX	26
SECTION 2 SUMMARY	27

TABLE OF CONTENTS (CONT'D)

SECTION 3: HOW DO TRANSIT INVESTMENTS IMPACT BUILDING AND DEVELOPMENT?	29
IMPLICATIONS FOR BOTTINEAU STATION AREAS	30
SECTION 4: SCENARIOS FOR TRANSIT IMPACT ON HOUSING COSTS	33
SECTION 5: SUMMARY AND STRATEGIES	37
SUMMARY	37
STRATEGIES	38
APPENDICES	A1.1
APPENDIX 1: DATA SOURCES & STUDY AREA	A1.1
APPENDIX 2: HOUSING MARKET ANALYSIS THEORY & ASSUMPTIONS	3
APPENDIX 3: SUPPLY AND DEMAND ANALYSIS	A3.5
APPENDIX 4: NEIGHBORHOOD CHANGE INDEX (NCI) METHODOLOGY	A4.6
APPENDIX 5: SCENARIOS OF TRANSIT IMPACT ON HOUSING COST	A5.12



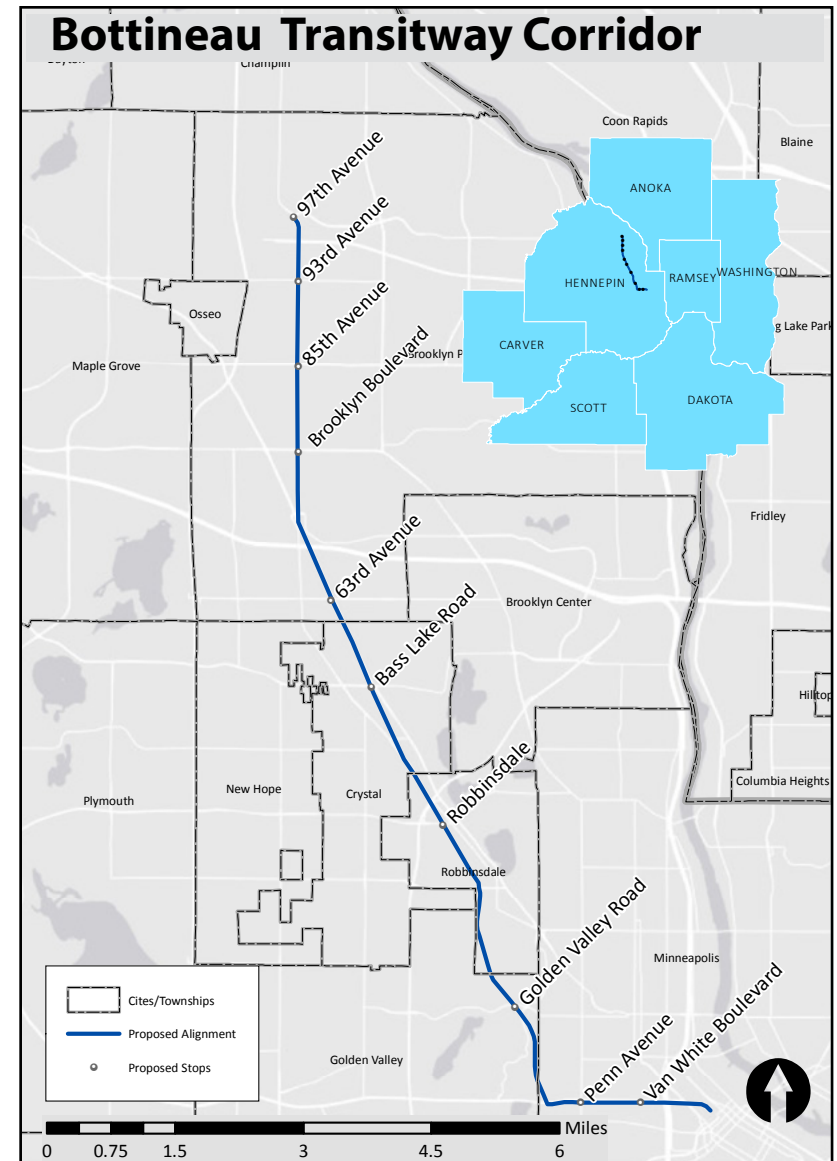
EXECUTIVE SUMMARY

The proposed Bottineau Transitway has the potential to transform surrounding areas, providing accessibility to jobs and improving commute times for populations that rely on transit for mobility. This study addresses the potential for the proposed Bottineau Transitway to cause development pressure that could lead to increased housing prices, forced displacement of residents, and other forms of neighborhood change that would adversely affect those whom the transit investment is intended to benefit most.



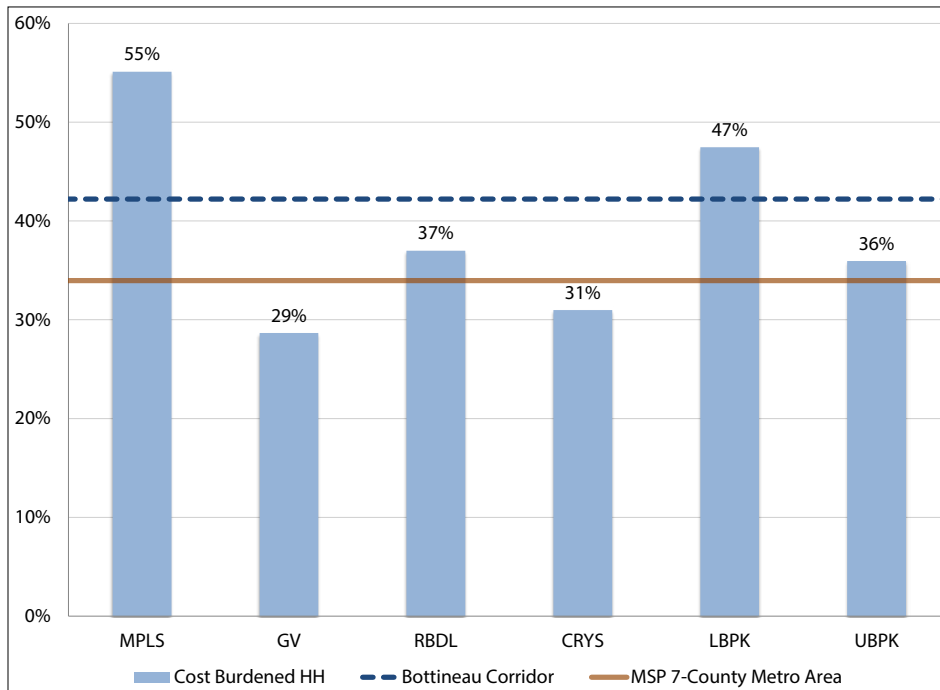
Photo Credit: Metropolitan Council

The Bottineau Transitway is a proposed 13-mile light rail transit project that will connect downtown Minneapolis to the northern suburb of Brooklyn Park. This report examines current housing affordability and development pressure, and reviews past research on the impact of light rail transit on housing prices and neighborhood change. While the transit investment will bring many benefits, the light rail may spur neighborhood change that decreases housing affordability, particularly for vulnerable populations living in neighborhoods already experiencing development pressure. Several scenarios are presented in order to show the range of potential impacts of price increases on housing affordability.



Map adapted by Tony Damiano, from LPA Stations and Alignment, 2014.

Cost Burdened Households



Sources: 2008-2012 American Community Survey (ACS), Social Explorer

We found that even without the transit investment, hard-working low and moderate income families already struggle disproportionately compared to the regional population to afford the cost of housing.

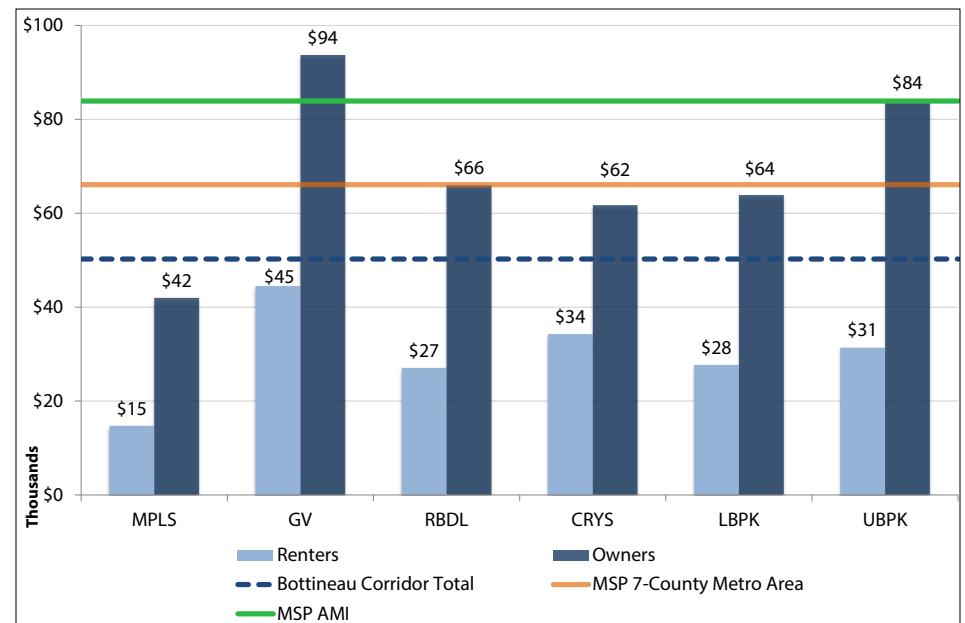
Cost burdened households contribute 30% or more of their income toward the cost of housing. Of 30,212 households in the Bottineau Corridor,¹ 12,754 (42%) are cost burdened, compared to only 34% of households living in the 7-county metropolitan area (metro). Despite having moderate incomes, many of the households in the corridor are cost burdened – this includes more than half of homeowners and more than 40% of renters earning \$35,000-\$50,000. Nearly 40% of homeowners earning \$50,000-\$75,000 are cost burdened. And despite lower housing costs than the metro area, corridor residents are significantly more likely to be cost-burdened than metro residents at 30%, 40%, and 50% of household income, for both renters and owners alike. Some stakeholders in the corridor believe that

¹ The Bottineau Corridor refers to census tracts wholly or partially overlapping a ½ mile buffer around station areas included in the Locally Preferred Alternative (LPA) discussed in the 2013 Bottineau Transitway Station Area Pre-Planning Study. See Appendix 1 for more details.

housing affordability is not an issue because the housing stock in their communities is affordable at market rates. These types of statements are misleading because they do not acknowledge housing affordability as dependent on both local housing costs and local incomes.

Despite somewhat lower housing costs, incomes are not high enough to offset the cost of housing for residents of most locations along the proposed transitway. Cost burden rates are about as high as or higher than metro cost burden rates in every section of the corridor except for Golden Valley. Cost burden rates are *much* higher in the Minneapolis and Lower Brooklyn Park sections of the corridor.² With a corridor median income of about \$50,000, over half of Bottineau Corridor households earn less than 60% of the Area Median Income (AMI)—low enough to qualify for some subsidized housing programs.

Median Household Income by Tenure



Sources: 2008-2012 ACS, Social Explorer

² The Bottineau Corridor was divided into 6 separate sections based on a half-mile radius from proposed station areas. See Appendix 1 for more information.

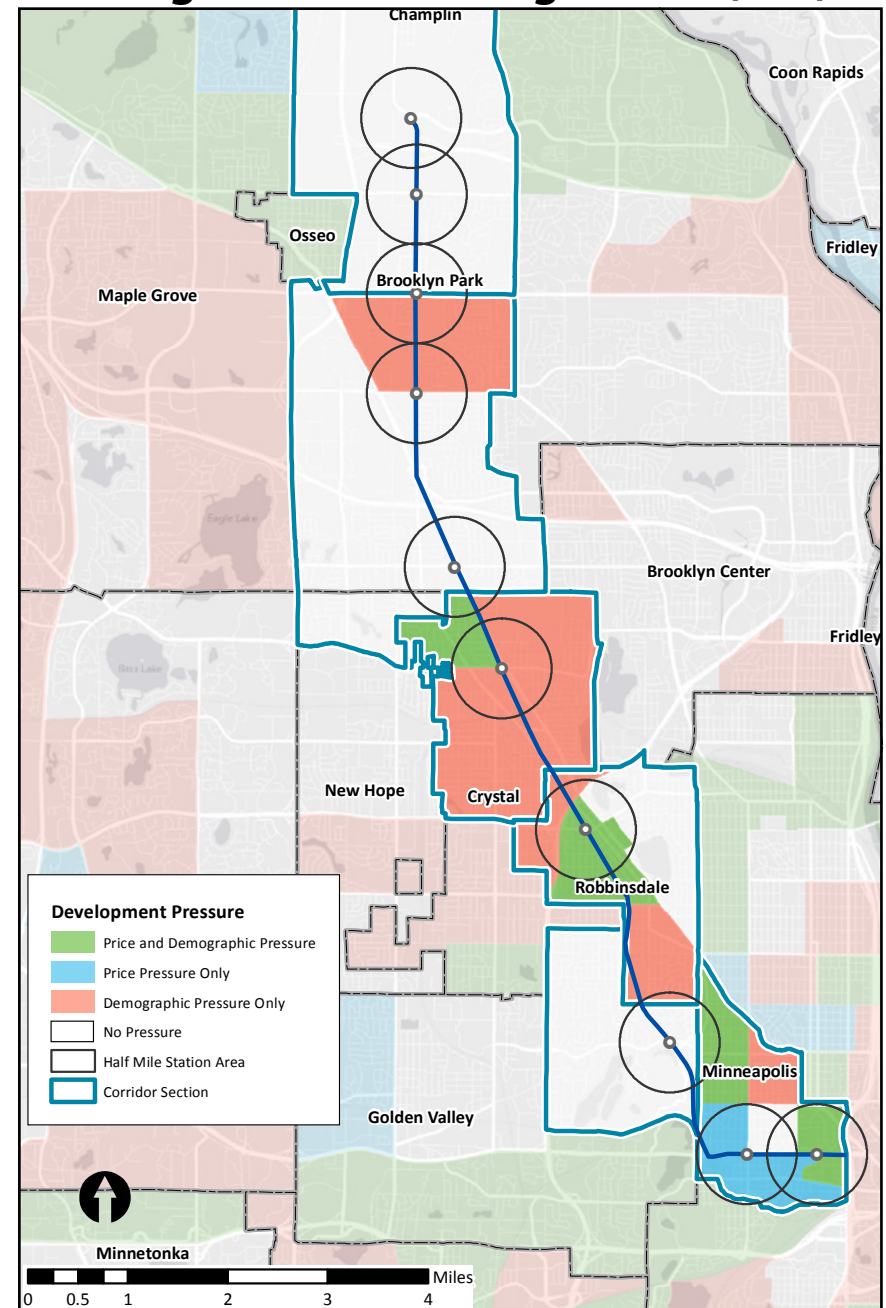
Despite a perception among some leaders that their communities' housing affordability is not at risk from increased development pressure in the near term, all proposed station areas except two are within ½ mile of an area already exhibiting development pressures due to trends in neighborhood change—even without a transit investment.

This study assessed neighborhood changes in education level, household income, and median home value between 2000 and 2012 in order to identify areas with increased development pressure that may experience upward movement in housing prices even without the addition of the Bottineau Transitway. Development pressure is geographically concentrated in Minneapolis, Robbinsdale, and Crystal, and to a lesser extent in Lower Brooklyn Park. Development pressure appears to be strongest closest to downtown Minneapolis due to rising home values relative to the region and significant changes in the proportion of the population with a 4-year college degree (a 51% increase). This trend reinforces the notion that an urban renaissance is taking place, in which a wave of reinvestment begins near the downtown central business district and moves outward over time.

Vulnerable populations are disproportionately represented in areas experiencing development pressure.

Of the 12,754 cost burdened households in the corridor, 55% live in areas experiencing development pressure. Similarly, 56% of all non-white residents and 57% of all low-income residents in the corridor live in areas experiencing this same pressure. In Minneapolis, Robbinsdale, and Crystal, over 80% of cost burdened households live in an area experiencing development pressure. Research does *not* show that low-income residents tend to be forcibly displaced from neighborhoods experiencing increasing property values. Instead, they often choose to remain in place as the neighborhood changes around them. While property owners might reap benefits from increasing property values, there could be significant adverse effects felt by vulnerable populations who must pay higher prices for housing.

Neighborhood Change Index (NCI)



Map created by Tony Damiano, 2014.

Experiences from around the U.S. and from within the Twin Cities show that investment in fixed-guideway transit, such as light rail, often results in increased property values, building activity, and housing density.

While these changes are not guaranteed, research shows that light rail transit increases property values in most cases. One study showed that the average premium paid for property within ¼ mile of 16 separate light rail transitways across the U.S. was 7.1%, and that price premiums can reach 20% or 24% in some cases. Just as price impacts of transit have varied widely across the country, we expect price impacts to vary along the Bottineau Corridor. Areas that already show signs of development pressure are likely to experience the highest increases, including Minneapolis, Robbinsdale, and Crystal. However, with the coming of the Bottineau Transitway and the new Target campus in Brooklyn Park, no community along the proposed transitway is immune to future development pressures.

Cost-burdened households are more sensitive to housing cost increases.

Because cost-burdened households already pay a higher portion of their income for housing costs, a 1% increase in housing costs leads to a greater percentage point increase in cost burden for cost-burdened households than for households paying a smaller percentage of income for housing.

STRATEGIES

CHANGE THE CONVERSATION

- Focus on needs of existing residents
- Affordability is an issue for hard working families
- Be realistic about potential for neighborhood change

PRESERVE AFFORDABILITY

- Preserve existing low and moderate cost rental units and owned homes
- Preserve 3,200 existing subsidized units

SCALE UP COMMUNITY LAND TRUST

- Target the surplus of mid-priced homes in the corridor priced \$125,000-\$175,000
- Land trusts should become visible in station area planning
- Educate decision makers on the value of affordable homeownership

INCLUSIONARY ZONING

- Encourages development of affordable housing in high development pressure areas
- Mixed income housing is supported by stakeholders in Minneapolis neighborhoods

ENGAGE

- Use the Blue Line Coalition as a conduit for engaging diverse communities in the corridor
- Partnership for Regional Opportunity is a useful sounding board for fostering collaboration
- Education and outreach can drive policy change

FOSTER FUNDING OPPORTUNITIES

- Leverage resources such as the Land Acquisition for Affordable New Development, which supports site acquisition near transit
- Lobby for additional, dedicated sources of funding

MONITOR CHANGES

- Track neighborhood change metrics that indicate development pressure
- Monitor affordability indicators such as cost burden



INTRODUCTION



Homeownership levels in the Twin Cities metropolitan region are approaching levels attained prior to the 2008 financial crisis and housing crash. There continue to be great disparities between homeownership rates of high-income communities, that were relatively unscathed after 2008, and low-income communities that have experienced record foreclosure rates over the past six years. Housing affordability continues to be one of the most contentious issues in the region. The term “affordable housing” is difficult to define, and can sometimes carry negative connotations. Affordable housing is also in constant demand, and threatened by development pressures and changes that occur in neighborhoods. Policy makers and community development advocates perennially seek answers to difficult questions such as:

- Can affordability be defined in a way that does not marginalize low-income residents?
- To what degree do changes and pressures - including transit investments - pose threats to housing affordability?
- How do cities balance neighborhood change and needs for affordable housing?

The City of Lakes Community Land Trust (CLCLT) seeks to understand neighborhood changes that may result from the proposed Bottineau Light Rail Transitway. The Twin Cities’ transit system continues to be built out as quickly as funding can be secured, with each large-scale transit project bringing efforts to understand the potential impacts of transit on the surrounding communities. Hennepin County and various community members like CLCLT along the proposed Bottineau Transitway already recognize the need to identify, analyze and mitigate potentially negative impacts.

The Bottineau Corridor Housing Needs Affordability Assessment makes the case for the importance of affordable housing opportunities in the Bottineau Corridor. There is an existing shortage of housing affordable for low income households in the corridor. These households do not have other affordable options elsewhere in the region. The process of neighborhood change could lead to higher housing costs in the corridor. Some areas along the corridor are already experiencing different types of neighborhood change that threaten housing affordability. A new light rail transit line could increase potential development pressure and lead to additional price increases. This has already happened elsewhere in the Twin Cities, and may continue in the Bottineau Corridor. There are particular populations that are more vulnerable to development pressure, such as people of color and cost-burdened households. Strategies for preserving and developing affordable housing can ensure that the corridor’s vulnerable residents can find stable, safe housing and reap benefits from the new transit investment.

Photo Credit: David Davies, 2014.

BACKGROUND

The Bottineau Corridor is a concept more than 25 years in the making. Several major planning studies show a continued commitment on a regional level to develop what advocates describe as one of the fastest-growing corridors in the Twin Cities region. According to the recently published Bottineau Transitway Station Area Pre-Planning Study,

IMPORTANT DOCUMENTS ON THE BOTTINEAU CORRIDOR USED AS BACKGROUND FOR THIS STUDY INCLUDE:

- HCRRRA Comprehensive System Plan (1988)
- Northwest Commuter Rail Feasibility Study (1997)
- Northwest Corridor Busway Study (2002)
- Bottineau Transit Scoping Study (2007)
- Bottineau Land Use Framework (2012)
- Bottineau Pre-planning Study (2013)

“The Bottineau Transitway has the potential to transform much of the surrounding corridor because significant transit improvements have been shown to improve lives by shortening commute times, providing greater access to economic opportunities, reducing transportation costs, promoting healthier lifestyles, and encouraging more sustainable development patterns.”

Minneapolis and the northwest suburbs of Hennepin County have collectively experienced changes in demographics and housing stock since the end of WWII. Automobiles signaled the demise of the streetcar and the relocation of white middle and upper class households to the urban fringe. Robbinsdale, for instance, has an aging main street corridor that was built to accommodate the endpoint of a streetcar line. Brooklyn Park, by contrast, has a much more recent core of development.

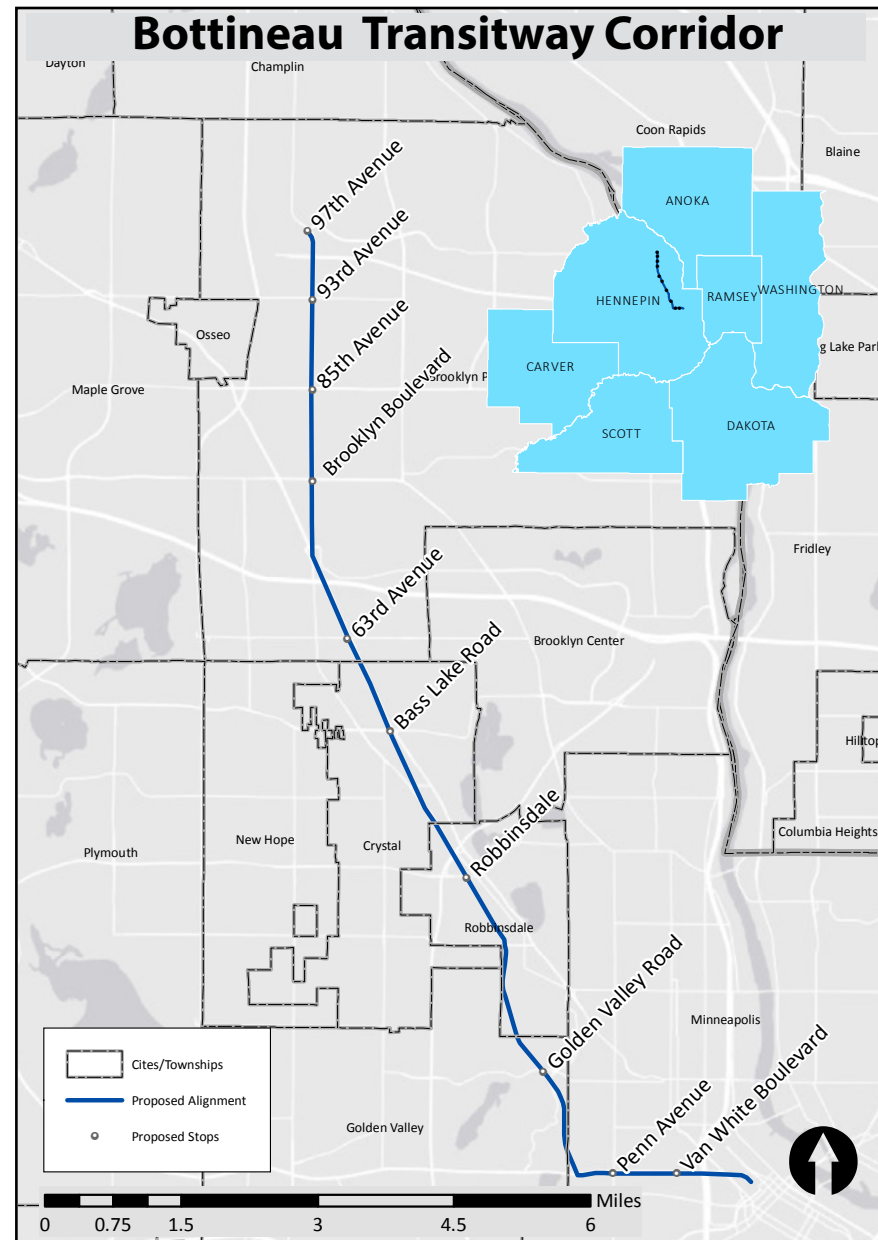


Table 1: Bottineau Corridor City Populations, 1950 - 2010

City	1950 Pop	1980 Pop	2010 Pop
Minneapolis	521,728	370,951	382,578
Golden Valley	5,551	22,775	20,371
Robbinsdale	11,289	14,422	13,953
Crystal	5,713	25,543	22,151
Brooklyn Park	n/a*	43,332	75,781

Source: US Census.

Middle and high income household preferences for suburban living led to a hollowing out of the urban core; Minneapolis lost 26% percent of its population between 1950 and 2010. The inner-ring suburbs - Crystal, Golden Valley, and Robbinsdale, saw populations peak in the 1970s and 1980s. Brooklyn Park, meanwhile, has seen a dramatic recent increase in population. The expansion of the metropolitan region over the past 50 years occurred largely along arterial streets and highways, including the Bottineau Boulevard and Broadway Avenue.

In recent years, public transit has begun to reassert itself as a viable alternative for providing access to job centers and amenities. Rail transit investments can increase housing cost, increase density, and spur real estate development activity; changes that could potentially displace existing neighborhood residents. Increases in housing cost for both renters and homeowners may adversely affect current residents even if they are not displaced, and may make neighborhoods unaffordable for families that desire to live in the corridor.

Lessons can be learned from recent LRT planning processes about the connections between affordable housing and rising property values.

- “The impact of the [Hiawatha] LRT on property values is a function of proximity an location.”¹
- Levels of housing affordability should be analyzed at sub-area levels; “affordability varies greatly depending on where you are along the corridor.”²
- There is a direct correlation between median single family market values and rental affordability. The higher the market value of the home, the fewer households that are income-qualified.³
- It is important to “address the expensive and cumbersome land acquisition process.”⁴

1 Goetz et al (2010). The Hiawatha Line: Impacts on Land Use and Residential Housing Value. Center for Transportation Studies.

2 Housing Preservation Project. (2012). Before the Train. St. Paul, MN.

3 Maxfield Research. (2013). Southwest LRT Community Works Southwest Corridor-wide Housing Inventory. Minneapolis, MN.

4 Ibid.

Assuming that the Southwest LRT line is funded and built before Bottineau, there will be three distinct LRT planning processes to have occurred before Bottineau starts construction. As the Twin Cities region wrestles with the idea of an accelerated build-out of its transit network, including the resurgence of the streetcar in addition to bus rapid transit lines, it is important to consider the historical impact of transit investments on the affordability of housing.

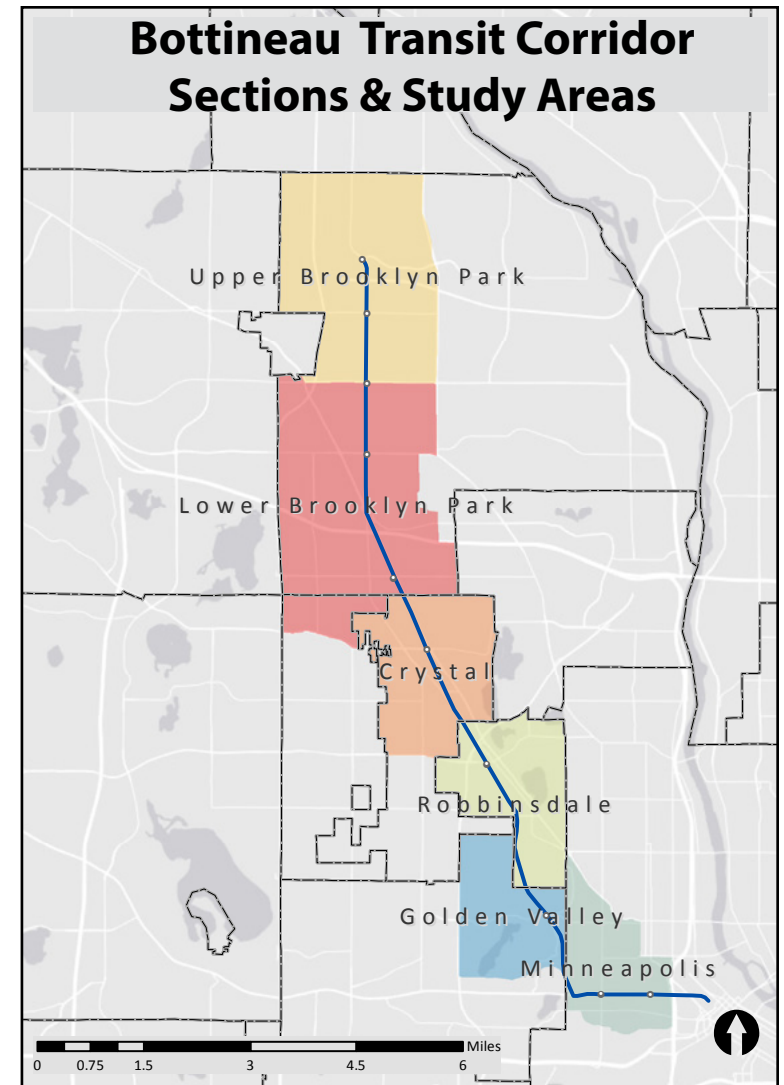
BOTTINEAU CORRIDOR STUDY AREA AND DATA

The corridor boundaries are comprised of census tracts that overlap a ½ mile radius of proposed stations. The proposed stations are based on those included in the Bottineau Pre-Planning Study sponsored by Hennepin County in 2013. The table below shows summary statistics for the segments depicted to the right. Most the data in the table is sourced from the 2008-2012 American Community (ACS), with the exception of data on subsidized units comes from HousingLink. Additional information on data sources can be found in Appendix 1.

Table 2: Corridor Summary Statistics

Corridor Section	MPLS	GV	RBDL	CRYS	LBPk	UBPK	Corridor Total	Metro Total
Population & Households								
Total Population	17,372	4,992	14,048	12,383	25,161	5,439	79,395	2,860,781
Population Density (People/Sq Mile)	7,450	2,200	5,034	3,595	3,423	929	3,302	1,027
Pop (in HHs)	17,044	4,873	13,858	12,321	24,819	5,431	78,346	2,808,619
# of HHs	6,045	2,108	6,080	4,823	9,256	1,900	30,212	1,124,472
Average HH Size	2.8	2.3	2.3	2.6	2.7	2.9	2.6	2.5
Tenure & Vacancy								
Renter Occupied Units	3,529	142	1,764	977	3,553	136	10,101	338,683
Rental Vacancy Rate	5.4%	0.0%	4.3%	0.0%	9.3%	27.2%	6.3%	5.2%
Owner Occupied Units	2,516	1,966	4,316	3,846	5,703	1,764	20,111	785,789
Owner Occupied Vacancy Rate	7.9%	0.0%	1.1%	3.3%	1.5%	4.0%	2.6%	1.6%
Median Household Income								
All Households	\$28,320	\$92,540	\$54,834	\$61,247	\$41,573	\$80,282	\$50,254	\$66,091
Renters	\$14,738	\$44,500	\$27,057	\$34,265	\$27,724	\$31,364	\$25,166	\$33,629
Owners	\$41,979	\$93,690	\$65,994	\$61,711	\$63,866	\$84,167	\$65,714	\$83,014
Poverty								
Pop Below Pov Level	7,198	170	1,388	1,197	4,101	322	14,376	299,741
% Below Pov Level	42%	3%	10%	10%	17%	6%	18%	11%
Housing Costs (2012 Dollars)								
Median Gross Rent	\$794	\$1,695	\$912	\$881	\$729	\$1,811	\$864	\$888
Median Home Value	\$140,864	\$250,500	\$180,708	\$163,884	\$171,500	\$212,000	\$177,408	\$225,766
Households paying more than 30% of income for housing								
All Households	55%	29%	37%	31%	47%	36%	42%	34%
Renters	64%	29%	50%	49%	64%	88%	60%	48%
Owners	42%	29%	32%	26%	37%	32%	33%	28%

Source: 2008-2012 ACS, Social Explorer



SECTION 1: CHANGING THE CONVERSATION

BOTTINEAU HOUSING IS ALREADY NOT AFFORDABLE FOR CORRIDOR RESIDENTS

Before analyzing the components of neighborhood change and the potential effects of transit investment on housing affordability in the Bottineau Corridor, it is essential to develop an understanding of the current need for affordable housing. Our analysis shows that there is an existing shortage of housing affordable for low income households in the corridor, and that low income households do not have other affordable options elsewhere in the region.

Bottineau Corridor households are very likely to face cost burden, despite a common perception that the corridor has a lot of “cheap” housing. Our housing inventory begins with an overview of cost burden statistics for households with various income levels living in different parts of the Bottineau Corridor. It is sobering that Bottineau residents are so likely to be cost burdened, given the perceived affordability of the corridor within a metro-wide context. Realizing there is a problem presents an opportunity for corridor stakeholders, funders and housing professionals to address the issue. In the following pages, we will show why, where and to what degree there is a shortage of appropriate housing options for existing residents. This section is organized as follows:

- Cost burden statistics are presented to illuminate that housing costs are an issue for Bottineau Corridor residents.
- A housing supply and demand analysis shows that there is a mismatch between households’ purchasing power and the cost of housing, particularly among low and high-income households.
- Demographic and housing characteristics are explored to illuminate specific characteristics of the population that contribute to the deficit of affordable options.

The photo at left represents potential possibilities for siting affordable housing in the Bottineau Corridor. Representatives of community, neighborhood and advocacy groups along the corridor placed chips representing affordable rental, homeownership, and mixed income housing opportunities. The map generally demonstrates a need and interest in additional affordable housing opportunities near stations in all parts of the corridor.

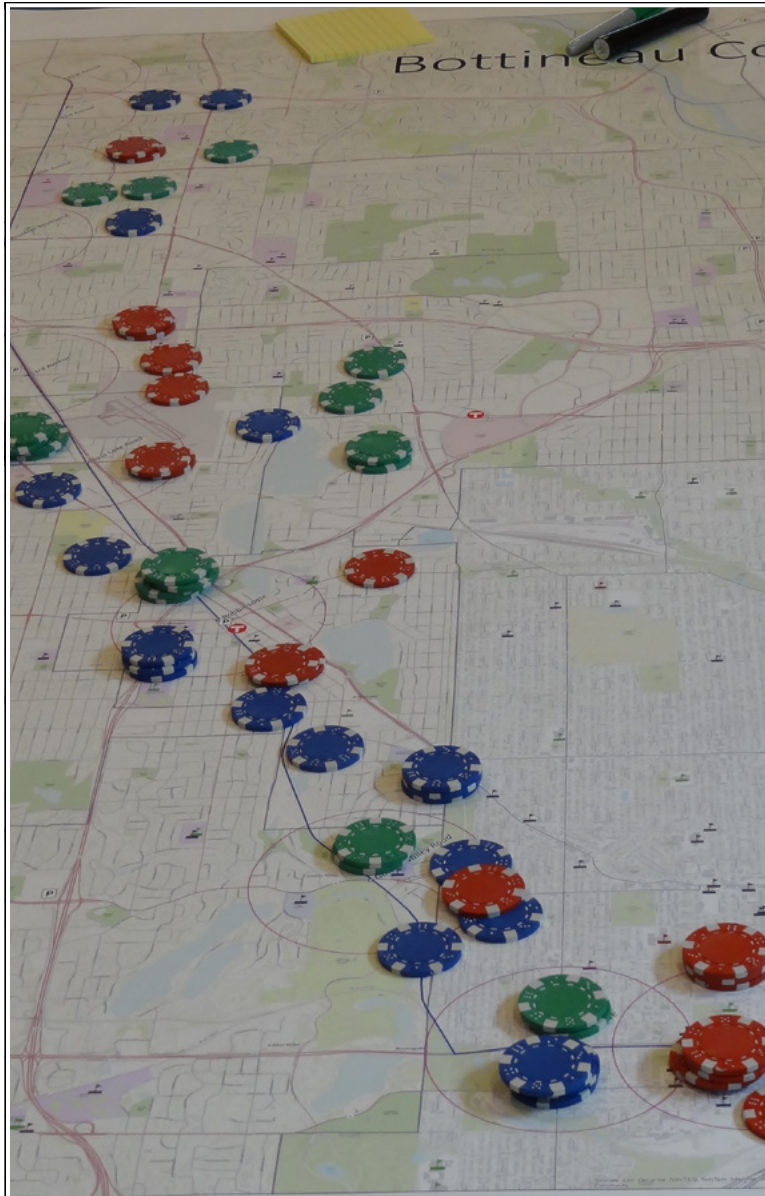


Photo Credit: Tony Damiano, 2014.

COST BURDEN ANALYSIS

Bottineau Corridor residents are more likely to face cost burden than other metro area residents.

The cost burden rate for the corridor is greater than 42% (12,754 households total), compared with 34% for the metro. Four out of six sections have higher rates of cost burden than the metro, and all sections besides Golden Valley have cost burden rates of 30% or more.

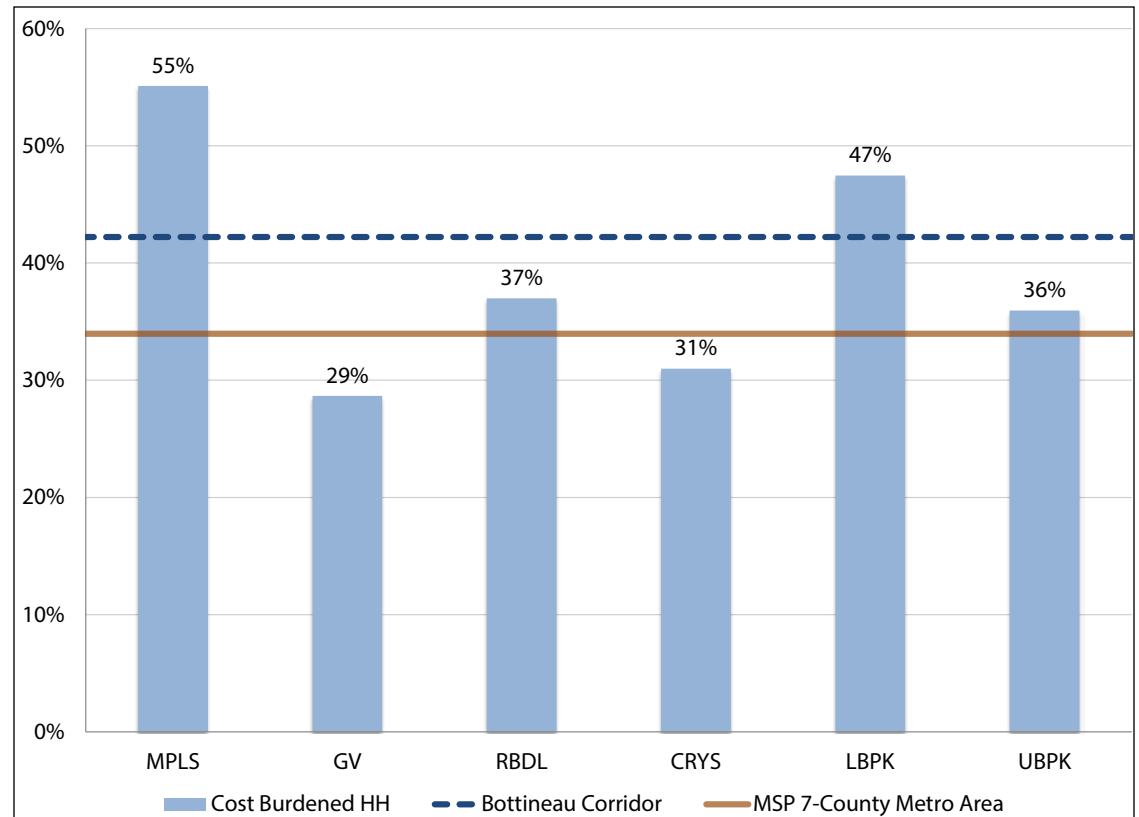
Many corridor residents face even higher levels of cost burden, meaning households have even fewer dollars left over to pay for other expenses. Specifically, 44% of renters and 19% of owners spend 40% or more of their income on housing; and 33% of renters and 12% of owners spend more than half their income to pay for the cost of housing. Conditions are much worse for renters with household incomes below \$35,000 and homeowners with household incomes below \$50,000.

These statistics demonstrate that Bottineau Corridor housing is not affordable for current corridor residents.

WHAT IS COST BURDEN?

Unless otherwise noted, the cost burden rate is defined as the percentage of households paying 30% or more of their income for housing related costs. This rate is measured by the US Census Bureau. Housing costs greater than 30% are generally considered problematic for households. In addition many housing subsidies pay the difference between 30% of income and the full cost of housing. For these and other reasons, examining housing cost burden is helpful when assessing affordability in the Bottineau Corridor.

Figure 1: Cost Burdened Households

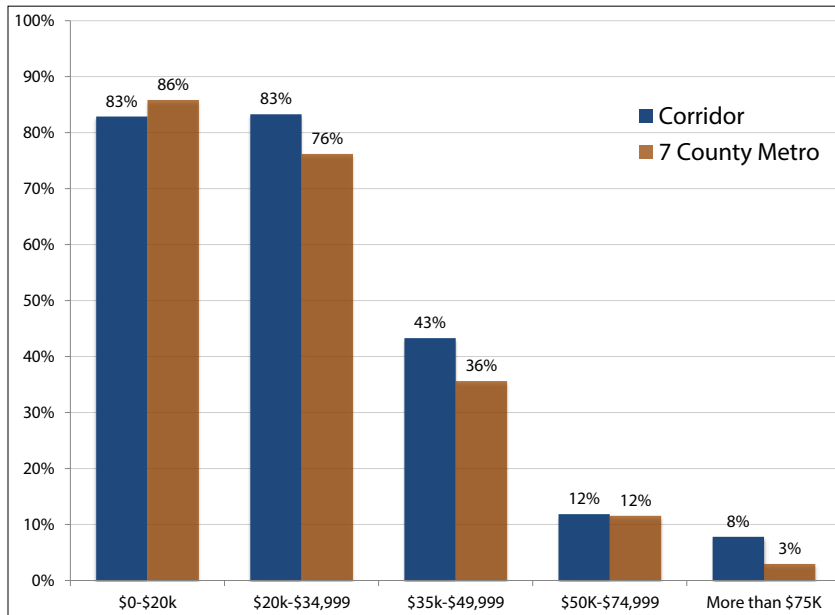


Sources: 2008-2012 ACS, Social Explorer

THE "METRO"

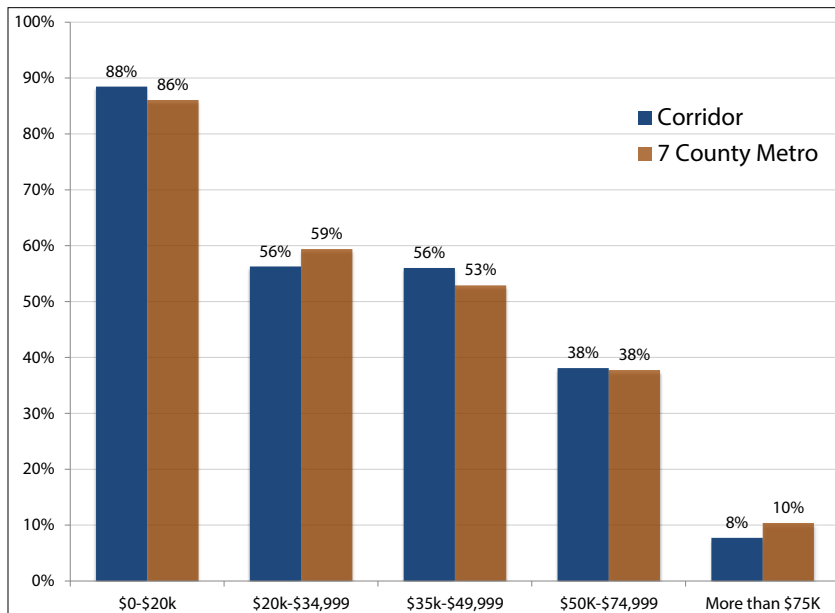
Unless otherwise noted, "metro" refers to the 7-county area within the Metropolitan Council's jurisdiction. This includes Anoka, Carver, Dakota, Scott, Hennepin, Ramsey, and Washington counties. This is different from the 13-County Minneapolis-St. Paul-Bloomington, MN-WI MSA, which the Department of Housing and Urban Development (HUD) uses to determine eligibility for federal housing programs.

Figure 2: Percent of Cost Burdened Renters by Income



Sources: 2008-2012 ACS, Social Explorer

Figure 3: Percent of Cost Burdened Homeowners by Income



Sources: 2008-2012 ACS, Social Explorer

Low and moderate income households in the Bottineau Corridor, and throughout the metro, are very likely to face cost burden.

Regardless of whether they rent or own, low-income households are much more likely to be cost burdened than households with higher incomes. This is true for Bottineau Corridor residents, as well as throughout the metro. As the graphs show, most renters making less than \$35,000 per year are cost burdened. On the homeownership side, households in all income categories below \$75,000 per year face substantial cost burden rates.

Renting appears to be less affordable than ownership for households in certain income brackets, and homeownership less affordable in other brackets. Renters making between \$20,000 and \$34,999 are more likely to be cost burdened than owners in the same income bracket. Owners making \$35,000-\$49,999 and \$50,000-\$74,999 are much more likely to face cost burden than renters at the same income levels. These findings suggest it is particularly difficult for households making under \$35,000 to find affordable rental opportunities. Households making more than \$35,000 may be electing to take on cost burden so they can own a home.

In total cost, burden is a problem for 12,020 low and moderate income households (households making less than \$75,000 per year) in the corridor. This includes nearly 6,000 (67%) corridor households that rent and 6,000 (53%) households that own homes.

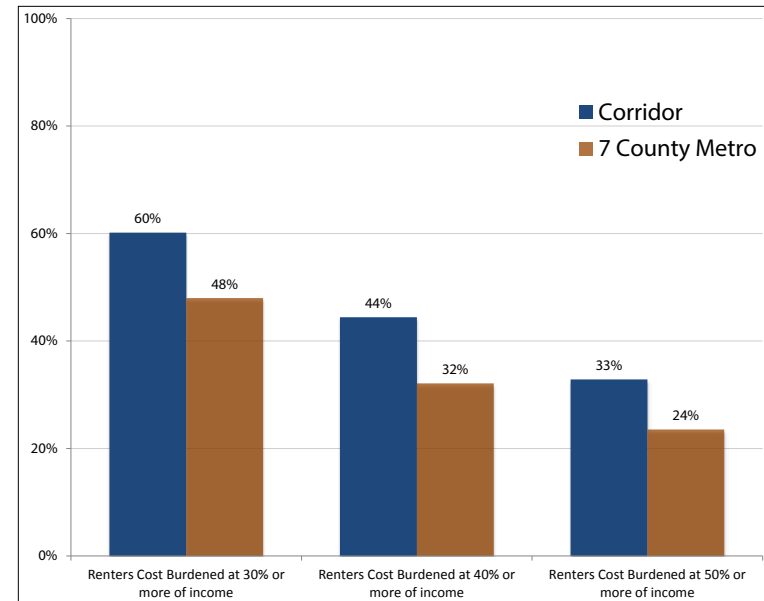
Many Bottineau households spend a very high percentage of their incomes on housing.

Figures to the right show that many households in both the Bottineau Corridor and the metro pay much more than 30% of their income for housing. Bottineau Corridor households are more likely than metro area households to pay more than 30%, 40%, and 50% of their income for housing. This is especially true for renters in the corridor.

More than 40% of renters spend greater than 40% of household income on housing; over 30% of renters spend over half their income on housing. Homeowners are less likely to face such high levels of cost burden, but it is still troubling that nearly 20% of Bottineau homeowners spend more than 40% of their income on housing.

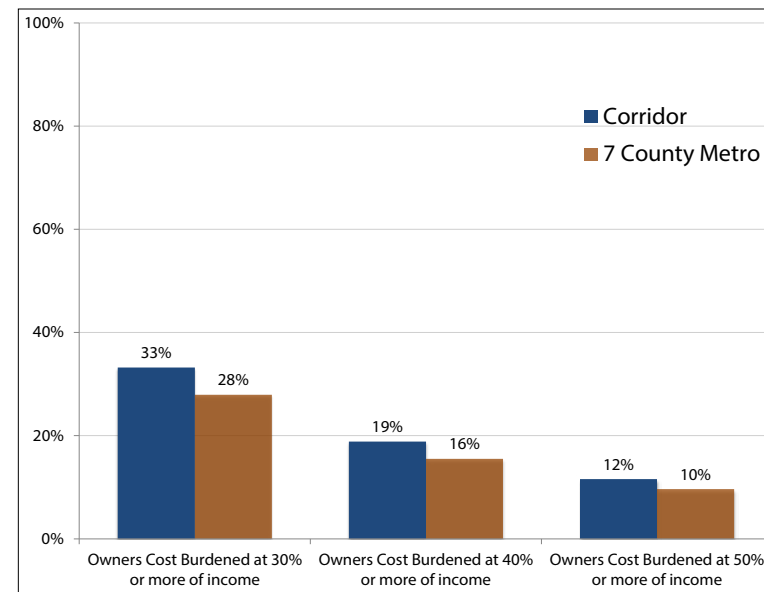
These statistics demonstrate that cost burden issues are particularly severe for many Bottineau households.

Figure 4: Cost Burdened Renters by Degree of Cost Burden



Sources: 2008-2012 ACS, Social Explorer

Figure 5: Cost Burdened Homeowners by Degree of Cost Burden



Sources: 2008-2012 ACS, Social Explorer



HOUSING MARKET SUPPLY AND DEMAND ANALYSIS

An analysis of housing supply and demand reveals why cost is an issue for households in the Bottineau Corridor—particularly for low-income households and renters. Significant mismatches exist between supply and demand that force low-income households to pay more than they can afford for housing. To produce our analysis, housing units are grouped into supply submarkets, based on price and tenure (rented or owned). Demand is compared with supply by pairing consumer groups of renters and owners (demand) with the supply of housing within submarkets considered attainable to those households without exceeding conventional definitions of housing cost burden. These comparisons generate shortage and surplus statistics that serve as a relative measure of the tightness of housing submarkets. More information on the methodology is in the callout box to the right.

There is not enough housing available for very low-income households, forcing them to purchase mid-priced housing that is unaffordable for them.

There is a shortage of housing affordable for low-income households in the Bottineau Corridor. Because low-income households face similar shortages of housing in the broader metro area, there are not adequate options for the very low income in the corridor even if they seek housing elsewhere in the region. The tightness in the market for housing affordable for these households would be expected to drive prices up within low-priced submarkets and force households to seek less affordable housing in mid-priced submarkets, increasing households' cost burden.

- For 1,893 renter households earning less than \$10,000 per year in the Bottineau Corridor, there are only 861 units that would be considered affordable at 30% of household income or less. This is a shortage of 1,032, or 55% of these households.⁵
- Similarly, there is a 1,480 unit shortage of housing for renter households earning \$10,000 to \$19,000 per year. This shortage is 68% of households within that income range.
- A smaller but still substantial shortage of ownership housing exists for households earning less than \$24,999 per year (about a 250 unit shortage for 1,900 households). However, many of these households may not be adversely affected by a shortage, because they may be elderly households living on social security or other fixed income sources. High-income households are placing added pressure on mid-priced housing in the Bottineau Corridor

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For detailed statistics, please see Appendix 3.

HOUSING MARKET ANALYSIS METHODOLOGY & TERMS

Demand is compared with supply by pairing consumer groups of renters and owners (demand) with the supply of housing within submarkets considered attainable to those households without exceeding conventional definitions of housing cost burden (30% of income). By subtracting supply from demand within each pairing, it is possible to assess the degree to which the distribution of housing prices matches the purchasing power of consumers. The purpose of this analysis is to provide a measure of the relative tightness of submarkets in the Bottineau Corridor in comparison to the 7-county metro.

Submarket: An independent unit of the broader housing market within which consumers with certain preferences and income levels seek housing. Submarkets are defined by price (an indicator of quality) and tenure (rental versus ownership housing).

Supply: The number of housing units available within each submarket.

Demand: The number of consumers (households) living in the study area, broken out into categories according to income level and tenure (renters versus owners).

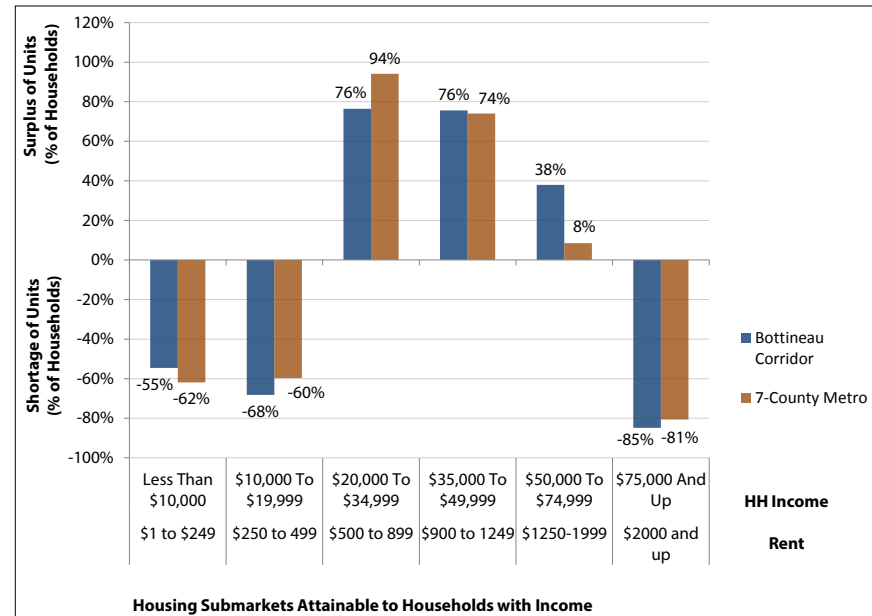
A shortage of housing exists when the number of households paired with a given submarket exceeds the supply of housing in that submarket. A surplus of housing exists when the number of households is less than the number of housing units in the paired demand group and submarket.

Note: The terms shortage and surplus have less meaning for higher priced submarkets because high-income households are not constrained by price. Such households may purchase housing submarkets with lower prices than the submarket they are paired with. A detailed discussion of the methods used to produce this analysis is included in Appendix 3.

A shortage of expensive housing in comparison to the number of high-income renters and owners who could afford it places additional pressure on mid-priced housing submarkets. In particular, the data suggest that high-income homeowners tend to live in lower priced housing in the Bottineau Corridor than in the 7-county metro.

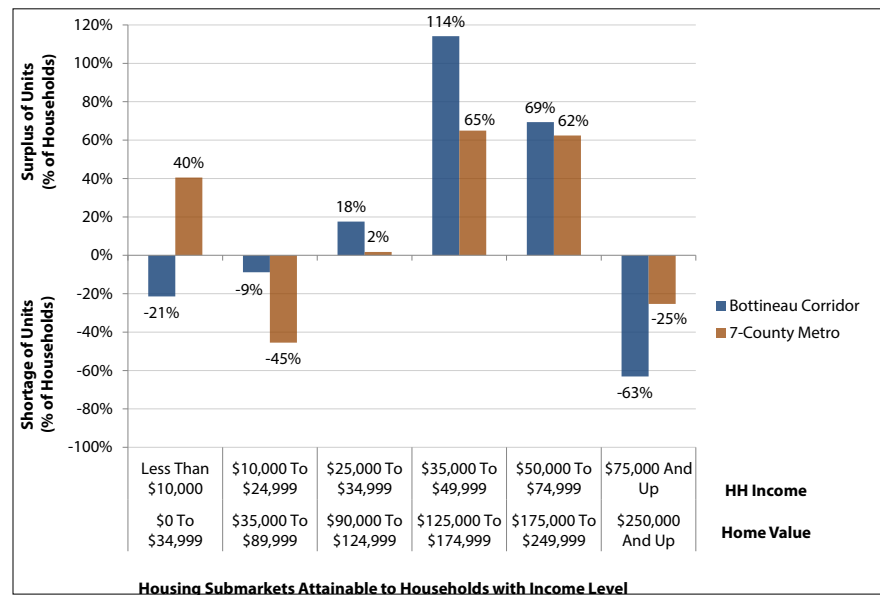
- In the corridor, there are 113 rental units priced above \$2,000 per month, and 745 renter households earning more than \$75,000 per year that could feasibly afford those units. This shortage of 632 units represents 85% of households within this income range. A shortage of similar magnitude exists for renter households earning more than \$75,000 in the metro.
- There are 3,256 homes with value greater than \$250,000 that could be considered attainable for 8,825 households earning more than \$75,000 per year without exceeding cost burden thresholds. This shortage of 5,569 units represents 63% of households earning more than \$75,000. The metro shortage is only 38%, suggesting that metro households earning more than \$75,000 tend to purchase more expensive housing than Bottineau Corridor residents. This could be due to wider variation in the income of owner households earning more than \$75,000 in the metro in comparison to corridor residents.

Figure 6: Rental Unit Surplus & Shortage by Submarket



Source: American Community Survey 2008-2012; Social Explorer (2014); Freddie Mac (2014); American Housing Survey (2011)

Figure 7: Owner Occupied Surplus & Shortage by Submarket



Source: American Community Survey 2008-2012; Social Explorer (2014); Freddie Mac (2014); American Housing Survey (2011)

The surplus of mid-priced housing in the corridor reflects that demand by lower income and upper income households is being met by housing that is more and less expensive, respectively, than what is attainable for those households.

The surplus of homes valued \$125,000 to \$249,999 and rental units with gross rent \$500 to \$1,999 suggests that landowners are maintaining the existing housing stock rather than allowing it to decline in quality to become affordable for lower income households. This trend is particularly pronounced for homes valued \$125,000-\$174,999, and suggests thrifty decision-making among upper and middle-income households choosing to locate in the Bottineau Corridor.

- In the corridor, there are 6,170 homes valued \$125,000-\$174,999 available for 2,881 households earning \$35,000-\$49,999 per year. This represents a 3,289 unit surplus, which is 114% of the households within this income range—much larger in magnitude in comparison to the 65% surplus at the metro area level.
- This indicates that in the Bottineau Corridor, many higher income households are choosing to purchase housing that is relatively less expensive than what similar households tend to purchase elsewhere in the region. Rather than moving to newer, higher priced housing, many high-income households living in the Bottineau Corridor do so in order to meet their preferences for lower priced housing. Instead of moving out and moving up, they stay in their homes and maintain them, reducing the ability of natural filtering processes to provide affordable ownership housing to lower income households.

DEMOGRAPHIC AND HOUSEHOLD ANALYSIS

The housing market analysis begins to illuminate why cost burden is an issue for many households in the Bottineau Corridor. However, the comparisons of income groupings to housing submarkets in the housing market analysis above are relatively arbitrary. While the analysis helps us to see general mismatches between supply and demand characteristics, it is little more than a comparison between two distributions—housing prices and incomes. Additional analysis is needed in order to more fully understand why cost is an issue for many households in the Bottineau Corridor. This portion of the report explores characteristics of the corridor population and households that contribute to cost burden and vulnerability to housing cost. The statistics explored reinforce the notion that housing cost is a serious issue for many of the residents of the Bottineau Corridor.

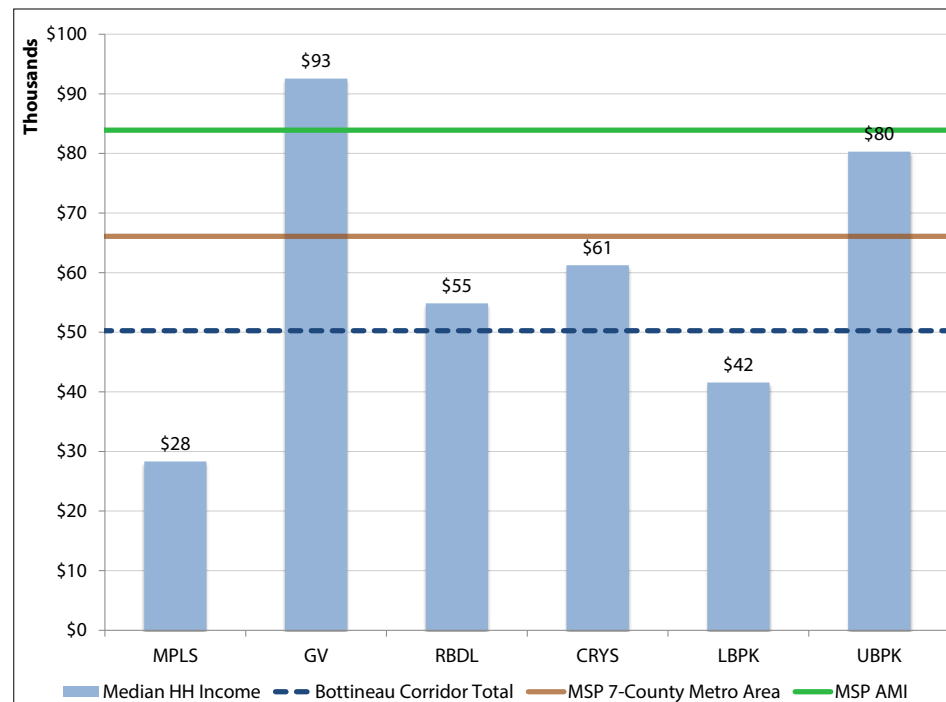
Although some communities in the Bottineau Corridor have affordable housing based on regional metrics, income for most families in the corridor is low enough to justify increasing the supply of affordable units. Affordability in the Bottineau Corridor should be defined with respect to resident incomes.

In comparison to metro area residents, Bottineau Corridor households have lower incomes and are more likely to live in poverty. As a result, residents who currently live in the corridor face difficulties paying for housing. This is true even though corridor residents benefit from somewhat lower housing costs than they may face in other parts of the metro.

The median income for Bottineau Corridor households is only \$50,000, compared with the \$66,000 for the metro. There are also large income disparities within the corridor. Minneapolis and Lower Brooklyn Park households have the lowest incomes, and Upper Brooklyn Park and Golden Valley are the only sections

with median income above the metro. The household Area Median Income (AMI) reported by the United States Department of Housing and Urban Development (HUD) for the 13-county Minneapolis-St. Paul MSA is much higher than the corridor median, at \$83,900 per year. It is also higher than the 7-county metro median of \$66,000. Golden Valley is the only section with a median income above the \$83,900 AMI. Affordability measures which use AMI as reported by HUD are often skewed. Many communities that we spoke with as part of the engagement process viewed their housing as affordable at market rates (based on AMI). However, housing is often not affordable for the population living in the corridor. Our conversations with housing and neighborhood advocates who live and work in the corridor generally support this point. They believe that the AMI is simply not a helpful metric for determining affordability when incomes in the corridor are so much lower.

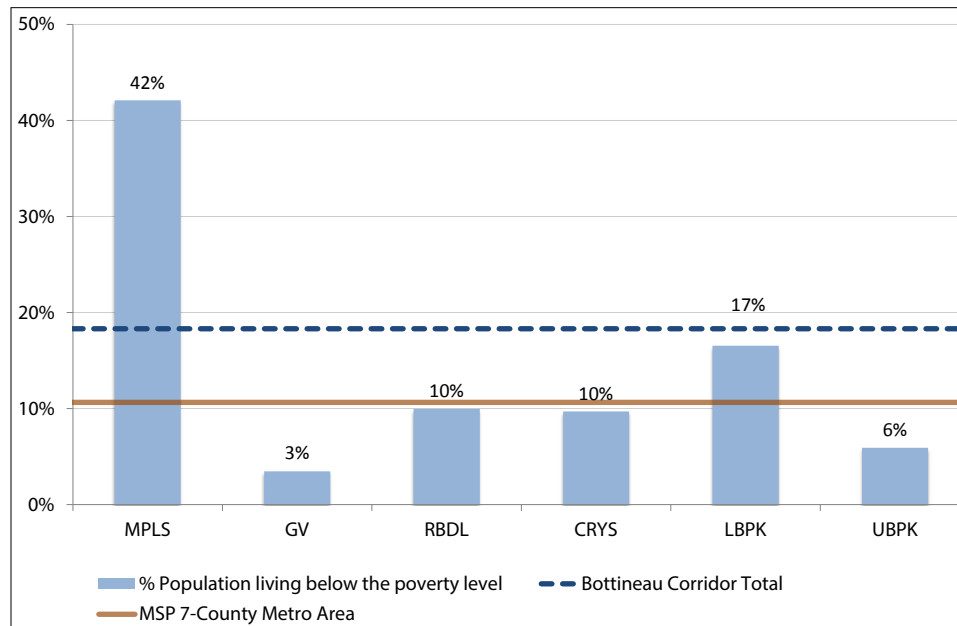
Figure 8: Median Household Income



Source: 2008-2012 ACS, Social Explorer

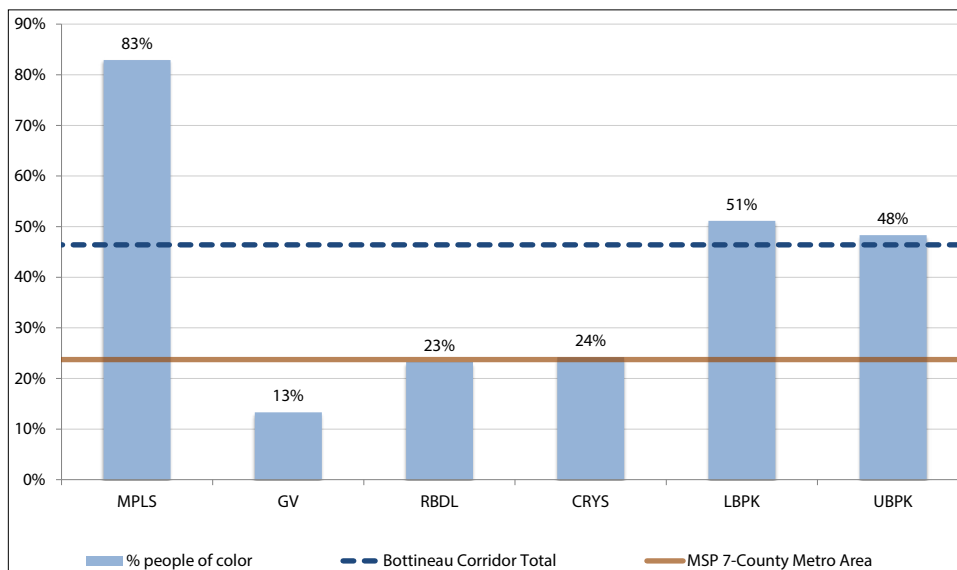


Figure 9: Poverty Rates



Sources: 2008-2012 ACS, Social Explorer

Figure 10: Percent Persons of Color



Sources: 2008-2012 ACS, Social Explorer

Even if AMI is used as an affordability threshold, there is still a great need for affordable housing based on the corridor median income. At about \$50,000, Bottineau Corridor median household income is less than 60% of AMI (\$83,900). This means that half of all Bottineau Corridor households earn less than 60% of the AMI reported by HUD—low enough to qualify for many subsidized housing programs. In specific locations along the corridor, median income is much lower. In Minneapolis, it is only 35% of AMI, and in Lower Brooklyn Park, it is less than 50% of AMI.

Bottineau Corridor residents are more likely than metro area residents to live in poverty. Most corridor residents in poverty live in the Minneapolis and lower Brooklyn Park section. There is also a geographic relationship between race and poverty in the corridor.

The poverty rate for the Bottineau Corridor is 18.3%, which is much higher than the 10.6% poverty rate for the 7-county metro area. This statistic is largely due to a very high poverty rate (42%) in the Minneapolis section of the corridor. The lower section of Brooklyn Park also has a high poverty rate (16.5%) compared to the metro. All other sections of the corridor have poverty rates at or below the metro area poverty rate.

There is a geographic relationship between race and poverty in the corridor. In addition to a higher poverty rate, the Bottineau Corridor has a higher percentage of people of color than the metro. Only about 20% of metro area residents are of color; compared with nearly 45% of Bottineau Corridor residents. The Minneapolis and lower Brooklyn Park station sections have the highest percentages of people of color and also have the highest poverty rates.

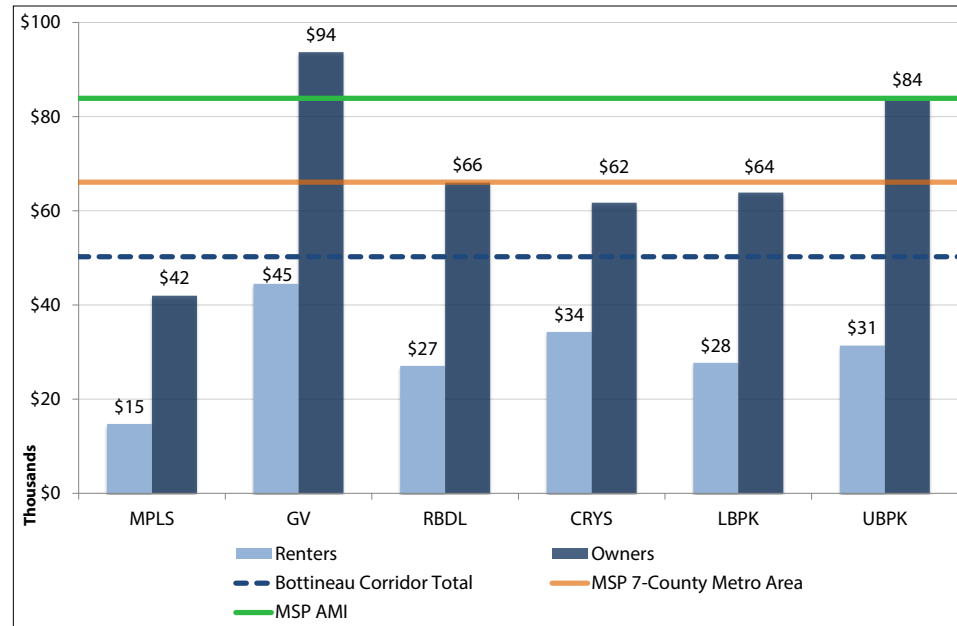
These facts suggest that people of color in the Minneapolis and lower Brooklyn Park corridor sections may be particularly sensitive to housing cost increases. High cost burden rates for these sections suggest there is not enough affordable housing for corridor residents living in poverty.

Bottineau Corridor renters have much lower incomes than corridor homeowners. This contributes to high levels of cost burden for corridor renters.

Relative to homeowners, renters have much lower incomes. The median income for renters in the Bottineau Corridor is lower than for the metro area. Given the disparity between renters and owners in the corridor, it is clear that renters are much more likely than owners to have difficulties paying for housing. By contrast, the data imply that moderate and middle-income families have chosen to take advantage of moderately priced homeownership opportunities in the corridor. The major exception to this trend is in the Minneapolis section of the corridor. Minneapolis homeowners have a much lower median income (just over \$40,000) than any other section of the corridor.

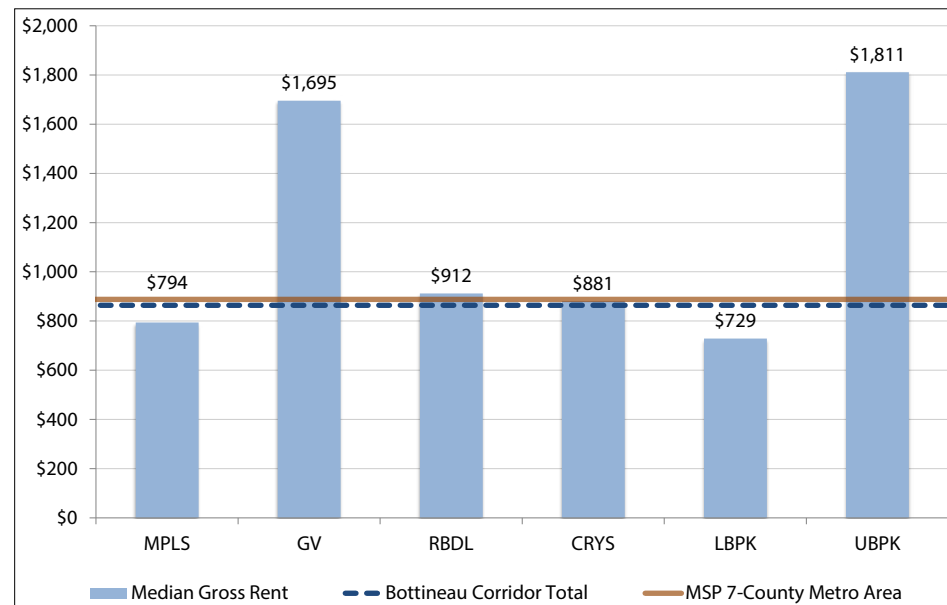
Median rents for the Bottineau Corridor are comparable to the rest of the metro, but vary widely among communities. Minneapolis and Lower Brooklyn Park have the lowest rents, but these communities still have affordability problems. This is because renters in these communities have very low incomes. This means that these households will face cost burden, although their housing costs may be somewhat lower than elsewhere in the metro.

Figure 11: Median Household Income by Tenure (Thousands)



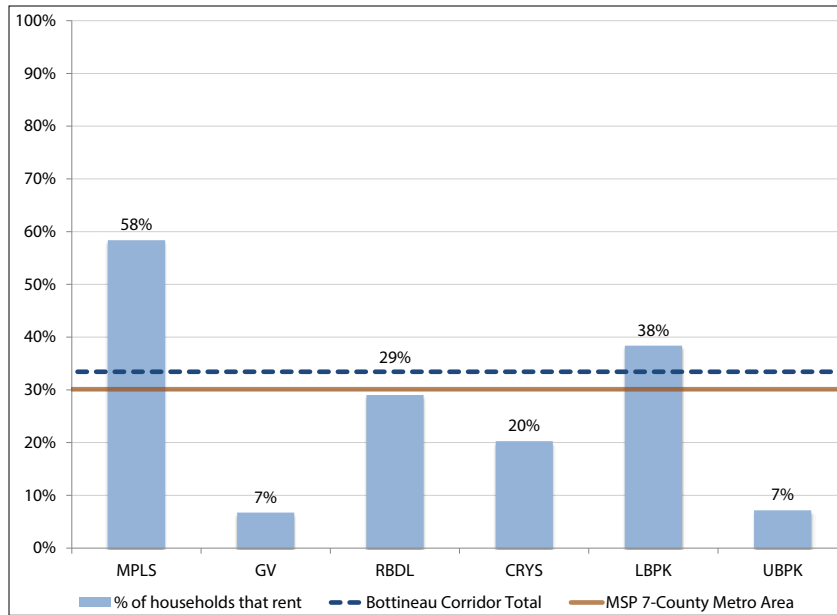
Sources: 2008-2012 ACS, Social Explorer

Figure 12: Median Rent



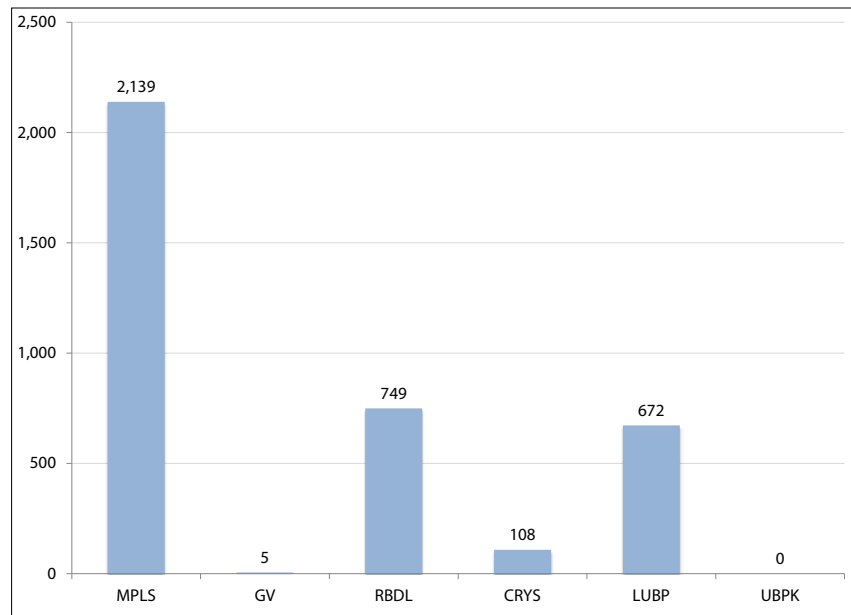
Sources: 2008-2012 ACS, Social Explorer

Figure 13: Percent of Households who are Renters



Sources: 2008-2012 ACS, Social Explorer

Figure 14: Publicly Subsidized Units



Source: HousingLink.org "streams" database of publicly subsidized housing units

Bottineau Corridor households are somewhat more likely to rent than metro area households. As shown above, rental housing in the corridor is not affordable for many residents, creating a need for subsidized housing in the corridor. The corridor sections with the most subsidized units still have high levels of cost burden – suggesting there is not enough affordable housing in the corridor to meet the needs of corridor households.

As mentioned earlier, more than 80% of low-income renters in the Bottineau Corridor (renters in income brackets making less than \$35,000 per year) are cost burdened. Most corridor renters live in the Minneapolis, Lower Brooklyn Park, and Robbinsdale sections. There are very few rental opportunities in the Upper Brooklyn Park, Golden Valley and Crystal sections. Households that rent in the corridor are likely to be vulnerable to future increases in land value. Any increase in rent will create additional cost burden for households.

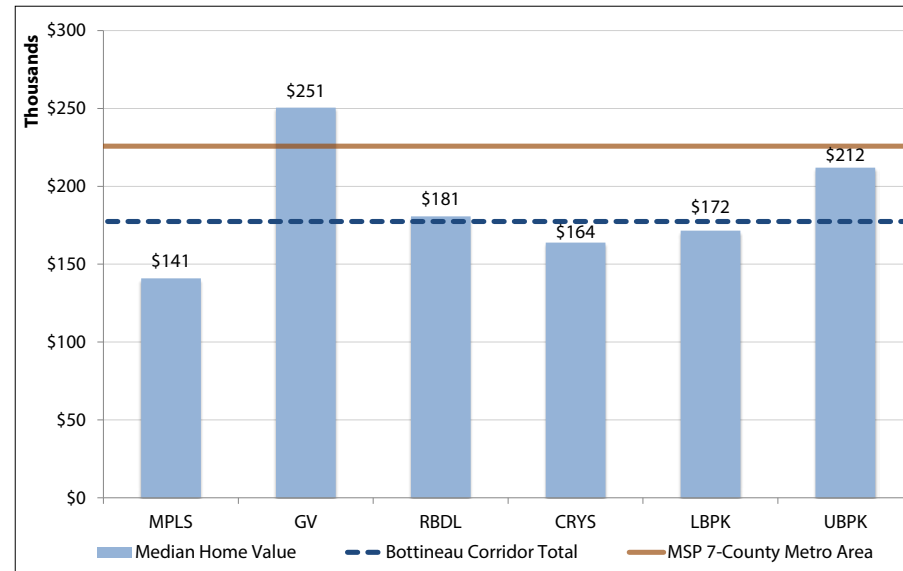
The data also suggest there is not enough subsidized housing in the corridor to meet need. Data from HousingLink shows that there are currently 3,673 subsidized affordable units in the corridor. The majority of subsidized units in the corridor are located in the Minneapolis, Robbinsdale, and Lower Brooklyn Park sections. Even though it may seem like there are a lot of subsidized units in these communities, renters in these corridor sections are very likely to be cost burdened. Specifically, 64% of Minneapolis and lower Brooklyn Park renters, and 50% of Robbinsdale renters are cost burdened. The Golden Valley and Upper Brooklyn Park sections of the corridor have hardly any subsidized housing opportunities, and Crystal has a relatively low number of opportunities. Overall, it is clear that there are not enough public subsidies to meet need in the corridor.

In addition, subsidies from agencies such as Housing and Urban Development (HUD) and the Minnesota Housing Finance Agency (MHFA) only preserve affordability for a limited period of time. An example is tax credits, which require units be kept affordable for 15 years. Data from Housing Link shows that 634 housing units will have at least one funding source expire between 2014 and 2020. This could jeopardize future affordability of these units.

Despite somewhat lower home values than the metro area, home price points in the corridor are high enough to make homeownership either impossible or costly for low and moderate income households.

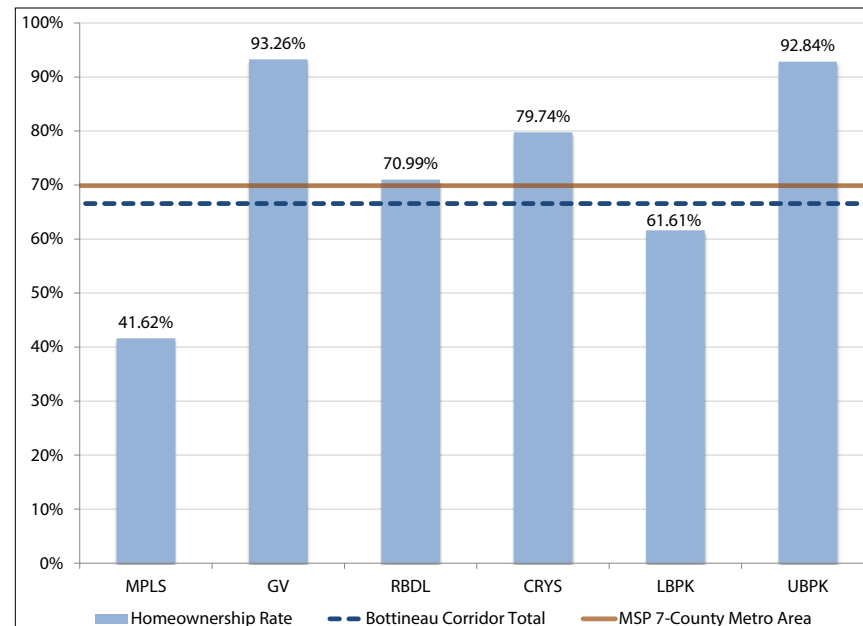
When the reference point is the metro area, homeownership in the Bottineau Corridor appears relatively affordable. However, price points still exclude most low-income families from homeownership. The Minneapolis and Lower Brooklyn Park sections have lower homeownership rates than the metro. This is because residents of these communities tend to have lower incomes and cannot afford the up-front costs associated with homeownership. Many of these families may be forced to pay inflated rents for low quality housing, contributing to high rates of cost burden in the corridor. Cost burden is also very common for low and moderate income families who do own homes in the corridor. As mentioned earlier, 53% of households that own homes and have incomes below \$75,000 are cost burdened. This represents more than 6,000 low and moderate income households that struggle to pay for housing costs. Clearly, the Bottineau Corridor is not an affordable place to own a home for many people that live there.

Figure 15: Median Home Value



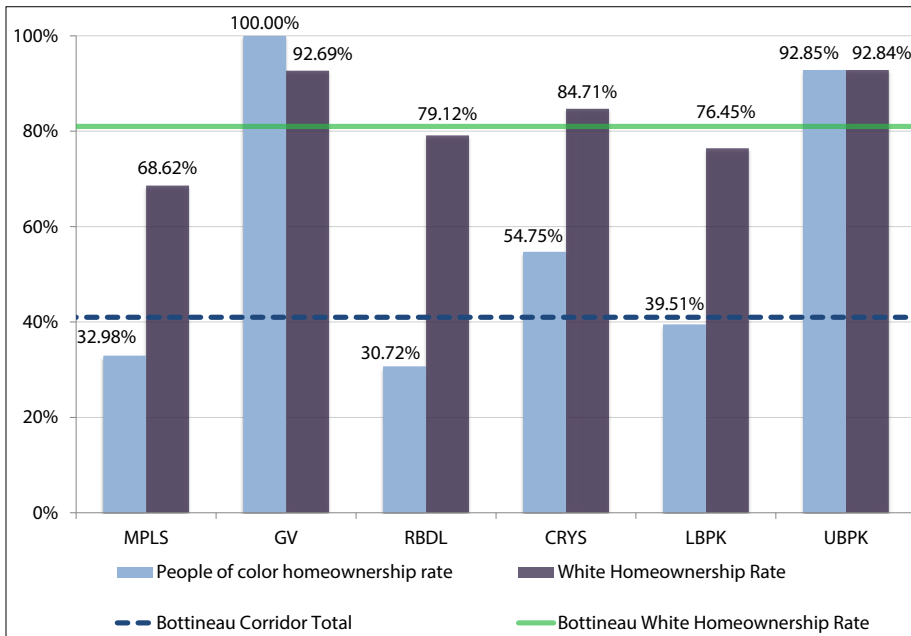
Sources: 2008-2012 ACS, Social Explorer

Figure 16: Homeownership Rate



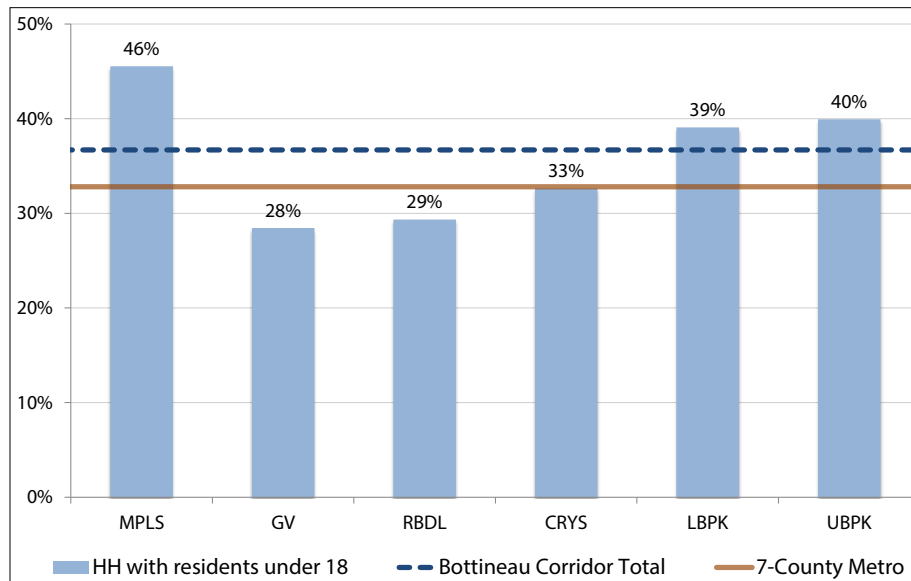
Sources: 2008-2012 ACS, Social Explorer

Figure 17: Homeownership Rates by Race



Sources: 2008-2012 ACS, Social Explorer

Figure 18: Homeownership Rates by Race



Sources: 2008-2012 ACS, Social Explorer

Large population subgroups in the corridor face additional housing challenges. First, persons of color who live in the Bottineau Corridor (and make up more than 40% of the corridor’s population) are particularly vulnerable to changes in the housing market. In addition, corridor households with school-aged children may face particular challenges meeting their housing preferences without taking on cost burden.

The homeownership rate is only 41% for households of color, compared with 81% for white households. The largest disparities are for the Minneapolis, Robbinsdale, Crystal and Lower Brooklyn Park sections. Given this disparity, rising property values in these areas would disproportionately benefit white homeowners. This is because homeowners can build additional home equity when their property values rise. Renters, on the other hand, are likely to face increased monthly housing costs as a result of appreciation.

Households with school-aged children have different housing preferences than households without children, and this can constrain their housing options. Corridor households are more likely to have children than typical metro area households. These households may require larger housing units, such as single-family homes (rental or ownership) or 2-3 bedroom apartments. These residents may also have stronger preferences for quality schools and community safety than residents without children. These needs further constrain housing options. For example, a household with children may choose to spend more on housing to have a backyard for their kids to play in, or to live in a safe neighborhood. The same household would be less likely to live in a one bedroom subsidized unit. Thus, low and moderate incomes households may take on cost burden to meet preferences that higher income households take for granted.

Table 3: Subsidized Affordable Units by Corridor Section

Unit Type	Mpls	GV	Rdale	Crystal	LBPk	UBPk	Total
Studio	87	0	3	0	0	0	90
1BR	880	5	442	20	56	0	1,403
2BR	592	0	183	48	75	0	898
3BR	231	0	72	0	14	0	317
4BR	50	0	0	0	0	0	50

Source: HousingLink available data for 2,758 units; unit type for some units n/a

Table 3 above suggest that subsidized housing options in the corridor may not meet preferences of larger households. As mentioned above the corridor has a higher percentage of households with school aged school children than the metro. According to HousingLink’s streams dataset, more than half of subsidized units in the corridor are 1 BR or smaller. These units are unlikely to be suitable for households with children. Less than 15% of units in the dataset (367) have 3 or more bedrooms. The implication is that there is a lack of affordable housing options for larger families. High levels of cost burden in Minneapolis and Robbinsdale, the communities with the most subsidized units, suggest that even these communities do not have enough suitable options for larger households who want to live in the corridor.

SECTION 1 SUMMARY

Cost burden is an issue for many Bottineau Corridor residents, including moderate income households. Of 30,212 corridor households, 12,754 (42%) are cost burdened, compared to 34% of metro households. While it is not surprising that very low-income households are extremely likely to face cost burden, many moderate-income households also struggle to pay for housing. More than half of homeowners and more than 40% of renters earning \$35,000-\$50,000 are cost burdened. Nearly 40% of

homeowners earning \$50,000-\$75,000 are cost burdened. Despite lower housing costs than the metro area, corridor residents are more likely to be cost burdened than metro residents at 30%, 40%, and 50% of household income, for both renters and owners alike.

The shortage of housing options affordable for low and moderate income households contributes to cost burden. Submarkets for rental and ownership housing considered attainable for households earning less than \$25,000 annually are tight. Because these households lack affordable options, the price of housing that might be affordable to them is bid upward, and many households are forced to seek housing in higher priced submarkets. In addition, higher income households tend to live in mid-priced housing in the Bottineau Corridor, which increases competition for such housing. This may slow down the filtering of mid-priced housing into lower-priced submarkets, particularly for ownership housing. The surplus of homes in the \$125,000 to \$175,000 price range may present an opportunity for organizations such as community land trusts to invest in the creation and preservation of housing affordable for low and moderate income households.

Demographic characteristics of the Bottineau Corridor support the conclusion that cost burden is troublesome for substantial populations. Corridor residents have much lower incomes and the corridor has a much higher poverty rate than the 7-county metro. Housing cost is an issue for renters and homeowners alike, even in areas where housing costs are lower. While the cost of owning a home is much less in the Minneapolis and Lower Brooklyn Park sections of the corridor, the homeownership rate is lower in those sections as well—particularly in Minneapolis. Although there are wide variations in renter incomes, with the lowest incomes in Minneapolis, Robbinsdale, and Brooklyn Park, gross rents are not low enough to match lower renter incomes in those areas.

Particular populations exhibit disproportionate vulnerability to changes in housing cost. The next section of this report will explore the role of neighborhood change as it relates to increases in housing prices over time. It is important to be cognizant of what the data say about who is vulnerable to such changes and where they live. With significantly lower incomes, higher cost burden rates, and more susceptibility to price fluctuations, renters are vulnerable to future increases in housing prices. Because people of color are much less likely to be homeowners, vulnerability to changes in housing price is strongly correlated with traditionally marginalized populations. Households with school-aged children are likely to have a higher demand for larger, more expensive housing, all else equal. Given that poverty rates and cost burdens are highest in the Minneapolis and Lower Brooklyn Park sections of the corridor, higher than average household sizes in these sections may create additional burden on families struggling to make ends meet. Low-income families with children are already stretched thin, and any change in the cost of housing can have severe ramifications for their quality of life (see Section 2).

SECTION 2: NEIGHBORHOOD CHANGE IN THE BOTTINEAU

A CORRIDOR UNDER DEVELOPMENT PRESSURE

Building on the previous section that details the current housing and demographic realities in the corridor, this section will explore change over time in order to identify how neighborhoods in the corridor are exposed to various types of development pressure that could contribute to increases in housing prices. Specifically we analyze correlations between demographic changes and increases in housing values. We use this analysis to show where development pressure caused by increasing demand could make housing less affordable in the corridor. In addition, we look at how these changes could affect vulnerable populations including: cost-burdened households, people of color, and low-income households.

The most important findings are below:

- Most of the corridor faces some form of development pressure due to trends in neighborhood change over time.
- Development pressure is concentrated in the southern portion of the corridor in Minneapolis, Robbinsdale, and Crystal, and appears to be strongest close to downtown Minneapolis. A significant number of Lower Brooklyn Park residents are also exposed to development pressure.
- Vulnerable populations, including cost-burdened households, people of color, and low-income households, are disproportionately exposed to development pressures that could cause housing costs to rise.
- Even though transit investments can be a boon for property values, it is important to examine possible unintended consequences for traditionally under-represented and vulnerable populations in order to ensure that the very people who could most benefit from the Bottineau Transitway are not priced out of the corridor.



Photo Credit: David Davies, 2014.

EXAMINING NEIGHBORHOOD CHANGE OVER THE PAST DECADE

In order to understand how cycles of neighborhood change could affect housing prices in the Bottineau Corridor, we created a tool called the **Neighborhood Change Index (NCI)**. The NCI uses census variables to track changes in neighborhood characteristics over time.

NCI VARIABLES

The following variables were included in the Neighborhood Change Index and track how they changed between 2000 and 2012.

- Median Household Income
- Percent of the population that had a Bachelor's Degree or higher
- Median Home Value

Research suggests that upward pressure on housing prices in less affluent neighborhoods can be caused by increasing demand from higher income and more highly educated households (Kiersten 1990; Bates 2013). Using US Census and American Community Survey (ACS) data from 2000 and 2012, we tracked trends in demographics and housing prices at the neighborhood level in comparison to regional changes in the same variables. Assuming that past trends continue into the future, housing prices are expected to rise in neighborhoods where change in education level, household income, or housing price has been greater than regional changes in those variables in the past. Census tracts were categorized based on the types of development pressures that each type of change represents. Tracts were identified as exhibiting pressure when the census tract level percent change in one or more of the above variables rose more than the metro region between 2000 and 2012. We created four categories of census tracts to explain the types of pressure we observed.

TYPES OF DEVELOPMENT PRESSURE

NO PRESSURE - indicates areas not experiencing changes that are greater than regional changes in any of the variables

DEMOGRAPHIC PRESSURE (without price pressure) - indicates areas that exhibit upward price pressure due to increases in education level and/or median household income greater than regional changes.¹

- *Significance- Signals increasing demand from higher-income and higher-educated households, creating future risk for housing price increases.*

PRICE PRESSURE (without demographic pressure) - indicates that the area is experienced rising property values at a greater rate than the region without demographic changes that were larger than regional demographic changes.

- *Significance - Signifies potentially speculative development over the past decade in anticipation of higher future demand by more affluent households.*

PRICE AND DEMOGRAPHIC PRESSURE indicates that over the past decade, changes in demographic and housing price variables were both higher than the regional average.

- *Significance - These areas likely experienced significant redevelopment over the past decade and could begin to exert pressure on neighboring areas. If past trends continue, these areas will continue to increase in affluence and housing price.*

¹ In the case of median household income, inflation-adjusted regional median income declined by 7.8%. Therefore, neighborhoods would be classified as exhibiting upward price pressure if household income in the neighborhood declined by less than 7.8%, or increased between 2000 and 2012.

Tables 4-7: Changes in Variables Making Up the Neighborhood Change Index²

4: Change in Metro Area Variables

	2000	2012	% Change
Pop with Col. Degree	34.8%	40.3%	15.8%
Median HH Income	\$71,696	\$66,091	-7.8%
Median Home Value	\$182,300	\$225,766	23.8%

5: Change in Median Home Value

Corridor Section	2000	2012	% Change
Minneapolis	\$109,559	\$140,864	28.6%
Golden Valley	\$207,281	\$250,500	20.9%
Robbinsdale	\$149,326	\$180,708	21.0%
Crystal	\$143,276	\$163,884	14.4%
Lower Brooklyn Park	\$156,624	\$171,500	9.5%
Upper Brooklyn Park	\$207,966	\$212,000	1.9%
Corridor Total	\$151,032	\$177,408	17.5%

6: College Educated Population

Corridor Section	2000	2012	% Change
Minneapolis	12.4%	18.8%	51.7%
Golden Valley	48.3%	52.3%	8.2%
Robbinsdale	26.3%	37.1%	41.1%
Crystal	17.6%	26.9%	53.0%
Lower Brooklyn Park	20.8%	20.9%	0.4%
Upper Brooklyn Park	38.9%	34.6%	-11.1%
Corridor Total	20.6%	26.3%	27.6%

NCI DATA TRENDS, 2010-2012

The Minneapolis section was the only section where the median home value had a larger percent increase (28.6%) than the metro (23.8%). Although other sections of the corridor showed less significant increases in home value, increases were largest closer to Minneapolis. The smallest percent increase was in Brooklyn Park, suggesting a wave of reinvestment radiating from the urban core and moving outward over time. There are individual census tracts outside of Minneapolis that exhibit greater change in home value compared to the region, even though they are not reflected in the corridor sections.

The proportion of the metro population with a 4-year bachelor's degree or higher increased from 34.8% to 40.3% from 2000 to 2012 (a 15.8 percent change relative to the 2000 figure). Several corridor sections (Minneapolis, Robbinsdale and Crystal) saw greater relative increases in their college educated populations. increased by more than the metro in Minneapolis, Robbinsdale, and Crystal. These changes were quite significant, with the proportion of the population holding a college degree increasing by 41% to 52% in each of those three sections.

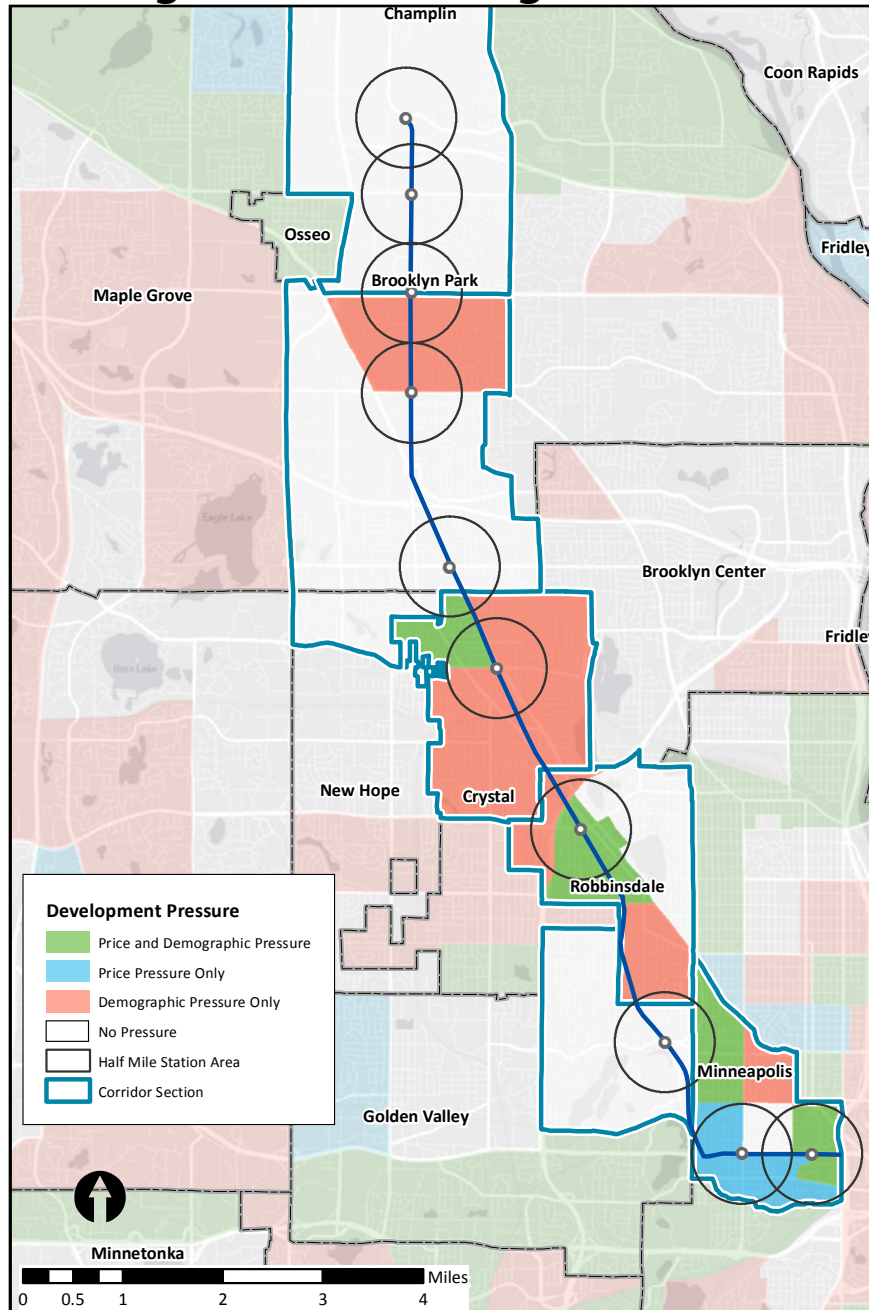
All corridor sections saw larger negative shifts in household income than the metro (-7.8% decrease). With that said, there were individual tracts in each section that did not decrease as much as the metro. This could indicate movement of higher income households into those tracts.

7: Change in Median Household Income

Corridor Section	2000	2012	% Change
Minneapolis	\$37,728	\$28,320	-24.9%
Golden Valley	\$102,714	\$92,540	-9.9%
Robbinsdale	\$66,033	\$54,834	-17.0%
Crystal	\$66,755	\$61,247	-8.3%
Lower Brooklyn Park	\$65,072	\$41,573	-36.1%
Upper Brooklyn Park	\$93,215	\$80,282	-13.9%
Corridor Total	\$59,963	\$50,254	-16.2%

² All monetary figures adjusted to 2012 Consumer Price Index for the Minneapolis-St. Paul region

Neighborhood Change Index (NCI)



Map created by Tony Damiano, 2014.

NEIGHBORHOOD CHANGE INDEX IN THE CORRIDOR

Over half of the station areas are within areas that exhibit development pressure due to neighborhood change, and pressure is most prevalent south of Brooklyn Park.

Our analysis shows that 55% of all corridor households live in areas experiencing above average development pressure over the last decade.³ As shown in the Neighborhood Change Index (NCI) map to the right, most areas with pressure are within and near Minneapolis. Pressure extends northwest through Crystal. The only areas with price pressure alone are in Minneapolis, suggesting spill-over speculation from nearby areas where demographic and price changes have taken place. We believe Minneapolis has the greatest development pressure due to the magnitude of price and education changes in that section (Tables 5-6 on the previous page). Price changes exceed regional price changes near the Minneapolis, Robbinsdale, and Crystal stations; and in the Minneapolis census tract closest to the Golden Valley station. Demographic pressure is present in all corridor sections except Upper Brooklyn Park.

The NCI supports the relationship between development pressure and increased development activity. In addition, areas in North Minneapolis, including the Harrison and Sumner-Glenwood neighborhoods, have recently experienced new construction and development. This may be due to spillover effects from the growth of the warehouse district and Downtown Minneapolis as well as the redevelopment of the Heritage Park community.

Development pressure could increase significantly in the northern station areas as new employers and new development increases demand.

Though much of Brooklyn Park does not show significant development pressure now, it is important to monitor changes in development activity because conditions can change quickly. Large employers like Target are expected to add jobs to Upper Brooklyn Park. This is likely to drive development activity in the near future. There is considerable undeveloped land in the Upper Brooklyn Park section, enhancing its suitability for development.

³ For more detailed statistics, see Appendix 3

WHO IS AFFECTED BY NEIGHBORHOOD CHANGE?

Concerns about displacement due to neighborhood change are often centered on how rail transit might negatively impact low-income residents and minority residents. These populations tend to locate in metropolitan areas with good access to transit (Cervero et al, 2004). If rail transit is to succeed, the people who can most benefit from it need to be able to remain in their neighborhoods; despite escalating housing prices and other neighborhood changes (Pollack et al, 2010).

Neighborhood change in areas experiencing increased transit investment often includes rising levels of affluence and rising housing prices, but does not always lead changes in racial composition.

It is difficult to say with any degree of precision what demographic changes will take place after the Bottineau Transitway is constructed, or how those changes will affect current residents. Results from a 2010 study of neighborhood change in transit-rich neighborhoods across the United States between the years 1990 and 2000 found that in those neighborhoods undergoing the most significant changes, the housing stock became more expensive, incomes increased, and vehicle ownership became more common. The same study did not find significant racial changes within transit-rich neighborhoods (Pollack et al, 2010). Other studies have found that in redeveloping neighborhoods, the population tends to become wealthier and whiter over time (Freeman, 2005).

Neighborhood changes rarely results in forced displacement. It is important to consider quality of life impacts on households that remain in place despite increased housing costs.

Displacement, or the forced relocation of neighborhood residents due to rising housing prices, is often cited as a fear related to rising property values and changing neighborhood demographics. In reality, displacement does not always take place. Research shows that neighborhood change in redeveloping neighborhoods is typically driven by changes in the types of people moving in, and that forced displacement plays an insignificant role (Freeman, 2005). Thus, neighborhoods undergoing demographic and price pressure are likely to change in many ways that have a real impact on quality of life, housing affordability, and demographics. These changes are not likely to displace current residents. This is not to dismiss

concerns about potential increases in housing cost. Because low-income households tend to remain in their neighborhoods when prices begin rising, neighborhood change is particularly concerning. To the extent that low income households value remaining in place, it is necessary to understand how they will be affected by increasing housing costs.

Vulnerable populations living in areas experiencing increased development pressure must be identified in order to reduce the impact of rising housing prices in the future.

Since low-income populations may not be forcibly displaced from neighborhoods that experience increased housing costs, it is particularly important to identify to what extent they are exposed to development pressures. The analysis from Section 1 of this study identifies several sub-populations that will be particularly vulnerable to housing cost increases should prices rise due to neighborhood change related to transit investment. Using the results of the NCI, this section of this report analyzes vulnerable populations in the context of existing development pressures.

Vulnerable populations examined in this analysis include:

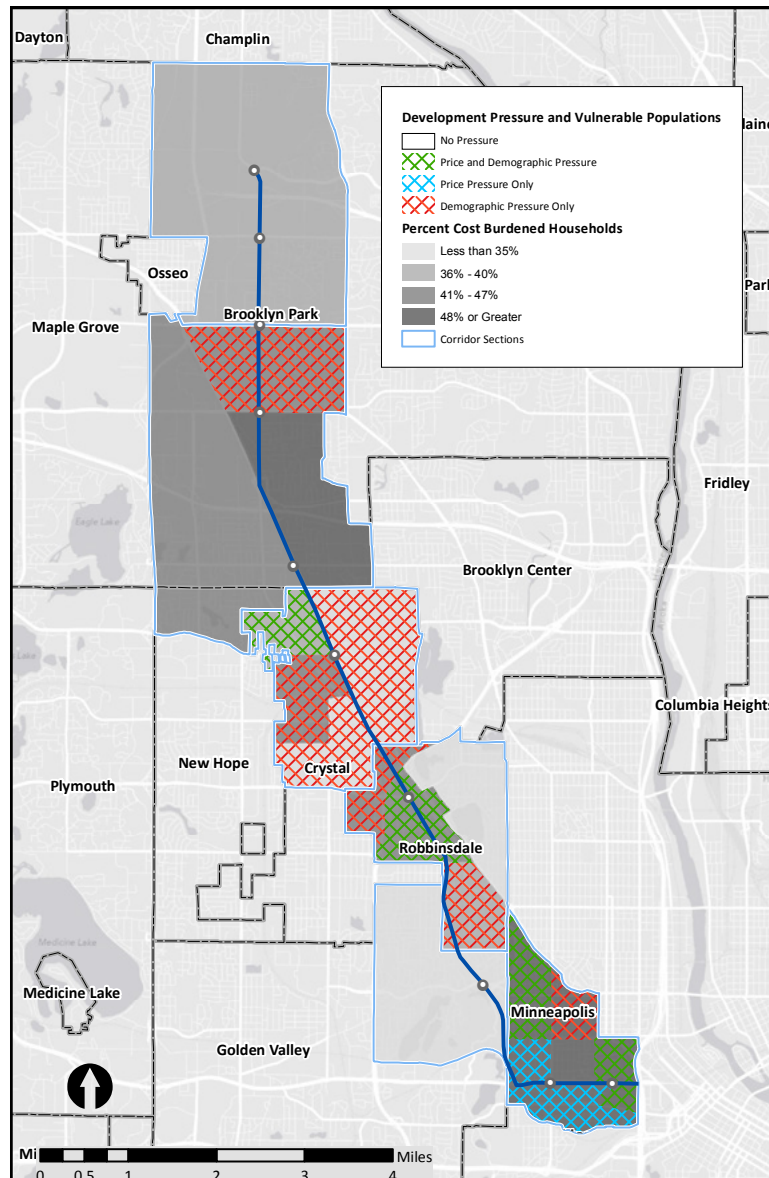
- **Cost burdened & low income households:** Housing cost burden is a significant issue for both renters and home-owners with low and moderate incomes. Cost burden is defined as households paying more than 30% of household income on housing. Low and moderate income households are those earning less than 185% of the Federal Poverty Level for a family of four (\$42,643 in 2012, reported in 2012 dollars).⁴
- **People of color:** In order to avoid repeating past injustice, historically marginalized populations warrant particular consideration. In addition, people of color are less likely to own homes than whites; as such, people of color are more likely than whites to be displaced or burdened by rent increases

Cost burdened households in parts of the Minneapolis, Robbinsdale, Crystal, and Lower Brooklyn Park sections are facing development pressure due to neighborhood change.

The map to the left and the corresponding table below highlight the impacts of neighborhood change on cost burdened households over the past decade. Of the 12,754 cost burdened households living in the Bottineau Corridor, 6,937 (54%) live in an area facing some type of development pressure.

⁴ 185% of FPL is the definition of poverty used by the Metropolitan Council.

COST BURDENED HOUSEHOLDS & NEIGHBORHOOD CHANGE INDEX



Map created by Tony Damiano, 2014.

The highest percentage of cost burdened households exposed to development pressure live in Minneapolis (where 88% of cost burdened households face pressure), Robbinsdale (where 79% of cost burdened households face pressure), and Crystal (where 94% of cost burdened households face pressure). In Minneapolis and Robbinsdale, the primary pressure category is demographic and price pressure together, which affects about 45% of cost burdened households who live in those sections. In contrast, demographic pressure alone is the primary pressure category affecting households in Crystal and Lower Brooklyn Park.

Table 8: Cost Burden Statistics by Corridor Section

Corridor Section	Total Cost burdened HH (N)	Demographic Pressure Only (%)	Price Pressure Only (%)	Demo & Price Pressure (%)	Section Cost Burden HH under pressure (N)	Total (%)
MPLS	3,331	15%	28%	45%	2,916	88%
GV	604	0%	0%	0%	0	0%
RBDL	2,249	35%	0%	44%	1,774	79%
CRTL	1,494	80%	0%	14%	1,404	94%
LBPK	4,393	19%	0%	0%	843	19%
UBPK	683	0%	0%	0%	0	0%
Corridor Total	12,754	26%	7%	21%	6,937	54%

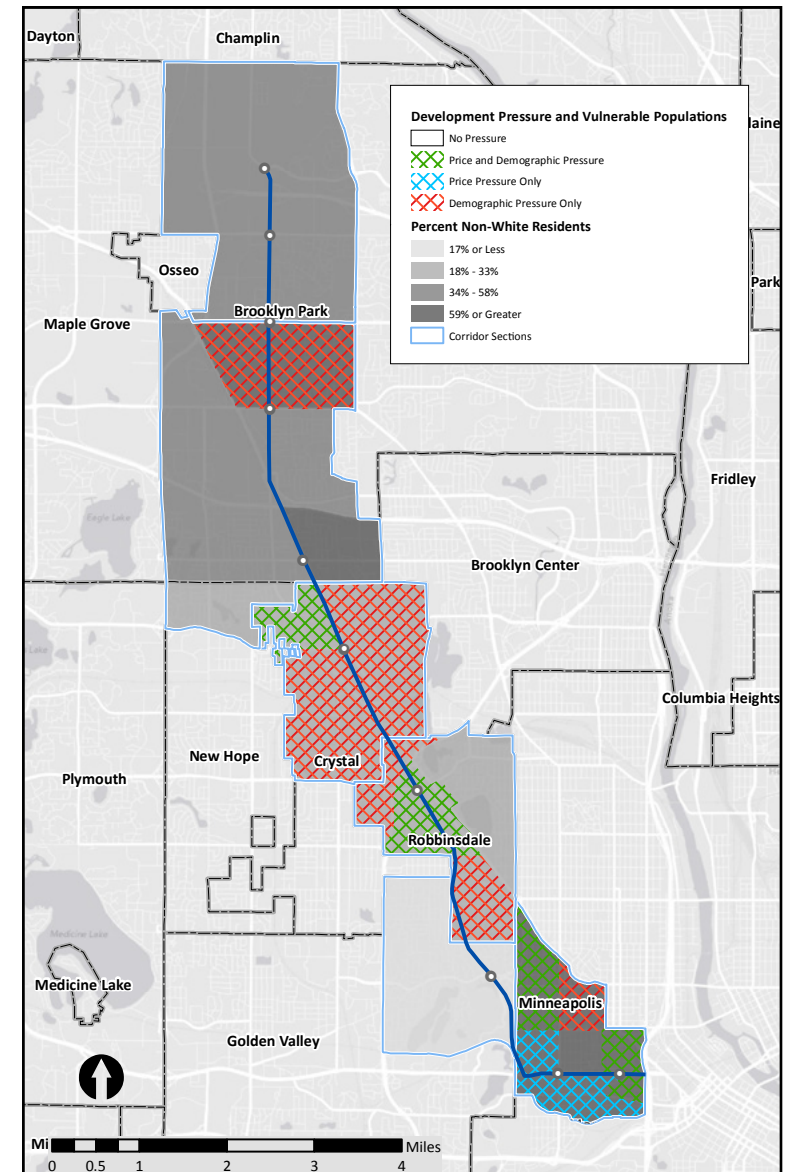
PEOPLE OF COLOR & NEIGHBORHOOD CHANGE INDEX

People of color living in Minneapolis, Robbinsdale, and Crystal are very likely to be exposed to development pressure. Lower Brooklyn Park also has a large population of non-white residents exposed to development pressure.

The exposure of persons of color to development pressures closely mirrors the exposure of cost burdened households to development pressures. Of 36,840 non-white residents living in the corridor, 20,526 (56%) live in an area exposed to some type of pressure. Over half of the corridor's non-white residents exposed to pressure live in the Minneapolis section (11,696). Most persons of color in Robbinsdale (71% of non-white residents) and Crystal are exposed to pressure. The primary pressure type that persons of color are exposed to in Minneapolis and Robbinsdale is demographic and price pressure together, and the primary exposure in Crystal and Lower Brooklyn Park is to demographic pressure alone. Although the percent of non-white residents exposed to pressure in Lower Brooklyn Park is somewhat low (27%), the number of non-white residents (3,499) is higher than in both Robbinsdale (2,330) and Crystal (3,001).

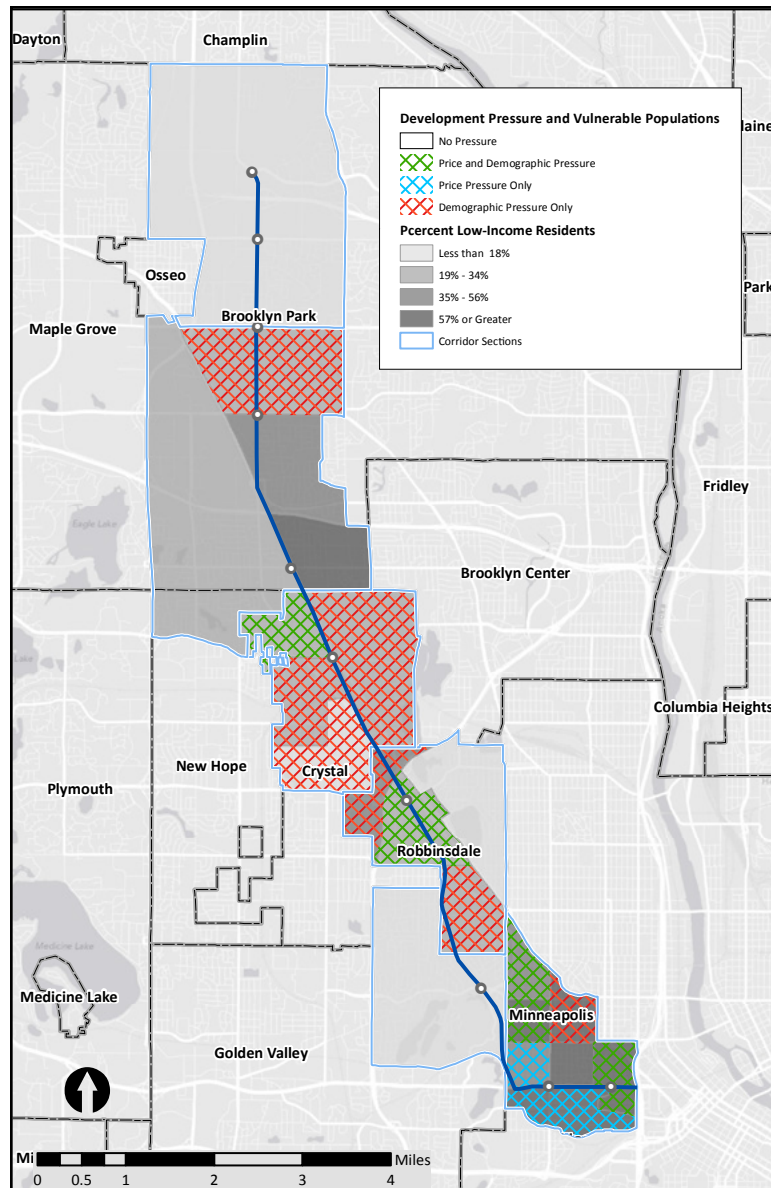
Table 9: PoC Statistics by Corridor Section

Corridor Section	PoC pop (N)	Demographic Pressure Only (%)	Price Pressure Only (%)	Demo & Price Pressure (%)	Section PoC pop under pressure (N)	Total (%)
MPLS	14,403	13%	24%	43%	11,696	81%
GV	666	0%	0%	0%	0	0%
RBDL	3,269	34%	0%	37%	2,330	71%
CRTL	3,001	78%	0%	22%	3,001	100%
LBPK	12,873	27%	0%	0%	3,499	27%
UBPK	2,628	0%	0%	0%	0	0%
Corridor Total	36,840	24%	10%	22%	20,526	56%



Map created by Tony Damiano, 2014.

LOW INCOME HOUSEHOLDS & NEIGHBORHOOD CHANGE INDEX



Map created by Tony Damiano, 2014.

Low income households are disproportionately exposed to neighborhood change pressures in the Bottineau Corridor, particularly in Minneapolis, Robbinsdale, and Crystal; and to a lesser extent in Lower Brooklyn Park.

Of 27,912 Bottineau Corridor residents living in households earning less than 185% of the Federal Poverty Level, 15,938 (57%) are exposed to neighborhood change pressures. The patterns of exposure closely mimic those discussed for cost-burdened households. The highest number of exposed low-income residents live in Minneapolis (8,908), and the highest percentage of low-income residents exposed to pressure live in Crystal (100%).

Table 10: Low Income HH Statistics by Corridor Section

Corridor Section	Low Income HH (N)	Demographic Pressure Only (%)	Price Pressure Only (%)	Demo & Price Pressure (%)	Low income HH Under Pressure (N)	Total (%)
MPLS	11,205	15%	24%	40%	8,908	80%
GV	597	0%	0%	0%	0	0%
RBDL	3,310	39%	0%	38%	2,550	77%
CRTL	2,807	81%	0%	19%	2,807	100%
LBPK	9,516	18%	0%	0%	1,673	18%
UBPK	477	0%	0%	0%	0	0%
Corridor Total	27,912	25%	10%	23%	15,938	57%

SECTION 2 SUMMARY

Research suggests that upward pressure on housing prices in less affluent neighborhoods can be caused by increasing demand from higher income and more highly educated households (Kiersten 1990; Bates 2013). The Neighborhood Change Index shows areas that have experienced significant changes in education level, household income, and home values relative to the metro region. These changes were categorized into three types of development pressure which may lead to increased development and escalating prices in the future: demographic pressure (income and/or education level); price pressure; and demographic pressure and price pressure combined. Populations that struggle to pay for the cost of housing may see negative impacts from these pressures.

Take aways from this section:

- Most of the corridor faces some form of development pressure due to trends in neighborhood change over time, with the strongest pressure taking place in Minneapolis and radiating outward.
- Development pressure is geographically concentrated in the southern portion of the corridor in Minneapolis, Robbinsdale, and Crystal, although there is some demographic pressure in Lower Brooklyn Park. Pressure appears to be strongest closest to downtown Minneapolis due to rising home values relative to the region and significant changes in the proportion of the population with a 4 year college degree (a 51% increase). This trend reinforces the notion that an urban renaissance is taking place, in which a wave of reinvestment begins in the urban core and moves outward over time.
- Vulnerable populations, including cost-burdened households, people of color, and low-income households, are disproportionately exposed to development pressures that could cause housing costs to rise.
- The Neighborhood Change Index demonstrates the following: 55% of cost burdened households, 56% of non-white residents, and 57% of low income residents live in an area of the corridor experiencing development pressure due to trends in neighborhood change.



SECTION 3: HOW DO TRANSIT INVESTMENTS IMPACT BUILDING AND DEVELOPMENT?



IT IS LIKELY THAT LIGHT RAIL TRANSIT WILL HAVE AN IMPACT ON PROPERTY VALUES

As we show above, pressure for neighborhood change could cause significant difficulties for vulnerable populations in the Bottineau Corridor who live in areas facing development pressure. Fixed guideway transit investments such as light rail tend to have the following additional impacts that can magnify this pressure, and in some cases create pressure in new areas.

- Increased property values
- Increased building activity
- Increased housing unit density

Impacts vary based on regional and corridor-specific economic, policy, and institutional conditions. Below we discuss the nuances of these impacts and implications for the Bottineau Transitway.

A multitude of research studies demonstrate that transit improvements lead to increased property values, and that light rail can support particularly large increases given the right conditions. The magnitude of the increase depends on the local land market, policy, and institutional factors¹. Value increases are likely to be larger when there is a “strong and growing regional economy,” as there is in the Twin Cities². Municipalities also have an incentive to support increased values in station areas, and transit-oriented development strategies often aim at this goal³. This creates a potential barrier to local support of affordable housing near transit, because this housing may not generate the same level of property taxes for cities.

1 NEORail, I. I. (2001). The effect of rail transit on property values: A summary of studies. NEORail, Cleveland.

2 Cervero, R. (1984). Journal Report: Light Rail Transit and Urban Development. Journal of the American Planning Association, 50(2), 133-147.

3 As Cao points out in his study of the Hiawatha Line this is justified from a fiscal standpoint given the high level of public investment (including state and local dollars) needed to support construction of fixed guideway transit lines (Cao Hiawatha study).

Photo Credit: Wikipedia, 2013.

NUISANCE IMPACTS CAN SOMETIMES DECREASE PROPERTY VALUES

If a housing unit does not have direct access to transit, the nuisance impact of transit (noise, congestions, etc.) can have especially negative impacts on property values.⁴ This is because these units do not directly benefit from the transit amenity. Research suggests that this disamenity impact is limited to suburban areas since dense urban areas already have high levels of ambient noise and congestion.⁵ The Bottineau transitway would primarily be located in the NW suburbs of Minneapolis, so there is the potential that some parcels may experience nuisance impacts that outweigh amenity impacts. Parcels near the transitway, but more than ½ mile from a station in Golden Valley, Robbinsdale, Crystal, and the southern section of Brooklyn Park have the greatest chance of nuisance impact.

LIGHT RAIL TRANSIT CAN INCREASE BUILDING AND DEVELOPMENT ACTIVITY

New rail systems are likely to increase building and development activity in station areas when they have a noticeable impact on accessibility. New systems are even more likely to have development impacts when their development coincides with regional economic growth, and is accompanied by transit-supportive land use policies⁶. The Twin Cities is currently experiencing economic and population growth, so we can expect at least some of this growth to take place near Bottineau station areas as system development progresses⁷. Given this likelihood, an important question is which stations are most likely to attract development activity, which goes hand in hand with price pressure as shown in the NCI. To answer this question we need to consider the developability of land near stations (is it possible to assemble parcels?, are there greenfields or brownfields?, etc.), whether the

4 Kilpatrick, J. A., Throupe, R. L., Carruthers, J. I., & Krause, A. (2007). The impact of transit corridors on residential property values. *Journal of Real Estate Research*, 29(3), 303-320.

5 Cervero, R. (2004). Effects of Light and Commuter Rail Transit on Land Prices: Experiences in San Diego County. In *Journal of the Transportation Research Forum* (Vol. 43, No. 1).

6 Cervero 2009 and Guiliano 2004.

7 Transit Cooperative Research Program (TCRP). 1995. An Evaluation of the Relationships Between Transit and Urban Form, Research Results Digest, No. 7, Transportation Research Board, Washington, DC.

8 Given that accessibility advantages are multiplied as the Twin Cities builds out its transit system, the greatest impacts of rail-focused building and development activity in the Twin Cities may be yet to come. A 2010 study of the Hiawatha line did not show an advantage for station areas when compared with the larger Southeast Minneapolis submarket (Goetz 2010). Bottineau would be the 4th LRT line in the Twin Cities, and when coupled with BRT investments in NW Minneapolis many areas along the line would see multiplied increases in accessibility when the line is complete.

system significantly adds to accessibility of those areas, and the degree of public sector support for development in station areas⁹.

IMPLICATIONS FOR BOTTINEAU STATION AREAS

We can make some educated guesses about development in Bottineau station areas. First, Minneapolis stations are already close to downtown Minneapolis, and the LRT will greatly increase accessibility by adding high frequency and high quality service for residents who can walk to stations. Areas further from stations may also see development activity if additional investments in bus rapid transit add to the areas' accessibility. The NCI can be used as a general guide to determine the places that will experience the greatest upward price pressure.

According to the NCI, parts of the Minneapolis, Robbinsdale, Crystal and Lower Brooklyn Park sections face development pressure. Areas facing price pressure will likely see further price increases, and areas with both price and demographic pressure may see particularly acute pressure as the LRT project moves forward. Areas with only demographic pressure may begin to face price pressure as well, because these areas will become more desirable for high income residents who want to benefit from the rail transit amenity. In general, we predict that existing pressure as documented in the NCI will increase with LRT.

It is important to note that the LRT investment could create new development pressure that may not show up in the NCI. On the north end the proposed Brooklyn Park Target campus adds to the accessibility for all station areas. This is because it adds a major employment destination on the opposite end of the line from downtown Minneapolis, making stations on the northern end of the line more attractive for development. This means that this area may face development pressure even though our NCI shows low pressure for this area based on past trends. This caveat is particularly important when considering the northern section of Brooklyn Park. Evidence from Portland suggests that undeveloped land in Brooklyn Park may remain vacant in the short run but later see increased density. A study in Portland demonstrated that greenfield lots in suburban Portland

9 Handy, S. (2005). Smart growth and the transportation-land use connection: What does the research tell us?. *International Regional Science Review*, 28(2), 146-167.

gradually increased in value prior to the opening of LRT service.¹⁰ The researchers point out that increased values of vacant property give developers an incentive build at higher densities to reduce overall land costs and increase profits.

A similar scenario is possible in the northern part of Brooklyn Park, since the area has significant greenfield development opportunities and will be highly accessible to the a major employer nearby and downtown on the other end of the line. Given this potential scenario it will be important to monitor property values in Brooklyn Park as planning and development of the Bottineau Corridor progresses.

There uncertainty associated with assessing the degree to which communities with current pressure will be impacted by LRT, and the degree to which Upper Brooklyn Park will face unique development pressure of its own. With that said, we generally expect increased property values and in some cases increased building and development activity near Bottineau light rail stations. Suburban and urban areas within walking distance of stations – less than ½ mile – are likely to see the largest property value and development advantage from the development of Bottineau. Corridor sections already facing development pressure may see magnified impacts; and sections with vacant land such as the upper Brooklyn Park may also see price pressure for the reasons mentioned above. Higher land costs will make development of affordable housing more difficult if government stakeholders and affordable housing developers are not proactive. This means it is particularly important to assess the potential for proactive development of affordable housing in areas of the Bottineau Corridor with the greatest benefit from increased transit accessibility.

The timeline for expected increases in property values and development activity in the corridor is also uncertain. The Portland case mentioned above suggests that increases in property value may take place prior to the Bottineau Transitway's opening date. Similarly, a study in Vancouver demonstrate a rise in single family home values prior 3 years after the announcement of a light rail investment and one year before transit service began operating¹¹. In addition to property value increases, speculative development activity prior to LRT operations is certainly a possibility¹². In considering these potential scenarios, it is important to account

for the degree to which the development of prior light rail lines in the Twin Cities (Hiawatha, Central Corridor, SWLRT) may impact Bottineau. Noticeable real estate development activity has already taken place along the Green Line LRT in Saint Paul and Minneapolis. Bottineau may also see speculative activity on the front end due to increased developer awareness of the value of light rail investments. In this case savvy developers may take advantage of opportunities sooner rather than later. This may create a smaller window of time for affordable housing development to take place before property values and development pressures rise.

10 Knaap, G., C. Ding, and L. Hopkins. Do Plans Matter? The Effects of Light Rail Plans on Land Values in Station Areas. *Journal of Planning Education and Research*, 2001, 21, 32-9.

11 Ferguson, B. G., Goldberg, M. A., & Mark, J. (1988). The pre-service impacts of the Vancouver advanced light rail transit system on single family property values, Clapp JM, Messner SD, *Real Estate Market Analysis: Methods and Applications*.

12 The following study suggests that speculative activity along LRT is a possibility. Topalovic, P, Carter, J., Topalovic, M., & Krantzberg, G. (2012). Light rail transit in Hamilton: health, environmental and economic impact analysis. *Social indicators research*, 108(2), 329-350.



SECTION 4: SCENARIOS FOR TRANSIT IMPACT ON HOUSING COSTS



Photo Credit: David Davies, 2014.

IMPACTS ON HOUSING AFFORDABILITY MAY BECOME MORE OBVIOUS AS A TRANSIT PROJECT PROGRESSES

This section of the report will explore the potential magnitude housing price changes related to the Bottineau Transitway. As previously noted, price impacts of LRT systems on property values vary widely. We also expect different impacts in different parts of the Bottineau Corridor. Four possible scenarios highlight the potential magnitude of housing price changes over time. While the exact magnitude of price changes in specific areas cannot be predicted, the Neighborhood Change Index points to areas that are likely to see the highest impacts if past trends in neighborhood change continue. Finally, this analysis shows that cost burdened households in the corridor are particularly susceptible to price increases.

As we mention above, the impacts of the Bottineau Corridor on housing prices are uncertain; but impacts may become more obvious as the project progresses. Studies of other Twin Cities LRT lines show that as time passes, it is easier to assess impact of LRT on housing in the corridor. HPP's 2012 "Before the Train"¹ report on the Central Corridor Green Line limits projections to anticipated changes in rent based on responses from landlords with properties within the corridor. They report that 40% of landlords within 1/4 mile of Central Corridor station areas plan to raise rents. Goetz et al.'s 2010 study analyzed impacts of different land uses along the Hiawatha (Blue Line) LRT. The findings indicate that within 1/2 mile of station areas, homeowners of single-family homes pay a **price premium** (see next page for more on this concept) of over \$5,000, while owners of multifamily units pay a premium of over \$15,000 per unit². These findings demonstrate the importance of monitoring future changes in housing costs over time.

1 Housing Preservation Project. (2012). Before the Train. St. Paul, MN.

2 Goetz et al (2010). The Hiawatha Line: Impacts on Land Use and Residential Housing Value. Center for Transportation Studies.

CORRIDOR HOUSING COSTS COULD INCREASE ANYWHERE FROM 5% TO 30% OVER CURRENT COSTS, AND THE AVERAGE INCREASE IS EXPECTED TO BE ABOUT 13%.

PRICE PREMIUMS AND SCENARIO METHODOLOGY

The concept of a price premium is often used to describe the effect of transit on changes in housing price. A price premium is the difference between the cost of housing that has transit accessibility and the cost of housing that does not have transit accessibility, controlling for other factors that influence land values and housing prices. Debrezion, Pels, & Rietveld standardized the price premiums measured in 16 different studies of the impact of light rail on property values. Their findings provide the data and context for our scenarios. This analysis assumes that the price premiums presented by Debrezion, Pels, & Rietveld serve as a good proxy for the potential range of price impacts on housing cost that may take place due to the accessibility benefits of the Bottineau Transitway.

Price premiums are measured at one point in time. In order to project changes in housing costs between the present and after the Bottineau Transitway is constructed, some assumptions are necessary. (1) The time between the announcement and completion of the transitway is assumed to be five years. (2) Based on national changes in gross rent, home value, and incomes from 1980 to 2010, it is assumed that without transit investment, housing costs will rise 1% per year and incomes will rise 0.6% per year (both rates of change are adjusted for inflation). (3) After these “baseline” changes in housing costs and incomes are applied, the premium paid for transit is added in to show the total change in housing cost and income between the present and sometime shortly after the light rail has begun operating (five years later). A full methodology is available in Appendix 5.

Table 11 shows how the scenarios for price impacts are constructed. In each scenario, inflation adjusted household income rises by 0.6% per year, yielding a 3.04% total increase in real income. In the No Impact scenario, transit has no effect on housing prices above the baseline changes in housing costs, so housing costs increase 5.10%, or 1% annually for five years. The Moderate Impact scenario reflects the average price premium measured among the 16 light rail premiums in the Debrezion, Pels, & Rietveld study¹. Assuming that price impacts are normally distributed, price premiums would be expected to be higher than the moderate impact scenario about 50% of the time. In this scenario, a 7.10% price premium is added to the 5.10% baseline increase in housing costs, yielding a total increase of 12.56% over current costs.

The High Impact and Extreme Impact scenarios represent price premiums that are much rarer, but still possible, based on the Debrezion, Pels, & Rietveld² data. The High Impact price premium is 1 standard deviation above the average price premium, and the extreme impact scenario is 2 standard deviations above the average. If price premiums are normally distributed, the Bottineau Transitway would yield price premiums of 16.4% or higher (High Impact) about 16% of the time, and 23.7% or higher (Extreme Impact) about 2.3% of the time. When these price premiums are added to the baseline changes in housing costs, they represent 22.34% (High Impact) and 30.01% (Extreme Impact) increases in total housing cost over the five-year period.

1 Debrezion, G., Pels, E., & Rietveld, P. (2007). The impact of railway stations on residential and commercial property value: a meta-analysis. *The Journal of Real Estate Finance and Economics*, 35(2), 161-180.
2 Ibid.

COST BURDENED HOUSEHOLDS ARE MORE SENSITIVE TO PRICE INCREASES THAN HOUSEHOLDS THAT DO NOT CURRENTLY FACE COST BURDEN.

In order to illustrate the effects of the various scenarios on people living in the Bottineau Corridor, the scenarios are applied to the median income renter and median income homeowner, assuming that they purchase the median priced rental and ownership units, respectively. Housing costs for the median homeowner are calculated based on how much it would cost per month to purchase the median priced home.³

The comparison of the median renter and the median homeowner are useful because the median renter begins with much higher cost burden than the median homeowner. As shown by Table 12, the median renter would pay \$888 for the median priced rental unit, and has a household income of \$25,166, or \$2,097 monthly. Their housing cost represents 42% of household income. The median homeowner pays \$1,119 per month for the median home valued at \$177,408. This represents 20% of the monthly income of the median homeowner (\$5,476).

For the purposes of illustrating the sensitivity of these two hypothetical households to changes in housing cost, the Extreme Impact scenario is useful. Under this scenario, the total cost of housing increases by 30.01% for both the renter and the homeowner. However, because the renter's housing costs make up a larger percentage of their monthly income, the renter's housing cost burden increases from 42% to 53% of income, an increase of 11 percentage points. In contrast, the homeowner's cost burden increases from 20% to 26%, an increase of only 6 percentage points.

This is not to say that homeowners are relatively immune to increases in housing costs, but rather that households with lower cost burden are less susceptible to a percentage increase in housing cost. The range of impacts for the median renter and homeowner are presented in Table 12. As outlined in Section 1 of this study, we know that many renters and homeowners experience cost burden levels even greater than those applied to the scenarios. For those households with very low incomes and high levels of cost burden, even a relatively small percent increase in housing costs could cause a devastating increase in housing cost burden as a percentage of income.

Table 11: Scenarios for transit impact on housing prices

Scenario	Baseline Change in Income	Baseline Change in Housing Cost	Transit Premium	Total Increase in Housing Cost	Standard Deviations from Average Premium	% of cases with housing cost equal to or higher than projection
No Impact	3.04%	5.10%	0.00%	5.10%	N/A	N/A
Moderate Impact	3.04%	5.10%	7.10%	12.56%	0	50.00%
High Impact	3.04%	5.10%	16.40%	22.34%	1	15.90%
Extreme Impact	3.04%	5.10%	23.70%	30.01%	2	2.30%

Source: Debrezion, Pels, & Rietveld 2007; US Census Bureau 1980-2010

³ Assumptions are the same as those used in Appendix 1. Note that the beginning and ending cost burden for the median homeowner will vary widely depending on the down-payment amount.

THE HIGHEST TRANSIT PRICE IMPACTS MAY FOLLOW EXISTING NEIGHBORHOOD CHANGE PRESSURE IN MINNEAPOLIS, ROBBINSDALE, AND CRYSTAL

The Neighborhood Change Index (NCI) lays out one way of thinking about which places along the Bottineau Corridor are likely to experience higher price increases. It should be noted that all neighborhoods along the transitway could see increased housing prices due to the transit investment. With that said, the NCI indicates that development pressure already exists near every station area along the proposed Bottineau Transitway except those in Upper Brooklyn Park, and that development pressure is most concentrated in Minneapolis, Robbinsdale, and Crystal. Over

80% of the cost burdened households living in the Minneapolis, Robbinsdale, and Crystal sections of the corridor live in an area that is already experiencing development pressure due to demographic and/or price changes over the past decade. To the extent that these trends indicate that demand for housing in these segments is high relative to housing elsewhere in the region, it may reinforce the impact of transit accessibility on housing prices. As noted in Section 3, the Brooklyn Park sections of the corridor face a different type of development pressure with the incoming Target campus. The Lower Brooklyn Park and Minneapolis sections have the highest cost burden rates in the corridor, and their populations will be particularly sensitive to increases in housing costs.

Table 12: Projected change in cost burden for owners and renters

Projected Change in Cost Burden for Median Income Owner Household and Median Estimated Owner Cost				
	Original Housing Cost	Light Rail Housing Cost	Original Cost Burden	Light Rail Cost Burden
Extreme Impact Homeowner Cost	\$1,119	\$1,455	20%	26%
High Impact Homeowner Cost	\$1,119	\$1,369	20%	24%
Moderate Homeowner Cost	\$1,119	\$1,260	20%	22%
No Impact Homeowner Cost	\$1,119	\$1,176	20%	21%
Projected Median Owner Income (monthly)	\$5,476	\$5,643		
Projected Change in Cost Burden for Median Income Renter Household and Median Rent				
	Original Housing Cost	Light Rail Housing Cost	Original Cost Burden	Light Rail Cost Burden
Extreme Impact Rent	\$888	\$1,154	42%	53%
High Impact Rent	\$888	\$1,086	42%	50%
Moderate Impact Rent	\$888	\$1,000	42%	46%
No Impact Rent	\$888	\$933	42%	43%
Projected Median Renter Monthly Income (Monthly)	\$2,097	\$2,161		

Source: American Community Survey 2008-2012; Social Explorer (2014)



SECTION 5: SUMMARY AND STRATEGIES

SUMMARY

The Bottineau Corridor Housing Study forms a framework for thinking about housing in the Bottineau Corridor by assessing current housing needs and adding in the impact of potential changes that could stem from neighborhood change pressures, including a new investment in light rail transit.

Despite somewhat low housing costs, corridor residents struggle more than residents of the metro region to pay for housing related expenses. Of 30,212 corridor households, 12,754 (42%) are cost burdened, compared to only 34% of metro households. While it is not surprising that very low-income households are extremely likely to face cost burden, many moderate-income households also struggle to pay for housing costs. More than half of homeowners and more than 40% of renters earning \$35,000-\$50,000 are cost burdened. Nearly 40% of homeowners earning \$50,000-\$75,000 are cost burdened. There is some variability in cost burden, housing market, and demographic characteristics geographically along the corridor, and careful thought should be given to where and when investments in permanent affordability are made. However, this report recognizes that current conditions alone justify increased investment in the production and preservation of permanently affordable housing for low to moderate income households. Invest should take place throughout the entire corridor—both for renters and home-owners. For policymakers and funders, this should be a call to action to implement strategies that preserve and advance the affordability of housing in a geographic area that is already suffering from disproportionately low ability to pay for housing.

The Bottineau Transitway could lead to increases in housing costs in some areas of the corridor. The price impacts of transit vary widely, and in some cases price increases do not occur at all. Case studies of previous light rail transit implementations indicate that housing costs could be expected to increase about 13% or more over current prices about 50% of the time. Accounting for natural increases in housing costs and incomes, this level of change would force corridor residents to pay 7% more than non-corridor residents for housing, all else equal. Although much less common, a more extreme scenario might increase housing costs by more than 20% or 30% over current costs, forcing residents to pay 16% to 24% more than residents of other neighborhoods. The analysis further shows that in comparison to households that are not cost burdened, households that are cost burdened will experience a larger percentage point increase in cost burden for one a percent



Photo Credit: David Davies, 2014

increase in housing costs, and are therefore more sensitive to housing cost changes.

The Neighborhood Change Index identifies specific areas that might be expected to experience higher transit-related price increases if trends in neighborhood change continue. The index points to the conclusion that a renaissance is underway for neighborhoods close to downtown Minneapolis, including many neighborhoods in the Bottineau Corridor. As more affluent households, measured by income and education level, move into corridor neighborhoods and begin to reinvest in an aging housing stock, housing prices have either increased or can be expected to increase in the future. The pressure for neighborhood change dynamics to lead to housing price increases is greatest in some of the neighborhoods where cost burden, poverty rates, and other measures of susceptibility are already quite high—particularly in Minneapolis, Robbinsdale, and Crystal, and in a portion of Lower Brooklyn Park. This is a very concerning reality given the current trajectories of conversations about housing in the Bottineau Corridor.

Funders, non-profits, and local governments should use the information in this report to make informed decisions about where, when, and how to invest in affordability in the communities that they serve. Housing affordability in the Bottineau Corridor is already a problem, and because of this this study does not suggest specific investment opportunities to increase and preserve affordability at this time. Due to relatively low housing prices in comparison to the region, such opportunities must be abundant throughout the corridor. Further research and community engagement is needed in order to identify the best possibilities. In order to combat the potentially harmful impacts of housing cost increases on a population that is particularly vulnerable to such changes, we suggest seven strategies that can be pursued in tandem or individually.

STRATEGIES

STRATEGY 1: CHANGE THE CONVERSATION TO FOCUS ON THE NEEDS OF THE CORRIDOR POPULATION

The biggest threat to corridor households that struggle to pay for housing is the commonly held view that affordability is not a problem and that neighborhood change is unlikely. After reviewing past plans and studies, and speaking with corridor stakeholders from every community along the proposed transitway, it is clear that some decision makers do not view affordability as a problem in the Bottineau Corridor. Current conversations about affordability in the corridor consistently rely on the argument that housing is affordable at “market rates.” When such language is used by decision makers, it is a disservice to the reality faced by their constituents. This report has shown that Bottineau Corridor households struggle to afford the cost of housing at higher rates than metro-wide households. Despite lower housing costs than the metro region, corridor households face cost burden rates as high as or higher than metro households, even for equivalent income levels. Corridor decision makers may also be unaware of price pressures that threaten to disproportionately increase housing costs in many areas along the corridor. Advocates for housing should rely on the following discussion points and strategies to dispel myths and move the conversation forward in a productive way.

Define affordability in a context sensitive manner

Affordability is typically defined based on Area Median Income figures that are out of step with the much lower corridor incomes. As reported by the US Department of Housing and Urban Development (HUD) for the Minneapolis-St. Paul MSA, the AMI is \$83,900 per year, in comparison to a corridor median household income of \$50,000. This means that half of all Bottineau Corridor households earn less than 60% of the AMI reported by HUD. In specific locations along the corridor, median income is much lower. In Minneapolis, it is only 35% of AMI, and in Lower Brooklyn Park, it is less than 50% of AMI.

Focus on the needs of corridor residents

Decision makers must face the reality that their constituents struggle to afford housing, even though the housing stock is less expensive than elsewhere in the region. The need is great because incomes are lower, and because housing costs are not low enough to offset lower incomes in many cases. This report has identified



a number of populations that have significant need due high housing costs relative to income: renters, persons of color, families with children, and low-income households. Despite lower housing costs and existing subsidized housing, the need is not being met.

Housing costs are a major issue for hard working families

Paying for the cost of housing is a burden for moderate income households earning less than \$75,000 annually. While 18% of corridor residents live below the poverty level, an astounding 42% of households in the corridor pay more than 30% of their income for housing. Even though median housing costs are higher in the 7-county metro area, only 34% of metro households are cost burdened. More than half of corridor homeowners and more than 40% of renters earning \$35,000-\$50,000 are cost burdened. Nearly 40% of homeowners earning \$50,000-\$75,000 are cost burdened. Housing affordability affects quality of life for hard-working, middle-class families and the very poor alike.

Be realistic about the potential for neighborhood change to drive up housing costs

Some decision makers and officials may be unaware that neighborhood change is a major near-term threat to the affordability of their communities. Others already recognize that neighborhood change has the potential to lead to continued reinvestment and increases in housing costs. This study shows that every proposed station area except for the two northernmost stations in Brooklyn Park is within one half mile of a neighborhood exhibiting some form of pressure on housing prices. The only corridor sections not showing signs of neighborhood change pressure are Upper Brooklyn Park and Golden Valley, although these stations areas could face pressure in the future. Evidence from previous light rail transit lines shows that LRT projects can further increase development pressure and housing costs. While these impacts are not guaranteed, this study shows that higher impacts are more likely in areas exhibiting the greatest pressure for neighborhood change—particularly Minneapolis, Robbinsdale, and Crystal. Lower Brooklyn Park is also a concern because there is some demographic pressure (in-migration of more affluent households) and the population is disproportionately vulnerable to price increases. Neighborhood change is a real threat to many of the communities along the proposed Bottineau Transitway, and stakeholders should work diligently to ensure that measures are in place to protect low and moderate income households against the potential harmful effects of housing cost increases.

STRATEGY 2: PRESERVING EXISTING AFFORDABLE HOUSING IN THE BOTTINEAU CORRIDOR IS IMPERATIVE

According to the Bottineau Transitway Health Impact Assessment the new LRT “could make the combined costs of housing and transportation more affordable.” As this study demonstrates, housing developers, funders, and corridor communities must be proactive to make this vision a reality. The following strategies are geared at preserving existing affordable housing opportunities:

Preserve affordable market rate rental opportunities

Most of these opportunities exist in Minneapolis, Robbinsdale and lower section of Brooklyn Park. According to the Housing Preservation Project (HPP) there are a number of approaches can help preserve market rate affordable rental units. For example, Minnesota’s low-income rental (4d) tax credit program currently applies only to subsidized properties. According to HPP President Tim Thompson, expanding this program to market rate properties could be a valuable strategy for the Bottineau Corridor. Thompson believes that this policy could help preserve affordable market rate units along Zane Avenue in Brooklyn Park. These properties may become vulnerable to price increases as the planned LRT project advances.

Preserve existing affordable homeownership opportunities in communities with lower home values

The Minneapolis, Crystal, Robbinsdale and the lower Brooklyn Park sections all have median home values below the corridor median (\$177,000), presenting many reasonably priced opportunities for community land trust investment. Investment in these areas will help to preserve affordability in perpetuity, and will benefit low and moderate residents that currently live in these communities.

Preserve the 3,200 existing subsidized units in the Bottineau Corridor, primarily located in Minneapolis, Robbinsdale and the lower section of Brooklyn Park

There are already far too few subsidized opportunities to meet needs. In addition, many of these units are at risk of losing their affordability due to expiration of subsidies. According to HousingLink data, more than 600 of these units will lose at least one source of subsidy by 2020, jeopardizing their future affordability. Affordable housing funders and government agencies should work to preserve these units by prioritizing investments in properties near light rail transit corridors, due to the development pressure these areas face.

STRATEGY 3: SCALE UP THE COMMUNITY LAND TRUST MODEL

Community land trusts (CLTs) can benefit residents as well as cities through the creation of affordable housing opportunities while accomplishing housing improvement and preservation goals. Land trusts invest in and rehabilitate residential property in conjunction with homeowners who reside in housing that can accumulate value but still be resold at affordable rates to other low to moderate income residents.

The CLT model fits well into existing affordable housing strategies. The scattered site approach to investment can flexibly be applied to station areas like Bass Lake Road, where residential property may be dispersed among other land uses or in a concentrated mass within a residential neighborhood like Penn Avenue. Corridor community governments can effectively collaborate with CLTs to preserve affordability in areas threatened by neighborhood change pressures. CLTs bring equitable selection policies and acquisition strategies that align with city comprehensive plans for preserving low density single-family housing.

CHARACTERISTICS OF A CITY OF LAKES CLT HOUSEHOLD:

- Average household income: **\$33,463**
- Average household size: **2.6 people**
- Average CLT sales price paid by buyer: **\$103,923**
- Average market sales price of CLT homes: **\$151,786**

CLTs should continue to target investments in moderately-priced housing and targeting cost-burdened renter households. Our data show that the corridor household income groups most cost burdened by housing are renter households earning \$20,000 to \$49,999 and homeowner households earning under \$75,000. Additionally, our housing market analysis shows that there is a surplus of mid-priced housing (\$125,000-\$174,000) in the corridor. This fits well with the CLT eligibility criteria, which use \$65,000 annual household income as an upper cutoff limit. CLTs do a good job in targeting this supply of housing and the needs of this income group. Investing in residential dwellings priced \$125,000-\$175,000 takes advantage of the surplus of housing in that price range. Existing low-

income renter households earning less than \$65,000 should also be targeted for homeownership opportunities. This increases homeownership rates and builds a more stable tax base of working households.

CLT CASES FROM OTHER REGIONS

There are other regions where land trusts are experiencing success in preserving housing affordability along light rail corridors. Robert Hickey's 2013 report *The Role of Community Land Trusts in Fostering Equitable, Transit-Oriented Development*¹ looks at Denver and Atlanta - as well as CLCLT's function in the Twin Cities - and provides some insights on the keys to success for the land trusts that operate there.

Atlanta's Land Trust Collaborative (LTC) is a citywide entity that fosters the development of neighborhood CLTs through existing neighborhood community organizations along prospective or existing light rail corridors. Replicating miniature versions of CLTs for specific neighborhoods has allowed the CLT model becomes entrenched on a local level. Atlanta uses a tax allocation district (broadly categorized as a tax increment financing district) that provides a steady stream of revenue for those projects that are located along transit corridors. As the property values along the corridor grow, so does the revenue stream that can be pumped back into those communities to preserve affordable housing investments.

Denver's Urban Land Conservancy (ULC) functions both as a land trust and as a land bank, using a unique city-created TOD fund to invest in a variety of housing from rental apartments to multifamily units to single family homes to mixed-use development. ULC is designated as the sole borrower from the TOD fund, which gives them exclusive access to a large coffer. The big stipulation to this agreement is that they must repay the investment five years after making withdrawals. ULC takes advantage of multi-sectoral partnerships to advocate for innovative policies or to produce strategy-guiding works such as a Regional Equity Analysis.

¹ Hickey, Robert. (2013). The Role of Community Land Trusts in Forstnering Equitable, Transit-Oriented Development.

CLT effects on affordable housing markets are positive but limited due to limited funding and influence. There are a number of CLTs operating within Minnesota; the City of Lakes Community Land Trust (CLCLT) and Homes Within Reach (HWR) operate within the Bottineau Corridor and already see results in preserving affordability for existing residents. However, government planning professionals acknowledge that land trusts can only serve as one component of a more comprehensive affordable housing strategy. In order to have an effect on a neighborhood, concentrated investments are necessary within a specific geographic area. CLTs can do more to heighten their visibility among corridor cities. Government stakeholders point to three areas where CLTs can be more active:

- CLTs must be more visible in corridor planning processes, such as station area planning scheduled to take place in summer 2014.
- CLTs should host community open house events inviting corridor decision makers to become acquainted with land trust homeowners and homes.
- CLTs must lobby government stakeholders for consideration in long term housing funding strategies, such as Hennepin County's upcoming 2015-2019 planning for the Consolidated Plan.

IZ IN ACTION: MONTGOMERY COUNTY, MD

Montgomery County, MD, a wealthy county in suburban Washington DC, was one of the first municipalities to enact an IZ policy in 1974. Though the policy has changed over the years, it currently requires all new developments of 20 units or more (formally 50 units or more) to have at least 12.5% of all units be affordable to households based on a local formula that defines low and moderate income households.

Rental units are required to remain affordable for 99 years and ownership units are required to be affordable for 30 years. It has largely been seen as a success and produced almost over 13,000 new affordable units between 1974 and 2011.

Though there has been some push back from the private sector, many developers see it as necessary given the high housing costs in the region and take pride in their ability to provide a public service and still remain profitable.

STRATEGY 4: INCLUSIONARY ZONING

What is it?

Policy Link defines inclusionary zoning (IZ) as policies and ordinances that require developers set aside a percentage of housing units in new residential developments to be affordable for low- and moderate-income households. In return, developers receive an incentive in the form of density bonuses, zoning variances, and/or expedited permits-that reduce construction costs. Inclusionary zoning makes sense especially near transit, as it leads to increased density and is inclusive of low and moderate income families that will benefit from access to transit.

Why is it a good strategy?

- Ensures that a certain percentage of new development is affordable to people of low and moderate incomes for a long period of time.
- Because IZ is tied to private market development, new units are likely to be built in high opportunity neighborhoods that are experiencing neighborhood change pressure
- IZ promotes a balanced form of housing investment that could help to mitigate some of the price increases that are likely for current residents in the Bottineau Corridor.
- According to our community engagement efforts, Minneapolis stakeholders support mixed income housing development. IZ could support desegregation and mixed-income neighborhoods by mixing market rate with low and moderate income affordable housing.
- IZ does not necessarily require significant public funding.
- Has a proven track record to add affordable housing units, without negative effects to the larger housing market(Mukhija, 2010; Brunick, 2004).

Where?

IZ is a tool that should be utilized in the entire corridor since most station area plans are likely to involve significant new development. IZ can be particularly important in areas with a significant amount of vacant land and/or a significant amount of development pressure, including Minneapolis, Robbinsdale, and Crystal. Brooklyn Park may face significant future development pressure due to the Target campus.

STRATEGY 5: ENGAGE UNDERREPRESENTED COMMUNITIES

The degree of a group's influence should not be measured by the size of its tax base. Cost-burdened households, communities of color, and households living in poverty - identified in Sections 1 and 2 of this report as vulnerable populations within the Bottineau Corridor - are often underrepresented in planning processes. Bottineau stakeholders learned from previous LRT planning processes, engaging community groups early and often through the Penn Avenue Community Works process, the Bottineau Pre-Planning Study, and in the formation of entities such as the Bottineau Boulevard Partnership and the Blue Line Coalition.

The groups that are most susceptible to being cost burdened by housing are valuable collaborators in the process to preserve housing affordability. Our conversations between city government stakeholders and community groups yielded opposing views about housing priorities along the corridor, but there are some ideas that can help these groups converge on mutual understanding of affordable housing interests.

The Blue Line Coalition (BLC) can be a powerful conduit through which underrepresented communities can voice opinions about the planning processes.

Many city government stakeholders had a vague idea about the purpose and role of the BLC. The BLC may represent diverse interests, but it is poised to be an influential collaborator in the Bottineau Corridor planning process. Affordable housing should be a key tenet in the BLC's vision for the Bottineau Corridor, and BLC should be active in the station area planning process to ensure that the housing interests of vulnerable residents are represented.

The Partnership for Regional Opportunity is a useful sounding board for shepherding ideas and fostering collaboration on a regional scale.

The initiative formerly known as Corridors of Opportunity created the BLC as well as funded community engagement efforts by groups throughout the Bottineau Corridor. The convergence of top public, private, and nonprofit representatives who have a shared interest in equitable transit-oriented development will be indispensable in garnering support and attention for any new strategies and policies that are put forward to advance the preservation of housing affordability.

Education and outreach efforts focusing on housing affordability from a local perspective can help drive policy change.

The groups that are most affected by housing affordability can be the ones to change the conversation. Oftentimes, local knowledge is just as valid as expert knowledge, and bringing planners, policy makers, and local residents together to discuss housing issues can advance the conversation significantly by generating mutual understanding. As part of this study, we utilized a spatial allocation game, which asked stakeholders to make collaborative decisions about where different types of affordable housing are needed most. This exercise was useful because it provided an opportunity for the exchange of information between stakeholders and experts. It allowed stakeholders to better understand the position of policy makers and vice versa. Some participants suggested that the game be reproduced with corridor residents to bring in new perspectives and move the conversation even further along. Those who are reached by such collaborative efforts are more likely to continue to participate in the engagement process. They will become more educated about the issues at stake, and will help to help set realistic priorities for the corridor.



Photo Credit: Tony Damiano, 2014.

STRATEGY 6: FOSTER FUNDING OPPORTUNITIES FOR AFFORDABLE HOUSING NEAR PLANNED TRANSITWAYS

“A range of housing options around stations ensures that families at a range of incomes can to choose to live near transit.” – Mixed Income TOD toolkit for the Twin Cities

Dollars that support affordable housing opportunities near planned light rail stations go further than dollars spent on housing elsewhere in the metro, especially when sites are acquired prior to rail induced price increases. In the Bottineau Corridor, these funds could preserve affordability in areas that face development pressure and reduce bundled housing and transportation costs for households that live near transit. Community development organizations should aggressively pursue existing transit oriented development (TOD) funding opportunities, particularly those focused on housing. **The Center for Transit Oriented Development** created a guide that summarizes these resources². Dollars for transit oriented affordable housing will go further if sites are acquired when land and housing prices are still low. **The Land Acquisition for Affordable New Development (LAAND)** already supports site acquisition within ½ mile of 2030 planned transitways in the Twin Cities. **The Central Corridor Funders Collaborative** has compiled a list of additional resources for site acquisition although it may be somewhat dated³. Finally, the **Twin Cities Community Land Bank**, which fosters economic equity by capturing real estate opportunities for low-income people, is an additional resource that should be leveraged to pursue affordability in the Bottineau Corridor. These resources may be helpful in places where there are existing vacant parcels (the Minneapolis and upper Brooklyn Park sections have the highest percentages of vacant land).

TOD and site acquisition resources listed above are far from sufficient to meet future needs for affordable housing in the Bottineau Corridor, or near other planned regional transitways. Housing funders such as the Minnesota Housing Finance Agency and government agencies including the Metropolitan Council, municipal governments and public housing authorities should respond to this challenge by directing affordable housing funds to light rail station areas. These organizations can dedicate dollars toward preserving existing subsidized housing and also to creating new affordable homeownership and rental opportunities in all sections along the corridor.

² Funding Sources for TOD – Twin Cities. Center for Transit Oriented Development. <http://tctod.org/funding-sources.html>

³ Predevelopment Resources That Can be used for Site Acquisition. <http://www.funderscollaborative.org/sites/default/files/Aquisition%20Sources.pdf>

STRATEGY 7: CONTINUE TO MONITOR HOUSING COSTS AND NEIGHBORHOOD CHANGE

All of our previous recommendations cannot be effective without a system in place to monitor changes in the development climate over time. No model can predict with 100% accuracy what housing prices and rents will look like in the future, especially in an area like the Bottineau Corridor that is going through such significant changes. It is also important to anticipate changes as much as possible before there is a significant jump in prices and it becomes difficult to help cost-burdened families.

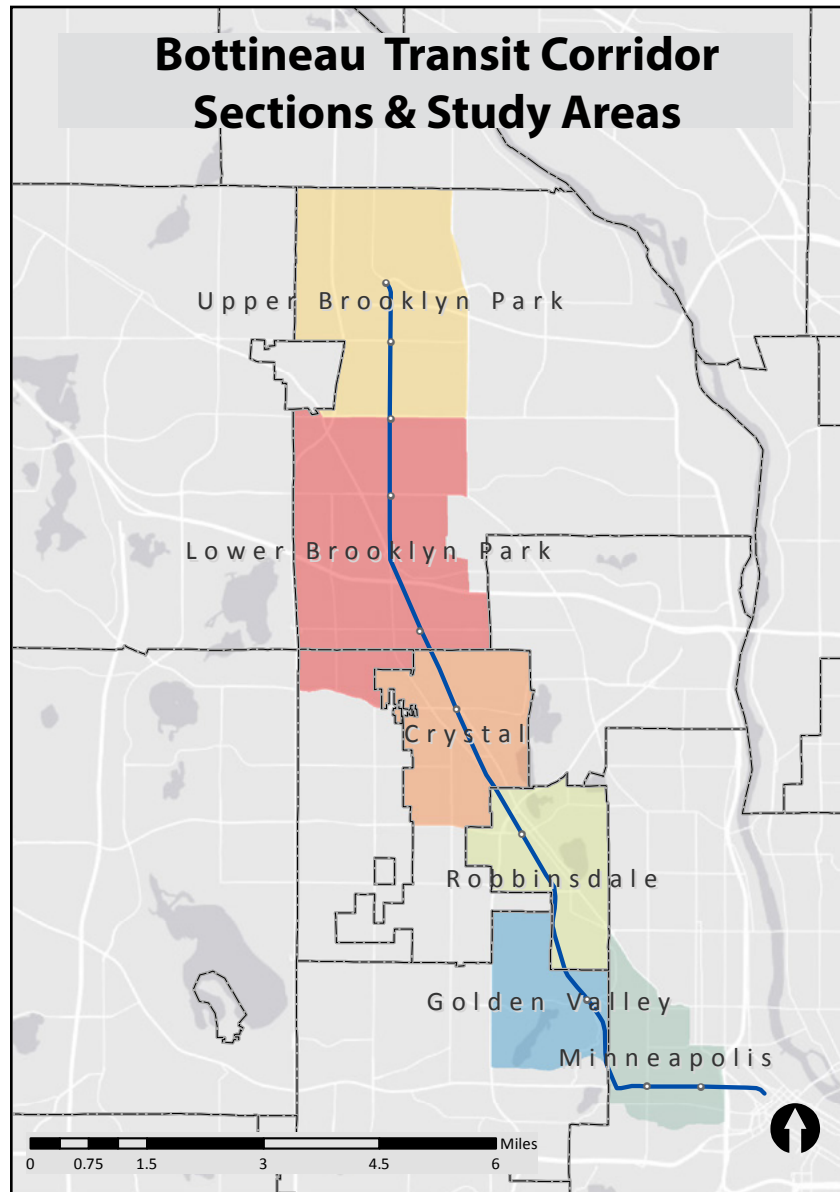
We recommend systematic annual updates to indicators like these that readily available, easy to access, and provide important information about housing market conditions.

Potential variables for monitoring

- Assessed Market Value (Hennepin County Assessor)
- Household Cost-Burden statistics (American Community Survey), including break-out by income, tenure, and by degree of cost burden.
- Vacancy Rates (Hennepin County Assessor; American Community Survey)
- Sale velocity of homes (Hennepin County Assessor)
- Median Rents (HousingLink)
- Median Gross Rent (American Community Survey)
- Median Household Income by tenure (American Community Survey)
- Poverty rate (American Community Survey)
- Education level (American Community Survey)

The Bottineau Corridor contains communities that are changing rapidly in terms of demographics, housing prices, and income levels. The addition of the Bottineau Transitway will add to the impetus of change. Ensuring that neighborhood changes do not lead to home price and rent increases that burden low and moderate income families is incredibly important, and requires the collaboration and diligence of government officials, non-profit organizations and the public. Identifying changes in neighborhood and housing characteristics early can help prevent displacement and cost burden for low and moderate income families, maximizing the benefits of the transit investment for those who need transit most.

APPENDICES



Map created by Tony Damiano, 2014.

APPENDIX 1: DATA SOURCES & STUDY AREA

DATA SOURCES

Data sources were selected based on the following criteria:

- Availability at the local level: Because transit investment tends to have a notable effect on land use, property values, and demographic characteristics within $\frac{1}{2}$ mile of station platforms, all data used has to be available at a small enough geographic level that the Bottineau Corridor can be disaggregated from the rest of the Twin Cities metropolitan area.
- Accuracy: The smaller the geographic area of analysis, the larger will be the potential statistical error in the data due to smaller sample sizes. For this reason, there is a balance between disaggregating data to the smallest possible unit of analysis and statistical integrity.
- Ease of access: This is in order to ensure that the report can be updated without access to expensive, proprietary data sources or resource intensive survey techniques.
- Recency: We used the most recent data available wherever possible.

DEMOGRAPHIC, RENTAL, AND HOUSEHOLD CHARACTERISTICS

The most up-to-date demographic and household data that is publicly available is from the US Census American Community Survey (ACS) 5-year estimates. The demographic profile, supply and demand conditions, and much of the housing profile comes from the 2008-2012 ACS 5-year estimates. The unit of analysis for ACS data is the census tract level. While the census tract is not as small as the census block group, it provides more accurate estimates of demographic information because the sample size is larger.

HOUSING STOCK CHARACTERISTICS

Where possible, housing stock characteristics were drawn from Hennepin County Assessor's data at the parcel level (published in the 1st quarter of 2014). This allows for a 100% count rather than a sample, and is accurate at all geographical levels. It is also more up to date than the available ACS data because it is published on a quarterly basis.

Supplementary Data Sources

In order to analyze supply, demand, and affordability, some data and assumptions were drawn from the national level from the 2011 American Housing Survey, Freddie Mac, and Housing Link (subsidized units).

SELECTION OF STUDY AREA

Because the largest geographical unit of analysis from our primary data sources is the census tract, we use census tract boundaries to form the corridor study area surrounding the Bottineau Transitway. In general, the corridor boundaries are comprised of census tracts that overlap a ½ mile radius of proposed stations. The proposed stations are based on those included in the Station Area Pre-Planning Study sponsored by Hennepin County in 2013, as this is the most up-to-date indication of where stations will be located.

Corridor Exclusions: Several census tracts that technically overlap a ½ mile radius of a proposed station were excluded from the study area near the two Minneapolis stations. The two tracts to the far south and west of the Penn Avenue station were excluded due to very different demographic characteristics and physical barriers to accessing the station. We also felt the need to constrain the geographic extent of the Minneapolis section of the corridor because of its urban, walkable nature, and lack of planned park-and-ride facilities. The downtown census tract to the west of the proposed Van White station was also excluded because there is essentially no housing existing in that census tract and it has fundamentally different characteristics from the rest of the corridor.

Selection of Corridor Sections

The Bottineau Corridor study area was further broken out into sections in order to highlight the diverse population and housing characteristics along the corridor. In order to respect differences in land use, demographics, and political boundaries, the sections are broken out primarily based on the boundaries of the cities they are contained within. There are a few peculiarities that must be addressed. Two census tracts in the northwestern portion of the Minneapolis section are included with

the Minneapolis census tracts even though they overlap the ½ mile station area radius around the Golden Valley station rather than the Minneapolis station radii. Similarly, political boundaries are respected over the ½ mile radius in several other cases along the corridor.

The Brooklyn Park section was broken out into Upper Brooklyn Park and Lower Brooklyn Park, with the dividing line running through the proposed Brooklyn Boulevard station. Upper Brooklyn Park includes a large amount of undeveloped land, and will be home to the new Target campus. Lower Brooklyn Park has a much higher poverty rate, and includes one census tract that is considered a racially concentrated area of poverty. While it is not ideal to divide a station area in two, the division allows us to capture greater variability in land use, demographics, and housing characteristics between the northern and southern portions of the Brooklyn Park sections of the corridor. Finally, one census tract that is part of the City of New Hope was included in the southernmost portion of the Lower Brooklyn Park section. We felt it appropriate to group this census tract with Lower Brooklyn Park because New Hope was not heavily represented, and the New Hope tract touched the ½ mile radius around the 63rd Avenue station in Lower Brooklyn Park.

APPENDIX 2: HOUSING MARKET ANALYSIS THEORY & ASSUMPTIONS

The most basic characteristic of a housing market is the interaction between consumers seeking housing and suppliers offering dwellings. Submarkets for housing of various quality levels exist within the broader housing market, and demand for housing in those submarkets comes from a range of buyers seeking housing of various levels of quality. By definition, submarkets should be thought of as independent segments of the broader housing market. While a household may weigh a variety of amenities and other characteristics of the housing stock when choosing a place to live, the dwellings available to that household are generally those that are close enough in price to be practicably substitutable for the household, given a particular income level (Grigsby, 1963; McClure, 2005). Therefore, the primary defining characteristic of a housing submarket is price, because price is indicative of quality level and creates a natural restriction on the potential pool of buyers. Finally, housing submarkets can be broken out by tenure. Although rental units may occasionally become ownership housing (and vice versa), this is relatively uncommon (McClure, 2005). Therefore, it is important to analyze rental housing as a separate submarket from ownership housing. Since housing submarkets by definition operate relatively independently of one another, comparing the supply of housing with the demand for housing will provide an indication of the relative “tightness” of the submarkets in the Bottineau Corridor. Where there is demand in excess of supply within a given submarket, prices will be bid upward by those who cannot afford to purchase housing in another submarket. Conversely, where supply is in excess of demand, prices will be bid down because there are not enough buyers seeking housing within the quality range represented by the submarket. This type of basic housing market analysis can be constructed primarily using census data and the American Community Survey (McClure, 2005), which is readily available and can be analyzed at the local level.

Our analysis groups renter and homeowner households by income levels available via the American Community Survey, and compares each group to the number of rental or owner units (respectively) that would be considered attainable to households based on household income. Demand is compared with supply by pairing consumer groups of renters and owners (demand) with the supply of housing within submarkets considered attainable to those households without exceeding conventional definitions of housing cost burden. By subtracting supply from demand within each pairing, it is possible to assess the degree to which

the distribution of housing prices matches the purchasing power of consumers. The purpose of this analysis is to provide a measure of the relative tightness of submarkets in the Bottineau Corridor in comparison to the 7-county metro.

SUBMARKET

An independent unit of the broader housing market within which consumers with certain preferences and income levels seek housing. Submarkets are defined by price (an indicator of quality) and tenure (rental versus ownership housing).

Supply: The number of housing units available within each submarket.

Demand: The number of consumers (households) living in the study area, broken out into categories according to income level and tenure (renters versus owners).

A shortage of housing exists when the number of households paired with a given submarket exceeds the supply of housing in that submarket. A surplus of housing exists when the number of households is less than the number of housing units in the paired demand group and submarket.

Although this is a crude way to approximate housing supply and demand, it helps us to understand in a general way how well the housing stock in the Bottineau Corridor meets the affordability needs of households living in the corridor. This method should do particularly well in identifying how well the housing stock matches the needs of low-income residents that may not have the same degree of choice to move between different housing submarkets. The method does not do as well in determining the tightness of submarkets for high priced housing, because high-income households do not face price-constrained choices when choosing a home.

In order to produce this analysis, some important assumptions were made:

AFFORDABILITY

- Rental households should pay no more than 30% of income in gross rent (McClure, 2005)
- Owner households should pay no more than 28% of income in Principal, Interest, Taxes, and Insurance (PITI) (McClure, 2005)
- Owner-occupied housing affordability is calculated based on an estimate of what it would cost to purchase a home today based on current financing costs and the home's current value. While measures of actual housing costs could be used, doing so would artificially lower our estimate of the current cost of homeownership since homes were purchased at different points in time at variable interest rates and prices.

MORTGAGE TERMS

- Calculations of affordability are based on a fixed-rate, 30-year mortgage at 4.4% interest, reflecting the most recent monthly average interest rate from Freddie Mac for March, 2014.
- Assumes a 10% down payment, a conservative amount which should be enough to qualify for many lending opportunities.
- Assumes that mortgage insurance makes up 10% of monthly principal and interest, based on the fixed-rate monthly payment calculator available through Freddie Mac.
- Other costs
- Assumes home insurance at 0.43% of home value on an annual basis, based on 2011 American Housing Survey median insurance cost divided by median home value for the United States.
- Assumes a tax rate of 1.19% for the Minneapolis St. Paul metro, and 1.39% for the Bottineau Corridor, based on median taxes paid divided by median home value for the two geographic areas.



APPENDIX 3: SUPPLY AND DEMAND ANALYSIS

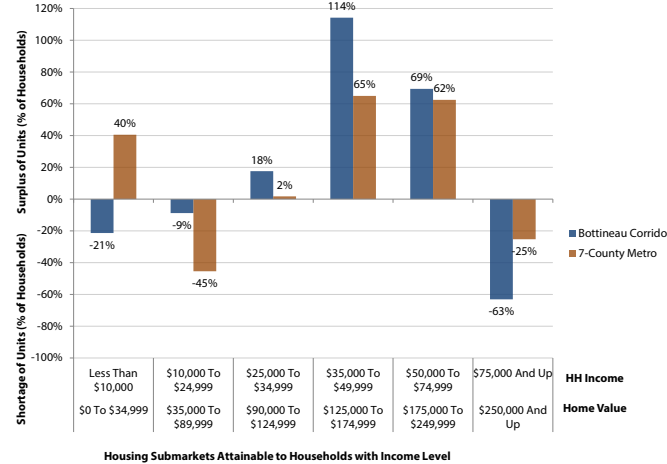
Figure 19: Housing Supply and Demand Dashboard

Housing Supply and Demand			Bottineau Transitway Station Areas				7-County Metropolitan Statistical Area				
	Rent	Attainable for Income	#Units	#HHs	(Shortage)/ Surplus	% of HH	#Units	#Households	(Shortage)/ Surplus	% of HH	Difference in % of HH
Rental housing differential (units minus households; difference as a percent of housing stock affordable to income level)	\$1 to \$249	Less Than \$10,000	861	1,893	(1,032)	-54.52%	16,703	43,805	(27,102)	-61.87%	7.35%
	\$250 to 499	\$10,000 To \$19,999	690	2,170	(1,480)	-68.20%	23,023	57,123	(34,100)	-59.70%	-8.51%
	\$500 to 899	\$20,000 To \$34,999	4,434	2,513	1,921	76.44%	142,909	73,611	69,298	94.14%	-17.70%
	\$900 to 1249	\$35,000 To \$49,999	2,659	1,514	1,145	75.63%	97,199	55,863	41,336	74.00%	1.63%
	\$1250-1999	\$50,000 To \$74,999	1,747	1,266	481	37.99%	62,019	57,169	4,850	8.48%	29.51%
	\$2000 and up	\$75,000 And Up	113	745	(632)	-84.83%	9,906	51,112	(41,206)	-80.62%	-4.21%
				10,504	10,101			351,759	338,683		
Owner-occupied housing differential (units minus households; difference as percent of housing stock affordable to income level)	\$0 To \$34,999	Less Than \$10,000	378	481	(103)	-21.41%	21,095	15,016	6,079	40.48%	-61.90%
	\$35,000 To \$89,999	\$10,000 To \$24,999	1,555	1,705	(150)	-8.80%	26,277	48,166	(21,889)	-45.44%	36.65%
	\$90,000 To \$124,999	\$25,000 To \$34,999	2,202	1,873	329	17.57%	46,344	45,560	784	1.72%	15.84%
	\$125,000 To \$174,999	\$35,000 To \$49,999	6,170	2,881	3,289	114.16%	135,926	82,408	53,518	64.94%	49.22%
	\$175,000 To \$249,999	\$50,000 To \$74,999	7,360	4,346	3,014	69.35%	240,066	147,785	92,281	62.44%	6.91%
	\$250,000 And Up	\$75,000 And Up	3,256	8,825	(5,569)	-63.10%	333,900	446,854	(112,954)	-25.28%	-37.83%
				20,921	20,111			803,608	785,789		

Rental Unit Surplus & Shortage by Submarket



Owner Occupied Surplus & Shortage by Submarket



Assumptions:		
Rent should be no more than 30% of household income for renter households		
Principal, Interest, Taxes, and Insurance (PITI) should be no more than 28% of owner household income	Bottineau	Metro
Loan To Value Ratio (LTV)	90%	90%
Tax Rate (on home value)	1.39%	1.19%
Insurance Rate (on home value)	0.43%	0.43%
30 year fixed interest rate	4.40%	4.40%

APPENDIX 4: NEIGHBORHOOD CHANGE INDEX (NCI) METHODOLOGY

- Uses: 2000 US Census downloaded using a proprietary Geolytics database which normalized 2000 census data to 2010 census boundary
- 2007-2012 5-Year American Community Survey (ACS) downloaded from socialexplorer.com
- Population with at least a 4-year bachelor's degree
- Median HH Income in constant 2012 dollars
- 2000 dollars adjusted for inflation using Minneapolis-Saint Paul regional CPI figure from the Bureau of Economic Analysis (BEA)
- Median Home Value for Owner-Occupied Housing Units
- Regional percent change figures were calculated
- Increased pressure was denoted when tract %change was greater than the regional change in the same variable during the same time period

Table 13: Regional Changes in NCI variables 2000-2012

	2000	2012	% Change
Pop with Col. Degree	34.8%	40.3%	15.8%
Median HH Income	\$71,696	\$66,091	-7.8%
Median Home Value	\$182,300	\$225,766	23.8%

Regional Figures represent 7-County Metro Changes (medians found using SocialExplorer.com)

Table 14: Section Changes in NCI variables 2000-2012

College Educated Population

Corridor Section	2000	2012	% Change
Minneapolis	12.4%	18.8%	51.7%
Golden Valley	48.3%	52.3%	8.2%
Robbinsdale	26.3%	37.1%	41.1%
Crystal	17.6%	26.9%	53.0%
Lower Brooklyn Park	20.8%	20.9%	0.4%
Upper Brooklyn Park	38.9%	34.6%	-11.1%
Corridor Total	20.6%	26.3%	27.6%

Change in Median Household Income

Corridor Section	2000	2012	% Change
Minneapolis	\$37,728	\$28,320	-24.9%
Golden Valley	\$102,714	\$92,540	-9.9%
Robbinsdale	\$66,033	\$54,834	-17.0%
Crystal	\$66,755	\$61,247	-8.3%
Lower Brooklyn Park	\$65,072	\$41,573	-36.1%
Upper Brooklyn Park	\$93,215	\$80,282	-13.9%
Corridor Total	\$59,963	\$50,254	-16.2%

Change in Median Home Value

Corridor Section	2000	2012	% Change
Minneapolis	\$109,559	\$140,864	28.6%
Golden Valley	\$207,281	\$250,500	20.9%
Robbinsdale	\$149,326	\$180,708	21.0%
Crystal	\$143,276	\$163,884	14.4%
Lower Brooklyn Park	\$156,624	\$171,500	9.5%
Upper Brooklyn Park	\$207,966	\$212,000	1.9%
Corridor Total	\$151,032	\$177,408	17.5%

Table 15: NCI Raw Census Data

Census Tract Level Changes

2000 US Census Data (normalized to 2010 boundaries)

TRACT ID	CORR_SE C	TOTALPOPO O	POP02500	COLLEGE00	PCT_COLL00	MEDHHINCO O	MEDHHINCO0_AD J	MEDRENT00	MEDRENT00_ADJ	MEDVAL00	MEDVAL00_ADJ
27053104100	MPLS	3,827	2,040	290	14.2%	\$23,596	\$32,327	\$512	\$701	\$66,656	\$91,319
27053002700	MPLS	2,683	1,428	154	10.8%	\$32,157	\$44,055	\$675	\$925	\$76,871	\$105,313
27053103400	MPLS	1,401	511	19	3.7%	\$14,830	\$20,317	\$287	\$393	\$12,500	\$17,125
27053003200	MPLS	1,894	1,109	254	22.9%	\$39,668	\$54,345	\$612	\$838	\$97,836	\$134,035
27053003300	MPLS	2,726	1,105	72	6.5%	\$28,034	\$38,407	\$687	\$941	\$82,250	\$112,683
27053102000	MPLS	2,514	1,314	217	16.5%	\$34,107	\$46,727	\$627	\$859	\$76,503	\$104,809
27053102800	MPLS	2,989	1,364	165	12.1%	\$27,750	\$38,018	\$469	\$643	\$81,178	\$111,214
27053021700	GV	5,059	3,765	1,820	48.3%	\$77,556	\$106,252	\$609	\$834	\$158,151	\$216,667
27053021200	RBDL	4,634	3,239	1,183	36.5%	\$57,993	\$79,450	\$692	\$948	\$128,722	\$176,349
27053021400	RBDL	3,331	2,359	592	25.1%	\$53,164	\$72,835	\$884	\$1,211	\$106,004	\$145,225
27053021100	RBDL	1,863	1,308	283	21.6%	\$43,762	\$59,954	\$637	\$873	\$108,475	\$148,611
27053021300	RBDL	4,306	3,169	691	21.8%	\$35,257	\$48,302	\$546	\$748	\$99,622	\$136,482
27053020700	CRYS	4,451	2,995	477	15.9%	\$53,713	\$73,587	\$619	\$848	\$108,833	\$149,101
27053020801	CRYS	2,247	1,529	234	15.3%	\$44,494	\$60,957	\$693	\$949	\$99,371	\$136,138
27053020903	CRYS	3,039	2,172	510	23.5%	\$52,067	\$71,332	\$722	\$989	\$109,288	\$149,725
27053020804	CRYS	2,819	1,994	310	15.5%	\$41,915	\$57,424	\$765	\$1,048	\$104,955	\$143,788
27053026807	LBPK	5,715	3,725	820	22.0%	\$52,824	\$72,369	\$720	\$986	\$122,339	\$167,604
27053026809	LBPK	4,396	2,320	461	19.9%	\$36,223	\$49,626	\$731	\$1,001	\$97,084	\$133,005
27053026816	LBPK	6,244	3,956	958	24.2%	\$57,944	\$79,383	\$737	\$1,010	\$113,134	\$154,994
27053026818	LBPK	4,594	2,757	415	15.1%	\$49,860	\$68,308	\$564	\$773	\$116,017	\$158,943
27053021501	LBPK	4,154	3,032	688	22.7%	\$36,692	\$50,268	\$765	\$1,048	\$126,696	\$173,574
27053026812	UBPK	4,074	2,696	1,050	38.9%	\$69,298	\$94,938	\$677	\$927	\$149,656	\$205,029

Table 16: NCI Raw ACS Data

2012 ACS Data

TRACT ID	CORR_SECTION	POP2512	COLLEGE12	PCT_COLLEGE12	MEDHHINC12	TOTALPOP12	MEDIANRENT12	MEDIANVAL12
27053104100	MPLS	1,849	276	14.9%	\$30,588	3023	\$759	\$160,100
27053002700	MPLS	1,561	337	21.6%	\$50,083	2714	\$981	\$151,000
27053103400	MPLS	1,286	156	12.1%	\$15,223	2581	\$493	\$225,000
27053003200	MPLS	975	245	25.1%	\$45,457	1820	\$1,233	\$178,800
27053003300	MPLS	1,223	133	10.9%	\$19,971	2828	\$1,052	\$127,600
27053102000	MPLS	1,105	293	26.5%	\$45,122	2028	\$1,548	\$130,800
27053102800	MPLS	1,176	240	20.4%	\$21,901	2378	\$721	\$102,800
27053021700	GV	3,825	2,000	52.3%	\$92,540	4992	\$1,695	\$250,500
27053021200	RBDL	3,065	1,220	39.8%	\$66,840	4536	\$1,084	\$205,600
27053021400	RBDL	2,197	823	37.5%	\$61,208	3088	\$1,163	\$167,900
27053021100	RBDL	1,254	435	34.7%	\$49,167	1952	\$751	\$172,000
27053021300	RBDL	3,290	1,193	36.3%	\$46,198	4472	\$761	\$165,200
27053020700	CRYS	2,938	737	25.1%	\$58,614	3894	\$877	\$165,700
27053020801	CRYS	1,332	378	28.4%	\$51,691	1973	\$794	\$162,000
27053020903	CRYS	2,338	590	25.2%	\$71,698	3379	\$1,108	\$173,300
27053020804	CRYS	2,100	605	28.8%	\$56,094	3137	\$907	\$162,300
27053026807	LBPK	3,303	839	25.4%	\$48,993	5454	\$869	\$173,200
27053026809	LBPK	2,612	234	9.0%	\$32,875	4869	\$783	\$146,200
27053026816	LBPK	3,659	1,120	30.6%	\$58,667	5925	\$1,094	\$169,400
27053026818	LBPK	2,999	513	17.1%	\$41,573	5042	\$729	\$171,500
27053021501	LBPK	2,942	653	22.2%	\$47,436	3871	\$974	\$190,400
27053026812	UBPK	3,673	1,271	34.6%	\$80,282	5439	\$1,811	\$212,000

Table 17: NCI Data Calculations**NCI Calculations**

TRACT ID	CORR_SECTION	TC_PCTCOLL	TC_MEDINC	TC_MEDVAL	TC_MEDRENT	GENCOLL	GENMEDINC	GENDEMO	GENMEDVAL	CATEGORY
27053104100	MPLS	0.7%	-5.4%	75.3%	8.2%	0	0	0	1	BLUE
27053002700	MPLS	10.8%	13.7%	43.4%	6.1%	1	1	1	1	GREEN
27053103400	MPLS	8.4%	-25.1%	1213.9%	25.4%	1	0	1	1	GREEN
27053003200	MPLS	2.2%	-16.4%	33.4%	47.1%	0	0	0	1	RED
27053003300	MPLS	4.4%	-48.0%	13.2%	11.8%	0	0	0	0	BLACK
27053102000	MPLS	10.0%	-3.4%	24.8%	80.2%	1	1	1	1	GREEN
27053102800	MPLS	8.3%	-42.4%	-7.6%	12.2%	1	0	1	0	RED
27053021700	GV	3.9%	-12.9%	15.6%	103.2%	0	0	0	0	BLACK
27053021200	RBDL	3.3%	-15.9%	16.6%	14.3%	0	0	0	0	BLACK
27053021400	RBDL	12.4%	-16.0%	15.6%	-4.0%	1	0	1	0	RED
27053021100	RBDL	13.1%	-18.0%	15.7%	-13.9%	1	0	1	0	RED
27053021300	RBDL	14.5%	-4.4%	21.0%	1.7%	1	1	1	1	GREEN
27053020700	CRYS	9.2%	-20.3%	11.1%	3.4%	1	0	1	0	RED
27053020801	CRYS	13.1%	-15.2%	19.0%	-16.4%	1	0	1	1	GREEN
27053020903	CRYS	1.8%	0.5%	15.7%	12.0%	0	1	1	0	RED
27053020804	CRYS	13.3%	-2.3%	12.9%	-13.5%	1	1	1	0	RED
27053026807	LBPK	3.4%	-32.3%	3.3%	-11.9%	0	0	0	0	BLACK
27053026809	LBPK	-10.9%	-33.8%	9.9%	-21.8%	0	0	0	0	BLACK
27053026816	LBPK	6.4%	-26.1%	9.3%	8.4%	1	0	1	0	RED
27053026818	LBPK	2.0%	-39.1%	7.9%	-5.7%	0	0	0	0	BLACK
27053021501	LBPK	-0.5%	-5.6%	9.7%	-7.1%	0	0	0	0	BLACK
27053026812	UBPK	-4.3%	-15.4%	3.4%	95.3%	0	0	0	0	BLACK



Table 18-19: Full Neighborhood Change Statistics by Section - Cost Burden and People of Color (Non-white)

Lens of Vulnerability by Type of Pressure

Cost Burdened HH											
Corridor Section	Total HH in Section	Total Cost Burdened in Section	% Burdened	Red N	Red %	Blue N	Blue %	Green N	Green %	Total N	Total %
MPLS	6,045	3,331	55%	492	15%	925	28%	1,499	45%	2,916	88%
GV	2,108	604	29%	0	0%	0	0%	0	0%	0	0%
RBDL	6,080	2,249	37%	794	35%	0	0%	980	44%	1,774	79%
CRYS	4,823	1,494	31%	1188	80%	0	0%	216	14%	1,404	94%
LBPk	9,256	4,393	47%	843	19%	0	0%	0	0%	843	19%
UBKp	1,900	683	36%	0	0%	0	0%	0	0%	0	0%
Corridor Total	30,212	12,754	42%	3317	26%	925	7%	2,695	21%	6,937	54%

Non-White Residents											
Corridor Section	Total Pop	Total People of Color in Section	% People of Color	Red N	Red %	Blue N	Blue %	Green N	Green %	Total N	Total %
MPLS	17,372	14,403	83%	1,924	13%	3,518	24%	6,254	43%	11,696	81%
GV	4,992	666	13%	0	0%	0	0%	0	0%	0	0%
RBDL	14,048	3,269	23%	1,106	34%	0	0%	1,224	37%	2,330	71%
CRYS	12,383	3,001	24%	2,341	78%	0	0%	660	22%	3,001	100%
UBKp	25,161	12,873	51%	3,499	27%	0	0%	0	0%	3,499	27%
LBPk	5,439	2,628	48%	0	0%	0	0%	0	0%	0	0%
Corridor Total	79,395	36,840	46%	8,870	24%	3,518	10%	8,138	22%	20,526	56%



Table 20: Full Neighborhood Change Statistics by Section - Low Income HH

Low-Income Residents											
Corridor Section	Total Pop	Total Low Income Res. In Section	% Low income in section	Red N	Red %	Blue N	Blue %	Green N	Green %	Total N	Total %
MPLS	17,372	11,205	65%	1,641	15%	2,742	24%	4,525	40%	8,908	80%
GV	4,992	597	12%	0	0%	0	0%	0	0%	0	0%
RBDL	14,048	3,310	24%	1,293	39%	0	0%	1,257	38%	2,550	77%
CRYS	12,383	2,807	23%	2,271	81%	0	0%	536	19%	2,807	100%
UBPK	25,161	9,516	38%	1,673	18%	0	0%	0	0%	1,673	18%
LBPk	5,439	477	9%	0	0%	0	0%	0	0%	0	0%
Corridor Total	79,395	27,912	35%	6,878	25%	2,742	10%	6,318	23%	15,938	57%

APPENDIX 5: SCENARIOS OF TRANSIT IMPACT ON HOUSING COST

ASSUMPTIONS

1. Housing prices naturally increase approximately 1% per year on average, adjusted for inflation, based on annual increases in median home value and median gross rent seen between 1980 and 2010 in the United States.
2. Incomes naturally increase by approximately 0.6% annually, adjusted for inflation. This is based on a continuation of 1% real increases in income in the United States from 1980-2000, adjusted downward due to stagnated incomes from 2000-2010.
3. Any changes in property values are reflected in rents.
4. Increases in property values are evenly distributed across all properties within ¼ mile of station platforms.
5. The time period for the projections is before and after LRT construction. This time period is assumed to be 5 years. This is a somewhat arbitrary assumption. Therefore baseline increases due to natural changes in property values will vary in reality depending on the amount of time elapsed. This method is intended to provide a rough idea of some of the before and after scenarios that could take place.
6. Cost burden is calculated for the median income homeowner and median income renter, assuming they purchase the median priced home and median priced rental unit, respectively. Assumptions for homeowner cost are the same as those used in Appendix 3. The degree of cost burden for the median homeowner could vary significantly, depending on the actual down payment amount on the home and changes in interest and tax rates over the time period.
7. Taxes, insurance, and interest rates are assumed constant.
8. Homeowner cost burden represents the cost to purchase the home at the point in time represented by the scenario (before or after LRT construction). This is reflective of a new household moving to the corridor, and does not reflect the actual cost burden for households that purchased homes in the past or purchased just before LRT construction and held them until after LRT completion.

PRESENTATION OF SCENARIOS

- Scenarios are constructed based on price premiums paid for properties within ¼ mile of LRT station platforms. The price premium reflects the difference between the price paid for property within ¼ mile of an LRT platform and the price paid for property that lacks LRT access but is otherwise equivalent, based on Debrezion et al (2007).
- Since our scenarios project increases in property values over time, the price premiums are added on top of natural increases in property values as noted in the assumptions above. The baseline (natural) increase in property values is assumed to be 5.1% (1% each year for 5 years), and the baseline increase in income is assumed to be 3.04% (0.6% per year for 5 years).
- No Impact: Shows the magnitude of increases in housing costs and incomes due to natural (baseline) changes, including 5.1% increase in housing costs and 3.04% increases in real income.
- Moderate Impact: Reflects a 7.1% price premium over the baseline (a 12.56% increase between before and after construction). This scenario represents the average price premium paid in the 16 LRT case studies reviewed in the literature.
- High Impact: Reflects a 16.4% increase over the baseline increase of 5.1% (a 22.34% increase over the initial value).
- Extreme Impact: Reflects a 23.7% increase over the baseline increase of 5.1% (a 30.01% increase over the initial value).

Table 11 (Reprinted from Section 4): Scenarios for transit impact on housing prices

Scenario	Baseline Change in Income	Baseline Change in Housing Cost	Transit Premium	Total Increase in Housing Cost	Standard Deviations from Average Premium	% of cases with housing cost equal to or higher than projection
No Impact	3.04%	5.10%	0.00%	5.10%	N/A	N/A
Moderate Impact	3.04%	5.10%	7.10%	12.56%	0	50.00%
High Impact	3.04%	5.10%	16.40%	22.34%	1	15.90%
Extreme Impact	3.04%	5.10%	23.70%	30.01%	2	2.30%

Table 21: Inflation Adjusted 1980-2010 Change in Gross Rent & Home Value for United States (2010 Dollars)

	1980	2000	2010	80-00 % change	80-00 Annual Change	80-10 % Change	80-10 Annual Change
Median Gross Monthly Rent	\$639	\$765	\$841	19.71%	0.90%	31.68%	0.92%
Median Home Value	\$135,945	\$141,986	\$188,400	4.44%	0.22%	38.59%	1.09%
Median Household Income	\$43,836	\$53,151	\$51,914	21.25%	0.97%	18.43%	0.57%

Table 22: Change in Housing Costs

Projected Percent Change Over Initial Housing Costs		
	Before	After
Extreme Impact	0	30.01%
High Impact	0	22.34%
Moderate Impact	0	12.56%
No Impact	0	5.10%
Household Income	0	3.04%
Projected Change in Median HH Income		
	Before	After
All HH Income	\$ 50,254	\$ 51,782
Renters	\$ 25,166	\$ 25,931
Homeowners	\$ 65,714	\$ 67,712
Projected Change in Median Home Value		
	Before	After
Extreme Impact	\$ 177,408	\$ 230,646
High Impact	\$ 177,408	\$ 217,035
Moderate	\$ 177,408	\$ 199,694
No Impact	\$ 177,408	\$ 186,456
Median Owner HH Income (Annual)	\$ 65,714	\$ 67,712
Projected Change in Median Rent		
	Before	After
Extreme Impact	\$ 888	\$ 1,154
High Impact	\$ 888	\$ 1,086
Moderate Impact	\$ 888	\$ 1,000
No Impact	\$ 888	\$ 933
Median Renter HH Income (Monthly)	\$ 2,097	\$ 2,161

Table 23: Change in Cost Burden

Projected Change in Owner Cost Burden for Median Income Owner Household and Median Estimated Owner Cost		
	Before	After
Extreme Impact Homeowner Cost	20%	26%
High Impact Homeowner Cost	20%	24%
Moderate Homeowner Cost	20%	22%
No Impact Homeowner Cost	20%	21%
Projected Change in Cost Burden for Median Income Renter Household and Median Rent		
	Before	After
Extreme Impact Rent	42%	53%
High Impact Rent	42%	50%
Moderate Impact Rent	42%	46%
No Impact Rent	42%	43%



Bottineau Corridor Housing Affordability and Needs Assessment

Dean Porter, David Davis, Tony Damiano, Wes Johnson : May, 2014

Project Overview

The Bottineau Transitway is a proposed 13-mile light rail transit project that will connect downtown Minneapolis, Minnesota to the northern suburb of Brooklyn Park. The Bottineau Corridor Housing Affordability and Needs Assessment examines current housing affordability and development pressure, and reviews past research on the impact of light rail transit on housing prices and neighborhood change.

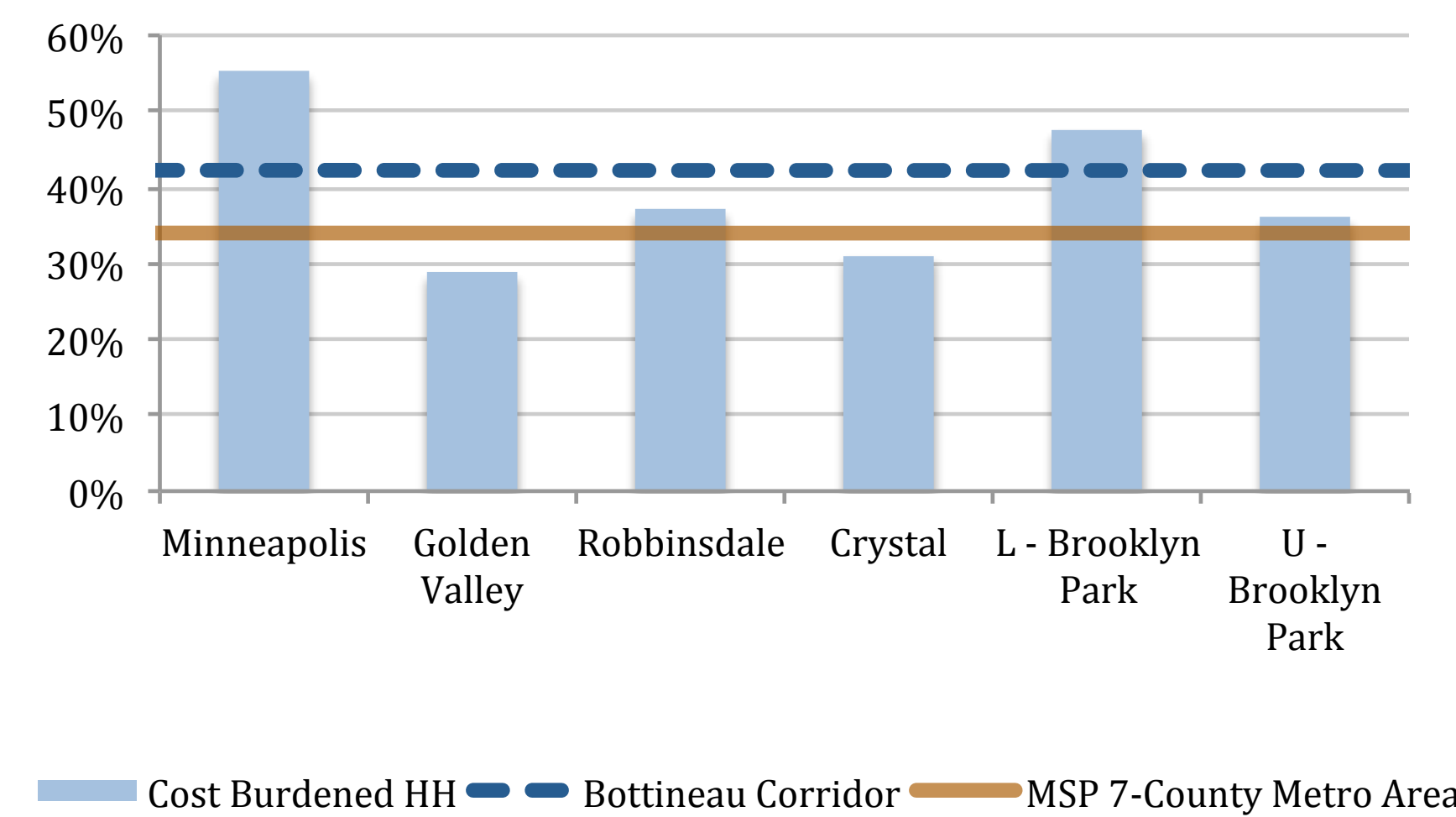
We show that affordability is already an issue for existing low and moderate income families along the corridor, and that many areas of the corridor already face development pressures that could lead to disproportionate increases in housing costs. While the transit investment will bring many benefits, the light rail may spur neighborhood change that further decreases housing affordability, particularly for vulnerable populations living in neighborhoods already experiencing development pressure. Several scenarios are presented in order to show the range of potential impacts of price increases on housing affordability. Price increases are expected to be highest near Minneapolis, Robbinsdale, and Crystal, where development pressures already exist. Finally, a set of strategies are proposed which, if used in concert with one another, could meaningfully change conversations about housing affordability in the corridor and preserve

Housing Cost Burden

Hard-working low and moderate income families already struggle disproportionately compared to the regional population to afford the cost of housing.

Cost burdened households contribute 30% or more of their income toward the cost of housing. Of 30,212 households in the Bottineau Corridor, 12,754 (42%) are cost burdened, compared to only 34% of households living in the 7-county metropolitan area (metro). Despite having moderate incomes, many of the households in the corridor are cost burdened – this includes more than half of homeowners and more than 40% of renters earning \$35,000-\$50,000. Nearly 40% of homeowners earning \$50,000-\$75,000 are cost burdened. Cost burden is an issue for all parts of the corridor: 5 out of 6 sections have cost burden rates as high

Cost Burdened Households (>30% of income)



Neighborhood Change Index

The neighborhood change index assesses changes in demand and price characteristics from 2000-2012 in order to show areas experiencing different types of development pressure based on past trends.

Demographic Pressure

- Household Income and/or % of pop with 4-year degree increased by more than regional average
- Home value did not increase more than the regional average
- Significance:** signals increasing demand that may lead to future housing price increases

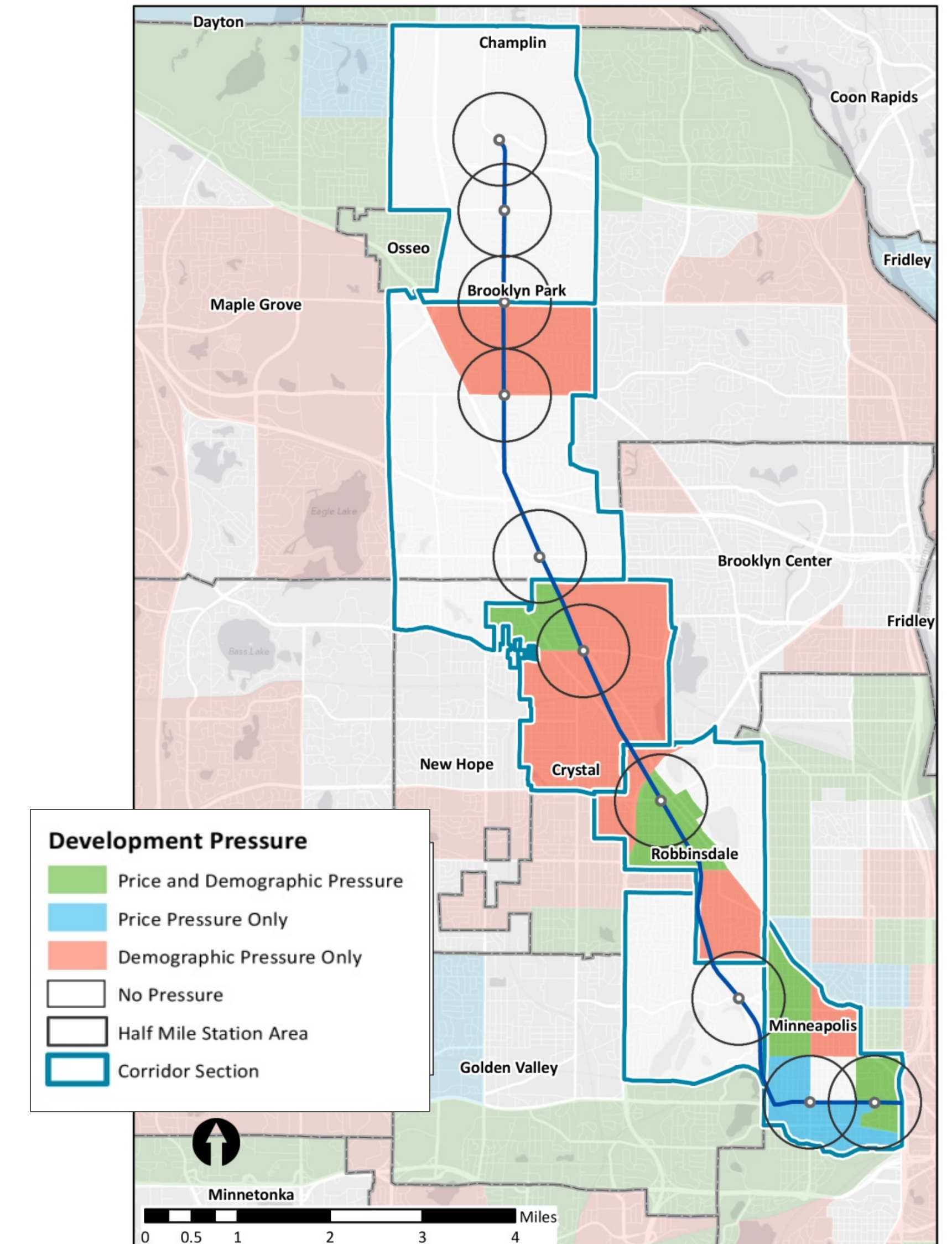
Price Pressure

- Home value alone increased more than the average increase for the region
- Significance:** Potentially indicates new development over the last decade due to speculation on future increases in demand

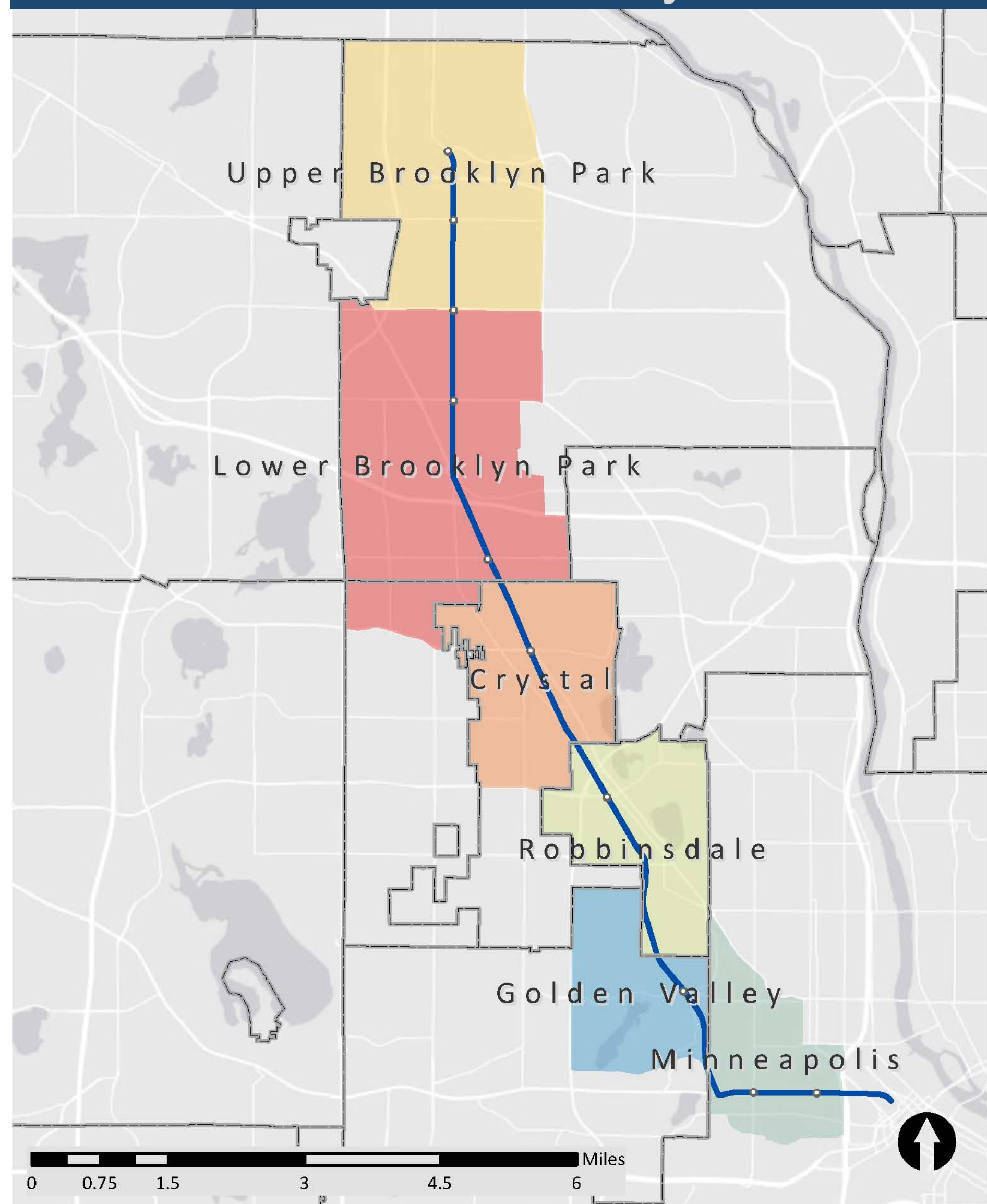
Price & Demographic Pressure

- Home value increases above regional increase along with demographic pressure
- Significance:** These areas experienced significant redevelopment over the past decade and could begin exerting pressure on surrounding neighborhoods if trends continue.

Neighborhood Change Index Map



Bottineau Corridor Study Area

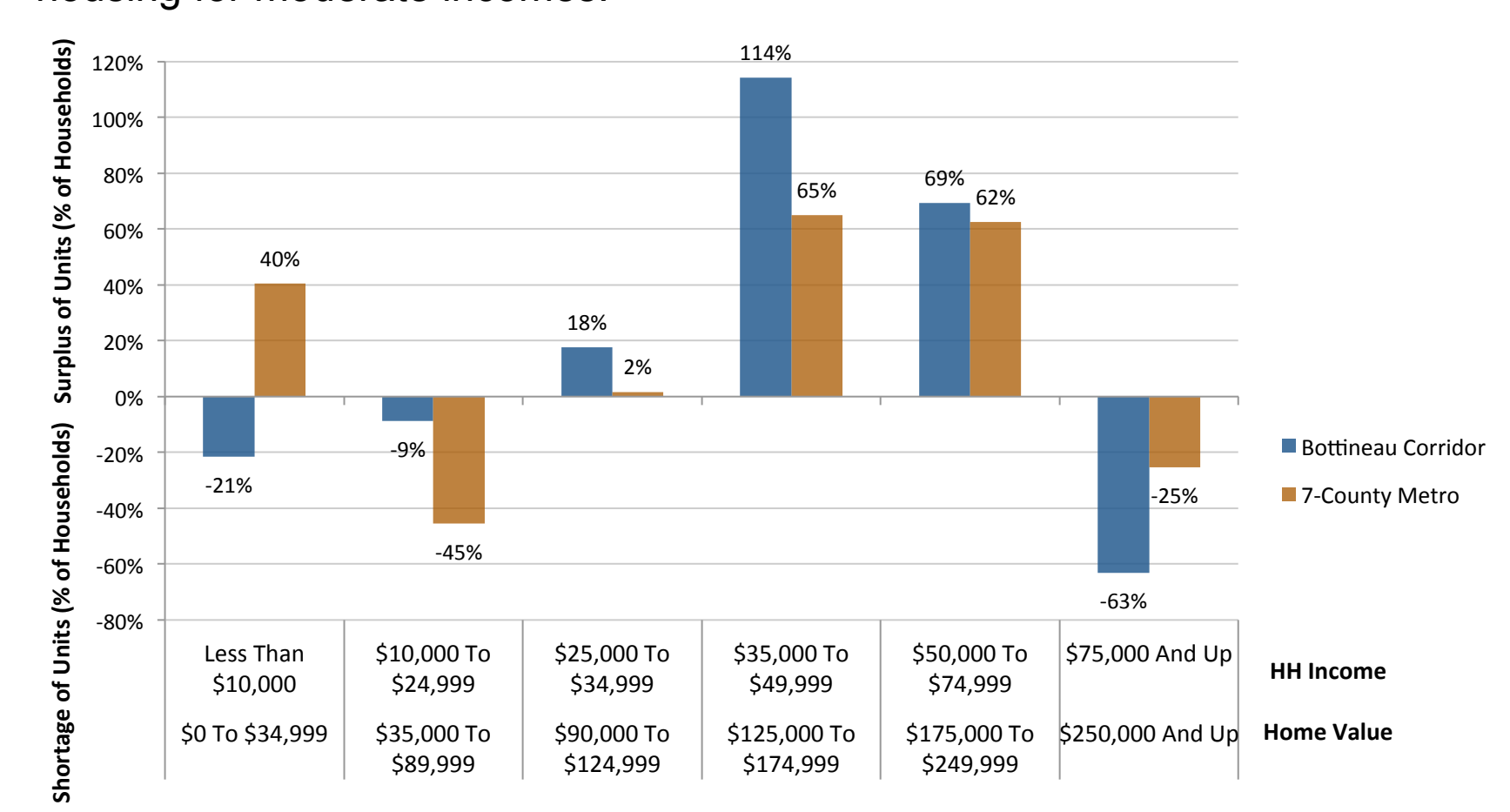


The study area is made up of census tracts intersecting a 1/2 mile radius of proposed station areas. The study area is divided into 6 sections, mostly following established political boundaries, with a couple exceptions.

Housing Supply & Demand Analysis

Part of the reason cost burden is an issue is because there is a **shortage of housing options affordable to low and moderate income households.** Because households lack affordable options in submarkets attainable for households earning under \$25,000, many households are forced to seek housing in higher priced submarkets. Higher income home-owners tend to live in mid-priced housing in the Bottineau corridor, places additional pressure on mid-priced submarkets. The surplus of homes in the \$125,000 to \$175,000 price range may present an opportunity for

Shortage and Surplus of Ownership Housing



Housing Submarkets Attainable to Households with Income Level

		Bottineau Transitway Corridor				
Rental housing differential (units minus households; difference as a percent of housing stock affordable to income level)	Rent	Attainable for Income	#Units	#Households	(Shortage)/ Surplus	% of HH
	\$1 to \$249	Less Than \$10,000	861	1,893	(1,032)	-54.52%
	\$250 to 499	\$10,000 To \$19,999	690	2,170	(1,480)	-68.20%
	\$500 to 899	\$20,000 To \$34,999	4,434	2,513	1,921	76.44%
	\$900 to 1249	\$35,000 To \$49,999	2,659	1,514	1,145	75.63%
	\$1250-1999	\$50,000 To \$74,999	1,747	1,266	481	37.99%
	\$2000 and up	\$75,000 And Up	113	745	(632)	-84.83%
			10,504	10,101		
Owner-occupied housing differential (units minus households; difference as a percent of housing stock affordable to income level)	Home Value	Attainable for Income	#Units	#Households	(Shortage)/ Surplus	% of HH
	\$0 To \$34,999	Less Than \$10,000	378	481	(103)	-21.41%
	\$35,000 To \$89,999	\$10,000 To \$24,999	1,555	1,705	(150)	-8.80%
	\$90,000 To \$124,999	\$25,000 To \$34,999	2,202	1,873	329	17.57%
	\$125,000 To \$174,999	\$35,000 To \$49,999	6,170	2,881	3,289	114.16%
	\$175,000 To \$249,999	\$50,000 To \$74,999	7,360	4,346	3,014	69.35%
	\$250,000 And Up	\$75,000 And Up	3,256	8,825	(5,569)	-63.10%
			20,921	20,111		

Housing Cost Increases Due to Transit

Research shows that in most cases, property values rise for properties located near a light rail station. On average, the premium paid for property within 1/4 mile of a light rail station is 7.1%, but can be as high as 20% or more in rare cases. Below is an application of several scenarios to housing costs for the median income homeowner and median income renter in the Bottineau corridor, as if they were to purchase the median priced home and median priced rental unit, respectively. The charts show that the total increase in housing cost is roughly similar for both renters and owners, even though renters have lower initial costs. **More severely cost burdened households are more sensitive to**

Projected Change in Cost Burden for Median Income Owner Household and Median Estimated Owner Cost

	Original Housing Cost	Light Rail Housing Cost	Original Cost Burden	Light Rail Cost Burden
Extreme Impact	\$1,119	\$1,455	20%	26%
High Impact	\$1,119	\$1,369	20%	24%
Moderate Impact	\$1,119	\$1,260	20%	22%
No Impact	\$1,119	\$1,176	20%	21%
Projected Median Owner Income (monthly)	\$5,476	\$5,643		

Projected Change in Cost Burden for Median Income Renter Household and Median Rent

	Original Housing Cost	Light Rail Housing Cost	Original Cost Burden	Light Rail Cost Burden
Extreme Impact	\$888	\$1,154	42%	53%
High Impact	\$888	\$1,086	42%	50%
Moderate Impact	\$888	\$1,000	42%	46%
No Impact	\$888	\$933	42%	43%
Projected Median Renter Monthly Income (Monthly)	\$2,097	\$2,161		

Where to expect price increases?

Based on the Neighborhood Change Index, we expect price increases to be highest in areas already exhibiting signs of increased development pressure, including Minneapolis, Robbinsdale, and Crystal. However, no community is immune to the potential for transit to increase property values and housing costs given the potential for future development pressure due to transit as well as new job centers like the new Target Campus in Brooklyn Park.

Strategies for Affordable Housing in the Corridor

Change the conversation

- Focus on needs of existing residents
- Affordability is an issue for hard working families
- Be realistic about potential for neighborhood change

Preserve Affordability

- Preserve existing low and moderate cost rental units and owned homes
- Preserve 3,200 existing subsidized units

Scale up the Community Land Trust

- Target the surplus of mid-priced homes in the corridor priced \$125,000-\$175,000
- Land trusts should become visible in station area planning
- Educate decision makers on affordable homeownership

Inclusionary Zoning

- Encourages development of affordable housing in high development pressure areas
- Mixed income housing is supported by stakeholders in Minneapolis neighborhoods

Engage underrepresented communities

- Use the Blue Line Coalition as a conduit for engaging diverse communities in the corridor
- Partnership for Regional Opportunity is a useful sounding board for fostering collaboration
- Education and outreach can drive policy change

Foster funding opportunities

- Leverage resources such as the Land Acquisition for Affordable New Development, which supports site acquisition near transit
- Lobby for additional, dedicated sources of funding

Monitor Changes

- Track neighborhood change metrics that indicate development pressure
- Monitor affordability indicators such as cost burden