

IRON RANGE HOUSING MARKET ANALYSIS

As of 2nd Quarter 2008

Prepared for:
Greater Minnesota Housing Fund
and
Range Readiness Initiative Housing Team

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2nd Quarter 2008

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Dear Andy & Mary:

We are pleased to present our report on Iron Range Housing as of 2nd Quarter 2008. This report details the methodology used to model housing need on the Iron Range and presents findings based on three different job growth scenarios.

Sincerely,

BONESTROO

Jay Demma
Project Manager

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Executive Summary

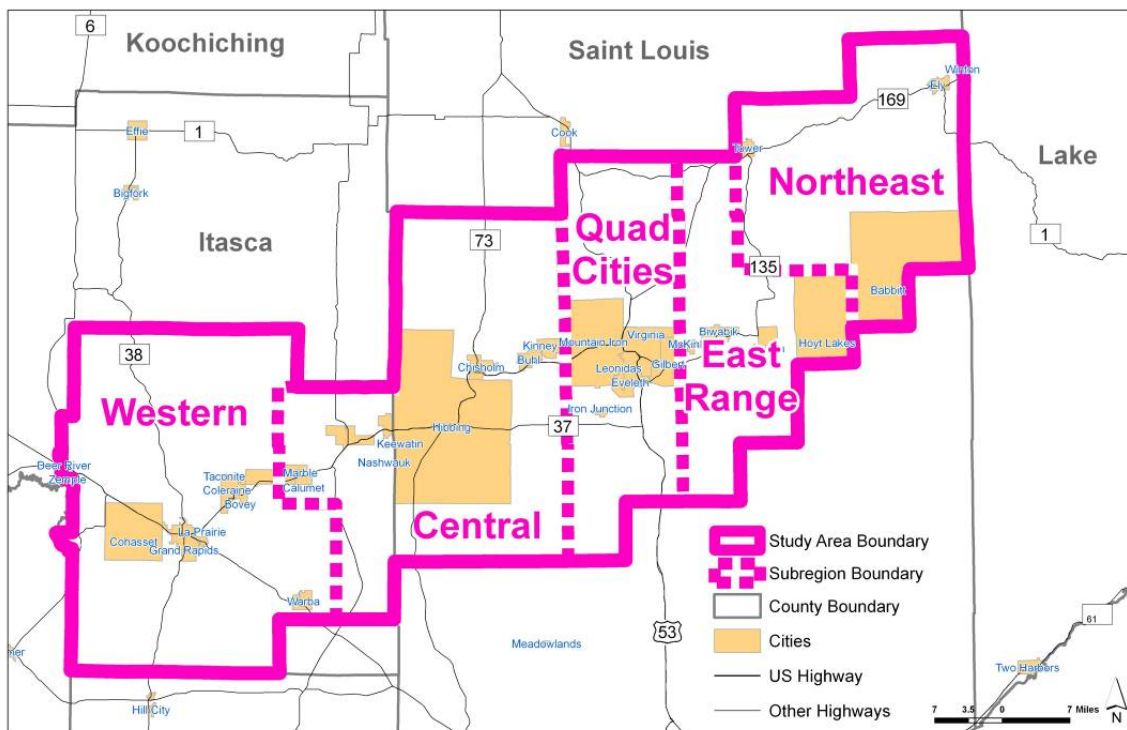
STUDY PURPOSE

The Housing Team of the Range Readiness Initiative (RRI) retained Bonestroo, Inc. (Bonestroo) to create an analytical tool, or model, that projects the need for housing in the Iron Range region based on proposed and pending economic development. Due to the rapidly evolving nature of economic development in the Iron Range, the housing model is designed to be dynamic and can respond to change in the marketplace as new jobs and housing are created.

STUDY AREA

The Study Area incorporates 31 communities and 54 townships covering over 3,000 square miles of portions of Itasca and St. Louis Counties. From east to west, the Study Area spans more than 100 miles and generally straddles the Highway 169 corridor. Because few persons are willing to commute over 50 miles for jobs, schools, and shopping, the Study Area was broken down into five subregions for analytical purposes.

STUDY AREA AND SUBREGIONS



METHODOLOGY

The methodology used to determine housing need was a supply and demand analysis. Elements of the analysis are as follows:

DEMAND ANALYSIS

- Analysis of location, wages, and timing of proposed new jobs
- Analysis of local labor force to determine the number of persons ready and available to fill newly created jobs
- Analysis of demographic characteristics to determine likelihood of newcomers to rent or own
- Analysis of community characteristics and proximity to job sites to determine which subregion newcomers would seek housing

SUPPLY ANALYSIS

- Analysis of 2000 Census data to determine a benchmark of housing supply
- Collect and analyze construction data since 1999 to determine number of housing units built since 1999
- Collect and analyze rental vacancy information to determine the number of available rental units
- Collect and analyze for-sale listings to determine price and quantity of for-sale homes available
- Inventory of mobile home park pads, hotel/motel rooms, and campgrounds site to determine potential supply of temporary housing units
- Analysis of housing rehabilitation needs from ARDC and Community Partners

DATA SOURCES

Retrieving data necessary for the housing study required a great deal of cooperation and collaboration with both the public and private sectors, which provided primary and secondary data. Public sector sources mostly provided secondary data, and at the federal and state level included the U.S. Census Bureau, U.S. Department of Labor, HUD, USDA Rural Development, Minnesota Department of Employment and Economic Development, and Minnesota Housing. Local government agencies providing secondary data were Itasca County, St. Louis County, ARDC, IRR, and numerous city offices. Private sector sources provided both primary and secondary data and included boards of Realtors, UMD Labovitz School of Business and Economics, and numerous rental property managers and owners. A complete list of sources and the type of data they provided is in the body of the report.

FINDINGS

Because economic development in the region is evolving, almost on a daily basis, the model tested three job growth scenarios to illustrate how housing needs may differ depending on when, where, and which projects actually come to fruition. Below is a description of the three job growth scenarios as of 2nd Quarter 2008:

Job Growth Scenarios		
"Low"	"Medium"	"High"
760 Direct Permanent Jobs	1,200 Direct Permanent Jobs	2,410 Direct Permanent Jobs
1,180 Spin-Off Permanent Jobs	1,880 Spin-Off Permanent Jobs	3,740 Spin-Off Permanent Jobs
1,970 Peak Temporary Jobs	2,520 Peak Temporary Jobs	3,020 Peak Temporary Jobs
List of Industrial Developments 1. Minnesota Power 2. Essar/MN Steel 3. Mesabi Nugget	List of Industrial Developments 1. Minnesota Power 2. Essar/MN Steel 3. KeeTac/US Steel 4. Mesabi Nugget 5. PolyMet	List of Industrial Developments 1. Minnesota Power 2. Excelsior Energy 3. Essar/MN Steel 4. KeeTac/US Steel 5. Mesabi Nugget 6. PolyMet 7. Franconia Minerals 8. Duluth Metals

Based on each of the three job growth scenarios, Bonestroo calculated housing need for each subregion in the Study Area from 2008 to 2013. The following table summarizes the amount of housing need for both permanent and temporary housing. More detailed findings with specifics on year of need, price, and tenure demanded are included in the body of the report.

Subregion	Permanent Housing Units Needed 2008-2013			Temporary Housing Units Needed at Peak 2008-2013		
	"Low"	"Medium"	"High"	"Low"	"Medium"	"High"
Western	606	627	811	100	100	240
Central	1,079	1,214	1,350	223	290	293
Quad Cities	479	525	611	32	45	49
East Range	143	359	388	44	104	109
Northeast	313	321	1,418	4	6	199
Total Study Area	2,620	3,046	4,578	403	545	890

Introduction

PURPOSE OF THE STUDY

The Housing Team of the Range Readiness Initiative (RRI) retained Bonestroo, Inc. (Bonestroo) to create an analytical tool, or model, that projects the need for housing in the Iron Range region based on proposed and pending economic development.

Due to the rapidly evolving nature of economic development in the Iron Range, the housing model is designed to be dynamic and can respond to change in the marketplace as new jobs and housing are created. By quantifying local housing needs and opportunities, the results of the model will help the Range Readiness Initiative to: 1) identify housing production capacity and need for added capacity; 2) inform planning opportunities by housing type; 3) identify opportunities geographically; 4) help attract resources for plan implementation; and 5) support further planning, and local and regional collaboration.

REPORTING OF RESULTS

This report documents the methodology and data sources used to estimate housing need in the Iron Range region. Behind the report is a series of databases and spreadsheets that calculate housing need based on estimates of future job growth. Because the marketplace is dynamic and job growth predictions can change rapidly, the model is intended to be a dynamic tool, in which members of the RRI Housing Team or others with authorized access may alter job growth predictions and receive immediate feedback regarding changes in housing need.

Any results of housing need presented in this report are based on specific job growth assumptions as of 2nd Quarter 2008. Bonestroo worked with representatives of the RRI Housing Team in determining the job growth assumptions and are based on the best available data at that time.

DEFINITION OF STUDY AREA

The Study Area incorporates 31 communities and 54 townships covering over 3,000 square miles of portions of Itasca and St. Louis Counties in northeastern Minnesota. From east to west, the Study Area spans more than 100 miles and generally straddles the Highway 169 corridor. The Study Area was defined based on input from the RRI Housing Team. Important considerations included the location of proposed economic development projects, the existing transportation system, and the common heritage of mining that culturally links many of the communities within the Study Area.

Cities and townships were used as the basis for defining the Study Area instead of other commonly used units of geography, such as ZIP codes, counties, or concentric rings around a centralized point. This was done for two important reasons. First, valuable US Census data can be collected and analyzed for cities and townships, unlike ZIP codes and concentric rings, which tend to be limited to only population and household data. Second, cities and townships are small enough to establish a “fine grain” level of analysis, which can reveal important geographic differences within the Study Area. For example, the age of the housing stock can vary dramatically from one community to the next. By analyzing data at the county-level, such important differences may be obscured.

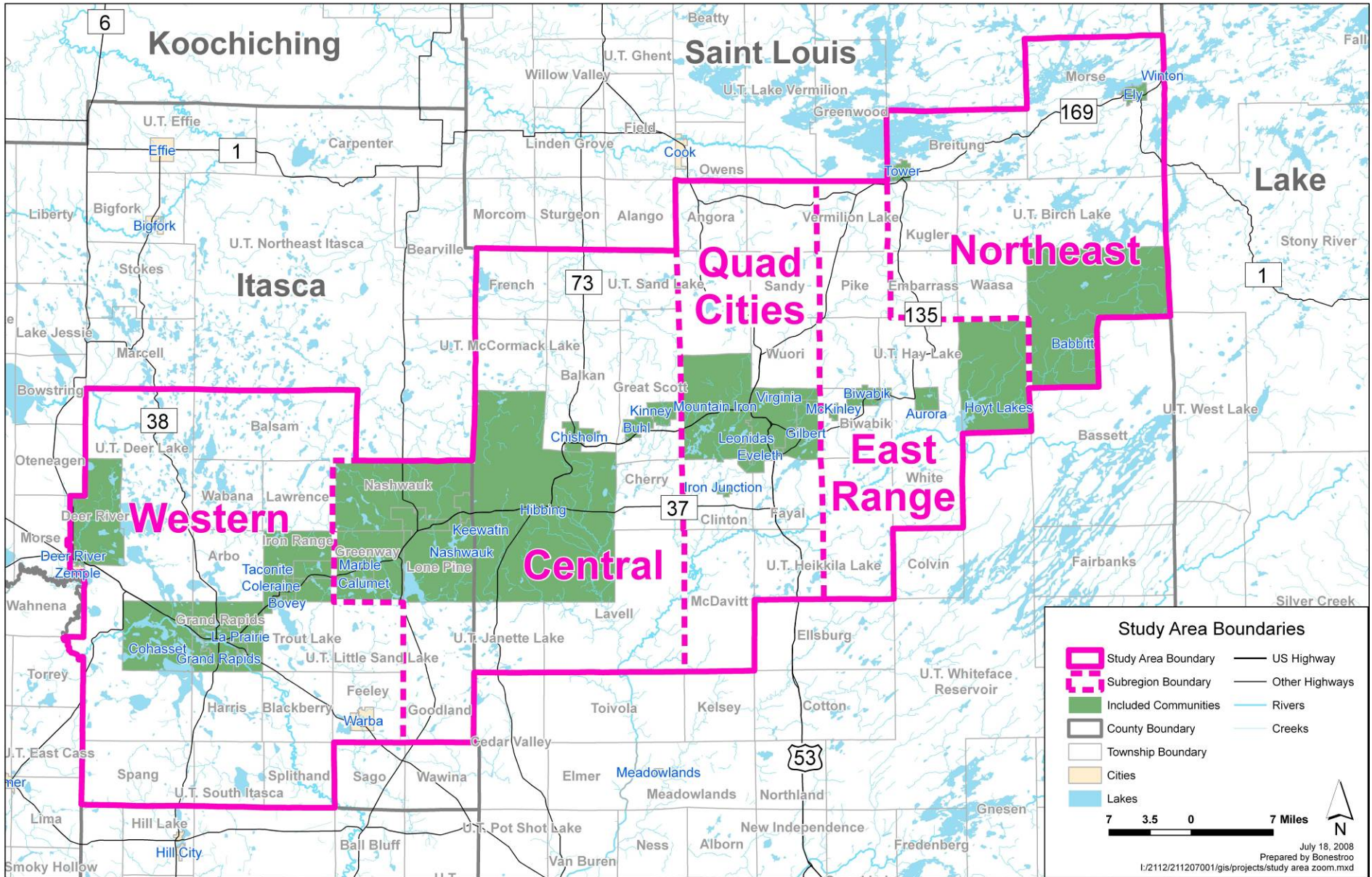
Because few persons are willing to commute over 50 miles for jobs, schools, or shopping, the Study Area was broken into five subregions for analytical purposes. Each subregion is generally considered to be a somewhat distinct housing market. This means that households seeking housing—but connected to a subregion because of employment, family, or some other social connection—would consider the range of housing options within a subregion before looking outside of it. This does not mean households always live in the same subregion that they work or shop in. Clearly, some households are motivated to commute longer distances than others. Nonetheless, these boundaries are an attempt to recognize that geography plays an important role in where people choose to live.

The boundaries of the subregions, again, were defined based on input from members of the RRI Housing Team. The importance of this input, however, should not and cannot be overlooked. Housing markets are nuanced entities. Gross oversimplifications on the part of researchers, who are unfamiliar with the areas they are studying, are all too common. Persons intimately aware of the Study Area can provide insight into boundaries that go beyond the obvious river, highway, or political jurisdiction. Members of the RRI Housing Team provided valuable, intimate knowledge of the Study Area.

Below is a list of the cities and townships included in the Study Area, which is followed by a map of the Study Area and its subregions.

<u>Western Subregion</u>	<u>Central Subregion</u>	<u>Quad Cities Subregion</u>	<u>East Range Subregion</u>	<u>Northeast Subregion</u>
Bovey	Buhl	Eveleth	Aurora	Babbitt
Cohasset	Calumet	Gilbert	Biwabik	Ely
Coleraine	Chisholm	Iron Junction	Hoyt Lakes	Tower
Deer River	Hibbing	Leonidas	McKinley	Winton
Grand Rapids	Keewatin	Mountain Iron	Biwabik twp	Breitung twp
La Prairie	Kinney	Virginia	Pike twp	Eagles Nest twp
Taconite	Marble	Angora twp	Vermilion Lake twp	Embarrass twp
Warba	Nashwauk	Clinton twp	White twp	Kugler twp
Zemple	Balkan twp	Fayal twp	Hay Lake UT	Morse twp
Arbo twp	Cherry twp	McDavitt twp	Mud Hen Lake UT	Waasa twp
Balsam twp	French twp	Sandy twp	Tikander Lake UT	Bear Head Lake UT
Blackberry twp	Goodland twp	Wuori twp		Birch Lake UT
Deer River twp	Great Scott twp	Camp A Lake UT		
Feeley twp	Greenway twp	Heikkala Lake UT		
Grand Rapids twp	Iron Range twp	Pfeiffer Lake UT		
Harris twp	Lavell twp	Sand Lake UT		
Lawrence twp	Lone Pine twp			
Spang twp	Nashwauk twp			
Splithand twp	Dark River UT			
Trout Lake twp	Janette Lake UT			
Wabana twp	Leander Lake UT			
Wildwood twp	McCormack UT			
Deer Lake UT				
Little Sand Lake UT				

Note: UT is a Census Bureau designation. It stands for Unorganized Township.



METHODOLOGY OVERVIEW

The research objective was achieved through an analysis of housing supply and demand. Projected job growth was quantified and converted to demand for housing. Meanwhile, the supply of available housing was quantified as well and compared against the amount of demand. The amount of demand that exceeded supply represented housing need. Figure 1 is a diagram that depicts the essence of the methodology.

FIGURE 1: OVERVIEW OF HOUSING NEED METHODOLOGY



ACKNOWLEDGEMENTS

This study was prepared on behalf of the Range Readiness Initiative Housing Team, which consists of the following organizations:

- Arrowhead Economic Opportunities Agency (AEOA)
- Arrowhead Regional Development Commission (ARDC)
- Greater Minnesota Housing Fund (GMHF)
- Itasca County Board of Realtors
- Itasca County HRA
- Itasca Housing Coalition
- Kootasca
- Minnesota Housing (formerly known as Minnesota Housing Finance Agency)
- Minnesota Housing Partnership
- Northern Minnesota Builders Association
- Northspan Group
- Range Association of Realtors
- Saint Louis County HRA

The RRI Housing Team was an important collaborator during the course of the study providing invaluable feedback, direction, and research support. In particular, Bonestroo would like to recognize the efforts of Randy Lasky of the Northspan Group, Andy Hubley of ARDC, Steve Nelson of St. Louis County HRA, Tarry Edington of Itasca County HRA, and Scott Zahorik of Kootasca. Of special importance were the efforts of

Andy Schlack and Warren Hanson of the Greater Minnesota Housing Fund who not only had the foresight to envision the value of such a tool, but also lent critical guidance and support throughout its creation.

Bonestroo would also like to recognize all of the persons and organizations who contributed data to the model, especially the property owners and managers who participated in the rental survey as well as the city and county staff members who dug deeply into their records in support of our efforts.

Jay Demma wrote most of this report with assistance from Stephanie Erickson.

Background Information

INTRODUCTION

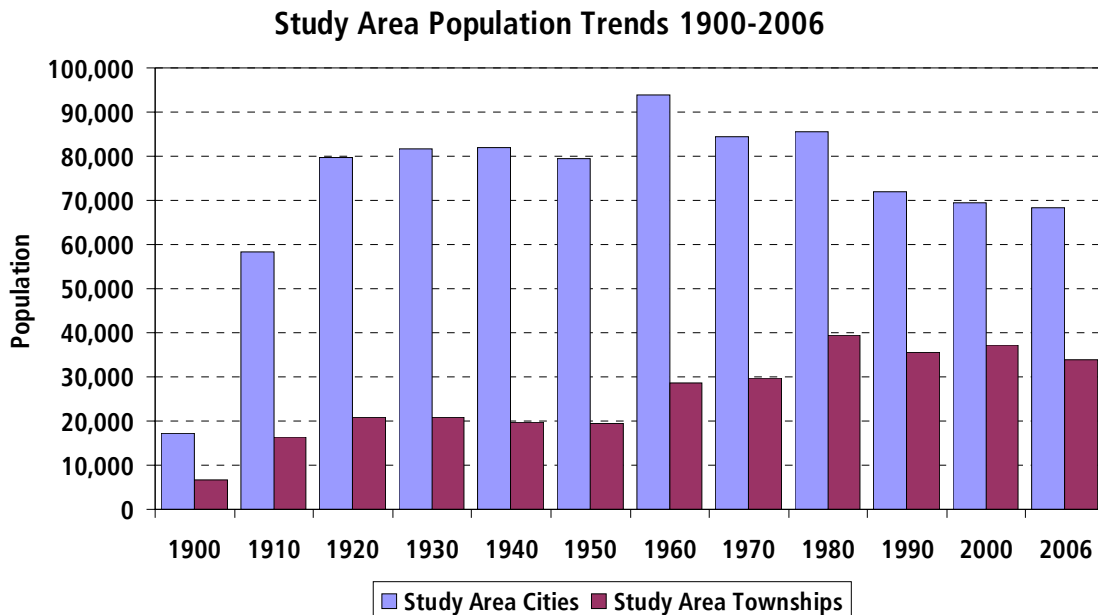
This section examines the demographic composition of the Study Area and characteristics of the existing housing stock. Demographic composition can greatly affect the types of housing demanded. Meanwhile, the character of the housing stock influences the supply. Both types of variables are important elements to consider when designing a dynamic analytical tool such as housing model.

HISTORIC POPULATION TRENDS

The Study Area experienced explosive population growth during the first two decades of the 20th Century. Since 1930, however, the overall population has been declining slowly with the exception of brief growth periods during the 1950s and 1970s.

Although the Study Area’s overall population can be characterized as slowly declining, this obscures other population trends that have been occurring within the Study Area as well. According to Figure 2, since the 1950s there has been a marked shift in the distribution of the population between city-dwellers and township dwellers. In 1950, 19.8 percent of the study area population lived in a rural township. By 2000, that proportion had increased to 34.9 percent.

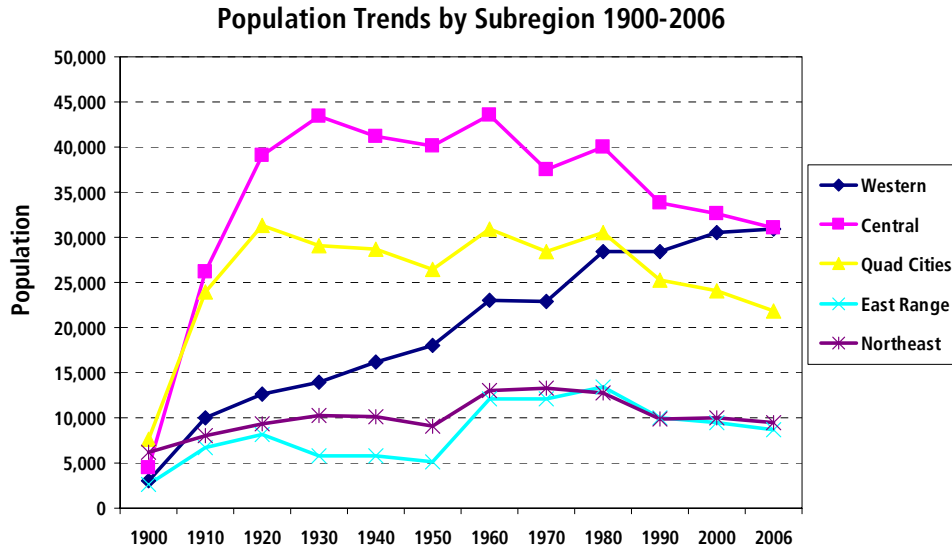
FIGURE 2:



Source: U.S. Census of Population: 1900-2000; MN State Demographic Center

As displayed in Figure 3, there are also important historical trends that differentiate each subregion. For instance, the Western subregion, which includes Grand Rapids, is the only subregion to have experienced consistent population growth each decade since 1900. This is especially true of the decades since 1980.

FIGURE 3:



Source: U.S. Census of Population: 1900-2000; MN State Demographic Center

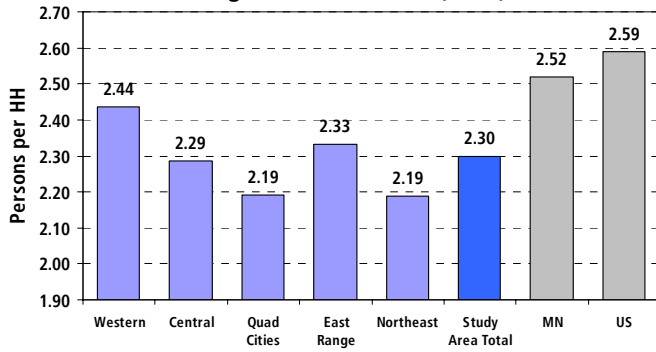
2000 US CENSUS DEMOGRAPHICS

The most recent US Census, conducted in 2000, provides a recent snapshot of the demographic make-up of the Study Area and its subregions. Figures 4 through 9 display a number of important demographic characteristics and how each subregion compares to one another as well to the State of Minnesota and the Nation. The following are key findings from each figure:

- **Figure 4:** the Western subregion has the highest average household size among the five subregions at 2.44 persons per household. Nonetheless, all five subregions have far fewer persons per household than the state average or, especially, the national average.
- **Figure 5:** related to household size is median age. Not surprisingly, all five subregions have a median age that is more than five years older than the state and national median ages. In the Northeast subregion, the median age is almost 10 years older than the state and national medians.
- **Figure 6:** each subregion has far fewer minority persons than compared to the state or nation. This suggests that if new workers are attracted to the region for employment, it is likely that they may have a different cultural, ethnic, or linguistic background than existing residents.
- **Figure 7:** the older median age of study area residents is also reflected in household type. Traditional family households (i.e., married couples with children under 18) make up fewer than 20 percent of Study Area households. In the Northeast subregion, where retirement homes are common, traditional family or nuclear households only represent 16.5 percent of all households. This is far lower than the state and national percentages, which are closer to 25 percent.
- **Figure 8:** relative to incomes, housing is very affordable in the Study Area. In the Study Area, the median value home is between 1.2 and 2.3 times the median household income. This is much lower than the state or nation, which have home value to income ratios of 2.6 and 2.8.

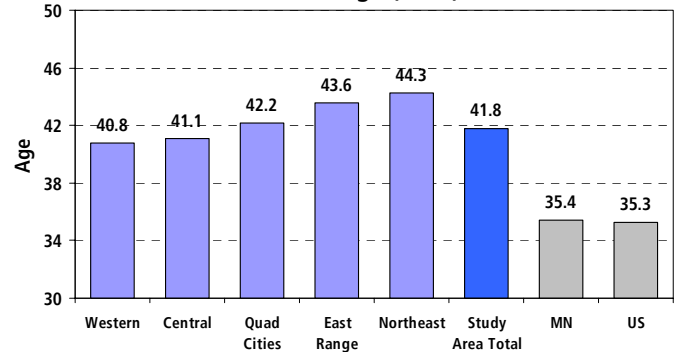
- Figure 9:** the homeownership rate in the Study Area is well above the state rate and significantly above the national rate. This is somewhat explained by modest home values, which allow a larger proportion of households to afford ownership, but also because of an older than average population—renting is most prevalent among younger households—and a culture that strongly values ownership.

FIGURE 4
Average Household Size (2000)



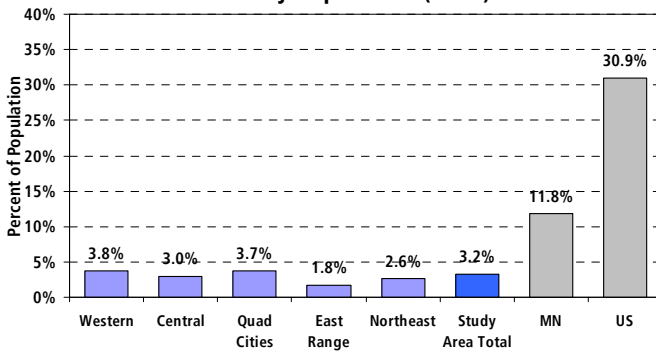
Source: 2000 U.S. Census

FIGURE 5
Median Age (2000)



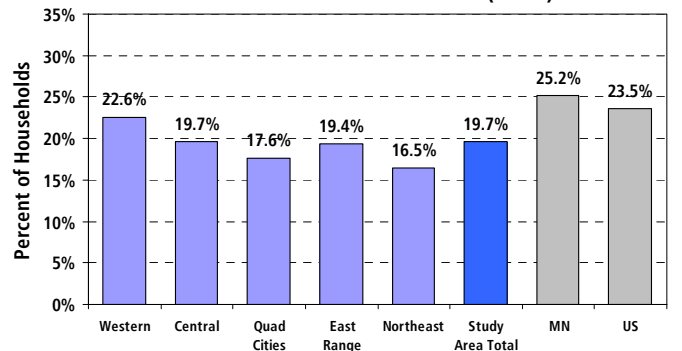
Source: 2000 U.S. Census

FIGURE 6
Minority Population (2000)



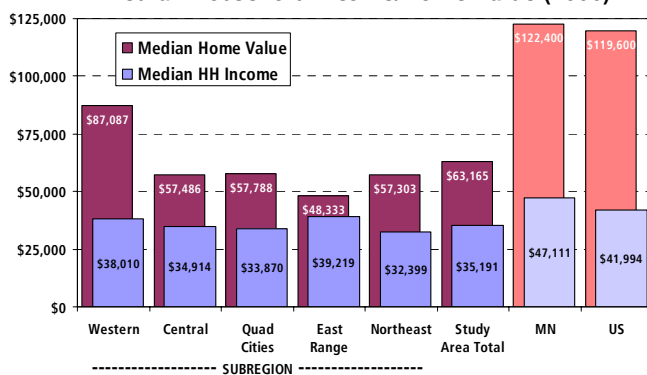
Source: 2000 U.S. Census

FIGURE 7
Families with Children under 18 (2000)



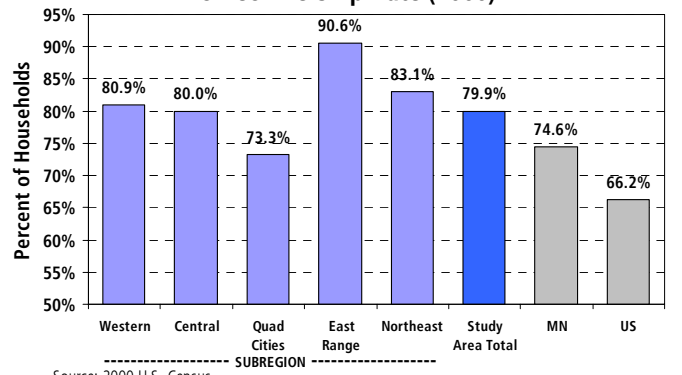
Source: 2000 U.S. Census

FIGURE 8
Median Household Income/Home Value (2000)



Source: 2000 U.S. Census

FIGURE 9
Homeownership Rate (2000)



Source: 2000 U.S. Census

2000 US CENSUS HOUSING STOCK CHARACTERISTICS

The 2000 Census also includes data on the characteristics of the housing stock, which provide insight into the condition and availability of housing. Figures 10 through 15 highlight important statistics with the following key findings:

- **Figure 10:** as of 2000, the entire Study Area contained just over 53,000 housing units, of which about 85% were occupied. A majority of the units are concentrated in the western and central portions of the Study Area.
- **Figure 11:** the Study Area has an older housing stock when compared to the state and nation. In several subregions, over 70% of the housing stock is more than 40 years old. In contrast, about 50% of the housing stock in the state and nation is more than 40 years old.
- **Figure 12:** there are nearly 5,300 seasonal or second homes scattered throughout the Study Area, with substantial concentrations in the Western and Northeast subregions.
- **Figure 13:** seasonal or second homes, which are vacant most of the year, make up an important part of the housing stock of the Study Area. Almost 10% of the housing stock is seasonal, which compares to 5% statewide and only 3% nationally. Of particular note, 23% of the stock in the Northeast subregion and 14% in the Western subregion are seasonal.
- **Figure 14:** because the Study Area has an older than average population and a substantial number of vacant homes, there were over 57,000 empty bedrooms as of 2000. This indicates a significant amount of excess capacity for shelter exists within the current housing stock.
- **Figure 15:** over 40% of Study Area bedrooms are empty. This is a significantly higher proportion than the state (33%) or the nation (28%).

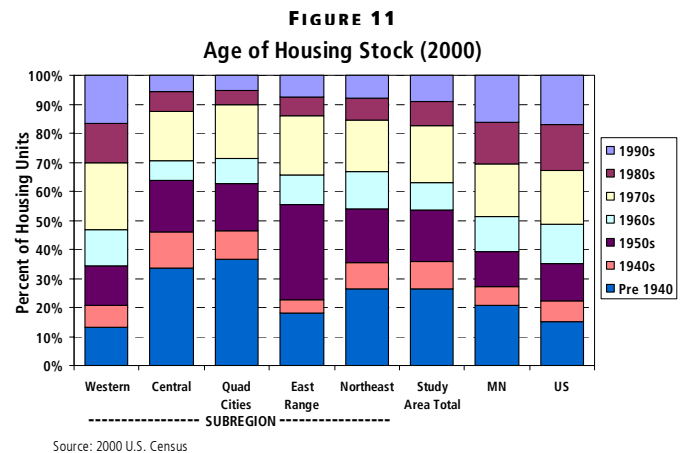
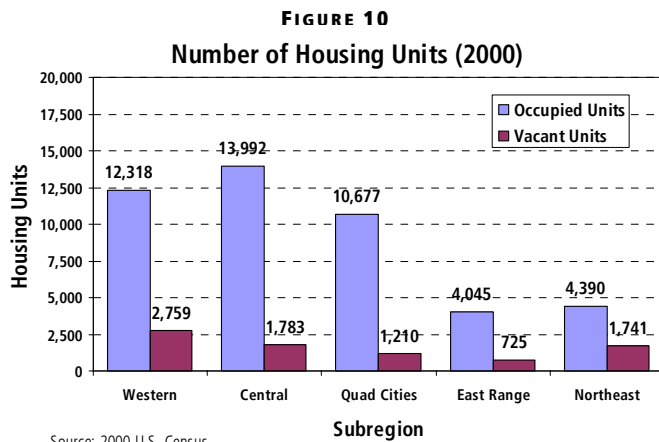


FIGURE 12
Vacant Home Types (2000)

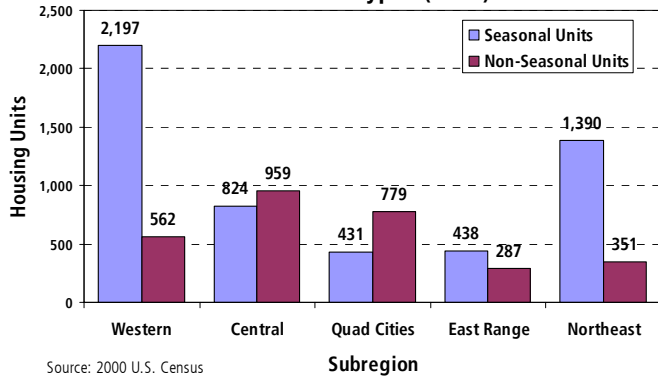


FIGURE 13
Prevalence of Seasonal Homes (2000)

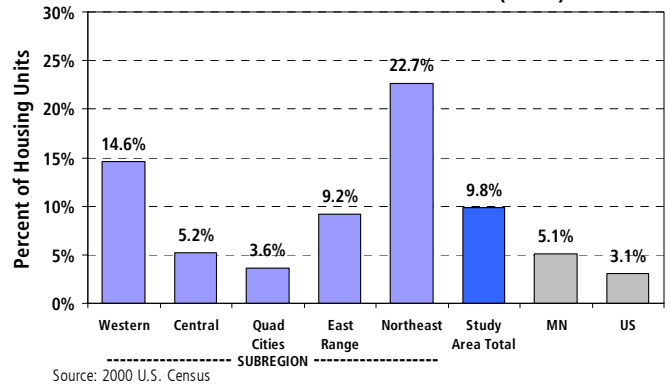


FIGURE 14
Bedroom Analysis (2000)

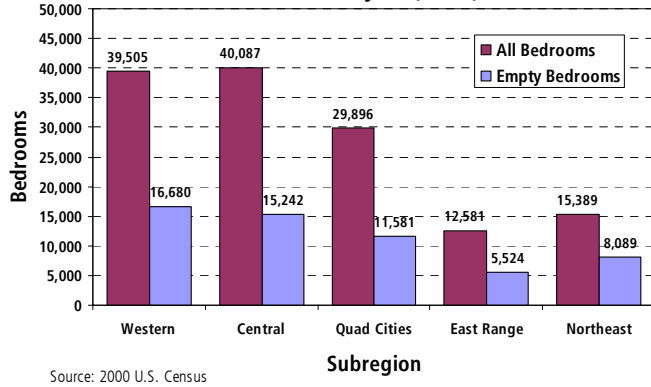
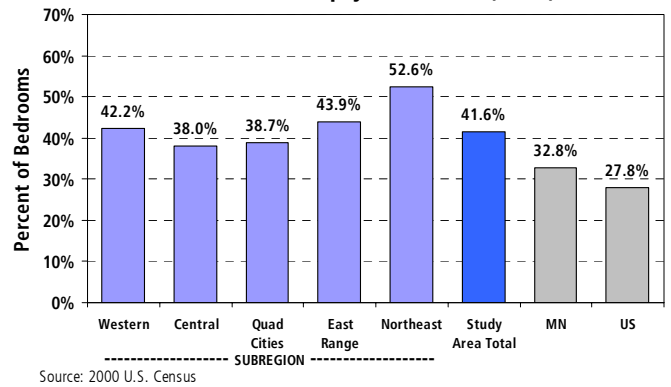


FIGURE 15
Prevalence of Empty Bedrooms (2000)

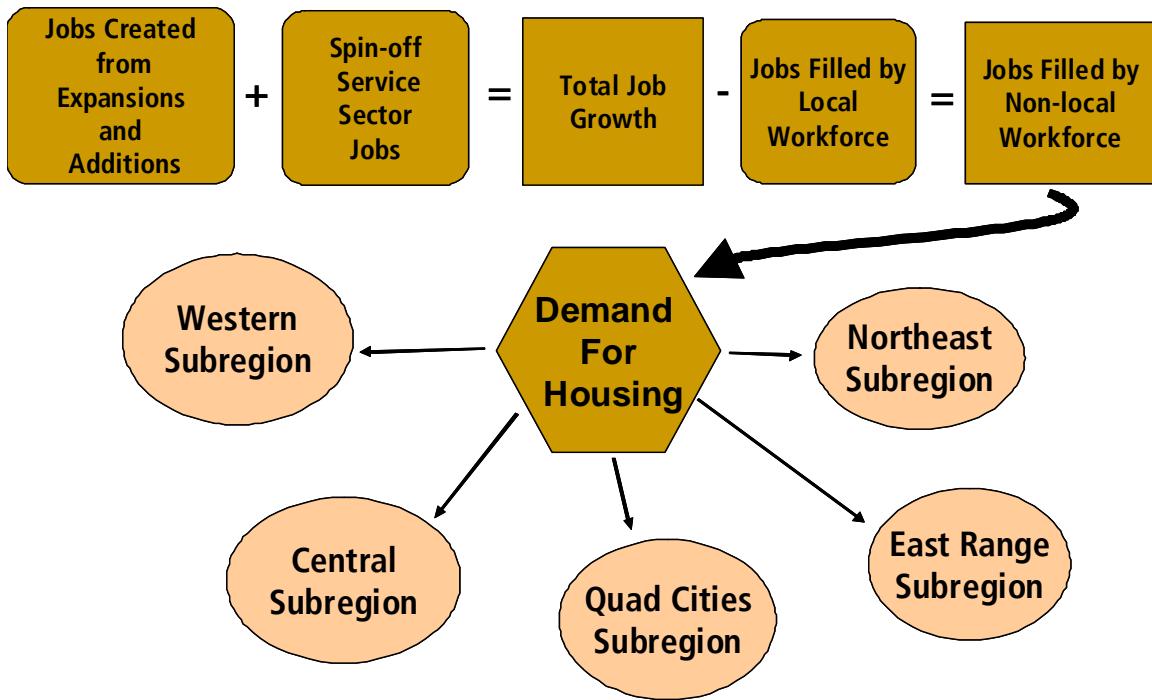


Housing Demand Analysis

INTRODUCTION

This section of the report explains the methodology used to calculate demand for housing in the Study Area. Housing demand is primarily driven by job growth. However, one new job does not necessarily translate into demand for one new housing unit. A number of other factors that influence the relationship between job growth and housing demand must be taken into consideration. Key factors are the rate of spin-off job creation, the size and availability of the local workforce, and the location of jobs. A diagram of the logic involved is depicted below in Figure 16. A more detailed description of the methodology used to determine housing demand follows:

FIGURE 16: LOGIC BEHIND HOUSING DEMAND METHODOLOGY



NUMBER OF JOBS BEING CREATED

The number of jobs expected to be created in the Study Area over the next five to six years is dependent on global economic forces. Therefore, an exact number is somewhat of a moving target and difficult to pin down. As a result, the housing model is designed to be dynamic, and thus can easily test different job growth scenarios. In May and June of 2008, Bonestroo worked with the Northspan Group and Iron Range Resources (IRR) to identify three different potential job growth scenarios based on the status of various economic development projects.

The first scenario was dubbed “low” growth and represented three development projects that were already under construction or imminent. The second scenario was dubbed “medium” growth and represented a total of five development projects, which consisted of the three projects in the “low” growth scenario as well as two additional projects that appeared likely to move forward within the next couple of years based on the status of their permit reviews and employer intentions. The third scenario was dubbed “high” growth and consisted of eight projects; the five identified in the “medium” growth scenario as well as three other more tentative projects. The three job growth scenarios are summarized below in Table 1.

**TABLE 1: SUMMARY OF THREE POSSIBLE JOB GROWTH SCENARIOS
(AS OF 2ND QUARTER 2008)**

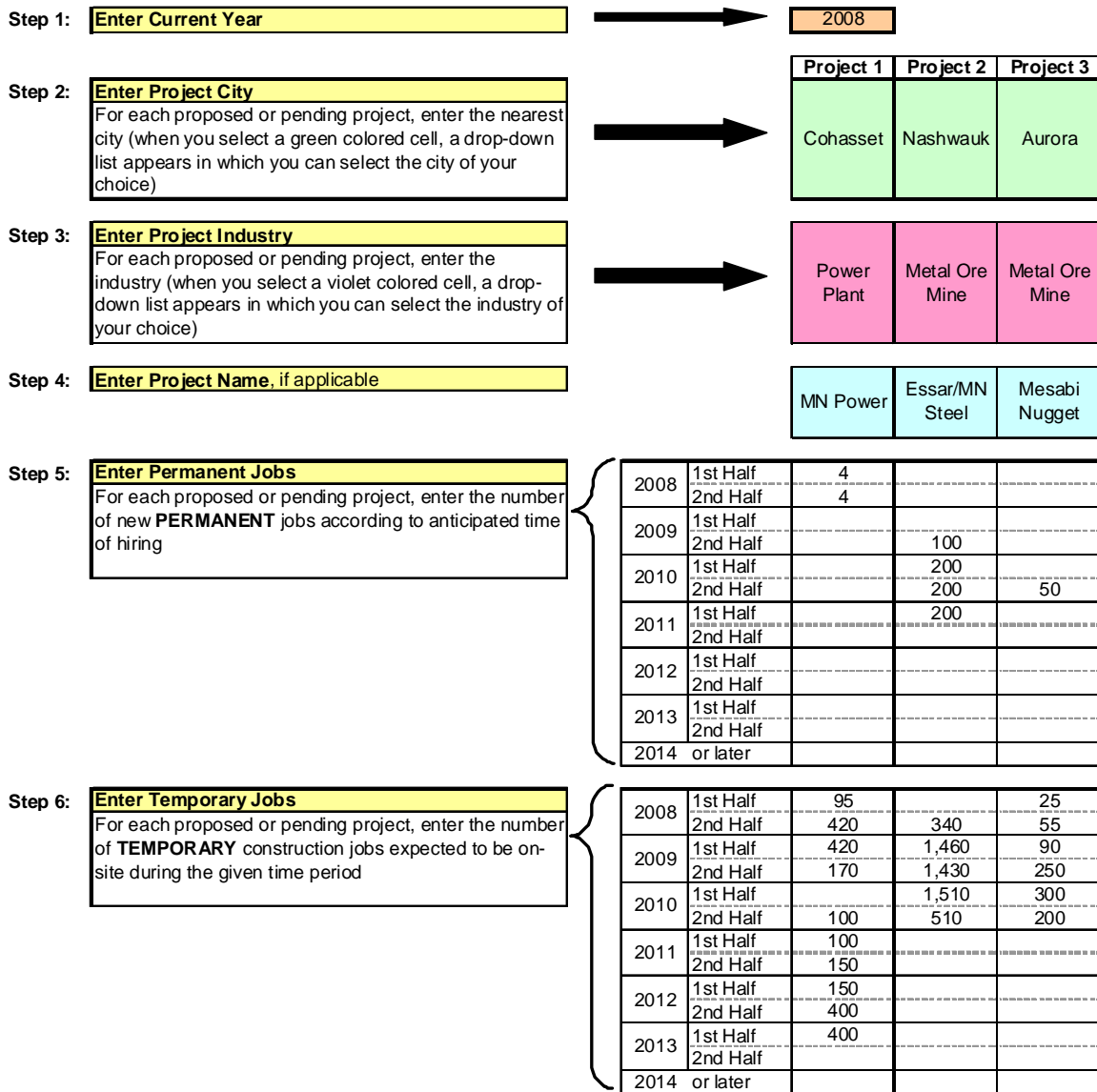
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For each development project, employment data has been broken down by the Northspan Group and IRR according to expected number of permanent and temporary (i.e., construction) jobs as well as projected start date. In addition, two employers revealed the approximate duration and timing of their temporary jobs. Bonestroo used these two examples to estimate the likely duration of temporary jobs among the other six tested projects.

All quoted job figures are assumed to be FTEs (i.e., full time equivalents) since employers have yet to make this distinction. Presumably, this is because very few contractors have been lined-up by employers, and the proportion of FTEs associated with any one construction project are dependent on the resources and practices of the contractor. Hopefully, as hiring begins to occur and adequate data can be collected on the number of part-time versus full-time jobs, this information can be incorporated into the housing model.

Figure 17 illustrates an example of how employment data is inputted into the housing study according to type of job (permanent vs. temporary) and timing.

FIGURE 17: EXAMPLE OF EMPLOYMENT INPUT FORM USED IN THE HOUSING STUDY



SPIN-OFF JOB CREATION

In addition to the jobs directly created from the economic development projects, there will also be jobs created as a result of the increased levels of economic activity in the region. Most of these jobs will be in the service sector. Examples include retail jobs, health care jobs, education jobs, among others. However, depending on the industry, some will also be jobs among suppliers, who otherwise wouldn't be there if not for the initial investment in a new mine or power plant. To calculate this rate of "spin-off" job creation, Bonestroo referred to a research study conducted by Jim Skurla, an economics professor at the University of Minnesota, Duluth's Labovitz School of Business and Economics.

In December 2005, Professor Skurla published a report titled, *Economic Impacts of PolyMet's NorthMet Project and Other Industrial Projects on Minnesota's East Range Communities*. In the study, Professor

Skurla calculated the number of indirect and induced jobs that would result from three separate projects. The ratio of direct jobs to indirect and induced jobs ranged from 1.24 to 2.16. Because the housing model is designed to test housing demand based on any number of projects, an average ratio of the three study projects was used as a “spin-off” rate. This was 1.55. Therefore, based on the work of Professor Skurla, the housing model assumes that for every direct permanent job created, there will be an additional 1.55 jobs created in the service sectors or from suppliers. The number of permanent spin-off jobs for each of the three job growth scenarios is illustrated previously in Table 1.

Permanent direct jobs will determine the sustained number of permanent spin-off jobs. However, the creation of temporary jobs, which will come in advance of permanent direct jobs, will stimulate the need for spin-off jobs. Therefore, it assumed that the timing of permanent spin-off jobs will be concurrent with the creation of permanent direct jobs.

WAGES ASSOCIATED WITH NEW JOBS

Bonestroo also estimated the likely wages associated with new job growth because wages are an essential determinant in the affordability of housing, which ultimately drives location decisions as well as size and type of housing unit desired. Ideally, wage information would come directly from employers. However, given the likely competition for labor that will result from rapid job growth, employers are understandably reluctant to provide such information. Therefore, Bonestroo used national data from the Bureau of Labor Statistics (BLS) to estimate hourly wages. Again, it is hoped that as hiring begins, adequate wage data could be collected that would reflect real world conditions in the Study Area, which would be incorporated into the housing model by replacing national data. Table 2 is a break down of jobs by hourly wage by industry used in the model.

TABLE 2: PERCENTAGE OF JOBS BY HOURLY WAGE BY INDUSTRY (2006)

Hourly Wage	Industry				
	Metal Ore Mine ¹	Power Plant ¹	Paper Mill ¹	Construction ¹	All other Industries ²
<\$10/hr	0.2%	1.4%	1.5%	7.5%	19.8%
\$10-14/hr	4.9%	7.6%	16.8%	26.7%	31.0%
\$15-19/hr	26.1%	16.4%	24.2%	23.5%	15.6%
\$20-24/hr	33.7%	17.0%	25.0%	16.1%	17.3%
\$25-29/hr	20.1%	18.7%	17.4%	9.9%	10.2%
\$30-34/hr	9.5%	15.9%	8.1%	7.3%	2.6%
\$35+ /hr	5.5%	23.0%	7.0%	9.0%	3.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

¹ Based on national statistics: source: US Department of Labor: Bureau of Labor Statistics: May 2006 National Industry-Specific Occupational Employment and Wage Estimates (<http://www.bls.gov/oes/current/oesrci.htm>)

² Based on data for the Minnesota Arrowhead Planning Area: source: Minnesota Department of Employment and Economic Development: Occupational Employment Statistics (OES) Data, 2006 (<http://www.deed.state.mn.us/lmi/tools/oes/default.aspx>)

Note: the above percentages are estimates prepared by Bonestroo, which were derived from industry-specific occupation data published by the Bureau of Labor Statistics. Unfortunately, the BLS does not publish the wage and occupation data in the above format. The raw form of the data is published for individual occupations within specific industries and includes total number of jobs nationally and the distribution of those jobs at the following hourly wage quintiles: 10%, 25%, 50% (median), 75%, and 90%. Bonestroo manually distributed the jobs for each major occupation classification (i.e., management, engineering, sales, production, etc.) based on the wage quintiles provided and then summed all occupations to achieve an industry-wide distribution by wage.

SIZE OF THE LOCAL LABOR FORCE AVAILABLE TO FILL JOBS CREATED

Estimating the size of the labor force is a several step process because of varying data sources needed to account for "official" and "unofficial" unemployment counts.

Step 1: Determine current size of "official" labor force and number of unemployed persons

This process and data sources are illustrated in Table 3.

TABLE 3: OFFICIAL SIZE OF STUDY AREA LABOR FORCE AND UNEMPLOYED PERSONS

	Total Labor Force ¹	Employed Labor ¹	Unemployed Labor ¹	Unemployment Rate
Itasca County	22,415	20,783	1,631	7.3%
St. Louis County (not incl. Duluth) ²	58,567	55,022	3,545	6.1%
Total (approximation of Study Area)³	80,982	75,805	5,177	6.4%
¹ Source: Minnesota Department of Employment and Economic Development: LAUS (Local Area Unemployment Statistics) Data, 2007 Annual Average (http://www.deed.state.mn.us/lmi/tools/laus/default.aspx); Bureau of Labor Statistics, Table 35 of the Current Population Survey (http://www.bls.gov/cps/cpsaat35.pdf)				
² In order to derive figures for St. Louis County (not including Duluth), one must download data for St. Louis County in its entirety and the City of Duluth and then subtract the Duluth figures from the St. Louis County figures.				
³ Available data does not geographically correspond to the exact boundaries of the study area. Therefore, an approximation was used to estimate the study area. Because the study area household base accounts for 70% of the households in Itasca County and the portions of St. Louis County not in Duluth, Bonestroo determined that this was an acceptable approximation. Moreover, it is anticipated that job hirings occurring within the study area will likely draw a number of persons who live just outside of the study area in both Itasca and St. Louis Counties.				

Step 2: Determine size of "unofficial" labor force

Labor force statistics released by the BLS and, subsequently, DEED are often criticized for who gets counted as being a part of the labor force and who is not counted. This is especially true in areas with longstanding economic hardship, such as the Iron Range, because many persons are counted as not being in the labor force because they are no longer actively looking for work. To account for this shadow or "marginally attached" labor force, Bonestroo referenced data from the BLS that estimates the proportion of persons by age that are not considered a part of the labor force but would take a job if it were available (Bureau of Labor Statistics, Table 35 of the Current Population Survey [<http://www.bls.gov/cps/cpsaat35.pdf>]). Given the age distribution of the Study Area, this translates to 2,050 persons who are not in the "official" labor force but who would presumably be available for work if jobs were created. Table 4 illustrates how the size of the labor force and number of unemployed are adjusted if we add in those who are "marginally attached."

TABLE 4: ADJUSTED SIZE OF STUDY AREA LABOR FORCE TO ACCOUNT FOR "MARGINALLY ATTACHED"

	Total Labor Force	Employed Labor	Unemployed Labor	Unemployment Rate
Adjusted Totals (approximation of Study Area)	83,037	75,805	7,232	8.7%

Step 3: Determine number of persons available for work in the Study Area

Although adding in the "marginally attached" to the labor force increases the size of the labor force to about 83,000 and the number of unemployed to 7,200, not all of those counted as unemployed are actually available for work. According to many economists, a 3% unemployment rate is considered "full" employment because it accounts for persons who are temporarily

unemployed due to job changes, short-term disability, training/education, etc. Therefore, anything above a 3% unemployment rate represents people who are available and ready for work. In this instance, the difference between 8.7% and 3% is roughly 4,700, which could be considered the number of persons available and ready for work in the Study Area.

There is some concern that an aging labor force will create a condition in the near future in which many existing jobs will go vacant on top of the need to fill newly created jobs. Undoubtedly, this will be a dynamic that local officials will need to pay close attention to. However, by monitoring the labor force figures presented in Tables 3 and 4, the housing model will anticipate changes, such as increases in retirement, and translate them into demand for housing.

LIKELIHOOD THAT IN-MIGRATION WILL NEED TO OCCUR TO FILL NEW JOBS

Presumably, if a company creates 100 new jobs and there are more than 100 local workers available for work, all new jobs will be filled by local workers. However, this is not always the case. Real world circumstances that can affect an employer's ability to hire locally include the following:

- Mismatch between skills needed and skills available among local workers
- Self-selected job seekers who are more willing to stay unemployed than accept entry-level wages
- Pool of highly-qualified workers in other areas of the country who are motivated to relocate because of recent economic hardship (e.g., auto workers in Michigan and Ohio)
- Geographic mismatch between jobs and location of workers within the Study Area
- Depending on the scale of job growth, the available pool of local workers may shrink to a point where employers are forced to recruit a larger and larger proportion of workers from outside the Study Area

How does one account for this? Potentially, data from employers may lead to some insight on their ability to fill jobs locally. However, this data is not yet available in sufficient quantities to make defensible estimates. In the absence of a reliable data source, Bonestroo created a graduated matrix that accounts for the phenomena noted above based on three assumptions: 1) when unemployment rates fall it becomes increasingly difficult to attract local labor to new jobs; 2) local labor is more attracted to higher paying jobs than lower paying jobs; and 3) construction jobs are more likely to be filled from labor outside the local market when considering equal paying jobs. This matrix is displayed in Tables 5 and 6.

TABLE 5: PROPORTION OF PERMANENT JOBS FILLED BY LOCAL LABOR AT VARYING UNEMPLOYMENT RATES

Unemployment Rate	Hourly Wage - Permanent (company & spin-off)						
	<\$10/hr	\$10-14/hr	\$15-19/hr	\$20-24/hr	\$25-29/hr	\$30-34/hr	\$35+/hr
1.0%	20%	23%	27%	30%	33%	37%	40%
1.5%	23%	26%	29%	33%	36%	39%	43%
2.0%	26%	29%	32%	36%	39%	42%	46%
2.5%	28%	32%	35%	38%	42%	45%	48%
3.0%	31%	34%	38%	41%	44%	48%	51%
3.5%	34%	37%	41%	44%	47%	51%	54%
4.0%	37%	40%	43%	47%	50%	53%	57%
4.5%	39%	43%	46%	49%	53%	56%	59%
5.0%	42%	46%	49%	52%	56%	59%	62%
5.5%	45%	48%	52%	55%	58%	62%	65%
6.0%	48%	51%	54%	58%	61%	64%	68%
6.5%	51%	54%	57%	61%	64%	67%	71%
7.0%	53%	57%	60%	63%	67%	70%	73%
7.5%	56%	59%	63%	66%	69%	73%	76%
8.0%	59%	62%	66%	69%	72%	76%	79%
8.5%	62%	65%	68%	72%	75%	78%	82%
9.0%	64%	68%	71%	74%	78%	81%	84%
9.5%	67%	71%	74%	77%	81%	84%	87%
10.0%	70%	73%	77%	80%	83%	87%	90%

TABLE 6: PROPORTION OF TEMPORARY JOBS FILLED BY LOCAL LABOR AT VARYING UNEMPLOYMENT RATES

Unemployment Rate	Hourly Wage - Temporary						
	<\$10/hr	\$10-14/hr	\$15-19/hr	\$20-24/hr	\$25-29/hr	\$30-34/hr	\$35+/hr
1.0%	10%	13%	17%	20%	23%	27%	25%
1.5%	12%	16%	19%	22%	26%	29%	28%
2.0%	14%	18%	21%	24%	28%	31%	31%
2.5%	17%	20%	23%	27%	30%	33%	33%
3.0%	19%	22%	26%	29%	32%	36%	36%
3.5%	21%	24%	28%	31%	34%	38%	39%
4.0%	23%	27%	30%	33%	37%	40%	42%
4.5%	26%	29%	32%	36%	39%	42%	44%
5.0%	28%	31%	34%	38%	41%	44%	47%
5.5%	30%	33%	37%	40%	43%	47%	50%
6.0%	32%	36%	39%	42%	46%	49%	53%
6.5%	34%	38%	41%	44%	48%	51%	56%
7.0%	37%	40%	43%	47%	50%	53%	58%
7.5%	39%	42%	46%	49%	52%	56%	61%
8.0%	41%	44%	48%	51%	54%	58%	64%
8.5%	43%	47%	50%	53%	57%	60%	67%
9.0%	46%	49%	52%	56%	59%	62%	69%
9.5%	48%	51%	54%	58%	61%	64%	72%
10.0%	50%	53%	57%	60%	63%	67%	75%

According to Table 7, a mythical 100 jobs created at an 8% unemployment rate will mean that 79% of permanent jobs earning over \$35/hour will be filled by local workers, while 66% of permanent jobs earning between \$15-\$19/hour will be filled by local workers. However, as the unemployment rate drops to say 4%, only 57% of permanent jobs earning over \$35/hour will be filled by local workers, while 43% of jobs between \$15-19/hour will be filled locally.

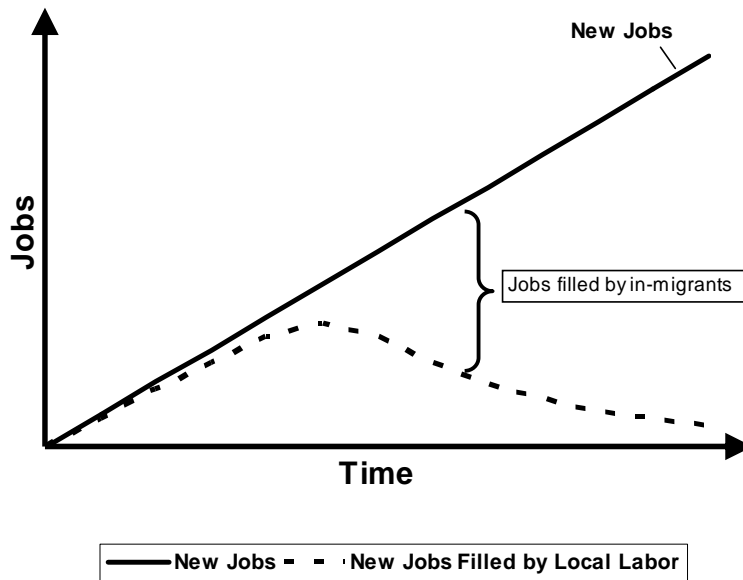
Under the "Low" Job Growth Scenario, in which 1,900 new permanent jobs would be created, this means that approximately 1,200 jobs would be filled locally and 700 would be filled by in-migrants. Table 7 helps illustrate the ratio of jobs filled locally versus those filled by in-migrants according to the three different job scenarios. Please keep in mind that some workers in temporary jobs will re-enter the workforce when their project is finished and would become available for permanent work. This has been accounted for in the model and explains why the percentage of jobs filled by the local labor force under the "high" growth scenario is as high as 54%.

TABLE 7: PROPORTION OF JOBS FILLED BY LOCAL WORKERS FOR 3 JOB GROWTH SCENARIOS

	Permanent Jobs				Temporary Jobs			
	Total Number of Jobs Created	Number of Jobs Filled by Local Labor Force	Number of Jobs Filled by In-Migrants	% of Jobs Filled by Local Labor Force	Peak Number of Jobs Created	Number of Jobs Filled by Local Labor Force	Number of Jobs Filled by In-Migrants	% of Jobs Filled by Local Labor Force
"Low" Job Growth Scenario	1,936	1,189	747	61.4%	1,970	990	980	50.3%
"Medium" Job Growth Scenario	3,083	1,792	1,291	58.1%	2,520	1,082	1,438	42.9%
"High" Job Growth Scenario	6,147	3,307	2,840	53.8%	3,020	1,297	1,723	42.9%

This dynamic of tapping out the local labor supply as new jobs are created is also illustrated in the diagram below.

Relationship Between Job Growth, Unemployment Rate, and Local Labor Force



TYPES OF HOUSING IN-MIGRANTS WILL LIKELY SEEK

The type of housing an in-migrant will seek is broken down by tenure (i.e., will the unit demanded be rented or owned) and ability to pay for housing, which is related to the wage information presented previously. The relationship between wages and housing affordability is illustrated in Table 8. The assumption that households spend 30% of their income on housing is used by many affordable housing advocates to measure the amount of "burden" some households may incur when paying for housing. The mortgage assumptions are based are recent rates often advertised by many mortgage companies. Clearly, these assumptions may change as the mortgage industry reacts to changing market conditions.

TABLE 8: RELATIONSHIP OF WAGES TO HOUSING AFFORDABILITY

Hourly Wage	Annual Wages	% Spent on Housing	Annual Housing Budget	Monthly Housing Budget (rent or mortgage)	Maximum Mortgage (0% dwn, 6% int, 30-yr fixed)
\$10	= \$20,800	x 30%	= \$6,240 /12 =	\$520	= \$87,000
\$15	= \$31,200	x 30%	= \$9,360 /12 =	\$780	= \$130,000
\$20	= \$41,600	x 30%	= \$12,480 /12 =	\$1,040	= \$173,000
\$25	= \$52,000	x 30%	= \$15,600 /12 =	\$1,300	= \$217,000
\$30	= \$62,400	x 30%	= \$18,720 /12 =	\$1,560	= \$260,000
\$35	= \$72,800	x 30%	= \$21,840 /12 =	\$1,820	= \$304,000

Within income categories, the likelihood that a household would rent or own (i.e., housing tenure) was estimated. For housing demanded by temporary workers, all of the units were assumed to be rental. For housing demanded by permanent workers, we based the likelihood to rent on data from the 2000 U.S. Census for Study Area households under the age of 45. It is assumed households under age 45 are much more likely to relocate for employment than those older than 45. Table 9 presents a summary of the Census data.

TABLE 9: STUDY AREA HOUSEHOLDS BY AGE BY INCOME BY TENURE (2000)

Household Income	Households Under 25			Households Age 25 to 34			Households Age 35 to 44			Households Age 45 to 54		
	Rent	Own	Total	Rent	Own	Total	Rent	Own	Total	Rent	Own	Total
Less than \$10,000	469	107	576	244	162	406	338	323	660	258	346	604
\$10,000 to \$14,999	224	67	291	170	165	334	199	303	502	110	222	332
\$15,000 to \$19,999	189	70	259	196	274	470	130	324	454	78	249	327
\$20,000 to \$24,999	206	76	282	215	297	511	178	440	619	106	334	440
\$25,000 to \$34,999	236	103	339	302	571	873	233	947	1,181	156	791	947
\$35,000 to \$49,999	171	84	254	353	854	1,207	229	1,502	1,731	211	1,709	1,920
\$50,000 to \$74,999	51	29	80	256	864	1,120	123	2,166	2,289	129	2,811	2,941
\$75,000 to \$99,999	16	9	25	53	187	240	39	873	912	51	1,434	1,486
\$100,000 to \$149,999	1	1	2	16	64	80	6	259	265	11	658	669
\$150,000 or more	0	0	0	2	6	8	4	89	93	8	244	253
Total	1,563	545	2,108	1,806	3,443	5,249	1,478	7,228	8,706	1,119	8,798	9,917

Household Income	Households Age 55 to 64			Households Age 65 to 74			Households Age 75+			All Households		
	Rent	Own	Total	Rent	Own	Total	Rent	Own	Total	Rent	Own	Total
Less than \$10,000	155	387	542	181	530	711	623	763	1,385	2,268	2,616	4,884
\$10,000 to \$14,999	90	317	407	135	550	685	414	776	1,190	1,341	2,399	3,741
\$15,000 to \$19,999	62	327	389	103	620	723	269	806	1,075	1,027	2,670	3,696
\$20,000 to \$24,999	58	300	358	90	534	624	208	615	823	1,061	2,596	3,657
\$25,000 to \$34,999	104	840	944	126	1,157	1,283	190	907	1,097	1,347	5,317	6,663
\$35,000 to \$49,999	97	1,223	1,320	71	1,005	1,076	77	593	671	1,209	6,970	8,179
\$50,000 to \$74,999	43	1,427	1,470	17	623	640	20	416	436	640	8,336	8,976
\$75,000 to \$99,999	15	624	639	3	165	168	6	149	155	182	3,441	3,624
\$100,000 to \$149,999	3	270	273	1	101	102	1	84	86	39	1,436	1,476
\$150,000 or more	2	100	102	0	6	6	2	62	64	19	507	526
Total	629	5,813	6,442	727	5,291	6,018	1,811	5,171	6,982	9,133	36,289	45,422

Source: 2000 U.S. Census

Because of historically low home values, homeownership in the Study Area tends to be much higher across all age and income groups compared to other markets in Minnesota and across the nation. For example, even among those under age 35 with the lowest incomes (under \$20,000 per year) more than one-third of the households owned their housing. Nonetheless, it still holds in the Study Area that younger households are more likely to rent their housing compared to older households, and lower income households are more likely to rent their housing compared to more affluent households.

It is important to note, though, that as demand for housing increases so will prices. Even a marginal increase in prices may affect the ability of newly arriving households to afford homeownership. The result would be an increase in demand for rental housing. Therefore, as the model is updated, it will be important to track the price of listed homes to see if there is a threshold at which the percentage of new arrivals seeking rental housing will increase because of affordability issues.

Table 10 shows the proportion of new households that will seek rental housing at various hourly wages.

TABLE 10: PERCENTAGE OF NEW HOUSEHOLDS THAT WILL SEEK RENTAL HOUSING BY WAGE

Hourly Wage	Percentage of New Households Seeking Rental Housing
<\$10/hr	70%
\$10-14/hr	50%
\$15-19/hr	35%
\$20-24/hr	25%
\$25-29/hr	10%
\$30-34/hr	10%
\$35+/hr	10%

ALLOCATION OF HOUSING DEMAND BY SUBREGION

There are an infinite number of reasons why people choose to live where they live. However, two important reasons stand out among the many: 1) the distance between jobs and housing; and 2) the distance between community services/amenities (i.e., schools, clinics, shopping, parks, etc.) and housing. Few households are willing to travel long distances between their home and their job, especially in an era where fuel prices are taking a larger and larger share of a household’s budget. While at the same time, households strongly desire to be close to the services and amenities that make their life easier or more enjoyable. Because of these two reasons, Bonestroo analyzed the distance between each community within the study area in order to estimate where new households would seek housing depending on the location of new jobs.

This type of analysis is generally referred to as a “gravity” model because it compares commuting distance to the attractive force of larger communities that offer a greater array of amenities and services.

Computation of the “gravity” model consisted of three steps:

Step 1: Determine distance between each community within the Study Area

Bonestroo calculated the highway distance between each of the 31 communities within the Study Area. These distances are presented in the following mileage chart table.

TABLE 11: MILEAGE CHART OF STUDY AREA CITIES (CITIES ARE ORDERED WEST TO EAST)

	Deer River	Zemple	Cohasset	Grand Rapids	La Prairie	Warba	Coleraine	Bovey	Taconite	Marble	Calumet	Nashwauk	Keewatin	Hibbing	Chisholm	Buhl	Kinney	Mountain Iron	Virginia	Eveleth	Leonidas	Iron Junction	Gilbert	McKinley	Biwabik	Aurora	Hoyt Lakes	Tower	Babbitt	Ely	Winton
Deer River		1	8	13	15	27	18	19	21	24	27	32	35	41	48	54	56	61	65	68	68	58	68	71	74	79	84	90	95	112	114
Zemple	1		7	12	14	26	17	18	20	23	26	31	34	40	47	53	55	60	64	67	67	57	67	70	73	78	83	89	94	111	113
Cohasset	8	7		5	7	19	10	11	13	16	19	24	27	33	40	46	48	53	57	60	60	50	60	63	66	71	76	82	87	104	106
Grand Rapids	13	12	5		5	17	8	9	11	14	17	22	25	31	38	44	46	51	55	58	58	48	58	61	64	69	74	80	85	102	104
La Prairie	15	14	7	5		12	10	11	13	16	19	24	27	33	40	46	48	53	57	60	60	50	60	63	66	71	76	82	87	104	106
Warba	27	26	19	17	12		14	13	15	18	21	26	29	35	42	48	50	55	59	62	62	52	62	65	68	73	78	84	89	106	108
Coleraine	18	17	10	8	10	14		1	3	6	9	14	17	23	30	36	38	43	47	50	50	40	50	53	56	61	66	72	77	94	96
Bovey	19	18	11	9	11	13	1		2	5	8	13	16	22	29	35	37	42	46	49	49	39	49	52	55	60	65	71	76	93	95
Taconite	21	20	13	11	13	15	3	2		3	6	11	14	20	27	33	35	40	44	47	47	37	47	50	53	58	63	69	74	91	93
Marble	24	23	16	14	16	18	6	5	3		3	8	11	17	24	30	32	37	41	44	44	34	44	47	50	55	60	66	71	88	90
Calumet	27	26	19	17	19	21	9	8	6	3		5	8	14	21	27	29	34	38	41	41	31	41	44	47	52	57	63	68	85	87
Nashwauk	32	31	24	22	24	26	14	13	11	8	5		3	9	16	22	24	29	33	36	36	26	36	39	42	47	52	58	63	80	82
Keewatin	35	34	27	25	27	29	17	16	14	11	8	3		6	13	19	21	26	30	33	33	23	33	36	39	44	49	55	60	77	79
Hibbing	41	40	33	31	33	35	23	22	20	17	14	9	6		7	13	15	20	24	27	27	17	27	30	33	38	43	49	54	71	73
Chisholm	48	47	40	38	40	42	30	29	27	24	21	16	13	7		6	8	13	17	20	20	27	20	23	26	31	36	42	47	64	66
Buhl	54	53	46	44	46	48	36	35	33	30	27	22	19	13	6		2	7	11	14	14	21	14	17	20	25	30	36	41	58	60
Kinney	56	55	48	46	48	50	38	37	35	32	29	24	21	15	8	2		5	9	12	12	19	12	15	18	23	28	34	39	56	58
Mountain Iron	61	60	53	51	53	55	43	42	40	37	34	29	26	20	13	7	5		4	7	7	14	7	10	13	18	23	29	34	51	53
Virginia	65	64	57	55	57	59	47	46	44	41	38	33	30	24	17	11	9	4		3	3	10	3	6	9	14	19	25	30	47	49
Eveleth	68	67	60	58	60	62	50	49	47	44	41	36	33	27	20	14	12	7	3		0	5	3	6	9	14	19	28	33	50	52
Leonidas	68	67	60	58	60	62	50	49	47	44	41	36	33	27	20	14	12	7	3	0		5	3	6	9	14	19	28	33	50	52
Iron Junction	58	57	50	48	50	52	40	39	37	34	31	26	23	17	27	21	19	14	10	5	5		10	13	16	21	26	35	40	57	59
Gilbert	68	67	60	58	60	62	50	49	47	44	41	36	33	27	20	14	12	7	3	3	3	10		3	6	11	16	28	33	50	52
McKinley	71	70	63	61	63	65	53	52	50	47	44	39	36	30	23	17	15	10	6	6	6	13	3		3	8	13	31	33	53	55
Biwabik	74	73	66	64	66	68	56	55	53	50	47	42	39	33	26	20	18	13	9	9	9	16	6	3		5	10	27	29	49	51
Aurora	79	78	71	69	71	73	61	60	58	55	52	47	44	38	31	25	23	18	14	14	14	21	11	8	5		5	23	25	45	47
Hoyt Lakes	84	83	76	74	76	78	66	65	63	60	57	52	49	43	36	30	28	23	19	19	19	26	16	13	10	5		28	30	50	52
Tower	90	89	82	80	82	84	72	71	69	66	63	58	55	49	42	36	34	29	25	28	28	35	28	31	27	23	28		27	22	24
Babbitt	95	94	87	85	87	89	77	76	74	71	68	63	60	54	47	41	39	34	30	33	33	40	33	33	29	25	30	27		18	20
Ely	112	111	104	102	104	106	94	93	91	88	85	80	77	71	64	58	56	51	47	50	50	57	50	53	49	45	50	22	18		2
Winton	114	113	106	104	106	108	96	95	93	90	87	82	79	73	66	60	58	53	49	52	52	59	52	55	51	47	52	24	20		2

In order to simplify the computation of the model, each distance was assigned a zone from 1 to 5 based on the following distances:

Zone	Distance in Miles
1	0.0 - 4.9
2	5.0 - 14.9
3	15.0 - 29.9
4	30.0 - 49.9
5	50.0 - 100.0

The distances that make up the zones generally correspond to existing travel behavior in the Study Area. According to the 2000 Census, there appears to be important breaks in the distribution of commute times at five minutes, 15 minutes, 25 minutes, 35 minutes, and 60 minutes. Assuming congestion is rare within the Study Area, these commute times would roughly correspond to mileage breaks between zones. Translating the mileage chart into a zone chart results in Table 12.

TABLE 12: ZONE CHART OF STUDY AREA CITIES (CITIES ARE ORDERED WEST TO EAST)

	Deer River	Zemple	Cohasset	Grand Rapids	La Prairie	Warba	Coleraine	Bovey	Taconite	Marble	Calumet	Nashwauk	Keewatin	Hibbing	Chisholm	Buhl	Kinney	Mountain Iron	Virginia	Eveleth	Leonidas	Iron Junction	Gilbert	McKinley	Biwabik	Aurora	Hoyt Lakes	Tower	Babbitt	Ely	Winton
Deer River	1	1	2	2	3	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Zemple	1	1	2	2	2	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Cohasset	2	2	1	2	2	3	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Grand Rapids	2	2	2	1	2	3	2	2	2	2	3	3	3	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
La Prairie	3	2	2	2	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Warba	3	3	3	3	2	1	2	2	2	3	3	3	3	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Coleraine	3	3	2	2	2	1	1	1	1	2	2	2	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5
Bovey	3	3	2	2	2	2	1	1	1	2	2	2	3	3	3	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5
Taconite	3	3	2	2	2	3	1	1	1	1	2	2	2	3	3	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5
Marble	3	3	3	2	3	3	2	2	1	1	1	2	2	3	3	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5
Calumet	3	3	3	3	3	3	2	2	2	1	1	2	2	3	3	3	3	4	4	4	4	4	4	4	4	5	5	5	5	5	5
Nashwauk	4	4	3	3	3	3	2	2	2	2	2	1	1	2	3	3	3	3	4	4	4	4	3	4	4	4	4	5	5	5	5
Keewatin	4	4	3	3	3	3	3	2	2	2	1	1	2	2	3	3	3	3	4	4	4	4	3	4	4	4	4	4	5	5	5
Hibbing	4	4	4	4	4	3	3	3	3	2	2	2	2	1	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5
Chisholm	4	4	4	4	4	4	4	3	3	3	3	3	2	2	1	2	2	2	3	3	3	3	3	3	3	4	4	4	4	5	5
Buhl	5	5	4	4	4	4	4	4	4	4	3	3	3	2	1	1	2	2	2	2	2	3	2	3	3	3	4	4	4	5	5
Kinney	5	5	4	4	4	5	4	4	4	4	3	3	3	3	2	1	1	2	2	2	2	3	2	3	3	3	3	4	4	5	5
Mountain Iron	5	5	5	5	5	5	4	4	4	4	4	3	3	3	2	2	2	1	1	2	2	2	2	2	2	3	3	3	4	5	5
Virginia	5	5	5	5	5	5	4	4	4	4	4	4	4	3	3	2	2	1	1	1	1	2	1	2	2	2	3	3	4	4	5
Eveleth	5	5	5	5	5	5	5	4	4	4	4	4	4	3	3	2	2	2	1	1	1	1	2	1	2	2	2	3	3	4	5
Leonidas	5	5	5	5	5	5	5	4	4	4	4	4	4	3	3	2	2	2	1	1	1	2	1	2	2	2	3	3	4	5	5
Iron Junction	5	5	5	4	5	5	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	1	2	2	3	3	4	4	5	5
Gilbert	5	5	5	5	5	5	5	4	4	4	4	4	4	3	3	2	2	2	1	1	1	2	1	1	2	2	3	3	4	5	5
McKinley	5	5	5	5	5	5	5	5	5	4	4	4	4	4	3	3	3	2	2	2	2	2	1	1	1	2	2	4	4	5	5
Biwabik	5	5	5	5	5	5	5	5	5	5	4	4	4	4	3	3	3	2	2	2	2	3	2	1	1	2	2	3	3	4	5
Aurora	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	3	3	3	2	2	2	3	2	2	2	2	1	2	3	3	4
Hoyt Lakes	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	3	3	3	3	3	3	3	2	2	2	1	3	4	5	5
Tower	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	3	3	3	3	4	3	4	3	3	3	1	3	3	3
Babbitt	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	3	3	4	3	1	3	3
Ely	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	4	4	5	3	3	1	1
Winton	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	4	5	3	3	1	1

Step 2: Order Study Area cities by size and presence of services/amenities

Bonestroo analyzed the population and household size of each community within the Study Area and also researched the availability of key services, such as grocery stores, schools, and hospitals. These items are displayed in Table 13. Also noted in Table 13 is a city’s order, which is on a scale of one to five, with one representing a prominent position within the regional economy because of a large population base and a wide array of available services. The most important determinant of a city’s order was population size. If the cities are ranked according to population, there appears to be natural categories, which are as follows:

- 5,000 or more
- 2,500 to 5,000
- 1,200 to 2,500
- 500 to 1,200
- under 500

Therefore, each city was assigned a value that corresponded to one of the five categories noted above. Then the availability of services was considered to determine if communities with a relatively small population should be re-categorized due to its economic importance. Generally, the population of a community tended to match up with its availability of services.

TABLE 13: POPULATION AND SERVICES AVAILABLE AMONG STUDY AREA CITIES

(CITIES ARE ORDERED WEST TO EAST)

MUNICIPALITY NAME	ORDER	2000 CENSUS POP	2000 CENSUS HHs	GROCERY STORES	ELEMENTARY SCHOOLS	MIDDLE SCHOOLS	HIGH SCHOOLS	HS GRADUATING CLASS SIZE	POST SECONDARY SCHOOLS	ENROLLMENT	HOSPITALS	BEDS
Deer River	4	903	389		1		1	67			Homestead Rehab	20
Zemple	5	75	27									
Cohasset	3	2,481	960	1	1							
Grand Rapids	1	7,764	3,446	8	3	1	1	359	Itasca Comm. Coll.	1,530	Grand Itasca Hosp. & Clinic	64
La Prairie	4	605	239									
Warba	5	183	79									
Coleraine	4	1,110	443		1		1	75				
Bovey	4	662	302	2		1						
Taconite	5	315	136	1								
Marble	4	695	287	1								
Calumet	5	383	162									
Nashwauk	4	935	434	2			1	59				
Keewatin	4	1,164	522		1							
Hibbing	1	17,071	7,439	2	3		1	216	Hibbing Comm. Coll.	1,934	University Med. Ctr. - Mesabi	175
Chisholm	2	4,960	2,178	2	2		1	45				
Buhl	4	983	405									
Kinney	5	199	82									
Mountain Iron	2	2,999	1,326	1	1		1	55				
Virginia	1	9,157	4,333	9	2		1	137	Mesabi Range Comm. Coll.	2,025	Virginia Regional Med. Ctr.	83
Eveleth	2	3,865	1,717	2	1	1	1	93				
Leonidas	5	60	26									
Iron Junction	5	93	44									
Gilbert	3	1,847	842		1							
McKinley	5	80	37									
Biwabik	4	954	454	1								
Aurora	3	1,850	812	3	1		1	60			White Comm. Hosp.	16
Hoyt Lakes	3	2,082	916	1								
Tower	4	479	233		1		1	45				
Babbitt	3	1,670	735	1	1		1	50				
Ely	2	3,724	1,694	2	1		1	54	Vermilion Comm. Coll.	947	Ely Bloomenson Comm. Hosp.	32
Winton	5	185	85									

Sources: 2000 U.S. Census; Minnesota Department of Education; Minnesota Department of Health; Internet directories

Step 3: Calculation of attractive force

This step involves balancing three elements: 1) the size of the city located closest to the economic development project; 2) distance between the project city and each other city in the Study Area; and 3) the size of each city being compared against the project city. Since there are five zones being analyzed, this means there are 125 unique combinations of distance, size of project city, and size of comparison city. Therefore, for every proposed economic development project that results in demand for additional housing, there are 125 possible arrangements that need to be considered in order to calculate how many units may be demanded in any given city. Assuming that the attractive force of cities lessens with distance and the smaller its size (see Figure 18), Table 14 displays the range of potential impacts that could be applied to each of the 125 possible combinations.

FIGURE 18

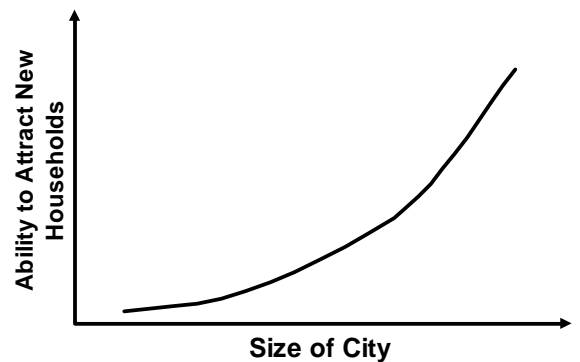


TABLE 14: GRAVITY IMPACT OF DISTANCE BETWEEN STUDY AREA CITIES

Size of City Nearest Project	Size of Comparison City	Distance Between Cities	Percentage of Housing Units Allocated to Comparison City
1	1	1	40.0%
1	2	1	13.3%
1	3	1	5.9%
1	4	1	3.0%
1	5	1	1.6%
1	1	2	9.5%
1	2	2	3.2%
1	3	2	1.4%
1	4	2	0.7%
1	5	2	0.4%
1	1	3	3.0%
1	2	3	1.0%
1	3	3	0.4%
1	4	3	0.2%
1	5	3	0.1%
1	1	4	1.1%
1	2	4	0.4%
1	3	4	0.2%
1	4	4	0.1%
1	5	4	0.0%
1	1	5	0.4%
1	2	5	0.1%
1	3	5	0.1%
1	4	5	0.0%
1	5	5	0.0%
2	1	1	40.0%
2	2	1	14.3%
2	3	1	6.8%
2	4	1	3.6%
2	5	1	2.1%
2	1	2	10.5%
2	2	2	3.8%
2	3	2	1.8%
2	4	2	1.0%
2	5	2	0.5%
2	1	3	3.7%
2	2	3	1.3%
2	3	3	0.6%
2	4	3	0.3%
2	5	3	0.2%
2	1	4	1.5%
2	2	4	0.5%
2	3	4	0.2%
2	4	4	0.1%
2	5	4	0.1%
2	1	5	0.6%
2	2	5	0.2%
2	3	5	0.1%
2	4	5	0.1%
2	5	5	0.0%
3	1	1	40.0%
3	2	1	15.4%
3	3	1	7.9%
3	4	1	4.6%
3	5	1	2.8%
3	1	2	11.8%
3	2	2	4.5%
3	3	2	2.3%
3	4	2	1.3%
3	5	2	0.8%
3	1	3	4.6%
3	2	3	1.8%
3	3	3	0.9%
3	4	3	0.5%
3	5	3	0.3%

Size of City Nearest Project	Size of Comparison City	Distance Between Cities	Percentage of Housing Units Allocated to Comparison City
3	1	4	2.0%
3	2	4	0.8%
3	3	4	0.4%
3	4	4	0.2%
3	5	4	0.1%
3	1	5	1.0%
3	2	5	0.4%
3	3	5	0.2%
3	4	5	0.1%
3	5	5	0.1%
4	1	1	40.0%
4	2	1	16.7%
4	3	1	9.3%
4	4	1	5.8%
4	5	1	3.9%
4	1	2	12.5%
4	2	2	5.2%
4	3	2	2.9%
4	4	2	1.8%
4	5	2	1.2%
4	1	3	5.2%
4	2	3	2.2%
4	3	3	1.2%
4	4	3	0.8%
4	5	3	0.5%
4	1	4	2.4%
4	2	4	1.0%
4	3	4	0.6%
4	4	4	0.4%
4	5	4	0.2%
4	1	5	1.2%
4	2	5	0.5%
4	3	5	0.3%
4	4	5	0.2%
4	5	5	0.1%
5	1	1	40.0%
5	2	1	18.2%
5	3	1	11.0%
5	4	1	7.5%
5	5	1	5.5%
5	1	2	13.3%
5	2	2	6.1%
5	3	2	3.7%
5	4	2	2.5%
5	5	2	1.8%
5	1	3	5.9%
5	2	3	2.7%
5	3	3	1.6%
5	4	3	1.1%
5	5	3	0.8%
5	1	4	3.0%
5	2	4	1.3%
5	3	4	0.8%
5	4	4	0.6%
5	5	4	0.4%
5	1	5	1.6%
5	2	5	0.7%
5	3	5	0.4%
5	4	5	0.3%
5	5	5	0.2%

To help illustrate this point, consider the following example:

Company A has announced a new project located near Chisholm that will result in new jobs creating demand for 500 additional housing units. Presumably, not all of those 500 housing units will be demanded in Chisholm, though it is the closest city to the project site. Where else might new households be willing to relocate to? First, Chisholm has a population of roughly 5,000 persons, which means it is ordered as a 2 on a scale of 1 to 5. Therefore, it theoretically could accommodate a substantial portion of the housing demand created at the nearby economic development project because it has a number of services and amenities already in place that would attract new households. The proportion of units each city could theoretically attract are in the following table:

TABLE 15: EXAMPLE GRAVITY MODEL ALLOCATION OF HOUSING UNITS DEMANDED

Study Area City	Percentage of Housing Units Allocated to Comparison City	Units Demanded (out of 500)
Aurora	0.2%	1
Babbitt	0.2%	1
Biwabik	0.3%	2
Bovey	0.3%	2
Buhl	1.0%	5
Calumet	0.2%	1
Chisholm	71.9%	360
Cohasset	0.2%	1
Coleraine	0.1%	1
Deer River	0.1%	1
Ely	0.2%	1
Eveleth	1.3%	7
Gilbert	0.6%	3
Grand Rapids	1.5%	7
Hibbing	10.5%	53
Hoyt Lakes	0.2%	1
Iron Junction	0.2%	1
Keewatin	1.0%	5
Kinney	0.5%	3
La Prairie	0.1%	1
Leonidas	0.2%	1
Marble	0.3%	2
McKinley	0.2%	1
Mountain Iron	3.8%	19
Nashwauk	0.3%	2
Taconite	0.2%	1
Tower	0.1%	1
Virginia	3.7%	18
Warba	0.1%	0
Winton	0.0%	0
Zemple	0.1%	0
Total	100%	500

Clearly, there are a number of assumptions that have been made regarding the gravity model. First, it is assumed households want to minimize their commute time. In reality, human behavior sometimes confounds this simple logic. In some cases, for instances, persons may prefer longer commute times over shorter commute times because it affords them an opportunity to be alone or they may simply enjoy driving, biking, or whatever the mode may be. Nonetheless, for purposes of estimating the amount of housing demand that may occur away from the closest city, this is considered an appropriate assumption.

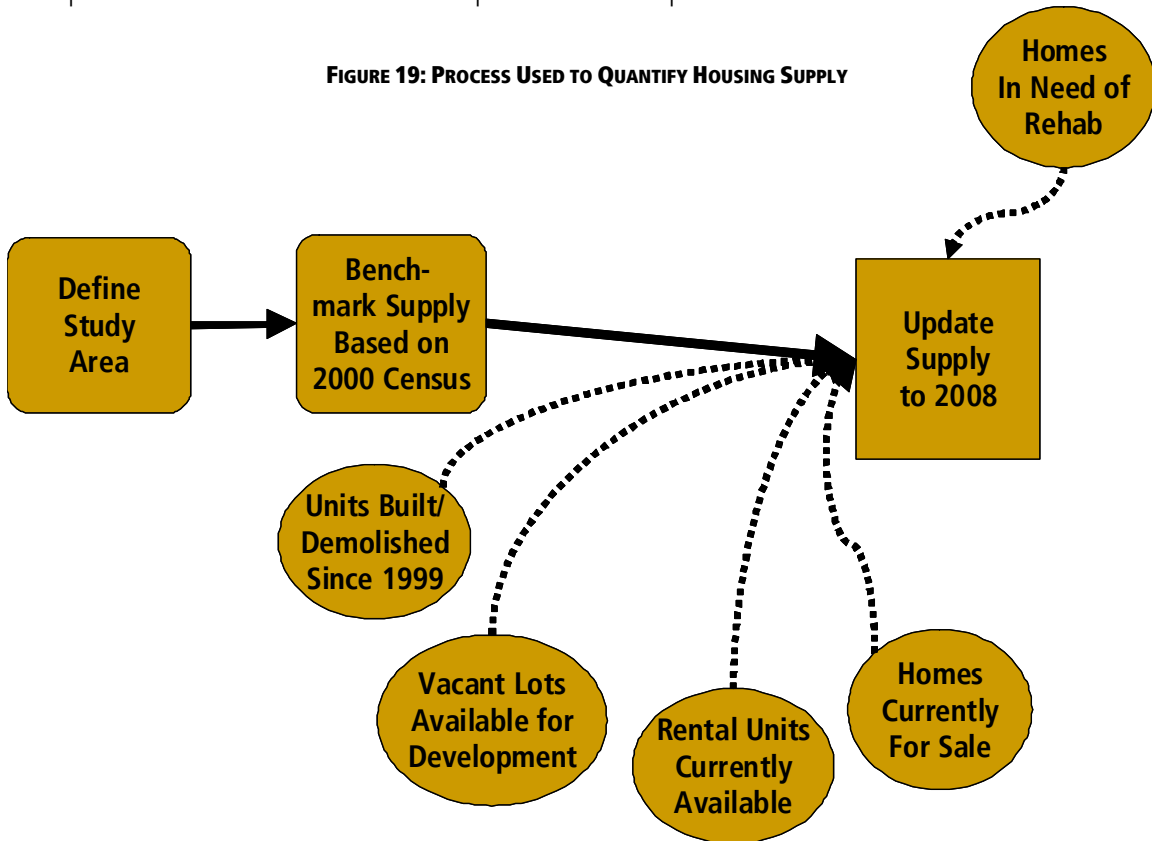
Second, similar housing choices (e.g, prices, types, styles, etc.) are assumed to be available in each city in the study region. Reality is never this way. Although it would be preferred, the complexity needed to design a gravity model that factors in fluctuating supply is well beyond the scope of this study.

Housing Supply Analysis

INTRODUCTION

This section of the report addresses the methodology used to measure the amount of available housing in the Study Area for both permanent and temporary workers. The housing stock in the Study Area is varied and change is continually occurring. Therefore, attempts were made to quantify existing supply with the understanding that new development would need to be continuously tracked in order to maintain an accurate picture of supply. The diagram below depicts the process. This is followed by a detailed description of the data collected and the steps involved in the process.

FIGURE 19: PROCESS USED TO QUANTIFY HOUSING SUPPLY



HOUSING SUPPLY BASED ON 2000 U.S. CENSUS

Every 10 years the U.S. Census Bureau conducts a census of housing. Examples of data included in the census of housing are age of homes, tenure of occupants, monthly rent or mortgage of occupants, number of bedrooms per unit, vacancy rate, to name a few. The most recent census was in 2000. Bonestroo collected and analyzed this data from 2000 for each of the cities and townships in the defined Study Area and then aggregated by subregion. A grand total of the entire Study Area is presented in Table 16, though additional tables were produced for each subregion.

TABLE 16: STUDY AREA HOUSING SUPPLY BY MONTHLY COST BY TENURE BY UNIT SIZE FROM THE 2000 CENSUS

Monthly Housing Cost	Type of Unit										Seasonal Vacant	Other Vacant	Total
	Own					Rent							
	0BR	1BR	2BR	3BR	Total	0BR	1BR	2BR	3BR	Total			
Less than \$250	21	367	2,103	4,954	7,445	85	973	384	116	1,558	--	--	9,003
\$250 to \$374	22	377	2,182	5,164	7,745	173	988	417	156	1,735	--	--	9,480
\$375 to \$624	18	301	1,755	4,168	6,241	103	1,584	1,927	554	4,169	--	--	10,410
\$625 to \$937	20	345	2,013	4,759	7,137	18	312	700	539	1,569	--	--	8,707
\$938 to \$1,249	13	209	1,250	2,985	4,458	3	65	93	56	217	--	--	4,674
\$1,250 or more	12	177	1,073	2,590	3,852	0	10	25	10	45	--	--	3,897
No cash rent	0	0	0	0	0	11	91	232	308	642	--	--	642
Total	107	1,776	10,376	24,618	36,878	394	4,023	3,778	1,740	9,935	5,280	1,204	53,296

Source: 2000 U.S. Census

It should be noted that no single table in the 2000 Census presents data in this manner. Through interpolation and imputation of data from 10 different Census tables, Bonestroo was able to compile the above table of housing supply. The housing cost categories have been adjusted from 2000 Census to account for inflation. According to data from the 2006 American Community Survey (U.S. Census), the median household income of St. Louis County has increased approximately 3.1% each year from 2000 to 2006. This annual inflationary rate was applied to housing cost.

UNITS BUILT AND DEMOLISHED SINCE 1999

With the assistance of the RRI Housing Work Team, a survey of each municipality in the Study Area was conducted to learn of units built and or demolished since 1999. (The survey form can be found in Appendix C of the report.) Because not all communities have the resources to maintain detailed records, Bonestroo augmented the survey data with data from the Itasca and St. Louis County assessors. The Itasca County assessor data was especially helpful because it included assessed value of newly built units. This allowed Bonestroo to estimate the approximate monthly housing cost of all newly built units throughout the Study Area. The monthly cost of rental units built since 2000 was based on a survey of 72 rental properties conducted throughout the Study Area. (A summary of rental survey results can be found in Appendix B of the report.) Table 17 presents the number of housing units built in the Study Area from 2000 to 2007 by monthly cost, tenure, and number of bedrooms. There were just over 2,900 housing units built during this time; the vast majority of which were owner-occupied, single-family homes.

TABLE 17: STUDY AREA HOUSING UNITS BUILT 2000-2007

Monthly Housing Cost	Type of Unit										Seasonal Vacant	Other Vacant	Total
	Own					Rent							
	0BR	1BR	2BR	3BR	Total	0BR	1BR	2BR	3BR	Total			
Less than \$250	0	0	0	0	0	0	0	0	0	0	--	--	0
\$250 to \$374	0	2	0	19	21	0	0	0	0	0	--	--	21
\$375 to \$624	0	19	49	37	105	0	0	0	0	0	--	--	105
\$625 to \$937	0	26	134	211	372	98	138	97	0	333	--	--	705
\$938 to \$1,249	0	2	115	294	412	0	0	0	0	0	--	--	412
\$1,250 or more	0	26	280	981	1,286	0	0	0	0	0	--	--	1,286
No cash rent	0	0	0	0	0	0	0	0	0	0	--	--	0
Total	0	75	578	1,542	2,195	98	138	97	0	333	378	0	2,906

The survey of communities also yielded data on the number of demolitions within each city. Again, record keeping for demolitions is sporadic. Nonetheless, most of the larger communities track demolitions, and their results allowed Bonestroo to estimate the annual demolition rate throughout the Study Area, which

was .068% from 2000 to 2007. It should be noted, though, that during the course of this study, Bonestroo learned that Iron Range Resources had recently reinstated a dormant program that provided funding to cities for demolitions. When the program was first active during the 1980s and 1990s, several thousand homes were demolished throughout the Study Area. There is no expectation that similar numbers will be achieved during the current tenure of the program, but the availability of funding suggests that the rate of demolition will likely increase in the near future. Table 18 presents the reported number of demolitions by community. This is followed by Table 19, which presents the estimated number of demolitions for the entire Study Area based on the results of the community survey.

TABLE 18: REPORTED RESIDENTIAL DEMOLITIONS BY CITY 2000-2007

CITY	SUBREGION	TOTAL UNITS (2000)	REPORTED NUMBER OF HOMES DEMOLISHED BY YEAR							
			2000	2001	2002	2003	2004	2005	2006	2007
Nashwauk	Central	467							1	1
Marble	Central	308								
Kinney	Central	88								
Keewatin	Central	550								
Hibbing	Central	8,037	5	4	5	0	0	0	1	5
Chisholm	Central	2,375	7	3	1	0	0	5	2	3
Calumet	Central	178						0	0	0
Buhl	Central	432								
McKinley	East Range	43								
Hoyt Lakes	East Range	995								
Biwabik	East Range	492	0	0	0	0	0	0	0	0
Aurora	East Range	893	0	7	0	0	0	0	0	0
Winton	Northeast	97								
Tower	Northeast	295								
Ely	Northeast	1,912								
Babbitt	Northeast	801	0	0	0	0	0	0	0	0
Virginia	Quad Cities	4,692	1	12	3	1	1	5	3	0
Mountain Iron	Quad Cities	1,409	0	0	1	0	0	0	1	1
Leonidas	Quad Cities	27								
Iron Junction	Quad Cities	44								
Gilbert	Quad Cities	900	2	0	0	1	1	2	2	3
Eveleth	Quad Cities	1,965	1	1	0	0	3	0	2	0
Zemple	Western	29								
Warba	Western	86								
Taconite	Western	150								
La Prairie	Western	249								
Grand Rapids	Western	3,621					5	7	15	6
Deer River	Western	324								
Coleraine	Western	462								
Cohasset	Western	1,191								
Bovey	Western	326								
TOTALS		33,438	16	27	10	2	10	19	27	19
DEMOLITION RATE			0.074%	0.125%	0.046%	0.009%	0.040%	0.075%	0.105%	0.074%
										0.068%

Note: All data comes from surveys completed by city officials. Blank cells are unreported data. Many cities do not track demolitions.

**ANNUAL AVERAGE
DEMOLITION RATE
2000-2007**

TABLE 19: ESTIMATED STUDY AREA DEMOLITIONS 2000-2007

Monthly Housing Cost	Type of Unit										Seasonal Vacant	Other Vacant	Total
	Own					Rent							
	0BR	1BR	2BR	3BR	Total	0BR	1BR	2BR	3BR	Total			
Less than \$250	0	2	12	27	41	0	5	2	1	9	--	--	49
\$250 to \$374	0	2	12	28	42	1	5	2	1	10	--	--	52
\$375 to \$624	0	2	10	23	34	1	9	11	3	23	--	--	57
\$625 to \$937	0	2	11	26	39	0	2	4	3	9	--	--	48
\$938 to \$1,249	0	1	7	16	24	0	0	1	0	1	--	--	26
\$1,250 or more	0	1	6	14	21	0	0	0	0	0	--	--	21
No cash rent	0	0	0	0	0	0	0	1	2	4	--	--	4
Total	1	10	57	135	202	2	22	21	10	54	28	7	291

Bonestroo recognizes that the distribution of demolitions in Table 19 by monthly housing cost may not be weighted accurately because, presumably, the vast majority of demolitions occur among housing units at the lowest cost levels. Unfortunately, information is not available regarding the exact housing costs of units prior to demolition. Therefore, without accurate information, Bonestroo conservatively distributed the demolished units according to the distribution of all housing units regardless of monthly cost. Although such information may never be available, Bonestroo believes that future iterations of the housing model should include anecdotal information from local housing officials about the loss of affordable housing units to better weight the distribution in Table 19.

ESTIMATED HOUSING SUPPLY AS OF 2008

The number of units built and the number of units demolished were added and subtracted to the 2000 figures to derive the existing number of housing units in the Study Area. Table 20 presents data for the entire Study Area, though separate tables for each subregion were prepared as well.

TABLE 20: ESTIMATED HOUSING SUPPLY AS OF 2008

Monthly Housing Cost	Type of Unit										Seasonal Vacant	Other Vacant	Total
	Own					Rent							
	0BR	1BR	2BR	3BR	Total	0BR	1BR	2BR	3BR	Total			
Less than \$250	21	365	2,091	4,927	7,404	85	968	382	115	1,549	--	--	8,953
\$250 to \$374	22	377	2,170	5,154	7,724	172	983	415	156	1,726	--	--	9,449
\$375 to \$624	18	318	1,794	4,182	6,311	103	1,576	1,917	551	4,146	--	--	10,457
\$625 to \$937	20	369	2,136	4,944	7,470	116	448	793	536	1,894	--	--	9,364
\$938 to \$1,249	13	211	1,359	3,263	4,845	3	64	92	56	215	--	--	5,061
\$1,250 or more	12	202	1,347	3,556	5,117	0	10	25	10	45	--	--	5,162
No cash rent	0	0	0	0	0	11	91	231	306	638	--	--	638
Total	106	1,842	10,897	26,026	38,871	490	4,139	3,855	1,730	10,213	5,629	1,258	55,971

HOUSING SUPPLY WITHOUT AGE-RESTRICTED UNITS

An important consideration in the housing supply is whether available properties are age-restricted or general-occupancy. Presumably, most in-migrants to the Study Area will be younger and not able to qualify to live in age-restricted housing. Therefore, properties that are age-restricted were subtracted from the housing supply. Bonestroo quantified the supply of age-restricted housing based on the rental property survey (see Appendix B for summary of results). Approximately 2,200 age-restricted units were identified in the survey. Table 21 displays the number of housing units in the Study Area after subtracting these units from the supply.

TABLE 21: HOUSING SUPPLY WITHOUT AGE-RESTRICTED UNITS AS OF 2008

Monthly Housing Cost	Type of Unit										Seasonal Vacant	Other Vacant	Total
	Own					Rent							
	0BR	1BR	2BR	3BR	Total	0BR	1BR	2BR	3BR	Total			
Less than \$250	21	365	2,091	4,927	7,404	51	585	352	114	1,103	--	--	8,506
\$250 to \$374	22	377	2,170	5,154	7,724	116	572	384	154	1,226	--	--	8,950
\$375 to \$624	18	318	1,794	4,182	6,311	76	905	1,763	547	3,291	--	--	9,603
\$625 to \$937	20	369	2,136	4,944	7,470	51	256	703	531	1,541	--	--	9,011
\$938 to \$1,249	13	211	1,359	3,263	4,845	3	35	82	55	175	--	--	5,020
\$1,250 or more	12	202	1,347	3,556	5,117	0	5	22	10	37	--	--	5,154
No cash rent	0	0	0	0	0	6	52	211	305	574	--	--	574
Total	106	1,842	10,897	26,026	38,871	304	2,410	3,518	1,715	7,946	5,629	1,258	53,704

AVAILABLE HOUSING UNITS AS OF 2008

Simply because supply has been quantified does not necessarily mean all those units are available for occupancy to new households. Actually, very few at any one time are available. Therefore, Bonestroo estimated the number of available units by 1) collecting MLS data from the Itasca County Board of Realtors and the Range Area Association of Realtors, and 2) applying the vacancy rate learned through the rental survey to all rental units.

AVAILABLE FOR-SALE UNITS

In June 2008, Bonestroo requested active for-sale listings from the Itasca County Board of Realtors and the Range Area Association of Realtors. The listings were sorted by city, price, and number of bedrooms. There were a total of 886 homes listed for sale. These 886 units represented about 2.0% of all owner-occupied units in the Study Area. The Western subregion had the most listings at 276 and the highest median list price at \$195,000, which was well above the other subregions. Table 22 is a summary of the listings by subregion and price.

TABLE 22: ACTIVE FOR-SALE HOMES LISTED ON THE MLS, JUNE 2008

Home List Price	Western	Central	Quad Cities	East Range	Northeast	Study Area
Less than \$40,000	0	16	9	3	4	32
\$40,000-\$59,999	4	30	9	14	11	68
\$60,000-\$99,999	20	71	43	40	51	225
\$100,000-\$149,999	73	46	46	6	31	202
\$150,000-\$209,999	46	35	25	8	19	133
\$210,000 or more	133	34	28	2	29	226
Total	276	232	160	73	145	886
<i>Median List Price</i>	\$195,000	\$99,900	\$129,700	\$85,000	\$115,000	\$129,900

Sources: Itasca County Board of Realtors; Range Area Association of Realtors

DISCUSSION OF HOME FORECLOSURES

Home foreclosures have dramatically increased across the nation over the last two years. In some communities, the sheer volume and proportion of distressed units placed on the market has resulted in a tremendous downward pressure on prices, even among traditional non-lender mediated transactions. Although a similar effect has been felt in the Iron Range, the scale has been modest and thus has not led to the kinds of dramatic price declines seen in other areas. For example, compare the experience of Itasca and Isanti counties. In 2007, Itasca County had a population of approximately 44,000 and Isanti had a population of about 39,000. However, during the 1st quarter of 2008, Itasca had 26 home foreclosures

according to HousingLink, whereas, Isanti, the smaller county, had 105 home foreclosures, which was four times the number in Itasca County. The modest number of foreclosures in Itasca County, and presumably the remainder of the Iron Range, is largely attributed to the fact that a price bubble failed to occur in the Iron Range over the past five to seven years. Without sharp increases in prices, buyers were not motivated to overextend themselves and tap into risky mortgage arrangements. Nonetheless, foreclosures have increased across the Iron Range and local officials should pay attention to statistics that monitor such conditions to make sure that the volume or proportion of homes on the market that have been foreclosed does not reach a critical mass and begin to negatively impact housing prices.

AVAILABLE RENTAL UNITS

In February and March 2008, Bonestroo conducted a rental survey of 72 rental properties in the Study Area. Of these 72, 51 were general-occupancy properties with a total of 1,976 units. Among these 51 properties, 33 were market rate with a total of 1,418 units. Within the market rate properties, 62 units were vacant, which translates to an overall vacancy rate of 4.4%. However, some subregions had an even lower vacancy rate, which are noted in Table 23.

TABLE 23: MARKET RATE RENTAL VACANCY RATES BY SUBREGION

General-Occupancy Market Rate Rental Properties							
Subregion	Inventoried Properties*		Surveyed Properties				
	No. of Properties	No. of Units	No. of Properties	Total Units Surveyed ¹	Vacant Units ²	Vacancy Rate ³	Average Rent
Western	13	295	4	112	4	3.6%	\$592
Central	15	680	9	609	27	4.4%	\$467
Quad Cities	19	676	13	571	18	3.2%	\$477
East Range	13	122	6	86	4	4.7%	\$400
Northeast	8	71	1	40	9	22.5%	\$390
Study Area Total	68	1,844	33	1,418	62	4.4%	\$477

¹ A 13-room facility is currently empty and is not considered part of the analysis.

² 36 units at one project are being renovated and are not considered vacant.

³ Five of the 33 market rate properties surveyed account for 36 of the 62 vacant units. If these five properties were excluded from the analysis, there would be an overall vacancy rate of 2.5%.

Applying the above vacancy rates for each subregion to the number of estimated rental units results in 289 total available rental units in the Study Area. Table 24 displays the estimated number of available for-sale and rental units in the Study Area as of June 2008. However, these available units should not be considered excess capacity waiting to be absorbed. A rental vacancy rate of 5% is considered equilibrium for most rental markets, which is the point at which there is enough choice in the marketplace to limit rapid rent inflation and overcrowding. Therefore, the rental market is currently considered to be out of balance and exhibiting signs of pent-up demand. Thus, even in the absence of new household growth, the market could easily support another 79 units of market rate rental housing.

TABLE 24: AVAILABLE STUDY AREA UNITS AS OF JUNE 2008

Monthly Housing Cost	Type of Unit										Seasonal Vacant	Other Vacant	Total
	Own					Rent							
	OBR	1BR	2BR	3BR	Total	OBR	1BR	2BR	3BR	Total			
Less than \$250	1	5	18	8	32	1	31	12	4	47	0	0	79
\$250 to \$374	1	4	30	33	68	1	30	14	5	50	0	0	118
\$375 to \$624	1	6	92	126	225	1	47	64	19	130	0	0	355
\$625 to \$937	0	2	43	157	202	1	13	24	17	55	0	0	257
\$938 to \$1,249	0	4	15	114	133	0	2	3	2	6	0	0	139
\$1,250 or more	0	1	57	168	226	0	0	1	0	1	0	0	227
No cash rent	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	22	255	606	886	3	123	118	45	289	--	1,258	2,433

Note: Because MLS listings do not differentiate between seasonal homes and permanent homes, seasonal homes have been rolled into the owned columns.

EXISTING UNITS IN NEED OF REHABILITATION

Regardless of availability, some proportion of the local housing stock requires rehabilitation either to make the homes habitable or to make them marketable. Most homes in need of rehabilitation are occupied, and thus cannot be considered "available" for purposes of meeting an immediate and pressing housing need. However, a focused long range plan for rehabilitation can help local communities address their housing needs. For example, many homes in need of rehabilitation are the result of aging residents who are unable to keep up adequate maintenance. Coordination of community fix-up programs or sponsorship of new forms of housing targeted to an aging population are ways in which local communities can tap into their existing housing stock as a way to meet the housing demand of a growing and evolving community.

The consulting firm Community Partners assisted Bonestroo in preparing an estimate of the number of homes in need of rehabilitation in the Study Area as of 2nd Quarter 2008 by examining data presented earlier in this analysis along with data from previous housing studies, windshield surveys, and the Itasca County Community Readiness Assessment. Table 25 presents the results of Community Partners' analysis with number of homes needed for rehabilitation broken out by subregion, level of rehab needed, and type of home.

TABLE 25: ESTIMATED NUMBER OF HOUSING UNITS IN NEED OF REHABILITATION AS OF 2ND QUARTER 2008

Level of Rehab Needed	Subregion					Study Area
	Western	Central	Quad Cities	East Range	Northeast	
Minor Rehab <\$15,000 in improvements	3,910	5,106	3,640	1,522	1,565	15,743
Single-Family Minor Rehab (owned or rental)	3,630	4,641	3,214	1,454	1,485	14,424
Multifamily Minor Rehab (rental)	280	465	426	68	80	1,319
Major Rehab >\$15,000 in improvements	1,185	2,064	1,537	559	538	5,883
Single-Family Major Rehab (owned or rental)	1,054	1,805	1,204	540	496	5,099
Multifamily Major Rehab (rental)	131	259	333	19	42	784
Delapidated (Single-Family)	234	258	265	83	94	934
Sound but Functionally Obsolete (Single-Family)	527	709	505	195	217	2,153
Total Rehab Needed	5,856	8,137	5,947	2,359	2,414	24,713

Sources: Community Partners; Bonestroo

SUPPLY OF VACANT LOTS AVAILABLE FOR RESIDENTIAL DEVELOPMENT

Bonestroo also collected data on the supply of vacant lots available for residential development. Although a vacant lot is not a housing unit, it does represent the halfway point in the process of converting raw land into a housing unit. Furthermore, the costs associated with surveying land and achieving appropriate zoning are often an important component to the price a household must pay to either own or rent a

housing unit. Therefore, this data was collected in order to gauge the supply of lots that could be quickly converted into housing through construction. Table 26 presents the number of vacant residential lots available for development by subregion as of June 2008.

**TABLE 26: VACANT LOTS AVAILABLE FOR
RESIDENTIAL DEVELOPMENT**

Subregion	Number of Lots
Western	335
Central	117
Quad Cities	210
East Range	236
Northeast	97
Total	995

Source: Bonestroo

The data used to determine the figures in Table 26 comes from several sources. The primary source was the survey conducted of city staffs. For those cities that kept records and responded to the survey, Bonestroo was able to gather information on number of vacant lots in active residential subdivisions. For communities that do not keep records, Bonestroo relied on data from the Itasca and St. Louis County assessors. For Itasca County, the assessor’s office provided a database file that contained parcel information that noted when the parcel was platted, its tax code (zoning classification), acreage, and whether it was vacant or not. Because many rural parcels are not likely to be immediately developed, Bonestroo used the plat date as a surrogate to estimate the likelihood of whether the parcel is intended to be developed in the near future.

For St. Louis County, parcel information is available on-line (<http://www.co.st-louis.mn.us/auditor/parcelinfo/>) for each jurisdiction by tax code by acreage and by vacancy status. However, because year platted is not available from St. Louis County, Bonestroo estimated the likelihood of intent to develop by noting the amount of wetlands in the jurisdiction (http://www.co.st-louis.mn.us/slcportal/SiteMap/HomePage/Departments/Planning/PhysicalPlanning/Maps/tabid/290/SiteMap/HomePage/Departments/Planning/PhysicalPlanning/Maps/wetland_maps/tabid/1055/Default.aspx), which would preclude development for some parcels, and discounting for the fact that most property owners are probably not in a position to develop in the near future. This discounting factor was estimated as 75 percent of parcels.

One additional item to note about Table 26 is the number of vacant lots available in the East Range subregion. The City of Biwabik, which is located in the East Range, noted in their survey that they have an active subdivision called Voyageurs Retreat which contains a total of 250 lots, of which 229 are vacant. This development is targeted primarily to second home buyers in the Twin Cities Metropolitan Area, and thus has home prices well above those in other active subdivisions. Although the marketing of this development suggests that none of the lots would be purchased and built upon by in-migrants to the region attracted by job opportunities, Bonestroo decided to include ½ of the vacant lots (115) as supply because it is conceivable that new households with higher paying jobs located in the eastern half of the Study Area may be attracted to the amenities of the subdivision and could afford the higher prices.

SUPPLY OF TEMPORARY HOUSING

Most employers that hire a large number of temporary workers typically do not want to arrange housing and, therefore, rely on the local market. If forced to enter the housing market, temporary workers often

seek housing options that have maximum flexibility or convenience. Therefore, unless options are severely limited, temporary workers generally avoid owning their housing or long-term leases because of the inherent inflexibility of these arrangements. As a result, non-traditional housing arrangements, such as hotels/motels, campgrounds, mobile home parks, or households that take in boarders, can play an important role in the housing market by providing desirably flexible terms while at the same time preventing the existing rental market from becoming overwhelmed.

Bonestroo collected data on the potential supply of non-traditional housing through surveys of mobile home parks, internet searches of hotels/motels and campgrounds, and an analysis of empty bedrooms in the Study Area. Table 27 displays the number of potential units of each type of accommodation by subregion and the estimated proportion of units that could conceivably be made available to temporary workers. The supply of mobile home pads is based on an area wide vacancy rate of about 30 percent. The proportion of hotel/motel rooms and campground sites is estimated based on the assumption that such facilities average about 60 to 70 percent occupancy over the course of a year and that 20 percent could be made available to temporary workers without impacting a business’s core market of tourists.

TABLE 27: SUPPLY OF TEMPORARY HOUSING ALTERNATIVES

Subregion	Mobile Home Pads				Hotel/Motel Rooms				Campground Sites			
	Mobile Home Parks	Total Pads	Vacancy Rate	Available Pads	Hotels/Motels	Total Rooms	Availability Rate	Rooms Available	Campgrounds	Total Sites	Availability Rate	Available Sites
Western	18	387	30%	116	9	422	20%	84	3	81	20%	16
Central	9	379	30%	114	6	249	20%	50	4	116	20%	23
Quad Cities	2	121	30%	36	10	397	20%	79	4	194	20%	39
East Range	0	0	30%	0	5	200	20%	40	2	110	20%	22
Northeast	2	50	30%	15	13	240	20%	48	7	367	20%	73
Total	31	937		281	43	1508		302	20	868		174

Source: Bonestroo

Housing Need Analysis

INTRODUCTION

The two previous sections addressed the methodologies used in determining housing demand and supply. This section takes the results of these two analyses and applies a formula for determining how many additional housing units will be needed in the Study Area. Because a wide array of data variables were analyzed (e.g, home prices, wages, job locations, timing of jobs, ages of homes, etc.) at a “fine” grain level, calculated need goes beyond a simple gross number of housing units for the entire Study Area. It includes specifics for the number of units needed per subregion, by year, by tenure, and by price.

FORMULA FOR CALCULATING HOUSING NEED

Although the essence of determining housing need is to subtract available supply from the demand generated by job growth, there are a number of additional factors to take into consideration. Namely, the amount of housing need that exists independent of job growth and the number of excess housing units needed to maintain a healthy market. Moreover, the tenure of housing supply has a direct impact on the calculation of need. Therefore, the three formulae below are refinements of the basic “demand minus supply” formula presented in the introduction:

$$\text{Owned Housing Need} = H_j + H_{ng} + H_r - L_e - F_e$$

$$\text{Rental Housing Need} = H_j + H_r - R_e$$

$$\text{Temporary Housing Need} = H_j - T_{eu}$$

Where:

H_j = **Housing units needed as a result of job growth.** This number is calculated based on the methodology presented in the Housing Demand Analysis section.

H_{ng} = **Housing units needed as a result of “natural growth” and change in the marketplace.** Natural growth is considered to be new units that are created to meet the changing needs and preferences of the local population. An example of this is senior housing, which is often built even in areas with limited job growth. This number is determined by calculating the average number of homes built per year since 2000. Although national rates of construction were high during this period, the depressed economic conditions in the Study Area served to mitigate these trends locally. Therefore, in the absence of any projected new significant job growth in the region, we believe this rate of construction would likely continue to occur.

H_r = **Housing units needed due to replacement need.** As noted previously in this report, the Study Area consists of a housing stock that is older than average. Therefore, it is important to factor into any calculation of housing need the number of units that may need to be replaced because of poor condition or obsolescence. ARDC has conducted a visual survey of the condition of homes in a number of

Itasca County communities. Their findings are in a report titled *Itasca Community Readiness Assessment*. Although the findings are subjective, it highlights the above average need to replace dilapidated or obsolete units. To quantify the potential as objectively as possible, Bonestroo researched the US Census’s method for estimating the annual rate of housing loss based on the age of the housing stock, which is displayed in Table 28.

TABLE 28: US CENSUS ESTIMATES FOR HOUSING LOSS BY AGE OF UNIT

Year Housing Unit Built:	Average Annual Rate of Replacement
1990-2000	0.031%
1980-1989	0.054%
1970-1979	0.103%
1960-1969	0.172%
1950-1959	0.249%
1940-1949	0.324%
1939 or earlier	0.364%
Mobile Home (age not considered)	1.580%

Source: US Census
http://www.census.gov/popest/topics/methodology/2006_hu_meth.html

Based on the loss rates in Table 28, the Study Area should be replacing approximately 140 units per year. Although reported rates of demolition from the community surveys are much lower (40 units per year), data from ARDC corroborates that 140 units per year is much more in line with actual need.

L_e = Vacant residential Lots above or below equilibrium. It is important to consider lot supply when calculating housing need because disregarding it may lead to communities paying for unnecessary infrastructure. However, considering a vacant lot as supply is not entirely accurate as well because a home would need to be built on the lot for it to become an available unit. Therefore, Bonestroo considered the rate of residential construction since 2000, and assumed that 2½ to 3 years worth of vacant lots would constitute a healthy supply, which should be available at all times. Thus, the number of lots above this 2½ to 3 year threshold would be considered excess supply and should be subtracted from need. Conversely, the number of lots below this threshold would be considered “pent-up” demand and should be added to the needed supply in order to achieve market equilibrium.

For example, in the Western subregion, about 100 homes per year have been constructed since 2000. For a 2½ year supply of lots, which is considered healthy by most housing experts, there should always be approximately 250 vacant lots available for development. Currently, there are an estimated 335 vacant lots in the Western subregion. Therefore, in order to avoid too much money being invested in unnecessary infrastructure, communities in the Western subregion should wait about a year (i.e., 85 homes under current construction trends) before platting any additional lots. However, once these lots are absorbed, then supply is considered to be in equilibrium and there is no further need to make any adjustments unless new data is collected indicating a glut in the number of lots.

One additional note, however, is that lots are broken down by price based on future expectations of wages among new workers. Therefore, some price categories can have excess supply while others may already be in short supply.

F_e = **For-sale listings above or below equilibrium.** This is similar to determining appropriate lot supply. The assumption here is that under certain market conditions there may be a large oversupply or undersupply of listed homes for sale that need to be absorbed or brought to the market in order to achieve some degree of equilibrium. The standard used here is 2% of the owned housing stock is typically on the market. We must keep in mind, however, that this is an annual average because market activity has seasonal cycles.

R_e = **Rental vacancies above or below equilibrium.** Again, the assumption here is that under normal market conditions there will be vacant rental units needed to maintain a healthy market. Thus, any vacant units above an equilibrium rate means there is excess supply that needs to be absorbed before additional units should be added to the market. Conversely, a vacancy rate below equilibrium indicates that there is "pent-up" demand and that units could be added immediately without adversely affecting the market. The equilibrium rate for market rate, general occupancy rental housing is assumed to be 5%. In other words, the rental market, regardless of its size, should always have about 5% of its units be vacant.

T_{eu} = **Alternative temporary units available to construction workers.** This number is calculated based on the methodology presented in the Housing Supply Analysis section.

EXAMPLE CALCULATION OF HOUSING NEED

Consider the need for "executive" for-sale housing (i.e., homes priced above \$250,000) in the Central subregion during the second six months of 2010 under the "High" Job Growth scenario. This is a situation in which 8 projects are under construction throughout the Study Area; three of which have begun to hire permanent employees. Below is an example of how housing need is calculated:

$$\text{Owned Housing Need} = H_j + H_{ng} + H_r - L_e - F_e$$

$$35 = 24 + 7 + 4 - 0 - 0$$

Based on wages, location of jobs, and timing, the Central subregion is expected have demand for 24 "executive" homes during the second half of 2010.

Based on recent construction trends, the Central subregion has been adding approximately 7 "executive" homes each year.

Of the 33 houses that should be demolished each year in the Central subregion, demand indicates 4 will be replaced by "executive" homes.

It is assumed that the increased demand for housing based on job growth will have absorbed any excess lots in the Central subregion by 2010.

It is assumed that the increased demand for housing based on job growth will have absorbed any excess homes listed on the MLS in the Central subregion by 2010.

The following three graphs (figures 20-22) help illustrate the difference between permanent housing need driven by natural growth (i.e., existing conditions) and that which is driven by large-scale employment growth. Each graph represents one of the three job growth scenarios tested as part of this study.

FIGURE 20

**"Low" Job Growth Housing Demand
Iron Range Study Area**

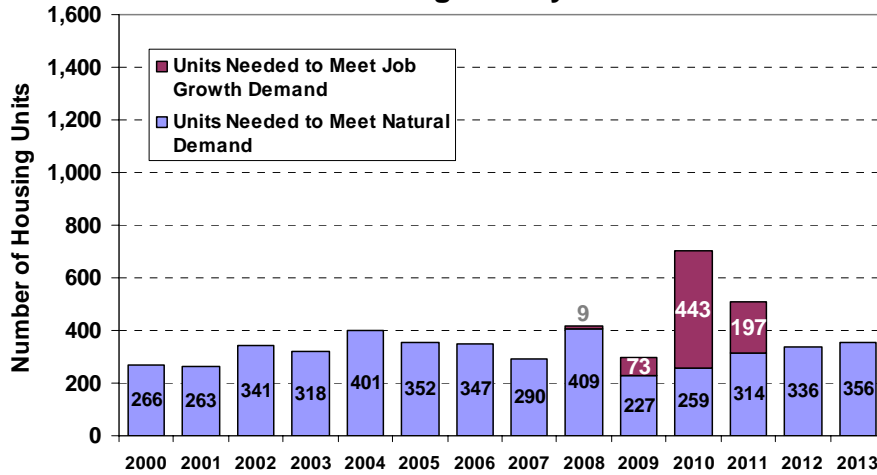


FIGURE 21

**"Medium" Job Growth Housing Demand
Iron Range Study Area**

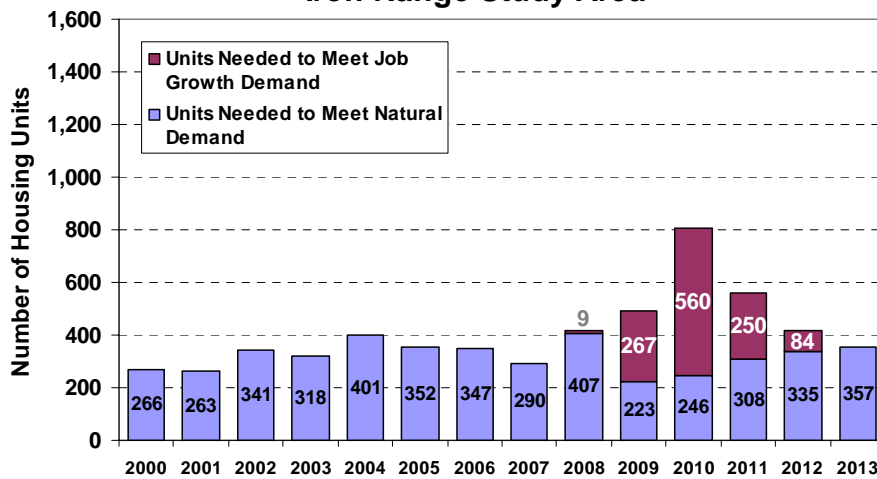
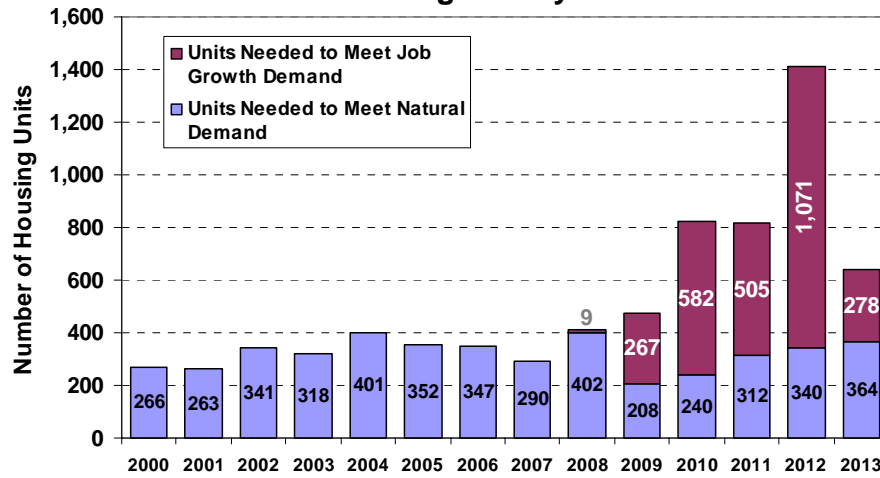


FIGURE 22

"High" Job Growth Housing Demand Iron Range Study Area



Data Sources & Study Limitations

DATA SOURCES

Retrieving primary and secondary data necessary for the design of the housing model required a great deal of cooperation and collaboration with both the public and private sectors. Table 29 is a list of sources and the type of data they provided.

TABLE 29: HOUSING STUDY DATA SOURCES AND TYPES OF DATA

Data Source	Type of Data
Arrowhead Regional Development Commission	Lot supply, assessment of housing conditions
Iron Range Resources	Employment projections: number of permanent jobs, number of temporary jobs, estimated start date and duration
2000 US Census	Demographics: population, households, age distribution, household type, and income Housing characteristics: age of homes, tenure of occupant, type of homes, historic vacancies, seasonal homes, number of bedrooms, and historic home values
Minnesota Department of Employment and Economic Development	Labor force data: size of labor force, number employed, and number unemployed
US Department of Labor: Bureau of Labor Statistics	National labor force trends, national data on wages associated with mining, power plant, and construction industries
UMD Labovitz School of Business and Economics, Bureau of Business and Economic Research	Spin-off rate of job creation due to increased economic activity from new mining jobs
Minnesota Housing	Rental information of financially assisted projects
Minnesota Housing Partnership	Previous housing studies conducted in the Study Area
HUD	Rental information of financially assisted projects
USDA Rural Development	Rental information of financially assisted projects
Itasca County Assessor	Number of homes built since 1999, home values, supply of vacant lots
St. Louis County Assessor	Number of homes built since 1999, home values, supply of vacant lots
Itasca County Board of Realtors	Number of active for-sale homes listed on MLS by price
Range Association of Realtors	Number of active for-sale homes listed on MLS by price
Rental Property Managers and Owners in the Study Area	Rental information (number of units, vacancies, rents)
Communities in the Study Area	Number of homes built since 1999, active subdivisions with available lots, pending residential development, lists of apartments

STUDY LIMITATIONS

There are numerous assumptions that went into the model, many of which have been addressed in the three previous sections that dealt with housing demand, supply, and need. Instead of going into more detail on the limitations of the assumptions, this section will address how the model should be used and not used as well as the importance of updating its data and the need to refine the methodology.

PROPER USES

The model is designed to generate a regional perspective of housing need. Its results provide a tremendous amount of information about the housing market. In particular, users will be able to note how many units are needed in each subregion according to price, tenure, and timing. Such information should be invaluable to both the public and private sectors as they make important decisions regarding the level and timing of their housing investments. Despite the power of the model, it should be noted that it is not intended to provide specific findings on the market feasibility of individual development projects. Individual projects will likely need detailed studies that not only address regional market conditions, but also specific information on the attributes of a particular site (e.g., is it located on the proverbial wrong side of the tracks) and the impact of competitive developments (e.g., when are they expected to come on-line?; are they offering the same type of product?; how many units are in the development?). Nonetheless, the results of this iteration of the model should provide an excellent foundation of data with which to understand the scope and scale of future housing needs.

Although the model quantifies the need for housing by subregion, price, tenure, and time, it does not specifically quantify need for housing based on consumer tastes and preferences. Such factors are often determined by the quality of an individual site (e.g., does it have desirable views, is it accessible to water, is it within walking distance of other land uses, etc.), which, as noted above, is more appropriate of a detailed, site-specific market study. Nonetheless, there are some broader housing trends that city officials, developers, and other housing professionals should be aware of as they consider designs, styles, and types of housing units.

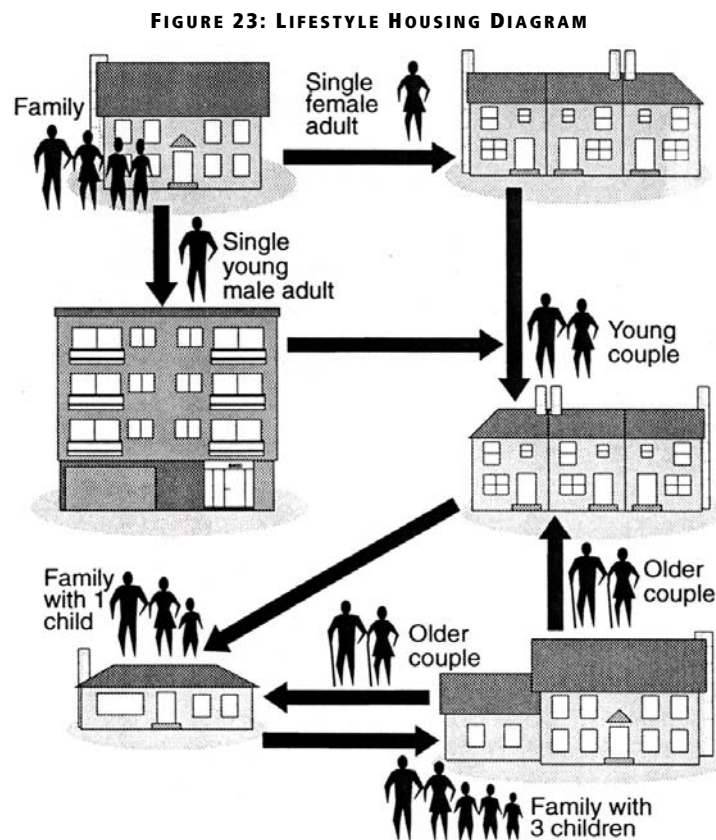
BROADER TRENDS AFFECTING HOUSING DEVELOPMENT

- The traditional “nuclear” family is no longer dominant. In 1970, 43% of American households were traditional “nuclear” families (married couples with at least one child); by 2000, that rate had dropped to 25% (20% in the Study Area). Subsequently, housing products have changed to accommodate a wider variety of household types. As well, ongoing demographic trends such as fewer children per married couple and increasing divorce rates have had a dramatic affect on average household sizes in the United States.
- Baby boomers are at their peak earning years. As of 2000, the baby boomers fell between the ages of 35 and 54. The older half of this generation hit peak earning years during the 2000s, and recent and current market trends show that they are prone to spend for “lifestyle” housing. Whether it is move-up or executive single-family homes (or townhomes), baby boomers have shown the willingness to spend for their desired housing.
- Sophisticated marketing tactics have identified a broader spectrum of consumer segments. Rather than work to simply attract “owners or renters,” today’s real estate industry directs advertising campaigns

targeted at an increasingly wider array of consumers: seniors, empty-nesters, young couples with or without children, single professionals, roommates, etc.

- Broadening consumer segments translate to a broadening of housing products. Buyers and renters are now able to choose from a wider variety of housing products than in years past: single-family homes, townhomes, twinhomes, condominiums, cooperatives, traditional apartments, rental townhomes, independent living, assisted living, memory-care housing, etc. Developers and communities must constantly re-evaluate their available housing options to ensure that the housing needs of a wide demographic of prospective residents will be accommodated.

Many of the above points regarding broad trends affecting housing development are illustrated in Figure 23.



UPDATING OF DATA

The data included in the model is time sensitive. Once market conditions begin to change, the results will become obsolete and key inputs will need to be revised. Clearly, the most important input is projected future job growth because it is the key driver of housing need. Therefore, it will be important to maintain communication with the companies involved in major expansions and/or additions in the Study Area. Up-to-date information regarding their hiring plans (e.g., timetables, number of employees, type of employees, etc.) is essential to maintaining an accurate picture of housing need in the region. It is anticipated that this type of information may change frequently. Therefore, the model was designed to be updated quickly and easily regarding projected job growth.

Other important data that needs to be updated periodically are labor force figures, the number of MLS listings by price, the rental vacancy rate, the number of residential units built, and the number of vacant residential lots. With the exception of labor force figures, which come from published government sources, such data are time consuming to retrieve because they require surveys with numerous property owners and city officials. Therefore, it is recommended that a protocol be established that outlines the process and frequency by which any or all of such data are updated. Because data collection is labor intensive, it is suggested that survey-related data be collected once per year, preferably at the same time each year. This would help contain costs, but also prevent normal seasonal fluctuations to affect findings.

Updating data from the U.S. Census should also be noted. The 2000 Census of Housing is an important source of data for the study, and the Census Bureau plans to update it for the Study Area sometime in 2010 (though results probably won't be made public until 2011 or 2012). Once the 2010 Census data is made available, it should be compared carefully to the 2000 Census data in the model. The Census samples random households and uses statistical methods to extrapolate the results to every household or housing unit in the Study Area. For certain data elements, this approach would be hard to improve upon. However, conducting one's own survey of property managers and city officials is a very solid methodology when it comes to tracking vacancy rates and construction trends. The point here is to look closely at the Census data to see how the different data sources may work in concert as opposed to simply disregarding one source entirely.

REFINEMENT OF THE METHODOLOGY

This model is essentially a tool to measure housing need based on projected job growth. Although many hours went into the model's design, this report is not an end, but rather a beginning. The model is intended to be poked and prodded in order to be improved upon. Many of the assumptions should be continually revisited to assess whether they are logical or perhaps can be replaced with a quantifiable source of data. Of course, the process of reviewing and amending a model's assumptions and methodology, like updating data, can be labor intensive. Nonetheless, refinement and revision will contribute to maintaining a high-quality study that avoids sitting on a shelf never to be used again.

The potential areas of refinement are too numerous to mention. Furthermore, what may appear as an infallible assumption today may not be so tomorrow. Therefore, nothing should be off-limits. However, as a starting point, one can keep in mind the following examples of assumptions that will likely need review in the future.

- The distance commuters are willing to travel between work and residence.
- The proportion of hotel/motel rooms and campground sites available to construction workers.
- The proportion of new jobs that are filled by workers from outside the Study Area.
- The wages associated with new jobs.
- The proportion of new households that seek owner-occupied versus renter-occupied housing.
- Will existing households embrace boarding of temporary workers.

Summary of Findings

Because economic development in the region is evolving, almost on a daily basis, the current iteration of the model as of 2nd Quarter 2008 tested three job growth scenarios to illustrate how housing needs may differ depending on when, where, and which projects actually come to fruition.

The tables and maps on the following pages display the number of units needed for each of the three job growth scenarios. The tables of housing need are broken down by subregion, year, tenure, and price. The affordability of units is based on how much a given income can budget for housing. It is assumed that 30% of a household's budget can be devoted to housing. For those interested in purchasing a home, the amount of mortgage that is affordable is based on an assumption of 0% down, 6% interest, and 30-year fixed rate.

For the temporary units needed, two potential outcomes are presented for each job growth scenario. The first outcome assumes that the alternative housing options available through mobile home parks, hotel/motels, and campground sites are considered part of the available supply. The second outcome assumes that these sources are not available. Bonestroo presented the results of both possible outcomes due to the uncertain nature of these facilities. Temporary construction workers are not the typical clientele of such operations. Therefore, it is hard to predict whether business owners and managers will willingly make a proportion of their facilities available to such persons. Presenting both possible outcomes allows the user to see the wide range of potential need.

On a related note, data was also collected and analyzed regarding the capacity of empty bedrooms in the Study Area, through which temporary construction workers could potentially be accommodated as boarders or renters. However, the supply of empty bedrooms was not included in the need calculation because there are so many barriers associated with boarding. First, the cultural acceptance of boarding has dropped significantly in the last 40 years. Second, cultural and language barriers between landlords and boarders may present challenges to the establishment of well understood agreements. Third, the temporary nature of the need may not be worth the financial and legal effort for many would-be landlords. Of course, such barriers may be overcome with an organized and centralized program to recruit, screen, and manage many boarders. Nonetheless, in the absence of such programming, Bonestroo has assumed for the time being that boarding of temporary construction workers will not have a significant impact on the need for temporary housing.

Where negative numbers appear in the tables, this represents a current oversupply of units in the market.

ADDITIONAL UNITS NEEDED: "LOW" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

TOTAL STUDY REGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	15,743	--	--	--	--	--	15,743
<i>Single-Family Minor Rehab (owned or rental)</i>	14,424	--	--	--	--	--	14,424
<i>Multifamily Minor Rehab (rental)</i>	1,319	--	--	--	--	--	1,319
Major Rehab >\$15,000	5,883	--	--	--	--	--	5,883
<i>Single-Family Major Rehab (owned or rental)</i>	5,099	--	--	--	--	--	5,099
<i>Multifamily Major Rehab (rental)</i>	784	--	--	--	--	--	784
Delapidated (Single-Family)	934	--	--	--	--	--	934
Sound but Functionally Obsolete (Single-Family)	2,153	--	--	--	--	--	2,153
Total Rehab Needed	24,713	--	--	--	--	--	24,713
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	18	30	112	98	66	77	402
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	67	63	129	104	77	77	517
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	110	68	139	109	82	85	594
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	102	63	121	91	72	80	528
Total Additional For-Sale Units Needed Each Year	297	224	501	401	298	319	2,041
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	32	21	57	32	11	11	164
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	52	28	68	40	17	17	221
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	35	24	74	38	9	9	189
Total Additional Rental Units Needed Each Year	119	73	200	109	37	37	574
Total Additional Permanent Housing Units Needed Each Year	416	297	701	510	335	356	2,615
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	27	38	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	135	383	341	28	75	78	N/A

WESTERN SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	3,910	--	--	--	--	--	3,910
<i>Single-Family Minor Rehab (owned or rental)</i>	3,630	--	--	--	--	--	3,630
<i>Multifamily Minor Rehab (rental)</i>	280	--	--	--	--	--	280
Major Rehab >\$15,000	1,185	--	--	--	--	--	1,185
<i>Single-Family Major Rehab (owned or rental)</i>	1,054	--	--	--	--	--	1,054
<i>Multifamily Major Rehab (rental)</i>	131	--	--	--	--	--	131
Delapidated (Single-Family)	234	--	--	--	--	--	234
Sound but Functionally Obsolete (Single-Family)	527	--	--	--	--	--	527
Total Rehab Needed	5,856	--	--	--	--	--	5,856
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	18	30	50	45	39	39	221
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-6	13	31	27	24	24	119
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	-8	5	25	23	22	24	100
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	-46	-21	4	7	11	18	40
Total For-Sale Units Needed Each Year	18	48	109	103	96	105	480
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	8	4	8	5	2	2	29
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	13	5	10	7	4	4	42
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	14	6	12	8	4	4	47
Total Rental Units Needed Each Year	35	15	29	19	10	10	119
Total Additional Permanent Housing Units Needed Each Year	54	63	139	122	106	115	599
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	71	100	38	26	69	72	N/A

ADDITIONAL UNITS NEEDED: "LOW" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

CENTRAL SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	5,106	--	--	--	--	--	5,106
<i>Single-Family Minor Rehab (owned or rental)</i>	4,641	--	--	--	--	--	4,641
<i>Multifamily Minor Rehab (rental)</i>	465	--	--	--	--	--	465
Major Rehab >\$15,000	2,064	--	--	--	--	--	2,064
<i>Single-Family Major Rehab (owned or rental)</i>	1,805	--	--	--	--	--	1,805
<i>Multifamily Major Rehab (rental)</i>	259	--	--	--	--	--	259
Delapidated (Single-Family)	258	--	--	--	--	--	258
Sound but Functionally Obsolete (Single-Family)	709	--	--	--	--	--	709
Total Rehab Needed	8,137	--	--	--	--	--	8,137
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	-23	-17	47	33	4	7	92
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	47	29	60	39	18	18	212
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	64	32	67	43	21	21	248
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	62	32	66	41	22	22	244
Total For-Sale Units Needed Each Year	174	92	240	157	65	69	796
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	7	12	36	20	5	5	85
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	13	15	42	23	6	6	104
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	6	13	47	24	2	2	95
Total Rental Units Needed Each Year	26	40	125	68	12	12	283
Total Additional Permanent Housing Units Needed Each Year	200	132	365	225	77	81	1079
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	27	38	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	47	212	223	1	4	4	N/A

QUAD CITIES SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	3,640	--	--	--	--	--	3,640
<i>Single-Family Minor Rehab (owned or rental)</i>	3,214	--	--	--	--	--	3,214
<i>Multifamily Minor Rehab (rental)</i>	426	--	--	--	--	--	426
Major Rehab >\$15,000	1,537	--	--	--	--	--	1,537
<i>Single-Family Major Rehab (owned or rental)</i>	1,204	--	--	--	--	--	1,204
<i>Multifamily Major Rehab (rental)</i>	333	--	--	--	--	--	333
Delapidated (Single-Family)	265	--	--	--	--	--	265
Sound but Functionally Obsolete (Single-Family)	505	--	--	--	--	--	505
Total Rehab Needed	5,947	--	--	--	--	--	5,947
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	-34	-11	15	20	21	22	78
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-3	9	19	16	14	14	71
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	18	17	22	18	16	16	108
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	17	17	22	18	16	16	107
Total For-Sale Units Needed Each Year	34	43	78	72	67	68	363
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	15	4	7	4	3	3	36
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	22	5	8	6	4	4	48
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	13	3	8	4	2	2	31
Total Rental Units Needed Each Year	50	12	23	14	9	9	116
Total Additional Permanent Housing Units Needed Each Year	84	55	101	86	76	77	479
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	7	29	32	1	2	2	N/A

ADDITIONAL UNITS NEEDED: "LOW" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

EAST RANGE SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	1,522	--	--	--	--	--	1,522
<i>Single-Family Minor Rehab (owned or rental)</i>	1,454	--	--	--	--	--	1,454
<i>Multifamily Minor Rehab (rental)</i>	68	--	--	--	--	--	68
Major Rehab >\$15,000	559	--	--	--	--	--	559
<i>Single-Family Major Rehab (owned or rental)</i>	540	--	--	--	--	--	540
<i>Multifamily Major Rehab (rental)</i>	19	--	--	--	--	--	19
Delapidated (Single-Family)	83	--	--	--	--	--	83
Sound but Functionally Obsolete (Single-Family)	195	--	--	--	--	--	195
Total Rehab Needed	2,359	--	--	--	--	--	2,359
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit <\$125,000; Wages <\$15/hr)	-74	-61	-46	-40	-33	-26	0
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-15	-7	6	9	8	8	31
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	-16	-6	10	10	10	10	39
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	-12	-3	15	10	9	9	43
Total For-Sale Units Needed Each Year	0	0	31	28	27	27	114
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	0	1	5	1	1	1	8
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	2	1	6	1	1	1	12
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	1	1	6	1	0	0	9
Total Rental Units Needed Each Year	3	3	17	3	2	2	29
Total Additional Permanent Housing Units Needed Each Year	3	3	48	31	29	29	143
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	8	37	44	0	0	0	N/A

NORTHEAST SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	1,565	--	--	--	--	--	1,565
<i>Single-Family Minor Rehab (owned or rental)</i>	1,485	--	--	--	--	--	1,485
<i>Multifamily Minor Rehab (rental)</i>	80	--	--	--	--	--	80
Major Rehab >\$15,000	538	--	--	--	--	--	538
<i>Single-Family Major Rehab (owned or rental)</i>	496	--	--	--	--	--	496
<i>Multifamily Major Rehab (rental)</i>	42	--	--	--	--	--	42
Delapidated (Single-Family)	94	--	--	--	--	--	94
Sound but Functionally Obsolete (Single-Family)	217	--	--	--	--	--	217
Total Rehab Needed	2,414	--	--	--	--	--	2,414
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit <\$125,000; Wages <\$15/hr)	-20	-10	-5	-2	2	8	11
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	20	13	13	13	13	13	84
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	29	14	15	14	14	14	99
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	23	14	15	14	14	14	93
Total For-Sale Units Needed Each Year	71	40	43	41	43	49	288
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	1	1	1	1	1	1	5
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	3	2	3	3	2	2	15
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	1	1	2	1	1	1	7
Total Rental Units Needed Each Year	4	4	6	5	4	4	27
Total Additional Permanent Housing Units Needed Each Year	75	45	49	46	47	53	315
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	1	4	4	0	1	1	N/A

ADDITIONAL UNITS NEEDED: "MEDIUM" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

TOTAL STUDY REGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	15,743	--	--	--	--	--	15,743
<i>Single-Family Minor Rehab (owned or rental)</i>	14,424	--	--	--	--	--	14,424
<i>Multifamily Minor Rehab (rental)</i>	1,319	--	--	--	--	--	1,319
Major Rehab >\$15,000	5,883	--	--	--	--	--	5,883
<i>Single-Family Major Rehab (owned or rental)</i>	5,099	--	--	--	--	--	5,099
<i>Multifamily Major Rehab (rental)</i>	784	--	--	--	--	--	784
Delapidated (Single-Family)	934	--	--	--	--	--	934
Sound but Functionally Obsolete (Single-Family)	2,153	--	--	--	--	--	2,153
Total Rehab Needed	24,713	--	--	--	--	--	24,713
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	17	30	122	105	87	80	442
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	67	87	145	111	88	77	574
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	110	98	158	116	94	84	661
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	102	94	140	98	83	79	595
Total Additional For-Sale Units Needed Each Year	296	309	565	430	352	320	2,272
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	32	51	68	36	20	11	218
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	52	62	81	45	26	17	283
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	35	66	92	46	22	9	270
Total Additional Rental Units Needed Each Year	119	179	241	128	68	37	771
Total Additional Permanent Housing Units Needed Each Year	415	487	806	557	420	357	3,043
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	50	128	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	135	458	494	132	101	82	N/A

WESTERN SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	3,910	--	--	--	--	--	3,910
<i>Single-Family Minor Rehab (owned or rental)</i>	3,630	--	--	--	--	--	3,630
<i>Multifamily Minor Rehab (rental)</i>	280	--	--	--	--	--	280
Major Rehab >\$15,000	1,185	--	--	--	--	--	1,185
<i>Single-Family Major Rehab (owned or rental)</i>	1,054	--	--	--	--	--	1,054
<i>Multifamily Major Rehab (rental)</i>	131	--	--	--	--	--	131
Delapidated (Single-Family)	234	--	--	--	--	--	234
Sound but Functionally Obsolete (Single-Family)	527	--	--	--	--	--	527
Total Rehab Needed	5,856	--	--	--	--	--	5,856
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	17	30	51	46	41	39	224
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-6	14	32	28	25	24	123
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	-7	7	26	24	23	24	104
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	-46	-20	5	8	12	18	43
Total For-Sale Units Needed Each Year	17	51	115	105	101	105	494
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	8	4	8	5	3	2	32
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	13	6	11	7	5	4	45
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	14	6	13	8	5	4	51
Total Rental Units Needed Each Year	35	17	32	21	13	10	128
Total Additional Permanent Housing Units Needed Each Year	53	67	146	126	115	115	622
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	71	100	49	39	75	75	N/A

ADDITIONAL UNITS NEEDED: "MEDIUM" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

CENTRAL SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	5,106	--	--	--	--	--	5,106
Single-Family Minor Rehab (owned or rental)	4,641	--	--	--	--	--	4,641
Multifamily Minor Rehab (rental)	465	--	--	--	--	--	465
Major Rehab >\$15,000	2,064	--	--	--	--	--	2,064
Single-Family Major Rehab (owned or rental)	1,805	--	--	--	--	--	1,805
Multifamily Major Rehab (rental)	259	--	--	--	--	--	259
Delapidated (Single-Family)	258	--	--	--	--	--	258
Sound but Functionally Obsolete (Single-Family)	709	--	--	--	--	--	709
Total Rehab Needed	8,137	--	--	--	--	--	8,137
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	-24	-15	53	37	19	7	116
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	47	30	64	42	27	18	229
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	64	34	73	47	31	21	270
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	63	33	72	45	31	22	267
Total For-Sale Units Needed Each Year	175	97	263	171	108	69	883
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	7	13	39	22	11	5	98
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	13	16	45	26	13	6	119
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	6	15	53	28	12	2	115
Total Rental Units Needed Each Year	26	44	137	76	36	12	332
Total Additional Permanent Housing Units Needed Each Year	201	141	400	247	145	81	1214
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	49	105	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	47	234	290	82	23	4	N/A

QUAD CITIES SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	3,640	--	--	--	--	--	3,640
Single-Family Minor Rehab (owned or rental)	3,214	--	--	--	--	--	3,214
Multifamily Minor Rehab (rental)	426	--	--	--	--	--	426
Major Rehab >\$15,000	1,537	--	--	--	--	--	1,537
Single-Family Major Rehab (owned or rental)	1,204	--	--	--	--	--	1,204
Multifamily Major Rehab (rental)	333	--	--	--	--	--	333
Delapidated (Single-Family)	265	--	--	--	--	--	265
Sound but Functionally Obsolete (Single-Family)	505	--	--	--	--	--	505
Total Rehab Needed	5,947	--	--	--	--	--	5,947
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	-34	-15	19	22	22	23	86
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-3	12	20	16	15	14	77
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	17	21	24	19	17	16	115
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	17	21	24	19	17	16	113
Total For-Sale Units Needed Each Year	34	54	86	76	71	69	391
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	15	7	8	5	4	3	41
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	22	8	10	6	5	4	54
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	13	7	9	5	3	2	39
Total Rental Units Needed Each Year	50	22	27	16	11	9	134
Total Additional Permanent Housing Units Needed Each Year	84	76	113	92	82	78	525
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	7	36	45	8	2	2	N/A

ADDITIONAL UNITS NEEDED: "MEDIUM" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

EAST RANGE SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	1,522	--	--	--	--	--	1,522
<i>Single-Family Minor Rehab (owned or rental)</i>	1,454	--	--	--	--	--	1,454
<i>Multifamily Minor Rehab (rental)</i>	68	--	--	--	--	--	68
Major Rehab >\$15,000	559	--	--	--	--	--	559
<i>Single-Family Major Rehab (owned or rental)</i>	540	--	--	--	--	--	540
<i>Multifamily Major Rehab (rental)</i>	19	--	--	--	--	--	19
Delapidated (Single-Family)	83	--	--	--	--	--	83
Sound but Functionally Obsolete (Single-Family)	195	--	--	--	--	--	195
Total Rehab Needed	2,359	--	--	--	--	--	2,359
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	-75	-34	-39	-35	-29	-21	0
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-15	18	14	11	8	8	60
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	-16	22	20	13	9	9	73
For-Sale Executive (Unit = \$250,000+; Wages >\$30/hr)	-11	26	24	12	9	8	79
Total For-Sale Units Needed Each Year	0	66	58	36	26	26	212
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	0	25	11	3	1	1	41
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	2	29	13	4	1	1	49
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	1	36	15	4	1	0	57
Total Rental Units Needed Each Year	3	90	39	11	3	2	148
Total Additional Permanent Housing Units Needed Each Year	3	156	97	46	29	28	359
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	2	23	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	8	83	104	2	1	0	N/A

NORTHEAST SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	1,565	--	--	--	--	--	1,565
<i>Single-Family Minor Rehab (owned or rental)</i>	1,485	--	--	--	--	--	1,485
<i>Multifamily Minor Rehab (rental)</i>	80	--	--	--	--	--	80
Major Rehab >\$15,000	538	--	--	--	--	--	538
<i>Single-Family Major Rehab (owned or rental)</i>	496	--	--	--	--	--	496
<i>Multifamily Major Rehab (rental)</i>	42	--	--	--	--	--	42
Delapidated (Single-Family)	94	--	--	--	--	--	94
Sound but Functionally Obsolete (Single-Family)	217	--	--	--	--	--	217
Total Rehab Needed	2,414	--	--	--	--	--	2,414
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	-20	-9	-4	-1	4	11	15
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	20	13	14	13	13	13	85
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	29	14	15	14	14	14	99
For-Sale Executive (Unit = \$250,000+; Wages >\$30/hr)	22	14	15	14	14	14	92
Total For-Sale Units Needed Each Year	70	41	43	41	45	52	292
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	1	1	1	1	1	1	6
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	3	3	3	3	2	2	16
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	1	2	2	1	1	1	8
Total Rental Units Needed Each Year	4	6	7	5	4	4	30
Total Additional Permanent Housing Units Needed Each Year	74	47	49	46	49	56	322
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	1	5	6	1	1	1	N/A

ADDITIONAL UNITS NEEDED: "HIGH" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

TOTAL STUDY REGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	15,743	--	--	--	--	--	15,743
<i>Single-Family Minor Rehab (owned or rental)</i>	14,424	--	--	--	--	--	14,424
<i>Multifamily Minor Rehab (rental)</i>	1,319	--	--	--	--	--	1,319
Major Rehab >\$15,000	5,883	--	--	--	--	--	5,883
<i>Single-Family Major Rehab (owned or rental)</i>	5,099	--	--	--	--	--	5,099
<i>Multifamily Major Rehab (rental)</i>	784	--	--	--	--	--	784
Delapidated (Single-Family)	934	--	--	--	--	--	934
Sound but Functionally Obsolete (Single-Family)	2,153	--	--	--	--	--	2,153
Total Rehab Needed	24,713	--	--	--	--	--	24,713
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	14	24	125	167	307	149	786
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	66	78	143	143	221	106	757
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	108	101	159	151	238	120	878
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	103	90	146	135	220	133	827
Total Additional For-Sale Units Needed Each Year	291	294	573	597	985	507	3,247
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	32	51	70	62	118	40	372
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	52	62	84	75	140	50	461
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	35	66	95	84	169	45	493
Total Additional Rental Units Needed Each Year	119	179	248	220	426	135	1,326
Total Additional Permanent Housing Units Needed Each Year	410	472	822	817	1412	641	4,574
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	51	155	58	8	24	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	135	470	693	428	309	329	N/A

WESTERN SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	3,910	--	--	--	--	--	3,910
<i>Single-Family Minor Rehab (owned or rental)</i>	3,630	--	--	--	--	--	3,630
<i>Multifamily Minor Rehab (rental)</i>	280	--	--	--	--	--	280
Major Rehab >\$15,000	1,185	--	--	--	--	--	1,185
<i>Single-Family Major Rehab (owned or rental)</i>	1,054	--	--	--	--	--	1,054
<i>Multifamily Major Rehab (rental)</i>	131	--	--	--	--	--	131
Delapidated (Single-Family)	234	--	--	--	--	--	234
Sound but Functionally Obsolete (Single-Family)	527	--	--	--	--	--	527
Total Rehab Needed	5,856	--	--	--	--	--	5,856
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	14	24	48	47	45	78	257
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-11	5	27	26	26	41	124
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	-8	12	25	23	24	47	131
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	-37	-8	9	11	17	54	91
Total For-Sale Units Needed Each Year	14	41	108	107	112	221	604
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	8	4	8	6	5	21	53
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	13	6	11	8	7	26	70
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	14	6	13	9	8	27	78
Total Rental Units Needed Each Year	35	17	32	23	20	74	201
Total Additional Permanent Housing Units Needed Each Year	50	58	141	130	132	295	805
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	8	24	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	71	100	81	94	225	240	N/A

ADDITIONAL UNITS NEEDED: "HIGH" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

CENTRAL SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	5,106	--	--	--	--	--	5,106
<i>Single-Family Minor Rehab (owned or rental)</i>	4,641	--	--	--	--	--	4,641
<i>Multifamily Minor Rehab (rental)</i>	465	--	--	--	--	--	465
Major Rehab >\$15,000	2,064	--	--	--	--	--	2,064
<i>Single-Family Major Rehab (owned or rental)</i>	1,805	--	--	--	--	--	1,805
<i>Multifamily Major Rehab (rental)</i>	259	--	--	--	--	--	259
Delapidated (Single-Family)	258	--	--	--	--	--	258
Sound but Functionally Obsolete (Single-Family)	709	--	--	--	--	--	709
Total Rehab Needed	8,137	--	--	--	--	--	8,137
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	-24	-14	56	42	27	23	147
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	46	30	66	45	32	26	246
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	64	34	75	49	35	30	287
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	66	34	75	49	36	35	295
Total For-Sale Units Needed Each Year	176	98	272	185	130	114	975
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	7	13	40	24	14	11	110
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	13	16	46	28	17	14	133
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	6	15	54	30	16	10	132
Total Rental Units Needed Each Year	26	44	141	82	47	35	375
Total Additional Permanent Housing Units Needed Each Year	202	142	413	266	176	150	1350
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	49	108	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	47	234	293	107	59	61	N/A

QUAD CITIES SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	3,640	--	--	--	--	--	3,640
<i>Single-Family Minor Rehab (owned or rental)</i>	3,214	--	--	--	--	--	3,214
<i>Multifamily Minor Rehab (rental)</i>	426	--	--	--	--	--	426
Major Rehab >\$15,000	1,537	--	--	--	--	--	1,537
<i>Single-Family Major Rehab (owned or rental)</i>	1,204	--	--	--	--	--	1,204
<i>Multifamily Major Rehab (rental)</i>	333	--	--	--	--	--	333
Delapidated (Single-Family)	265	--	--	--	--	--	265
Sound but Functionally Obsolete (Single-Family)	505	--	--	--	--	--	505
Total Rehab Needed	5,947	--	--	--	--	--	5,947
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit<\$125,000; Wages<\$15/hr)	-33	-14	21	27	33	28	109
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-4	11	21	18	21	17	88
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	17	21	24	20	23	19	124
For-Sale Executive (Unit = \$250,000+; Wages >\$30+/hr)	18	21	25	21	23	21	129
Total For-Sale Units Needed Each Year	35	54	91	86	100	84	450
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	15	7	8	6	8	5	49
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	22	8	10	7	9	6	63
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	13	7	10	6	9	5	50
Total Rental Units Needed Each Year	50	22	28	20	27	16	161
Total Additional Permanent Housing Units Needed Each Year	84	76	118	106	127	100	611
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	0	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	7	37	49	21	18	19	N/A

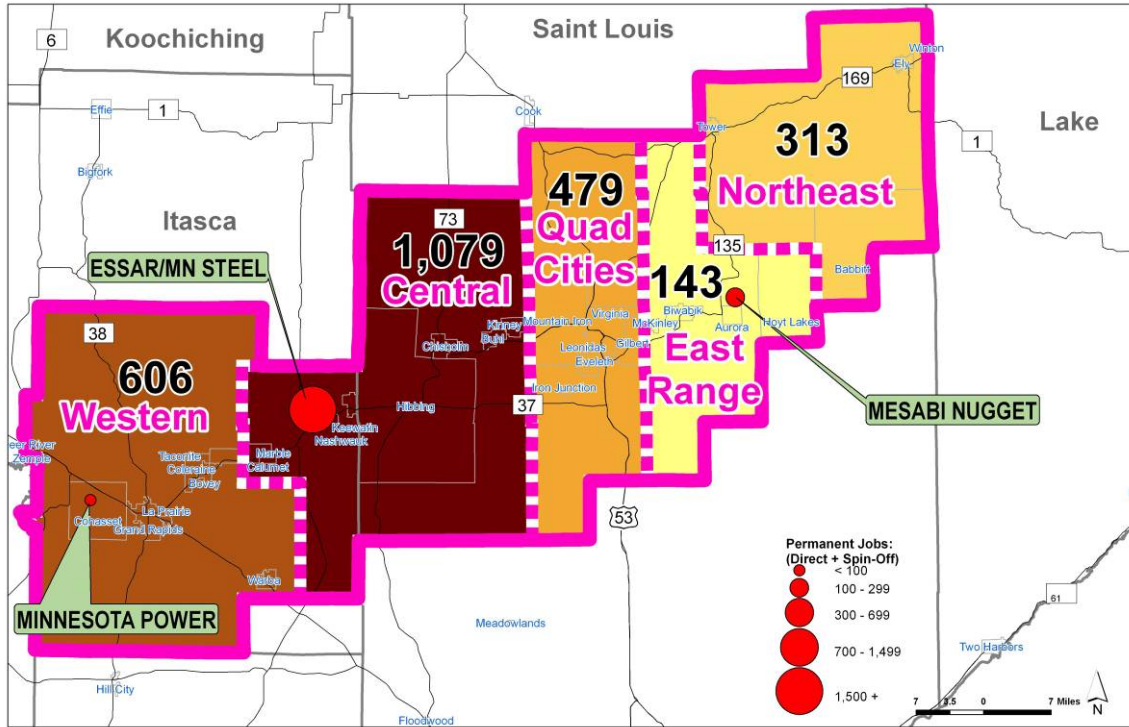
ADDITIONAL UNITS NEEDED: "HIGH" JOB GROWTH SCENARIO

Pricing assumptions: For-sale: 0% down, 6% int; 30-yr fixed; Rental: 30% of income toward housing

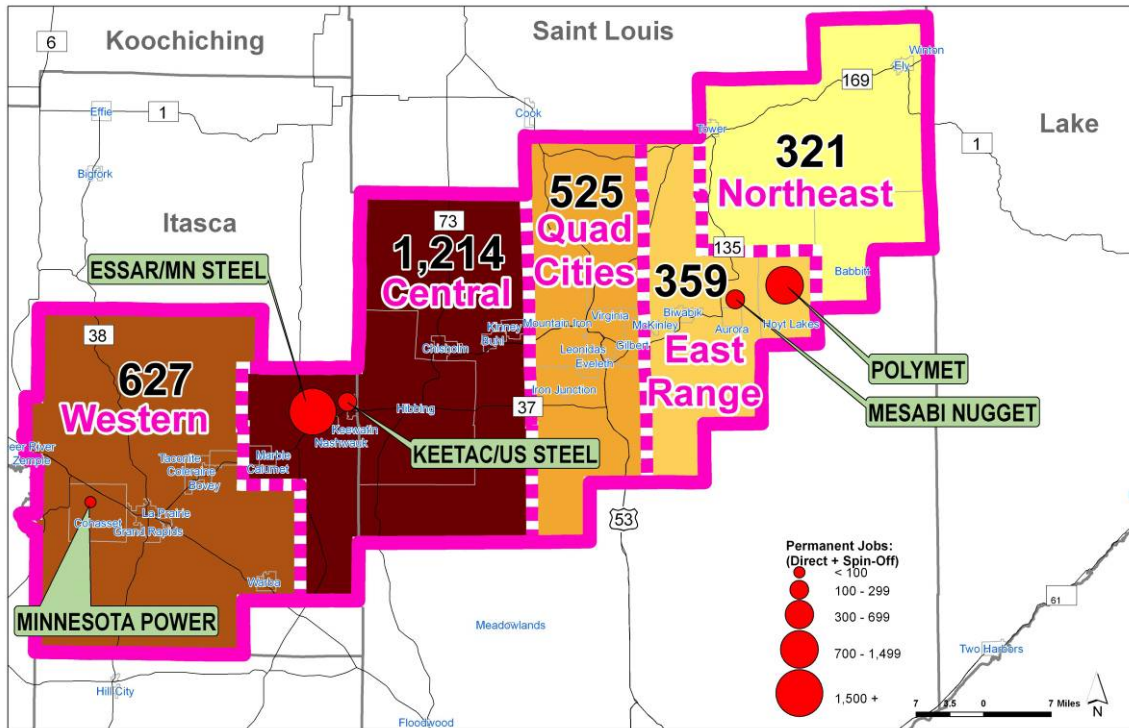
EAST RANGE SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	1,522	--	--	--	--	--	1,522
Single-Family Minor Rehab (owned or rental)	1,454	--	--	--	--	--	1,454
Multifamily Minor Rehab (rental)	68	--	--	--	--	--	68
Major Rehab >\$15,000	559	--	--	--	--	--	559
Single-Family Major Rehab (owned or rental)	540	--	--	--	--	--	540
Multifamily Major Rehab (rental)	19	--	--	--	--	--	19
Delapidated (Single-Family)	83	--	--	--	--	--	83
Sound but Functionally Obsolete (Single-Family)	195	--	--	--	--	--	195
Total Rehab Needed	2,359	--	--	--	--	--	2,359
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit <\$125,000; Wages <\$15/hr)	-75	-34	-39	-35	-27	-21	0
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	-15	18	15	12	11	9	65
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	-16	22	21	14	12	10	78
For-Sale Executive (Unit = \$250,000+; Wages >\$30/hr)	-11	26	25	13	11	9	85
Total For-Sale Units Needed Each Year	0	66	62	38	35	27	228
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	0	25	11	4	3	1	45
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	2	29	13	4	3	1	54
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	1	36	16	5	3	1	62
Total Rental Units Needed Each Year	3	90	41	13	10	3	160
Total Additional Permanent Housing Units Needed Each Year	3	156	103	51	44	31	388
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	2	25	0	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	8	83	106	7	4	4	N/A

NORTHEAST SUBREGION	2008	2009	2010	2011	2012	2013	6-Year Total
Minor Rehab <\$15,000	1,565	--	--	--	--	--	1,565
Single-Family Minor Rehab (owned or rental)	1,485	--	--	--	--	--	1,485
Multifamily Minor Rehab (rental)	80	--	--	--	--	--	80
Major Rehab >\$15,000	538	--	--	--	--	--	538
Single-Family Major Rehab (owned or rental)	496	--	--	--	--	--	496
Multifamily Major Rehab (rental)	42	--	--	--	--	--	42
Delapidated (Single-Family)	94	--	--	--	--	--	94
Sound but Functionally Obsolete (Single-Family)	217	--	--	--	--	--	217
Total Rehab Needed	2,414	--	--	--	--	--	2,414
For-Sale Entry-Level: Senior Move Outs & Subsidized Construction (Unit <\$125,000; Wages <\$15/hr)	-19	-8	-2	52	202	20	273
For-Sale Entry-Level: New Construction (Unit = \$125,000-\$175,000; Wages = \$15-20/hr)	20	13	14	42	131	13	234
For-Sale Move-Up (Unit = \$175,000-\$250,000; Wages = \$20-30/hr)	28	13	14	45	144	14	257
For-Sale Executive (Unit = \$250,000+; Wages >\$30/hr)	19	9	12	42	132	13	227
Total For-Sale Units Needed Each Year	66	35	40	181	609	60	992
Subsidized Rental: deep subsidy needed (Monthly budget <\$375; Wages <\$7.50/hr)	1	1	1	22	88	1	115
Affordable Rental: shallow subsidy needed (Monthly budget = \$375-625; Wages = \$7.50-\$12/hr)	3	3	3	27	103	3	142
Market Rate Rental: no subsidy needed (Monthly budget = \$625+; Wages >\$12/hr)	1	2	2	33	132	2	171
Total Rental Units Needed Each Year	4	6	7	83	323	6	428
Total Additional Permanent Housing Units Needed Each Year	71	41	47	264	933	66	1420
Peak temporary units needed each year IF accounting for supply of mobile homes, motels, & campgrounds	0	0	22	58	0	0	N/A
Peak temporary units needed each year IF NOT accounting for supply of mobile homes, motels, & campgrounds	1	15	164	199	4	5	N/A

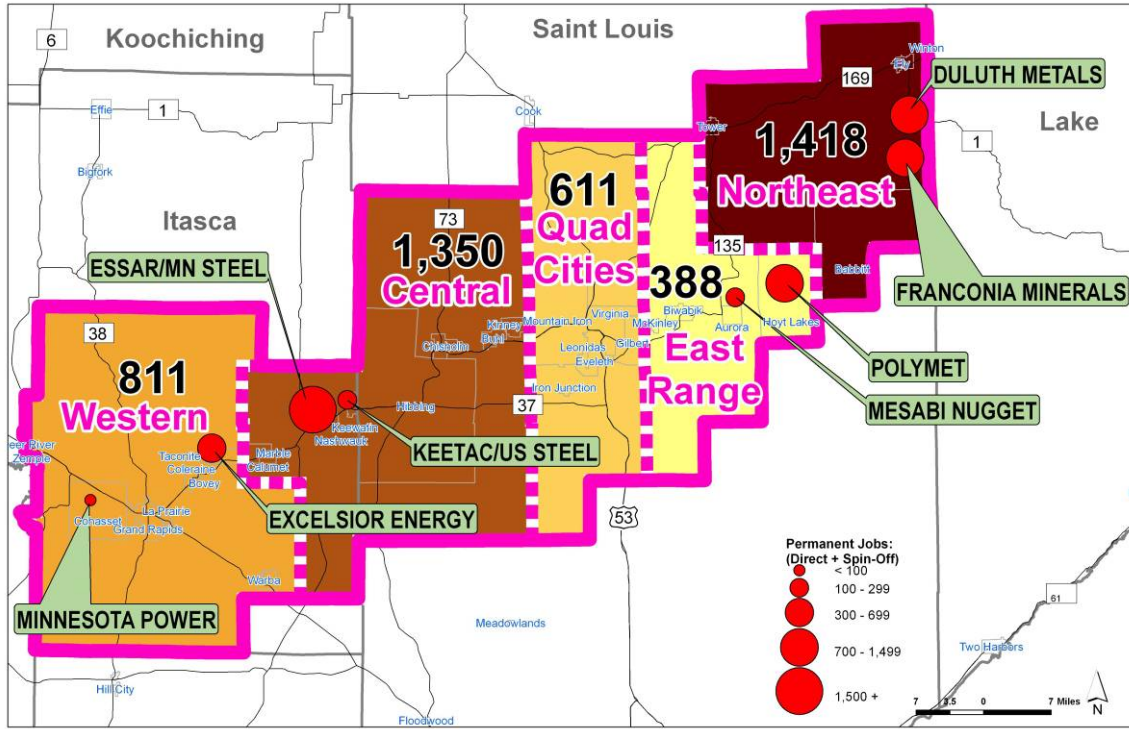
PERMANENT HOUSING UNITS NEEDED 2008-2013 ("LOW" JOB GROWTH SCENARIO)



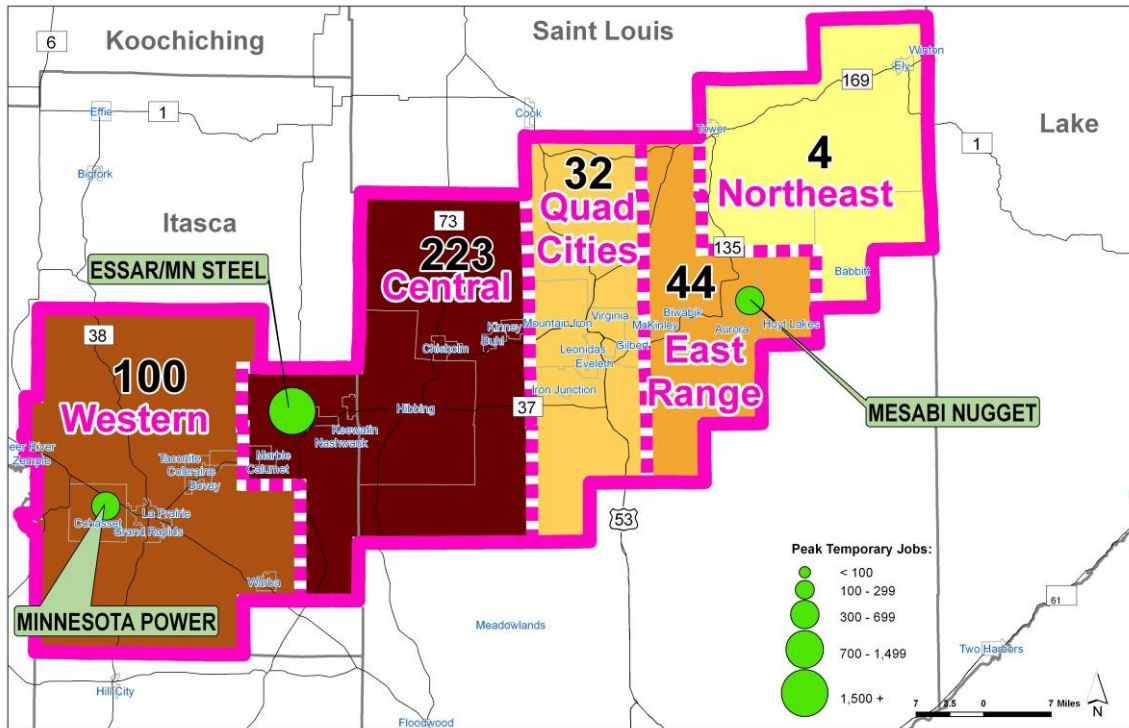
PERMANENT HOUSING UNITS NEEDED 2008-2013 ("MEDIUM" JOB GROWTH SCENARIO)



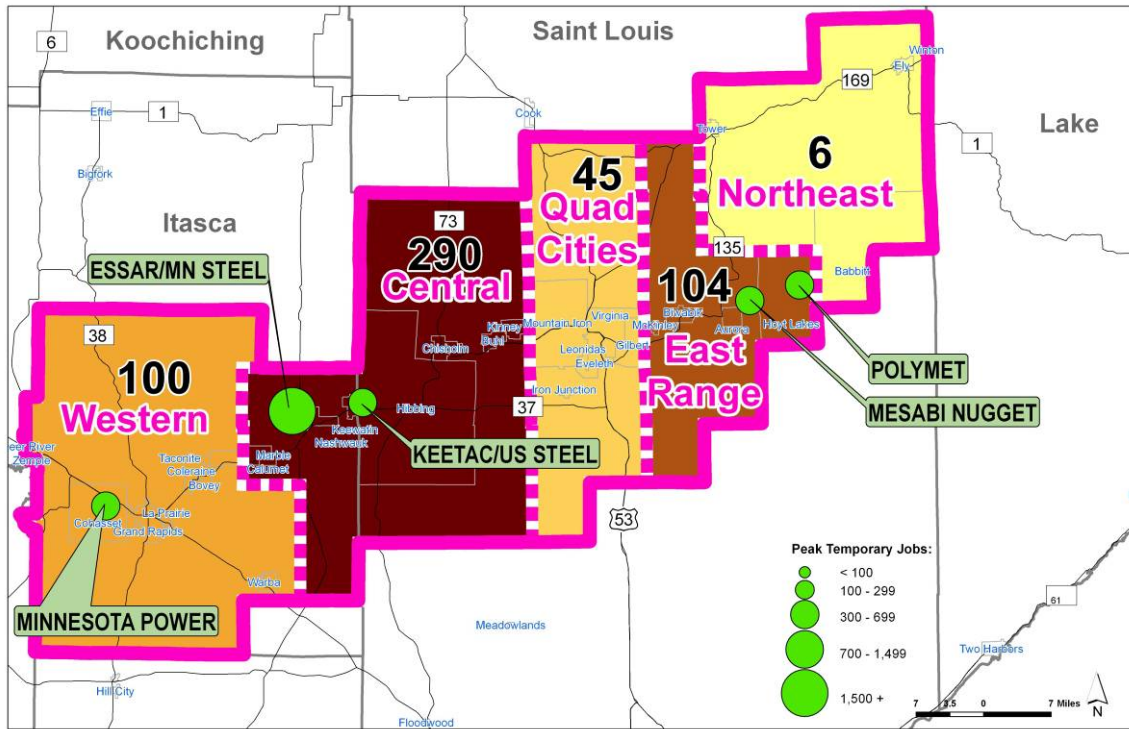
PERMANENT HOUSING UNITS NEEDED 2008-2013 ("HIGH" JOB GROWTH SCENARIO)



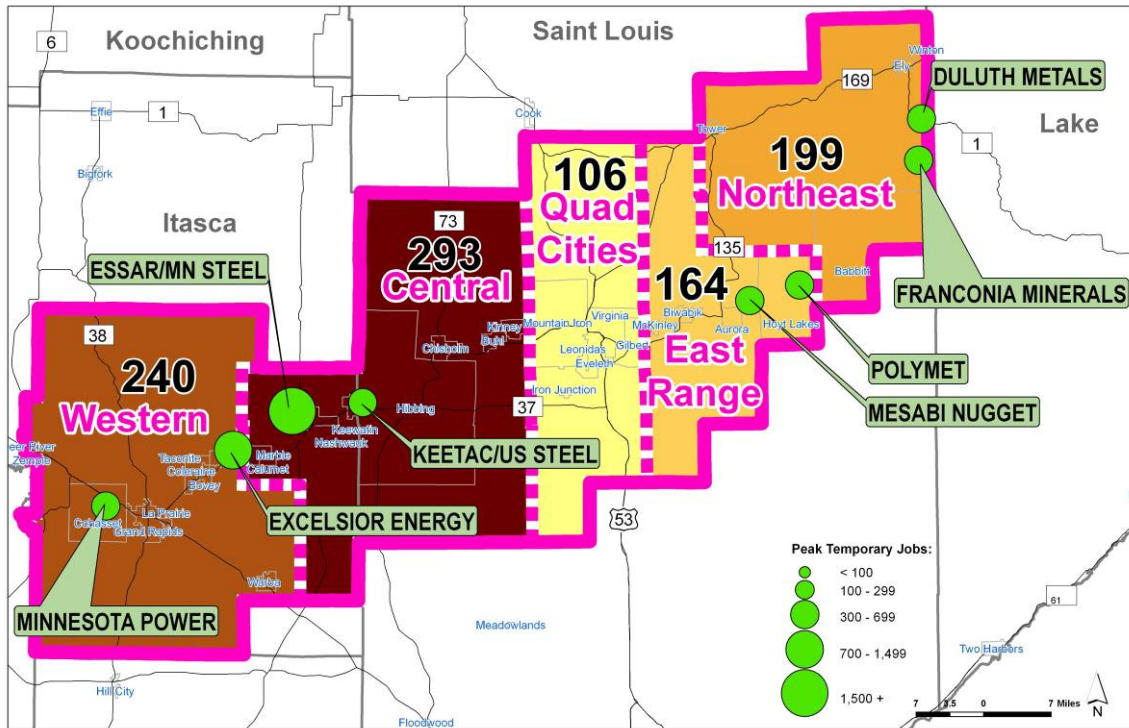
PEAK TEMPORARY HOUSING UNITS DEMANDED 2008-2013 ("LOW" JOB GROWTH SCENARIO)



PEAK TEMPORARY HOUSING UNITS DEMANDED 2008-2013 ("MEDIUM" JOB GROWTH SCENARIO)



PEAK TEMPORARY HOUSING UNITS DEMANDED 2008-2013 ("HIGH" JOB GROWTH SCENARIO)



Appendix A: Literature Review of Temporary Housing Impacts

INTRODUCTION

Rapid economic growth poses both challenges and opportunities for rural communities. Although there are a significant number of studies documenting the effects of large scale economic development projects, a majority of this research focuses on the sociological impacts of rapid growth. Research on the relationship between economic development projects and housing is limited, and consists primarily of case studies and media reports. Available information is summarized below to gain a better understanding of how proposed projects will affect communities in the Iron Range. This literature review focuses on housing impacts, although a brief discussion of other community impacts is also included. Findings from this literature review were used to develop assumptions regarding the relationship between rapid job growth and the demand for housing in the Study Area.

ECONOMIC DEVELOPMENT AND HOUSING

Literature concerning the relationship between employment growth and housing demand consists of case studies of various communities that have experienced rapid growth. Providing adequate housing in response to employment growth can be challenging, and communities have employed several approaches in response to these challenges. These approaches generally fall into three different categories: 1) employer provided housing 2) Reliance on the private market, and 3) government/non-profit intervention. As the case studies below indicate, many communities may rely on more than one approach to address housing needs.

1) EMPLOYER PROVIDED HOUSING

Employer provided housing encompasses a wide variety of housing styles, ranging from recreational vehicles (RV) or trailers to dormitories or even single family homes. Employer provided housing is more typical in the energy/mining industry than others. Because drilling and mining activities are typically located in more remote areas of the country, providing housing for energy employees can be particularly difficult since the existing housing stock may be limited. Because this industry is characterized by a younger, male-dominated workforce, employer provided barracks or trailers are a more viable housing option to accommodate single workers than families. Additionally, because these activities occur in more remote areas, large tracts of land may be available for relatively low cost to construct worker housing. Without a severe housing shortage for employees, many other employers may be reluctant to pursue housing for employees. Real estate professionals argue that employer provided housing is not a desirable option for many employees, as they are not likely to want to spend both day and night with fellow co-workers. Additionally, many employers are reluctant to take on property management responsibilities. Several different case studies of communities where this approach has been used are summarized below.

Increased demand for copper in Asia has led to an employment boom in Morenci, AZ, which is home to the largest open-pit copper mine in the northern hemisphere. Over an 18 month span, the mining company, Phelps Dodge Corp, will add 1,100 jobs, boosting total employment to 3,700 jobs (mainly mechanics and electricians). Because housing has been unable to keep up with hiring at the mine, the mining company has provided four dozen 22 foot travel trailers for its employees as temporary housing. The company is also pursuing more permanent options for its employees, as it recently spent \$122 million to build 495 new single family homes near the work site. Demand for single family homes is high, as there is a waiting list of more than 300 workers already for the new homes. The company also constructed a new dormitory-style hall to house up to 400 employees. For those unable to find housing nearby, the company offers travel

reimbursements for those who drive more than 65 miles to work and provides buses to ferry workers 70 miles from area small towns.

Employer provided housing is also a more commonly used approach to house seasonal farm workers. It is estimated that nationally, approximately 25 percent of housing units occupied by seasonal migrant farmworkers were employer-owned, although it should be noted that employer provided housing for seasonal farm workers has decreased in recent years due to farm consolidation and the rise of corporate agriculture. A 2000 study of seasonal workers in the Minnesota vegetable industry study found that for those workers without access to employer provided housing, obtaining short-term affordable housing is a significant problem. The cost of rental housing combined with low wages paid to farm workers makes it very difficult to find housing in rural areas, where affordable housing is already in short supply. Migrant workers face additional challenges due lease agreements requiring longer commitments. A survey of Minnesota farm workers found that 40 percent of respondents were renting employer-provided housing. In Minnesota, typical vegetable processor provided housing consists of construction trailer barracks, in which employees are separated by gender with 15-20 single workers in each trailer. In Steele County, Minnesota, a traditional labor camp is provided by the vegetable processor. The labor camp consists of 12 single-story cinder block buildings. One family is assigned to each duplex unit, and residents pay \$40 per worker per month.

Recent downturns in the housing market may provide additional incentives for employers to consider providing housing for their employees. During a 1992 recession in the state of California, the Commerce Casino, located outside of the City of Los Angeles, considered purchasing either a hotel, apartment building, or constructing housing for employees to house a portion of its 2,000 employees. High rents and median home prices double the national average made it difficult for casino employees to find affordable housing. Therefore, the casino considered taking advantage of a number of foreclosures and decreasing property values that had increased the available supply of multi-family apartment buildings and properties. The casino also discussed the possibility of partnering with the City of Commerce for funding to construct affordable employee housing on a city redevelopment site.

2) PRIVATE MARKET

Based on a review of boomtown case studies, reliance on the private market to accommodate additional workers is the most common approach used by communities, particularly for those experiencing booms unrelated to energy development. Interestingly, a majority of case studies reveal that often times the private market was able to provide an adequate supply, and at times even a surplus, of housing units. However, the supply of affordable housing was typically inadequate to accommodate demand. A report by the Housing Assistance Council, which documents several of the case studies summarized below, concludes that a majority of private developers in boomtown areas studied were not interested in affordable housing, as the lower rents made it very difficult to make a profit. The study concludes that cooperation and involvement from municipal governments, private developers, and non-profit organizations is the best hope for affordable housing provision in these areas. Several case studies demonstrating reliance on the private market to accommodate housing in boomtowns are discussed below.

CAMDEN COUNTY GEORGIA

In Camden County Georgia, the arrival of a naval submarine base triggered expansion of well-paying jobs in defense-contracting and related industries. Between 1980 and 1997, the population increased from 13,371 to 47,800. The county had 9,459 households (63 percent were homeowners) in 1990, and 10,885 housing units available. However, the surplus in housing units did not translate to increases in the availability of affordable housing. Home values rose dramatically in the county during this time, increasing 127.6 percent

between 1980 and 1990. While median incomes also rose during this time period due to high end military contractor employment, rising home values placed significant cost burdens on lower income workers in the retail trade sector. The study found that low income/poverty level renters faced severe housing cost burdens (greater than 35 percent of income), while middle-income to affluent households were relatively unaffected by home value increases.

FREMONT COUNTY COLORADO

Fremont County added 1,105 jobs in the early 1990s due to the construction of a new federal prison. The County also saw significant population increases due to an influx of retirees and former California residents. Between 1990 and 1998, the non-incarcerated population increased by 18 percent. Housing demand quickly increased beyond the existing supply once construction began on the new prison. Home prices and rents increased substantially, with average rents doubling in many cases. Because homebuilders could not keep up with increased demand, many prison employees found housing in growing communities outside of the county. Interestingly, the market for single family homes became overbuilt as builders constructed additional single family homes for prison employees, most of whom had already found permanent housing outside of the County. Several affordable housing projects were constructed by private developers and non-profit organizations, but these projects did not add enough units to the market to affect the shortage of supply for low-income housing. Demand for Section 8 housing subsidy vouchers remained high, and the waiting list was temporarily closed. The case study authors conclude that government officials' reliance on the private market for construction of affordable housing has been ineffective in increasing the supply of affordable units.

WASHINGTON COUNTY, UTAH

Washington County Utah experienced substantial population growth from 1970 through the 1990s due to an influx of retirees, tourists, and immigrants from California. Due to the large number of retirees in the area, economic growth occurred in the services sector, producing well paying jobs in the health care industry and lower paying jobs in the retail/food and beverage industry. Overall, wages in Washington County remained lower than the statewide average. By 1990, the total number of housing units exceeded 19,500 for just 15,200 households. Despite this surplus, affordability remained an issue, and cost burdens were particularly heavy for those at the lowest end of the income scale. Renters earning less than \$10,000 annual incomes were 11 times more likely to be severely cost-burdened than renters in the \$20,000 to \$24,999 range. Although the county's economic growth was anticipated to occur in the low-wage service sector jobs, a majority of new homes built were single-family homes, which were not affordable for service sector workers.

SUBLETTE COUNTY WYOMING

Sublette County, Wyoming, home to two massive natural gas formations, is currently experiencing a significant employment boom due to increased oil drilling in the area. As a result, the county's unemployment rate has fallen to 2.6 percent, and per capita income has increased 43 percent between 2000 and 2006. To house the massive influx of new workers, the company has provided several "man camps" of trailers; however rising costs of living have made life difficult for those not employed in the oil industry. Rental prices have doubled in the past five years, and the average home price has increased from \$150,000 to \$286,000. Local business owners have proposed ordinances that mandate affordable housing, but leadership at the county and state levels has been reluctant to intervene.

3) GOVERNMENT/NON-PROFIT HOUSING DEVELOPMENT

A review of case studies reveals relatively few instances that involve substantial government or non-profit involvement to ensure adequate housing during periods of substantial economic growth. While several case

studies above illustrate that reliance on the private market may result in an adequate number housing units, increasing housing costs place a tremendous burden on low-income residents. Typically the private market is unable to respond adequately to low-income housing needs, and government/non-profit involvement may be required.

MINNESOTA FARMWORKERS

The case study of Minnesota seasonal farm workers referenced above found that a limited number of housing units in Minnesota have been designed and built for seasonal farm workers by non-profit organizations. Funding for these developments is made available through the USDA Rural Housing Services.

DEADWOOD, SOUTH DAKOTA

Local officials in the community of Deadwood, SD, were able to use the town's designation as an historical landmark to leverage taxes and building concessions to cover the costs of necessary infrastructure improvements and the construction of affordable housing after the legalization of gambling in 1988 created approximately 1,800 jobs. Because Deadwood's population at the time was approximately 1,830; many of these low wage jobs were filled by commuters and migrants. As demand for housing increased, speculators began buying properties in anticipation of a housing shortage, driving prices even higher. The average home prices in Deadwood increased from \$30,000 in October 1989 to \$50,000 in November 1990. Many low-income residents (including casino employees) could not afford to live in Deadwood and doubled up in rental homes or resided in nearby towns. In the early 1990s several non-profit and private developers built a limited number of affordable housing units. However, shortly after it became evident that Deadwood was not attracting a significant number of new residents with disposable incomes. Many speculators, unable to sell their homes for significant profit, became absentee landlords, increasing the availability of more affordable rental housing. The newly constructed units and increase in rental properties coincided with declines in construction as renovations and construction projects were completed, reducing housing demand even more as contractors left the area until Deadwood's housing shortage disappeared and rents decreased to more appropriate levels.

PITKIN COUNTY COLORADO

Officials in Pitkin County and the City of Aspen in Colorado considered a unique approach to ensure adequate affordable housing through an affordable housing mitigation fee. At the time the study was completed in 2004, the fee had not yet been adopted and was still under discussion. Economic growth in the County has been driven by demand for second-home construction in the County's mountain resort communities. This demand for second homes has placed pressure on real estate values, and housing costs in the County have increased dramatically in the past decade, while wages have remained stagnant. As a result, much of the county's workforce has relocated to areas outside of the county where housing prices are more affordable. Given the shortage of affordable housing, County officials conducted a study of affordable housing needs in the county. The study found that wages and salaries paid to Pitkin County's low, moderate, and middle-income employees were insufficient to allow these employees to obtain market housing and determined that new development must mitigate local housing costs for its employees. Four types of mitigation are outlined: 1) payment of fee/subsidy for the difference between the cost of housing in the county for the employee and what the employee can reasonably afford 2) Provide land for affordable housing that is of equal value to the fee/subsidy amount needed 3) construct affordable housing units for the employee 4) convert existing market units to affordable units. The County's housing study went on to determine an appropriate formula and structure to establish affordable housing mitigation fees. The County first determined the demand for affordable housing units in the area based on employment forecasts, wage information, and housing values. A ratio of employees per household (1.75) was applied to the number of new employees in need of affordable housing to determine the projected need for affordable housing units

in Pitkin County. A fee structure was developed to accommodate this additional demand for affordable housing units in the county.

OTHER IMPACTS

A majority of academic research on boomtowns has focused on sociological effects of large-scale energy development during the 1970s and 1980s. Early reports of boomtown social impacts referred to changes in Gillette, Wyoming as “Gillette’s Syndrome”, which was characterized by dramatic increases in divorce, depression, school dropout rates, suicide attempts, juvenile delinquency, criminal activity, mental disorders, and other social problems. Other studies have documented a relationship between rapid growth and decreases in community satisfaction and social integration, and an increased fear of crime. Interestingly, recent research examining the long-term social effects of boomtowns through longitudinal studies suggests that while social disruptions do occur during boom growth periods, effects typically are not permanent.

In addition to sociological effects, rapid employment places increased pressure on public services, including waste disposal facilities, fire truck and ambulance equipment and facilities, police and safety services, communication systems, public schools, social service agencies, recreation facilities, sewer and water infrastructure, and transportation infrastructure. For many communities it can be difficult to provide adequate funding for these improvements, particularly in the early stages of growth.

While a majority of research suggests that large scale economic development projects have an overall benefit on local economies, several case studies demonstrate that local businesses in boomtowns have had difficulties finding employees to fill lower paying jobs, as high wages from economic development projects have lured workers from other jobs at restaurants, gas stations, local retail stores, and even the sheriff’s department.

CONCLUSION

Existing research on the relationship between large scale economic development projects and housing demand is limited. Available research suggests three common approaches to addressing the housing needs of new employees: 1) employer provided housing; 2) reliance on the private market; and 3) government/non-profit initiatives. Employer-provided housing is more typical within the energy/mining industries, and is typically constructed to accommodate single male workers. Reliance on the private market has produced an adequate supply of housing units for new employees in several case studies. However, because economic growth typically leads to increasing real estate values, supplies of affordable housing are likely to diminish. In these instances, government/non-profit initiatives may be necessary to bring together various members of the community in order to ensure that adequate supplies of affordable housing are either maintained or made available, particularly in rural areas where the existing supply may already be limited.

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Appendix B: Rental Survey Summary

INTRODUCTION

A survey of the existing multi-family rental housing market was conducted to better understand the existing housing supply in the study area. Information was gathered on market rate properties, subsidized properties, and age-restricted properties from the following sources:

- Housing data collected from cities
- Review of existing housing studies
- Housing agencies (USDA Rural Development, HUD, Minnesota Housing)
- Newspaper classified ads
- Yellow Pages
- Internet search
- City websites
- Regional property management companies

Information from these sources was compiled in a database. The database includes information on each property’s location, the total number of units, unit type, rent information, income and/or age restrictions, and available vacancy information for each property.

RENTAL HOUSING TYPES

Using the resources identified above, we identified a total of 155 properties, including 5,074 total units, in the study area. A detailed breakdown of rental housing units in the study area is presented in Table B1.

TABLE B1: STUDY AREA RENTAL HOUSING

Housing Type	Properties	Units	Percent of Total Units
Senior	26	846	17%
Senior/Subsidized	32	1,411	28%
Student	2	34	1%
Subsidized General Occupancy	24	921	18%
Disability Subsidized	1	18	0%
Market Rate General Occupancy	70	1,844	36%
Total	155	5,074	100%

More than half of the total properties identified (and 64 percent of total units) were restricted based on income, age, or disability. Forty-six percent of the total units were restricted based on age. Nearly all of these properties were restricted for seniors, although two properties consisted of student housing.

Approximately 18 percent of units were restricted based on income alone. The number of income restricted units does not account for Section 8 units within larger market rate rental properties.

SURVEY OF MARKET RATE RENTAL PROPERTY INFORMATION

In order to update existing vacancy and rental information of market rate general occupancy rental properties, a phone survey was conducted of property managers. Limited data on vacancy and rental information was also obtained through city data, newspaper classified ads, and housing agencies. Survey response information is summarized below in Table B2.

TABLE B2: MARKET RATE RENTAL SURVEY RESPONSE

	Properties	Units	Percent of Total Units
Properties excluded due to size	10	35	2%
Properties without contact information	16	221	11%
Properties contacted	44	1,588	86%
Property owner not available to respond	9	157	9%
Property manger unwilling to provide information	2	n/a	0%
<i>Properties surveyed</i>	<i>33</i>	<i>1,425</i>	<i>77%</i>
Total Market Rate Properties	70	1,844	100%

A total of 70 market rate rental properties were identified, for a total of 1,844 units. Ten properties were excluded from the survey, as these properties included four units or less. It was assumed that because these properties were so small, time spent surveying these properties was not warranted given the limited significance of the results. Additionally, tracking down contact information for these properties proved to be quite difficult, as properties of this size are less likely to advertise in available news sources. After excluding these properties, we were unable to find contact information for sixteen remaining properties. We were unable to speak with nine property managers, although we left messages when possible and called several times. Two property owners refused to participate in the survey. Ultimately, we were able to obtain updated vacancy and rental information from 33 market rate rental properties. However, these properties account for 77% of all market rate general occupancy rental units in the study area.

Of the 1,425 units accounted for in the survey, 75 of these units were vacant, for an overall vacancy rate of 5.3 percent. An additional 36 units were not available for rent because they were currently under renovation.

SUBSIDIZED HOUSING DATA COLLECTION

Updated vacancy and rental information for subsidized properties was provided by several agencies, including HUD, USDA Rural Development, and Minnesota Housing. We also received updated information from several property managers of subsidized housing. Of the 24 general occupancy subsidized

developments identified, updated vacancy and rent information was obtained for 17 of these properties. These 17 properties include 558 units and account for 61 percent of the total number of general occupancy subsidized units. Of the 558 units accounted for, fourteen units were vacant, for a vacancy rate of 2.5 percent.

SUMMARY OF RESULTS

TABLE B3: SUMMARY OF RENTAL SURVEY, FEBRUARY AND MARCH 2008

General-Occupancy Market Rate Rental Properties							
Subregion	Inventoried Properties*		Surveyed Properties				
	No. of Properties	No. of Units	No. of Properties	Total Units Surveyed ¹	Vacant Units ²	Vacancy Rate ³	Average Rent
Western	13	295	4	112	4	3.6%	\$592
Central	15	680	9	609	27	4.4%	\$467
Quad Cities	19	676	13	571	18	3.2%	\$477
East Range	13	122	6	86	4	4.7%	\$400
Northeast	8	71	1	40	9	22.5%	\$390
Study Area Total	68	1,844	33	1,418	62	4.4%	\$477

¹ A 13-room facility is currently empty and is not considered part of the analysis.

² 36 units at one project are being renovated and are not considered vacant.

³ Five of the 33 market rate properties surveyed account for 36 of the 62 vacant units. If these five properties were excluded from the analysis, there would be an overall vacancy rate of 2.5%.

General-Occupancy Income-Restricted Rental Properties						
Subregion	Inventoried Properties*		Surveyed Properties			
	No. of Properties	No. of Units	No. of Properties	Total Units Surveyed	Vacant Units	Vacancy Rate
Western	11	260	10	240	9	3.8%
Central	7	315	2	80	2	2.5%
Quad Cities	5	302	4	192	1	0.5%
East Range	1	16	1	16	1	6.3%
Northeast	2	46	1	30	1	3.3%
Study Area Total	26	939	18	558	14	2.5%

Age-Restricted (Senior) Rental Properties (includes market rate and income-restricted)						
Subregion	Inventoried Properties*		Surveyed Properties			
	No. of Properties	No. of Units	No. of Properties	Total Units Surveyed	Vacant Units	Vacancy Rate
Western	15	532	10	419	19	4.5%
Central ¹	15	544	7	253	28	11.1%
Quad Cities	13	768	3	123	8	6.5%
East Range	2	93	1	62	10	16.1%
Northeast	7	214	--	--	--	--
Study Area Total	52	2,151	21	857	65	7.6%

¹ Two additional facilities were inventoried but are not included in the analysis here because they are Board and Care facilities and considered group quarters and not residential units.

* Inventoried units means the property was identified through review of previous housing studies, but could not be contacted because no current listing of phone number or the contact person refused to participate in the survey.

Appendix C: Community Survey Form

<<date>>, 2008

<<name>>

<<city name>>

<<address>>

<<city>>, MN <<zip>>

Re: Range Readiness Initiative – Housing Survey

Dear Iron Range Communities:

This is an exciting time on the Iron Range with more than 20 large scale development and expansion projects at various stages of development in the region. These projects represent the highest concentration of large scale projects since the 1970s, with the potential investment of up to \$5 billion. Successful projects will result in construction jobs, permanent jobs, and spin-off service jobs that will support this magnitude of growth.

These new developments present an opportunity for communities to assess current conditions and plan for their future direction. Large scale projects and the influx of temporary workers also have the potential to put a strain on existing community resources by impacting low-income renters, tourist accommodations, public safety, schools, and area businesses.

To help local communities plan for this change, Iron Range Resources has organized a collaborative response called the "Range Readiness Initiative." As part of this effort, a work team focusing on housing has been formed to address the need for temporary and permanent housing, both affordable and market rate. Dubbed the *Housing Work Team of the Range Readiness Initiative*, it is comprised of representatives from both the public and private sectors.*

One of the primary tasks of the *Housing Work Team* is to oversee research that will analyze where critical gaps are located in the housing market and, thus, where planning efforts can be focused. To get this up and running, we first need to establish a baseline of how much available housing currently exists in each community. Members of the *Housing Work Team* have worked hard to secure funding in order to make this important information available to participating communities free of charge, in exchange for a limited, in-kind service commitment. Therefore, I am asking for the City of <<city>> help in gathering a few key pieces of information on the local housing market.

* Partners in the Housing Work Team include Iron Range Resources, Arrowhead Regional Development Commission, Minnesota Housing, Greater Minnesota Housing Fund, Minnesota Housing Partnership, Arrowhead Economic Opportunity Agency, Kootasca Community Action, and Itasca and St. Louis County.

We ask that you or members of your city's staff go to the website below, follow the links to your community, and fill out the on-line form as best you can.

Please visit the following website to participate in the RRI Housing Work Team's housing demand study:
<http://www.gmhf.com/projects/rri/>

If Internet access is unavailable to you or your staff, we have also attached to this letter the same form found on the Internet. It can be faxed, emailed, phoned-in, or sent to either of the following professionals who are coordinating the research effort:

Steve Griesert
Housing Expeditor
Housing Work Team of the RRI
1011 Newhall Dr
Faribault, MN 55021
Direct: 507-838-5992
Fax: 651-779-7102
cpartners@charter.net

Jay Demma
Director of Market Research
Bonestroo, Inc.
2335 Highway 36 W
St. Paul, MN 55113
Direct: 651-967-4551
Fax: 651-636-1311
jay.demma@bonestroo.com

We understand that many communities may not keep records on all—or even most—of the data requested in the form. If not, we want to know this too, as it will help guide the on-going nature of the research effort.

Because new development is already beginning to occur in the region, time has become important. Therefore, if possible, we ask that you or your staff please complete the form (either on-line or the attached paper version) no later than April 8, 2008 so that the baseline data is as current as possible.

We also recognize that resources in many communities are limited, and we are committed to working with you as much as we can to help collect the information requested in the form. Therefore, if we do not receive a completed form, a representative of the *Housing Work Team* will be contacting your community shortly to help fill it out.

Once we complete this data collection with your help, we will analyze which communities will be most impacted by the planned industrial expansions in the region and make this data available to you. However, it won't end there. Housing markets change rapidly and economic development projects come and go. Therefore, the power of this research effort is to set up a system where we can periodically collect housing data so that we know how the market is changing and where new problem areas are emerging.

We look forward to collaborating with you on this critical planning and readiness housing market research work.

Sincerely,

Sandy Layman
Commissioner

Mary Ives
Chair, RRI Housing Work Team

Please fill out the following for any active or recently approved residential subdivisions:

	Name of Subdivision	Year Platted	Total Number of Lots	Number of Lots Built On	Price Range of Newest Homes	Name of Developer	Contact Phone Number
Example Subdivision	<i>Broadacre Estates</i>	<i>2003</i>	<i>14</i>	<i>6</i>	<i>\$190,000-260,000</i>	<i>John Doe</i>	<i>218-555-5555</i>
Subdivision #1							
Subdivision #2							
Subdivision #3							
Subdivision #4							
Subdivision #5							
Subdivision #6							
Subdivision #7							
Subdivision #8							
Subdivision #9							
Subdivision #10							
Subdivision #11							
Subdivision #12							

Check box if not available

Check box if available, but too difficult to retrieve

If applicable, please fill out the following for zoning permit activity since the beginning of 2000:

Year	Number of Detached, Single-Family Homes	Number of Attached, Single-Family Homes (i.e., townhomes)	Number of Apartment Units	Number of Homes Permitted for Demolition
2000				
2001				
2002				
2003				
2004				
2005				
2006				
2007				

Check box if not available

Check box if available, but too difficult to retrieve

Please fill out the following for rental apartments in your community:

	Name of Apartment	Address	Year Built	Total Number of Units	Range in Monthly Rent	Landlord/Property Manager	Contact Phone Number
Example Apartment	<i>Broadacre Apartments</i>	<i>1111 Main Street</i>	<i>2003</i>	<i>14</i>	<i>\$475-850</i>	<i>John Doe</i>	<i>218-555-5555</i>
Apartment #1							
Apartment #2							
Apartment #3							
Apartment #4							
Apartment #5							
Apartment #6							
Apartment #7							
Apartment #8							
Apartment #9							
Apartment #10							
Apartment #11							
Apartment #12							

Check box if not available

Check box if available, but too difficult to retrieve

Please fill out the following for any proposed or pending residential developments in your community:

	Name of Project	Type of Project	Total Number of Units	Status of Project	Location of Project	Name of Developer	Contact Phone Number
Example	<i>Broadacre Apartments</i>	<i>Rental apartment</i>	<i>28</i>	<i>Under construction</i>	<i>NE corner of Main & Elm</i>	<i>John Doe</i>	<i>218-555-5555</i>
Example	<i>Broadacre Estates</i>	<i>Single-family subdivision</i>	<i>14</i>	<i>Will go before Council in 2 weeks</i>	<i>SE corner of Main & Elm</i>	<i>Jane Doe</i>	<i>218-555-5556</i>
Example	<i>To be determined</i>	<i>Townhome</i>	<i>8</i>	<i>Developer has discussed with staff, but no formal applications</i>	<i>SW corner of Main & Elm</i>	<i>Joe Doe</i>	<i>218-555-5557</i>
Example	<i>To be determined</i>	<i>Temporary housing for construction workers</i>	<i>150</i>	<i>Approved, scheduled to begin construction March 2008</i>	<i>NW corner of Main & Elm</i>	<i>Janet Doe</i>	<i>218-555-5558</i>
Project #1							
Project #2							
Project #3							
Project #4							
Project #5							
Project #6							
Project #7							
Project #8							

Check box if not available

Check box if available, but too difficult to retrieve