

**A GIS Map Making Guide for Neighborhood
Organizations and other Community-based
Groups in Northeast Minneapolis**

**Prepared by
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Conducted on behalf of the Northeast Community Development Corporation
September, 2005**

*This report (NPCR 1231) is also available on the CURA website:
www.cura.umn.edu/search/index.php*

September, 2005

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Northeast Futures Project

Neighborhood: Northeast Minneapolis, Bottineau Neighborhood

Title: Northeast Futures Community Engagement Mapping

Neighborhood Contact:

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- Chris Gams, Bottineau Neighborhood (612) 782-2145
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Project Description

Northeast Minneapolis consists of 13 neighborhoods with different land uses, housing condition, and development potential. Using GIS, a series of maps were created for the Bottineau Neighborhood to “test drive” maps by request; the ability of the Northeast Community Development Corporation (NE CDC) to create custom designed maps to meet neighborhoods’ needs to proactively plan for future development.

The Bottineau Neighborhood volunteered to assist with developing the project. Chris Gams requested a series of maps and information to present at the annual neighborhood meeting in September.

Process

The Center for Urban and Regional Affairs as well as the City of Minneapolis provided data to create many different maps. Initial maps created often contained too much information and looked cluttered. It was deemed necessary to create a series of base and overlay maps to permit neighborhood organizations to view combinations of data as preferred. Both base and overlay maps were printed on large 24 by 36 inch sheets at the NE CDC office on a printer donated by Prism studios in Northeast Minneapolis. In addition overlay maps were printed on mylar sheets to place on top of the base maps. The following base and overlay maps were created: base - planimetric (map showing the outline of structures), land use, zoning, and building address; overlay - homestead and rental property, live/work, building condition, number of housing units, estimated market values, population age by block, neighborhood home improvements, year built, and householder age.

In addition to the maps, a manual was created identifying the easy and difficult maps to produce, their purpose, and GIS data needed and where it is available. This manual hopes to educate and encourage neighborhoods on the potential to use GIS maps for proactive planning.

Outcome

Maps were presented at the Bottineau Neighborhood Association Annual meeting on September 22, 2005. Residents looked at all the maps writing correction directly on the maps and giving verbal comments. Residents identified some property with incorrect land use, building condition, and rental status. In addition, residents requested more information on certain maps to help clarify what was presented and requested more color on certain maps to distinguish categories. Mylars were placed on top some base maps and viewed by residents to see if correlations exist.

These maps will also continue to be used by the Bottineau Neighborhood Board of Directors as part of the Master Planning efforts for the neighborhood.

A GIS Map Making Guide for Neighborhood Organizations and other Community-based Groups in Northeast Minneapolis

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September 2005

Introduction

Purpose and Use of this Guide

Maps create wonderful visuals to display different neighborhood characteristics. A series of maps have been created for the Bottineau neighborhood as part of the Northeast Futures Project. This manual includes recommended base and overlay maps and the purpose for each map, the GIS data needed, and whether the map is easy or hard to create. It is hoped that through the creation of this guide and having piloted GIS map-making by neighborhood custom design with the Bottineau Neighborhood Association in Northeast Minneapolis that other Northeast neighborhood organizations and community-based groups will realize the potential of GIS maps.

In regards to land use and development issues, GIS mapping is a great tool to inform and educate residents and business people. The sponsors of this guide, the Northeast Futures Project, envision neighborhood organization and other community groups using maps to become more proactive and planning oriented. For example, groups concerned about deteriorating old housing stock can map the location, age, and condition of those structures. They can then use this information to organize and advocate to local officials for increased and more targeted resources to address the problem.

There are countless other examples neighborhood may choose to look at such as school enrollment, crime patterns, or commercial mixes. The point is, that information is power and now Northeast neighborhoods have the capacity to use mapping to become more self-directed and effective.

How does a neighborhood organization or group access this mapping resource? This can be done via the MNIS project, which is cited frequently in this guide. This can also be done by contacting the Northeast Futures Project by calling the Northeast Community Development Corporation (NE CDC) at 612-627-9366. NE CDC has the software and a large map printer. They stand ready and willing to assist Northeast neighborhood organizations and community building groups at no charge.

There are several things you should know first before making a mapping request. One consideration is that some data is more difficult to work with than others. This relates to making a judgment call about the general difficulty and staff time involved versus how useful the application of the map may be. A second consideration is that we will ask that the organization or group take responsibility for working with us on the specific project. In other words, we will not help you if you think that you can simply put in an order and await delivery. Part of the reason we are doing this is to help build your capacity to use this tool. Lastly, several neighborhood organizations in Northeast have already been involved in the MNIS project for several years. Neighborhoods who have no previous mapping experience will be prioritized over these.

It is our sincere hope that mapping on a neighborhood basis will also serve to broaden people's viewpoints. Obviously, land use/development issues and challenges do not magically change at each of the 13 Northeast neighborhoods' borders. Therefore, we encourage neighborhood organizations and groups to think on a more Northeast-wide level, while they work on localized issues. To this purpose, the Northeast Futures Project is doing mapping on a Northeast-wide basis and is highly motivated to share this with as many groups and individuals as possible. If this is of interest to you, please discuss it with NE CDC.

Base Maps

It is useful to create a series of large base maps to enable neighborhood residents to pick and choose map overlays to view. Planimetric (map showing the outline of structures), land use, zoning, and building address maps are useful and easy to create base maps.

Planimetric (structure outline) Map

Planimetric maps identify structure outlines and locations. Building outlines are an easy addition to any map.

Purpose

- Identify location of buildings
- Have participants identify where location and building outlines are incorrect

GIS Data

GIS data for planimetric maps is available from both CURA and the MNIS website.

Address Map

Address labels can be easily added any map. The entire address for a parcel including house number, street, and direction or just the house number can be added which creates less congestion on maps. Separate labels can be added identifying the name of each street to any map.

Purpose

- Basic identification
- Simple base map to add overlays

GIS Data

Address and parcel identification data is available from CURA and from the MNIS website.

Land Use Map

Each parcel has a land use identified with it. Typically land uses are displayed on maps with different colors. Land uses coded for the City of Minneapolis include the following: single family attached; single family detached; multi-family residential; multi-family apartment; mixed commercial, residential, apartment; institution, school, church; retail; office; bar, restaurant, entertainment; industrial, warehouse, factory; garage or miscellaneous residence; vehicle related uses; park; and water.

Purpose

- Identify land uses
- Allow residents to determine inaccuracies between actual and registered land uses
- Shows the range of uses allowable within particular zoning
- May identify land uses incompatible with existing zoning
- Identify location of land uses residents want changed
- Shows, when combined with zoning, area where more (greater density) development is allowed; conversely shows areas developed to their maximum capacity

GIS Data

Land use GIS data is available from CURA. It is useful to show land uses with different colors. There are several website containing lists with the proper map color for each land use. Try <http://www.planning.org/lbcs/> for land use colors.

Primary Zoning Map

Zoning maps are typically black and white with lines and a few letters indicating the location of zoning districts. This can be quite difficult to read and understand. It is helpful to see zoning maps with colors representing different zoning districts. Color zoning maps clearly and easily point out the location of different zoning districts. Both primary and overlay zoning maps can be created.

Purpose

- Allow residents to clearly see where zoning districts are
- Allow residents to understand where and what land uses can exist
- Represents City policy for development (Minneapolis Comprehensive Plan)

GIS Data

Zoning district data is available from both CURA and on the MNIS website. This data includes zoning codes, their location, and a brief description of each code. The City's Planning department maintains zoning data. It is useful to add brief zoning descriptions on maps helping residents quickly see what each zoning category includes.

In addition, the City of Minneapolis' neighborhood website contains zoning maps for all neighborhoods. These zoning maps are easily and quickly printed without GIS map work.

<http://www.ci.minneapolis.mn.us/neighborhoods/>

The City of Minneapolis' zoning website provides zoning maps for the entire city. These maps might be more accurate with zoning changes and can serve as a guide to check the accuracy of available zoning information.

<http://www.ci.minneapolis.mn.us/zoning/>

Several books and websites such as <http://www.planning.org/lbcs/> provide lists of recommended zoning colors for maps.

Overlay Maps

A second series of maps includes, homestead and rental property, live/work, building condition, number of housing units, police reports, estimated market values, population age by block, neighborhood home improvements, year built, and householder age. These maps are useful overlays on base maps. These maps can be printed on mylar sheets to see where certain neighborhood characteristics overlap. Each layer of information can be simplified to display only residential, commercial, or industrial properties. This enables neighborhood groups to focus their attention on particular types of property.

Homestead and Rental Overlay Map

Homestead status is given to properties where the owner uses the property as their main residence. Homestead and rental properties are taxed differently. "The State of Minnesota encourages home ownership by providing owner-occupied properties reduced property taxes" (City of Minneapolis, 2005). Rental permits must be obtained to rent a portion or all of a residential building. These permits are obtained from the City of Minneapolis. In many neighborhoods there are several single-family residences that have been converted into rental duplexes or triplexes with some of the owners remaining in one of the units

It is helpful to create separate mylar map overlays for rental and homestead properties with different symbol identifiers such as / and \. When symbols overlap (X), the property is both rental and homestead.

Purpose

- Identify location of homestead, rental, and homestead-rental property
- Identify homestead/rental unit condition
- Identify number of rental units in the neighborhood

GIS Data

The MNIS website contains current rental permit and homestead property information. Current rental permit and homestead data is easily mapped while past years' data requires additional information from the City's GIS department. Past year rental permit and homestead information is useful to identify the homestead to rental unit trend in the neighborhood.

Building Condition

City assessors determine the building condition of all properties in the city at least once every five years. The assessor assigns a value, one (best) through seven (worst) depending on the outside visual condition and periodic inside inspections (City of Minneapolis Assessor's Office, 2005). Building condition information can identify potential problem properties with a seven rating. It is beneficial to compare past and current building conditions on separate mylar overlay maps to identify where condition is improving and declining.

Purpose

- Identify poor condition property – potential problems
- Identify change in condition – location of additional work when condition changes from poor to good
- Identify poor condition blocks
- Inform NRP funded home improvement program design

GIS Data

Current building condition GIS data is available on the MNIS website. At this time past building condition data is not readily available and must be generated by the City's GIS department. It is useful to contact the Assessor's office to determine when building condition assessments for particular neighborhoods were last updated. This facilitates the proper labeling of maps and helps explain inconsistencies where buildings were recently rehabilitated and still have poor ratings. The residential structures in Bottineau neighborhood were updated in 2001 for the 2002 assessment.

Live/Work Map

CURA has produced a series of live/work maps for Minneapolis identifying the locations where residents work in the Twin Cities metropolitan area and where employees working in the neighborhoods live. This information is available for individual neighborhoods. The Bottineau Neighborhood has one large employer, the Packaging Corp of America, located at 1821 Marshall Street and one large multi-family residential rental property, Bottineau Commons, located at 1808 University Avenue. Both properties are of particular interest to the neighborhood.

Purpose

- Identify where residents commute to
- Identify where employees come from
- Distance residents commute

GIS Data

Live/work data should be requested from CURA for individual neighborhoods. The labor shed layer indicates where neighborhood employees live in the metropolitan area while the commute shed layer indicates where neighborhood residents commute to work each day. This data has some level of error associated with it such as not including self-employed individuals and large companies with branch offices indicating all their employees work in the main office.

Rental/Ownership Number of Units Map

The US Census has information on the number of rental and ownership units on each block in a neighborhood. This information is available from the American Factfinder website. Available data includes total number of residential units, total number of ownership units, and total number of rental units for each block in the neighborhood.

Purpose

- Show distribution of ownership and rental on each block

GIS Data

Mapping US Census rental and ownership unit information requires additional GIS work converting data from the American Factfinder website to a useable GIS format. It is useful to create a total number of residential units per block map and an overlay map with the breakdown of rental to ownership units per block using a pie symbol.

Police Report Map

Police report data identifies problem areas within a neighborhood. The police department retains an assortment of information.

Purpose

- Identify problem areas and/or properties
- Can show normal seasonal fluctuations in crime
- Suggest security/safety needs (property security improvements, personal safety classes, etc.)

GIS Data

GIS data on police reports is not readily available. Please contact your neighborhood police department requesting information.

Estimated Market Value Map

Estimated market value (EMV) is available for each parcel of property, including vacant property. This information is most useful when compared with the EMV of property in past years to show percentage change. It is common knowledge with the rate of inflation and increase in housing demand during the past ten years in the Twin Cities, most properties should show a positive percentage increase in EMV. Properties with no change or a negative percentage change in EMV are of concern.

Purpose

- Identify potential problem properties
- Identify properties with high potential for condo conversion due to low EMV values
- Inform NRP funded home improvement program design
- Identify buildings with very high percentage increases or decreases needing further investigation

GIS Data

EMV data is available from CURA for 1989, 1994, 1999, and 2004. The EMV for each property is determined each year by the City Assessor's office using a calculation (City of Minneapolis Assessor's Office, 2005).

2004 EMV data is easily mapped while EMV data for 1989, 1994, and 1999 requires additional GIS work. First, past year EMV data must be converted into 2004-dollar values to compare EMV for different years. There are numerous websites with inflation calculators:

- <http://www1.jsc.nasa.gov/bu2/inflateCPI.html>
- minneapolisfed.org/Research/data/us/calc/index.cfm

Next, percentage change can be calculated from past years to 2004 and displayed on maps. This enables neighborhoods to see where parcels lost and gained the most value. Do not be alarmed by large percentage increases in EMV such as 1000%; instead inspect the property's value and what it was in past years for clues why the percentage increase was so great. Neighborhood directors, board members, and residents should look closely at EMV percentage increases to determine accuracy. It is also useful to map EMV dollar amounts for residential, commercial, and industrial properties separately.

Age by Block Group Map

It is helpful to identify age concentrations on neighborhood blocks. Maps showing the number of less than five, five to 17, 18 to 64 and over 64 populations for each block can easily be mapped. The under five population represent children not yet in school, the five to 17 category represents children in school, the 18 to 64 category represents working adults, and the over 64 population represents retired adults.

Purpose

- Indicate areas with likely turnover in residents
- Indicate areas where property maintenance may be (have been) deferred
- Inform need and age appropriateness for youth programming activities in the area (parks)
- Indicate possible need for senior assistance programs

GIS Data

CURA has age information for each block. It is useful to display several age categories on one large sheet using separate maps for each category. It is also helpful to include a note at the bottom of each map indicating the total population for a particular age category in the neighborhood. This enables residents to determine where the majority of a particular age category lives. Percent of block populations that are male/female and black/white are also available.

Neighborhood Home Improvements and NRP Map

The Neighborhood Revitalization Program provides funding to neighborhoods throughout Minneapolis. Neighborhoods apply for funding to use for different projects in their neighborhood. The Bottineau Neighborhood focuses spending their NRP funds on residential structures' rehabilitation. Neighborhood directors should contact NRP or the Greater Metropolitan Housing Corporation (GMHC) for funding related information.

Purpose

- Show where money was spent
- Show where not to spend more money because already received funding
- Identify blocks with the most NRP funding
- Identify areas not receiving NRP funds (will need further determination as to why)
- Use as an overlay to see if corresponds with building conditions
- Use as an overlay to see if NRP funding has correspondence to homestead/rental property

GIS Data

Contact GMHC or your NRP representative requesting information. Information available varies by neighborhood. NRP funding information available for the Bottineau Neighborhood includes only the location of NRP funded projects.

Year Built Map

Many of the buildings in Minneapolis were built during the early part of the twentieth century. It is easy to incorporate the year a structure was built onto a map. Year built data ranges from the early 1880s to the present day for the Bottineau Neighborhood. The year a structure was built does not indicate its building condition; therefore year built data is more valuable when used as an overlay with other map layers.

Purpose

- Use as an overlay
- Identify older homes

GIS Data

CURA and the MNIS website have year built GIS data. This data is not always accurate, often not including newer buildings.

Householder Age Map

It is useful to identify the householder's age for homes. Households consist of "all people who occupy a housing unit. One person in each household is designated the householder. In most cases, this is the person, or one of the people, in whose name the home is owned, being bought, or rented" (American Factfinder, 2000). Householder age is available at the block level in different age categories. The Bottineau Neighborhood chose to map householders age 15 to 34, 35 to 64, and over 65. The 15 to 34 age category represents young professionals and families, the 35 to 64 represents older adults nearing retirement with older children, while the over 65 category represents retired householders.

Purpose

- Identify retired householders
- Identify young householders
- Indicate areas with likely future property ownership changes
- Indicate homeowner stability

GIS Data

Householder age data is available from the US Census on the American Factfinder website. This information is available down to the block level at the Census 2000 Summary File 1, P21 Household Type by Age of Householder. Householder age information is separated into both family and non-family households. The Bottineau Neighborhood chose to combine family and non-family households for their maps.

Conclusion

Maps are a simple and helpful tool for neighborhood future planning. Maps enable residents to see multiple characteristics in their neighborhood at once and help make decisions to be proactive for future development. The above described maps are simple to create and can be altered to meet neighborhood needs.

Acknowledgements

We would like to thank the Neighborhood Planning for Community Revitalization Program (NPCR) at the Center for Urban and Regional Affairs (CURA) at the University of Minnesota for providing research and technical assistance. Specifically we would like to thank Kris Nelson and Julie Bluhm from NPCR, and Jeff Matson from CURA for all their help.

Prism studios in Northeast Minneapolis donated a large map printer and a lot of paper and ink to the NE CDC. The Environmental Systems Research Institute in Redlands California awarded the NE CDC \$7,000 of GIS Arcview 9.1 software for \$200. Thank you!

We would like to recognize Chris Gams, Bottineau Neighborhood Association Director, who took leadership of the project and who recognizes that neighborhoods can take control of their own future by planning and organizing. Our gratitude also to the Otto Bremer Foundation, major funder of the Northeast Futures Project.

References

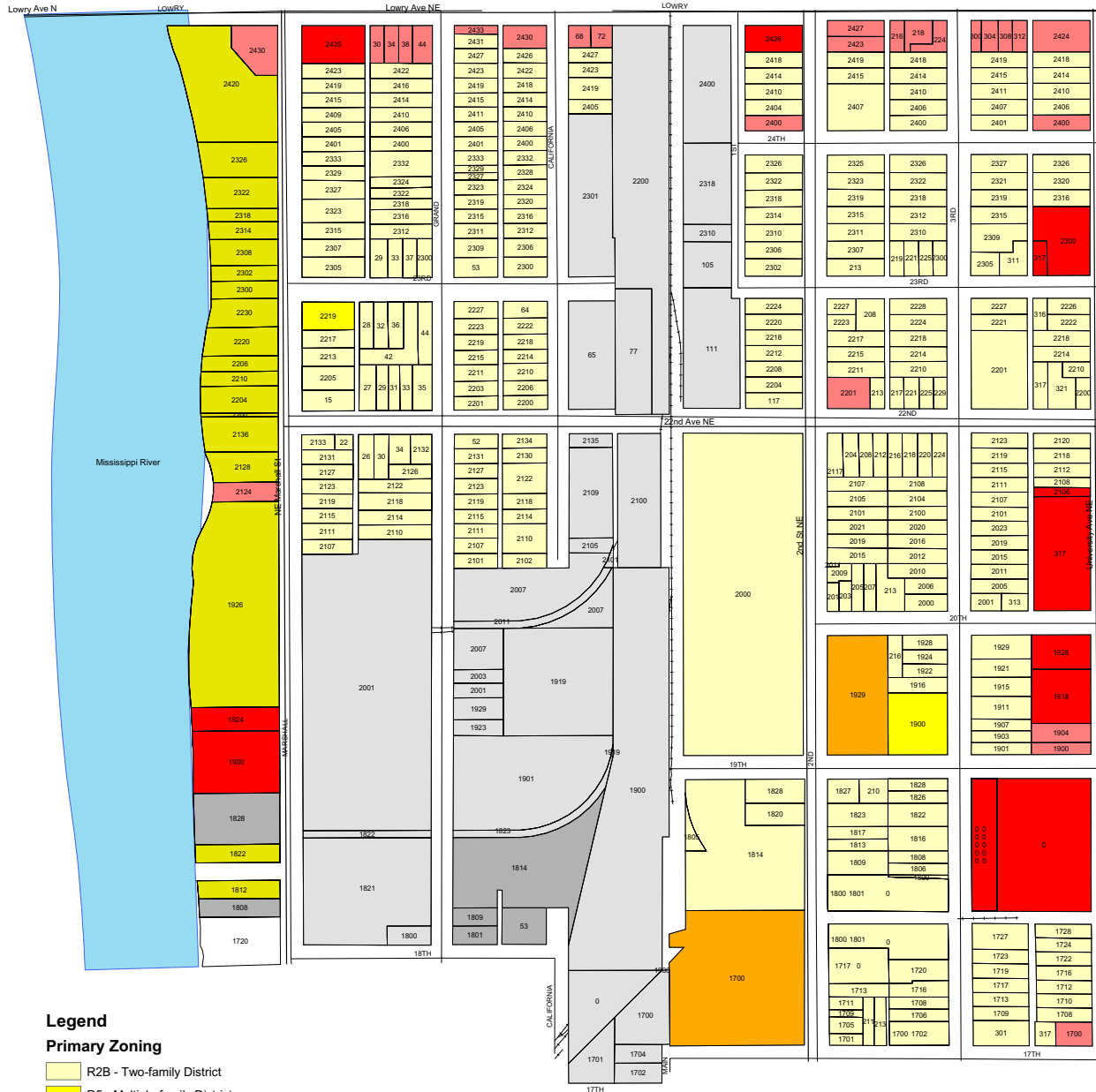
American Factfinder. (2000). Census 2000 Summary File 1 (SF 1) 100-Percent Data). *US Census Bureau*, Retrieved June 2005 from [http://factfinder.census.gov/home/saff/main.html? lang=en](http://factfinder.census.gov/home/saff/main.html?lang=en).

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City of Minneapolis. (2005). City Assessor's Office Website. <http://www.ci.minneapolis.mn.us/assessor/index.asp>.

City of Minneapolis. (2005). GIS data.

Bottineau Neighborhood Primary Zoning

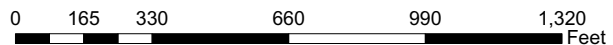


Legend

Primary Zoning

- R2B - Two-family District
- R5 - Multiple-family District
- R6 - Multiple-family District
- OR2 - High Density Office Residence District
- C1 - Neighborhood Commercial District
- C2 - Neighborhood Corridor Commercial District
- I1 - Light Industrial District
- I2 - Medium Industrial District
- Water
- Major Road
- Minor Road
- Railroad

C1 - provide convenient shopping environment of small scale retail sales and commercial services that are compatible with adjacent residential uses
 C2 - provide an environment of retail sales and commercial services that are larger in scale than allowed in C1 and to allow a broader range of automobile related uses
 I1 - provide location for industrial land uses engaged in production, processing, assembly, manufacturing, packaging, wholesaling, warehousing or distribution of goods and materials
 I2 - provide locations for medium industrial uses and other specific uses which have the potential to produce greater amounts of noise, odor, vibration, glare or other objections
 OR2 - provide a mixed use environment of moderate to high density dwellings and large office uses, with additional small scale retail sales and services uses designed to serve the immediate surroundings
 R2B - provide an environment of predominantly low density, single and two-family dwellings and cluster developments, in addition to residential uses, institutional and public uses and public services and utilities may be allowed
 R5 - provide an environment of moderate to high density dwellings and large office uses, with additional small scale retail sales and services uses designed to serve the immediate surroundings
 R6 - provide an environment of high density apartments, congregate living arrangements and cluster developments on lots with a minimum of 5,000 square feet of lot area and at least 400 square feet of lot area per dwelling unit



Bottineau Neighborhood

Land Use

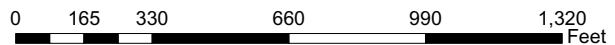


Legend

Land Use

- Single Family Attached
- Single Family Detached
- Multi-Family Apartment
- Multi-Family Residential
- Mixed Commercial, Residential, Apartment
- Institution, School, Church
- Retail
- Office
- Bar, Restaurant, Entertainment
- Industrial, Warehouse, Factory
- Garage or Miscellaneous Residence
- Vehicle Related Use
- Park
- Water
- Major Road
- Minor Road
- Railroad

Source: City of Minneapolis
 Created by: Andrea Petersen
 August 2005



Bottineau Neighborhood

Land Use and Address

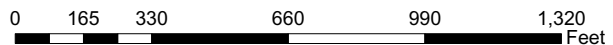


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Land Use

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- Park
- Water
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- Minor Road
- Railroad

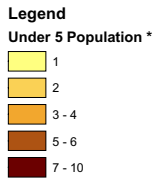
Source: City of Minneapolis
 Created by: Andrea Petersen
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Bottineau Neighborhood 2000 Census Block Population

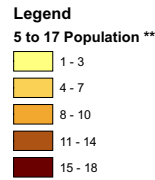
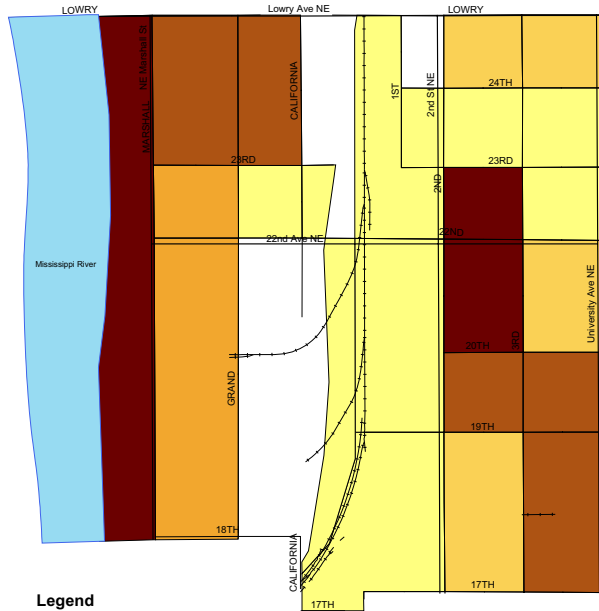


Block Under 5 Population



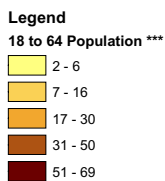
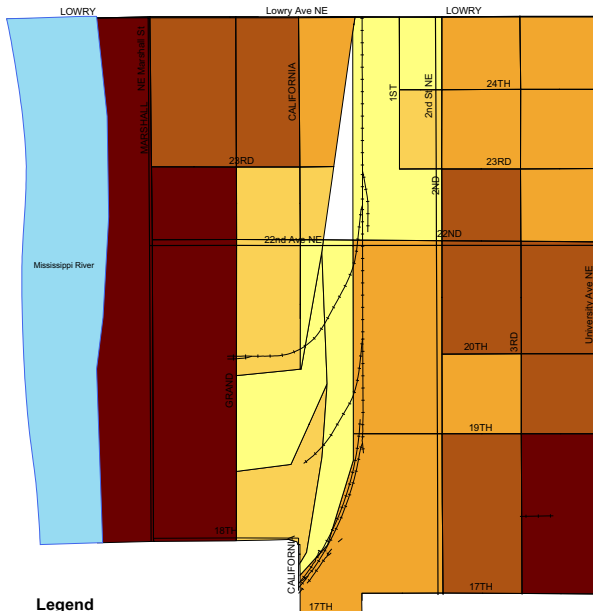
* 84 Children under 5 years of age

Block 5 to 17 Population



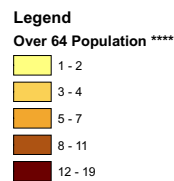
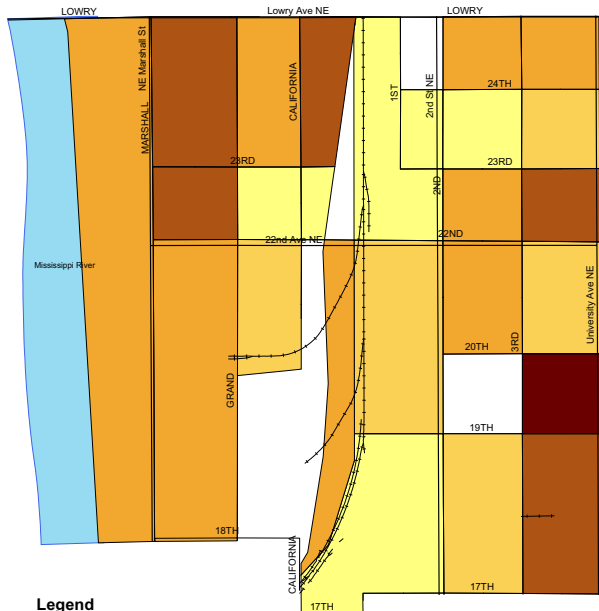
** 178 Children 5 to 17 years of age

Block 18 to 64 Population



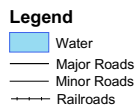
*** 855 People 18 to 64 Years of Age

Block over 64 Population



**** 137 People Over 64 Years of Age

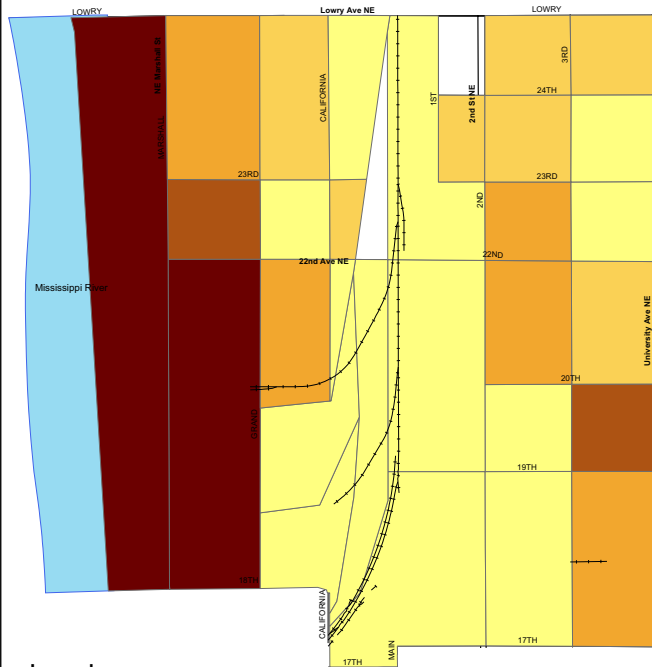
Source: City of Minneapolis
US Census
Created By: Andrea Petersen
August 2005



Bottineau Neighborhood 2000 Census Householder

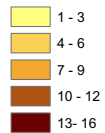


Householders 15 to 34 Years of Age



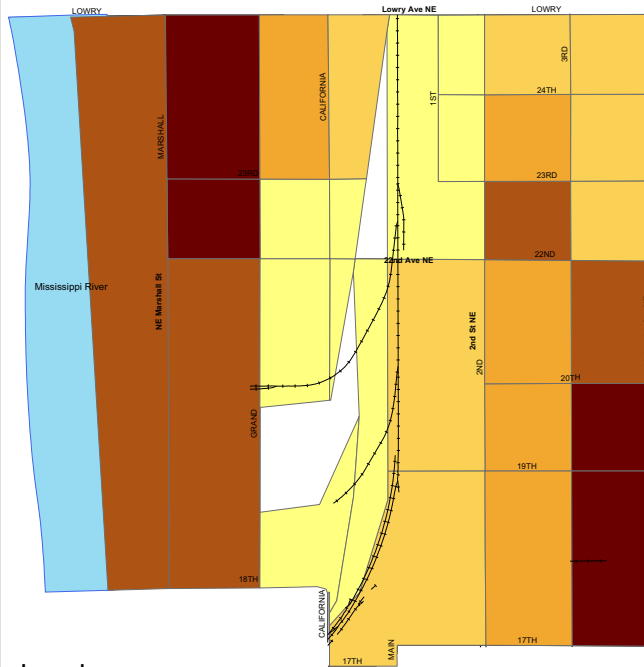
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Householders 15 to 34 Years of Age *



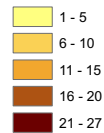
* 153 Householders 15 to 34 Years of Age

Householders 35 to 64 Years of Age



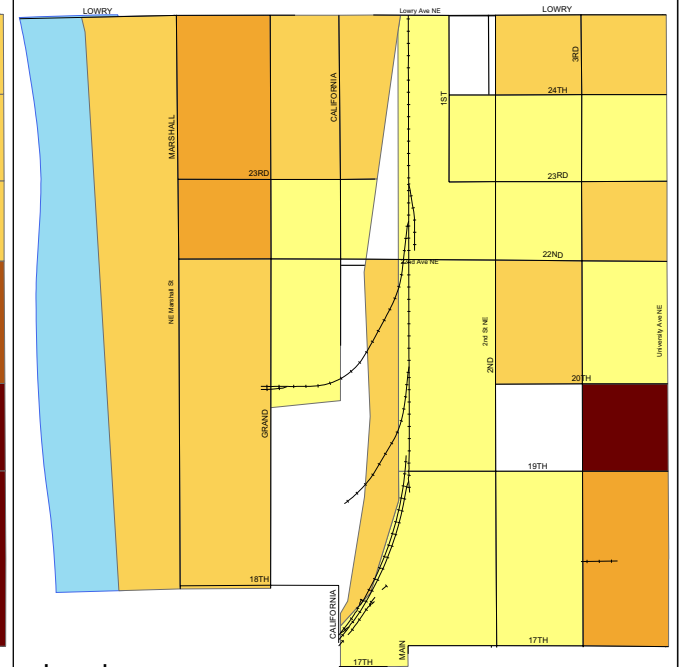
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Householders 35 to 64 Years of Age **



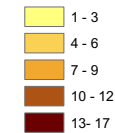
** 106 Householders over 64 Years of Age

Householders over 64 Years of Age



Legend

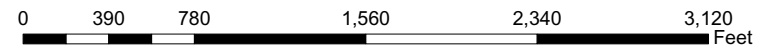
Householders over 64 Years of Age ***



*** 291 Householders 35 to 64 Years of Age

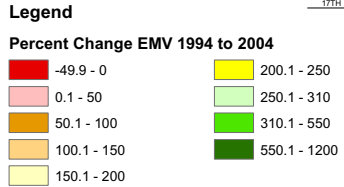
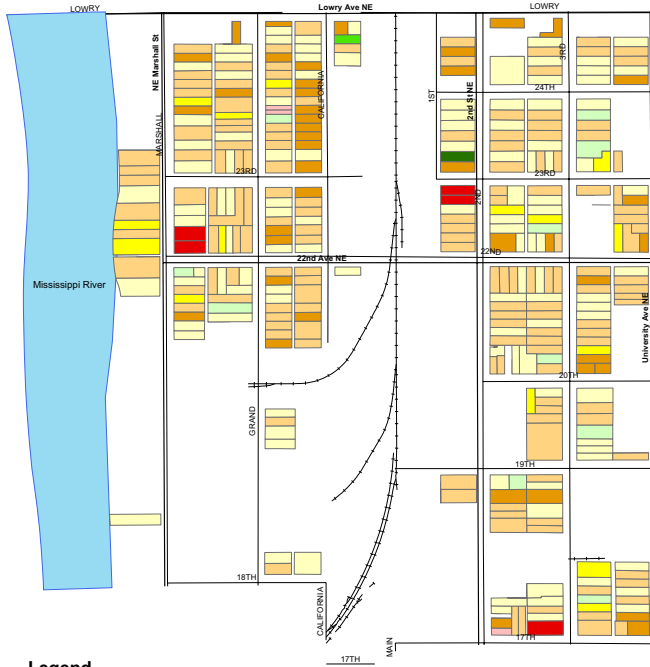
Source: City of Minneapolis
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Legend

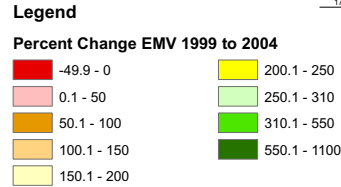
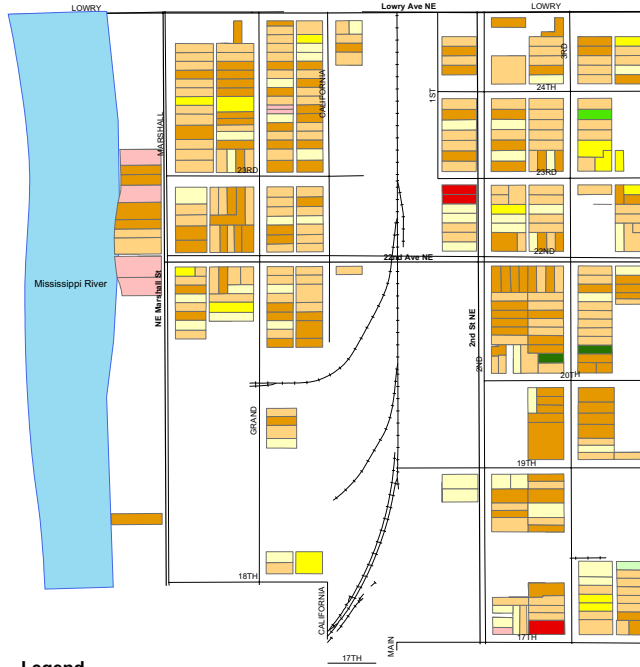


Bottineau Neighborhood Residential Estimated Market Value Percent Change ±

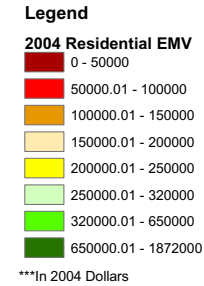
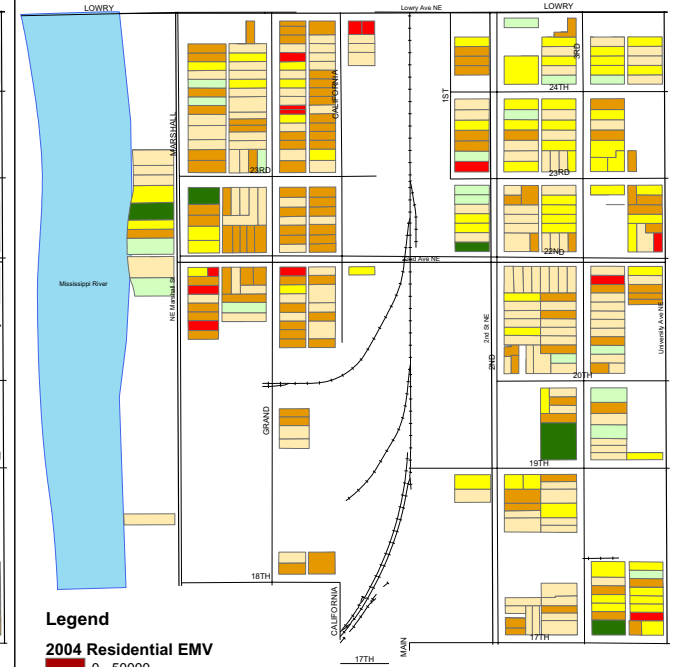
1994 to 2004 EMV Percent Change



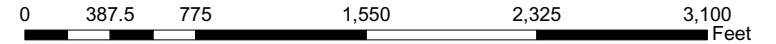
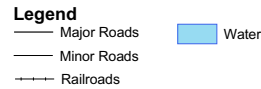
1999 to 2004 EMV Percent Change



2004 Estimated Market Value



Source: City of Minneapolis
 Created by: Andrea Petersen
 August 2005



Bottineau Neighborhood






Year Built - Structure

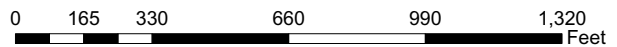


Bottineau Neighborhood Homestead Property - 2004



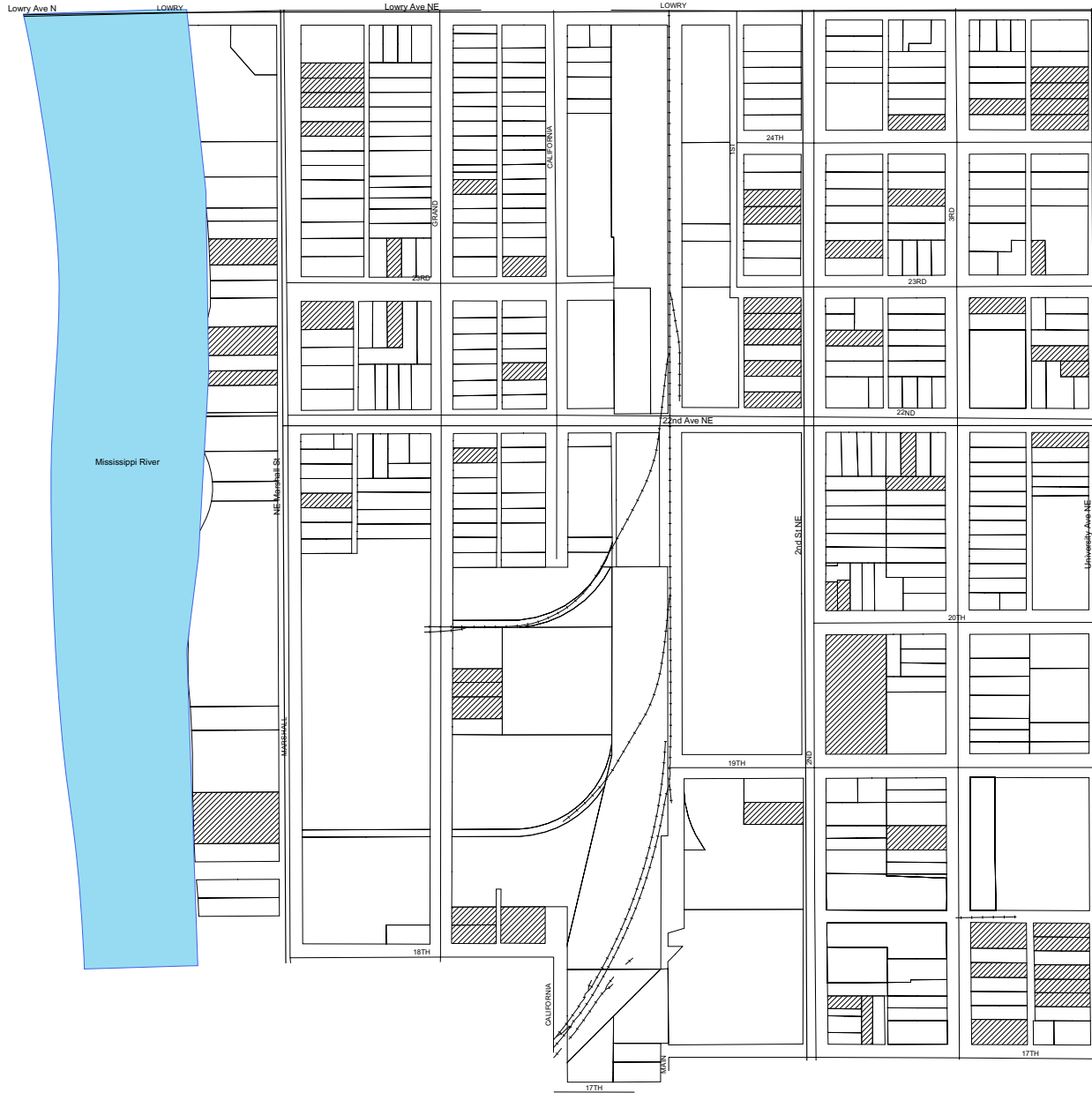
Legend
Homestead Residential Property

-  Homestead
-  Water
-  Major Road
-  Minor Road
-  Railroad



Bottineau Neighborhood

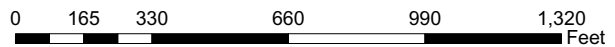
Rental Property - 2004



Legend
Rental Residential Property

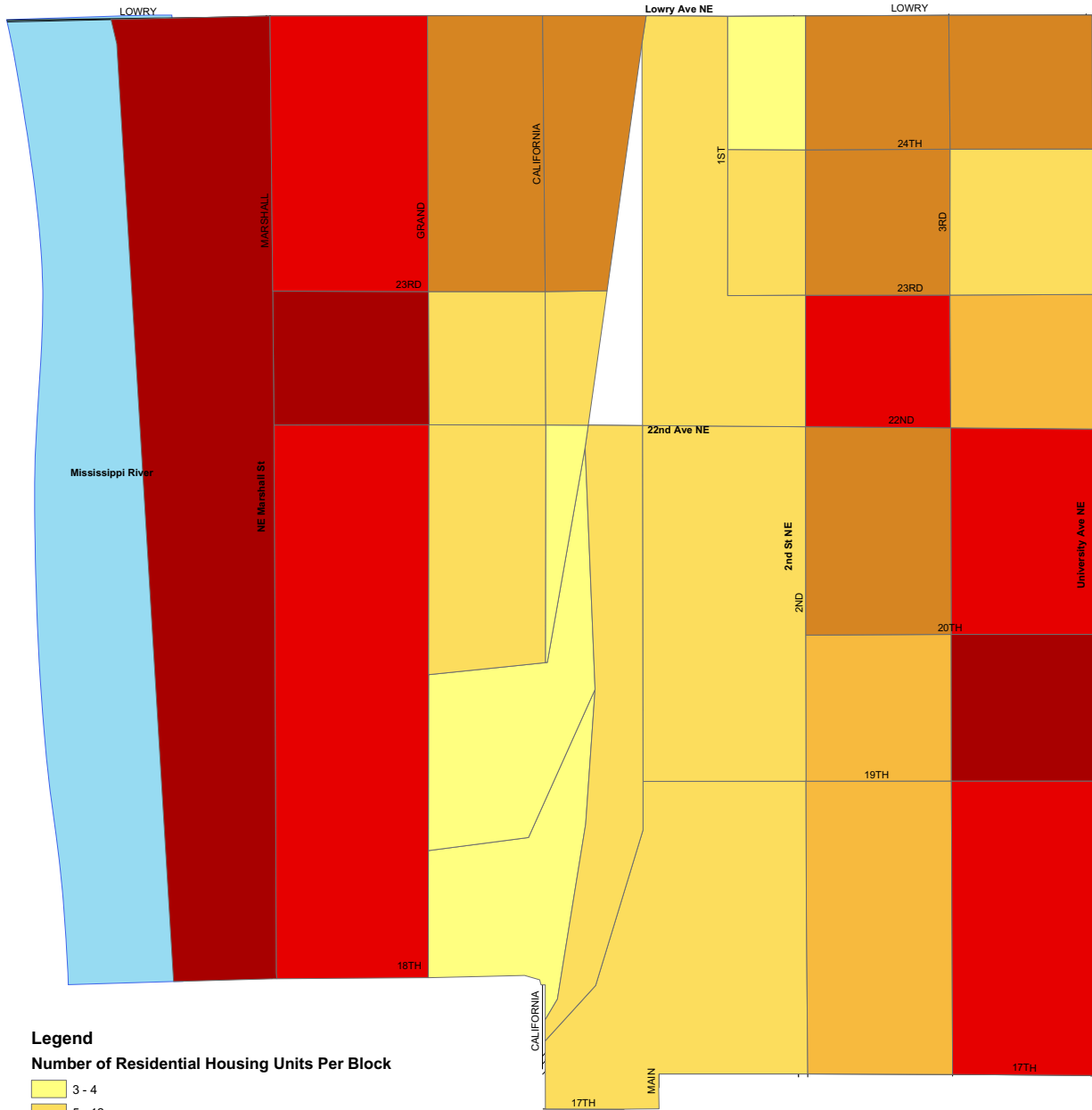
Rental

- Water
- Major Road
- Minor Road
- Railroad



Bottineau Neighborhood

Number of Residential Units - 2000 Census



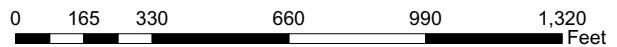
Legend

Number of Residential Housing Units Per Block

- 3 - 4
- 5 - 12
- 13 - 17
- 18 - 26
- 27 - 38
- 39 - 50

- Water
- Major Road
- Minor Road
- Railroad

Source: City of Minneapolis
 US Census
 Andrea Petersen
 August 2005



Bottineau Neighborhood Residential Building Condition



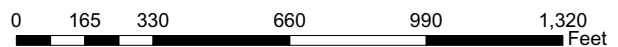
Legend

Residential Building Condition *

- 1 - Best
- 2
- 3
- 4
- 5
- 6
- 7 - Worst

* Building Conditions assessed in 2001 for 2002 assessment year for all properties. Multifamily residential structures building condition assessed in 2004 for 2005 assessment year.

- Park
- Water
- Major Road
- Minor Road
- Railroad



Bottineau Neighborhood Residential Estimated Market Values ±

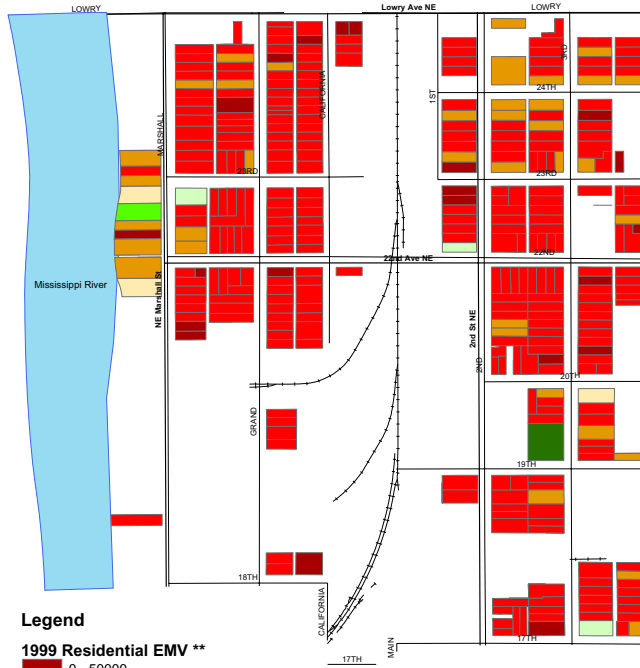
1994 Estimated Market Value*



- Legend**
- 1994 Residential EMV ***
- 0 - 50000
 - 50000.01 - 100000
 - 100000.01 - 150000
 - 150000.01 - 200000
 - 200000.01 - 250000
 - 250000.01 - 320000
 - 320000.01 - 650000
 - 650000.01 - 920000

*In 2004 Dollars Calculated using an inflation factor of 1.27

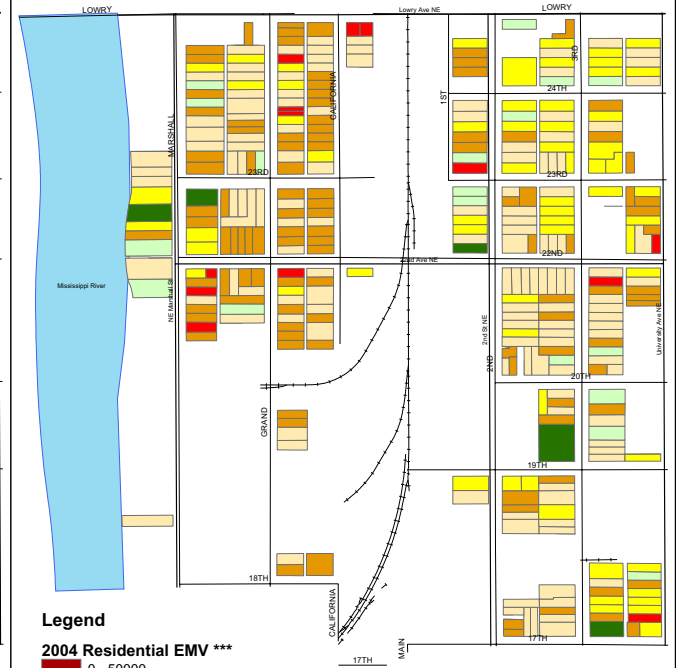
1999 Estimated Market Value**



- Legend**
- 1999 Residential EMV ****
- 0 - 50000
 - 50000.01 - 100000
 - 100000.01 - 150000
 - 150000.01 - 200000
 - 200000.01 - 250000
 - 250000.01 - 320000
 - 320000.01 - 650000
 - 650000.01 - 995000

**In 2004 Dollars Calculated using an inflation factor of 1.13

2004 Estimated Market Value***

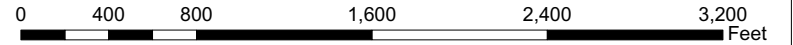


- Legend**
- 2004 Residential EMV *****
- 0 - 50000
 - 50000.01 - 100000
 - 100000.01 - 150000
 - 150000.01 - 200000
 - 200000.01 - 250000
 - 250000.01 - 320000
 - 320000.01 - 650000
 - 650000.01 - 1872000

***In 2004 Dollars

Source: City of Minneapolis
Federal Reserve Bank of Minneapolis
Created by: Andrea Petersen
August 2005

- Legend**
- Major Roads
 - Minor Roads
 - Railroads
 - Water

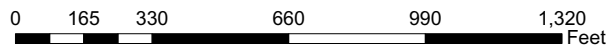


Bottineau Neighborhood

Rental, Homestead, and Rental/Homestead Property - 2004



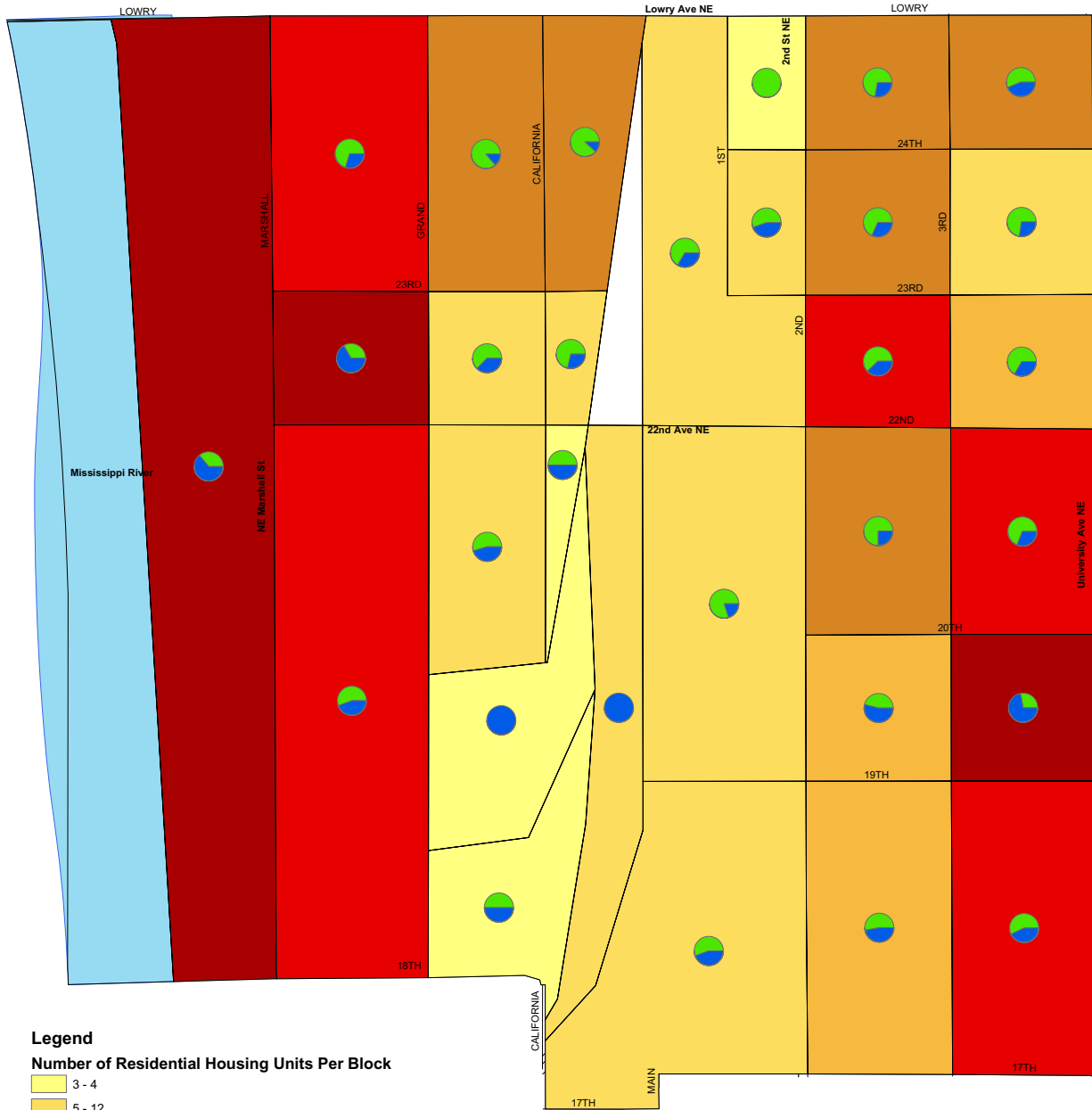
- Legend**
- Residential Property**
- Rental
 - Homestead
 - Homestead/Rental
 - Water
 - Major Road
 - Minor Road
 - Railroad



Bottineau Neighborhood



Rental and Ownership Residential Units - 2000 Census



Legend

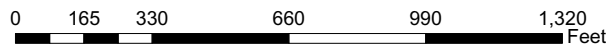
Number of Residential Housing Units Per Block

- 3 - 4
- 5 - 12
- 13 - 17
- 18 - 26
- 27 - 38
- 39 - 50

Owner/Renter Occupied Mix

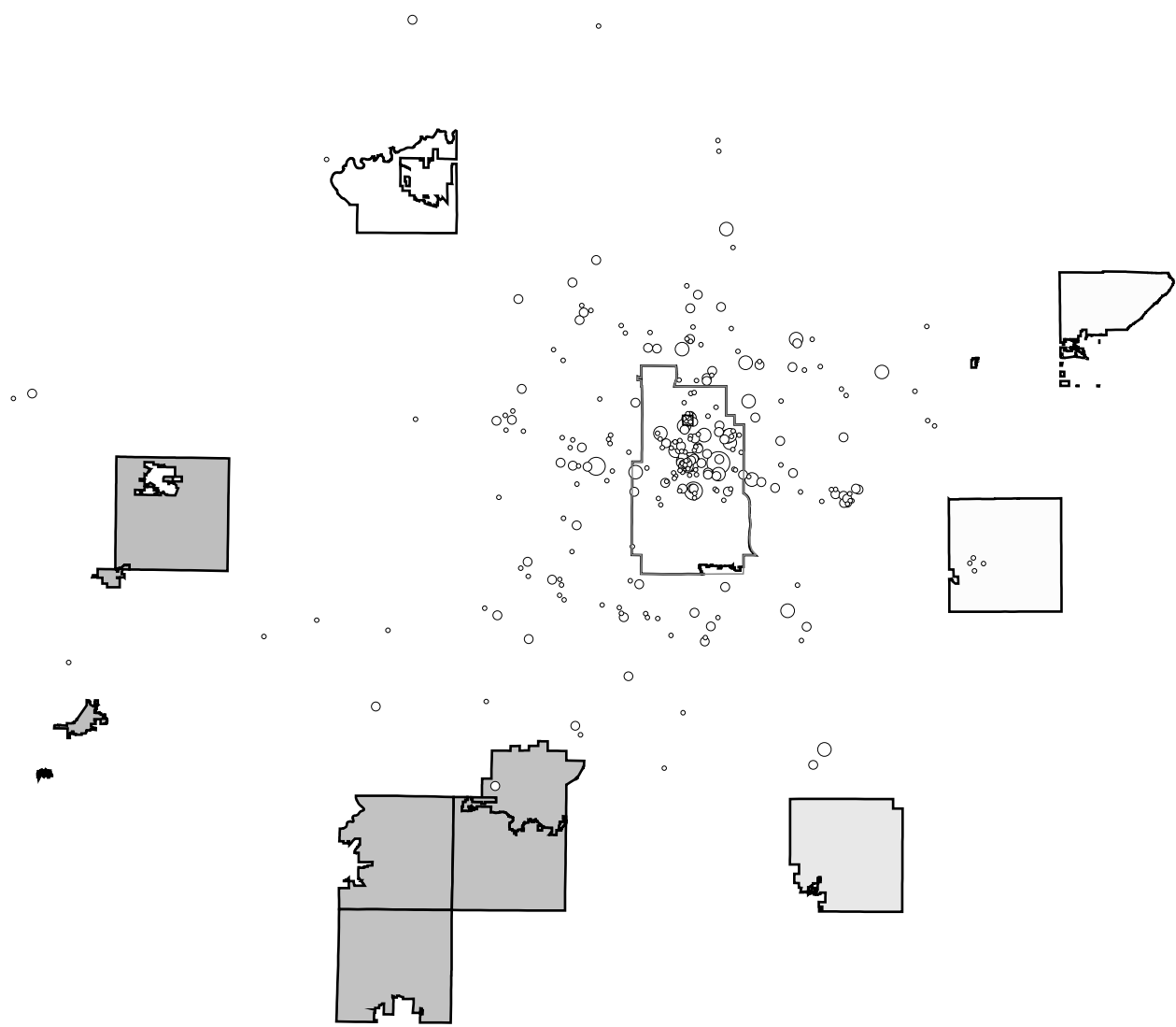
- Owner Occupied
- Renter Occupied
- Water
- Major Road
- Minor Road
- Railroad

Source: City of Minneapolis
 US Census
 Andrea Petersen
 August 2005



Bottineau Neighborhood

Commute Shed - Where Residents go to Work



- Legend**
- Where Bottineau Residents Work**
- Number of Residents**
- 1
 - 2 - 3
 - 4 - 6
 - 7 - 10
 - 11 - 15
- ▭ Bottineau Neighborhood Boundary
- City of Minneapolis Boundary
- County Name**
- Anoka
 - Carver
 - Dakota
 - Hennepin
 - Ramsey
 - Scott
 - Washington

Source: University of Minnesota - CURA
 MetroGIS
 Created by: Andrea Petersen
 August, 2005

