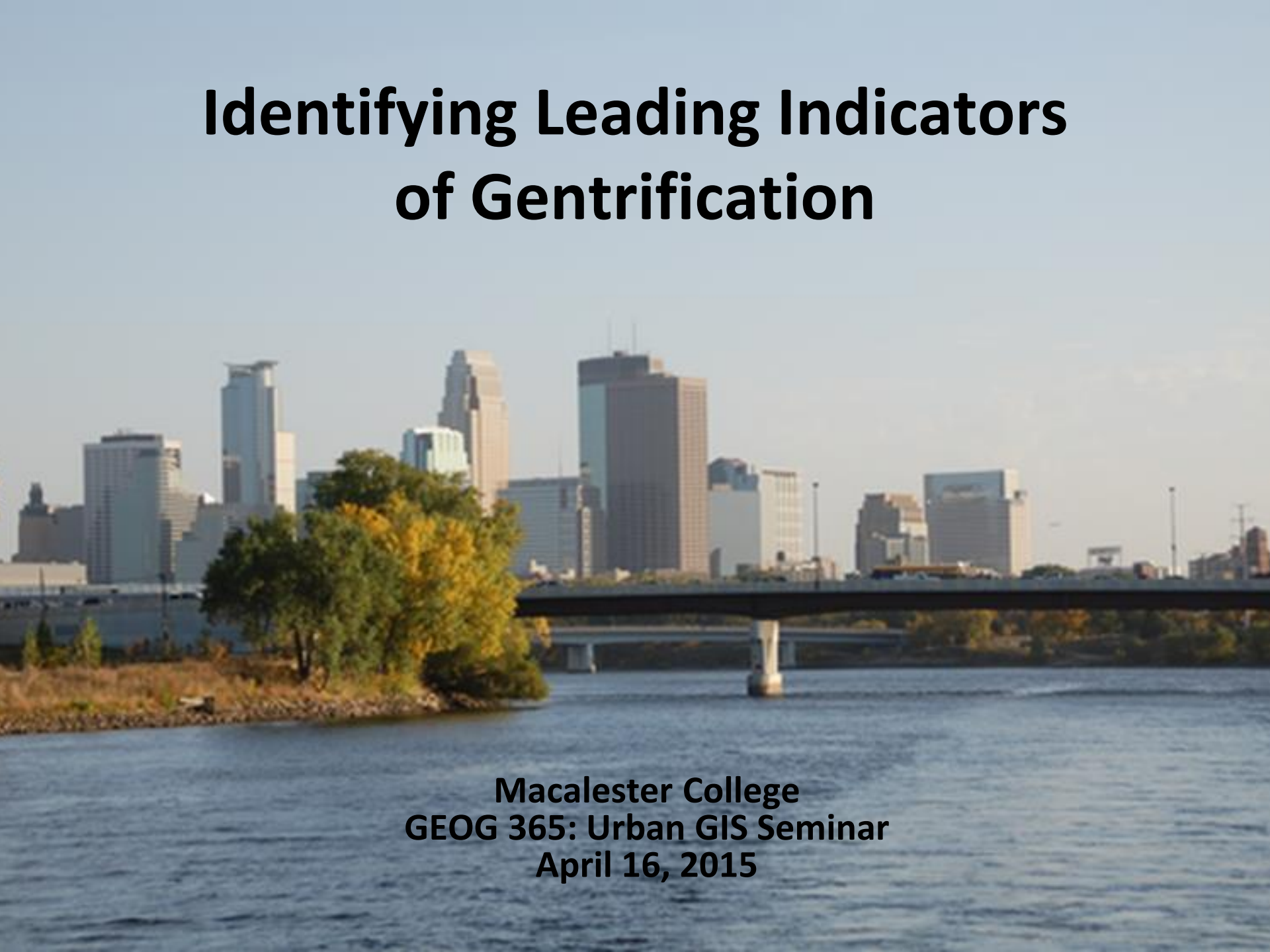


Identifying Leading Indicators of Gentrification

A scenic view of a city skyline across a body of water, with a bridge in the foreground and trees on the left. The skyline features several tall buildings, including a prominent one with a glass facade. The water is blue and calm, and the sky is clear and light blue.

Macalester College
GEOG 365: Urban GIS Seminar
April 16, 2015

Project Goals

- Identify “leading indicators” of gentrification that are:
 - accurate
 - easily measurable
 - replicable
- Where are these indicators present in Minneapolis?
- To what extent are these indicators present within the Harrison neighborhood?

Our Definition of “Gentrification”

- (Disproportionate) neighborhood change in most of the following ways:
 - Increased socioeconomic status
 - Housing affordability
 - Land use change
 - Commercial/retail character
 - Social character

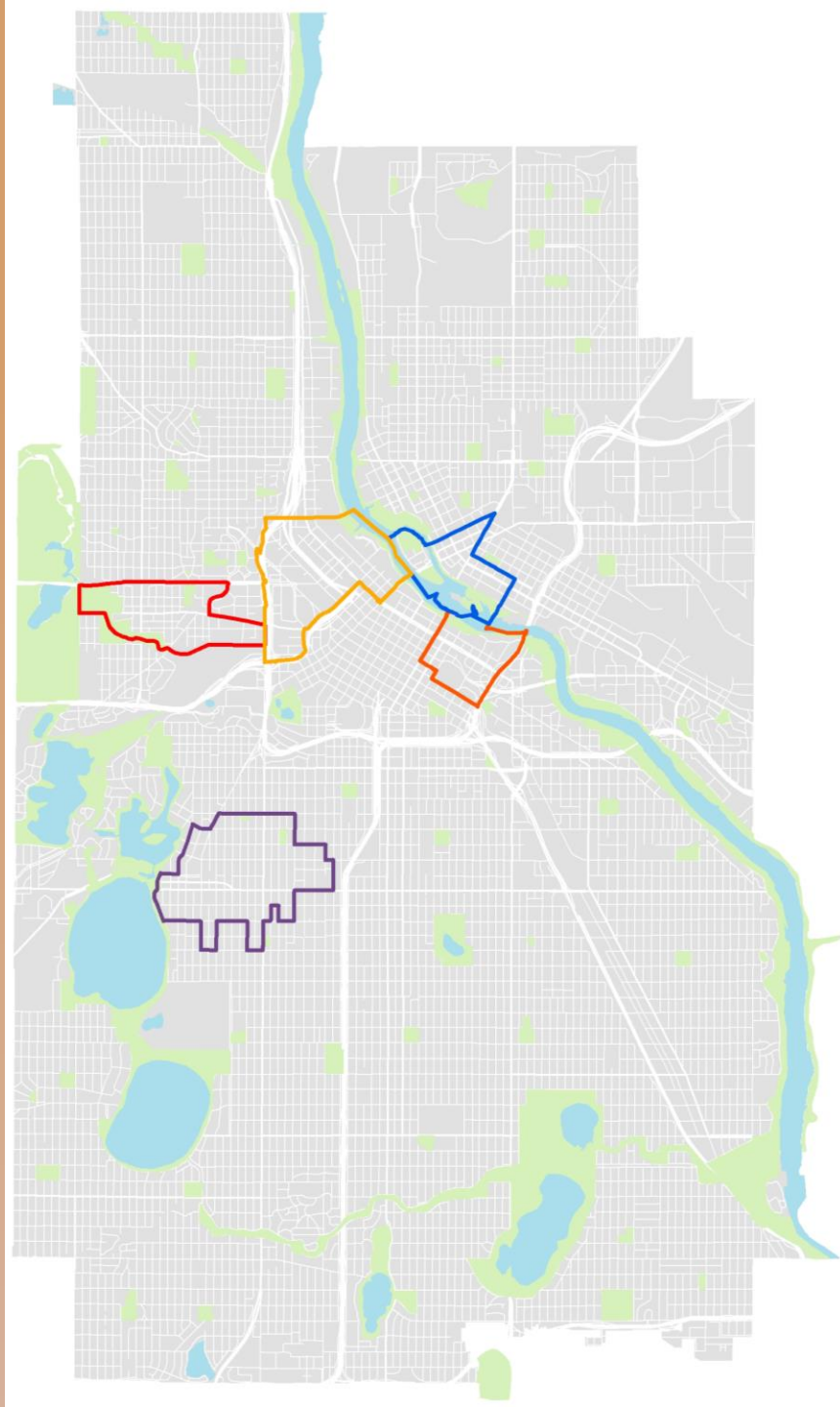
Themes

- Housing
- Population
- Consumption & Employment

Data sources

- Metropolitan Council
- MetroGIS Regional Parcels
- City of Minneapolis
- U.S. Census
- American Community Survey
- ESRI Consumer Expenditure
- Longitudinal Employer-Household Dynamics (LEHD)

Reference Map



Housing

Katie Jurenka, Tyrone Lall, Nathaniel Yackel

Research Questions

- Are changes in housing stock in Minneapolis indicative of gentrification?
- Are there any housing stock variables that consistently reveal patterns in gentrified neighborhoods?

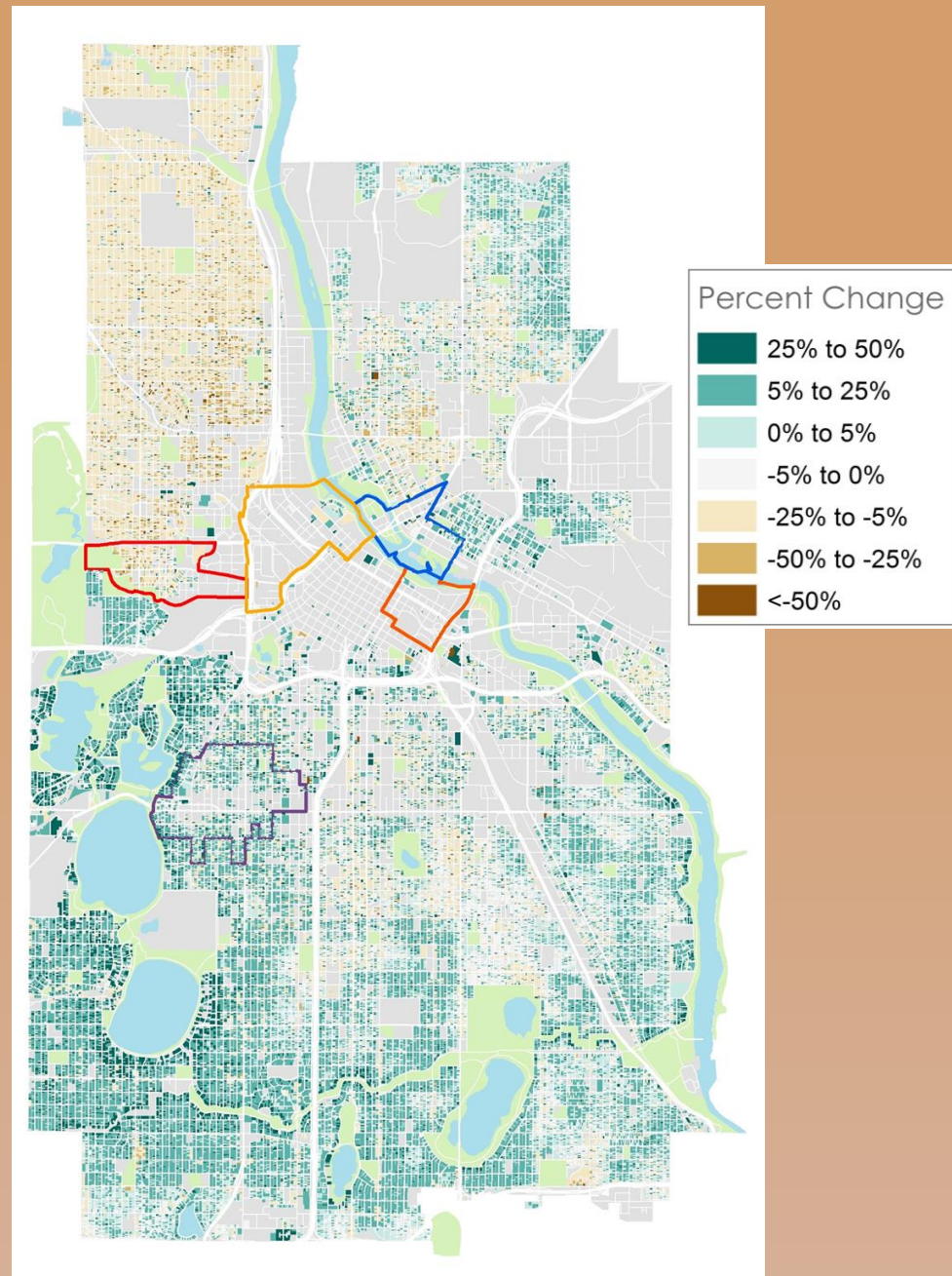
Housing Variables as Potential Indicators of Gentrification

- Studies of gentrification have consistently observed the following in changing neighborhoods:
 - Increased market value and higher spending on mortgage and rent
 - Decreased vacancy
 - Increased owner occupancy
 - Increased reinvestment

Percent Change in Market Value of Residential Parcels 2005 to 2010

Average Percent Change for Selected Neighborhoods:

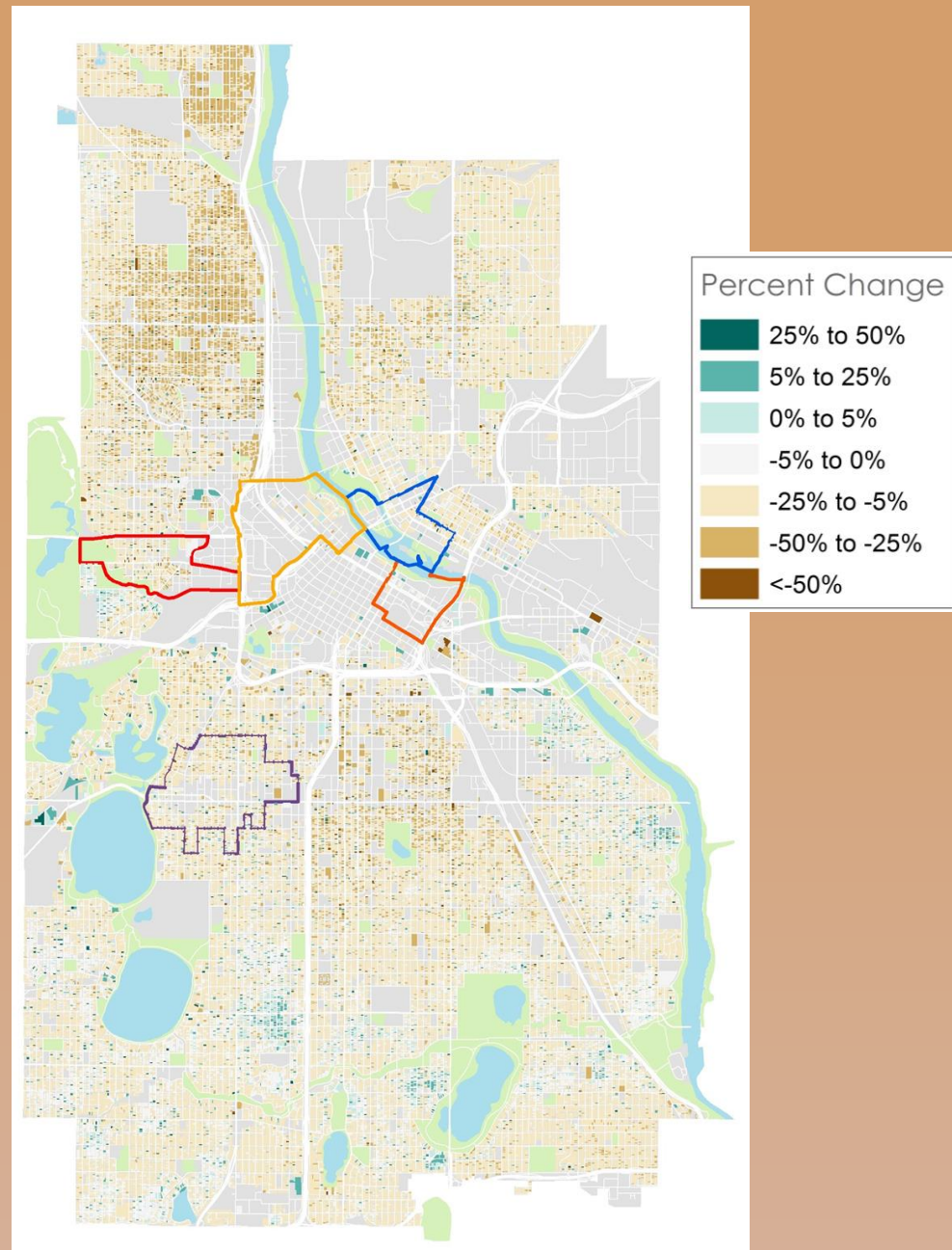
North Loop	16%
Northeast	9%
Downtown East	66%
Uptown	16%
Harrison	-12%
All Block Groups in MPLS	3.8%



Percent Change in Market Value of Residential Parcels 2010 to 2015

Average Percent Change for Selected Neighborhoods:

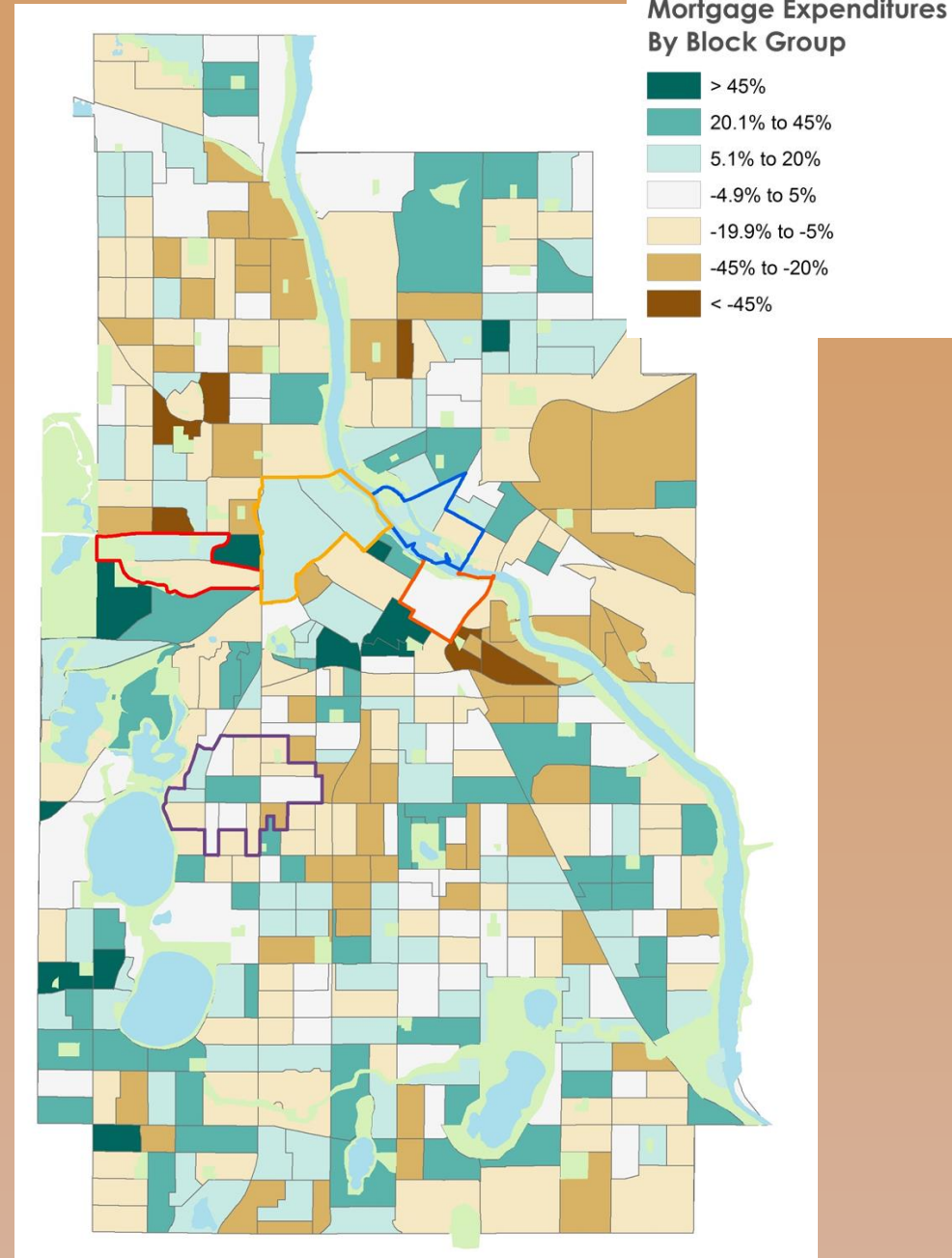
North Loop	-9%
Northeast	-7%
Downtown East	5%
Uptown	-12%
Harrison	-14%
All Block Groups in MPLS	-13%



Percent Change in Average Mortgage Payment Expenditures 2011 to 2014 by Block Group

Average Percent Change for Selected Neighborhoods:

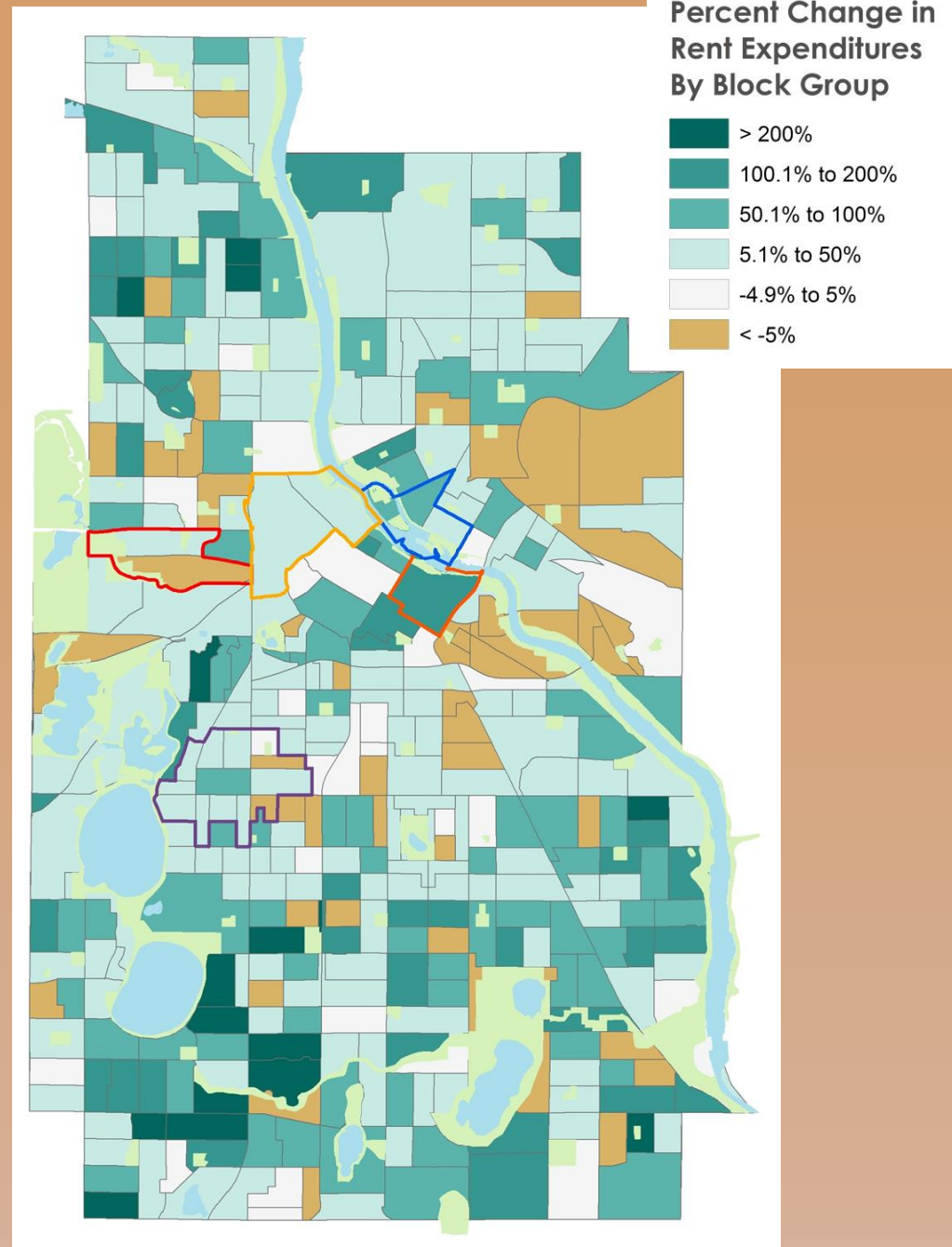
North Loop	11.9%
Northeast	2.9%
Downtown East	2.9%
Uptown	-3.4%
Harrison	-1.1%
All Block Groups in MPLS	0.3%



Percent Change in Average Rent Expenditures 2011 to 2014 by Block Group

Average Percent Change for Selected Neighborhoods:

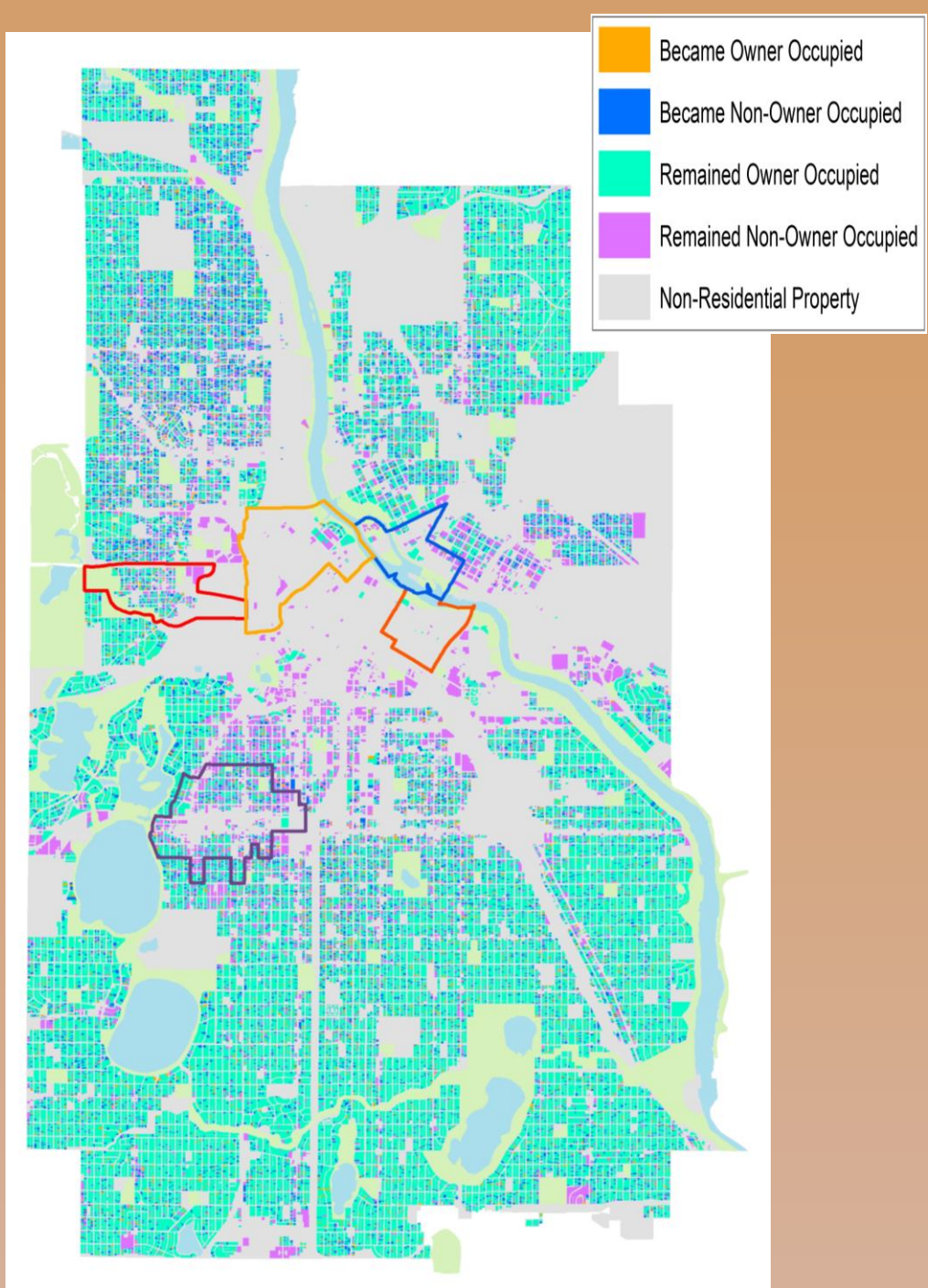
North Loop	44.6%
Northeast	36.3%
Downtown East	126.4%
Uptown	18.2%
Harrison	-3.9%
All Block Groups in MPLS	51.2%



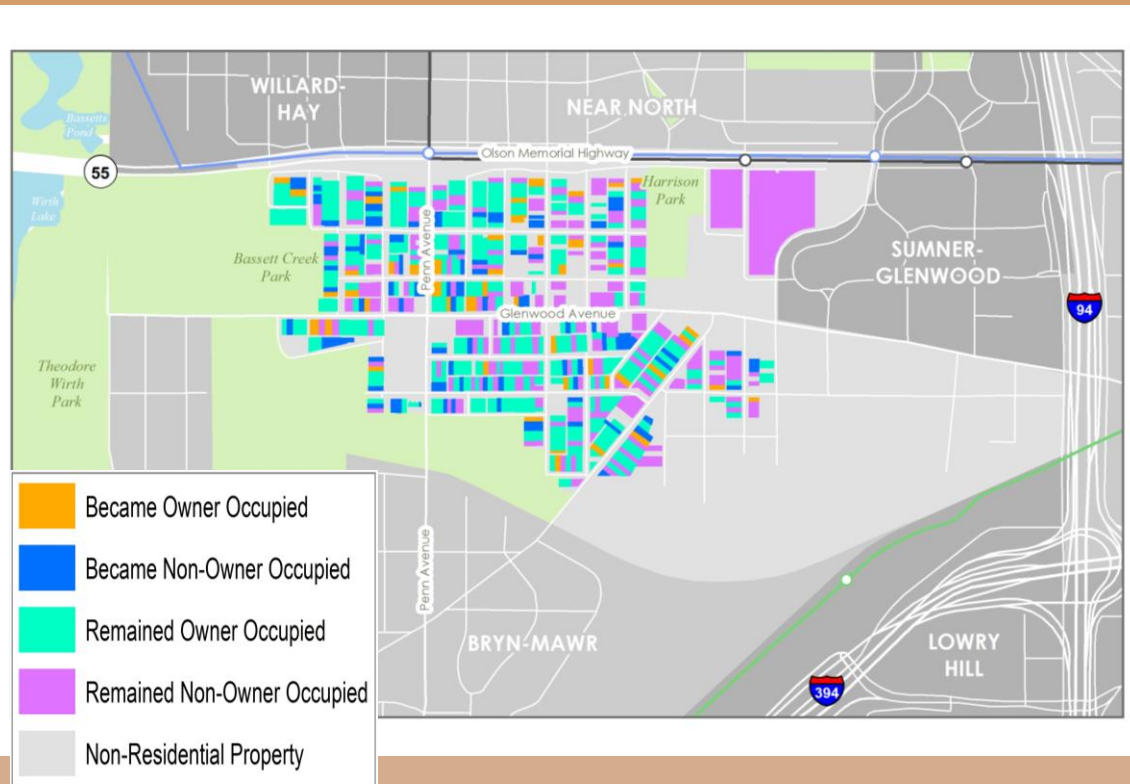
Change in Owner Occupancy 2005 to 2015 by Parcel

- Occupancy status is determined by examining whether or not a residence is homesteaded

Occupancy Category	Total Number	Percentage of Residences
Became Owner Occupied	12,180	8.38%
Became Non-Owner Occupied	19,648	13.53%
Remained Owner Occupied	94,071	64.78%
Remained Non-Owner Occupied	19,298	13.29%



Change in Owner Occupancy in Harrison Neighborhood 2005 to 2015 by Parcel

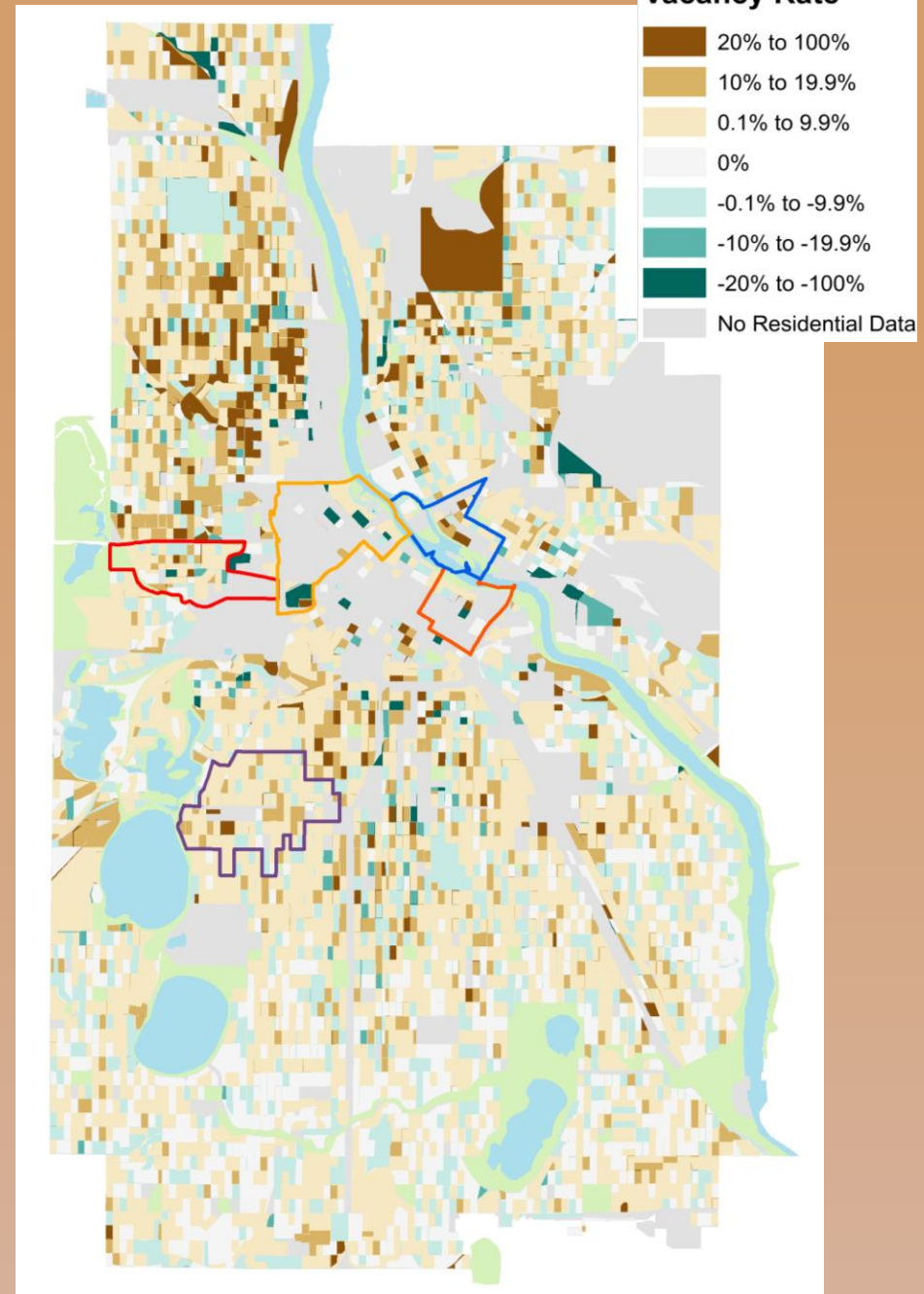


Occupancy Category	Total Number	Percentage of Residences
Became Owner Occupied	48	7.66%
Became Non-Owner Occupied	92	14.69%
Remained Owner Occupied	295	47.12%
Remained Non-Owner Occupied	191	30.51%

Percent Change in Residential Vacancy Rate 2000 to 2010 by Block

- The Census Bureau defines a vacancy as a housing unit which is unoccupied, unless owners are only temporarily absent. Units under construction or deemed unfit for residence are excluded.

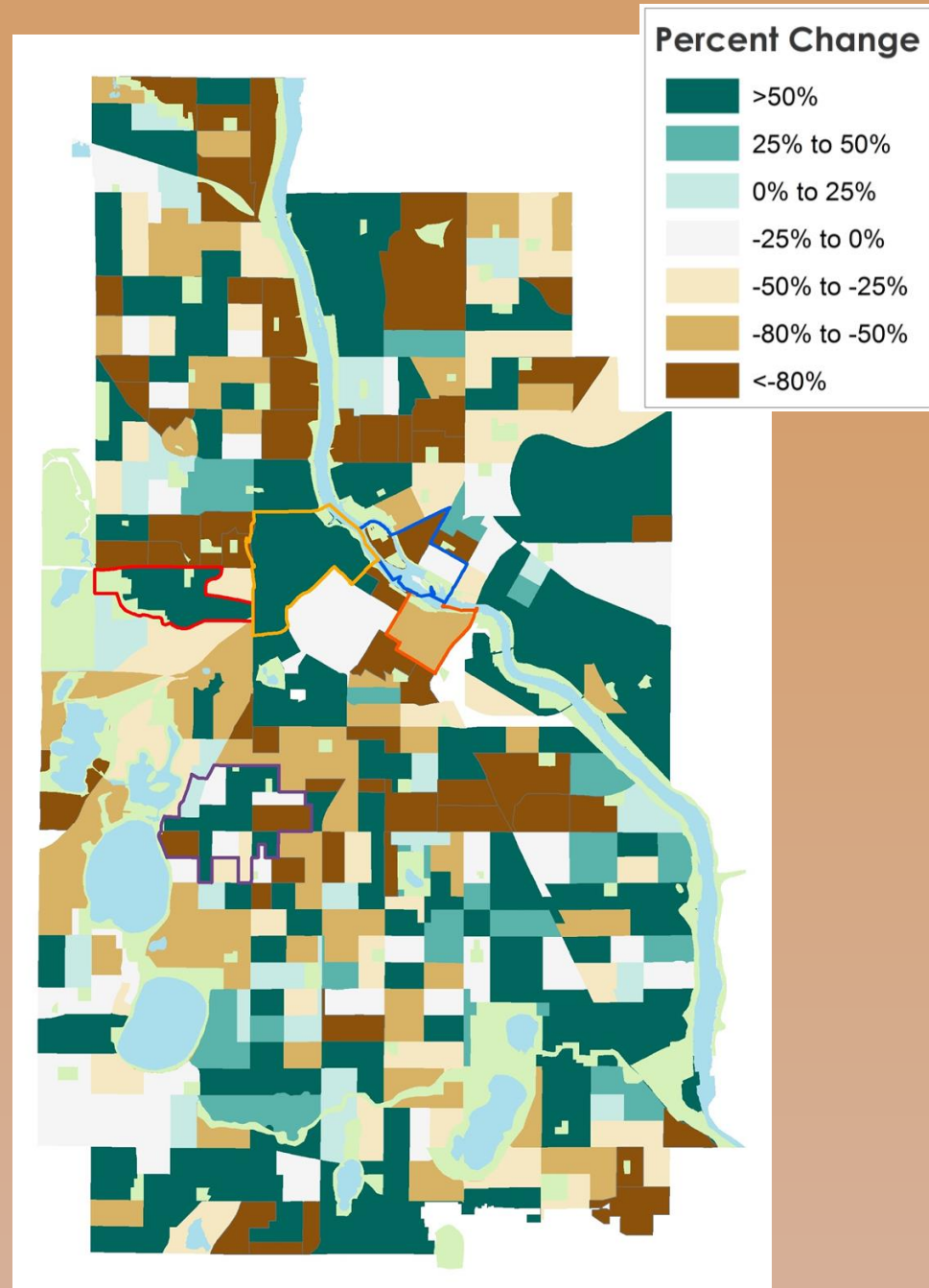
Percent Change	Number of Blocks	Percentage of Sample
20% to 100%	983	4.86%
10.0% to 19.9%	2,773	13.71%
0.01% to 9.9%	8,672	42.88%
0%	3,624	17.92%
-9.9% to -0.1%	3,565	17.63%
-19.9% to -10%	403	1.99%
-100% to -20%	191	0.94%



Percent Change in Total Value of Building Permits 2005 to 2012 by Block Group

- Data are from City of Minneapolis Community Planning and Economic Development.
- Permit types include remodeling, site alteration, and new construction.
- All permits in Harrison classified as 'remodeling'.

North Loop	25%
Northeast	-58%
Downtown East	-74%
Uptown	5%
Harrison	258%
All Block Groups in MPLS	-8%



Interpretations

Change in market value:

- Overall decrease/slower growth in value for North Minneapolis
- Overall EMV experiences a percent change decline in the 2010-2015 period
- Harrison could be viewed as a converging point between the percent change differences for North and South Minneapolis

Interpretations

Change in rent and mortgage expenditures:

- Differences between northern and southern block groups in Harrison
- Mortgage spending increased considerably in Sumner-Glenwood, Bryn-Mawr and Elliot Park neighborhoods
- Rent spending could reveal changes in type of housing stock or a temporal aspect to our perceived gentrified neighborhoods

Interpretations

Change in owner-occupancy:

- Increasing tenure over the last decade in Minneapolis overall
- Harrison neighborhood shows no noticeable trend

Change in vacancy:

- Increased somewhat from 2000 to 2010
- Generally low levels of vacancy overall suggest that there is not a widespread shift toward gentrification in Minneapolis as a whole

Change in permit costs:

- No clear pattern emerges for building permit data amongst gentrifying neighborhoods
- Harrison does show a positive percent change (very different from Willard-Hay and Near North)

Population/Demographics

Milo Shapey, Spencer Nelson, Margaret Mulligan

Research Questions

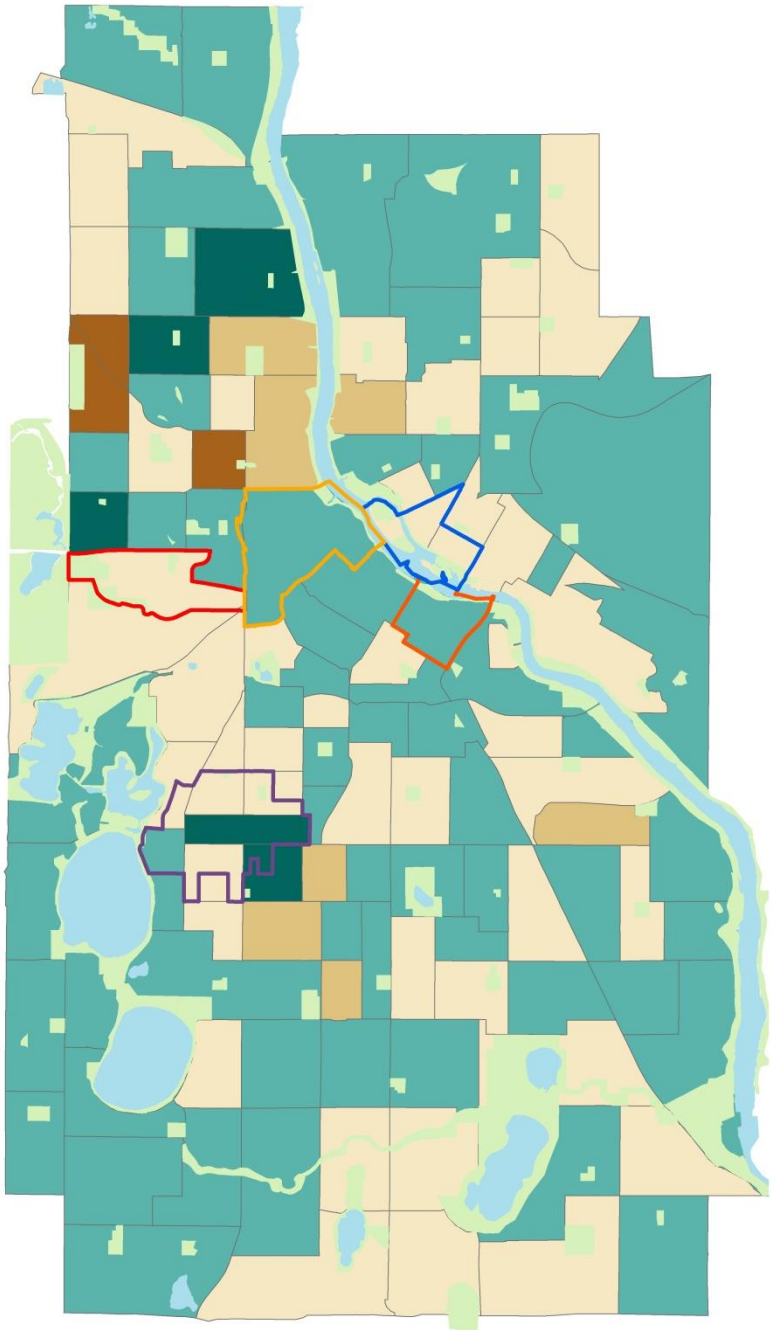
- Who lives in Harrison?
- What are the demographics of the population living in the Harrison Neighborhood and how do they compare with surrounding/other neighborhoods in Minneapolis?

Variables

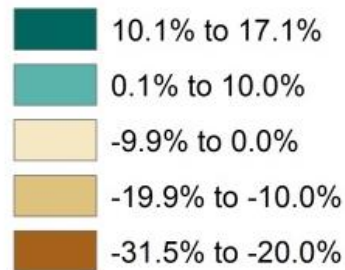
- Poverty
- Median Income
- Family Households
- ESRI Tapestry Data

Percent Change in Population in Poverty 2010 to 2013 by Census Tract

- There was about a 1% decrease in the percentage of population in poverty in Harrison, from 41.6% in 2010 to 40.7% in 2013.

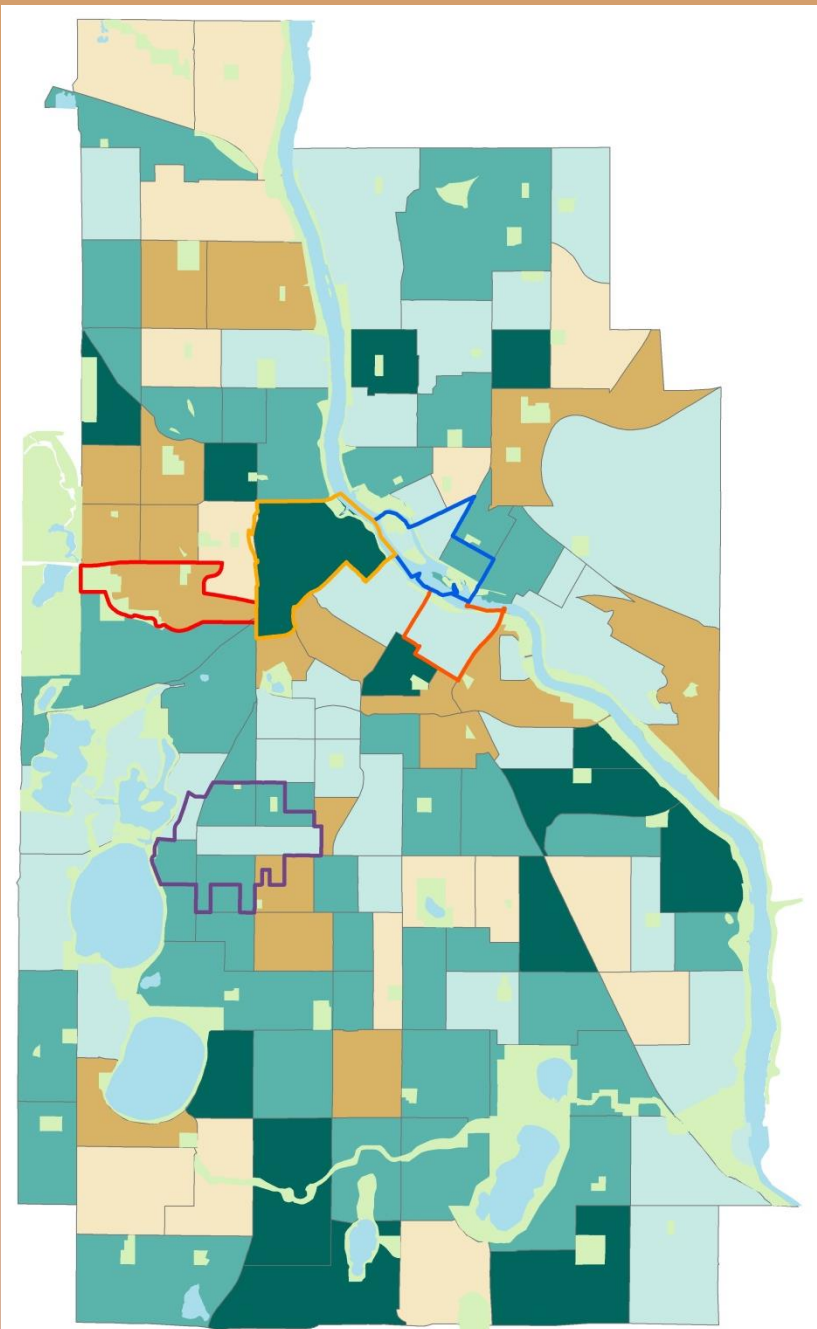


Percent Change

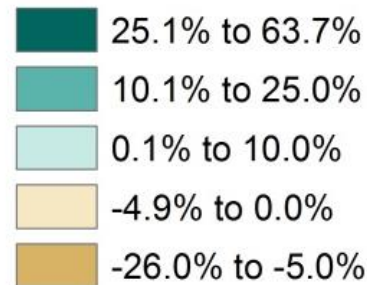


Percent Change In Median Household Income 2010 to 2013 by Census Tract

- Harrison's median income level decreased by 21% between 2010 and 2013 from \$35,054 to \$27,698. Hennepin County saw an increase of about 5% while the Twin Cities as a whole increased about 2%.

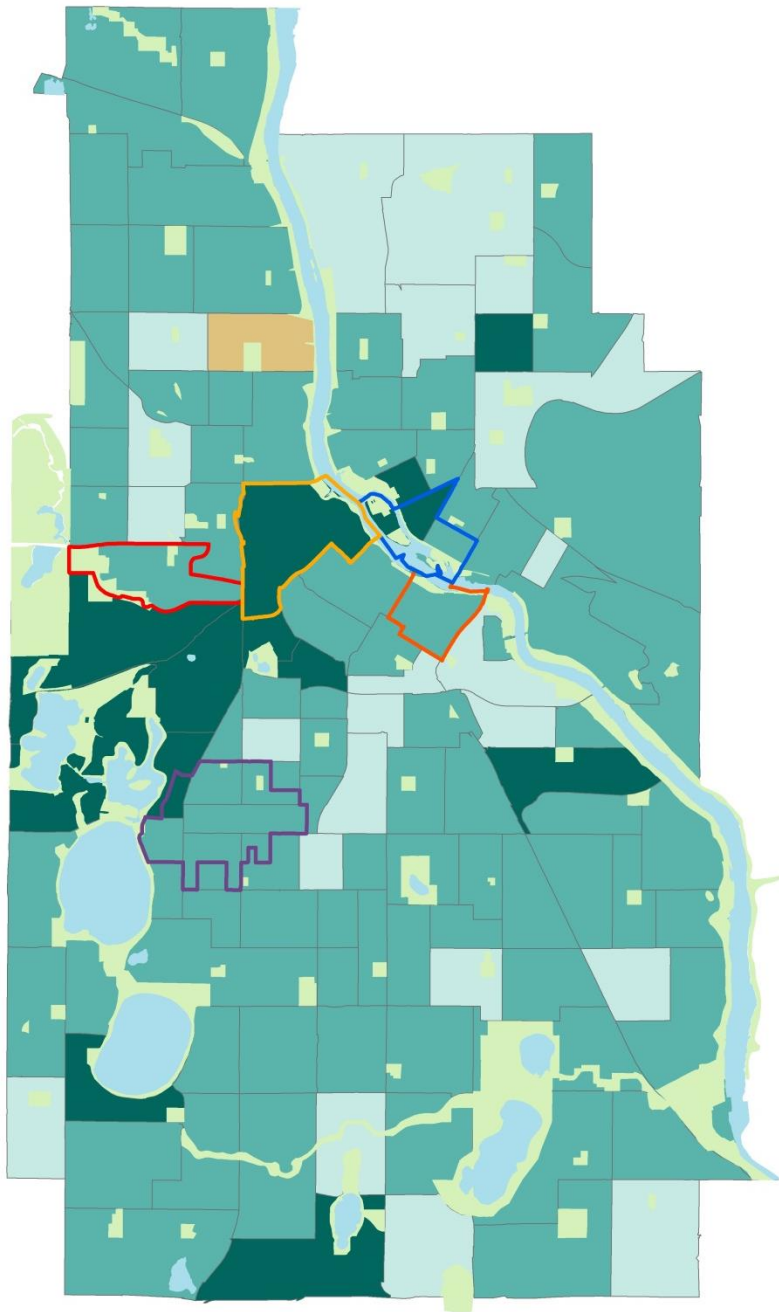


Percent Change in Median Income

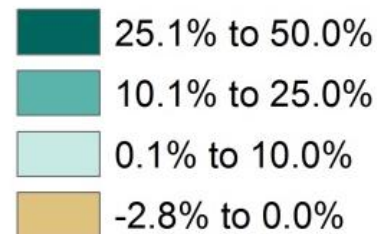


Projected Percent Change in Household Median Income 2014 to 2019 by Census Tract

- Harrison's median income is projected to increase by 17% between 2014 and 2019.

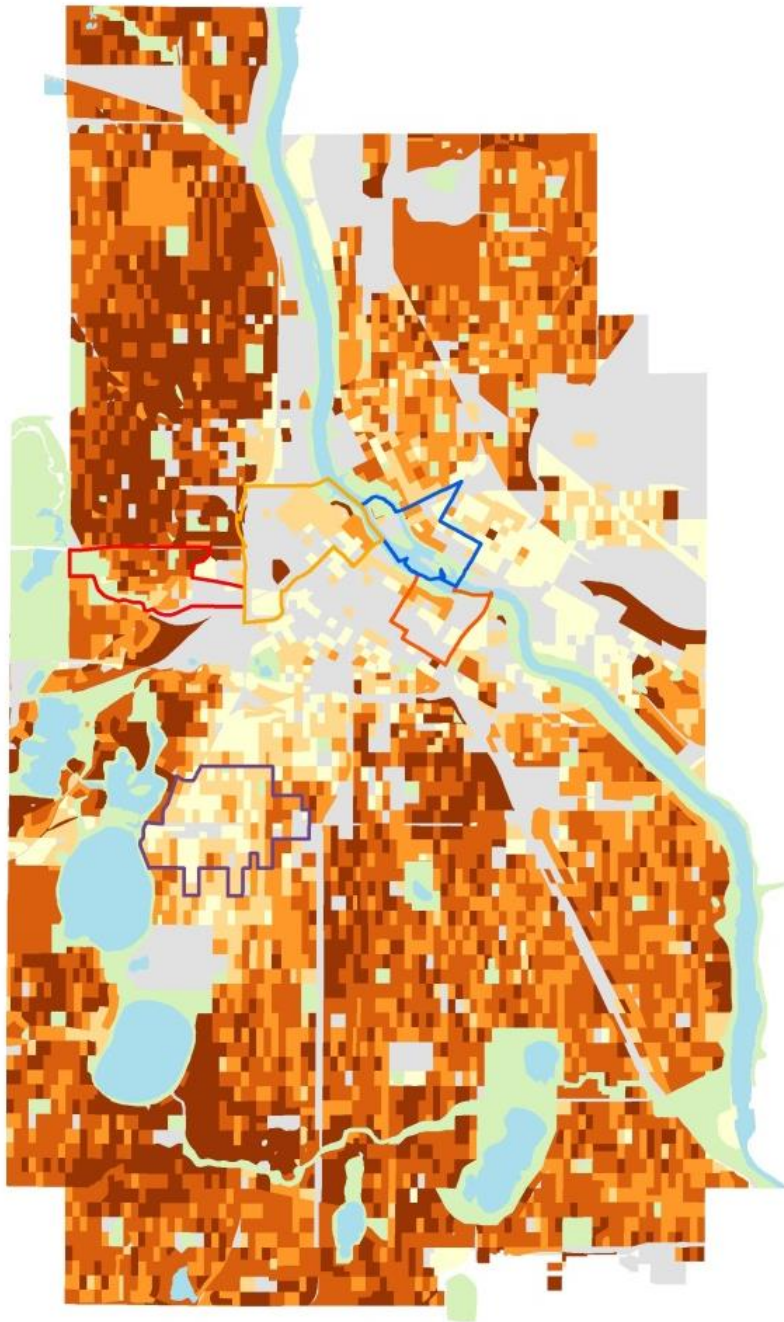


Percent Change in Median Income



Family Households as a Percent of Total Households 2010 by Block

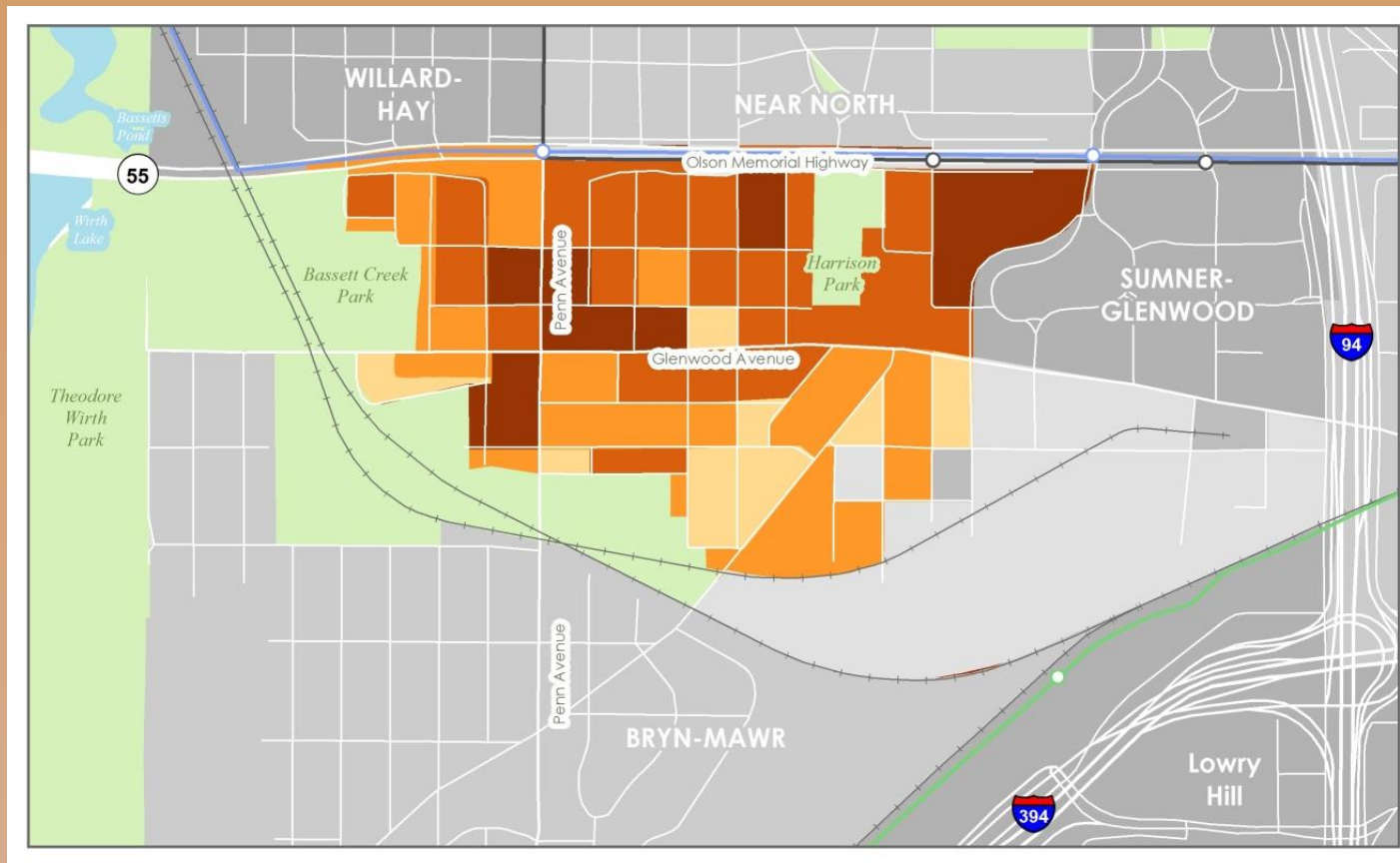
- Minneapolis: **68.66%**
- Uptown: **36.21%**
- North Loop: **31.53%**
- Northeast RF: **36.49%**
- Downtown East: **33.56%**
- Harrison: **65.88%**



Percent per block, 2010

- **> 85.01%**
- **70.01% to 85%**
- **50.01% to 70%**
- **25.01% to 50%**
- **< 25%**
- **No Data**

Family Households as a Percent of Total Households in Harrison Neighborhood, 2010 by Block

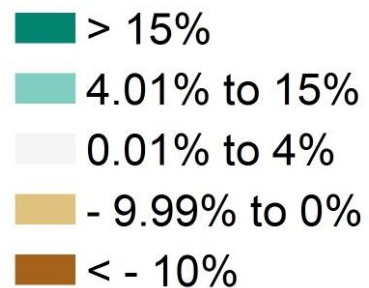


- 50 residential blocks
- Mean of 65.88%, 2.78% less than Minneapolis
- Range for gentrified neighborhoods is 4.68%, while Harrison is 29.67% greater than Uptown

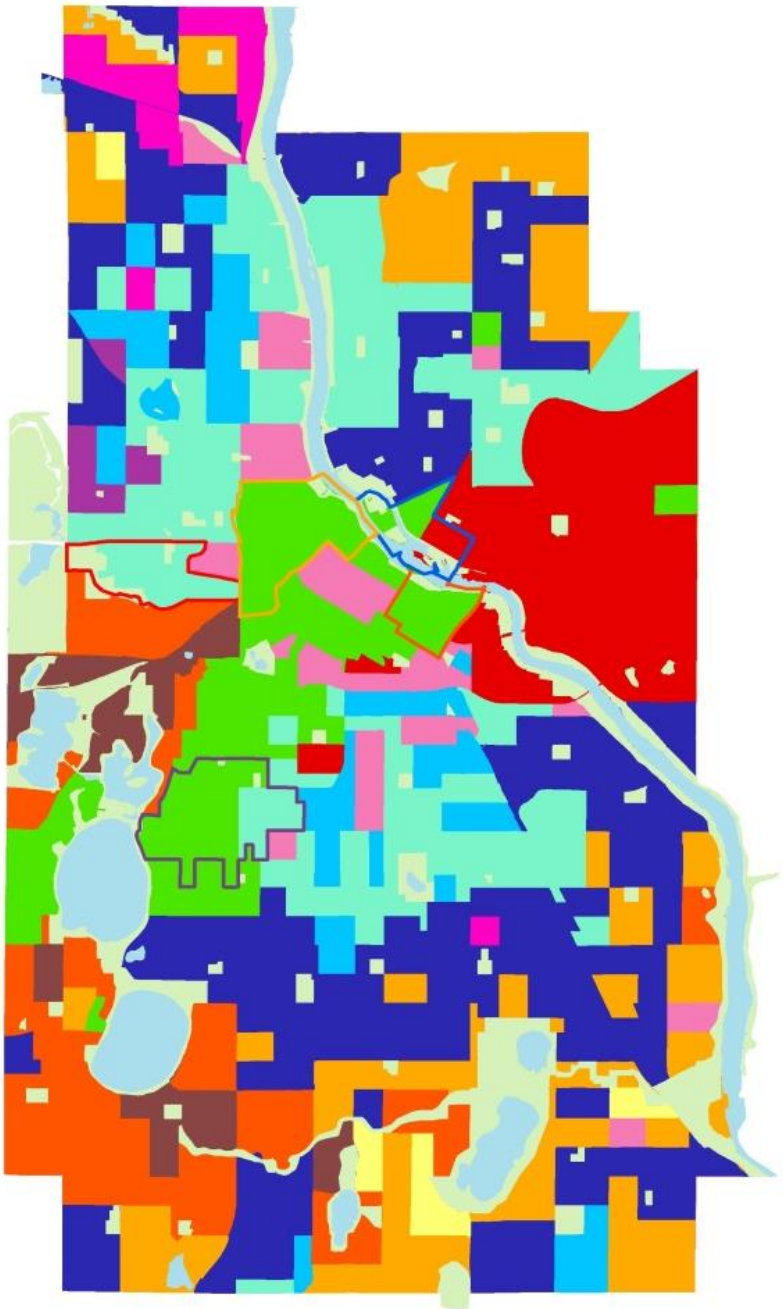
Percent Change in Family Households 2010 to 2013 by Block Group

- Minneapolis: **0.73%**
- Uptown: **0.04%**
- North Loop: **8.06%**
- Northeast RF: **5.17%**
- Downtown East: **6.22%**
- Harrison: **0.29%**

Percent change per block group



ESRI Tapestry Life Modes, 2014



Tapestry Life Mode, 2014

-  Affluent Estates
-  Ethnic Enclaves
-  Family Landscapes
-  GenXurban
-  Hometown
-  Middle Ground
-  Midtown Singles
-  Next Wave
-  Scholars and Patriots
-  Senior Styles
-  Upscale Avenues
-  Uptown Individuals

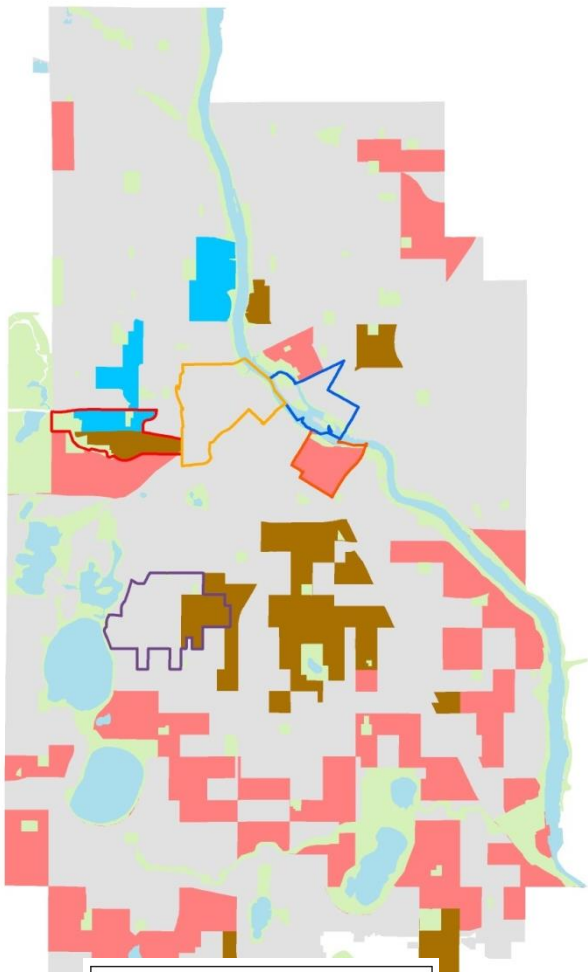
Uptown Individuals

- Young, successful singles
- Highly educated, high participation in labor force, low home ownership and marriage rates
- Green and generous to environmental, cultural and political organizations

Midtown Singles

- Single, diverse, urban
- Millennials seeking affordable rent in apartment buildings
- Work in service close to home or use public transit

ESRI Tapestry Segmentations, 2011



Tapestry Segmentation, 2011

- City Commons
- Inner City Tenants
- Metropolitans
- Other Segmentations

City Commons

- Single-parent households
- Low median age, college attendance and household income
- 81% Black
- High housing turnover

Inner City Tenants

- Low median age, household income and owner-occupancy
- High housing turnover
- Increasing educational status

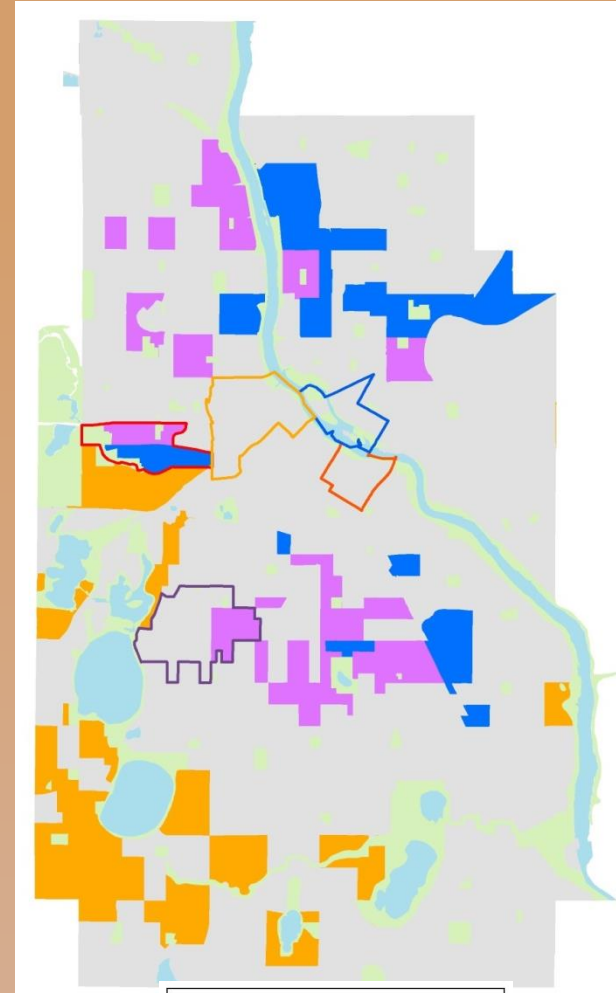
Metro Fusion

- Over 75% renters
- Single-parent homes
- Diverse in race and nationality
- Low median income

Set to Impress

- Over 75% renters
- Over 40% single-person households
- Higher unemployment

ESRI Tapestry Segmentations, 2014



Tapestry Segmentation, 2014

- Metro Fusion
- Set to Impress
- Urban Chic
- Other Segmentations

Group Conclusions

- Change in poverty is small across the board
- Median household income decreases in Harrison but rises in gentrified neighborhoods
- Projected change in income is smaller in growth than most gentrified neighborhoods – all are increasing
- Family household concentration is low in gentrified areas while Harrison is slightly above average; appears gentrified neighborhoods increasing at a faster rate than Harrison
- Tapestry data show most gentrified neighborhoods are comparable; Harrison does not fit into the same classifications

Other Variables: Race, Age, Credit Score, Single-Parent Households, Education

Consumption & Employment

Timothy Gondola, Joseph Huber, Clemens Pilgram

Research Questions

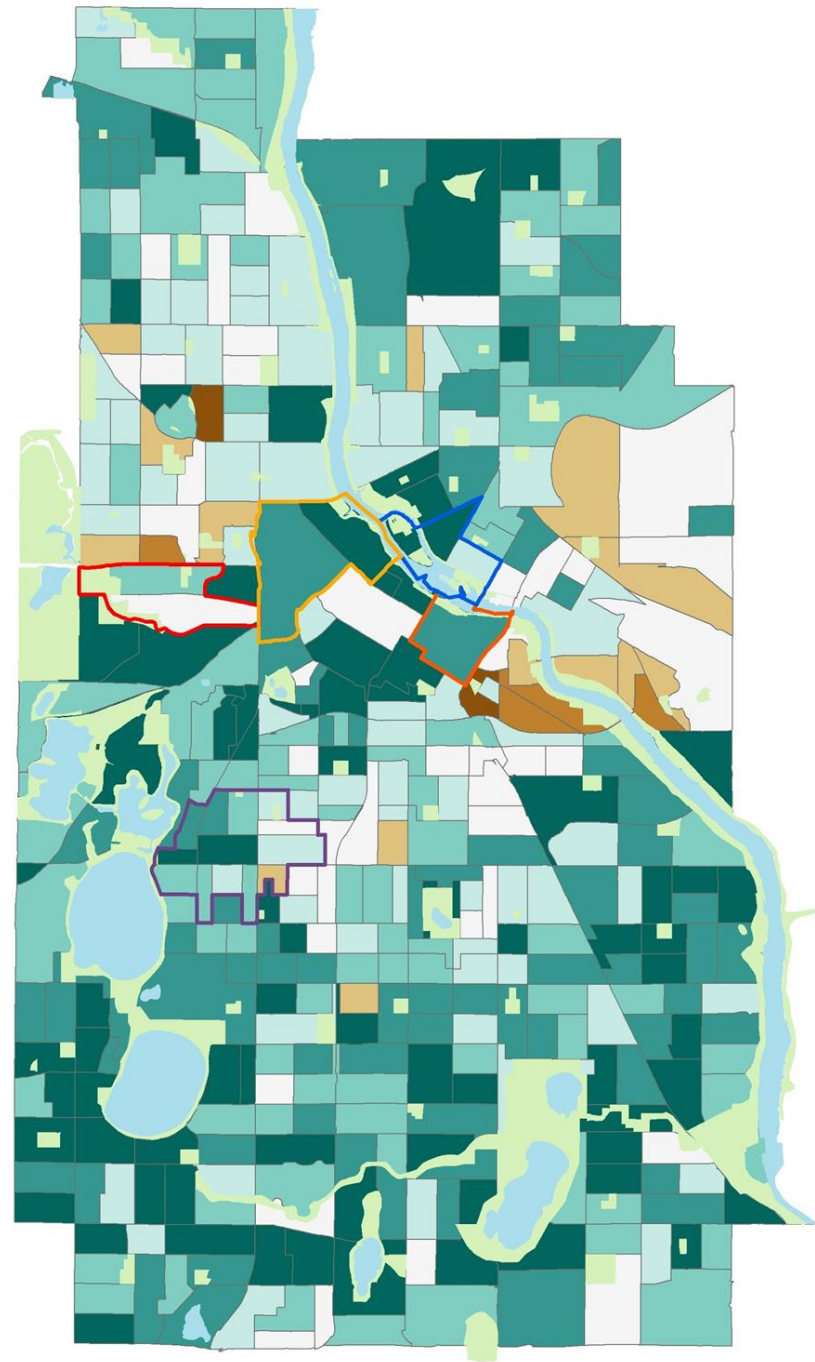
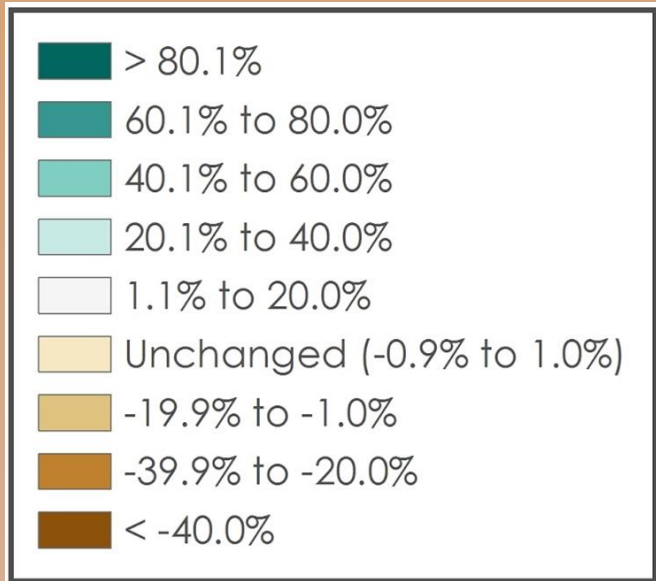
- Do indicators of gentrification exist within changes in consumer expenditures, the local employment structure, and commuting inflows and outflows?
- Do these indicators have a spatial pattern and what does it look like within Minneapolis?
- Where does Harrison stand with regards to these indicators?

Data Sources

- ESRI Consumer Expenditure Data for 2011 and 2014
 - Data compiled by field and diary surveys, scaled to block group level
 - Calculated change between years
- LEHD LODES Workplace Area Characteristics
 - Calculated change between years
- LEHD LODES Origin-Destination Commute Data
 - Reduced to census tract level
 - Calculated change between years

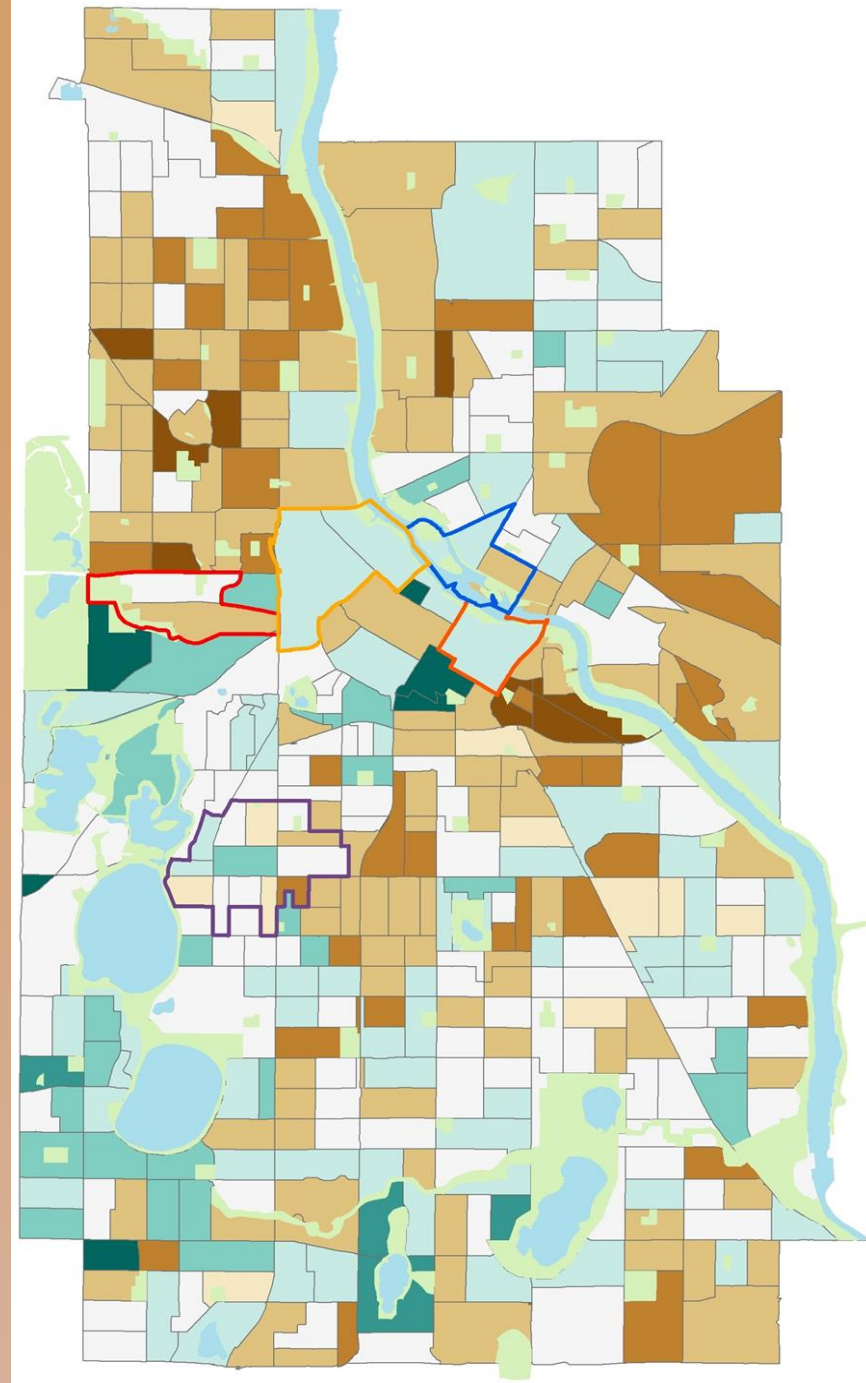
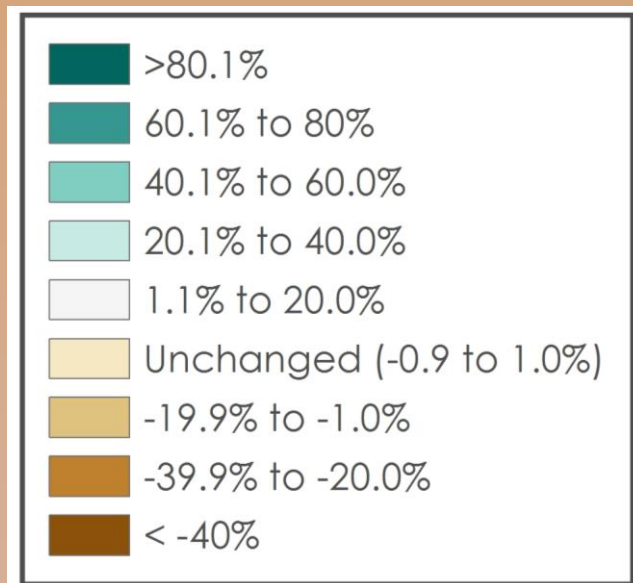
Bicycle Expenditure by Block Group, 2011-2014

- Minneapolis as a whole experienced significant growth, with gentrified neighborhoods experiencing greater growth than Harrison.



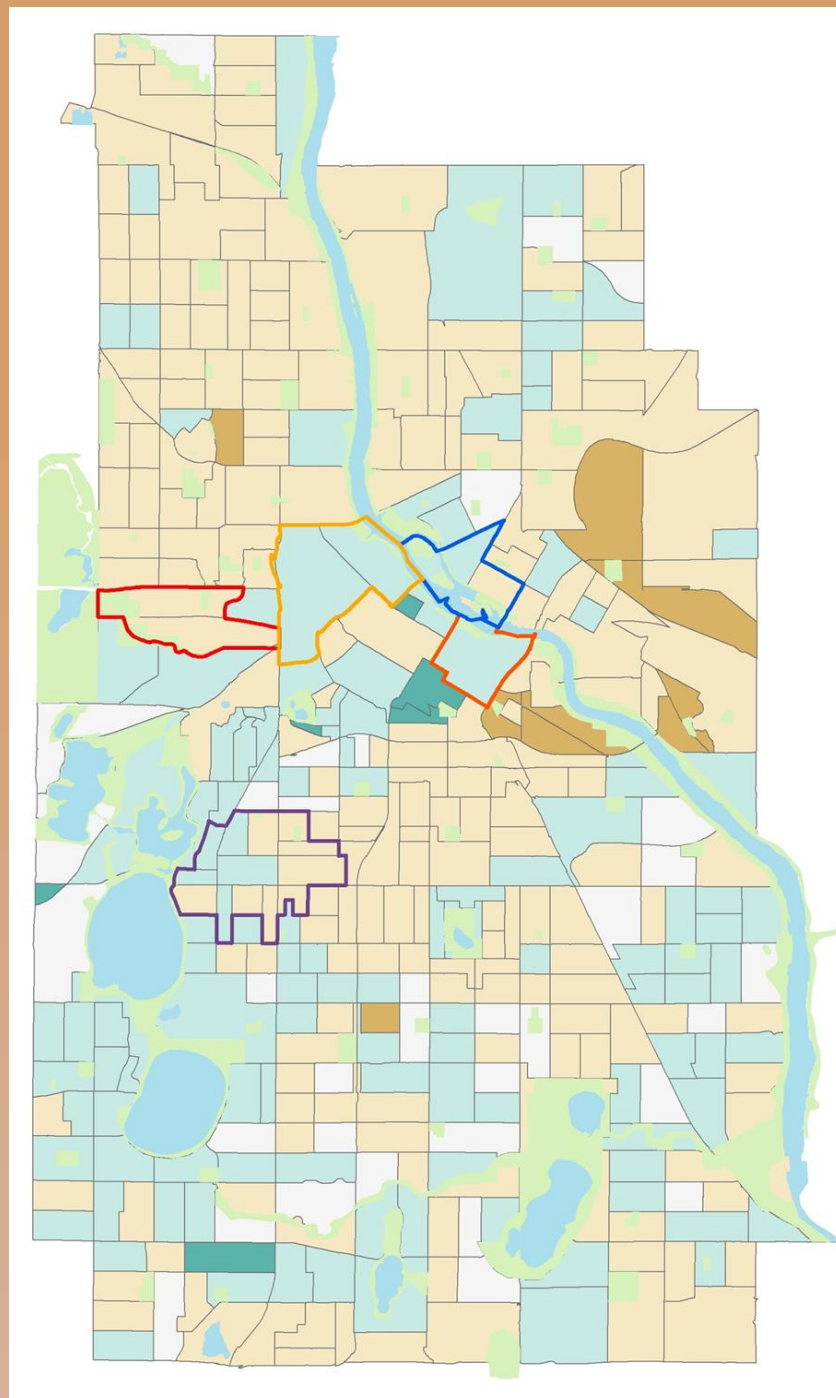
Retirement Contributions by Block Group, 2011-2014

- All gentrified neighborhoods as a whole saw growth in retirement contributions, while Harrison saw a decline.
- Bryn Mawr and Elliot Park experienced the most growth.



Alcohol Away From Home as a Percentage of Total Alcohol Expenditure, by Block Group, 2011-2014

- All gentrified neighborhoods saw an increase in expenditure on alcohol away from home.
- Harrison similar to other North Minneapolis neighborhoods, saw a decline in expenditure.



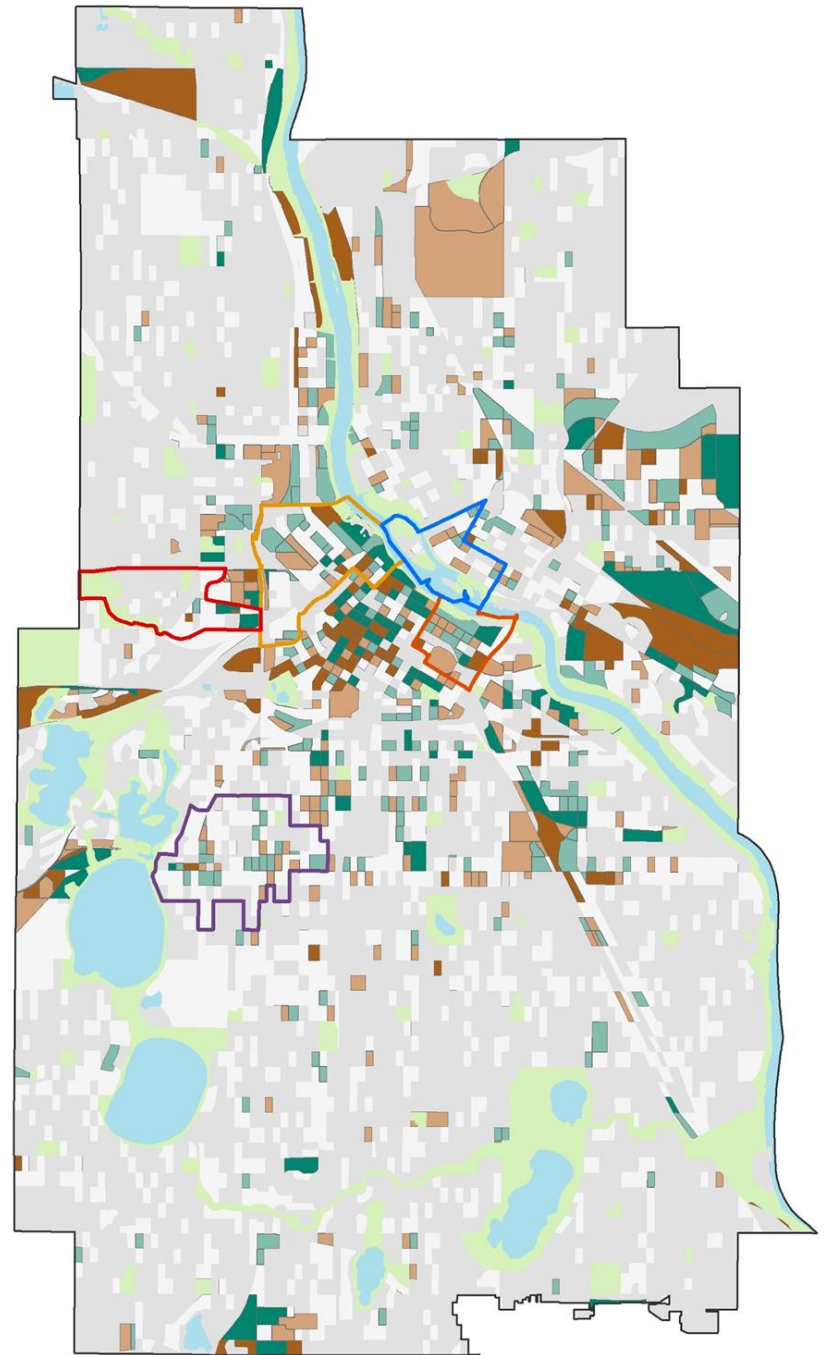
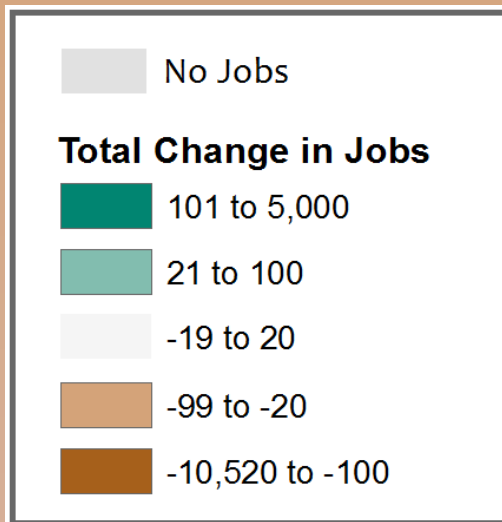
Comparison of Indicator Percentage Changes

	Bicycle	Retirement	Alcohol
Harrison	31.5%	-0.7%	-9.1%
North Loop	79.3%	26.2%	8.2%
DT East	78.9%	25.7%	14.3%
NE/Riverfront	53.1%	12.6%	0.8%
Uptown	46.8%	7.2%	-1.6%
Gentrified Neighborhood Average	64.0%	17.9%	5.4%

The gentrified neighborhood average shows increases amongst all variables. Harrison saw a decline in expenditure on retirement contributions and alcohol away from home. Harrison also experienced about half the growth rate of the gentrified neighborhood average in bicycle expenditure.

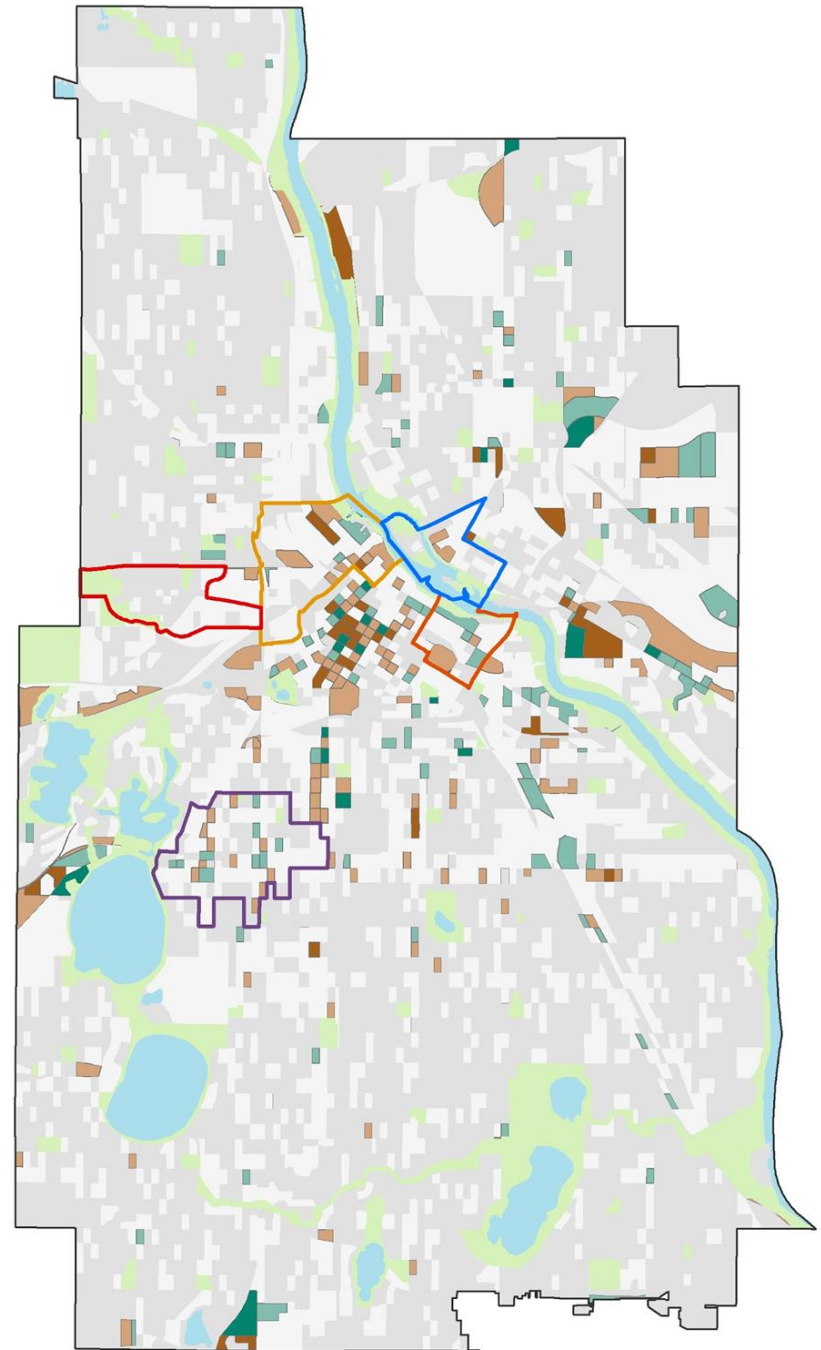
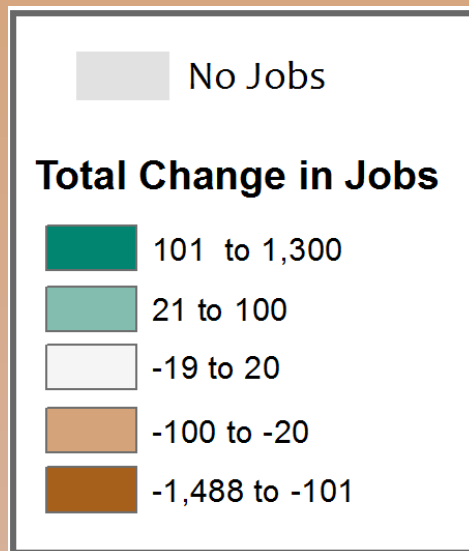
Total Change in All Jobs by Block, 2008-2011

- Most growth in jobs is downtown and in eastern Minneapolis.
- Harrison experienced growth overall.



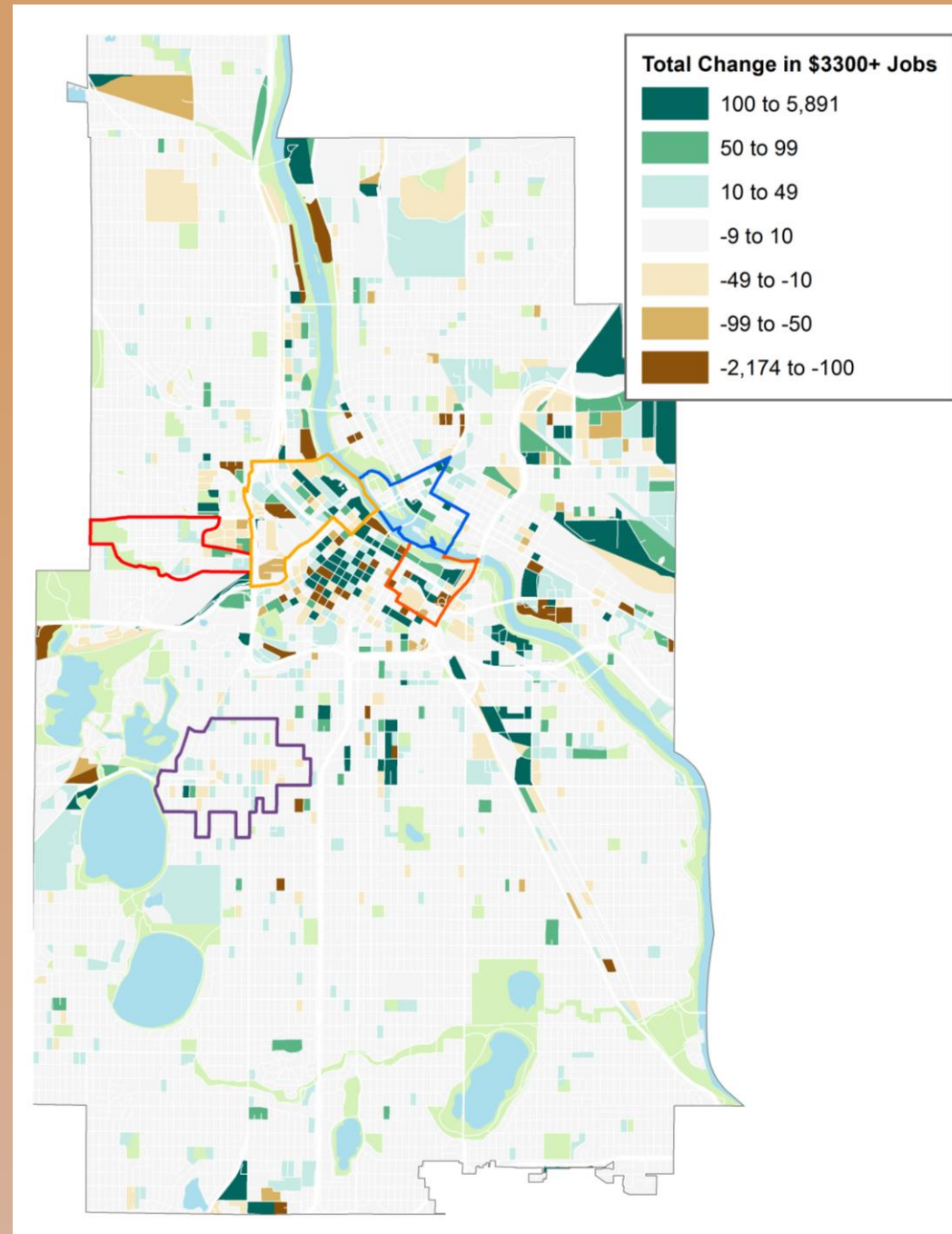
Total Change in Low-Pay Jobs by Block, 2008-2011

- Harrison generally remains constant over time.
- Growth and loss are concentrated in the same regions, including downtown.



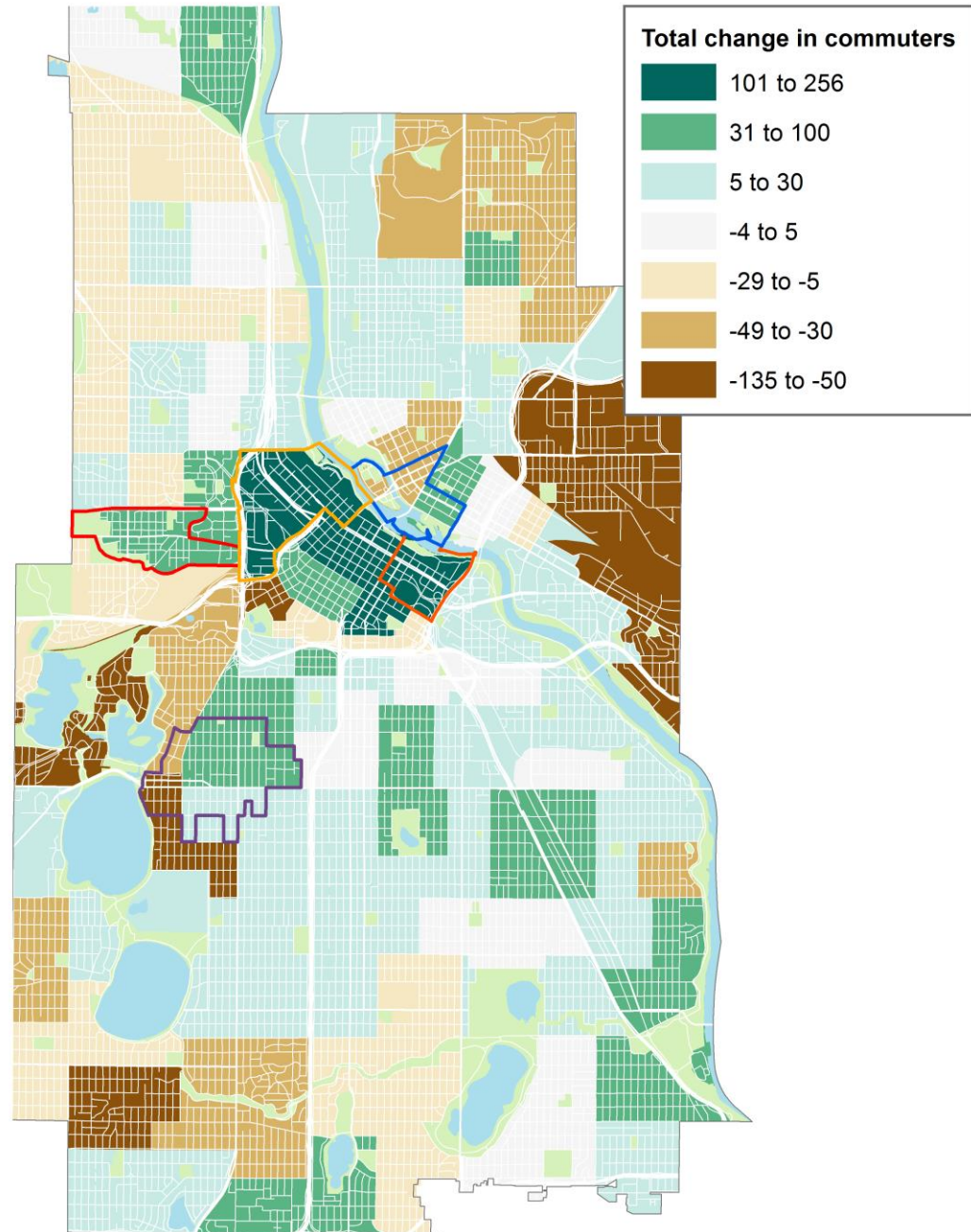
Total Change in High-Pay Jobs by Block, 2002-2011

- We use this map to identify destination areas where we would expect “gentrifier” commute flows to increase.
- The majority of the increase in high-pay jobs occurred in the CBD.



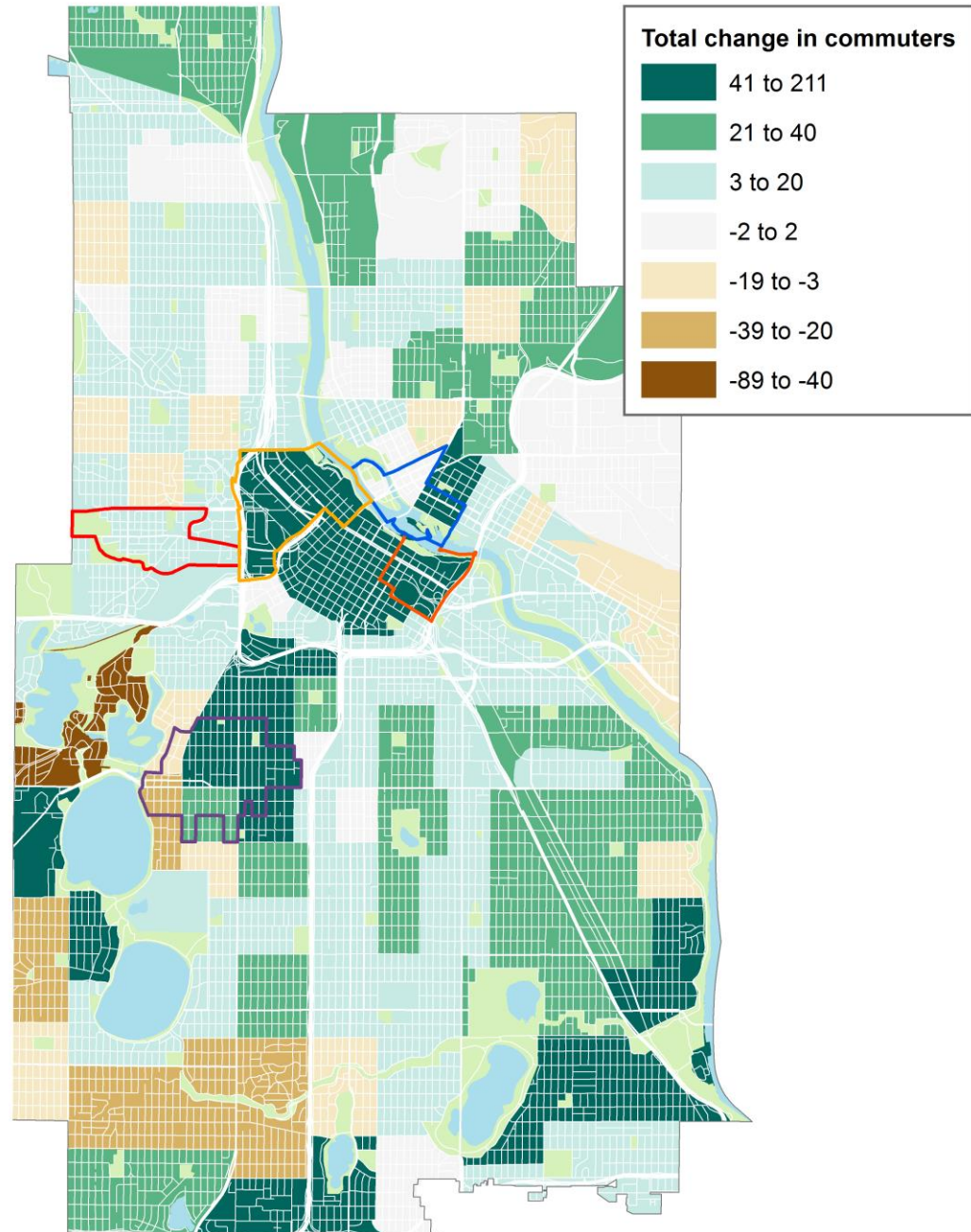
Total Change in Number of Commuters to Downtown (All Income Levels) by Tract, 2002-2011

- An increase in commuters to Downtown is common to all “gentrified” neighborhoods.
- For Harrison: Increase



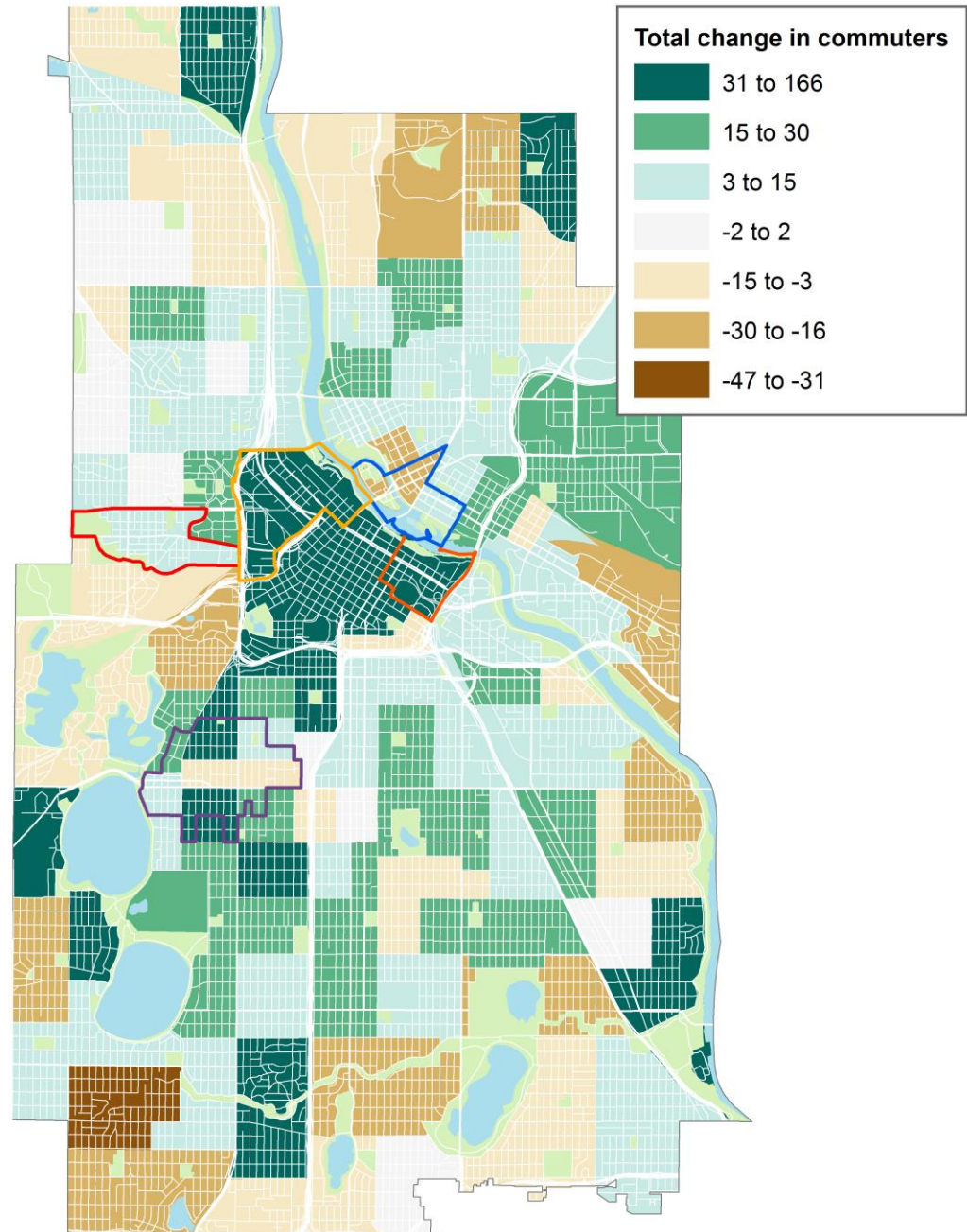
Total Change in Number of Commuters to Downtown (High-Income Only) by Tract, 2002-2011

- An increase in commuters to Downtown is common to all “gentrified” neighborhoods.
- For Harrison: Small increase
- Promising as an indicator



Total Change in Number of Commuters to Downtown (High-Income Only) by Tract, 2005-2008

- To assess this variable as an indicator we look at it at an earlier point in time.
- We confirm high-income commuters as a leading indicator for gentrification.
- Note: Numbers in question are small.



Group Conclusions

- Bicycle Expenditure and Retirement Contributions are indicators of gentrification, with consistent results across gentrified neighborhoods and mixed results in Harrison.
- Minneapolis experienced widespread job growth between 2008 and 2011, with Harrison also experiencing an increase.
- Origin and Destination data showed large increases in high-income individuals commuting to Downtown from gentrified neighborhoods, with Harrison showing little change.

Looking Forward

- Evaluation of “leading indicators”
- Importance of holistic approach
- Value to neighborhoods

Acknowledgments

- Shauen Pearce and the Harrison Neighborhood Association
- Jacob Wascalus and the Community Development Department, Federal Reserve Bank of Minneapolis
- Macalester College Civic Engagement Center