Minneapolis Riverfront Vitality Indicator Project

MACALESTER COLLEGE

FEDERAL RESERVE BANK OF MINNEAPOLIS • NINTH DISTRICT •

minneapolis RIVERFRONT partnership

Macalester College
GEOG 365: Urban GIS Seminar
April 30, 2013

Project Context

- Establishing a baseline for observing how the Minneapolis Riverfront is shaping vitality of the riverfront and the region as a whole

- Macalester’s contribution focused on economic and social development indicators

Indicator Methodology

- Indicators grouped into four primary sectors:
  - Employment/Investment
  - Commercial
  - Residential
  - Accessibility

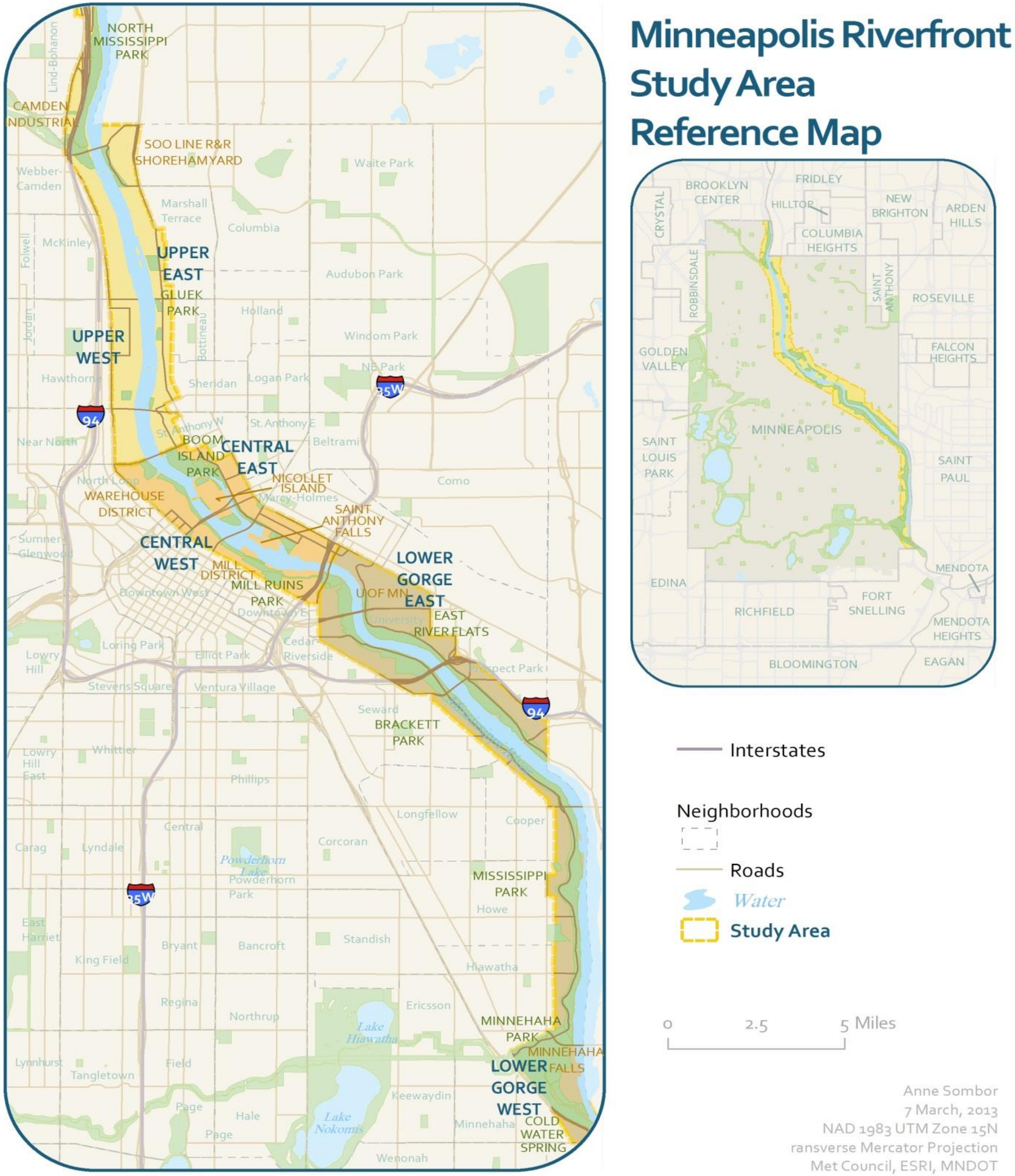
- Groups devised research questions and plans in order to map and visualize relevant data

Goals/Research Questions

- What variables are useful in producing a baseline study of the Minneapolis Riverfront?
- What variables can be used to indicate vitality?
- How do we create a comprehensive report that the community can participate in and use to further vitality?

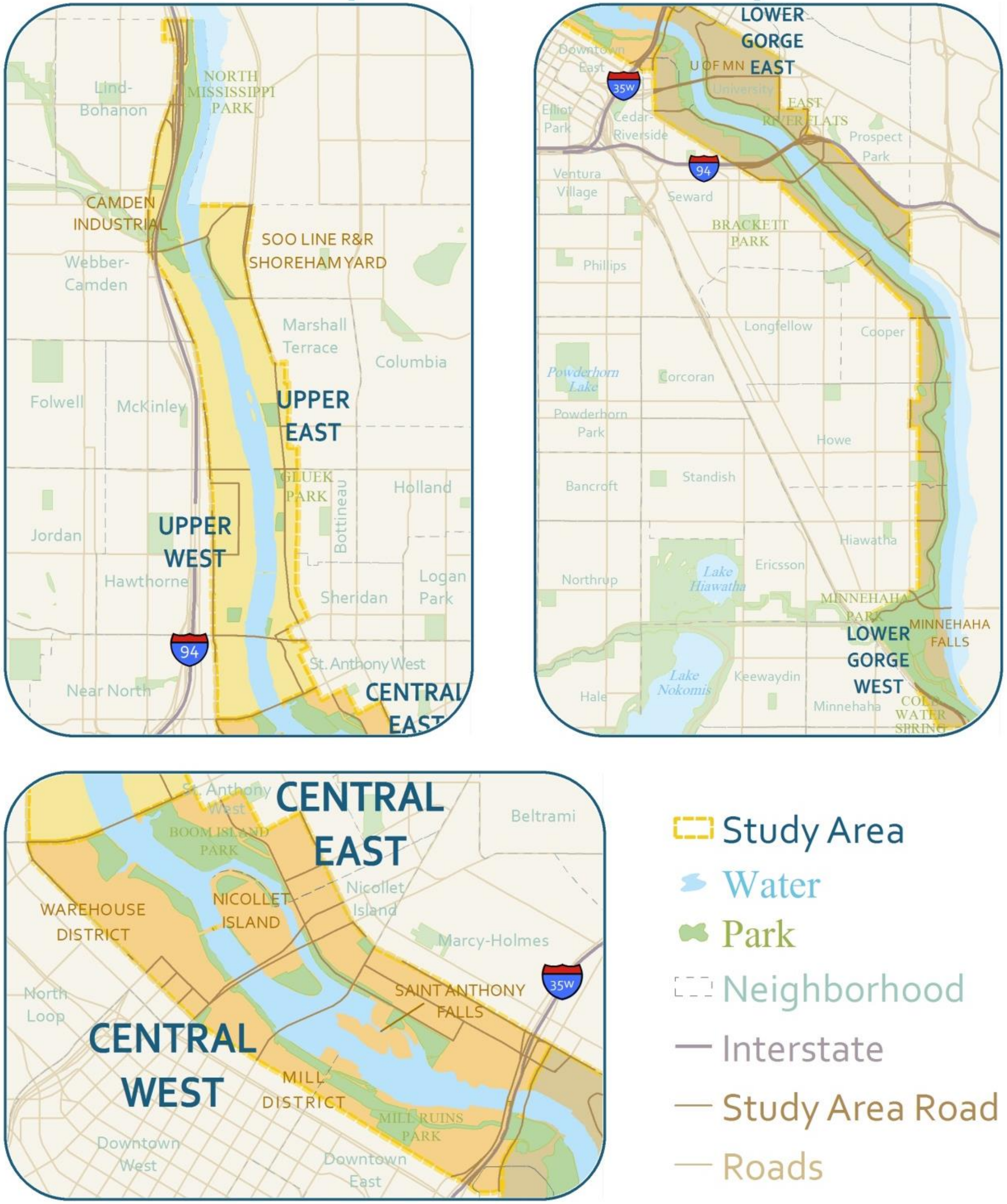
Data Sources

- Minneapolis Riverfront Partnership
- MetroGIS
- Longitudinal Employment-Household Dynamics (Census 2010)
- ESRI (Environmental Systems Research Institute)
- Metropolitan Council
- Dun & Bradstreet Million Dollar Database
- City of Minneapolis Parks & Recreation
- Walk Score
- Minneapolis Public Works



- The critical study area is divided into three sections: Upper River, Central River and Lower Gorge.
- The boundaries were established by the Minneapolis Riverfront Partnership.

Minneapolis Riverfront Study Area



Presentation Outline

- Investment/Employment
  - Land use and demand
- Commercial
  - Business categories and ownership
- Residential
  - Health and diversity of housing market
- Accessibility
  - Level of ease and transportation options

Investment and Employment

Themayorblog.com

Carey Hert, Jesse Horwitz,
Harry Kent, Renata Nelson

Investment and Employment

Investment as an indicator of development

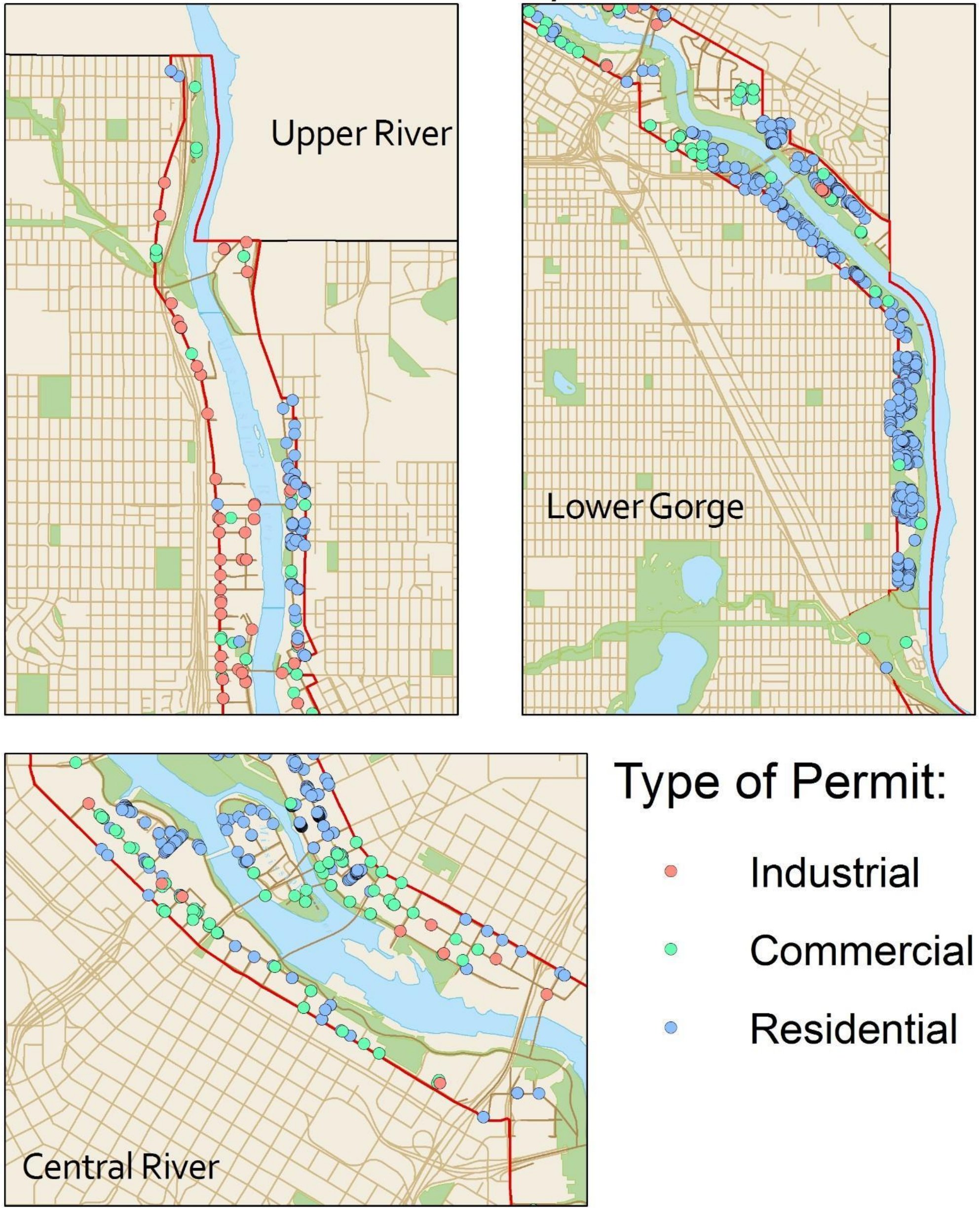
- Overall land activity
- Industrial activity
- Land usage/land vacancy
- Diversity of land uses
- Employment

Investment Vitality Indicators

- Construction Permits
  - Type and number of permits issued over the past decade
- Land Use
  - Change over the last decade
  - Diversity of use within each area
- Employment
  - Level of employment in study area
  - Development in critical industries
- Consumer Spending
  - Where is money spent
  - How is the critical area being used

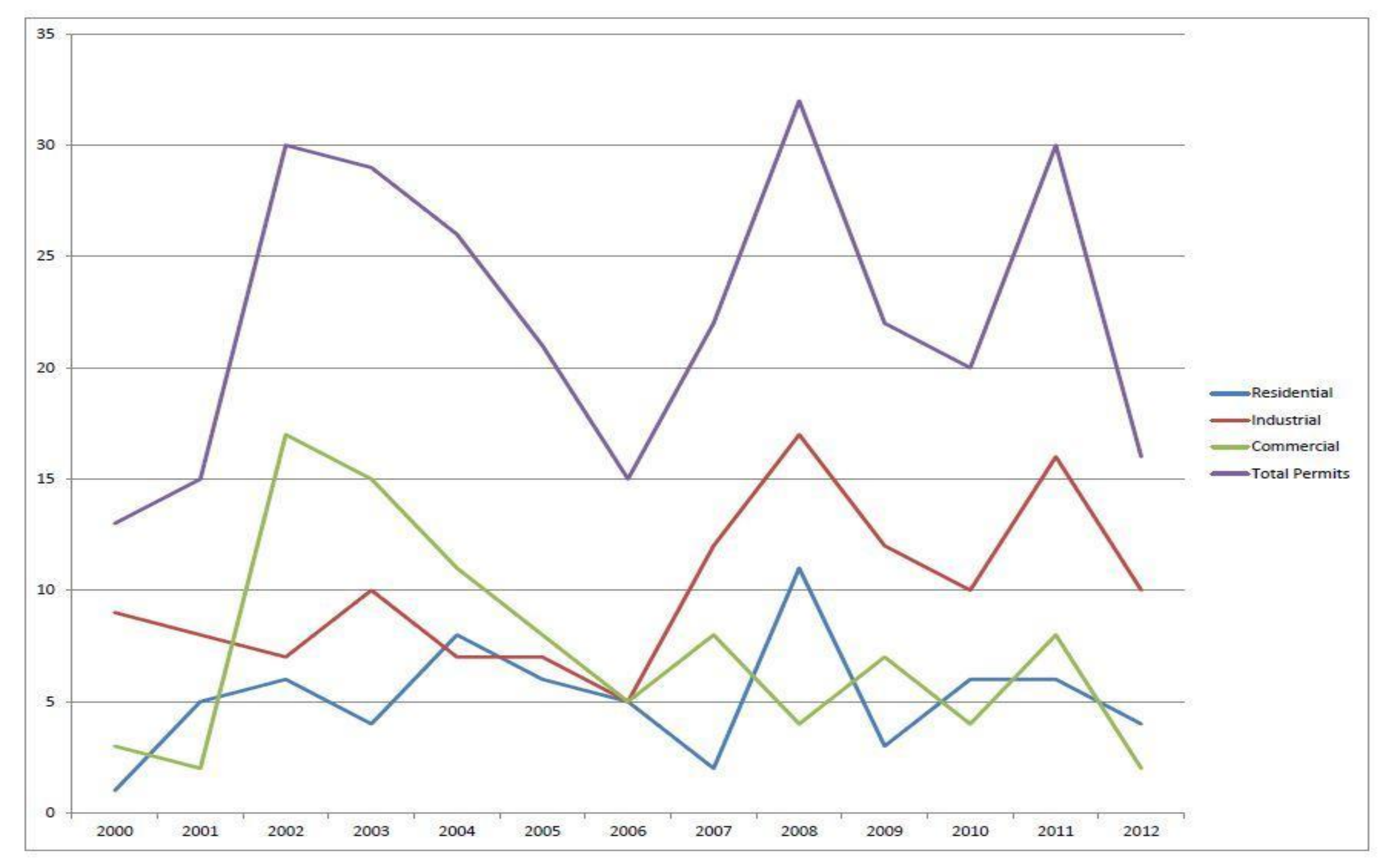
Construction Permits

Total Permits Issued in Study Area 2000 to 2012



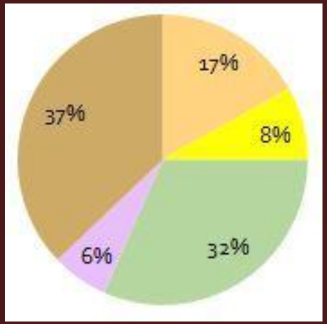
- There is a concentration of industrial permits in the Upper River, residential permits in the Lower Gorge, and a mix of industrial, commercial, and residential in the Central River.

Industrial Development in the Upper River

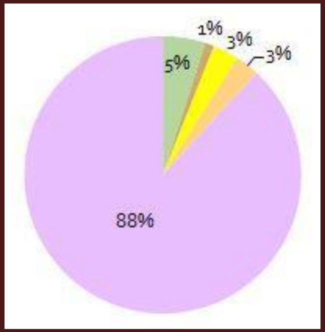


- The percentage of industrial permits issued in the Upper River has been growing since 2002.

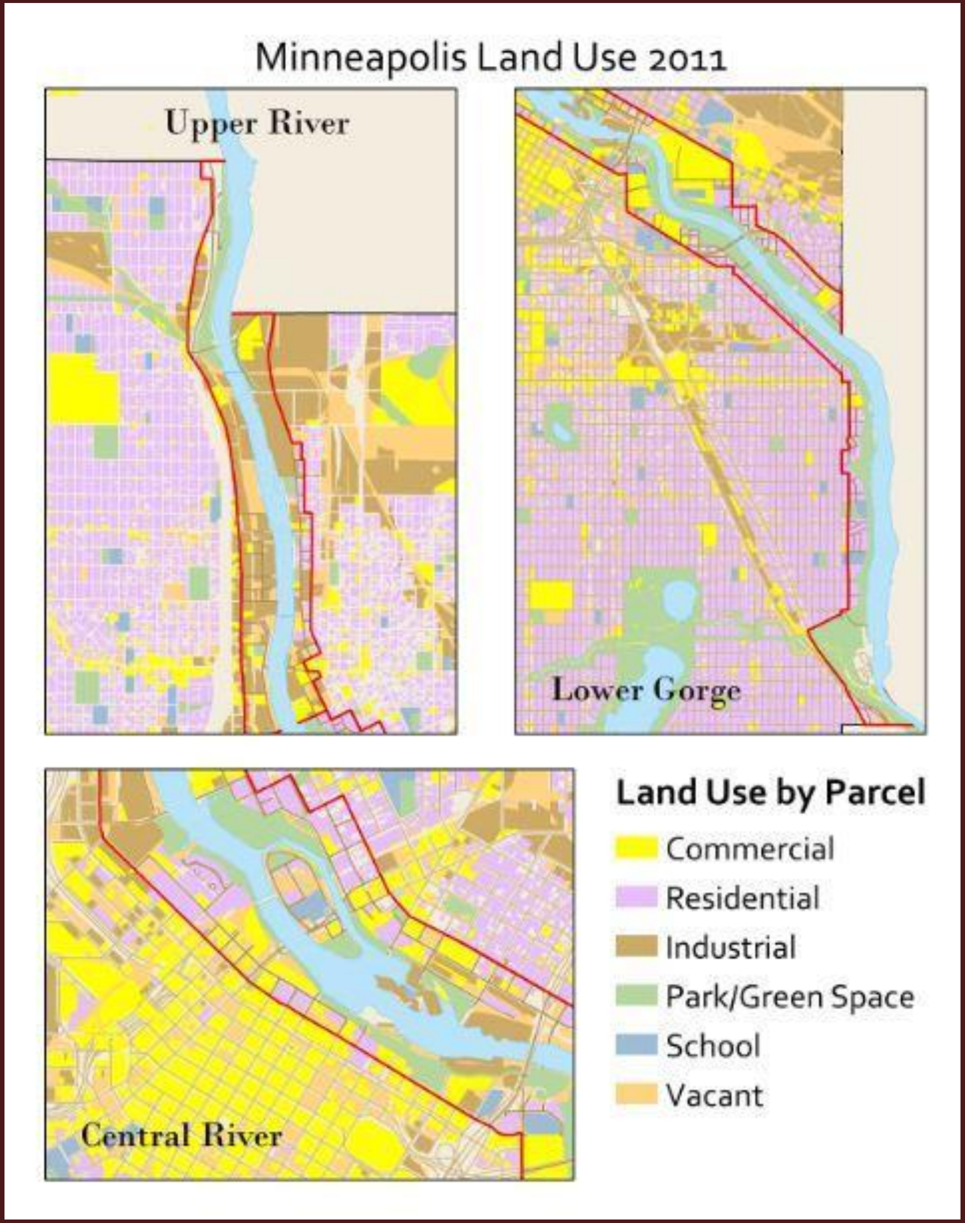
Land Use

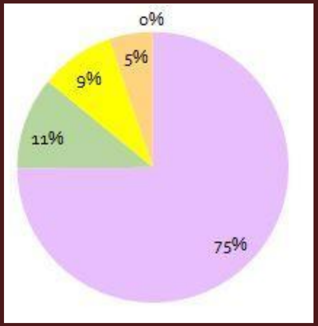


The Upper River has mostly industrial and park space. A high percentage of land is vacant.



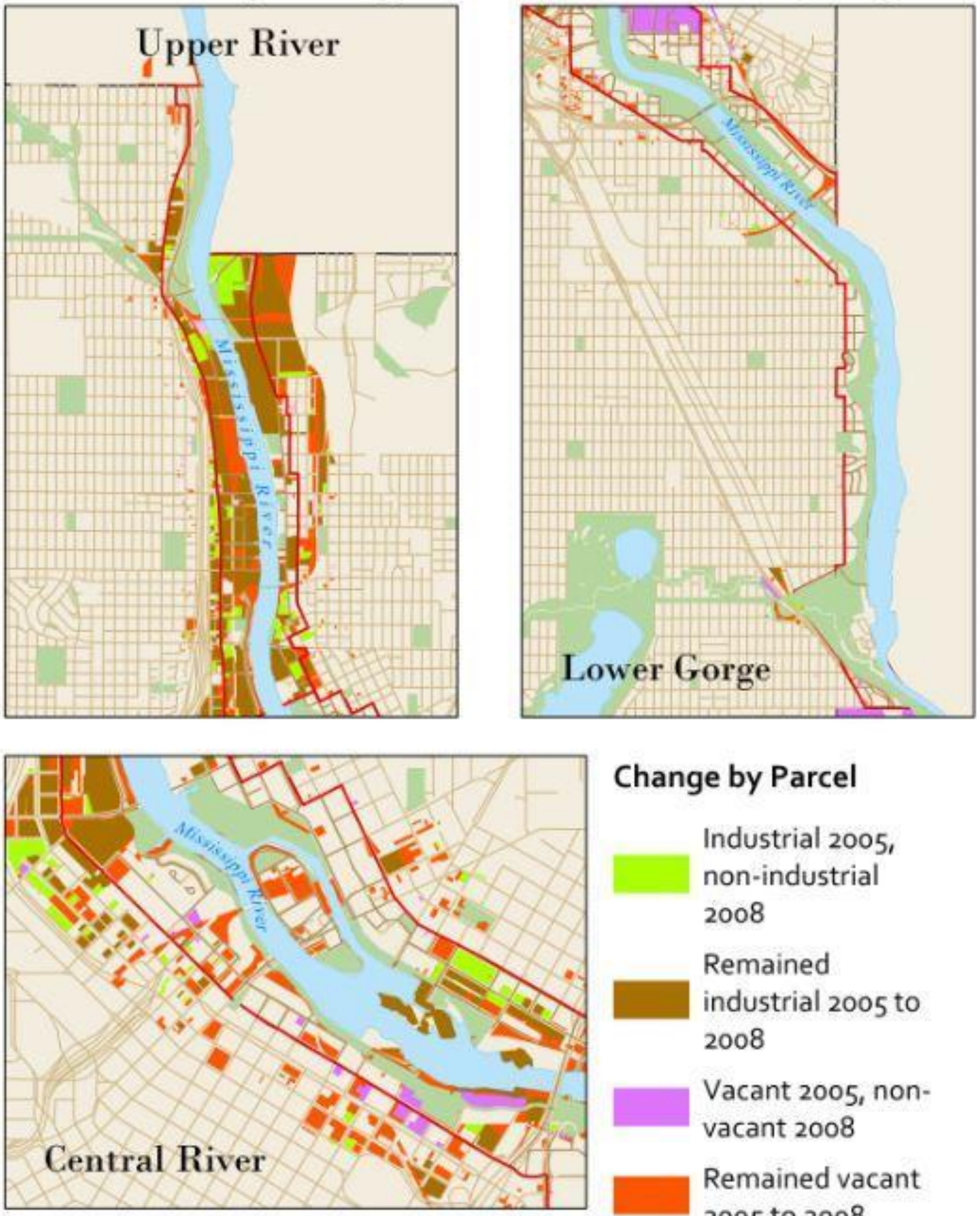
The Central River's apartments and condos mean high residential acreage.





The Lower Gorge contains mostly residential land, with contiguous park land along the river. There is no industrial activity in the Lower Gorge, and very little commercial activity.

Land Use Change Along Minneapolis Riverfront, 2005-2008

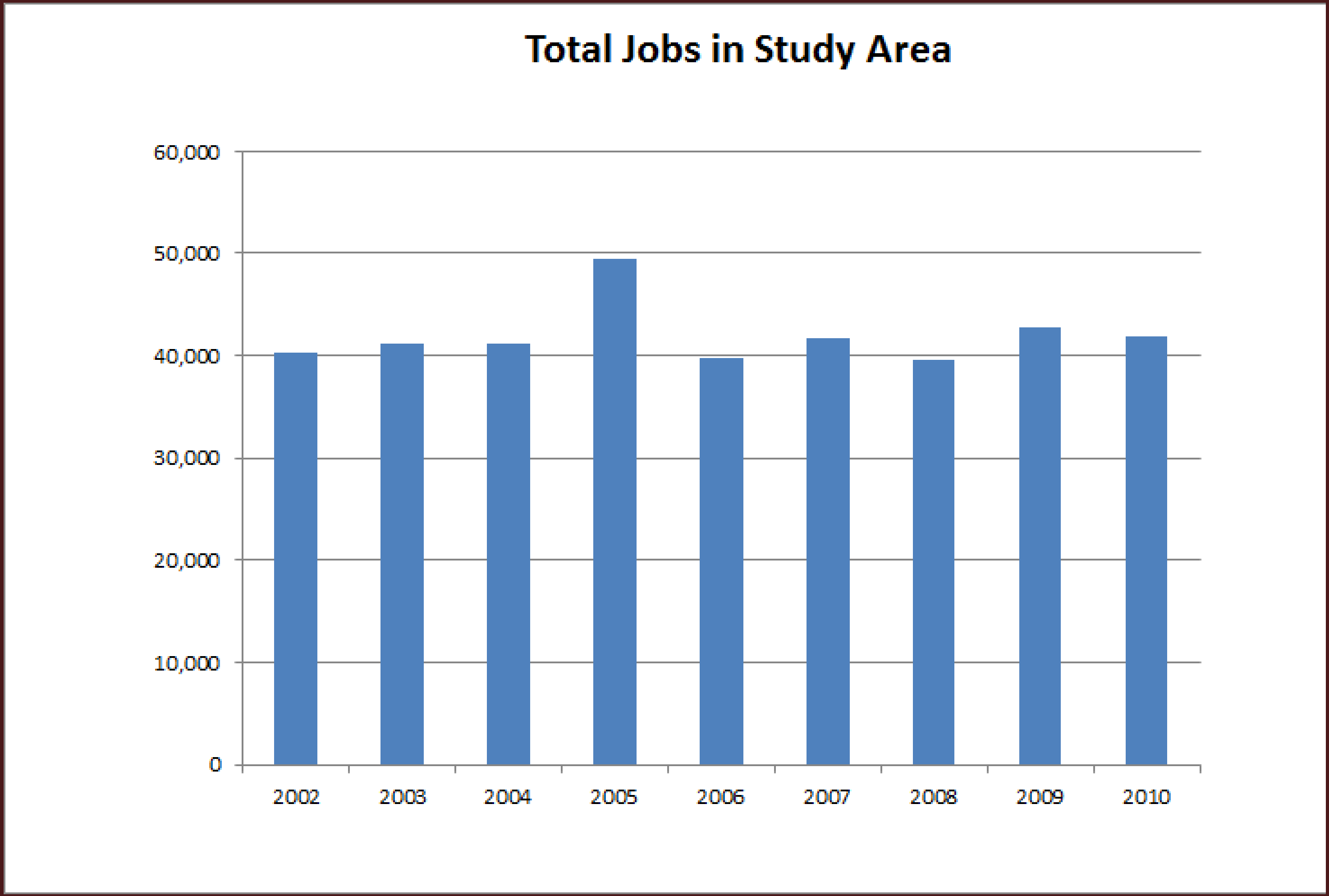


- Many parcels in the Upper and Central River transitioned from industrial to non-industrial, most frequently becoming commercial.
- A shift from vacant to non-vacant was less frequent, though did occur in the Central River. Vacant parcels most frequently become condominiums.

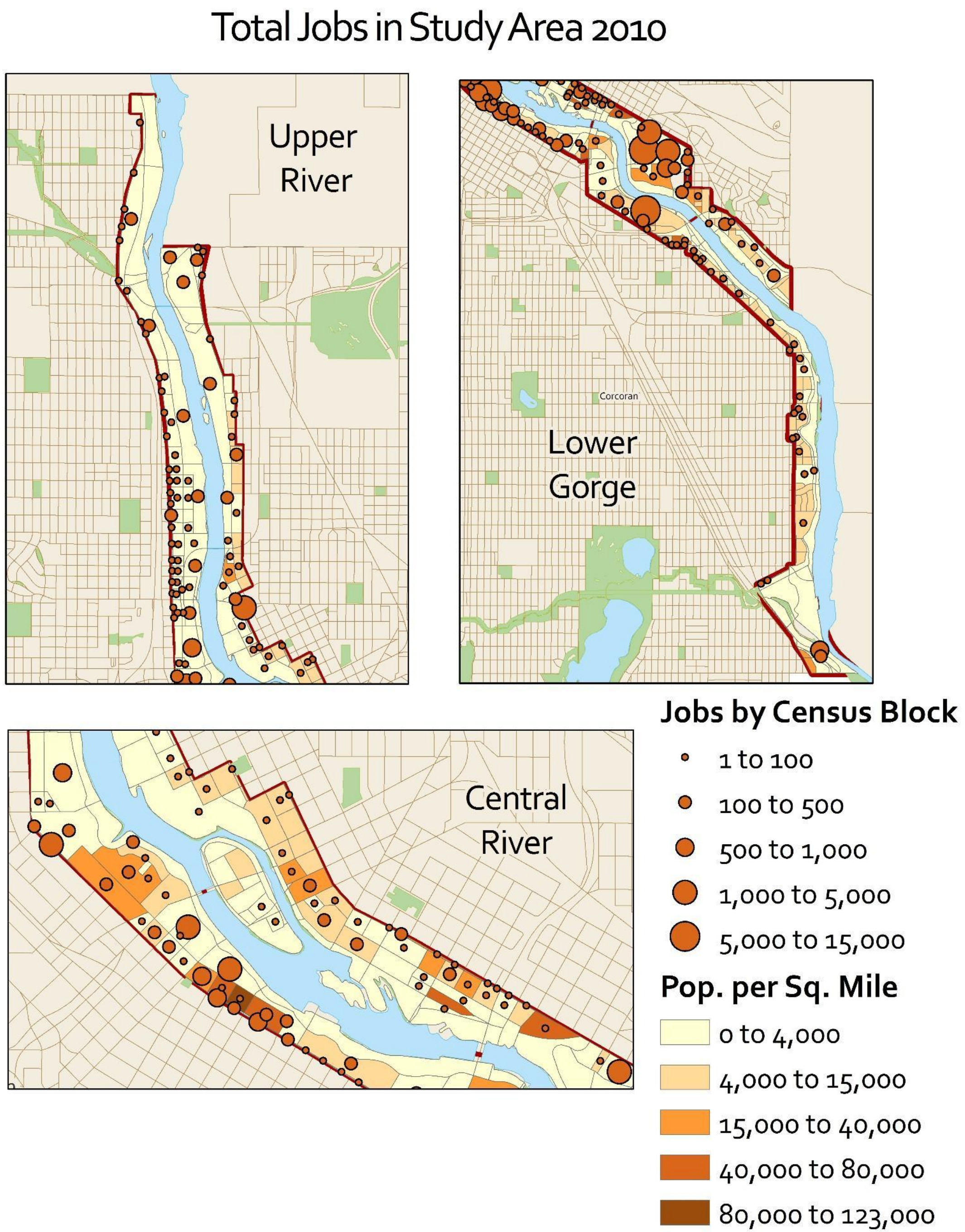
Employment

Employment

- Where are people working?
- How many people come to work in the study area versus live in the study area?
- Is the area serving key indicator industries?

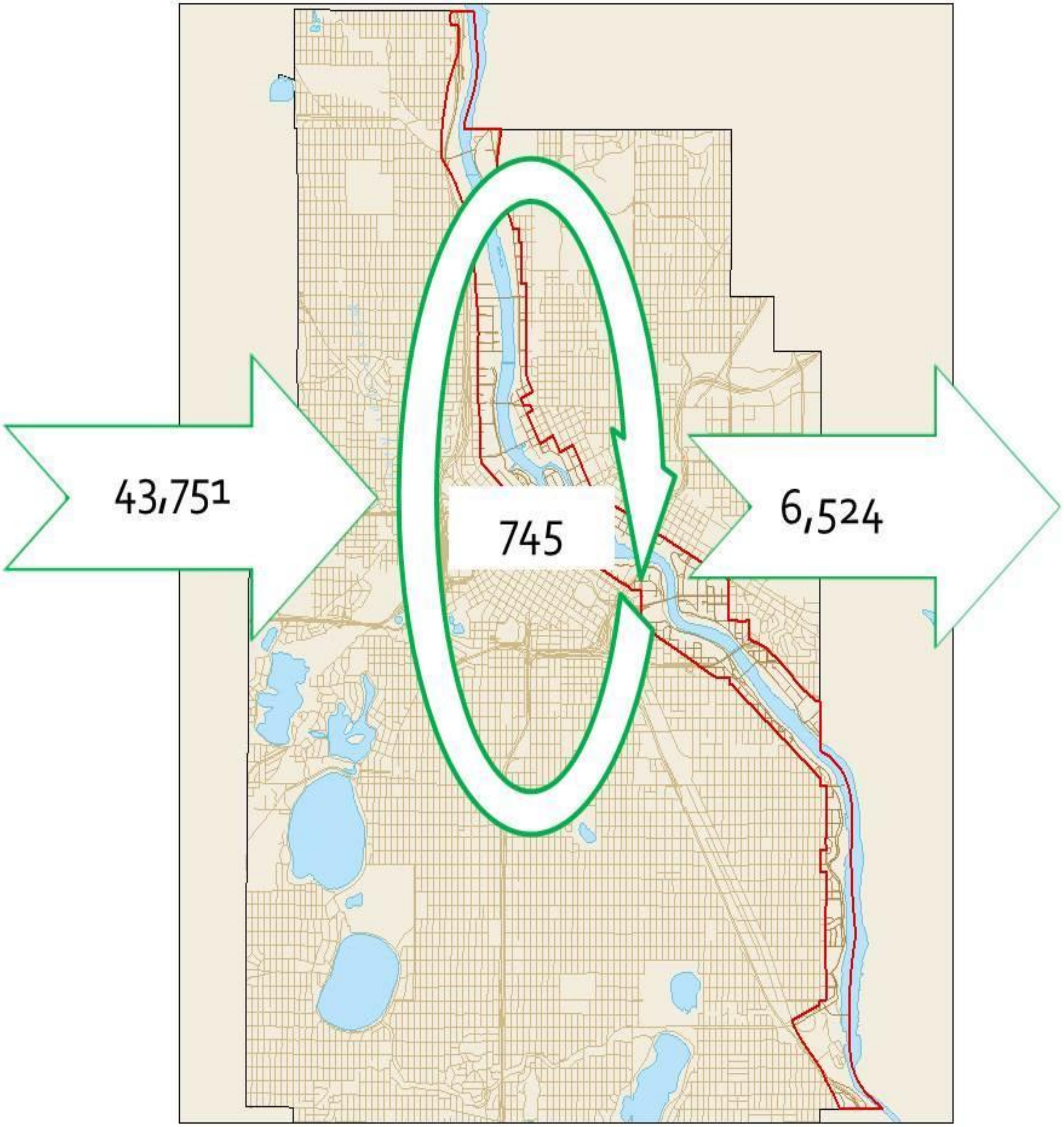


- The total number of jobs in the study area has remained constant over the last decade.

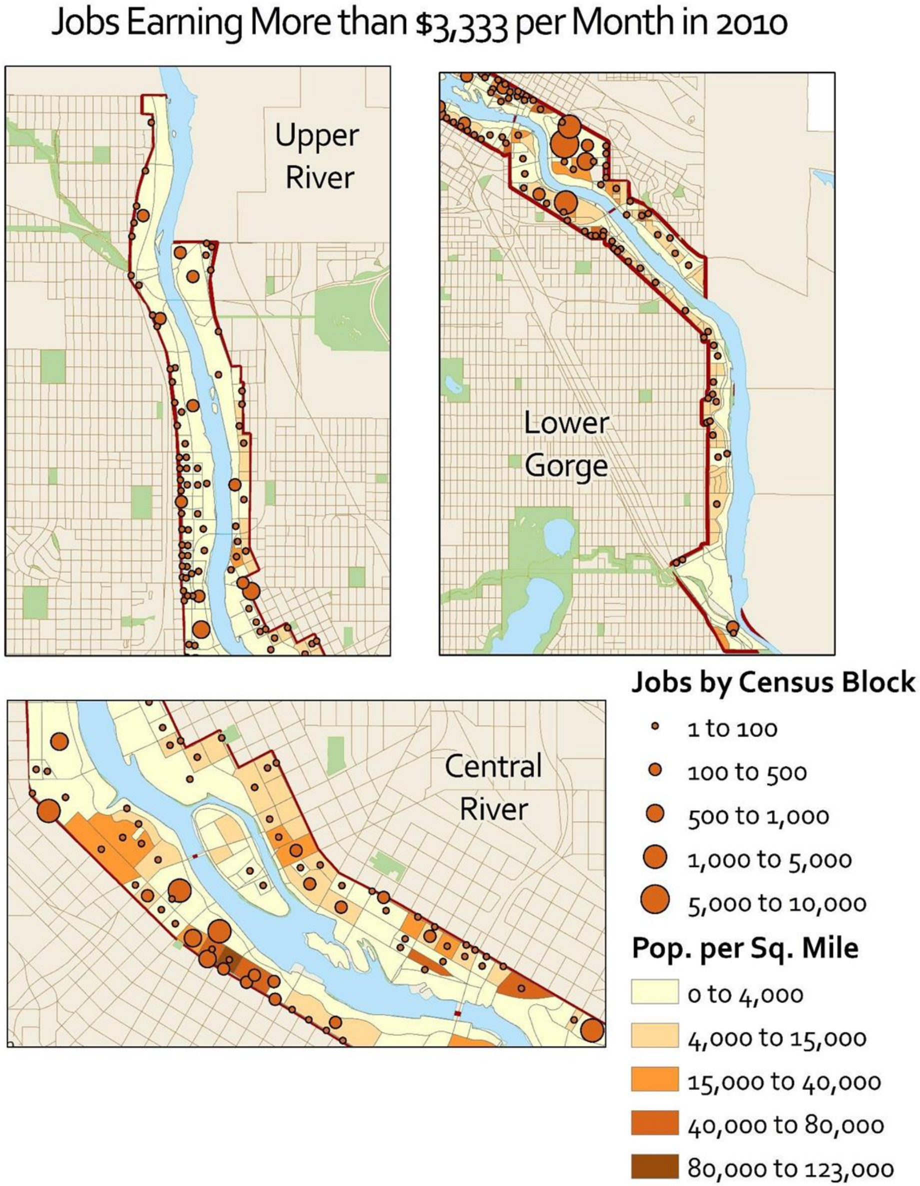


- The highest concentration of jobs is in the Central River.
- The University of Minnesota is responsible for the largest concentration of jobs.
- Population density is not a significant indicator of number of jobs.

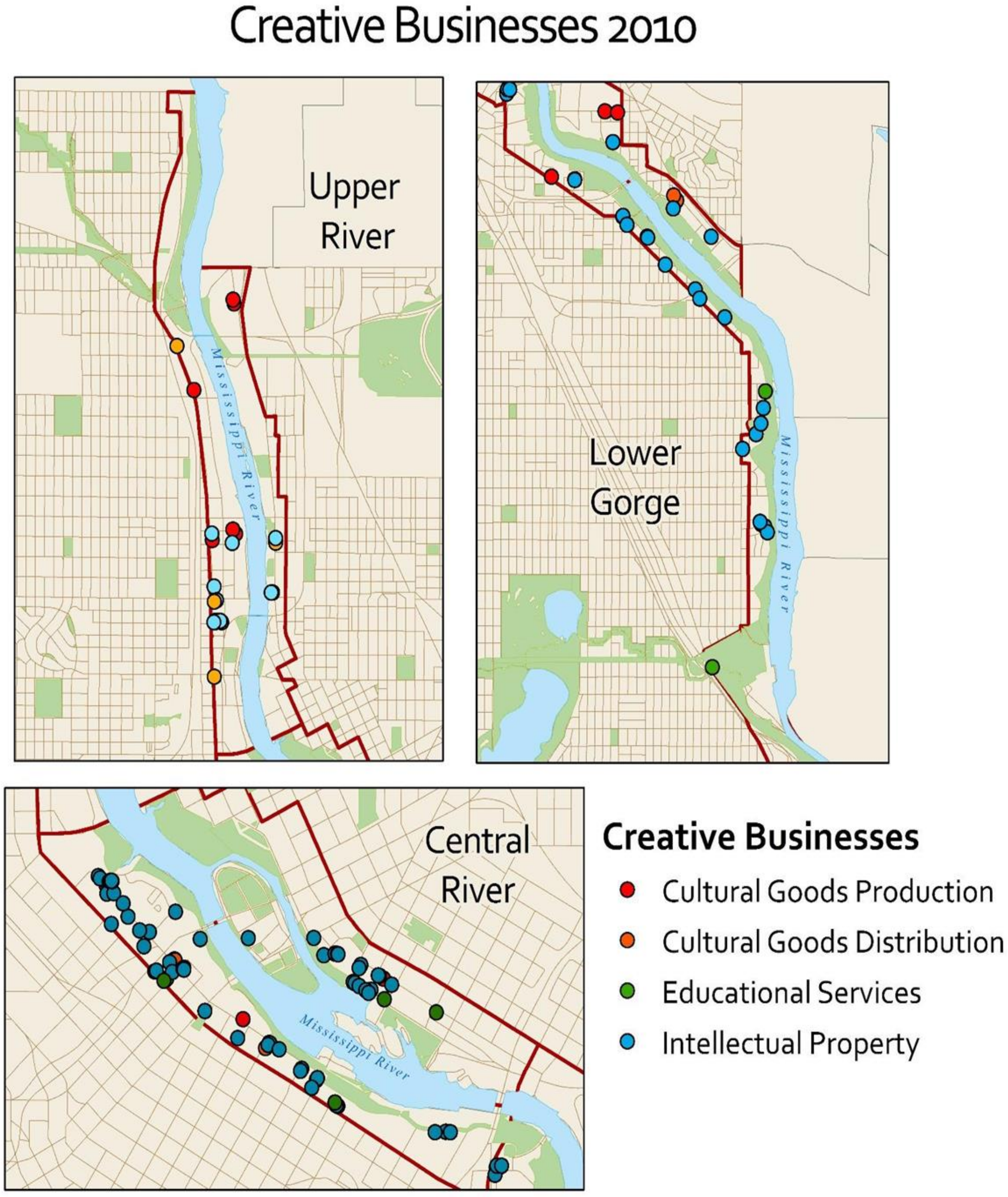
Inflow/Outflow of Workers 2010



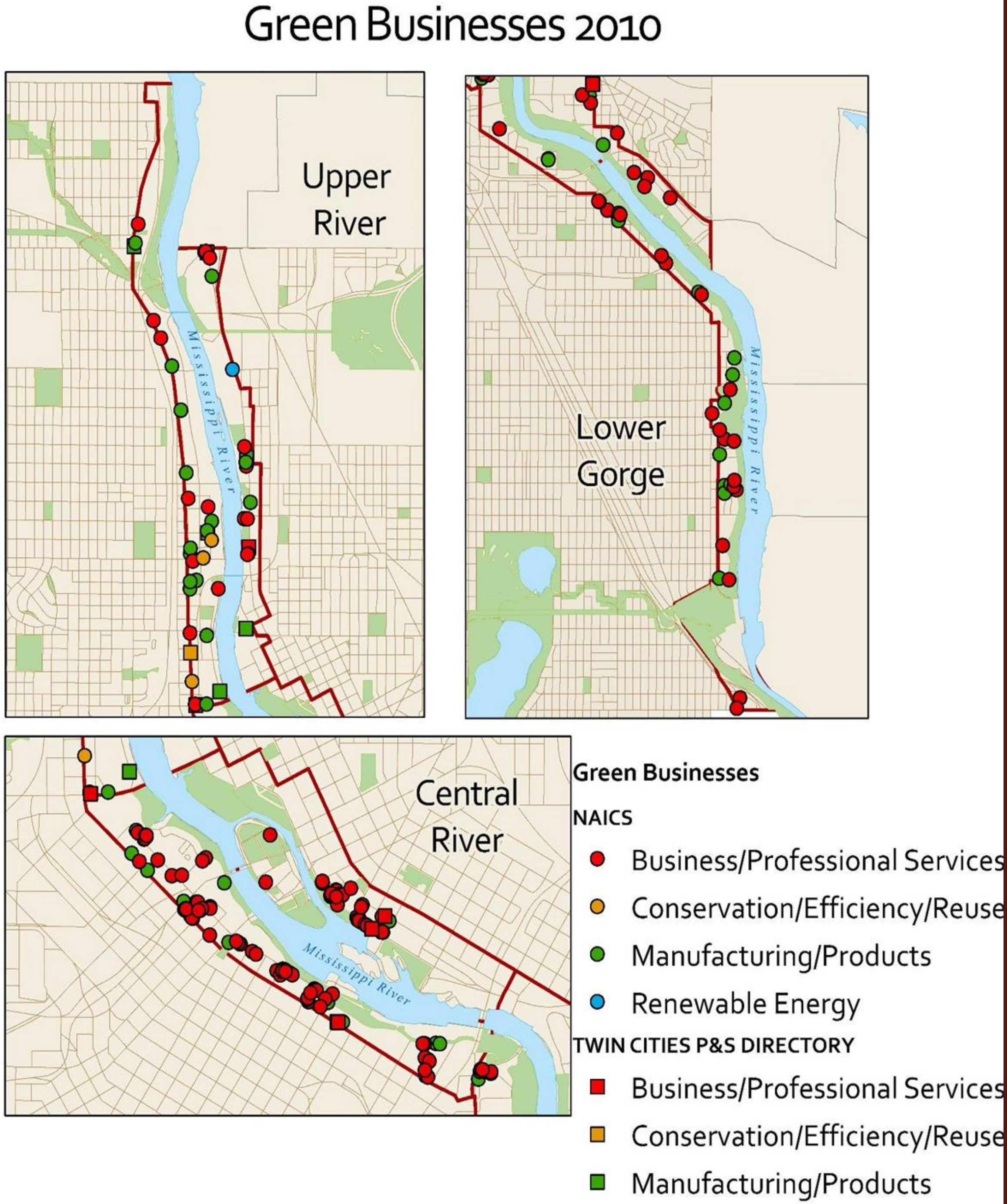
- A significant population is commuting into the study area to work.
- A limited number of residents of the study area also work by the river.



- There are more high-paying jobs than low-paying jobs, particularly in the Central River. There is also a slightly higher correlation between high-paying jobs and population density.

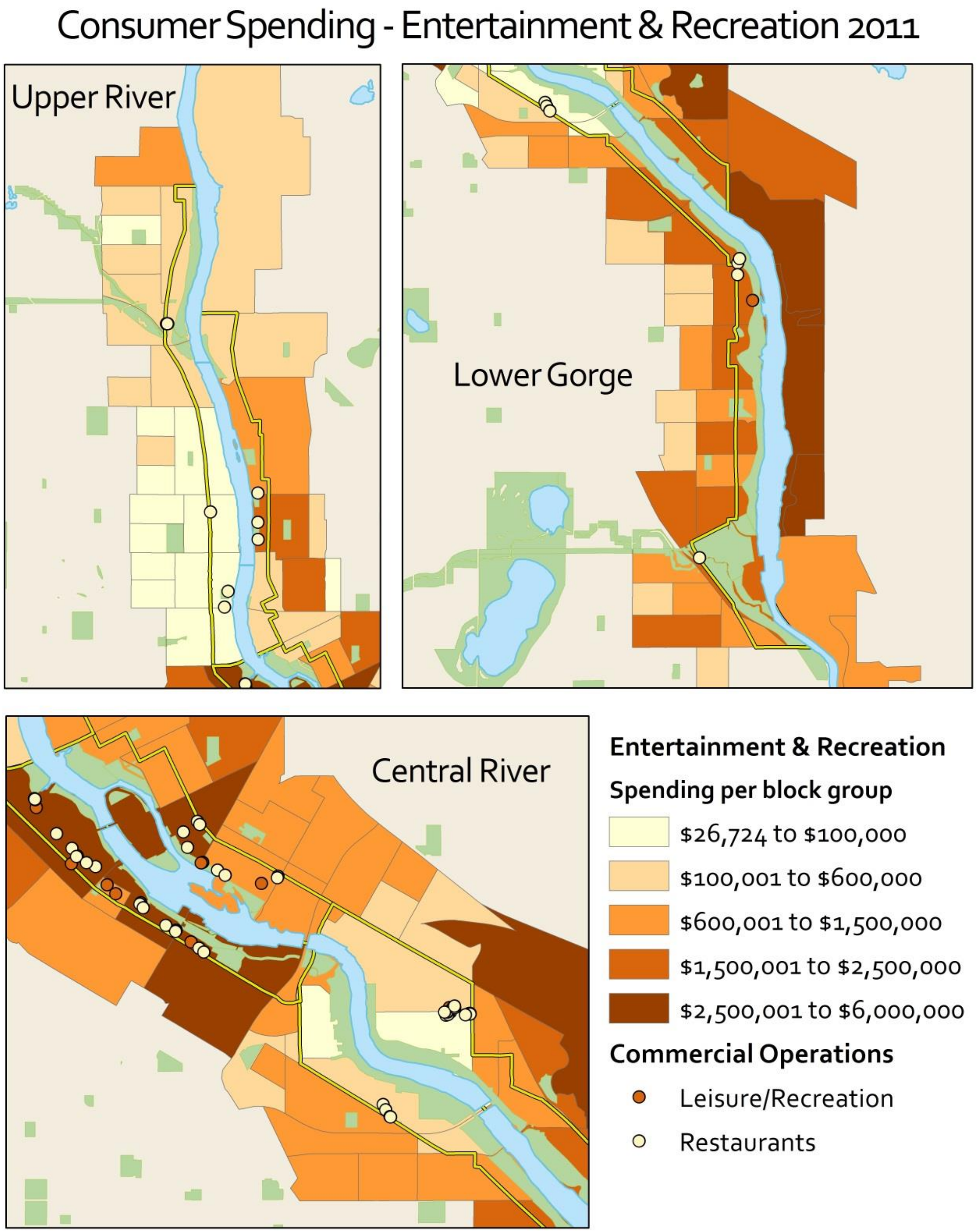


- A creative business is defined as a business that produces or adds to culture.
- Close to 10% of businesses in the study area are considered “creative.”
- A majority of creative businesses revolve around intellectual property production and distribution and are located in the Central River.

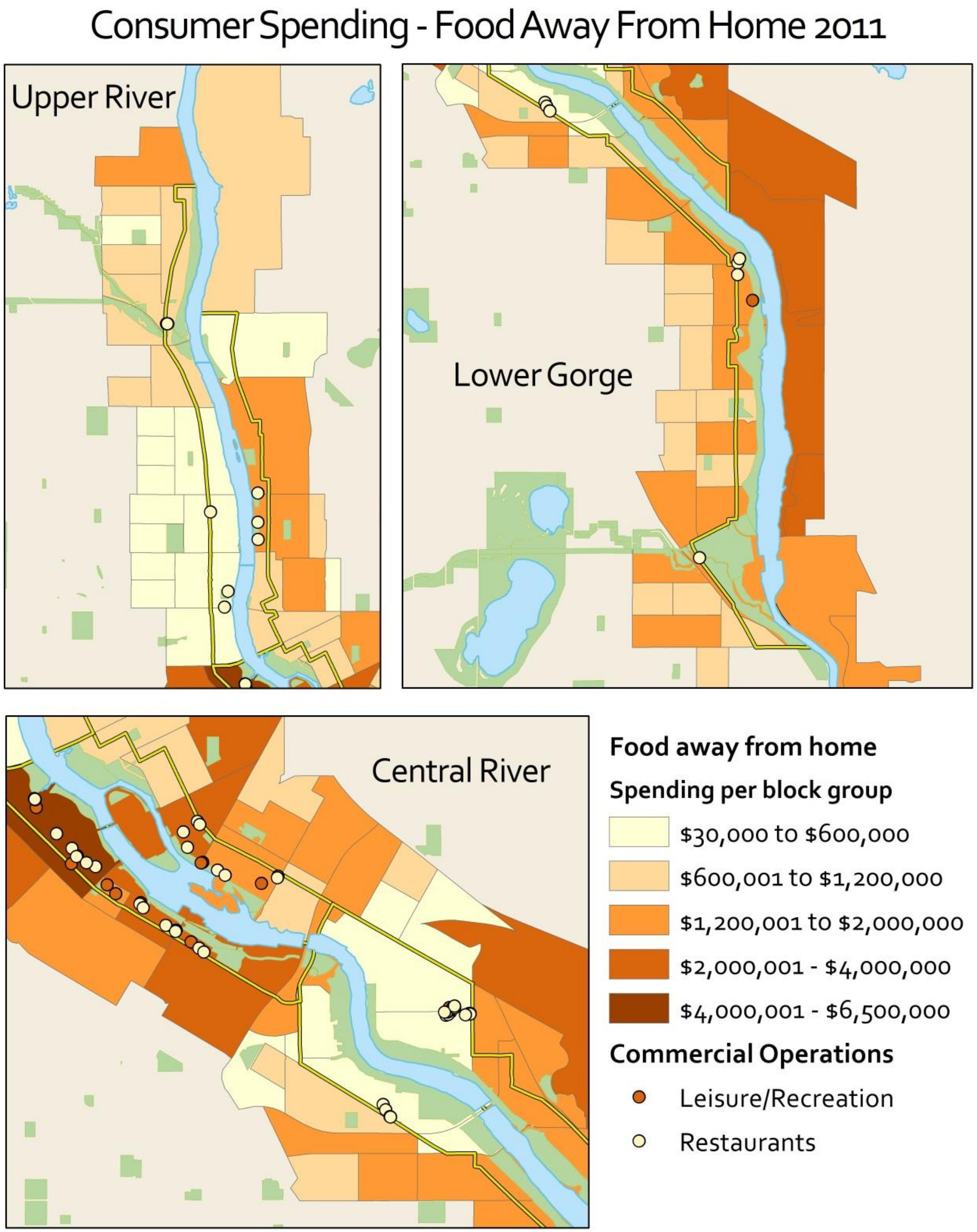


- Green businesses are defined through NAICS classifications (Bureau of Labor) and businesses in the Twin Cities Green Product and Services Directory.
- 10% of businesses are considered “green” through BLS.
- The Twin Cities Product and Services Directory lists 12 businesses that provide green services/products.
- Map shows businesses could improve green practices.

Consumer Spending



- The abundance of parks and social institutions may attract this type of spending to the riverfront but also provides a number of free alternatives.
- Higher spending on these activities seems to becoming from wealthier areas.



- The local demand for food away from home seems to be relatively high.

- Most demand occurs along the Central River; however, there seems to be a sizeable number of businesses within the study area that cater to these needs.

- Current restaurants within the study area seem logically placed by this criteria.

Conclusions

- Upper River
  - Fewest number of permits among river areas for 2002-2012
  - Land use fairly stable, primarily industrial
  - Steady increase in new industrial permits, with peaks in 2002, 2008, 2011
  - Low local demand for leisure spending
- Lower Gorge
  - Stable residential with consistent but light commercial development

Conclusions (Cont.)

- Central River
  - Diverse mix of industrial, residential, and commercial uses
  - Most significant change is industrial to non-industrial; very few industrial permits in 2012
  - Contains most jobs regardless of salary
  - High local demand for leisure spending
- General
  - Jobs in study area have remained ~40,000 from 2002-2010 and are not correlated with population density

Commercial Vitality

City Pages

Alex Bentz, Eric Goldfischer,
Agata Miszczyk, Alex Schieferdecker

Commercial Vitality Indicators

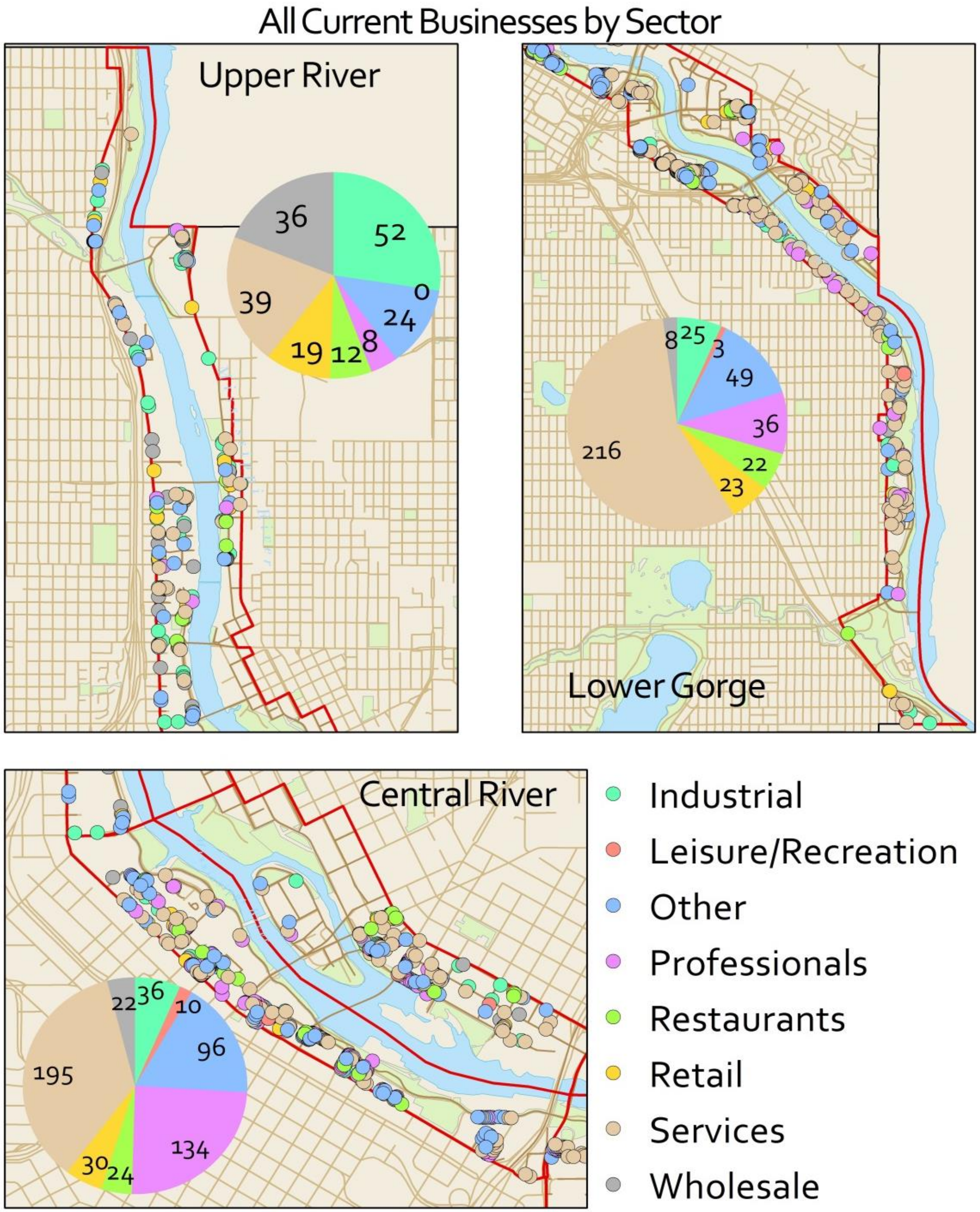
- Physical Characteristics
  - Mix/Type of establishments
  - Publicly-oriented businesses
  - Building condition
- Economic Characteristics
  - Estimated market value (EMV)
  - Change in EMV
  - Commercial vacancy

Commercial Vitality Indicators (cont.)

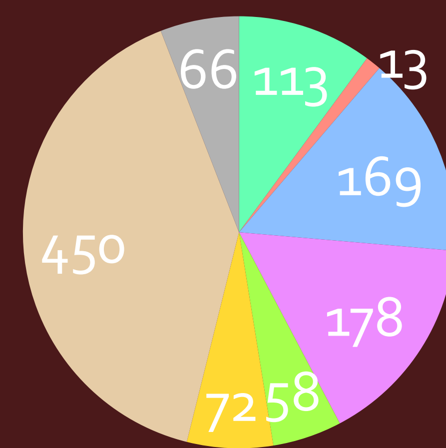
- Assessment of Growth
  - Construction permits
  - New businesses

- Business Owner Characteristics
  - Women-owned
  - Minority-owned

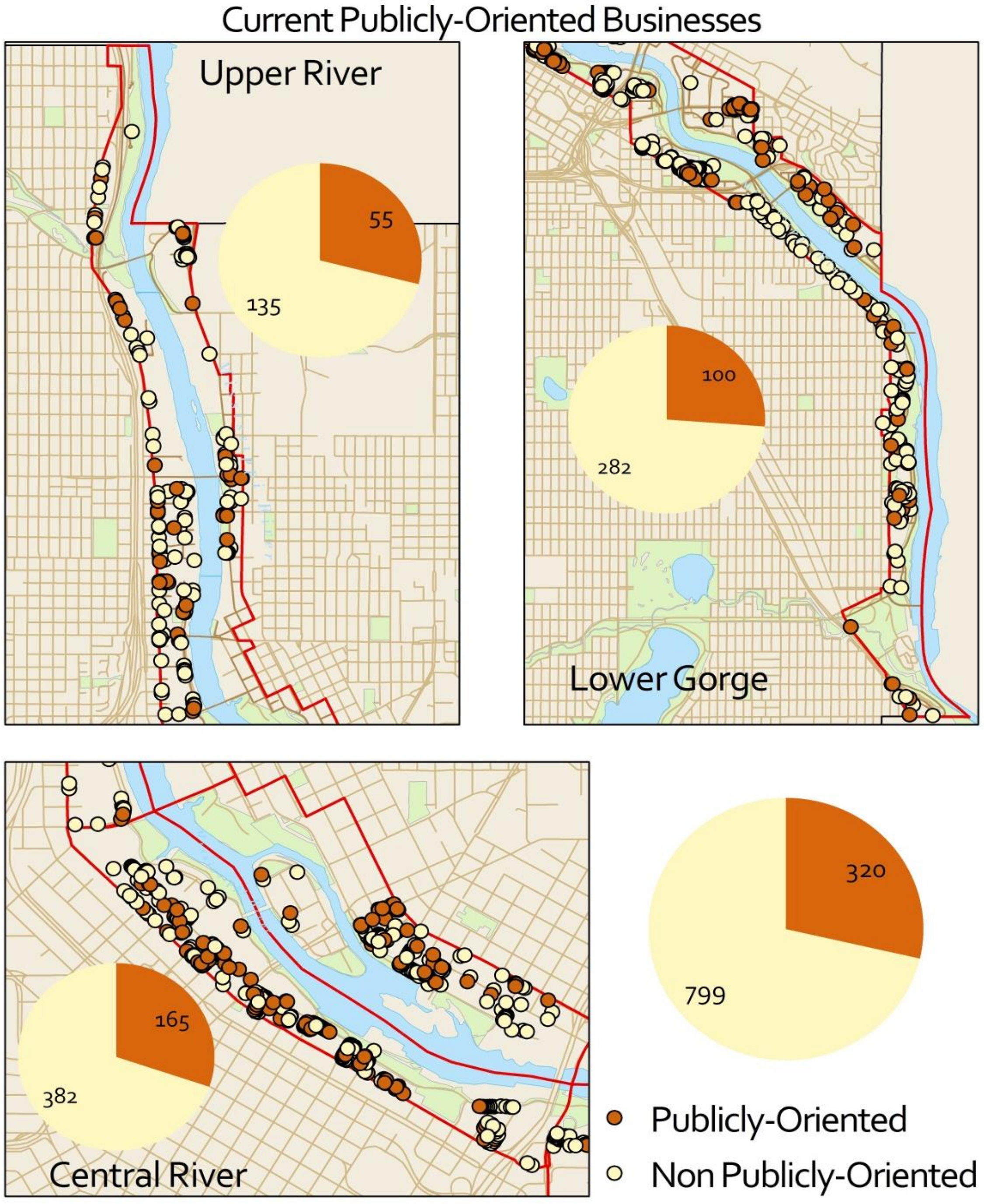
Physical Characteristics



- Services make up the largest share except for the Upper River, where industrial businesses make up a larger share.
- There is a fairly similar mix of retail types across the study area.

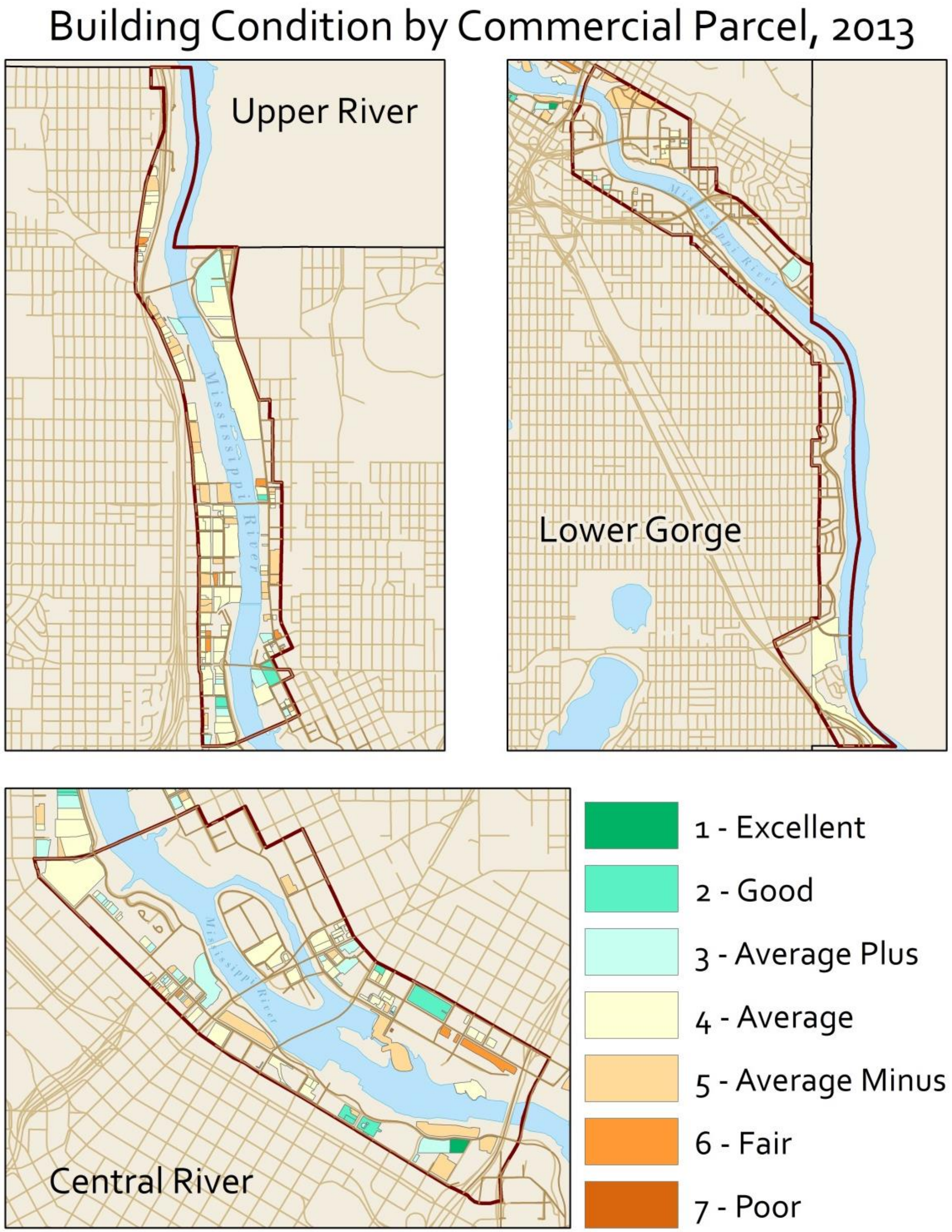


Overall Study Area



- As defined by NAICS codes, publicly-oriented businesses are those that have storefronts and are open to “walk-in” or non-appointment customers. Hardware stores would be publicly-oriented while wholesale establishments would not.

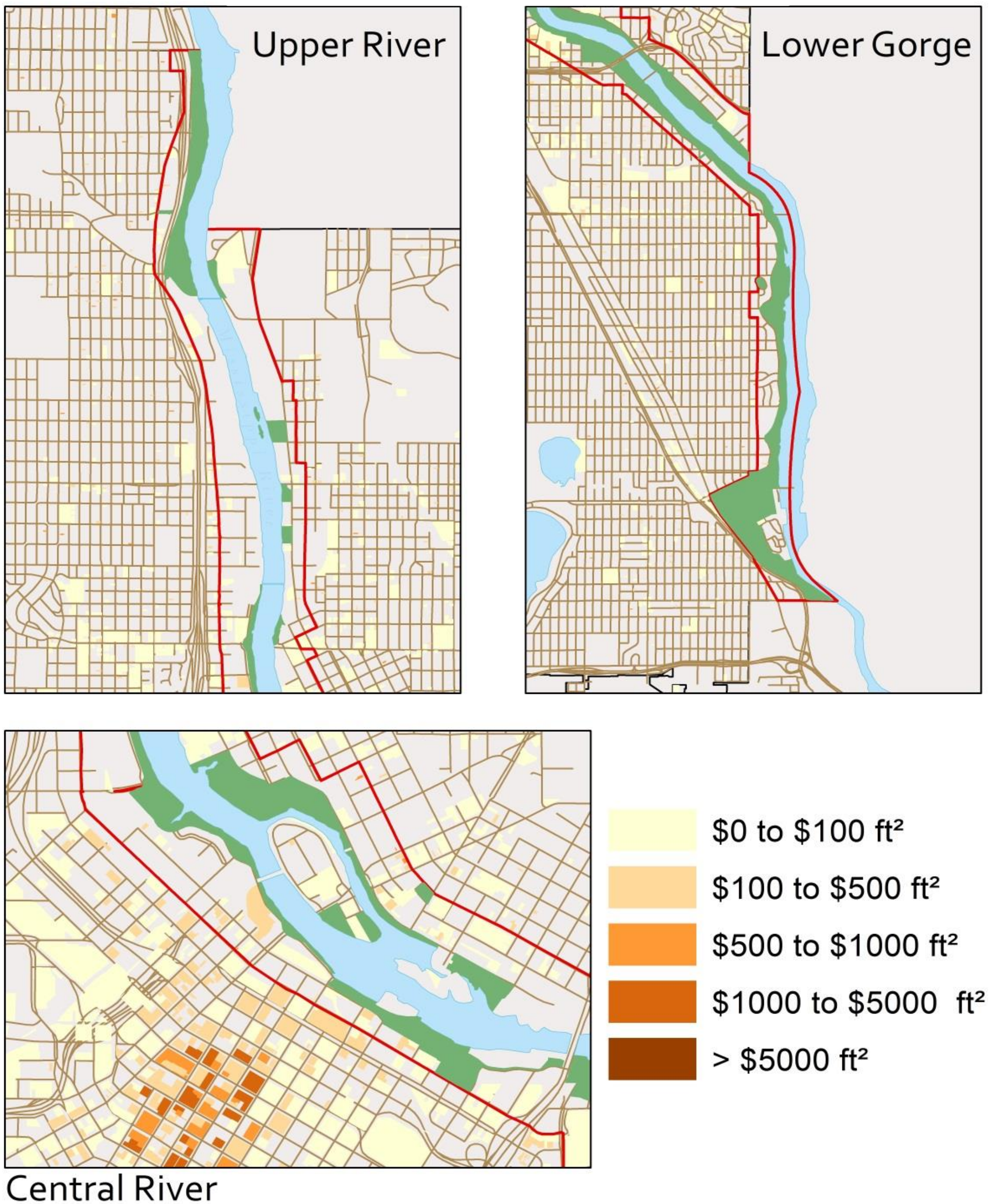
- Publicly-oriented businesses are evenly spread throughout the study area.



- Property condition remains fairly consistent throughout the study area at a level of 4 (Average) or 5 (Average Minus).
- The Upper River has the largest variation in building condition score.

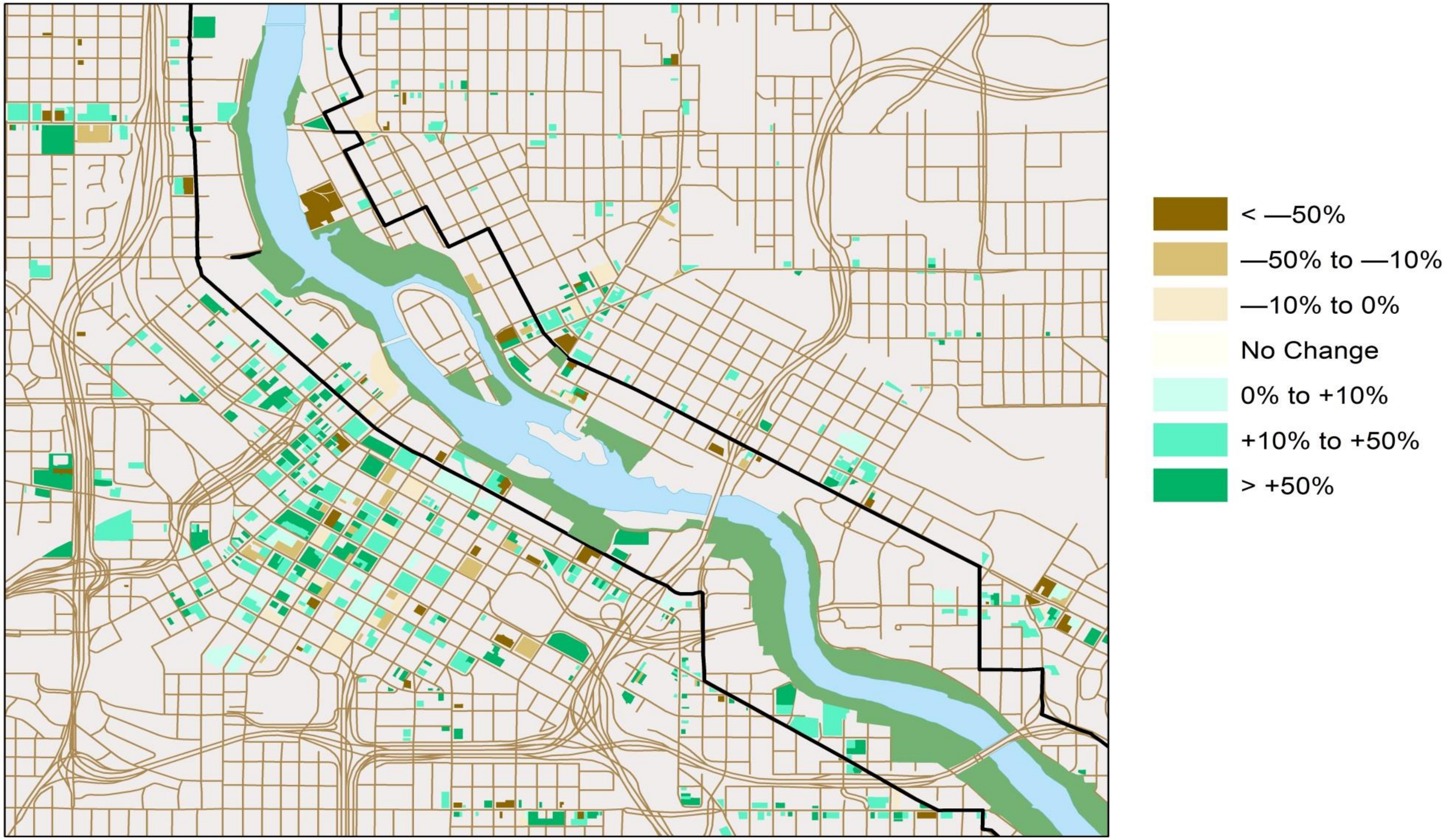
Economic Characteristics

EMV per Square Foot in Commercial Properties



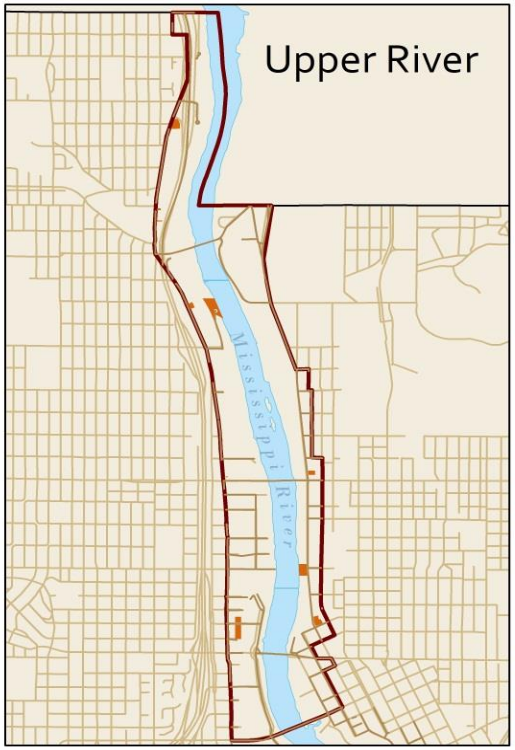
- Commercially zoned parcels are scarce close to the river, and the ones that exist are under-utilized.
- Commercial hubs like the Minneapolis CBD stop well short of the river.

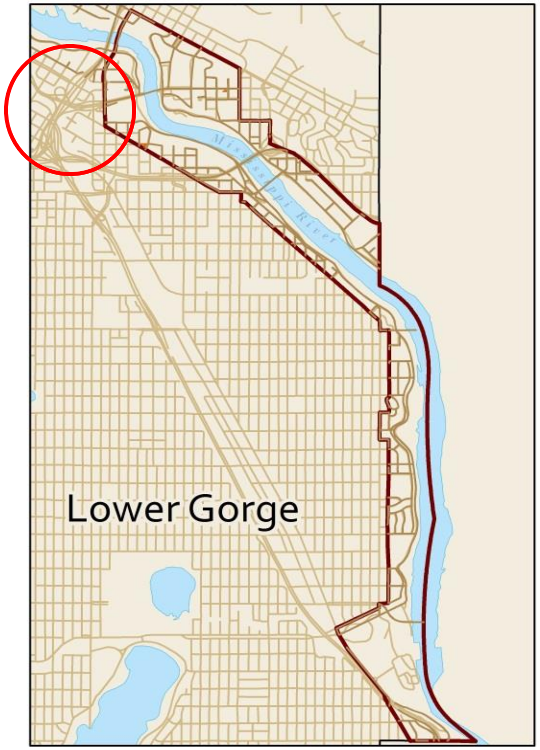
% Change in EMV from 2005 to 2011 in the Central River Gorge



- Commercial properties in the central corridor have survived the recession fairly well, and not only in the CBD. Proximity to the river does not seem to be a factor in percent change.

Commercial Building Vacancies by Parcel, 2013



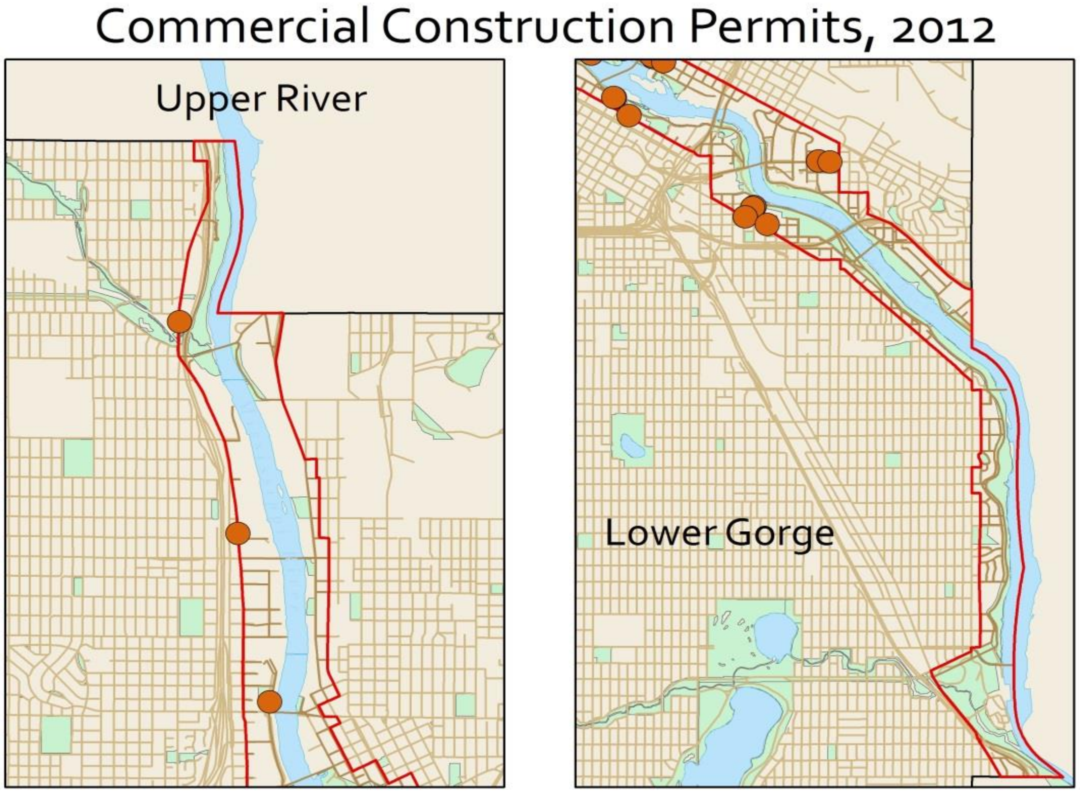


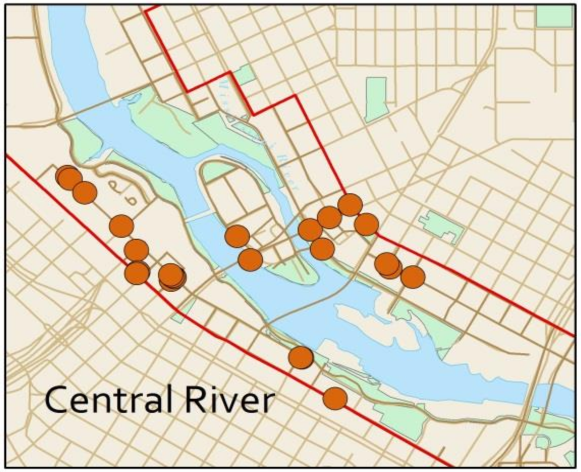
Vacant Building

	Vacant Lots	Vacancy (Sq. Feet)	Total Land (Sq. Feet)	Percent Vacant
Upper	16	470,727	48,670,752	0.97%
Lower	2	38,883	68,523,448	0.05%
Central	3	19,502	30,652,734	0.06%
			Total:	0.35%

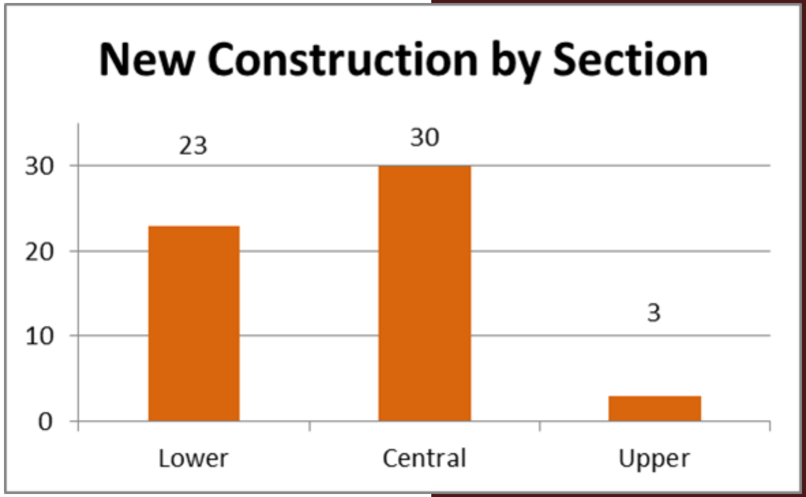
- There are more vacancies in the Upper River than in the other sections.
- Vacancies make up 0.35% of the study area.

Business Growth

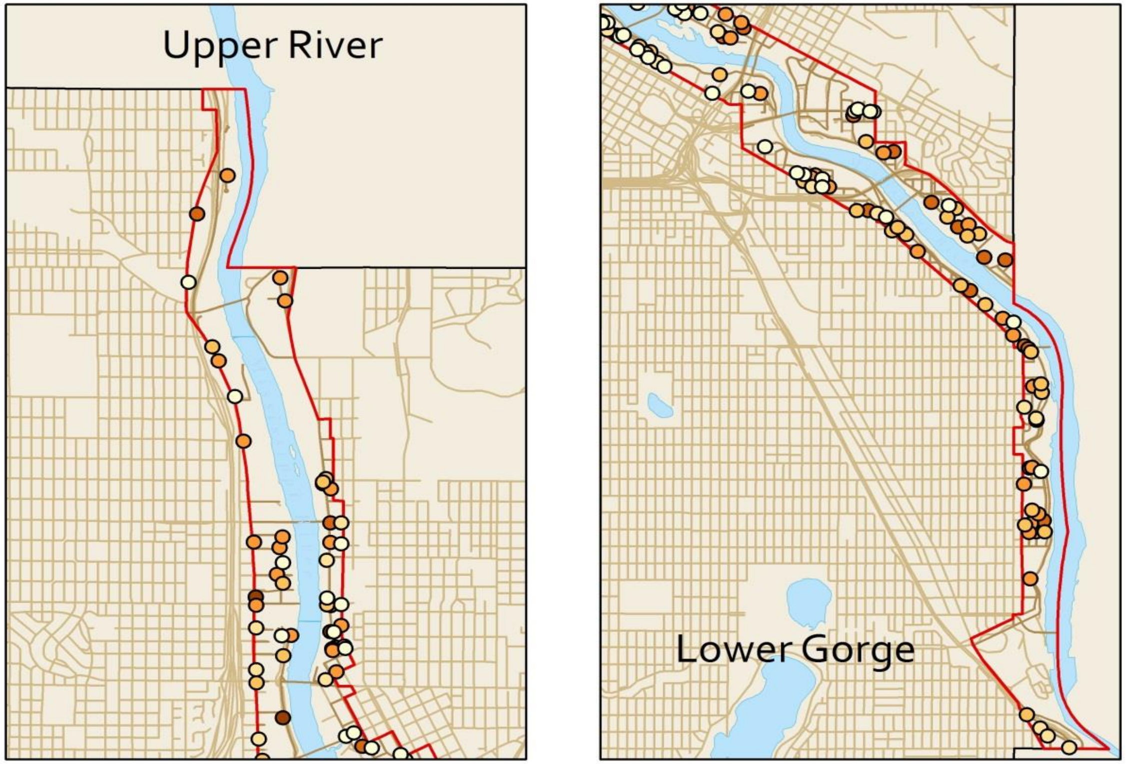


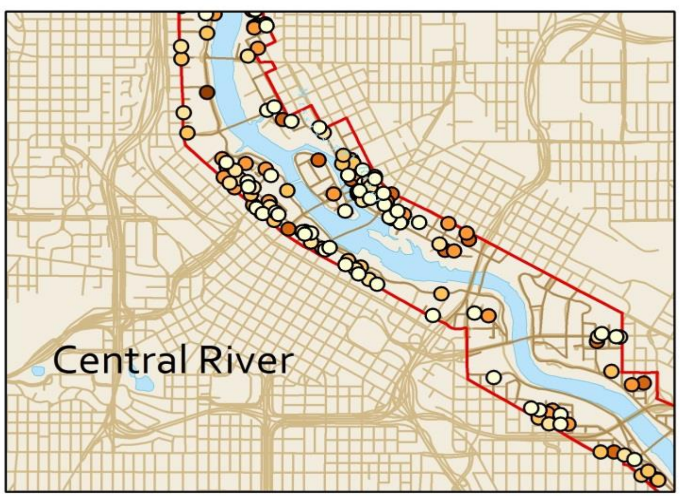


- Most permits are located in the Central River.
- Only 3 permits are located in the Upper River. Permits in the Lower Gorge are concentrated near the University of MN.

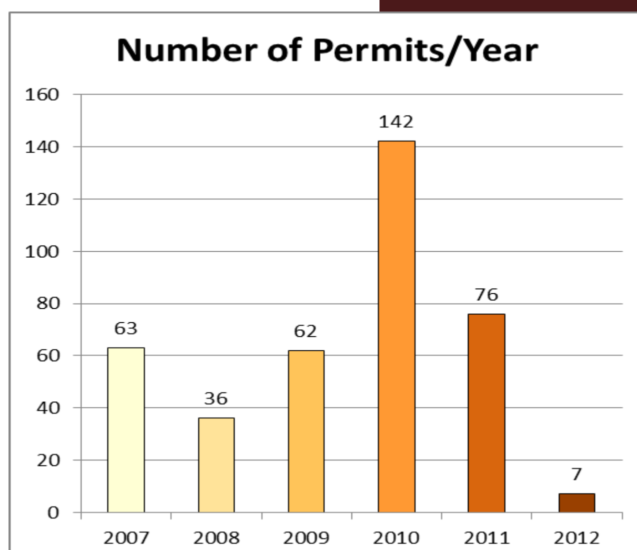


New Business Construction, 2007-2012

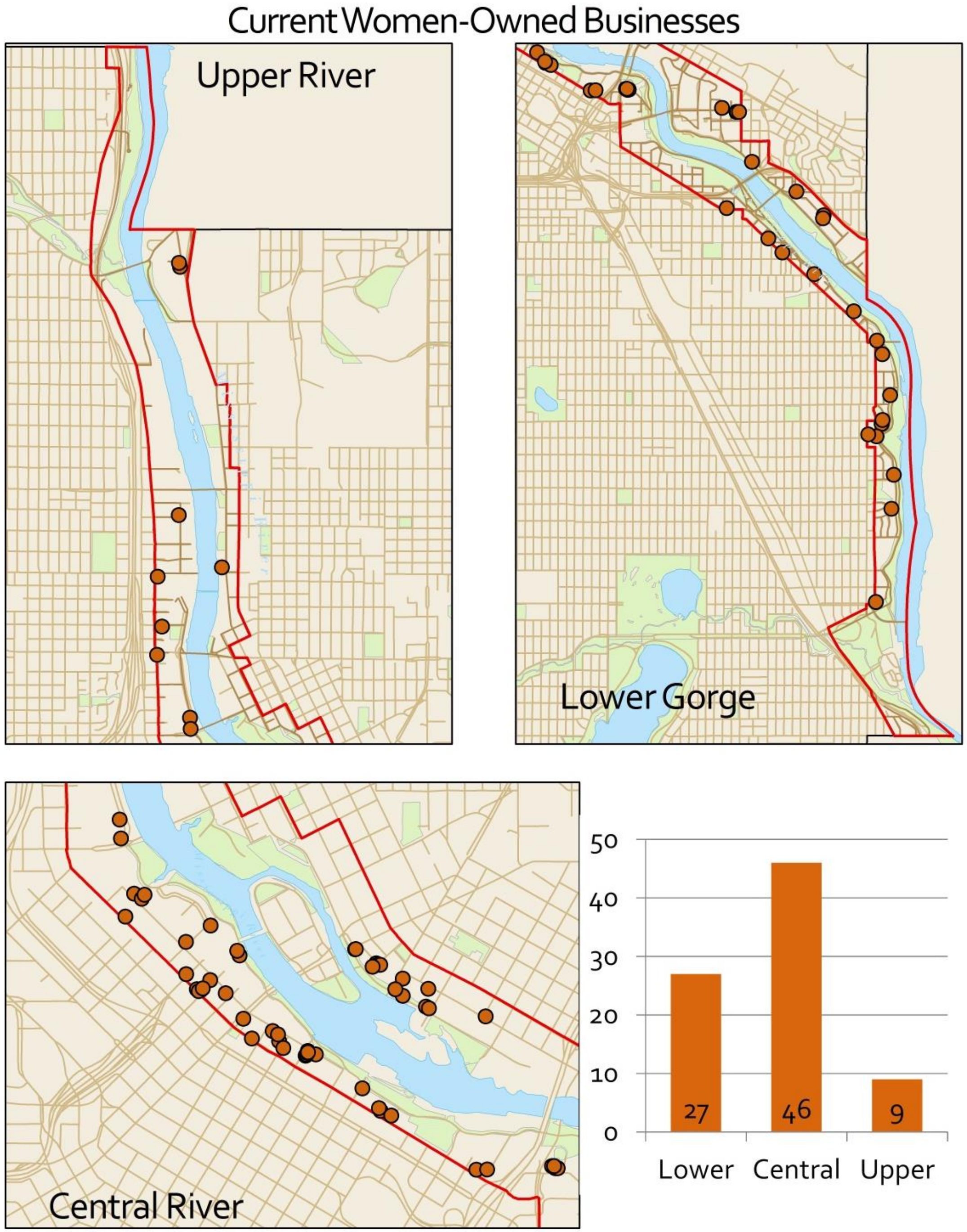




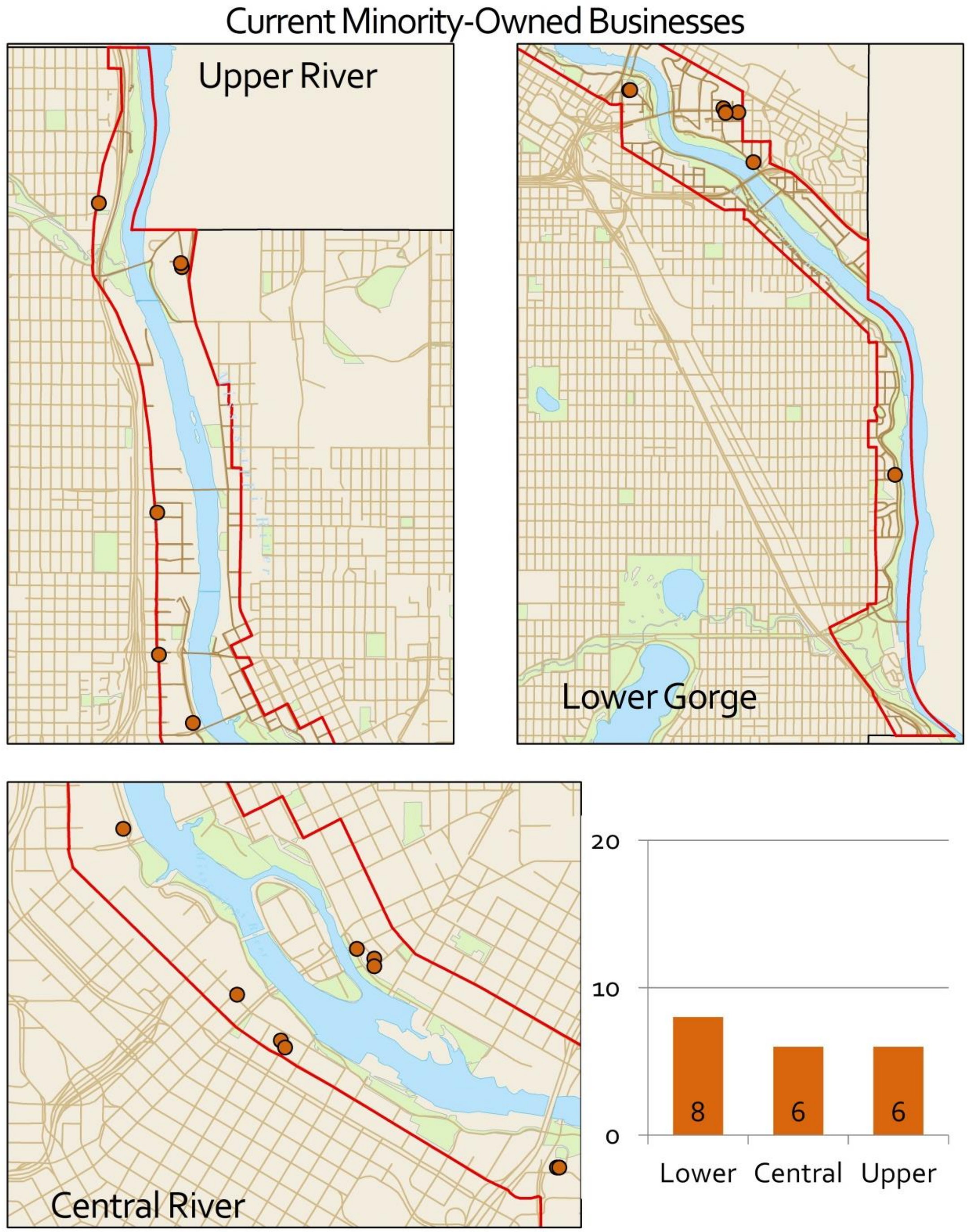
- Most businesses were constructed in 2010.
- Distribution of new construction is relatively even; the Upper River saw the fewest number of new businesses overall but the most in 2012.



Business Owner Characteristics



- Most women-owned businesses are located in the Central River.



- Only one minority-owned business has been established in the study area since 2007.

Conclusions

- The Central River, according to our indicators, is an established commercial corridor.
- Room for commercial opportunities and investment exists in the Upper River.
- We suggest expanding the study area buffer to include outlying areas as the full effect of the river reaches much further than the current boundary.

Residential Vitality Indicators

Coldwell Banker

Zack Avre, Talia Groom,
Dan Otte, Anne Sombor

Research Questions

- What are the characteristics of the housing market along the Riverfront and how do they compare to trends in adjacent neighborhoods in Minneapolis?
- How has development along the Riverfront affected the strength of the residential market?
- Does proximity to the Riverfront have a stabilizing effect on the housing market?
- What can be discerned about social equity along the Riverfront? Are certain groups benefitting more than others from redevelopment projects?

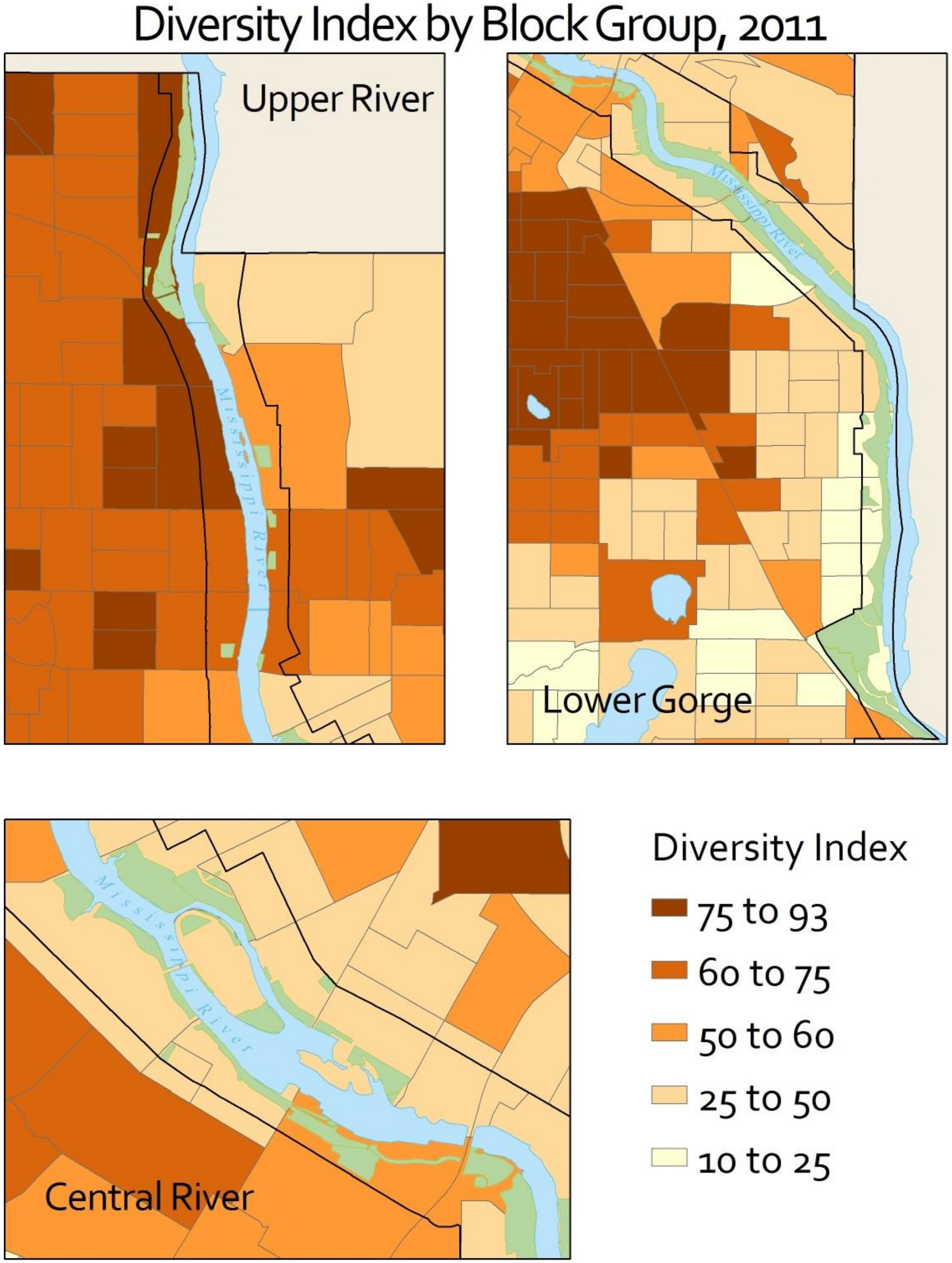
Residential Vitality Indicators

- Demographics
  - Diversity
  - Median household income
  - Owner-occupancy rate

- Housing Stability
  - Estimated market value (EMV)
  - Change in EMV
  - Residential vacancy rate
  - Foreclosure Density
  - Affordable Housing

- Investment in Housing Market
  - New residential construction permits
  - Vacant residential parcels
  - Sales

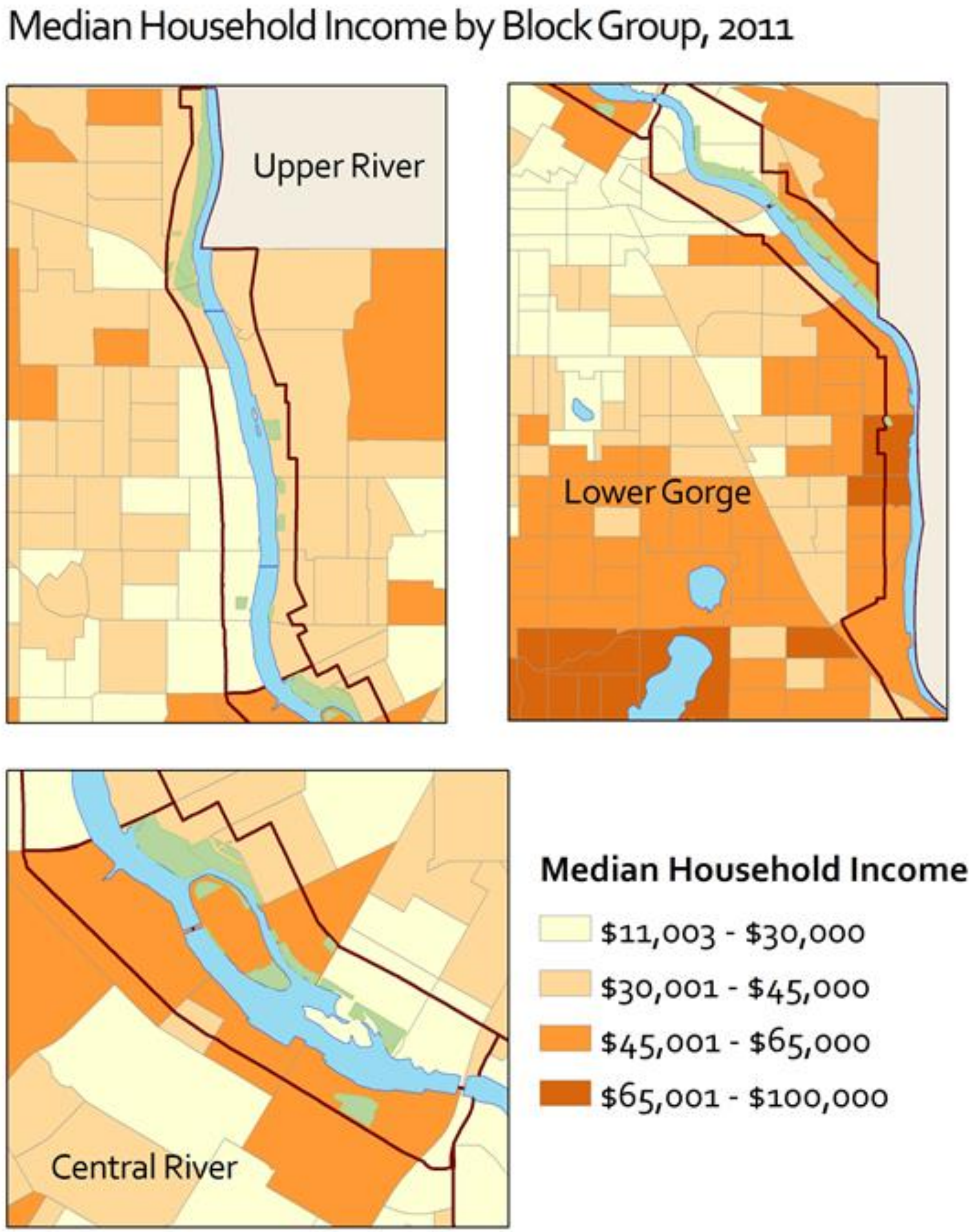
Demographics



- The Diversity Index reflects ethnic and racial diversity and calculates the probability that two people chosen randomly belong to different racial or ethnic groups.

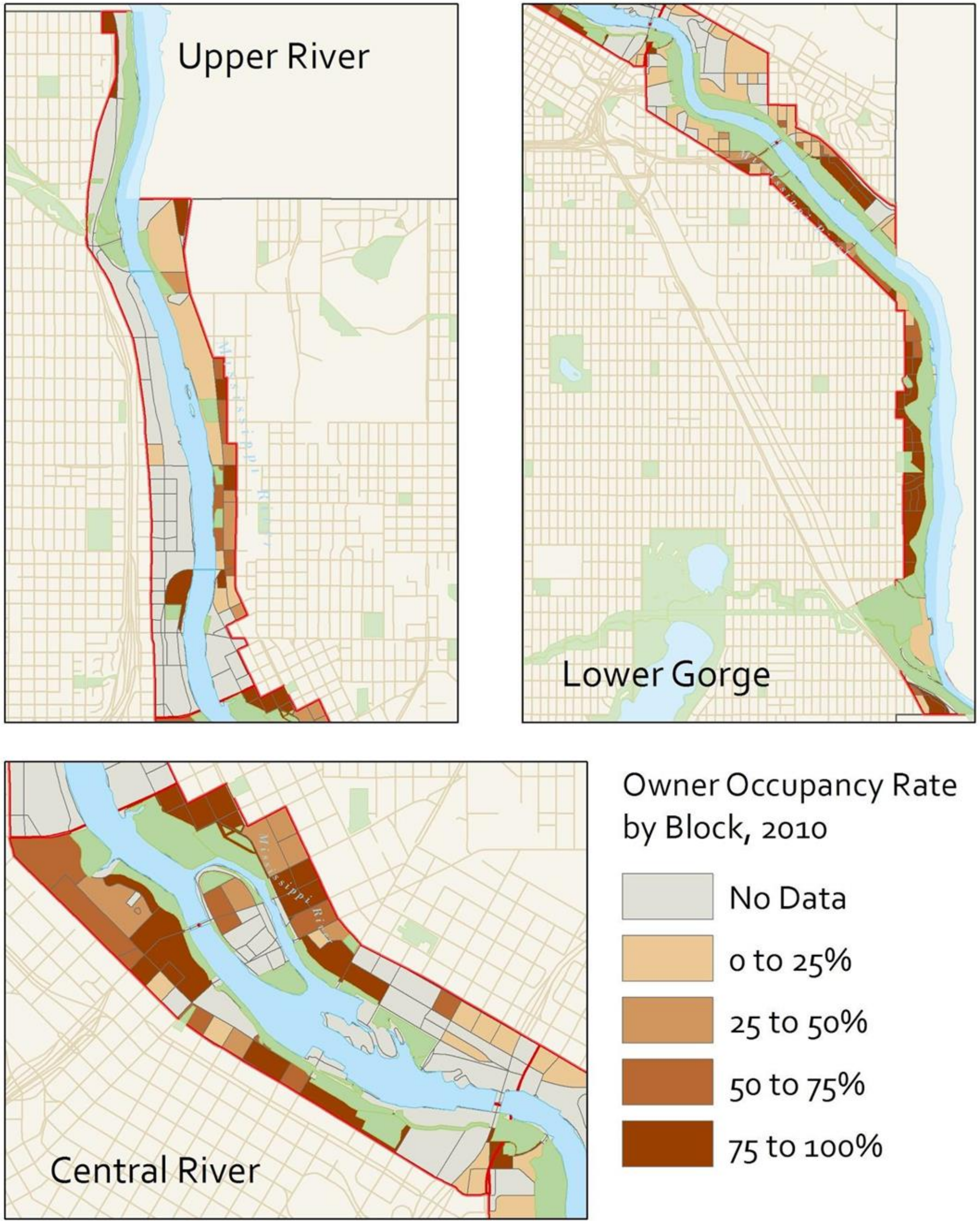
- The index ranges from 0 (zero diversity) to 100 (complete diversity).

- Higher levels of diversity are concentrated in the Upper River; lower levels of diversity are concentrated in the Lower Gorge.



- Lower median household incomes are concentrated in block groups in the Upper River.
- Median household income is more variable in the Central River and Lower Gorge.
- The median household income of block groups in the Central River is higher than the income of adjacent block groups.

Owner Occupancy Rate

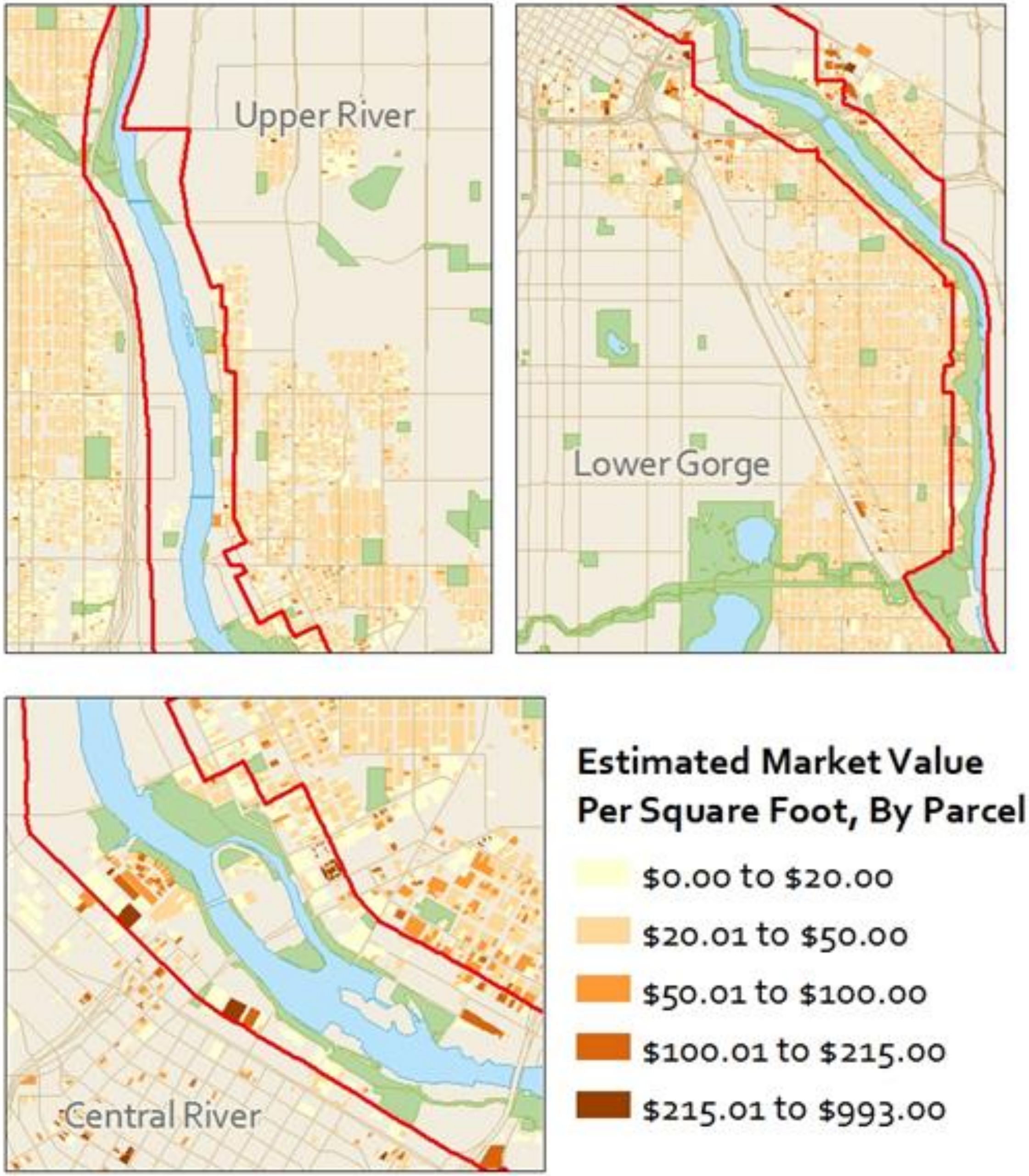


- Overall, higher owner-occupancy rates occur in the Lower Gorge south of I-94; some high rates occur in Downtown and the Upper River.

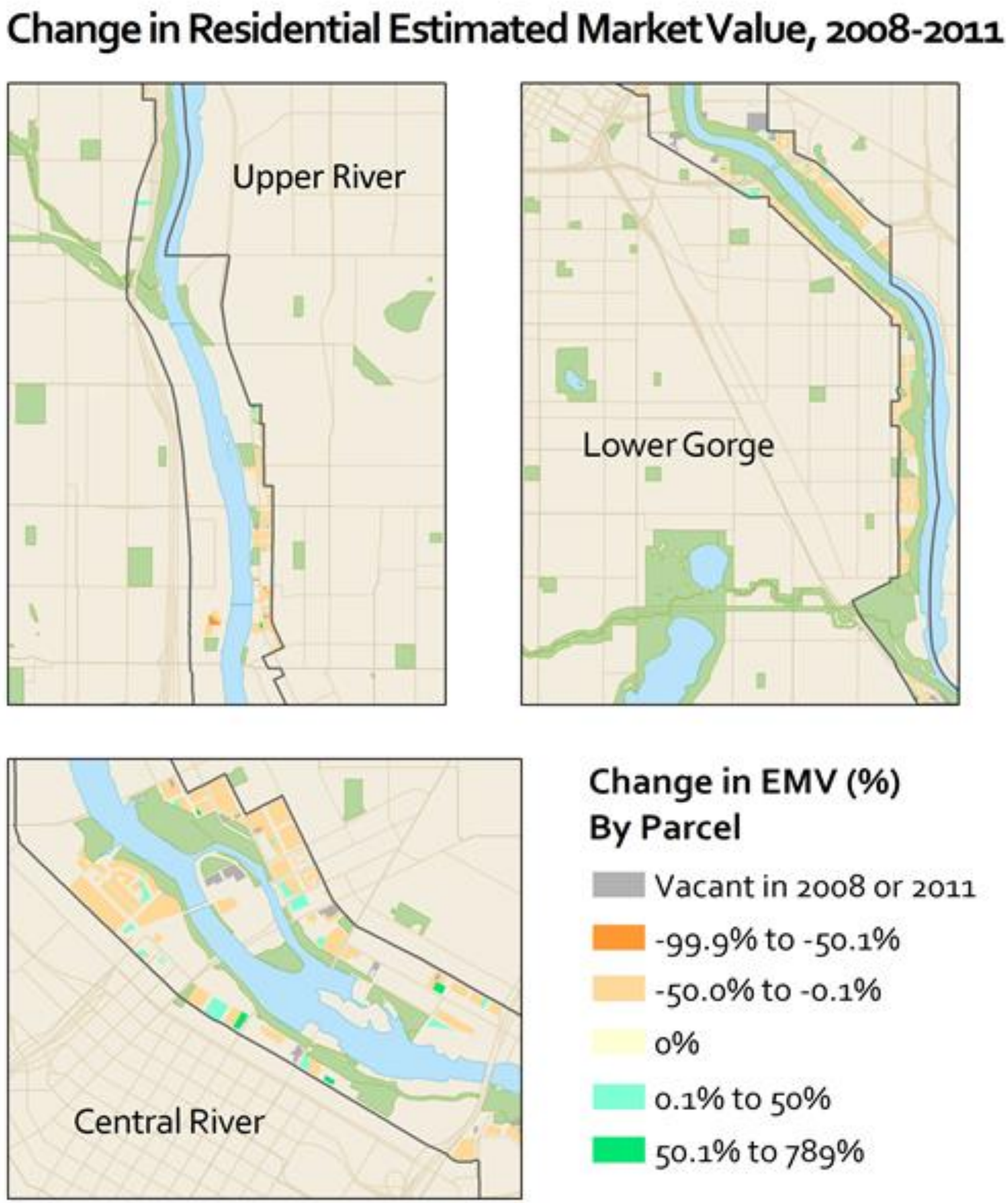
- Lower owner-occupancy rates are found in Cedar-Riverside and in neighborhoods near the University in the northern part of the Lower Gorge, and also along the east bank of the Upper River.

Housing Stability

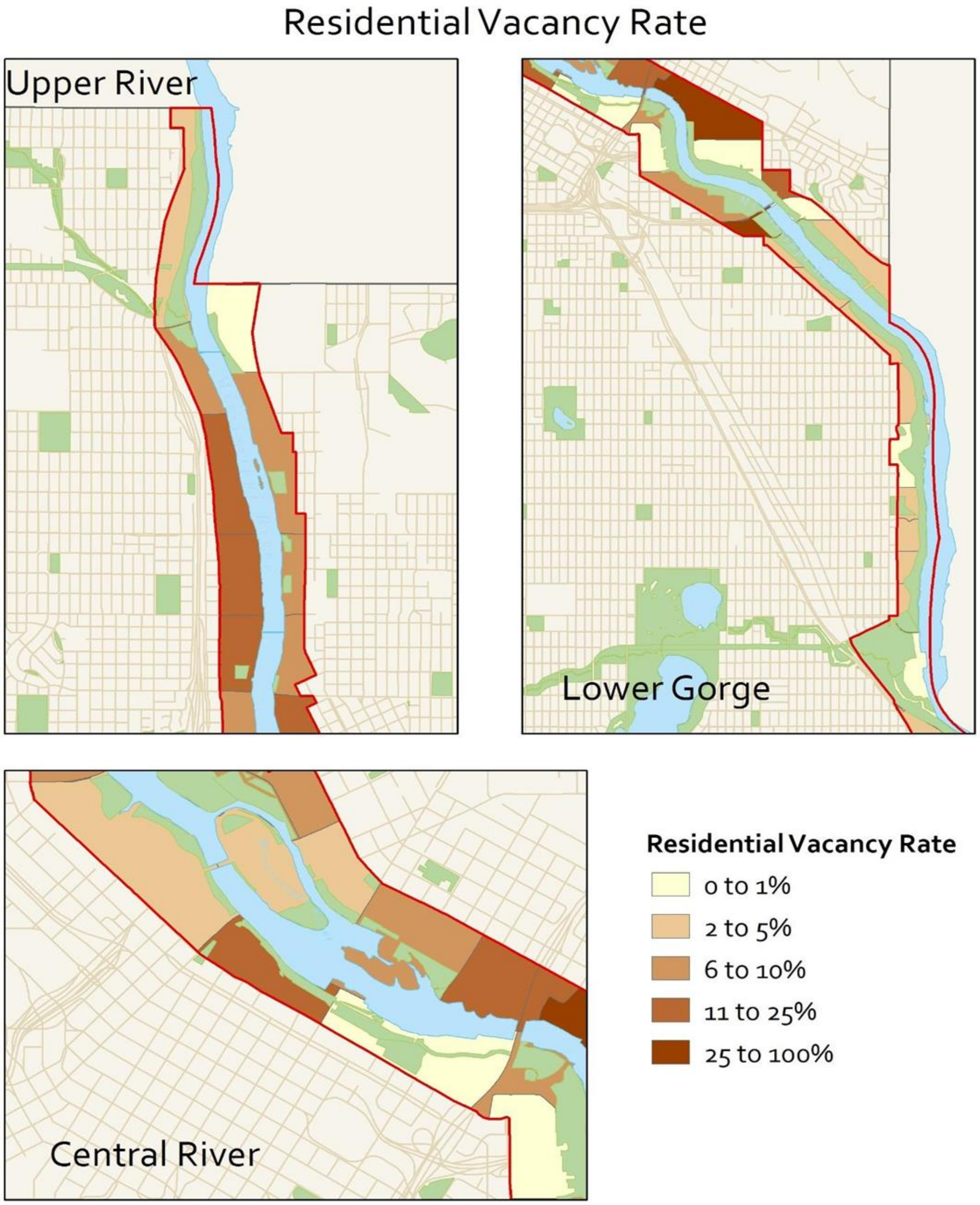
Estimated Market Value of Residential Properties, 2011



- Total estimated market values were obtained from the MetroGIS parcel database and then standardized by square footage of the properties.
- The Upper River has lower market values than the Lower Gorge and Central River.
- The highest market values are concentrated in Downtown.

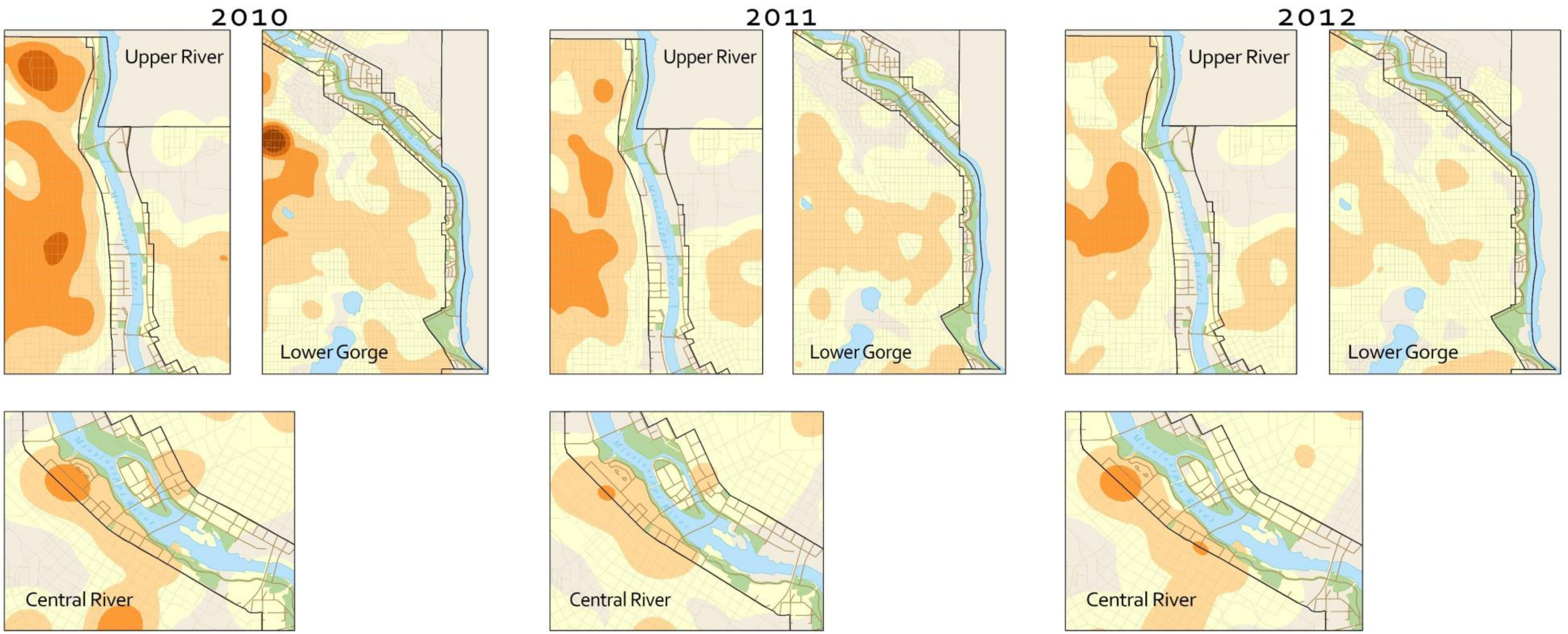


- There is an overall trend of negative change in estimated market values of residential properties from 2008 to 2011.
- The greatest decreases in estimated market value are concentrated in the Upper River while there are positive changes in the Central River and in the northern part of the Lower Gorge.

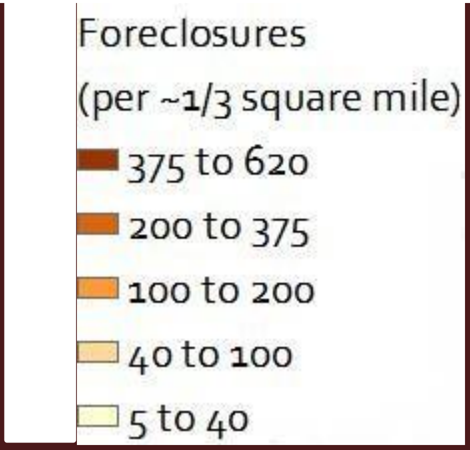


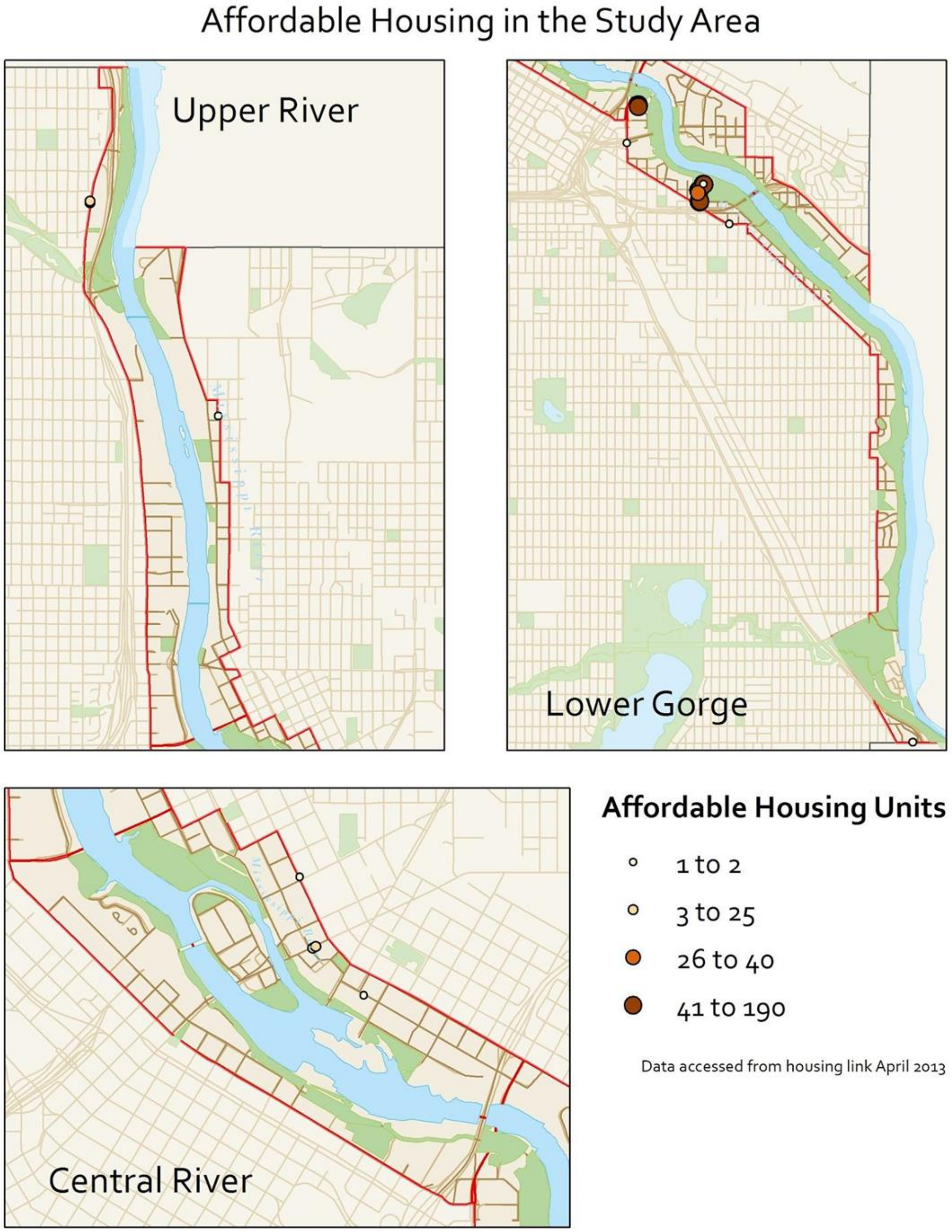
- In the Lower Gorge, rates are mostly below five percent. The two block groups with the highest residential vacancy rates are also in the Lower Gorge: in the Seward and University neighborhoods.
- There are higher residential vacancies in the Upper River; most block groups fall in the 6 to 10% or 11 to 25% categories.

Foreclosure Density in Minneapolis



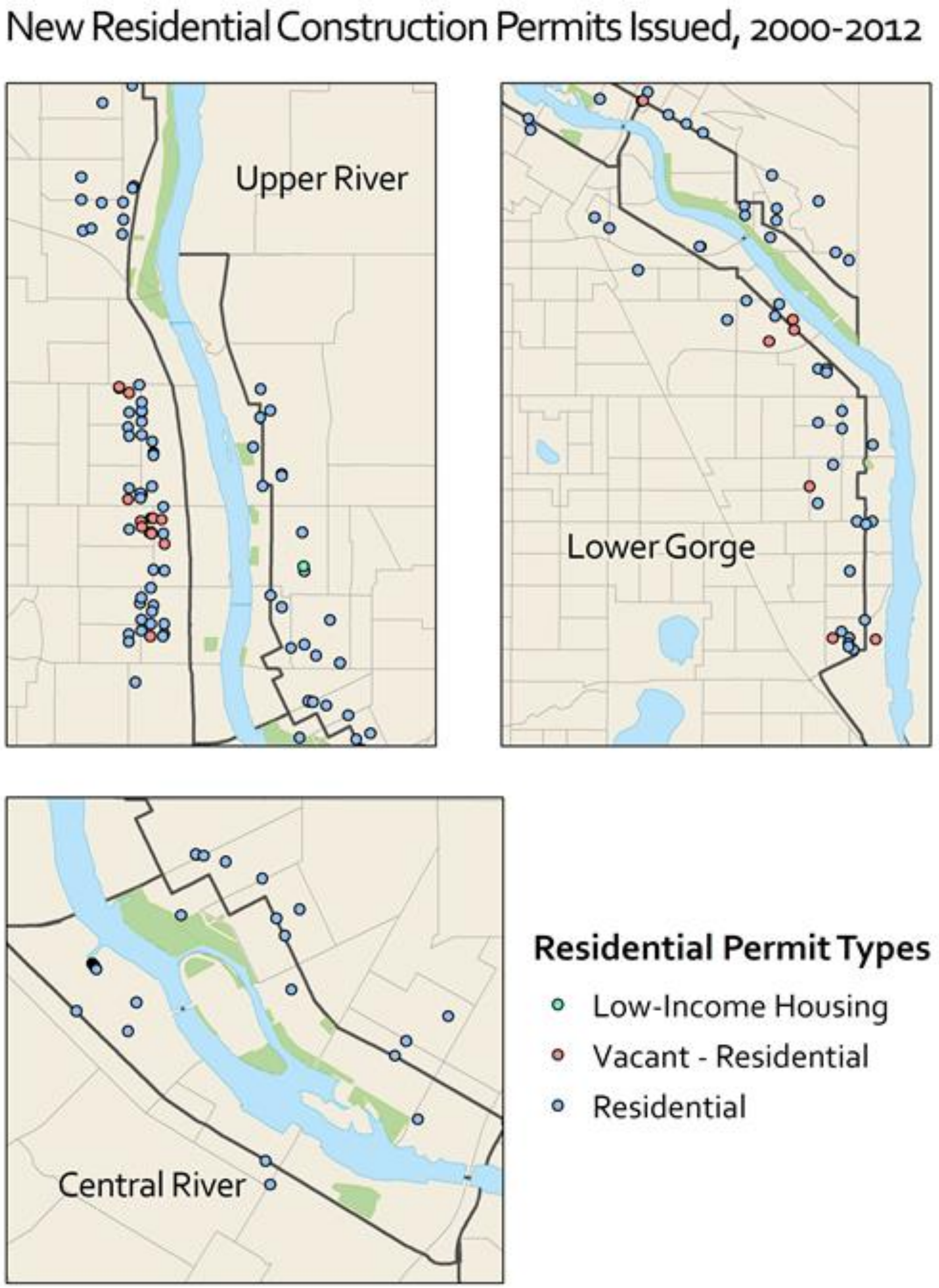
- Compared to surrounding neighborhoods, the study area has largely been shielded from the impacts of the foreclosure crisis.





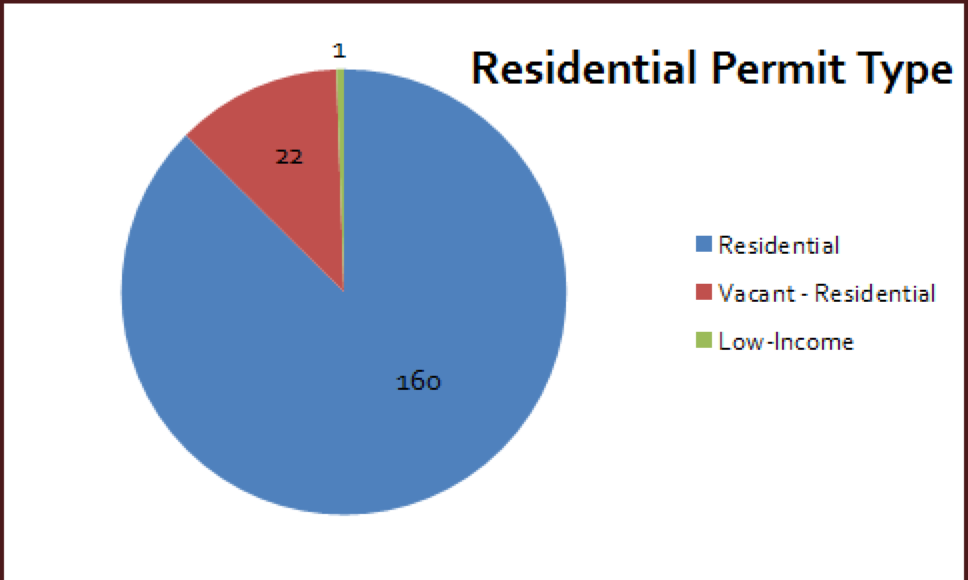
- There are two affordable housing sites in the Upper River, along the edges of the study area.
- There are several smaller sites in the eastern part of the Central River and none in the west.
- Most of the affordable housing in the study area is clustered in the northern part of the Lower Gorge, in the Seward and Cedar-Riverside neighborhoods.

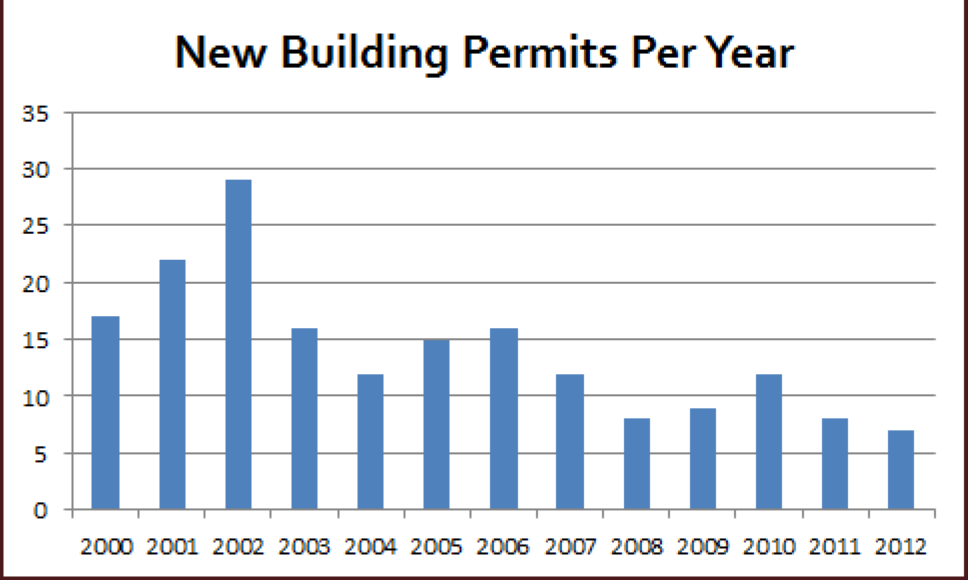
Investment in Housing Market



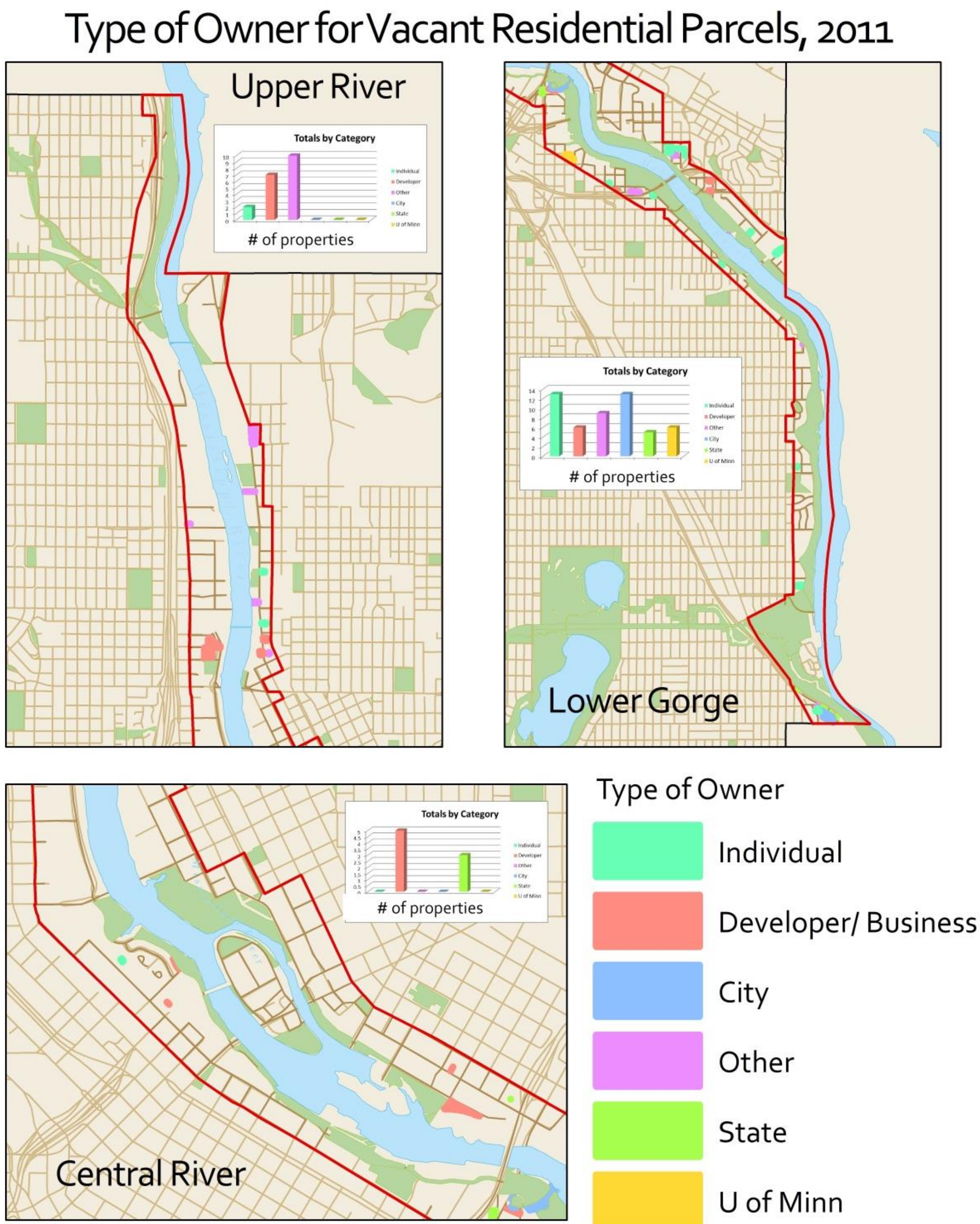
- The greatest density and quantity of new building permits are located in the Upper River.
- While the majority of construction permits in the Upper River are at the periphery of the study area, the Lower Gorge has more permits located within the study area.
- There is a concentration of permits that are currently vacant and set aside for residential use in the Upper River.

Residential Construction Permits

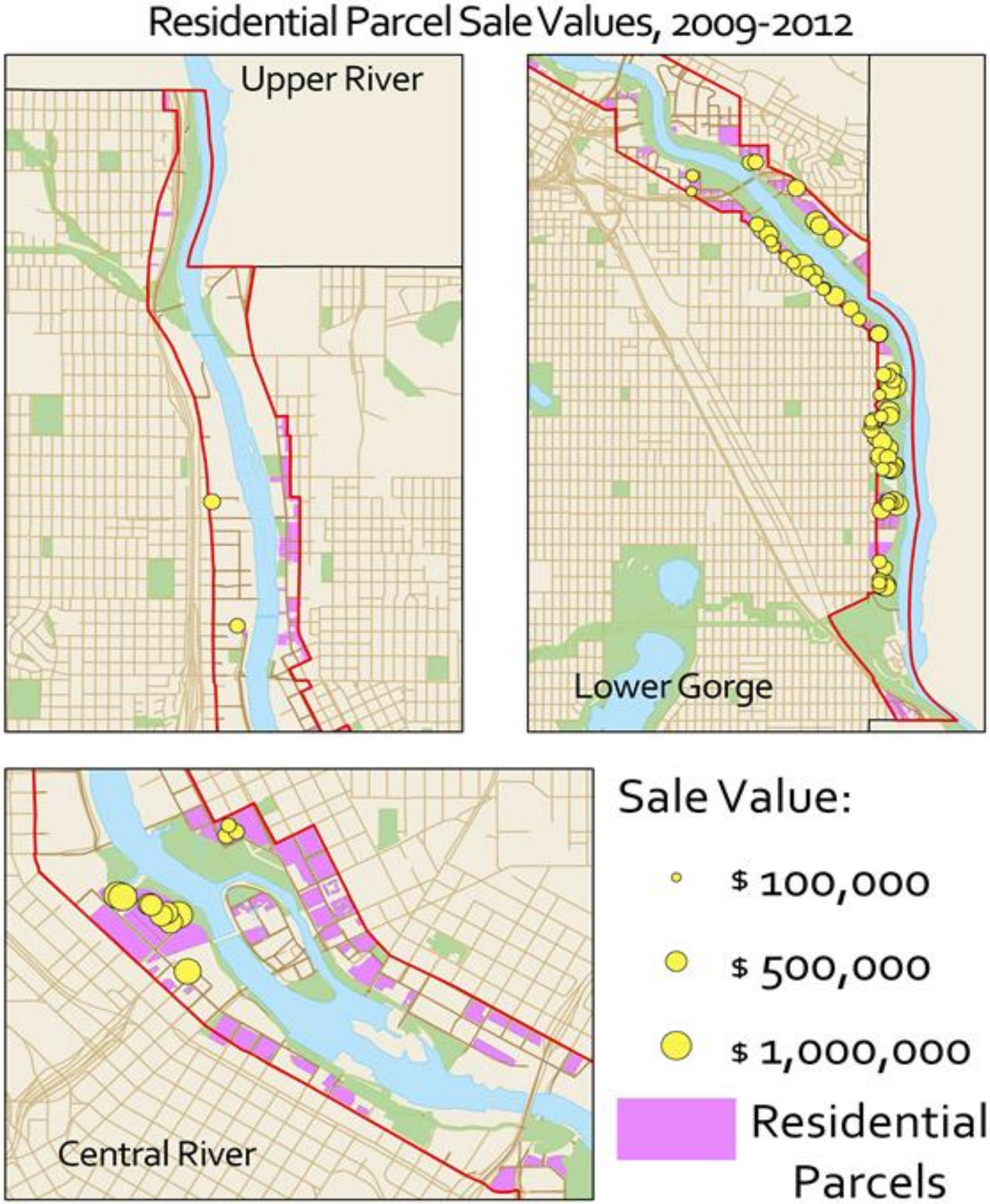




- The majority of new building permits are set aside for 'residential' use, such as apartments, bungalows, condominiums, duplexes, and townhouses.
- The majority of the construction permits were issued from 2000-2006. There is a steady decline after 2006 and a small increase in 2010.



- There is a cluster of vacancies north of downtown, near the Broadway Ave. bridge.
- There is a second cluster in the Cedar-Riverside and Seward neighborhoods and immediately across the river.
- There is no predominant landholder category.



- There is a dearth of residential sales in the Upper River.
- The highest value sales are concentrated downtown.
- Overall, sales are highly concentrated in the Lower Gorge.

Conclusions

- Upper River
  - The river is not a stabilizing force for the housing market
    - Lower EMV, a dearth of sales, few residential construction permits within the study area, and a higher residential vacancy rate
  - Higher levels of diversity in comparison to Central River and Lower Gorge
  - Lower median household income and lower owner-occupancy rates
  - Dearth of affordable housing
  - However, the area is largely industrial

Conclusions (cont.)

- Central River
  - Our indicators point toward greater investment in the housing market, but there is also more variation in signs of housing stability
  - Highest EMV and highest value sales are concentrated in downtown
  - More varied levels of diversity

- Lower Gorge
  - Housing market is stable south of the U of MN and Cedar-Riverside
  - Highest owner-occupancy rates and a large concentration of sales
  - Residential vacancy rates mostly below 5%

Access

Worldbicycling.blogspot.com

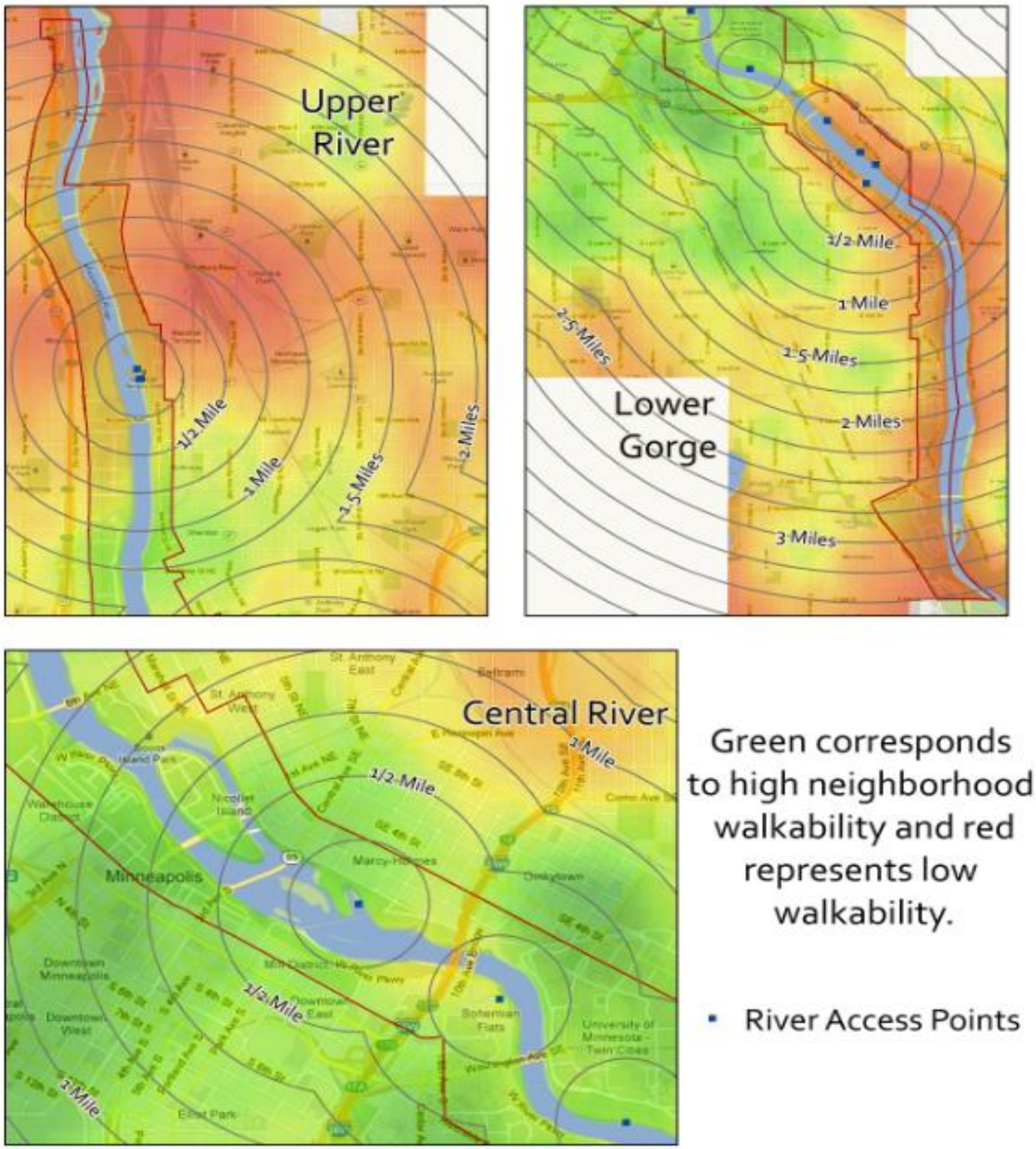
Andrew Feinberg, Hannah Fong, Leah Plummer

Access Vitality Indicators

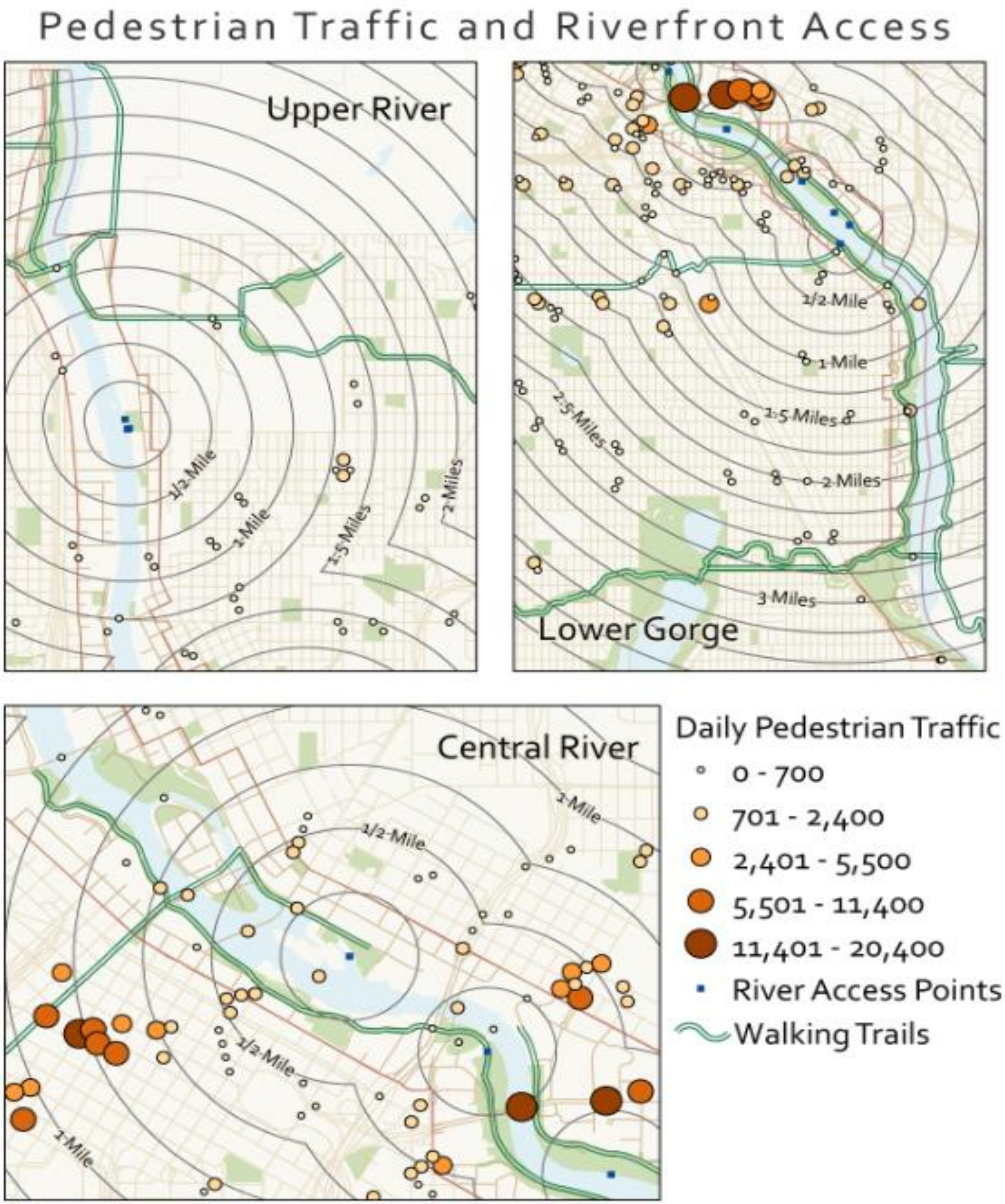
- Walkability
- Bikeability
- Public Transit

Walkability

Walkscore and Riverfront Access

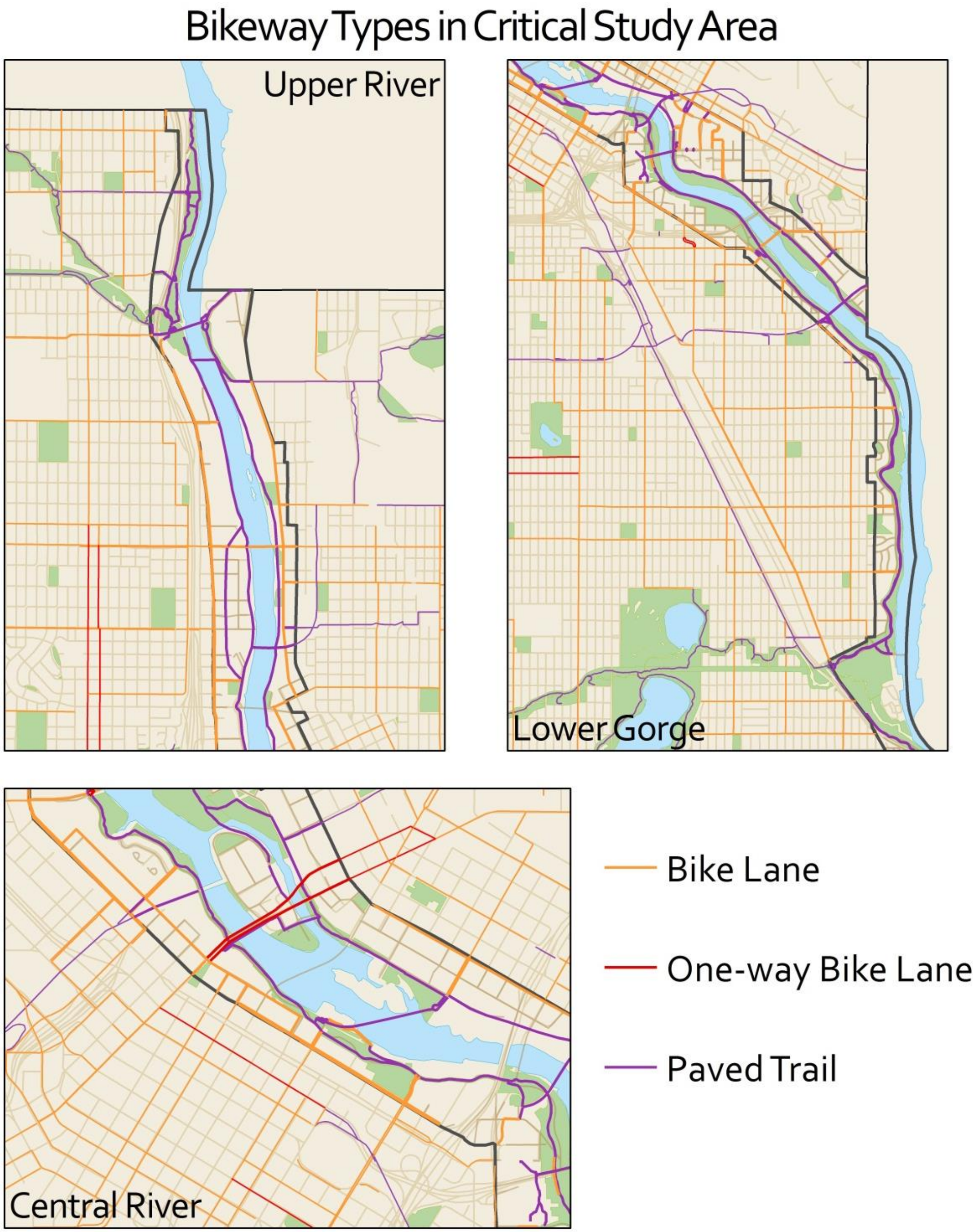


- Walkability is highest downtown, and lowest to the north and south.
- "Access points" are defined as locations with physical access to the riverfront.
- Only a minority of access points fall within walkable neighborhoods.

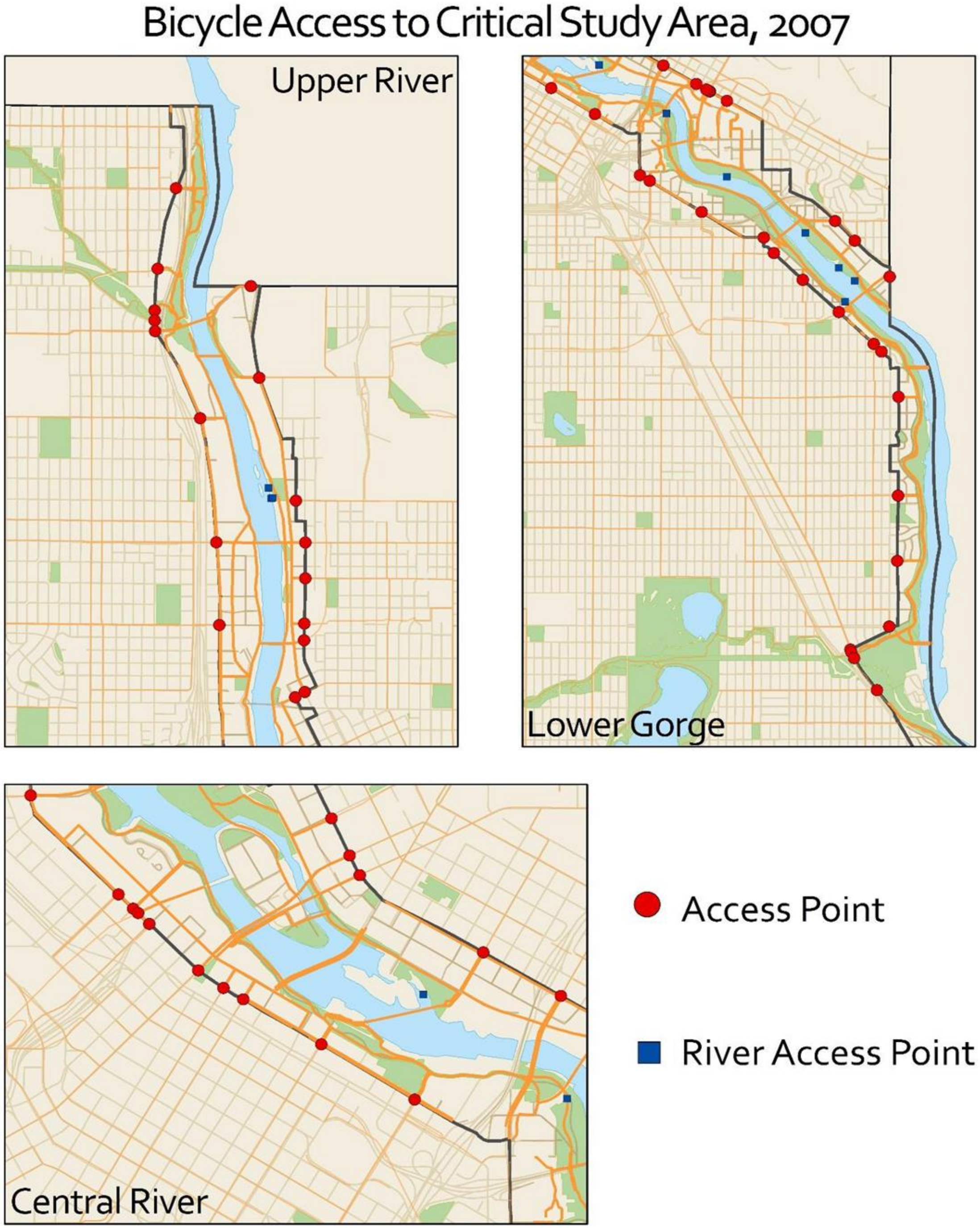


- The highest pedestrian traffic takes place downtown.
- Downtown and areas heading south are well connected to access points via walking trails.
- Despite the presence of access points, relatively little pedestrian traffic occurs north of downtown.

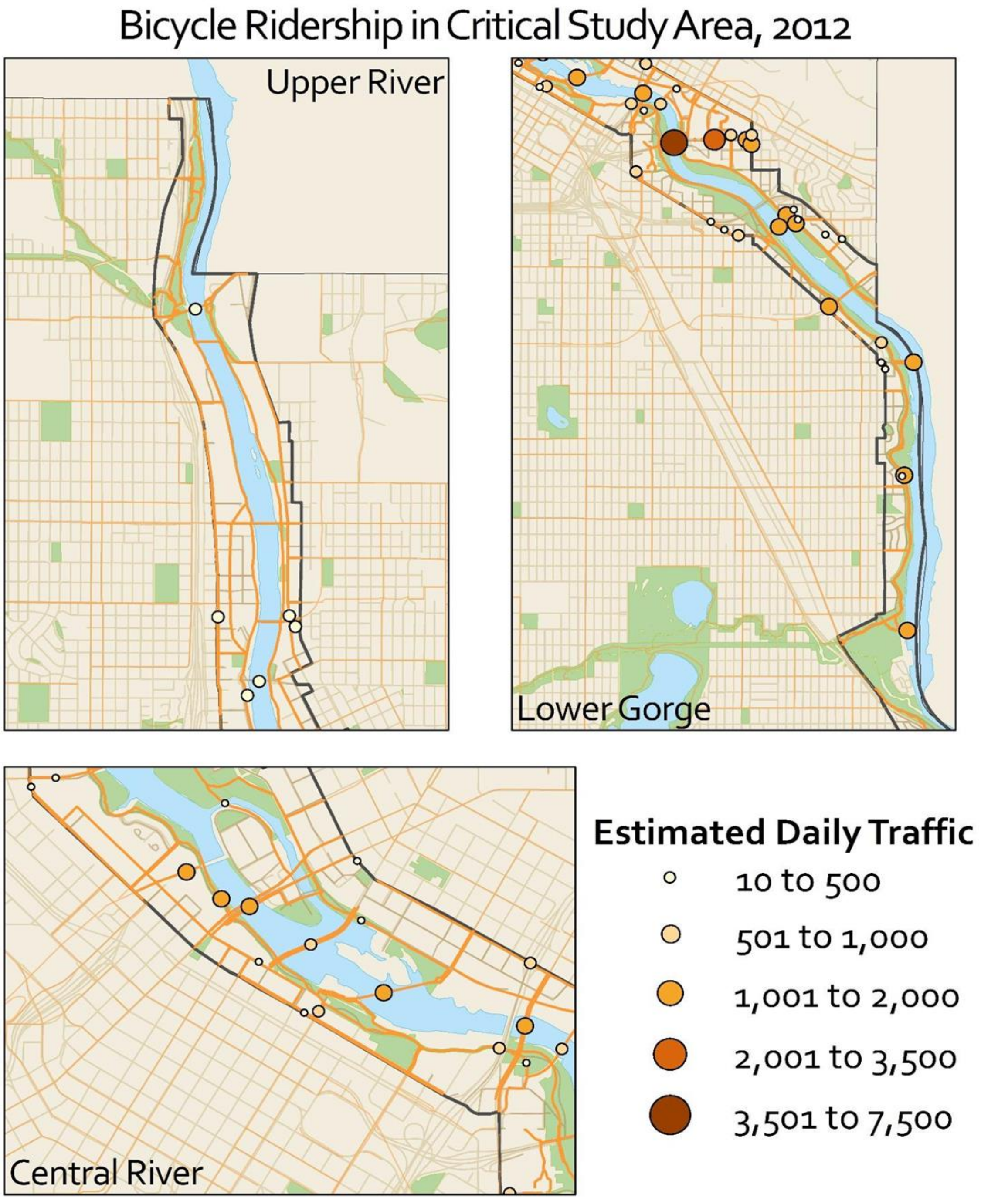
Bikeability



- Most of the roads in the study area are accessible by bicycle.
- The majority of bikeways in the study area are on road "Bike Lanes" or separated "Paved Trails."

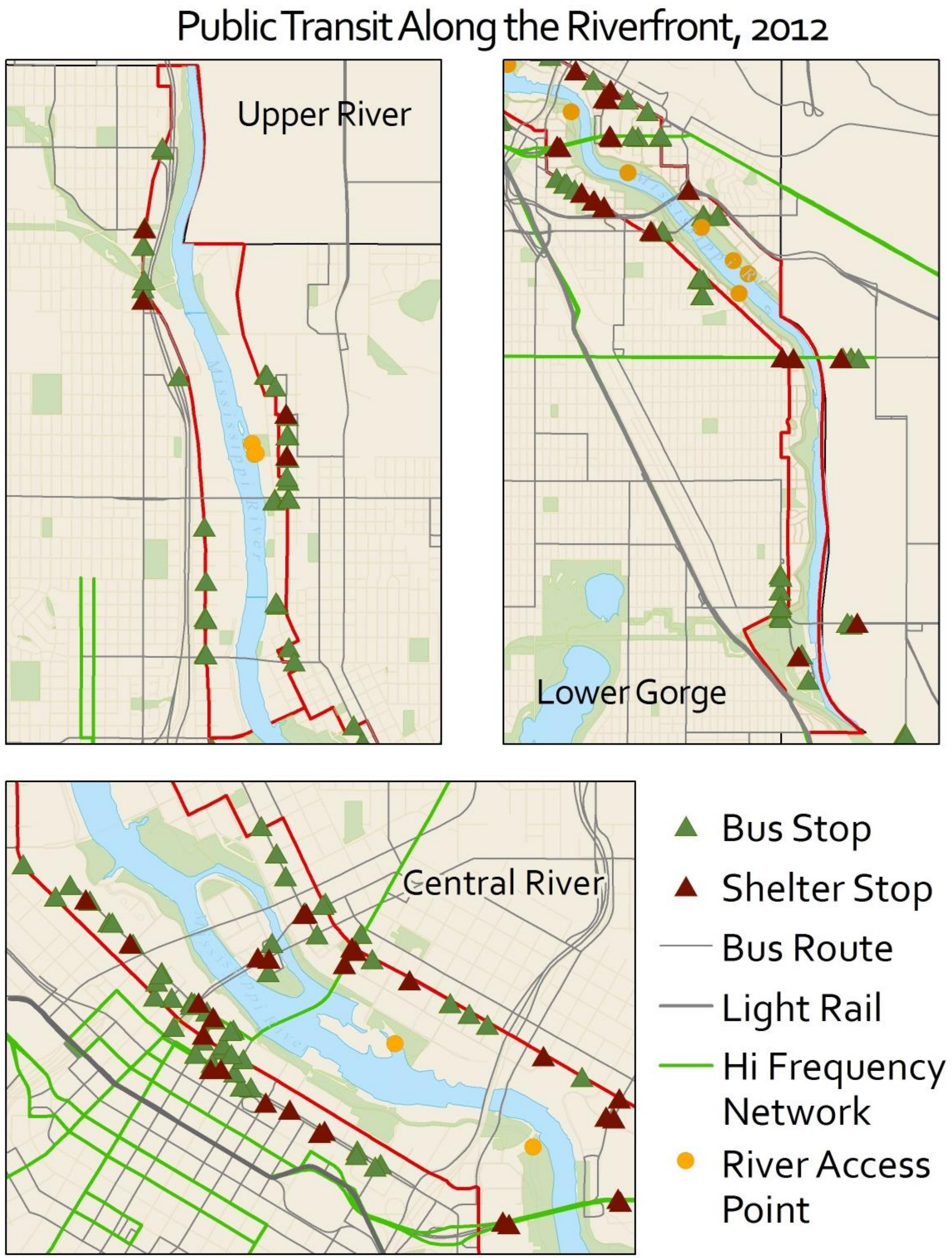


- An "Access Point" is defined as a location at which a bike lane crosses into or out of the study area.
- A "River Access Point" is defined as a location with a path leading to direct water access.
- Access points are abundant throughout the study area.



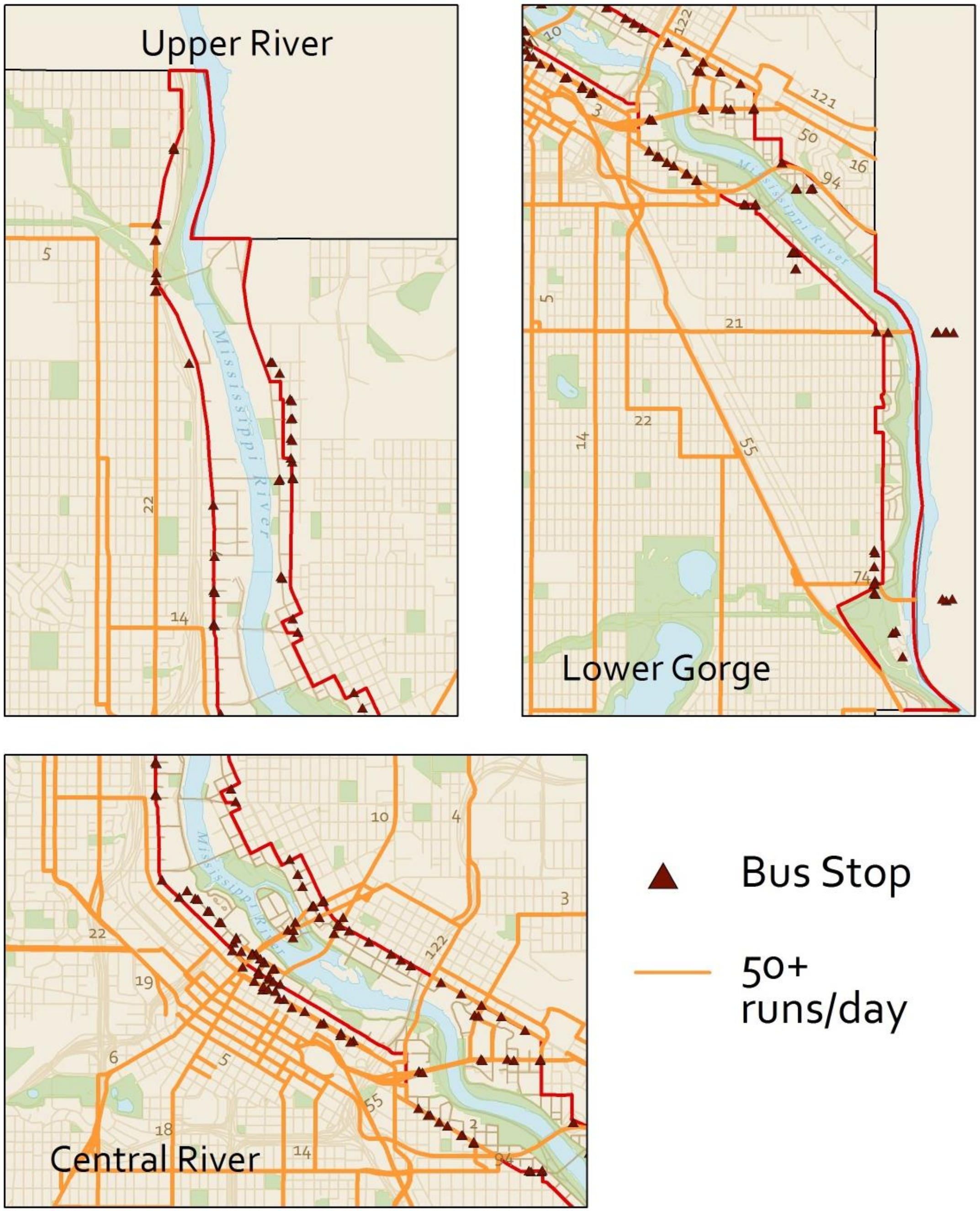
- The highest Estimated Daily Traffic occurs in the northern Lower Gorge.
- Since infrastructure is uniformly abundant, the difference in traffic must be related to other factors.

Public Transit

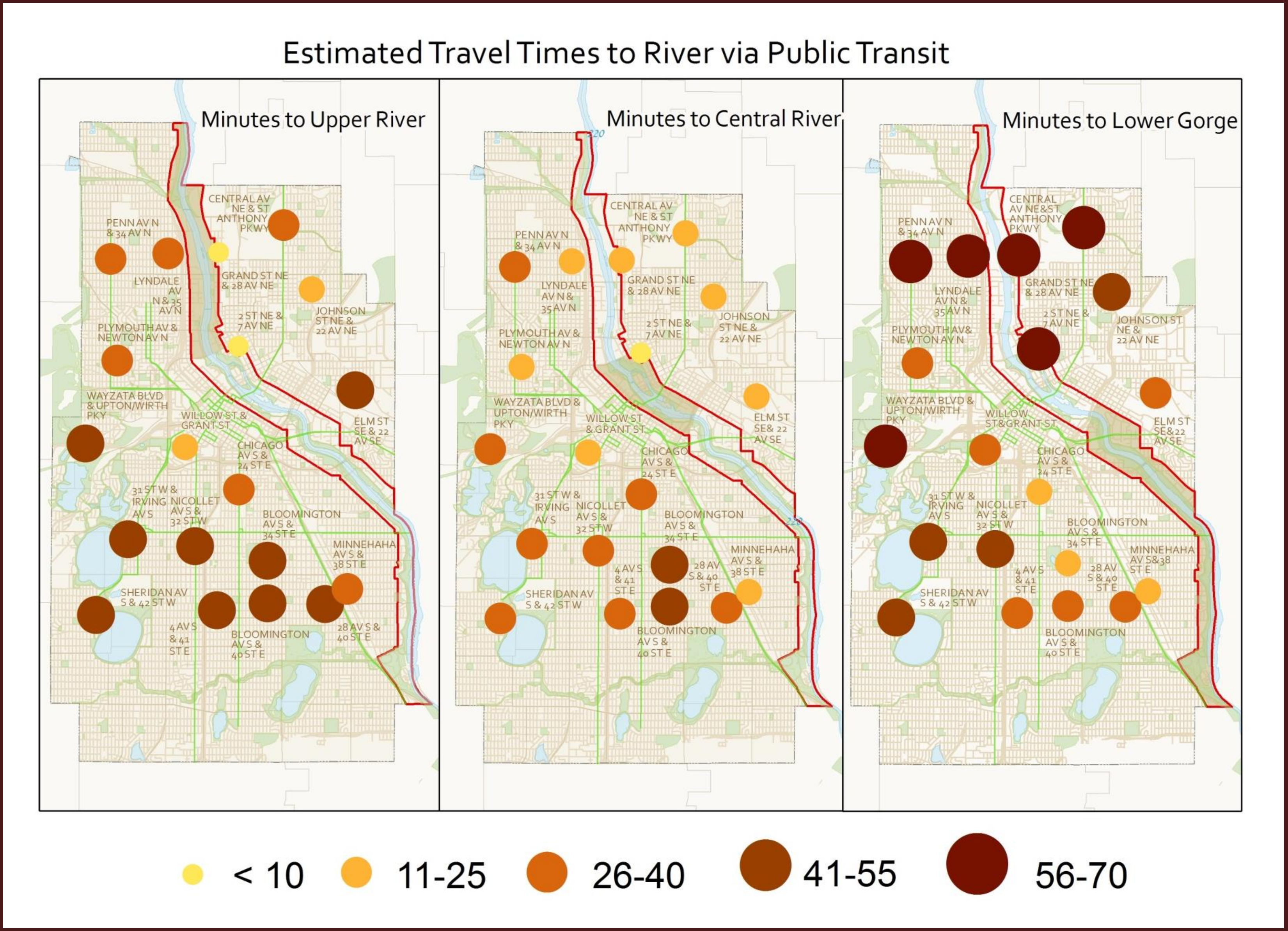


- The largest concentration of bus stops falls in the Central River and Lower Gorge.
- The Central River and Lower Gorge contain bus stops that lie on the high-frequency network.

Bus Routes That Run 50 or More Times Per Weekday



- The frequency at which a line completes its route indicates how easily a person is able to catch a bus/light rail at any given time.



- Estimated public transit times reveal how likely it is that people from different areas will use public transit to get to the riverfront.

Conclusions

- Access to the river by foot is greatest downtown and worsens significantly as one travels further north or south.
- The study area is evenly infrastructurally accessible by bicycle.
- Public transit connections are clearly strongest from Northeast Minneapolis to the Central River, likely a result of a high-frequency bus line connecting the two regions.

Project Conclusions

Minneapolisriverfrontpartnership.org

Conclusions/Recommendations

- Room for development and access in the Upper River
  - Limiting potential for accessibility/jobs
- Expand study area to view larger impact of riverfront development
  - Utilize comparative study with other cities' riverfront development initiatives
- Evaluate impact of river development with the City of Minneapolis

Reflections

- Greater inclusion of community throughout the research process
  - Community input extremely valuable in design of map data

- Study area challenges due to unique boundaries and overlapping jurisdictions

Acknowledgements

- Minneapolis Riverfront Partnership
  - Joan Bennett, Kathleen Boe, Edna Brazaitis, Cordelia Pierson
- Federal Reserve Bank of Minneapolis
  - Jacob Wascalus
- David Wiggins, National Park Service
- Paul Schadewald, Macalester Civic Engagement Center
- Our professors, Laura Smith and Ashley Nepp