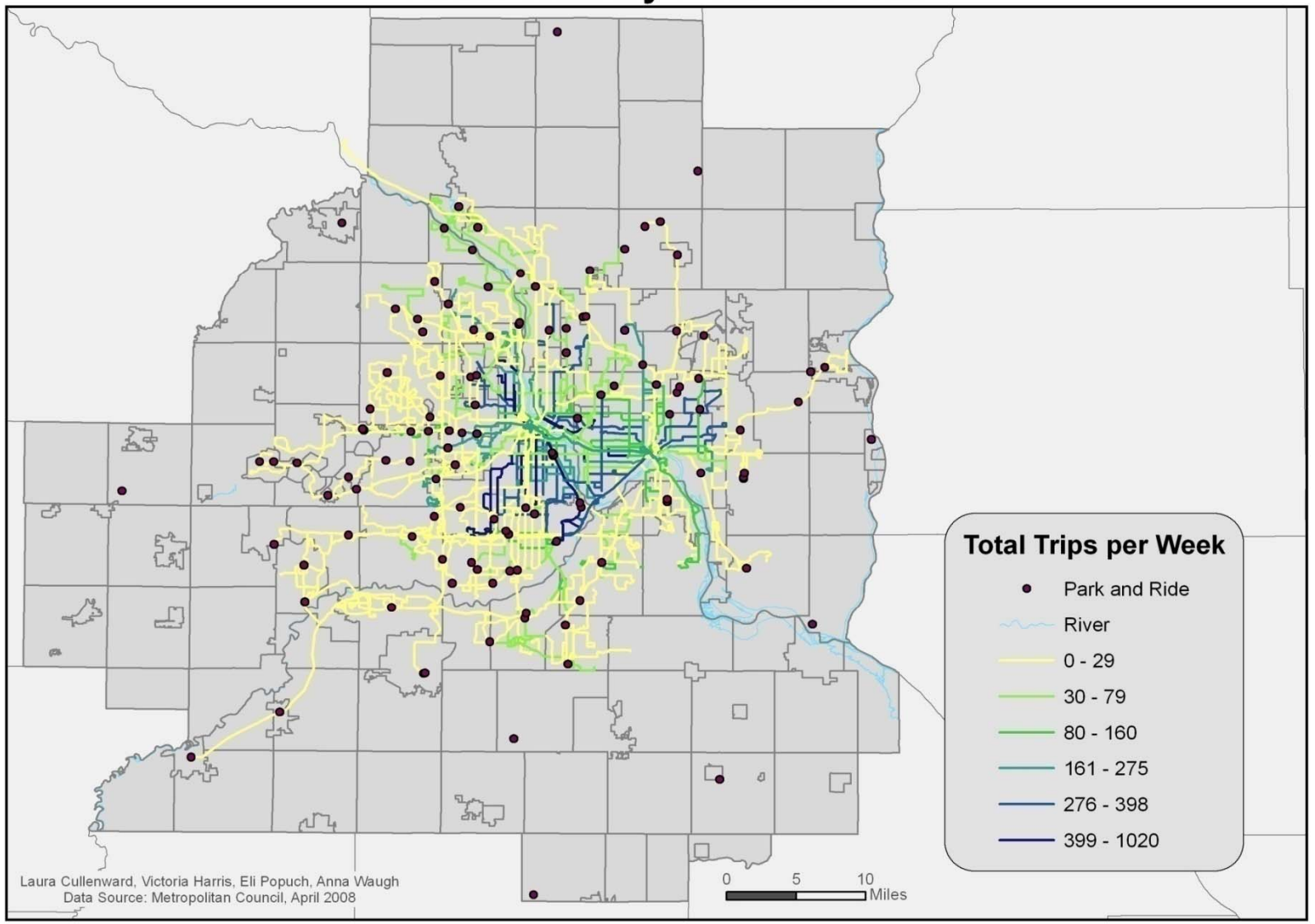
How does transportation in the Twin Cities shape the spatial mismatch?

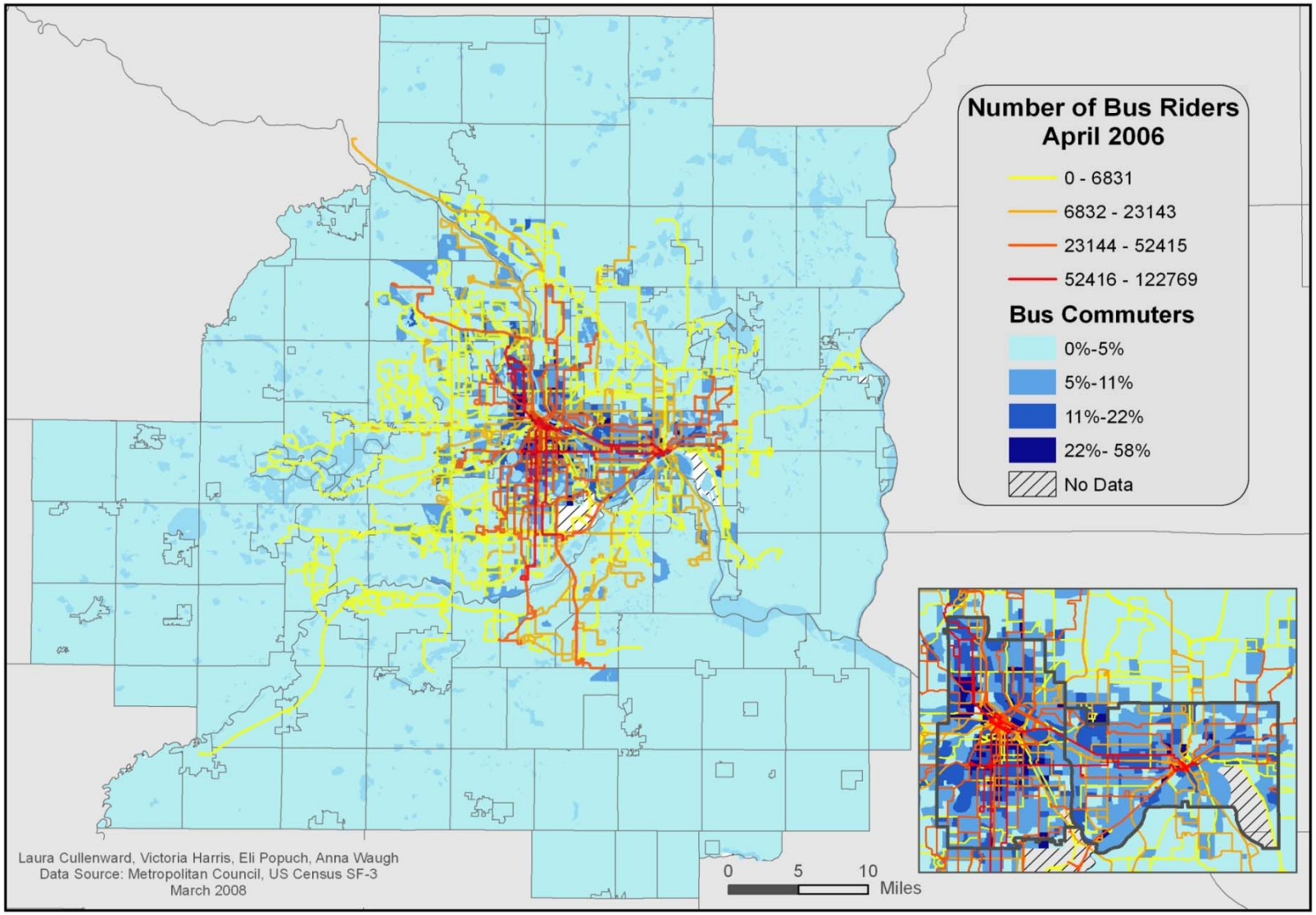
- Bus routes and ridership
- Job accessibility by bus
- Transportation correlations with demographic and socio-economic characteristics
- Case studies: work location and transit access
- Case studies: race, work location, transit access, and commute time

Total Weekly Bus Service



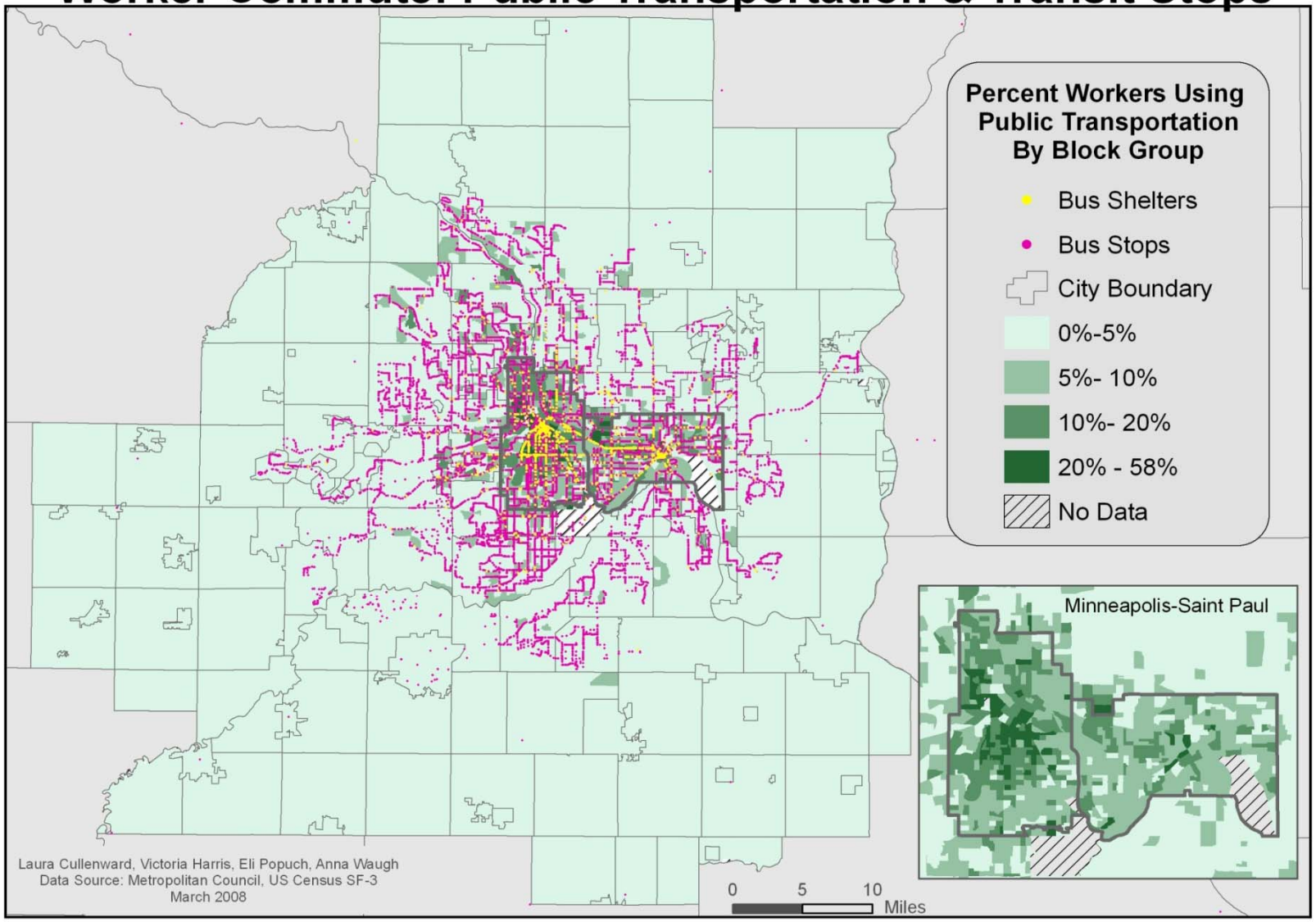
- Routes with the highest number of total trips per week are concentrated in Minneapolis and St. Paul, while routes with the lowest number of total trips serve the outer-ring suburbs

Bus Riders and Bus Commuters



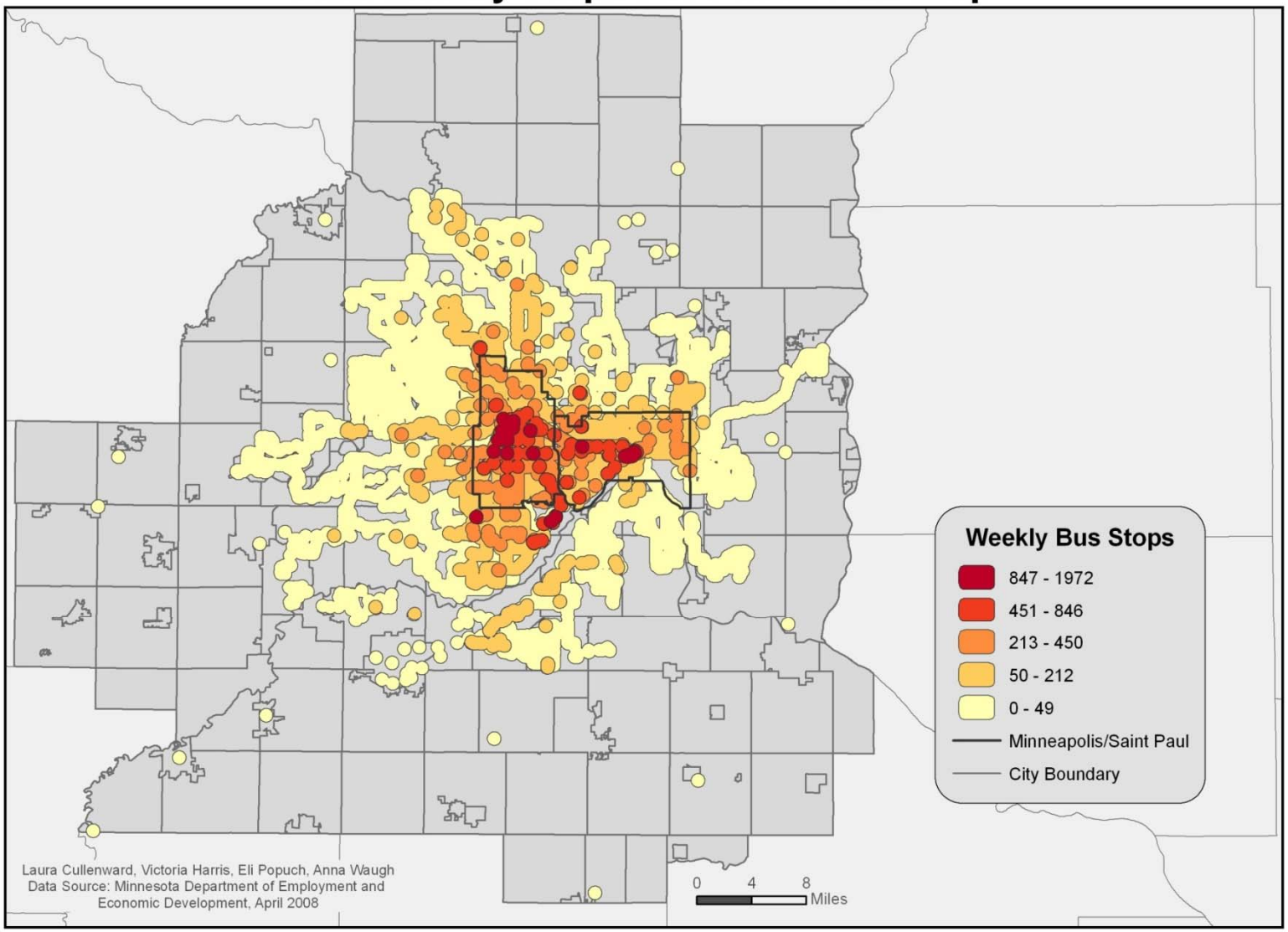
- Routes with the highest number of bus riders are concentrated in Minneapolis and St. Paul, while routes with the lowest number of bus riders serve the inner- and outer-ring suburbs

Worker Commute: Public Transportation & Transit Stops



- The highest percentages of public transportation commuters are concentrated in Minneapolis, with very low percentages of public transportation commuters in the suburbs

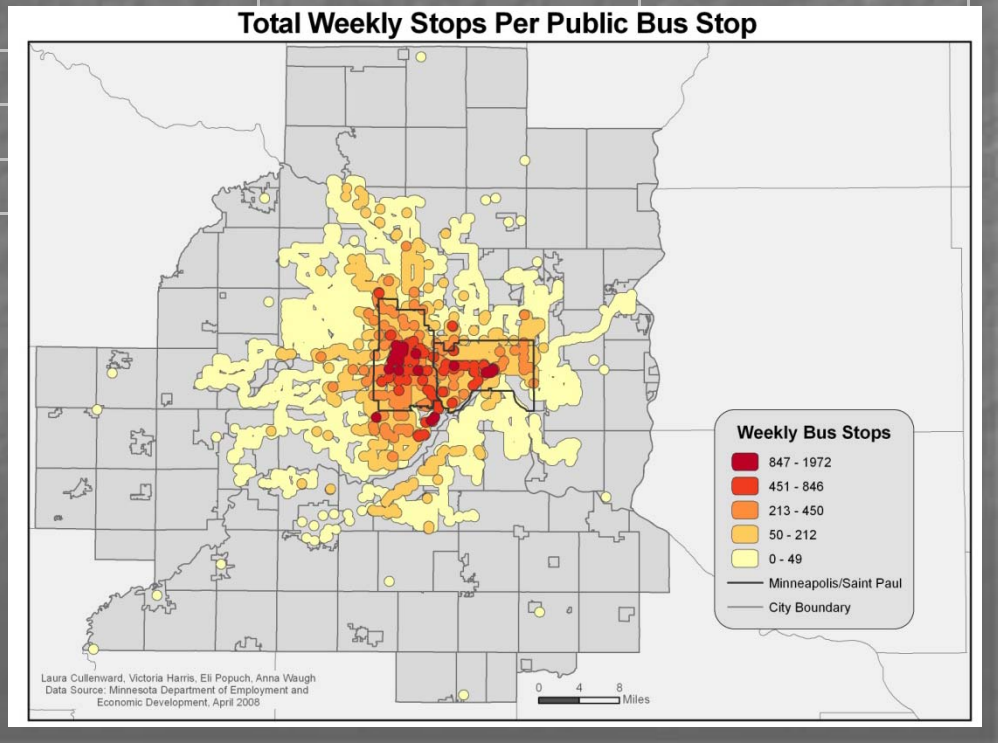
Total Weekly Stops Per Public Bus Stop



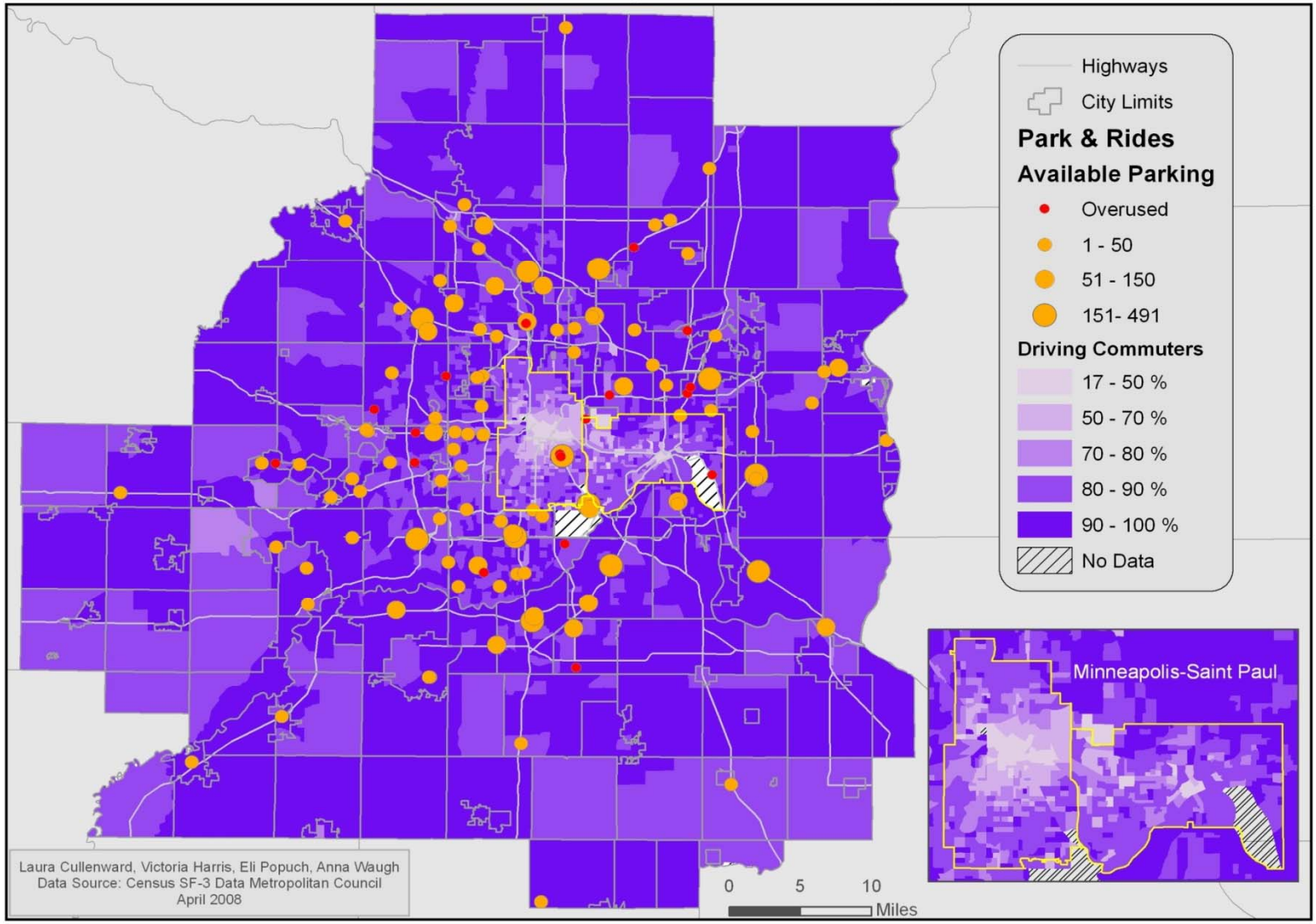
- Bus stops with the highest number of weekly stops are concentrated in Minneapolis and St. Paul, while bus stops with the lowest number of weekly stops occur in the inner- and outer-ring suburbs

Job Accessibility by Bus

Weekly Bus Stops	% Low Income**	% Middle Income**	% High Income**	% Total Jobs**
0 - 49	31.3	34.5	36.7	34.6
50 - 212	30.3	28.2	27.4	28.6
212 - 450	17.4	13.8	10.0	13.2
451 - 846	9.4	8.2	6.9	8.0
846 - 1,972	14.9	18.1	22.6	19.1
**** Jobs within Public Transit/Walking Buffer**				
Total Jobs	1,435,583			
Low Earning Jobs	350,920			
Middle Earning Jobs	504,422			
High Earning Jobs	580,241			



Park & Ride Availability for Driving Commuters



- Park and Rides are generally underused; driving commuters are heavily concentrated in the seven-county area other than the downtown areas

Transportation Correlations

Positive (0.54 to 0.63)

- Public transportation commuters & HHs earning < $40K/yr
- Commuters driving alone & HHs earning $60K - $100K/yr
- White population & driving alone
- African-American population & public transportation use
- People of 2-or-more races & public transportation use

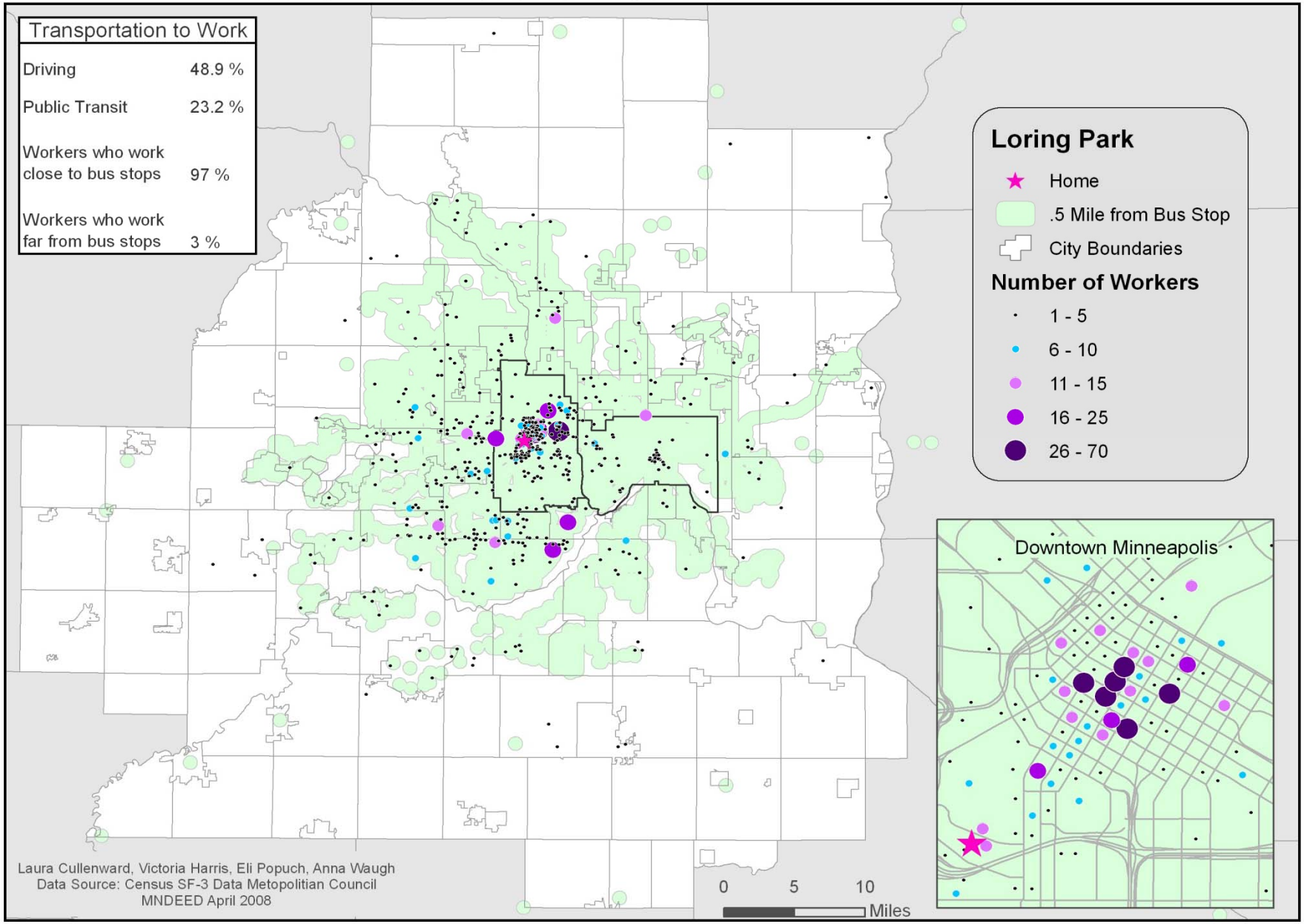
Negative (-0.66 to -0.50)

- Public transportation commuters & HHs earning $60K - $100K/yr
- Commuters driving alone & HHs earning < $40K/yr
- White population & public transportation use
- African-American population & driving alone
- People of 2-or-more races & commuters driving alone

*All are significant at the .01 level

Case studies:
Work location and transit access

Could Workers Switch to Public Transit?



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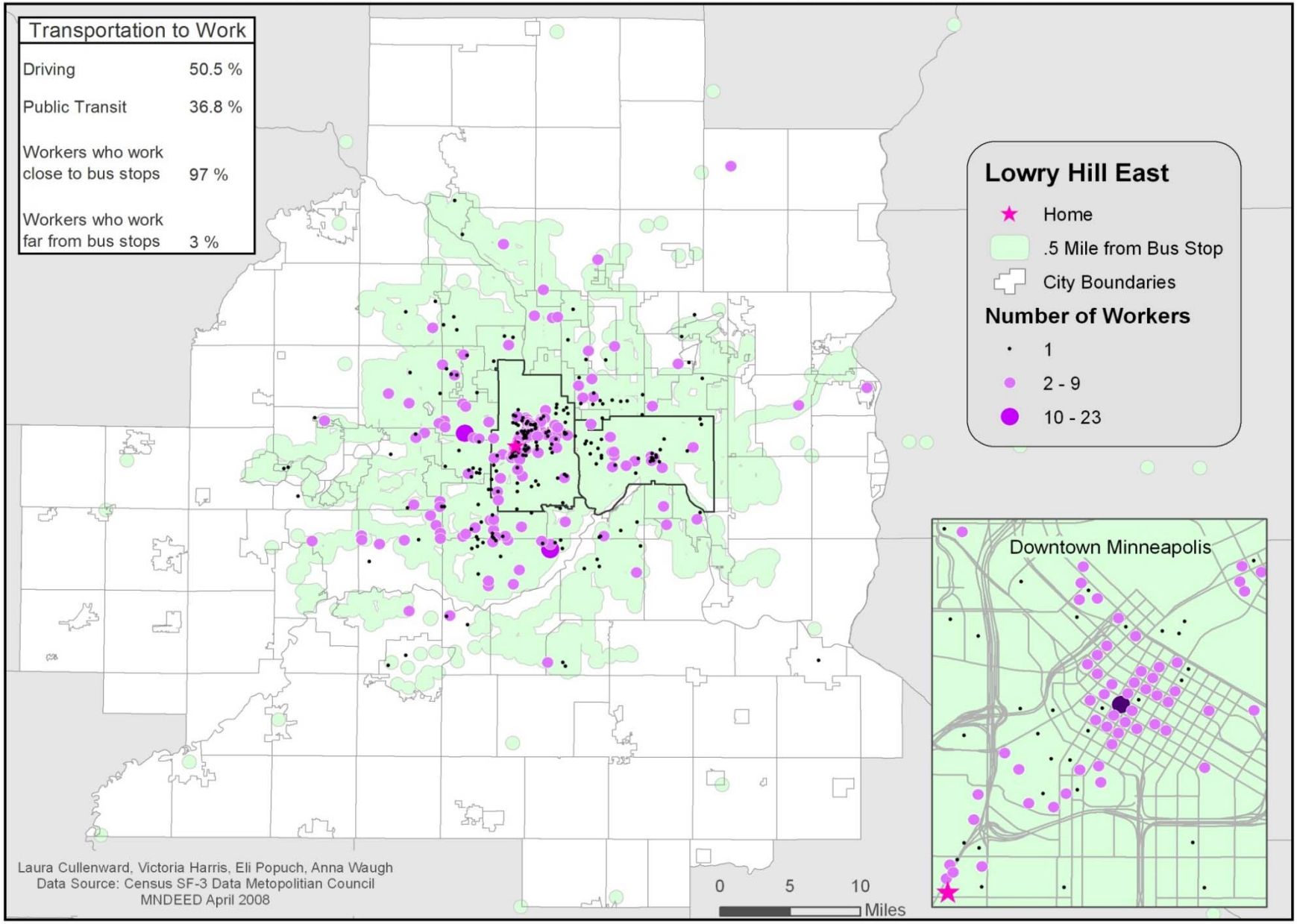

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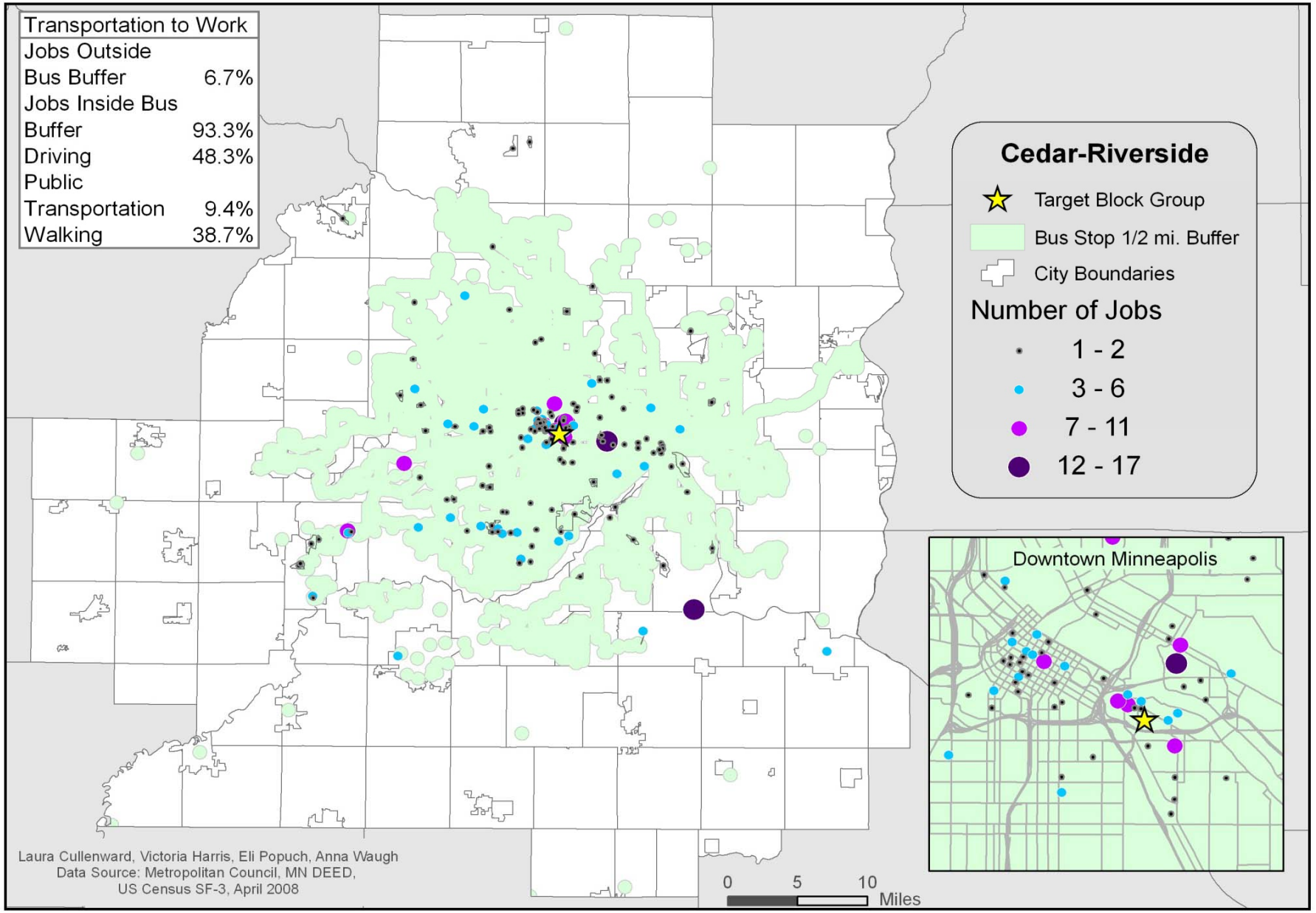
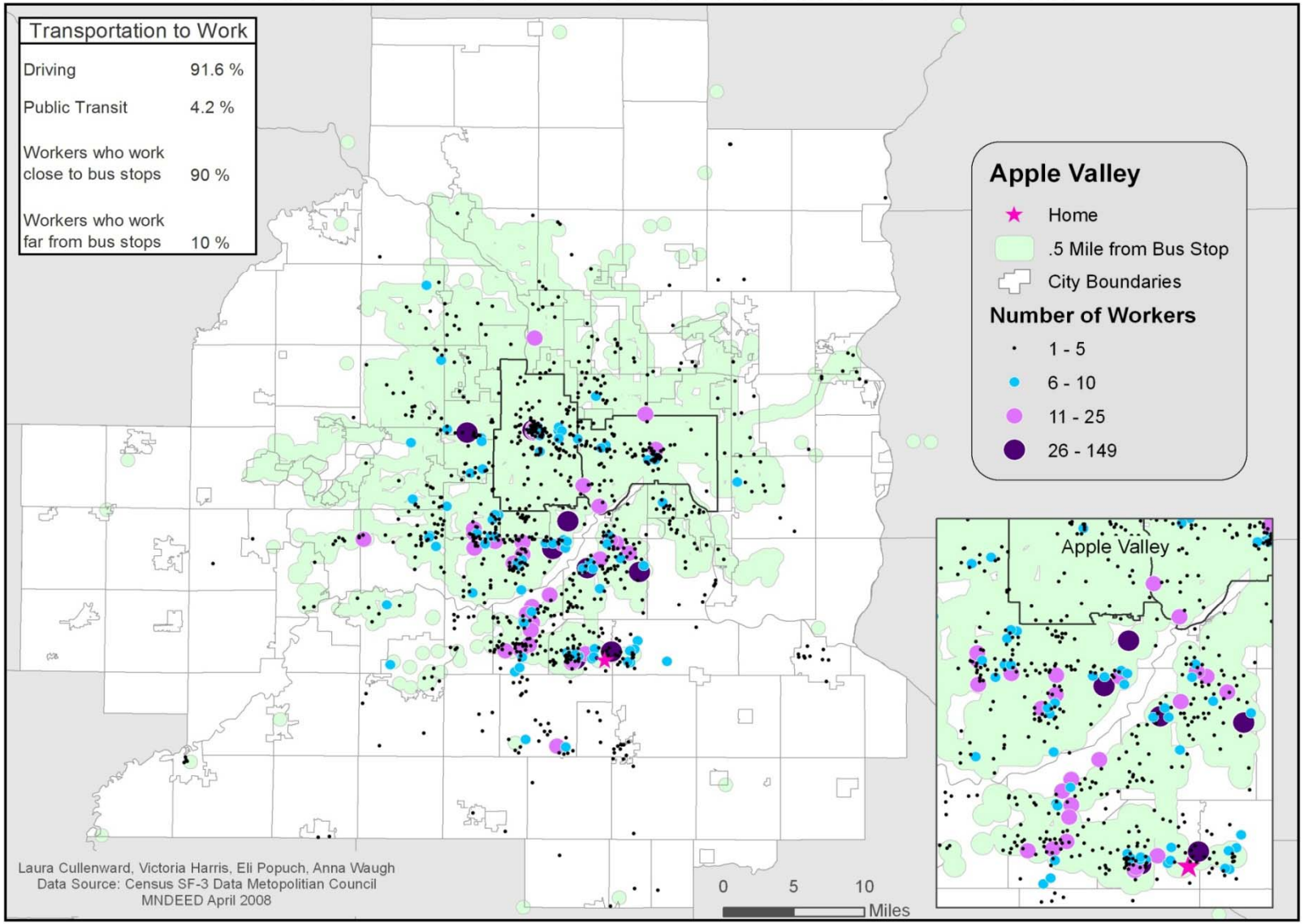


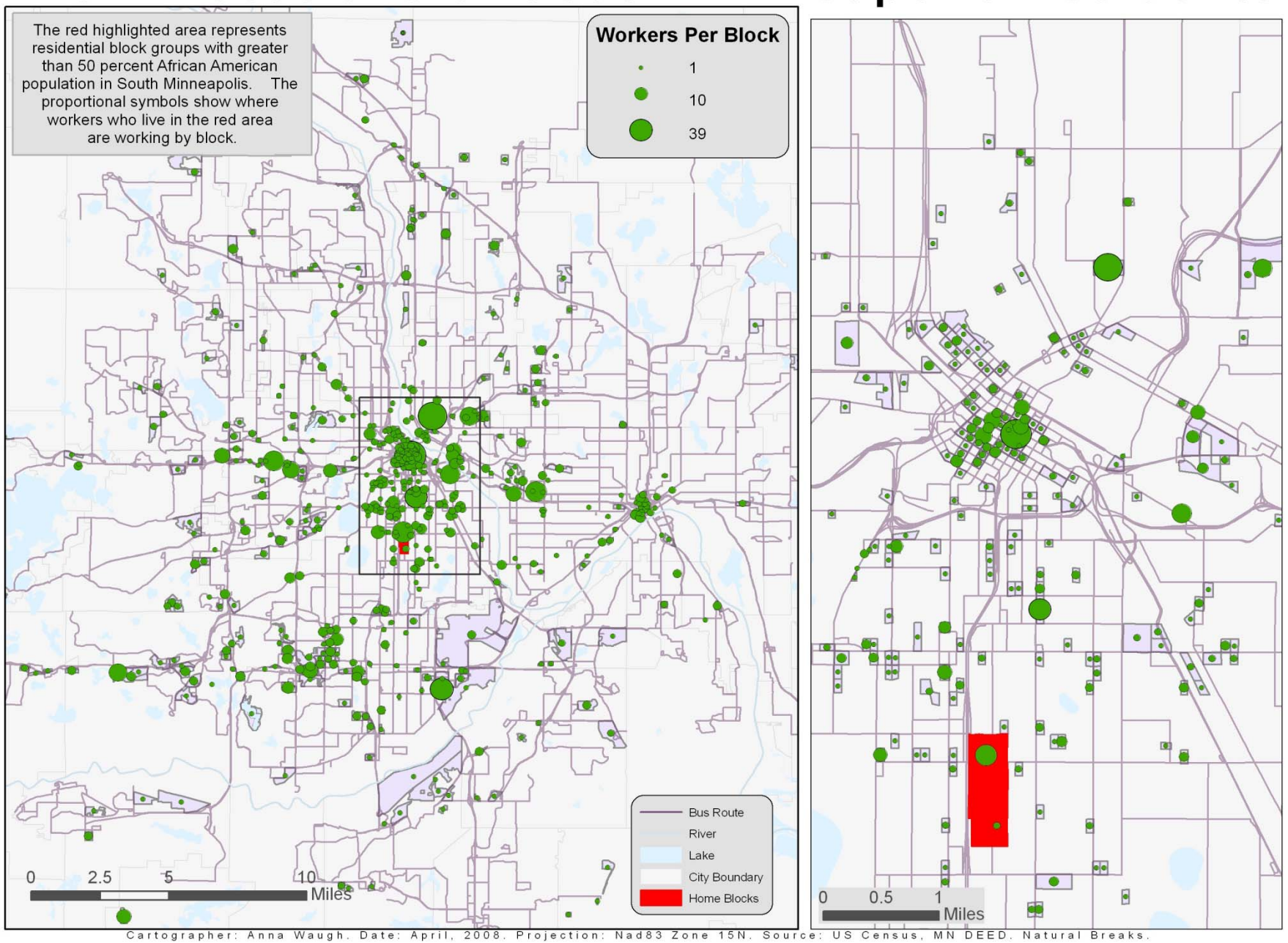
Could Workers Switch to Public Transit?



- For each of the four areas, the answer is: “Geographically, yes. Logistically, perhaps in the future.” Jobs are located near enough bus stops to make transit an option.

Case studies:
Race, work location, transit access, and commute time

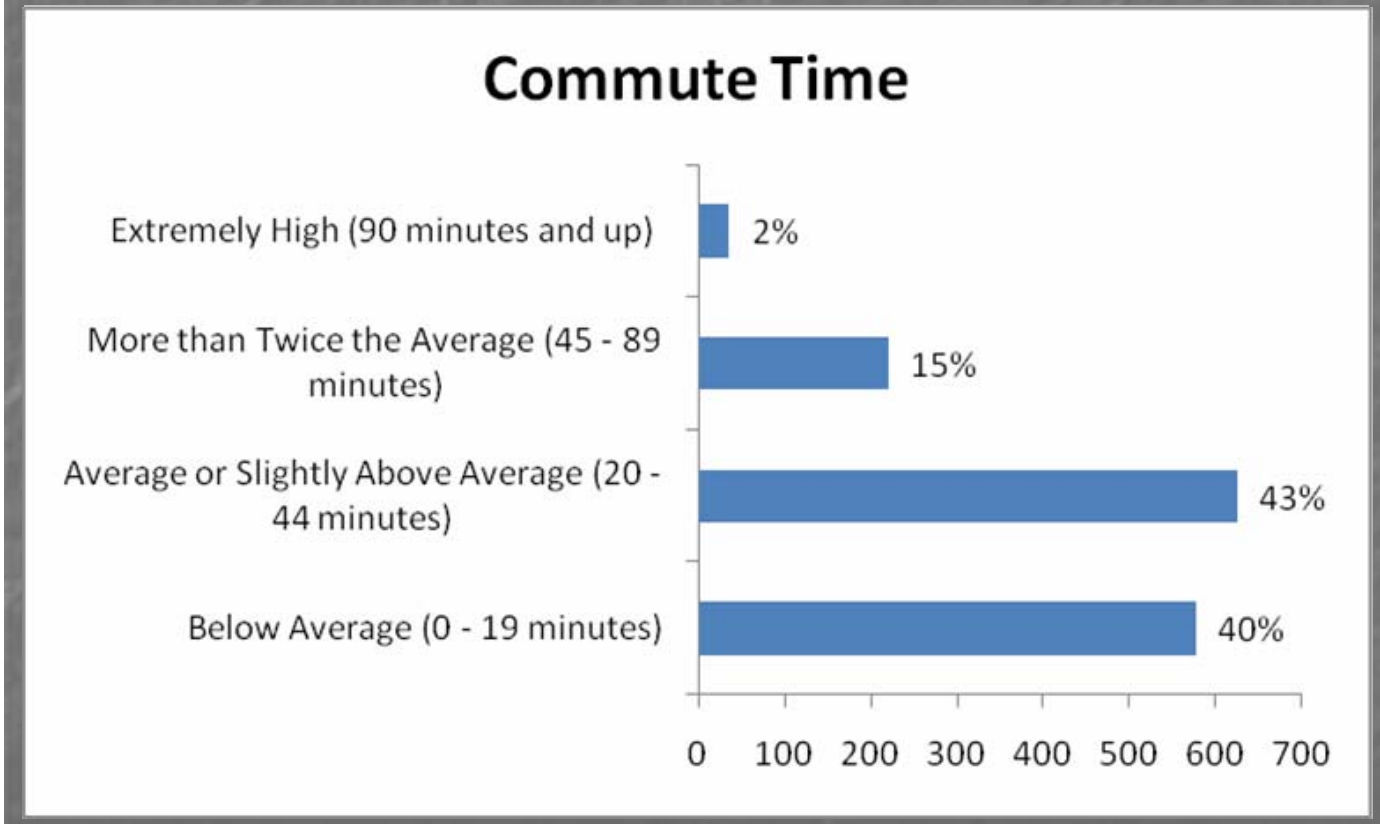
Work Locations of South Minneapolis Residents



Cartographer: Anna Waugh. Date: April, 2008. Projection: Nad83 Zone 15N. Source: US Census, MN DEED. Natural Breaks.

South Minneapolis

70% Black or African-American



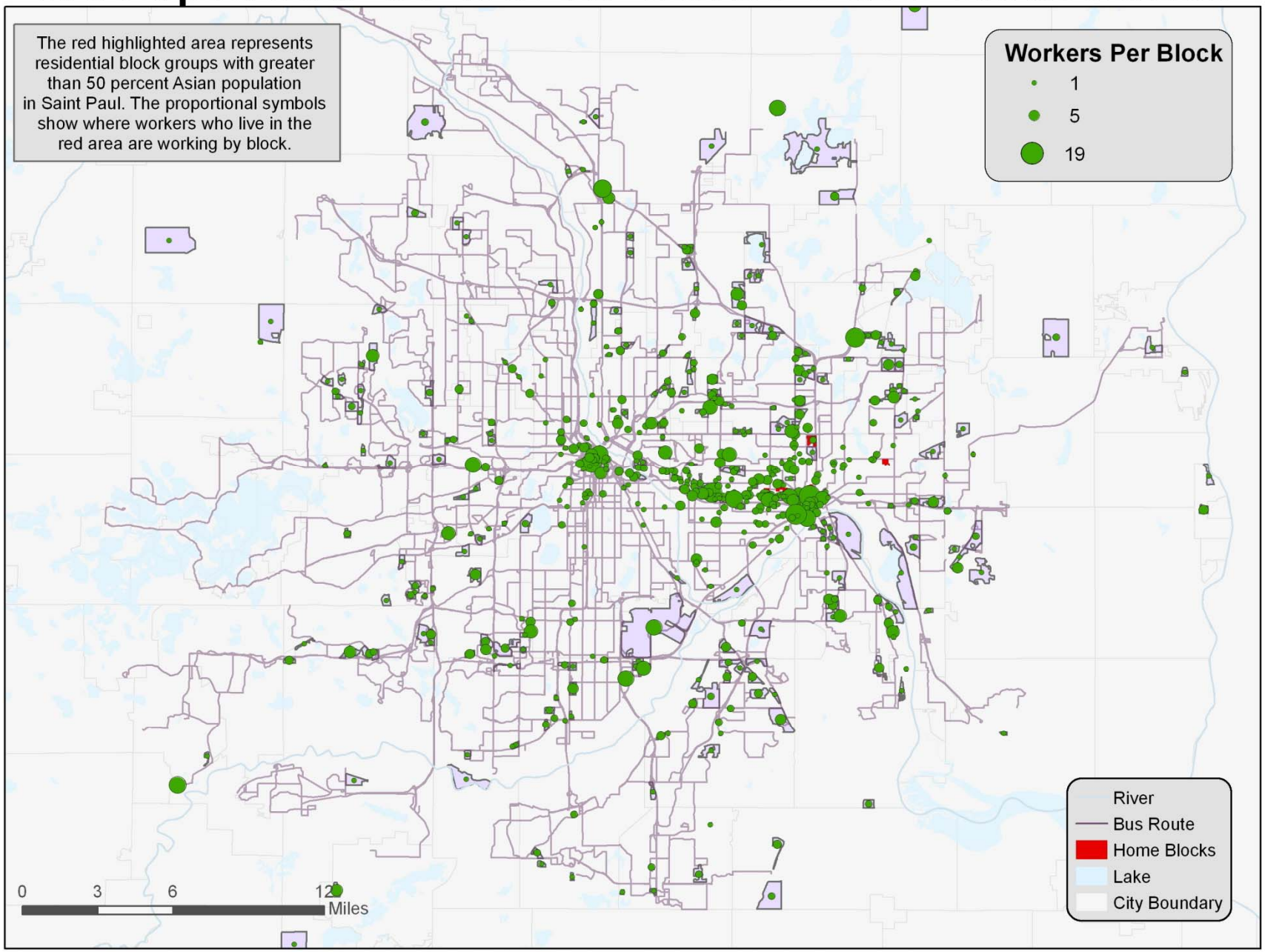
Distance to Work:

Within 2 miles: 16%

Within 5 miles: 57%

Within 10 miles: 86%

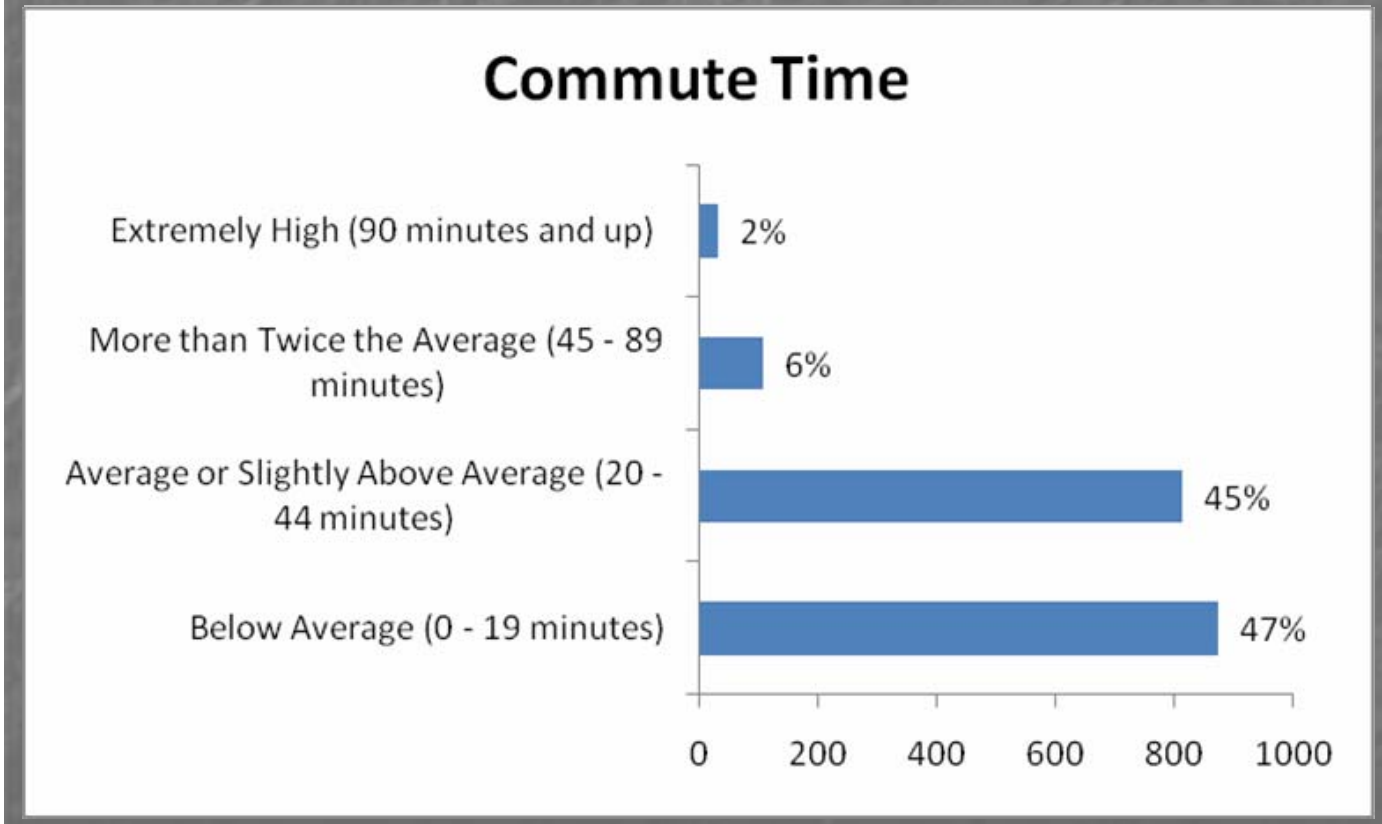
Workplaces of North Saint Paul Residents



Cartographer: Anna Waugh. Date: April, 2008. Projection: Nad83 Zone 15N. Source: US Census, MN DEED. Natural Breaks.

North Saint Paul

61% Asian



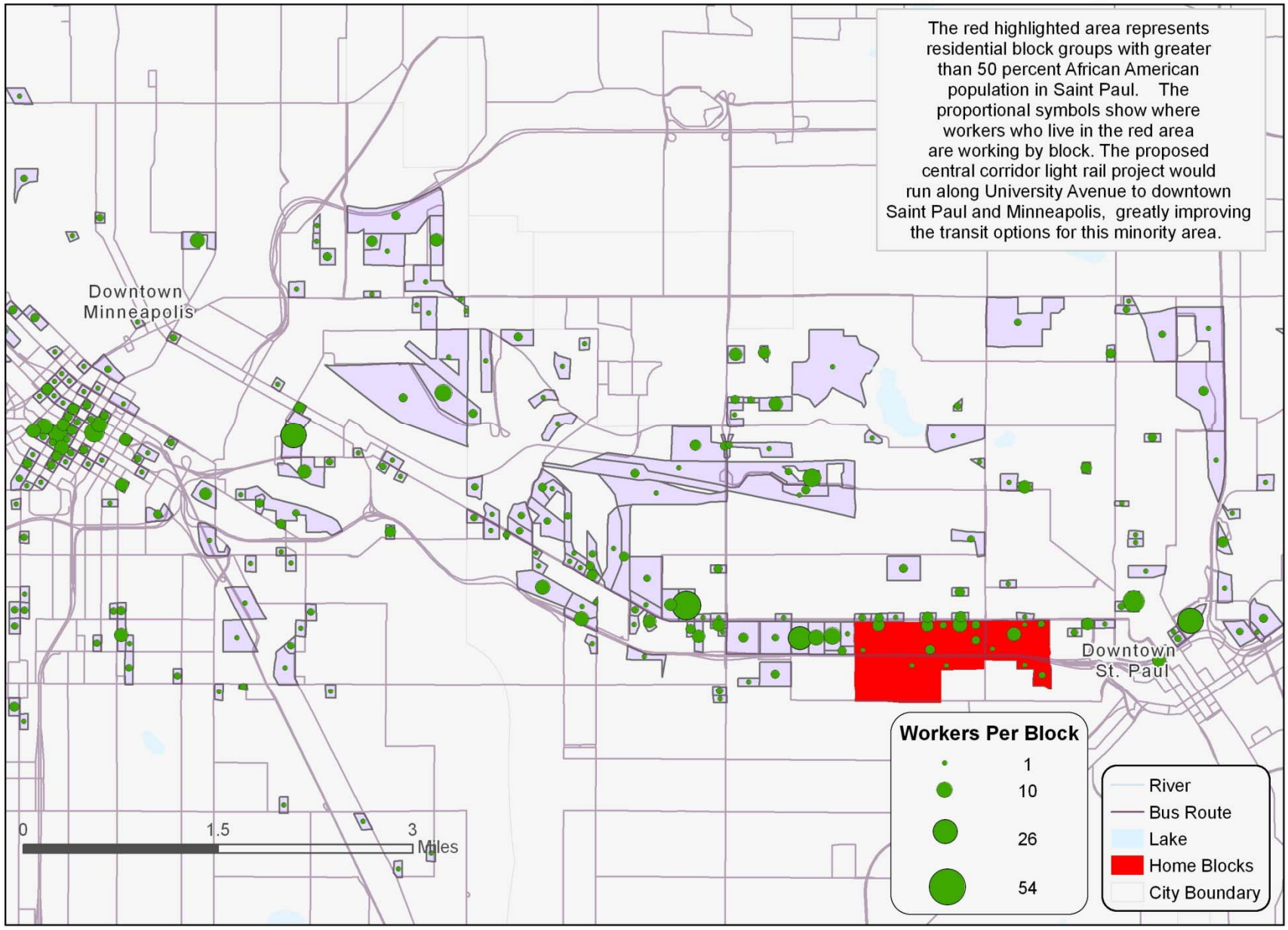
Distance to Work:

Within 2 miles: 28%

Within 5 miles: 48%

Within 10 miles: 75%

Importance of the Proposed Central Light Rail Corridor to African American Populations Living in Frogtown



Cartographer: Anna Waugh. Date: April, 2008. Projection: Nad83 Zone 15N. Source: US Census, MN Fed.

Conclusions

- Mismatch exists in terms of basic spatial proximity/commuting distance measures
  - Workers to jobs
  - Jobs to housing
- Transportation mismatch exists both spatially and demographically
  - Inner-city vs. suburban transit options and use
  - Heavier reliance of minority populations on public transportation
  - Longer commute times for minority population areas

Conclusions (cont.)

- Job accessibility measures
  - Frequency and direction of service more of an issue than presence/absence of public transportation
  - Most jobs within the Twin Cities metro area are within 0.5 mile of a bus stop
  - Difficult to reach low-income jobs outside of Minneapolis and St. Paul (e.g. I-494 corridor, suburbs such as Plymouth, Maple Grove, Roseville, Eagan)

Policy Reflections

- Historic difficulties in moving low-income or rental housing toward areas of low-income jobs and vice versa
- Focus on transportation?
  - Improvement of service on existing network
  - Extensions targeted to low-income employment areas
  - Employer-based transit programs or support

Research Reflections

- Data limitations
  - Scale of analysis vs. level of detail
  - Difficult to measure transportation “access”
- Minnesota’s data sources
  - Detailed origin-destination data and jobs/workers characteristics
  - O-D data not specifically linked to transportation information, nor to RAC and WAC information
  - Possible to overlay and correlate with other sources (e.g. Census)

- Report will be available at:

http://www.macalester.edu/geography/projects/courses/geog365/index.htm