

IMPACT OF LIGHT-RAIL IMPLEMENTATION ON LABOR MARKET ACCESSIBILITY: A Transportation Equity Perspective

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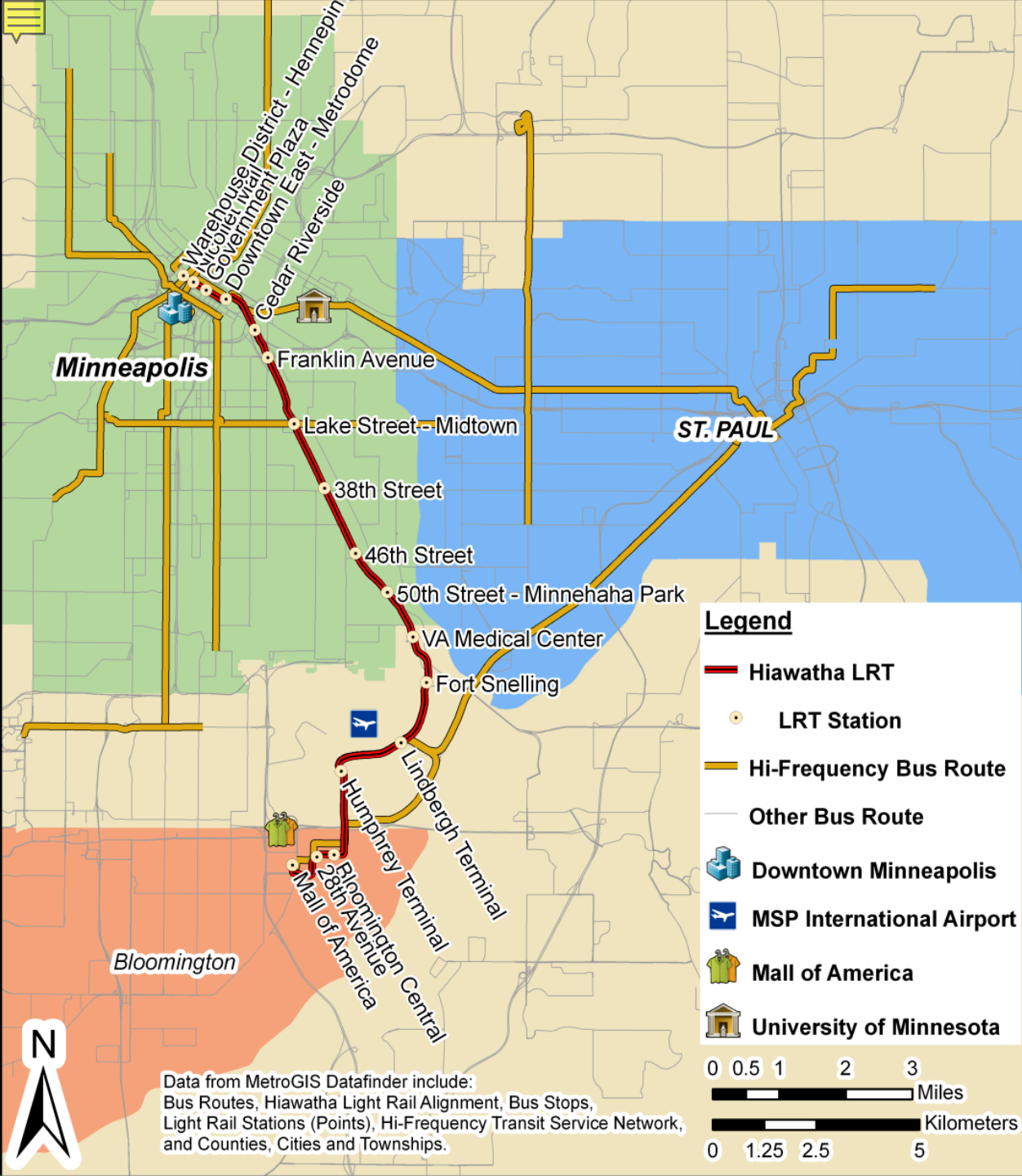
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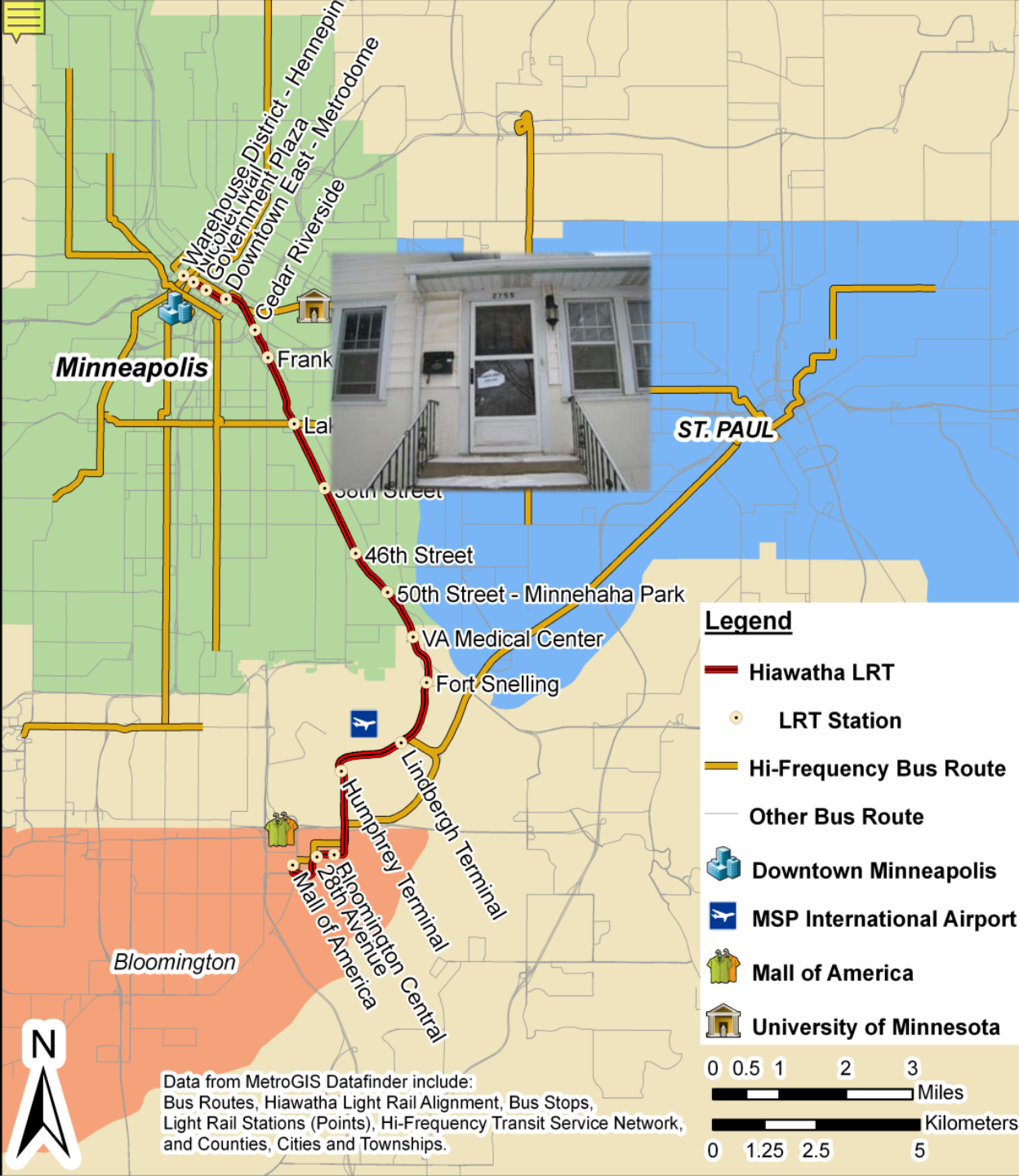
Spatial Mismatch

Disproportionally affects
low-wage workers



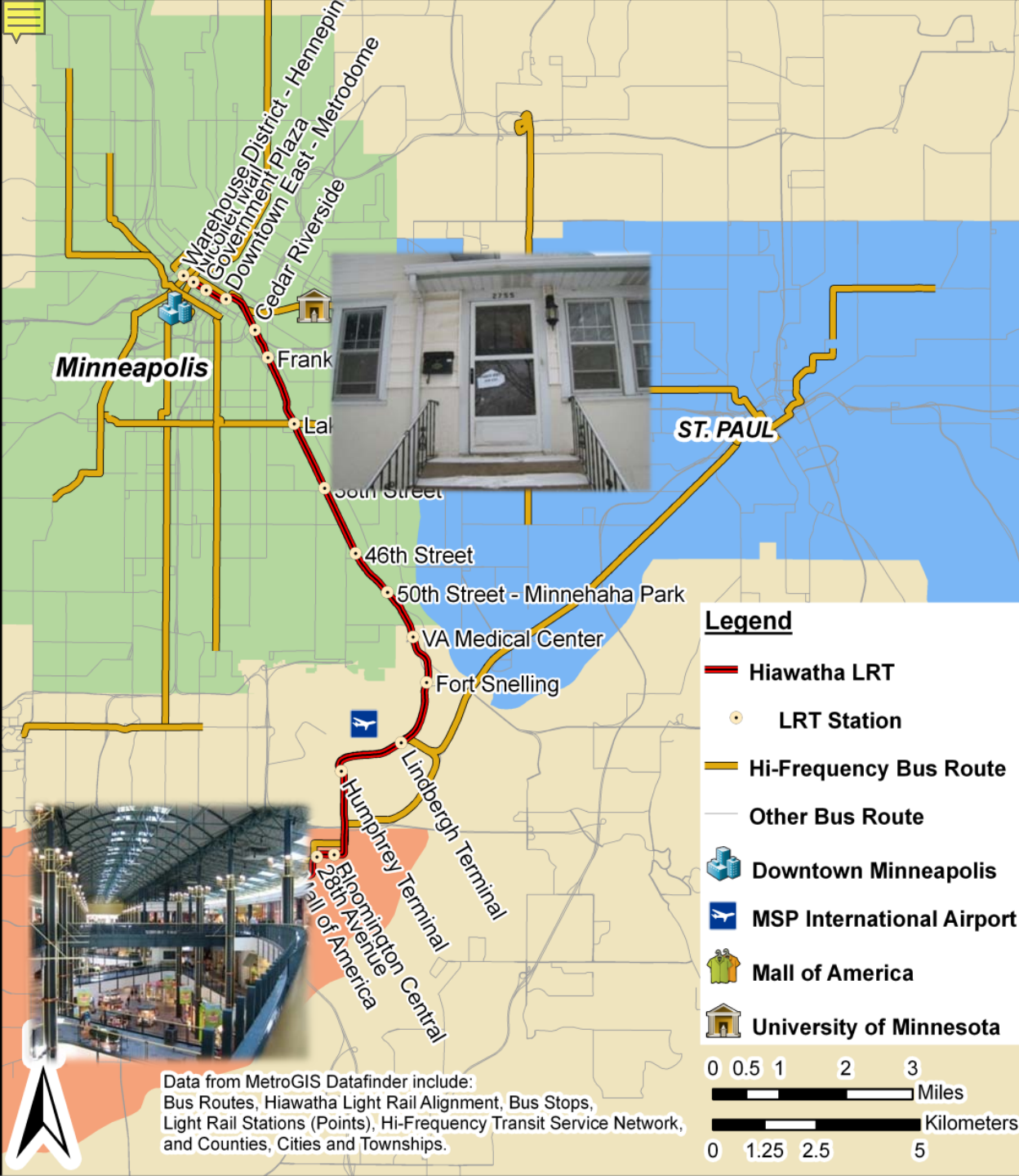
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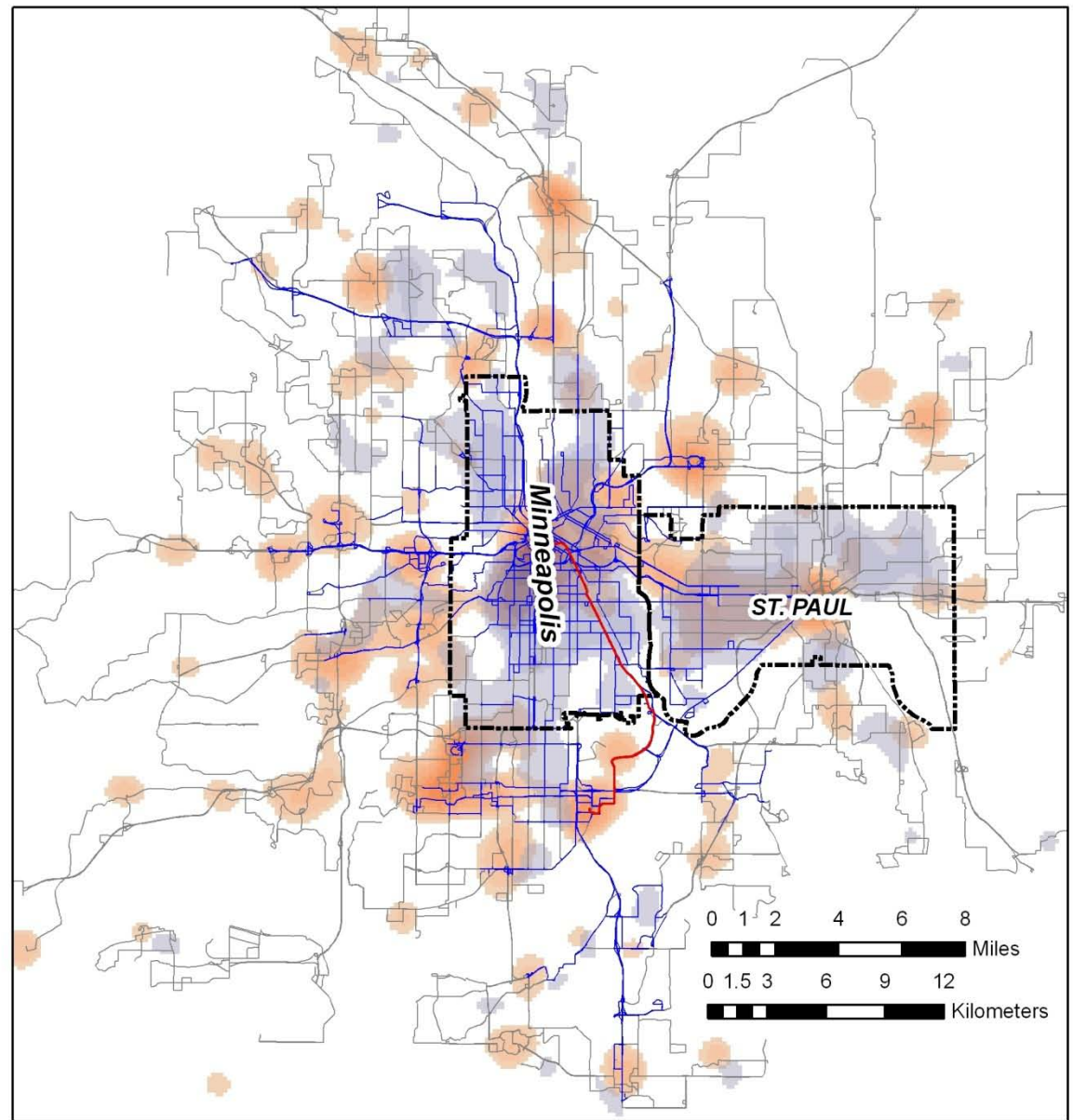
Disproportionally affects
low-wage workers



Does spatial mismatch exist in the Twin Cities?

Locations of low-wage workers/jobs in 2002 relative to LRT and bus connections

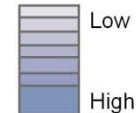
Source: Census LEHD.



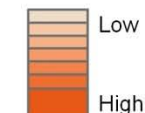
Legend

- Hiawatha LRT
- Connecting Route
- Other Bus Route

Residence of low-wage workers (Workers per acre)

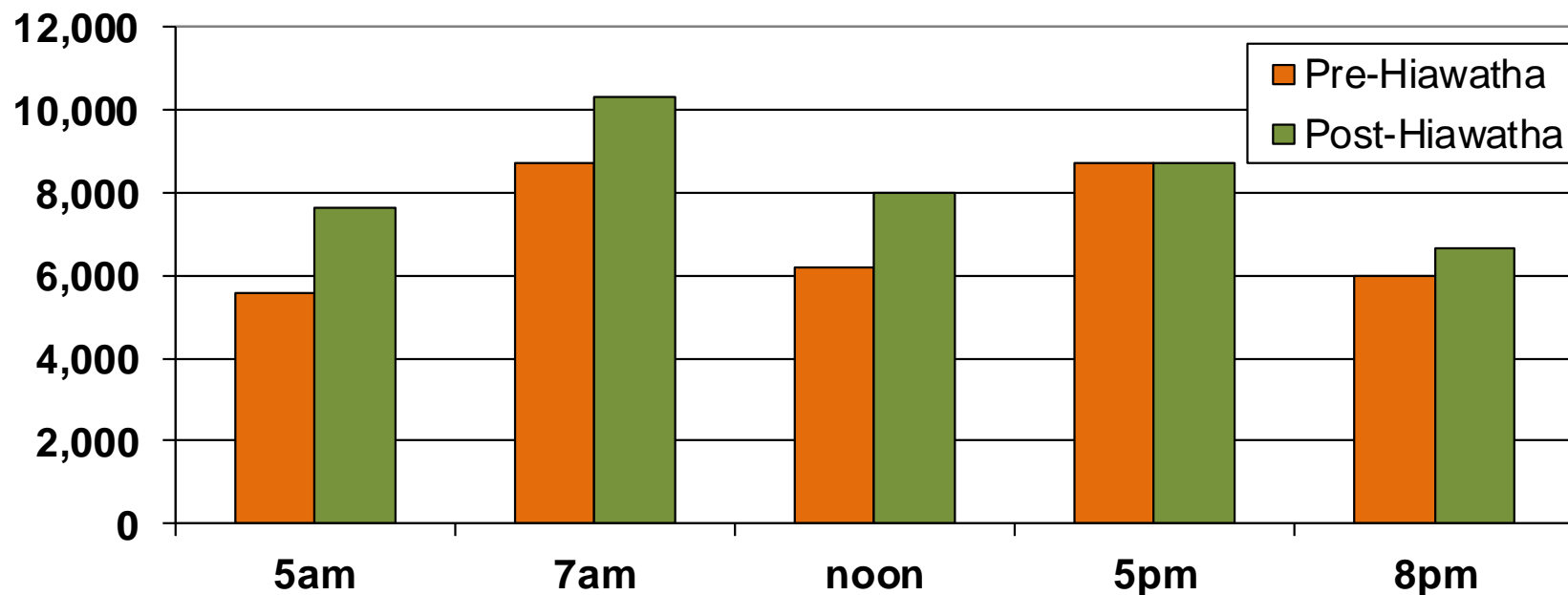


Worksites of low-wage workers (Jobs per acre)



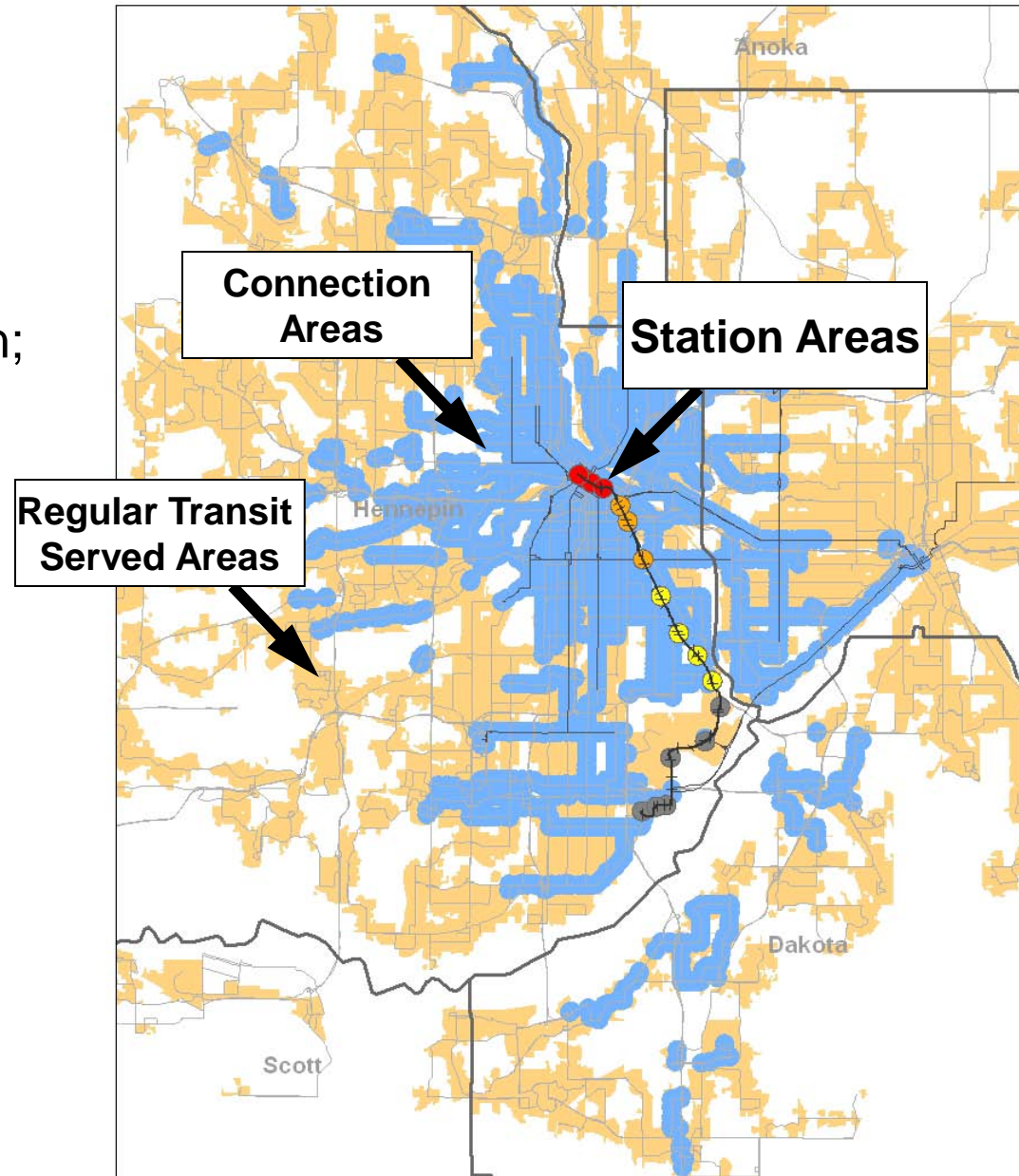
Before-After Comparison (Whole System)

- Accessibility definition
 - total # of low-wage jobs reachable within 30-min of transit travel
- Study area: transit-served areas
- Data source: Census Bureau LEHD Database (2002-2006)

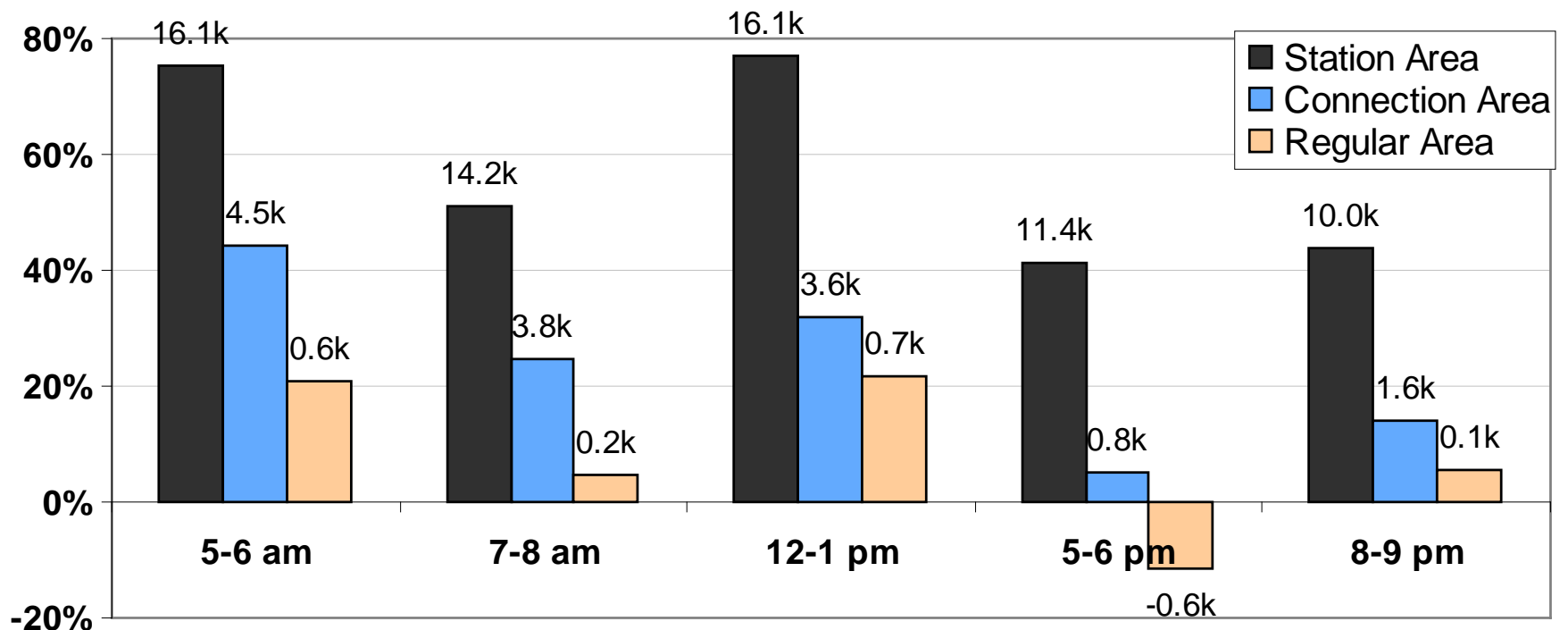


Area Types

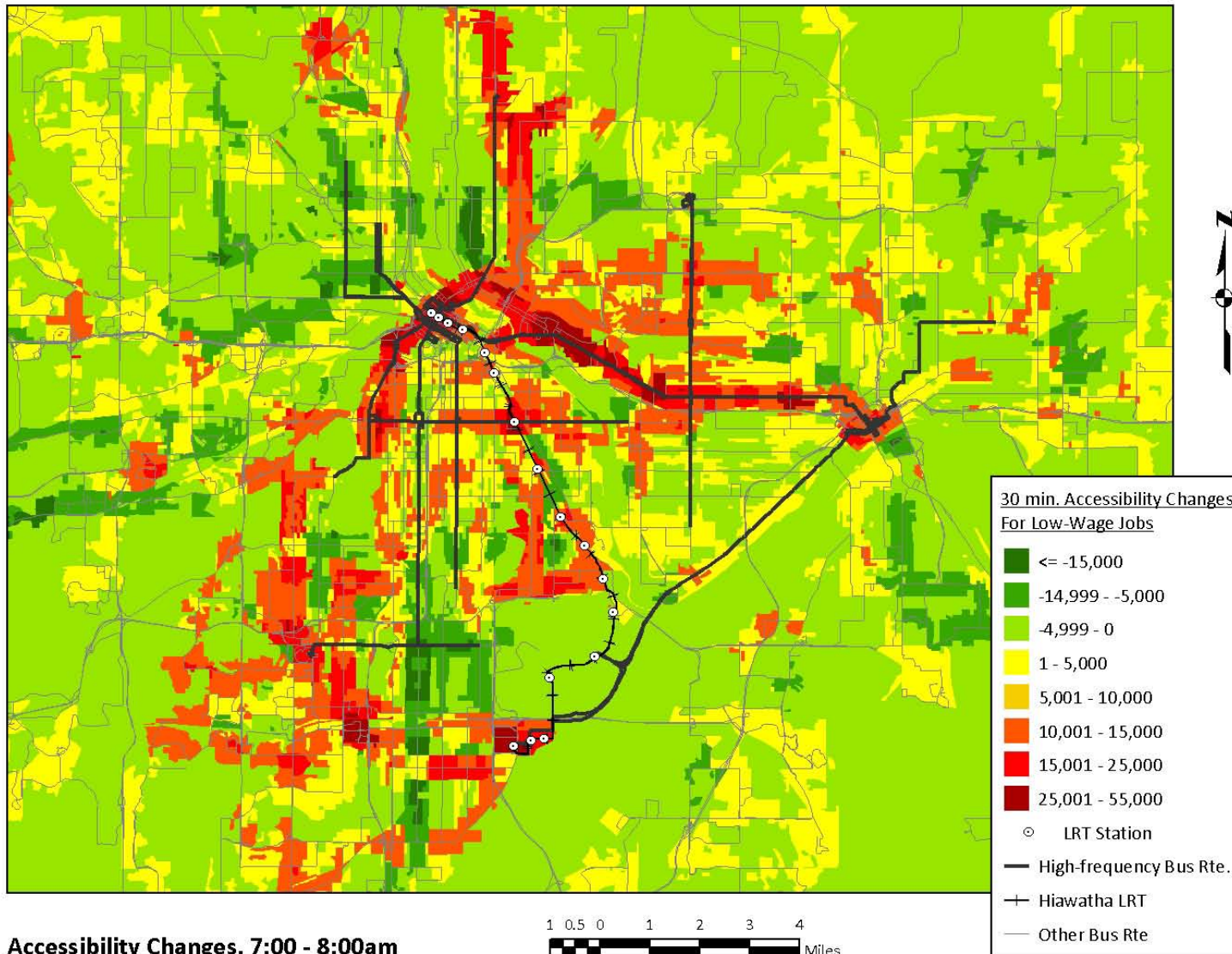
- Station areas
- Connection areas
 - direct bus-LRT connection;
 - LRT reachable within 30 mins;
 - Contain 22% of all the metro area pop



Before-after changes in low-wage job accessibility across different areas (%)



Accessibility Changes: Morning Peak—7am-8am



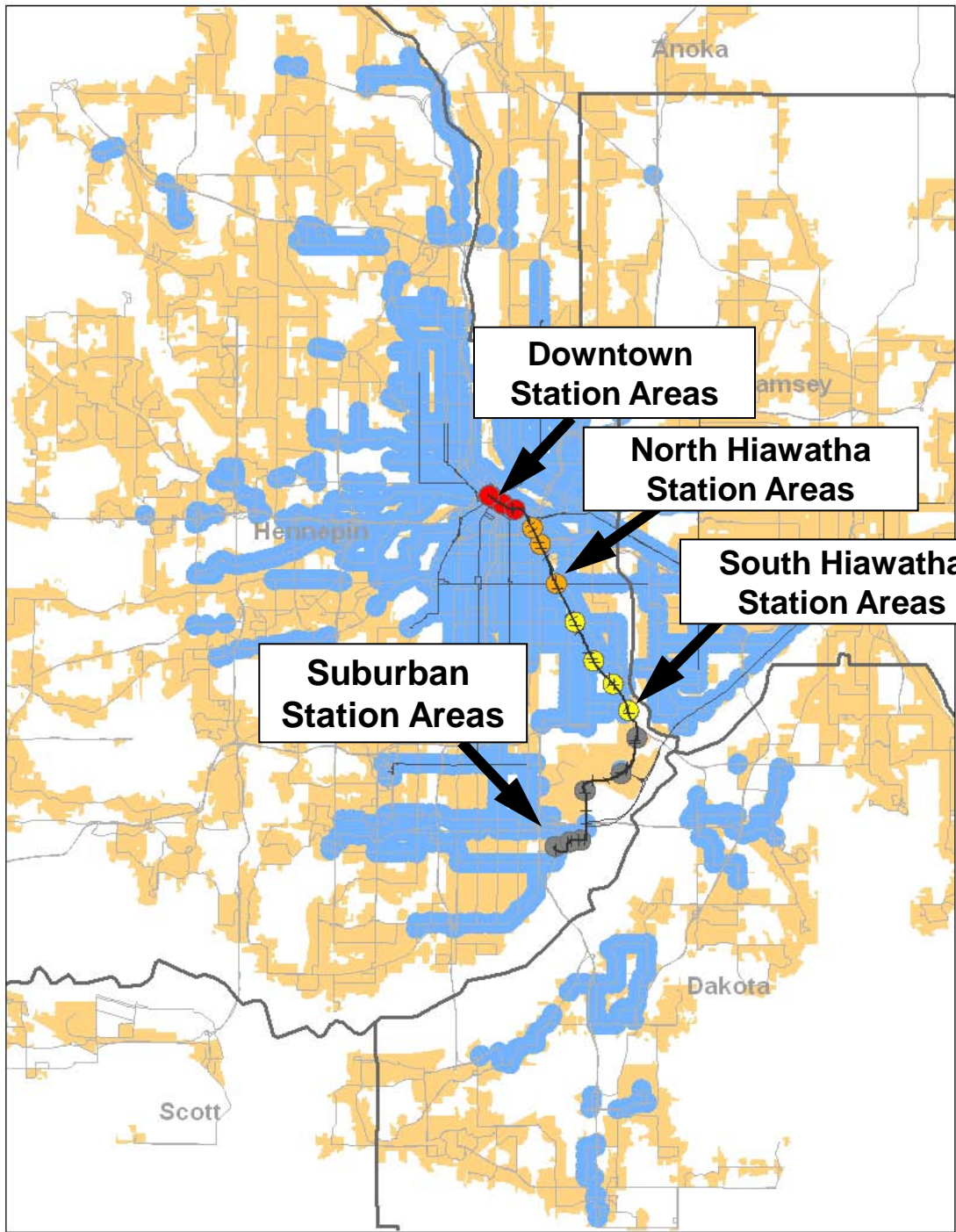


Before-and-After Commuter Flow Analysis

Estimate changes in the home-to-work flow volume

Increased Accessibility Actual Gains?

- Not Necessarily
- Job accessibility of a neighborhood:
 - Amount of job opportunities reachable to workers living in the neighborhood
- For increased Accessibility = Actual Gains
 - Workers living in the station & connection areas
 - Those workers commute to jobs in the station & connection areas



Total & Average Impact For Low-Wage Workers & Jobs

Area Categories	<u>WORKERS</u> Moving In		<u>JOB</u> S Moving In	
	Total workers	Average (Per BG Pair)	Total jobs	Average (Per BG Pair)
Downtown Hiawatha	103	0.123	2258	<u>0.543</u>
North Hiawatha	593	<u>0.202</u>	-300	-0.070
South Hiawatha	124	0.047	-134	-0.061
Suburban Hiawatha	4	0.019	347	0.154
Connected Areas (blue areas)	14134	0.108	12788	0.103



Policy Implications

Positive evidence on the role of LRT in promoting social equity

1. The Hiawatha impact is regional in scale.
2. To transit planners:
 - Transit system integration/coordination is essential to the improvement of accessibility.
3. Low-wage workers and employers are able to take advantage of LRT, at least in the context of the Hiawatha line.
4. To land use planners:
 - Balancing jobs and housing: NOT necessarily on the same site (i.e., balance at the corridor level NOT the station level)

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CENTER FOR TRANSPORTATION STUDIES

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