Center for Transportation Studies University of Minnesota

Understanding the Impacts of Transitways

How Light-Rail Transit Improves Job Access for Low-Wage Workers

A Transitway Impacts Research Program (TIRP) Research Brief

Project Fast Facts

- The number of low-wage jobs accessible by 30 minutes of transit travel in morning peak hours increased by 14,000 jobs in light-rail station areas and by 4,000 jobs in areas with direct light-rail bus connections after the addition of the Hiawatha line and related transit network upgrades.
- After light-rail construction, low-wage workers are locating near station areas. Hiawatha and related transit upgrades are estimated to have drawn 907 low-wage workers into the Hiawatha station areas. Out of the 907 relocated workers, 78 percent moved to areas near the Cedar-Riverside, Franklin Avenue, and Lake Street-Midtown stations.
- The number of low-wage jobs has increased near station areas. Hiawatha and related transit upgrades are estimated to have brought more than 5,000 low-wage jobs into areas near downtown Minneapolis and suburban Bloomington light-rail stations.

Project Background

Public transportation plays an important role in addressing poverty, unemployment, and equal-opportunity goals. Increasingly often, entry-level job opportunities are located away from low-wage workers. However, these workers often don't have access to vehicles for commuting, or they struggle to pay rising gas prices. These factors make low-wage workers more transit-dependent now than ever before.

Project Objectives

This study aims to uncover whether Twin Cities transitways effectively connect low-wage workers with suitable job opportunities. It focuses on the impacts of the Hiawatha light-rail line, which runs between downtown Minneapolis and its southern suburbs. Construction on the Hiawatha line began in 2001 and was completed in 2004. The study also examines whether households and employers have relocated to take advantage of benefits provided by transitways.

Project Design

The study area includes the seven-county Twin Cities metropolitan region and uses data from several sources including the Longitudinal Employer-Household Dynamics (LEHD) database, the U.S. Census Bureau, and Metro Transit.

To determine how the Hiawatha line has affected job access of low-wage workers, researchers compared transit access to low-wage jobs in areas where high concentrations of transit-dependent individuals live with region-wide accessibility changes before and after Hiawatha line construction. Researchers defined accessibility as the total number of low-wage jobs reachable within 30 minutes of transit travel, with a maximum of one transfer and a maximum walking distance of one-quarter mile.

Researchers also analyzed changes in commuting flows between home and work near transitway corridors to learn if low-wage workers and low-wage businesses are relocating to take advantage of the light-rail line. This involved studying individual commutes between census block groups—the smallest geographical unit for which census sample data are available.

Program Supporters:

Anoka County

Center for Transportation Studies, University of Minnesota

Center for Urban and Regional Affairs, University of Minnesota

City of Minneapolis

City of Saint Paul

Dakota County

Federal Transit Administration

Hennepin County

Itasca Group

Metropolitan Council

Minnesota Department of Transportation

Ramsey County

State and Local Policy Program, Humphrey Institute of Public Affairs, University of Minnesota

University Metropolitan Consortium, University of Minnesota

Washington County

Project Conclusions

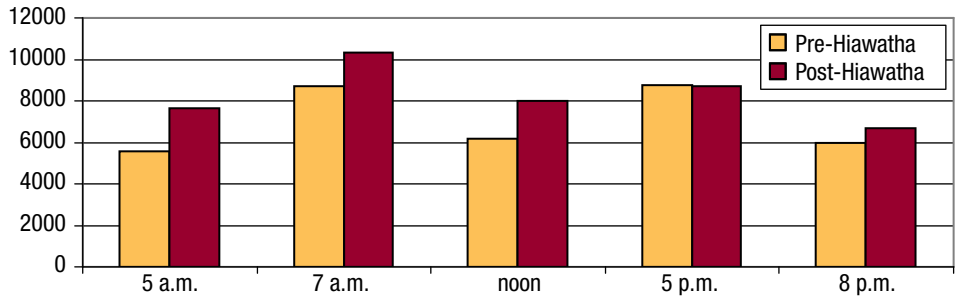
Spatial mismatch exists in the Twin Cities.

The areas where low-wage workers live are often located away from areas where low-wage jobs are found—creating a mismatch between residential and workplace locations of low-wage workers. This makes transit access important for these workers, who often use transit to lower their cost of living or have no reliable access to a vehicle.

The Hiawatha light-rail line has significantly improved accessibility to low-wage jobs.

As illustrated in the bar graph, the Hiawatha light-rail line has made significant, positive changes in access to low-wage jobs. These gains improve transit access in previously underserved areas of the Twin Cities and at previously underserved times of day. The frequent, all-day service provided by transitways is especially important for transit-dependent individuals, because they are much more likely to use transit at off-peak times and for non-commute trips.

Average number of low-wage jobs accessible within 30-minutes transit travel in the Twin Cities' tranist-served areas



Hiawatha's impacts extend well beyond station areas.

Researchers found large areas of accessibility gains along bus routes connecting to the Hiawatha line. These findings show the regional impact of light rail, even with only one line running. They also reinforce the role a fully-integrated transit network plays in maximizing transitway investments.

Significant numbers of low-wage workers and low-wage employers have relocated toward the light-rail line.

Following the construction of the Hiawatha line, low-wage workers have increasingly been locating near the Cedar-Riverside, Franklin Avenue, and Lake Street / Midtown station areas, as well as near light-rail-connecting bus routes. Likewise, the number of low-wage employers has increased in areas surrounding the downtown Minneapolis and suburban Bloomington stations and near connecting bus routes.

In summary, researchers found the Hiawatha light-rail line provides significant benefits for transit-dependent low-wage workers—improving transportation equity in the Twin Cities.

About the Research

The research was conducted by principal investigator Yingling Fan, an assistant professor in the Hubert H. Humphrey Institute of Public Affairs, and co-investigators Xinyu (Jason) Cao, an assistant professor in the Humphrey Institute, and David Levinson, the CTS/Braun Chair in the Department of Civil Engineering. It was funded by the Transitway Impacts Research Program (TIRP).

www.cts.umn.edu/Research/Featured/Transitways

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation. This publication is available in alternative formats upon request.

CTS Research Brief
2010-02, March 2010