

ACCESSIBILITY OBSERVATORY

Accessibility Evaluation Services

Accessibility metrics combine the concept of mobility with an understanding of how transportation and land-use systems work together to give people access to destinations. These metrics incorporate both the costs and the benefits of travel—and provide a more complete view of how well cities satisfy travelers' needs.

The Accessibility Observatory at the University of Minnesota is the only organization in the nation focused on measuring transportation accessibility. Its research and analysis services allow organizations such as state DOTs, transit agencies, and metropolitan planning organizations to analyze, evaluate, and plan transportation systems and land use in their areas. The Observatory's work also allows organizations to benchmark themselves against other regions using the same methodology and data.

The Observatory can provide cutting-edge accessibility evaluation tailored to meet your needs. Services can range from a complete project to a component of a larger effort. Services may include:

- **Custom Accessibility Evaluation**
Deliverables can include detailed accessibility datasets, customized summary datasets, and reports describing methodology and results. Accessibility evaluations can be based on existing network and land-use datasets, data collected by the Observatory, or custom-developed data (described below).
- **Develop Scenario Network Datasets**
Drawing from existing plans or scenario descriptions, the Observatory can create transit and/or road network datasets suitable for use in accessibility evaluation projects. This allows meaningful comparisons between a baseline/no-build scenario and multiple investment or service scenarios.
- **Develop Scenario Land-Use Datasets**
The Observatory can process existing land-use scenario or forecast data for compatibility and use in accessibility evaluation or construct new land-use scenarios from baseline data.
- **Custom Accessibility Summaries and Reports**
Customized analysis of existing data published by the Accessibility Observatory can provide new insights without the need for new accessibility calculations. Examples include regional transportation equity analysis, location suitability analysis, and custom mapping and visualization (see case study on back). The Observatory will help identify existing accessibility datasets that can meet your needs.

To learn how the Accessibility Observatory could provide services for your community, please contact Andrew Owen, Director, at 612-624-7550, aowen@umn.edu.



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UNIVERSITY OF MINNESOTA

Case Study:

Green Line and related bus network improvements increase access to jobs

An example of the Accessibility Observatory's work is a 2015 study that quantified access to jobs in Minneapolis and St. Paul before and after the Green Line began service on June 14, 2014. The analysis measured how much a light-rail transit route and related changes to the regional bus network changed residents' ability to reach jobs by transit.

"Changes were greatest in St. Paul, where most of the Green Line's stations are located," says Andrew Owen, director of the Observatory. "A year after the opening of the Green Line, workers in St. Paul could, on average, reach over 2,000 more jobs within 30 minutes by transit than they could previously—a 5.3 percent increase. In locations near Green Line stations and connecting transit routes, accessibility often increased by over 50 percent, and in a few locations more than doubled."

In Minneapolis, changes were minor, and in most cases were due to service or schedule changes unrelated to the Green Line project, he says.

For the analysis, Observatory researchers measured the number of jobs that can be reached by transit within 30 minutes of travel between 7 and 9 a.m. from each census block in St. Paul and Minneapolis. They evaluated accessibility for three scenarios:

- The 2014 scenario uses actual transit schedules as of April 2014, prior to the start of Green Line service.
- The 2015 scenario uses actual transit schedules as of April 2015, which reflects the new Green Line LRT service as well as changes to the regional bus network.
- A hybrid scenario uses schedules from 2014, modified to include current Green Line service and changes to parallel bus routes, but no changes to other bus routes.

"By comparing the hybrid scenario with both 2014 and 2015, it's possible to estimate the accessibility impacts of the Green Line itself separately from the impacts of changes to connecting routes in the regional bus network," Owen explains.

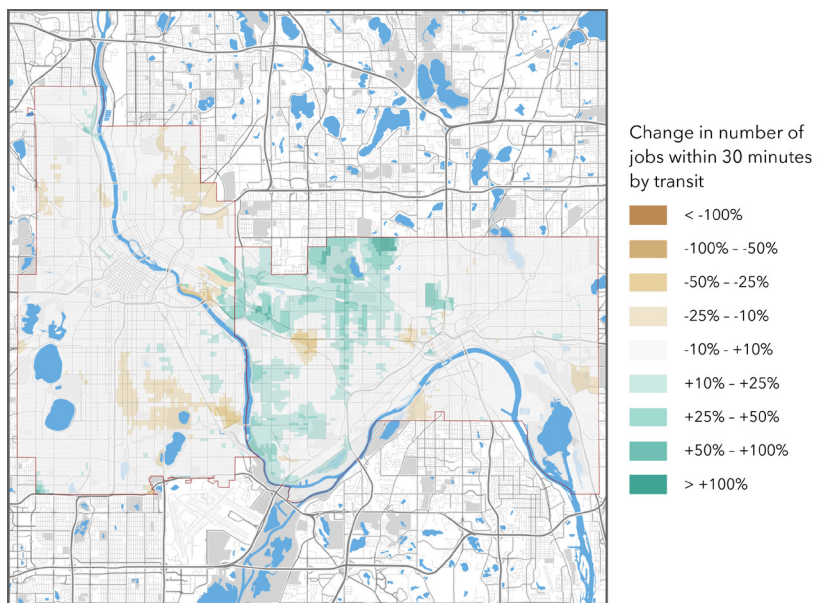
The results suggest that had the Green Line been implemented without any supporting changes to the regional bus network, accessibility benefits would have been limited to areas near the new rail stations.

Observatory Staff

The Observatory is a program of the University of Minnesota Center for Transportation Studies and the Department of Civil, Environmental, and Geo- Engineering.

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Accessibility change between 2014 and 2015 scenarios