



RESEARCH SERVICES & LIBRARY

OFFICE OF TRANSPORTATION SYSTEM MANAGEMENT

TECHNICAL SUMMARY

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PROJECT COST:

\$261,635



Designing biking and walking infrastructure has led to a heightening of these travel modes as a percentage of overall travel in the Twin Cities region.

Analyzing Travel Data Over Time to Guide Future Investments

What Was the Need?

Understanding travel patterns—how, when and why people travel where they do—helps inform decisions about transportation investment, especially when resources are limited.

The Metropolitan Council conducts periodic household surveys to gather this information, with a recent Twin Cities Metro 2010-2011 Travel Behavior Inventory adding to surveys from 2001, 1990, 1982 and 1970. What was needed was an analysis of this rich data set to determine how travel patterns have changed over this period given infrastructure investments, development and population growth in the Minneapolis-St. Paul region.

What Was Our Goal?

This study aimed to produce a detailed analysis of travel behavior over time for both the Minneapolis-St. Paul region as a whole and for specific areas within this region. This analysis would include an evaluation of the effects of previous infrastructure investments and land use changes, and would provide details about travel behavior changes by mode: auto, transit, walking and biking.

These insights would be used to inform transportation engineers, planners, economists, analysts and decision-makers about the effects of future infrastructure and other changes on travel networks.

What Did We Do?

Researchers performed several concurrent studies of various dimensions of travel behavior as mapped over time by the travel behavior surveys:

1. **Accessibility and travel times:** How easy is it for people to get to their desired destinations?
2. **Telecommuting:** How does telecommuting affect the demand for physical travel?
3. **Transit service quality and transit use:** What factors increase or decrease people's use of transit? How do transit offerings affect how far people travel?
4. **Demographic change and travel behavior:** What long-term shifts result from the aging of particular generations?
5. **Bicycling and walking:** How have biking and walking behavior patterns changed between 2001 and 2010? How long are typical trips of this sort? Where do they occur? How do changes in infrastructure, demographics and land use affect them?

What Did We Learn?

Key findings for each of these reports follow:

1. Over the last 20 years, workers' average trip distances, speeds and travel times have increased. Nearly all this growth has occurred outside the core cities of Minneapolis and St. Paul. While trips were longer, there were fewer of them. A longer commute distance correlated to more time spent at work. For nonworkers, travel distances decreased, likely due to the growing elderly population within this group.

Understanding changes in transportation patterns over time as reflected through household surveys will help make infrastructure investments and other policy decisions more effective and cost-efficient.

“Studying cohort behavior allows us to isolate the difference between the effects that happen between different generations from the effects of demographics alone. This will help us to predict which trends are liable to be long-lasting.”

—Jonathan Ehrlich,
Planning Analyst,
Metropolitan Council

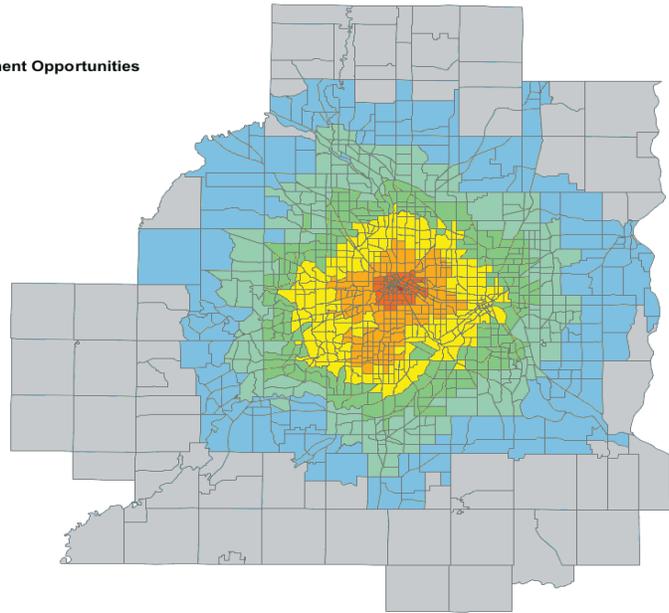
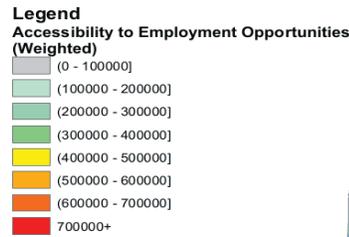
“Given the rapidity of changes in travel behavior in the Twin Cities and nationally, it would be wise to administer these types of surveys on a continuous basis.”

—David Levinson,
Professor, University
of Minnesota Department
of Civil Engineering

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Accessibility is a measure of the functioning of a transportation system: how readily travelers can reach their destinations in a reasonable amount of time despite congestion. In 2010, downtown Minneapolis residents had more accessible employment opportunities; if an individual moved from an outer suburb to downtown, his or her commute would decrease on average by 5.5 minutes.

- Between 2000 and 2010, the number of people telecommuting more than once per week increased while the number who telecommuted every day dropped. Telecommuting in the Twin Cities continued to be above the national average, and telecommuters tended to be more affluent and live in more job-rich areas than nontelecommuters. The effects of telecommuting on amount of travel were limited.
- Transit use increases as people live closer to transit facilities and where more jobs are accessible within 30 minutes using transit. Transit use increased between 2000 and 2010, and individuals with car access and/or children were more likely to use transit in 2010 than in 2000.
- There was a broad trend of declining trip rates across most age groups during the past two survey years, with men especially showing a distinct pattern of declining travel distances. While the millennials surveyed appeared to travel more than other age groups, their job opportunities have been more limited and their licensure rates are lower.
- Walking and cycling trips have both increased from 2001 to 2010. While men and women walk just as often, most observed growth in cycling was among men who commute. The overall amount of cycling was found to be larger than that reported by the U.S. Census Bureau in 2000 and American Community Survey Journey to Work data.

What’s Next?

The past decades have seen marked changes in many travel behaviors, including changes in mode choice, trip distances and speeds, driver’s license rates, telecommuting, biking, walking and transit. These changes undoubtedly will affect future transportation needs and wants, and this research will provide a valuable resource for Minnesota. The research team recommends that these travel surveys be conducted annually, or better yet, continuously on a rolling basis to enable more rapid responses to changes. MnDOT and the Metropolitan Council are currently considering these recommendations.