

Fixed-route bus systems may help companies retain workers

*How important are public transit systems, such as fixed-route bus lines, to workers and businesses? In new research which examines transit accessibility in the Rust Belt, **Dagny Faulk** and **Michael Hicks** find that an increase in bus systems' per capita operating expenditures is associated with lower rates of employee turnover. This in turn is worth millions to businesses in reduced turnover costs.*



What are the economic impacts of fixed-route bus systems? In the auto-oriented, spatially dispersed urban areas of the U.S. it is often difficult for people without automobiles to access job opportunities. Public bus systems fill this gap offering an affordable means of transportation for workers without access to automobiles to reach jobs. A policy question that has not been explicitly addressed is whether the jobs available to the urban poor (or other transit dependent populations) suffer higher employee turnover rates due to lack of reliable transportation.



Using 1998 to 2010 county data from two samples of U.S. counties, shown in Figures 1 and 2 below, we investigated the relationship between public transit accessibility and employee turnover in six, contiguous Great Lakes states (Illinois, Indiana, Michigan, Ohio, Pennsylvania, and Wisconsin). The samples include the same counties with transit (treatment group) but different counties without transit (control groups). The two control groups are constructed using two commonly used statistical techniques for identifying comparable samples that did not have bus systems: nonequivalent group and propensity scoring. These techniques are used to match similar counties with and without bus systems. In both samples we find that measures of the size of the fixed-route transit system (real per capita operating expenditures) is related to employee turnover in the county: An increase in bus systems' per capita operating expenditures is associated with a decrease in employee turnover. We also find that lower unemployment rates similarly affect turnover and that manufacturing and retail industrial structure also influences turnover.

Figure 1 – Counties sampled with and without transit – non-equivalent group design

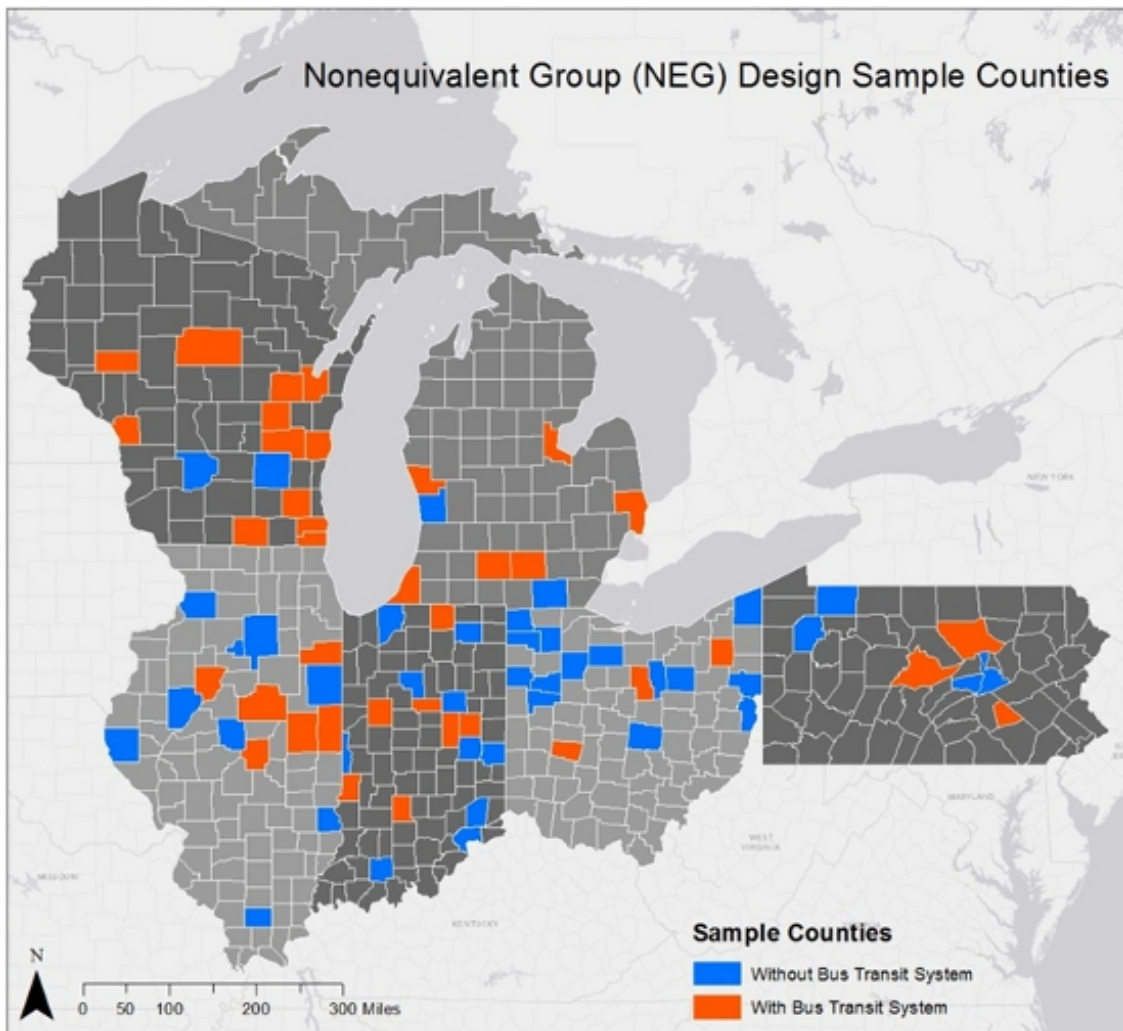
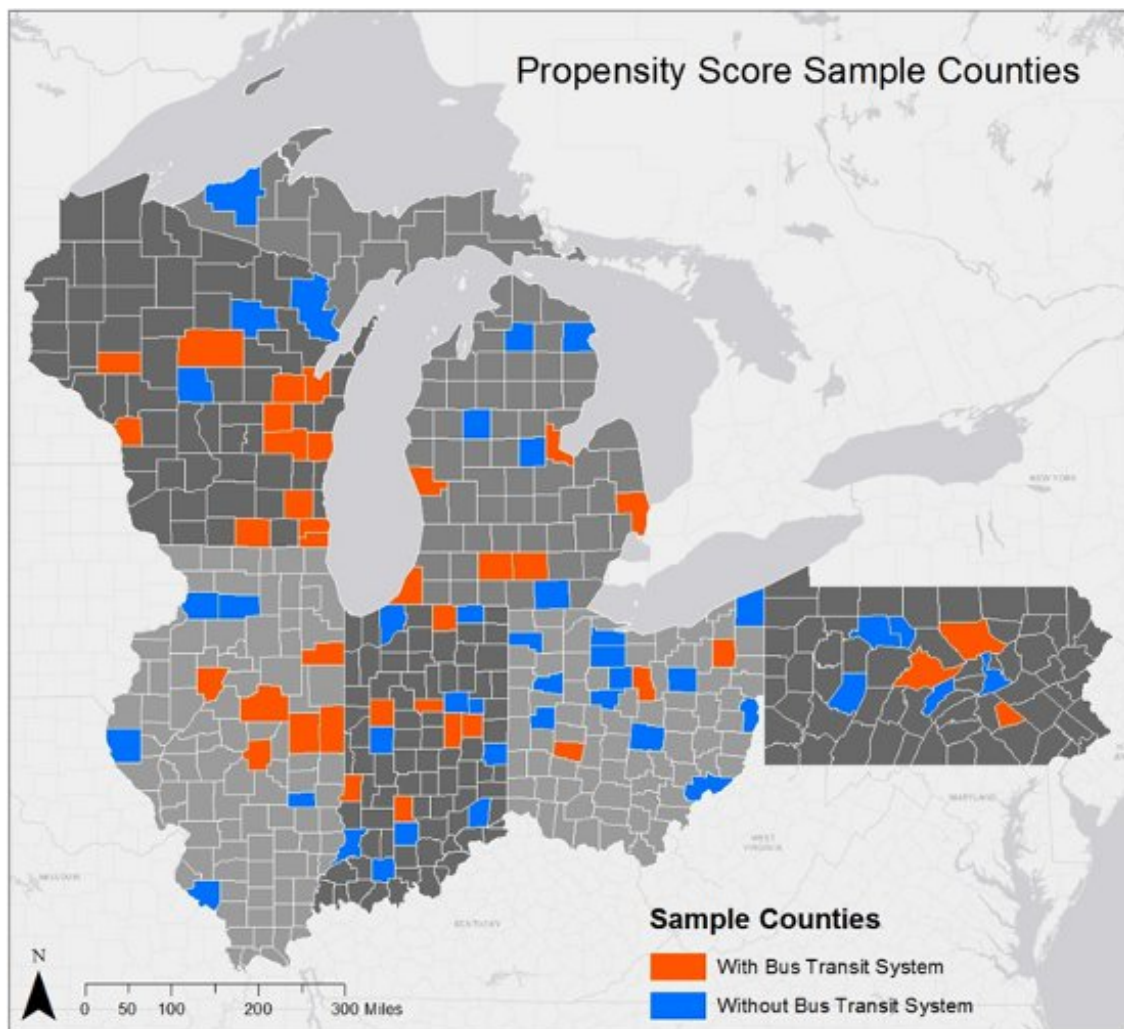


Figure 2 – Counties sampled with and without transit – propensity score



The sample counties are in the “rust belt” region of the U.S. where cities grew to prominence during the industrial revolution and experienced large losses in manufacturing employment during the past few decades. This is a relatively homogeneous region from which to evaluate the impact of transit on job turnover. We limited our analysis to this region to control, in part, for regional differences in local government structure, industrial composition and the cost of living. Because a limited number of variables are available for cities, the county in which the city is located is the focus of analysis in this study. We focus specifically on small cities to investigate the impact of fixed-route bus transit. Large cities often have integrated rail and bus systems, larger land areas, numerous neighborhoods and industrial areas making it more difficult to disentangle the effects of bus transit.

Our finding that counties with transit systems have lower employee turnover rates may indicate that workers are better able to maintain employment and/or that employees are able to find better matches with employment opportunities due to bus transportation thereby reducing involuntary and voluntary turnover. While the exact transmission mechanism cannot be determined in this analysis, this relationship likely affects low-income and transit dependent workers who are the primary users of transit. A recent [analysis](#) of fixed-route bus systems in the state of Indiana showed that 60 percent of riders take the bus to work or school, about half of respondents’ household income was less than \$15,000 per year, and that 70 percent of riders are transit dependent (do not have access to an automobile in their household) indicating that buses are an integral part of the urban transportation network particularly for low income households without automobile access.

We also estimated the impact of transit on employee turnover costs for manufacturing and retail employees. With average turnover costs of \$4,800 per job, which equates to a reduction of \$5.3 million to \$6.1 million in turnover cost per year in manufacturing and \$1.7 to \$1.9 million per year in retail. Together the estimated reduction in retail and manufacturing turnover cost is between four and five percent of total operating expenses for fixed-route bus systems during 2010 in the counties with these transit systems. These results suggest that access to fixed-route bus transit should be a component of the economic development strategy for low income communities not only for the access to jobs that it provides low-income workers but also for the benefit provided to businesses that hire these workers.

Costs associated with training new workers are estimated to be a significant share of annual employment costs. Turnover costs are [20 percent of salary for most workers](#), but can be considerably higher for jobs that require specialized skills and training, and higher levels of education. Decreases in employee turnover represent cost savings to businesses by reducing the costs associated with hiring and training new workers and rebuilding firm-specific knowledge. Turnover costs include both direct and indirect costs. Direct costs include separation costs, severance pay, higher unemployment taxes, overtime for other staff or temporary staffing to cover former employees duties, advertising, search and agency fees, screening applicants, interviewing, background checks, testing, applicant travel and relocation costs, and training costs. Indirect costs are more difficult to measure and include lost productivity, reduced quality, errors or waste as new employee learns job, reduced morale, lost clients lost institutional knowledge, and customer service disruption.

While lower turnover rates do mean lower costs to businesses, from a broader perspective higher turnover rates also have advantages. High turnover may indicate more choices for employees and employers to better match jobs with employee skills. Changing employers is associated with almost half of all transitions out of (or into) low earning employment status *and* better employer-worker matches are [crucial](#) for low earnings workers to transition to higher paying jobs. Some workers face high costs or barriers which may include transportation costs, limited information or employer discrimination, that limit access to better jobs. The implications of these results are that bus transit influences labor markets in ways that should be further explored.

*This article is based on the paper, “[The Impact of Bus Transit on Employee Turnover: Evidence from Quasi-experimental Samples](#)” in *Urban Studies*.*

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About the authors

Dagney Faulk – *Ball State University*

[Dagney Faulk](#) is Director of Research at the Center for Business and Economic Research at Ball State University. Her research interests include state and local tax policy, regional economic development and transit. She has authored numerous Indiana-focused policy studies on a variety of topics including the regional distribution of state government taxes and expenditures, senior migration, local government reform, the impact of property tax caps and school district consolidation. She is co-author (with Michael Hicks) of the book *Local Government Consolidation in the United States*.



Michael Hicks – *Ball State University*

[Michael Hicks](#) is Director of the Center for Business and Economic Research at Ball State University and the George and Frances Ball Distinguished Professor of Economics. His research interests include state and local public finance and the effect of public policy on the location, composition, and size of economic activity. He has authored three books and more than 50 scholarly papers and is best known for his work on tax incentives and the impact of Wal-Mart.



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