

The Relationship of Transportation Access and Connectivity to Local Economic Outcomes



Client

Transportation Research Board (TRB)

Facts

Period

2012

Project Country

United States

"The Relationship of Transportation Access and Connectivity to Local Economic Outcomes: A Statistical Analysis," by Brian Alstadt, Glen Weisbrod and Derek Cutler, a paper and presentation at the Annual Meeting of the Transportation Research Board (TRB), January 2012 in Washington, DC. The paper was subsequently published in the Transportation Research Record: Journal of the Transportation Research Board, No. 2297, Transportation Research Board of the National Academies, Washington, DC, 2012, pp. 154-162.

Past research has shown that transportation system improvements can affect economic growth and productivity by changing access to markets and connectivity to intermodal terminals. However, most past research has adopted singular measures of market access and business productivity.

This paper demonstrates how various transportation projects can have larger or smaller impacts on business concentration and productivity, by affecting different aspects of market access in areas with a different business mix. It demonstrates these relationships through a two-step process. First, it defines seven types of access/connectivity measures, including access to labor markets, truck delivery markets, and intermodal terminals. It then develops econometric models of the relationship between access/connectivity characteristics of local areas and relative levels of business productivity, job concentration and export base. These relationships are estimated using simultaneous, non-linear equations that allow access threshold effects to be recognized, and for different relationships to apply among 54 industry sectors. The results confirm that different types of access are relevant to different industry sectors. As a consequence, the productivity and agglomeration of a given industry in a given area can be related to more than one dimension of accessibility. These results can have important implications for estimating the wider economic benefits of transportation investment, for they suggest the need to consider both industry detail and forms of accessibility in order to accurately calculate the relative impact of specific project proposals

Contact Persons