Guidebook: Assessing Productivity Impacts of Transportation Investments



Client

National Cooperative Highway Research Program, Transportation Research Board (TRB)

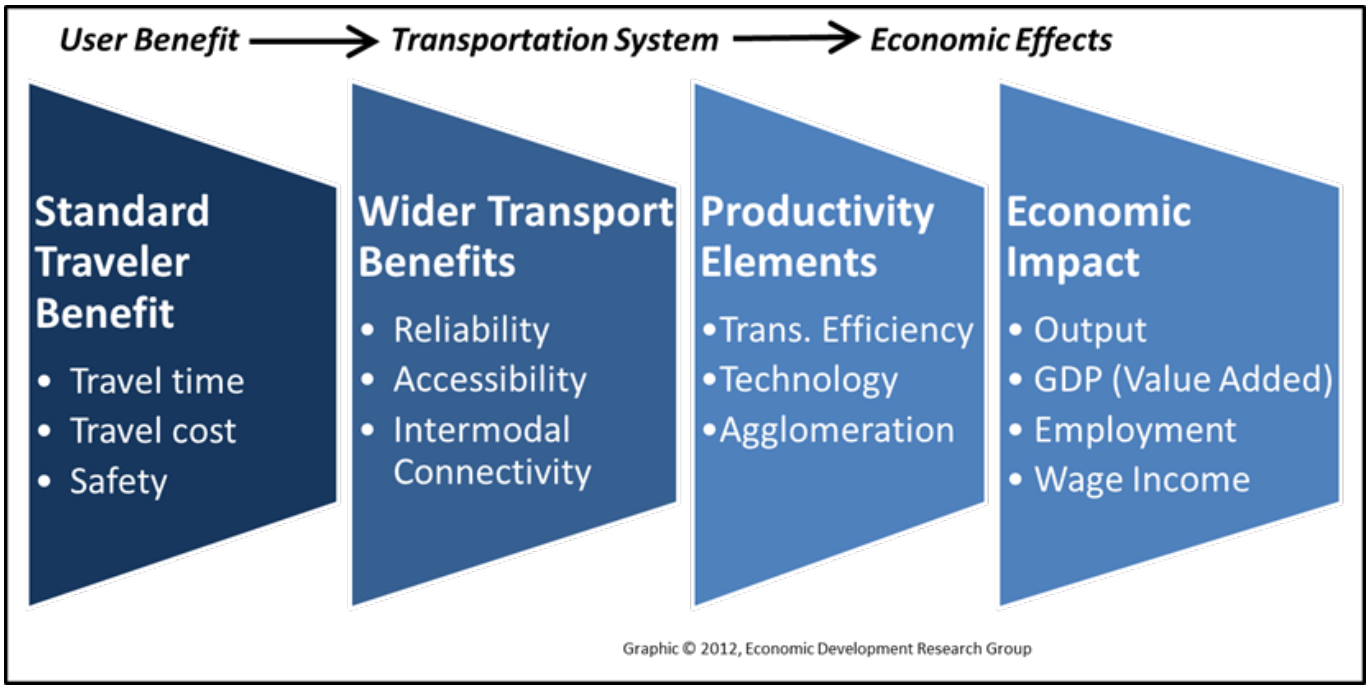
Facts

Period 2014

Project Country United States

NCHRP Report 786

For the National Cooperative Highway Research Program (NCHRP), EDR Group (now EBP) led an international team in assessing ways to measure and calculate the productivity impacts of transportation projects. The final report from this project (NCHRP Report 786) develops a framework and guide for calculating the economic productivity impacts of transportation investments. It is designed for use by state, regional and local agencies to aid in the evaluation of proposed projects. The report defines the various facets of productivity, available metrics and the factors that link transportation system changes to economic productivity impacts. Since agencies differ in their resources and capabilities, the guidebook presents a general framework of calculation steps that should be carried out to estimate elements of direct productivity impact.



The guide focuses on three transportation performance factors that affect economic productivity – **accessibility** for workforce and deliveries, **connectivity** to intermodal terminals, and **reliability** for supply chains. The document explains how those steps can be carried out using methods ranging from simplistic to sophisticated and discusses implications of those choices It identifies data requirements and sources and explains how available tools can be used to assess these three factors. It then presents a series of options for using coefficients, elasticity factors and/or models to assess impacts on economic efficiency, agglomeration, and supply chain technology change that underlie (and drive) productivity change. Case study examples are provided to illustrate these calculations. Finally, the report discusses how productivity impact measures can be

incorporated into transportation investment decision making – through the use of multi-criteria analysis, benefit-cost analysis or economic impact analysis.

The report was authored by the staff of EDR Group, together with System Metrics Group, Institute for Transport Studies-University of Leeds, David Simmonds Consultancy, Prime Focus, Sauder School of Business-University of British Columbia, and the University of Kent.

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