

# SUMMARY

**Overview.** This report presents a guide for assessing the economic productivity impacts of proposed transportation investments, and using those results for transportation project evaluation. It is designed for use by state, regional and local agencies, and can be used to help assess individual project proposals or enhance prioritization processes. Since agencies differ in resources and capabilities, the guide presents a framework of calculation steps, provides a choice of methods for carrying them out, and discusses how the results can be incorporated into various project impact analysis methods.

**Motivation.** Interest in this topic comes from two directions: (1) growing public understanding of the importance of infrastructure to support economic development, and (2) growing recognition among analysts that wider economic benefits are not being fully captured in current evaluation methods. Productivity impacts are an integral aspect of both economic competitiveness and wider economic benefits.

**Importance.** This guide has several uses. First, it provides a foundation for transportation agency staff and executives, as well as elected officials, to understand the distinction between standard traveler benefits, wider transportation metrics and economic impacts.

Second, it identifies the performance impact metrics that are already commonly collected by transportation agencies and shows how they relate to business productivity. It also identifies what is missing in current transportation performance measurement – reliability, accessibility and intermodal connectivity measures – and explains why adding them can matter for assessing the benefits and impacts of transportation projects. For transportation agency staff and decision-makers, it lays out a case for why it is worthwhile to take additional time and effort to gather that information.

Third, it presents a straightforward set of steps that rely on spreadsheet calculations to assess the productivity impact of projects, and then use those impact results for benefit-cost analysis, economic impact analysis or multi-criteria scoring of proposed projects.

**Core Elements.** The guide has six steps:

- 1) Screening to assess whether productivity impact analysis is appropriate for a project.
- 2) Identification of types of transportation impact factors that need to be analyzed, and analysis tools available for measuring them.
- 3) Calculation of direct effects on travel-related business costs, based on standard transportation data.
- 4) Calculation of wider transportation impacts, in terms of travel time variability, market access and intermodal connectivity measures.

- 5) Calculation of productivity impact elements, in terms of transportation-related cost savings, agglomeration impacts and supply chain technology impacts.
- 6) Calculation of overall productivity effects and use of results in evaluation processes including multi-criteria analysis, benefit-cost analysis and economic impact analysis.

**Supporting Materials.** Accompanying the guide, there are descriptions of available spreadsheet tools that can be used to carry out the calculations. There are three detailed case studies that show how the analysis steps can be carried out to calculate productivity-related impact metrics. There are also three appendices which discuss issues concerning measurement and bias correction.