

Integrating Transportation and Economic Models to Assess Impact of Infrastructure Investment



Client

Transportation Research Board (TRB)

Facts

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United States

By Chandler Duncan, Steven Landau, Derek Cutler, Brian Alstadt, and Lisa Petraglia, EDR Group (now EBP), published in the Transportation Research Record (TRR) 2297, pp. 145-153.

This paper explores how different asset management, traffic forecasting, performance, and economic models can be integrated to show the national economic implications of transportation funding and performance gaps under different scenarios. Asset management models have often been utilized to assess and forecast the condition and performance of the current infrastructure. Travel demand models have been used to anticipate how traffic volumes are likely to develop over time depending on capacity improvements. User cost models have been used for cost-benefit analysis and the management of trade-offs, and economic impact models have been used to characterize transportation choices in terms of earnings, output, and employment. This paper explores how a sequence of these models when applied to a consistent data set with consistent assumptions can address the overall relationship between physical transportation system conditions and performance, traffic patterns, transportation costs, and economic impacts. The results point to a vertically integrated and economically defensible approach to needs-based planning with an understanding of the national economic significance of transportation investment choices.

Contact Persons