Summary of Final Report, BD549-26
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ECONOMICS OF TRAVEL DEMAND MANAGEMENT: COMPARATIVE COST EFFECTIVENESS AND PUBLIC INVESTMENT

PROBLEM STATEMENT

The 2006 Congestion Mitigation and Air Quality Improvement (CMAQ) Program Interim Guidance provides explicit guidelines for program effectiveness assessment and benchmarking. The guidance calls for a quantification of benefits and disbenefits resulting from emission reduction strategies for project selection and evaluation. An increasing number of public agencies are attempting to measure the value of Transportation Demand Management (TDM) strategies relative to their potential benefits and costs in comparison to other transportation solutions commonly employed to address capacity needs.

Various tools, such as the Worksite Trip Reduction Model (WTRM) developed by the National Center for Transit Research, the Environmental Protection Agency (EPA) COMMUTER model, and impact calculation methods developed by the California Air Resources Board (CARB), are currently available for estimating some of the benefits of several TDM and other emission reduction strategies. However, no standardized guidance exists to quantify the costs and benefits of TDM strategies that considers the full range of benefits and costs accrued.

OBJECTIVES

The objective of this study is to develop a methodology that combines academic and practitioner experiences within a theoretical framework that truly captures consumers' price responsiveness to diverse transportation options by embracing the most relevant trade-offs faced under income, modal price and availability constraints.

FINDINGS AND CONCLUSIONS

This study conceptualized a new approach that builds on existing techniques and tools to produce a model that would save agencies time and money. The approach provides a high level of reliability in impact estimates and generates results that can be compared among regions and across projects.

The developed methodology combines academic and practitioner experiences within a theoretical framework that effectively models consumers' price responsiveness to diverse transportation options by embracing the most relevant trade-offs faced under income, mode cost and availability constraints.

The development of the theoretical model led to the design and implementation of TRIMMS (Trip Reduction Impacts for Mobility Management Strategies), a practitioner-oriented sketch planning tool. TRIMMS permits program managers and funding agencies like FDOT to make informed

decisions on where to spend finite transportation dollars based on a full range of benefits and costs. The approach is consistent with other benefit-to-cost analyses. Its accuracy and perceived fairness are critical when significant funds are at stake. The model allows some regions to use local data or defaults from national research findings, select the benefits and costs of interest, and calculate the costs and benefits of a given program.

A key strength of this model is the wide range of benefits and costs that can be selected for the analysis. The model's flexibility and robustness allows it to be adopted by agencies throughout the country. The final report includes a step-by-step introduction to the program and its capabilities, and a set of working examples to guide the user through the process of evaluation.

BENEFITS

The spreadsheet application, TRIMMS, provides a comparative assessment of TDM for program managers and funding agencies like FDOT to make informed decisions on where to spend finite transportation dollars based on a full range of benefits and costs. The approach is consistent with other benefit/cost analysis methods currently applied by the Department. The accuracy and perceived fairness of the methodology will benefit the decision-making process, especially when significant funds are at stake.

A key strength of TRIMMS is its flexibility in selecting a wide range of benefits and costs that can be used for analysis. The model's flexibility and robustness allow it to be adopted by agencies throughout the state of Florida and the country.

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