Application of Wider Economic Benefits Tools on I-77 ATSMS Project
Daniela Gonzales
Old Dominion University

Introduction.
Virginia Center for Transportation Innovation and Research (VCTIR) was awarded an incentive to implement the use Second Strategic Highway Research Program’s (SHRP2) Tools for Assessing Wider Economic Benefits (C11). Review has found no prior work has been done to analyze the wider economic benefits of intelligent transportation systems (ITS), making this research one of the first instances. In collaboration with UVA researchers, the team chose two ITS project corridors to study.

SHRP2 C11 Tool
Typical cost-benefit analysis tools for transportation projects measure traveler benefits (i.e. travel time, travel cost, and safety). SHRP2 C11 tools measure Wider Economic Benefits of:
• Reliability - travel time variability
• Connectivity - intermodal facilities
• Accessibility - economic value of market access

Study Corridor
Within the last year, an Active Traffic Safety and Management System (ATSMS) has been installed along a 12 mile corridor of I-77 in mountainous, fog-prone terrain where a high percentage of weather-related incidents occur. The objective of including I-77 ATSMS within this study is to evaluate the changes in traffic and incident conditions before and after installing these devices along the corridor using appropriate performance measures and the SHRP2 C11 tools.

Data and Methodology.
• Study Area: I-77 Mile Markers 0-15 North and Southbound (30 miles total)
• Before/After Periods: April 1 - June 30 2014 and 2015
• Hours of Study: 24-hour and 6 AM - 7 PM periods
Data Gathered:
• Incident Frequency and Duration
• Average Annual Daily Traffic (AADT) / Annual Growth Rate
• Annual Truck Traffic / Percent Trucks in Traffic

Conclusions.
• The ITS project tested here resulted in limited wider economic benefits in terms of reliability and connectivity.
• We found that the tools themselves were simple to run and assess the results, but gathering the information was not always simple nor data required was always straightforward.
• Overall, SHPR2 C11 tools were not found suitable for planning and prioritizing of ITS projects at a statewide level.

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References.