VERMONT
AGENCY OF TRANSPORTATION

FACT SHEET

2018 Research Symposium & STIC Annual Meeting

Real-Time Pavement Condition Ratings by Vermont Drivers: Assessing the Condition of Road Segments Through a Location-Based Smartphone App

RESEARCH PROJECT TITLE

Real-Time Pavement Condition Ratings by Vermont Drivers: Assessing the Condition of Road Segments Through a Location-Based Smartphone App

STUDY TIMELINE

May 2016 – August 2018

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Fact sheets can be found for additional projects featured at the 2018 Symposium at http://vtrans.vermont.gov/planning/research/2018symposium

Additional information about the **VTrans Research Program** can be found at http://vtrans.vermont.gov/planning/research

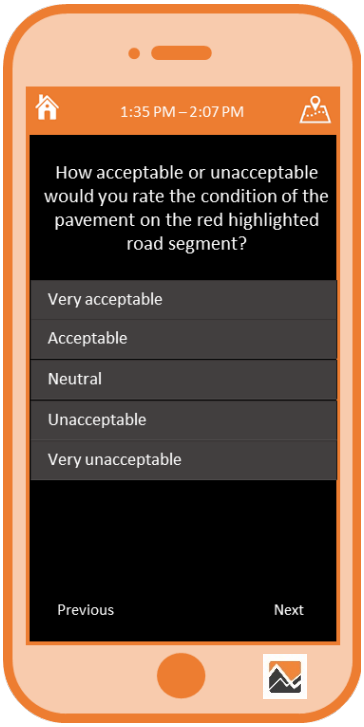
Additional information about the **VTrans STIC Program** can be found at http://vtrans.vermont.gov/boards-councils/stic

Introduction

Driver feedback about road conditions can provide important information about transportation agency performance. Yet traditional survey methods face challenging recall issues in obtaining evaluations of pavement conditions. In contrast, a location-based smartphone survey app provides opportunities for near real-time evaluations, which can significantly improve data quality.

Methodology

A smartphone travel survey app (programmed for both iPhones and Android devices) was developed by RSG to survey Vermont drivers. Study participants were recruited through in-person intercepts at six Vermont DMVs, where they were asked to install the free app on their smartphones. The app prompted study participants to complete a brief survey at the conclusion of any trip that included specific, predesignated road segments. The survey asked the driver to confirm the location of the segment and rate the pavement condition on the segment, and then asked several follow-up questions.



Conclusions

Study participants were generally quite positive about the current condition of Vermont roads. Approximately 70% indicated that the road segment of interest was at least in "acceptable" condition, and only 10% indicated that it was in "unacceptable" condition. Even road segments that were assigned low condition ratings by VTrans were generally deemed to be in reasonable condition by survey respondents. For example, 80% of segments that VTrans classified as being in "very poor" condition were rated as "good" or "fair" by survey respondents. Engineering-based measures of road quality were correlated with respondent acceptability, with higher acceptability ratings generally associated with higher average values for the indices.

Potential Impacts

This study may represent the first state-level use of a real-time data collection app to gather data on drivers' perceptions of pavement conditions on specific road segments; it provides an important demonstration of an emerging approach to surveying drivers. The results indicate that from a customer service perspective, VTrans may be performing better with respect to its pavement quality performance targets than the state's engineering-based measures alone would suggest, a finding that may have implications for investment decisions related to pavement management.