



Real-Time Pavement Condition Ratings by Vermont Drivers Using a Smartphone App



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Motivation

- Driver feedback about road conditions can provide important information about transportation agency performance.
- A location-based smartphone survey app provides opportunities for near real-time evaluations, avoiding recall issues that plague many traditional surveys.

Smartphone Survey



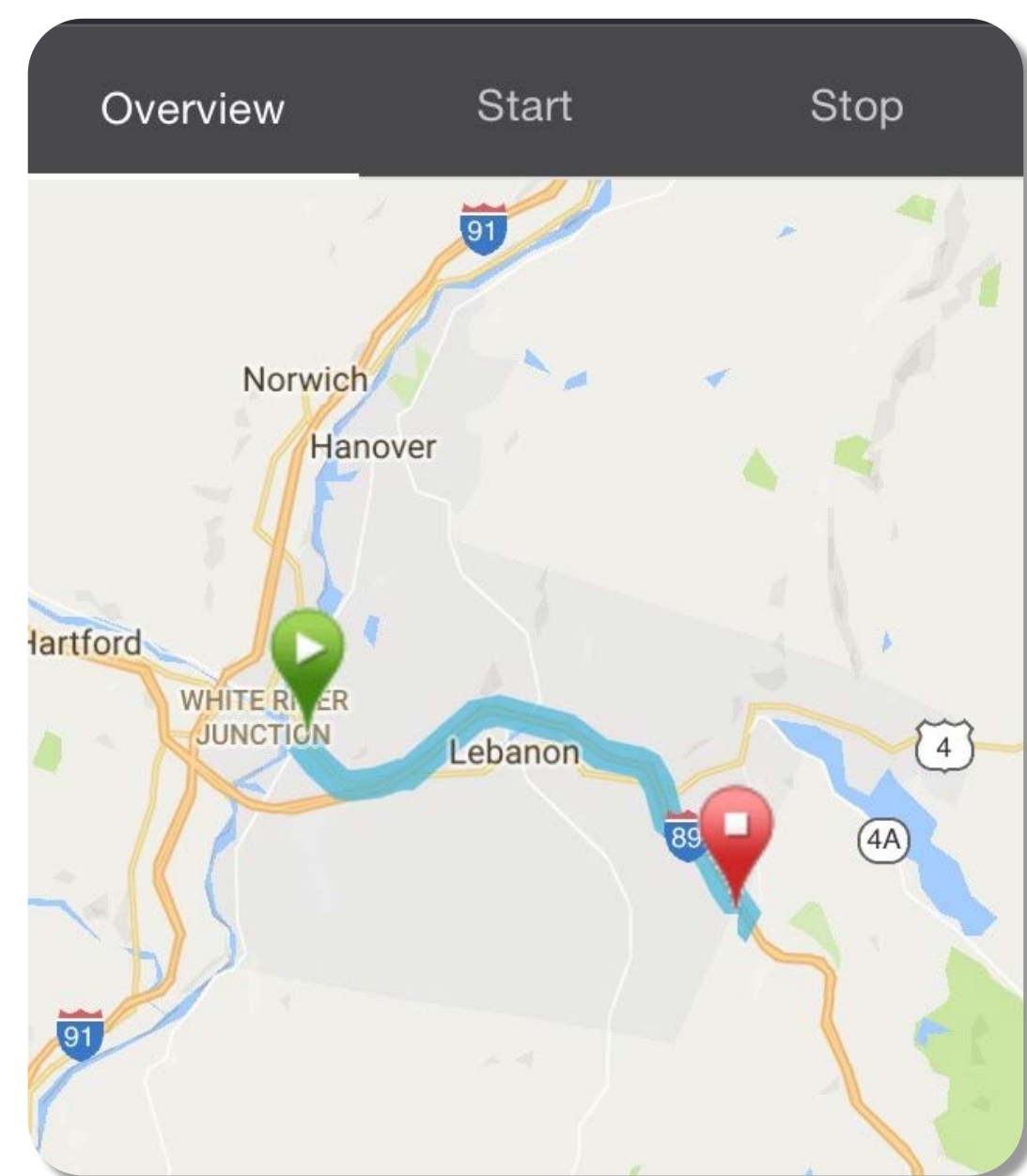
Data Collection and rMove App

- Participants were recruited at DMVs throughout Vermont and volunteered to download rMove.
- rMove uses the GPS, compass, Wi-Fi, and accelerometer to passively collect travel data while running in the background.



- The device's location informs rMove when trips begin and end. Trip routes are captured along with origin and destination points.
- Trip routes that include certain pre-selected road segments trigger a survey.
- A few minutes after the trip ends, a notification appears on the phone, prompting the user to complete the survey.
- The survey begins by displaying a map of the trip to confirm that the respondent traveled on the road segment of interest.
- The user is then asked about pavement conditions on the segment.
- The app was active for 7-12 days, during which participants were asked to rate multiple road segments.
- The average participant provided three separate condition ratings.

Runs natively on iOS and Android



Results

- 52% response rate with all 18 Vermont counties represented.
- 799 post-trip pavement ratings provided by 267 drivers.
- Drivers were generally satisfied with road conditions: 70% indicated that the road segment was acceptable or better.
- Even segments with low IRI index values were frequently rated by drivers as acceptable.
- The results may have implications for investment decisions related to pavement management.

