Probe Vehicle Bluetooth Study for Travel Time Savings Estimation
On I-69 Sections 1 – 4
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Abstract

Interstate 69 is a new highway envisioned to eventually travel the length of the United States, from Canada to Mexico. In Indiana, the construction is being completed in a series of segments, as shown below. With the opening of new sections, the travel time savings for travelers can be quantified. By deploying Bluetooth data loggers to capture unique MAC addresses of travelers' devices, timestamps for corresponding MAC addresses along the study route can be matched to determine travel time. Compared to the posted speeds and lengths of new interstate sections, the travel time saved by using I-69 can be estimated. One such study was completed for the previous opening of I-69 Sections 1-3, and researchers completed a study for Section 4, which opened to public traffic on December 6, 2015.

I-69 Section 4 from US-231 near Crane to south of Bloomington is approximately 27 miles. With a speed limit of 70mph, the travel time is estimated to be 23 mins. http://www.in.gov/indot/projects/i69/2370.htm

Study Objective

Travel time savings over previously recommended routes from Evansville to Crane and Bloomington

Study Corridor

Sensor Placement

TRAVEL TIME SAVINGS

54 mins

I-69 Section 1 – 4 Travel Time Savings

Improved Median Travel Time by: 4 Minutes

Improved Median Travel Time by: 17 Minutes

I-69 Section 4 Ribbon Cutting

Opened Dec. 9, 2015; Travel Time Savings = 17 min

Opened Nov. 19, 2015; Travel Time Savings = 37 min