

Improving the Accuracy and Applicability of Kansas Traffic Data

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Introduction

This research investigated the accuracy and reliability of KC Scout traffic sensors in the Kansas City metropolitan area. The locations and sensors under investigation are of particular importance to the Kansas Department of Transportation (KDOT) because they regularly report accurate traffic counts to the Federal Highway Administration (FHWA).

Project Description

The research team used dual-directional video recorders at six locations along I-35, I-70, I-435, and I-635 to collect field counts during two phases for a total of 9 hours.

Project Results

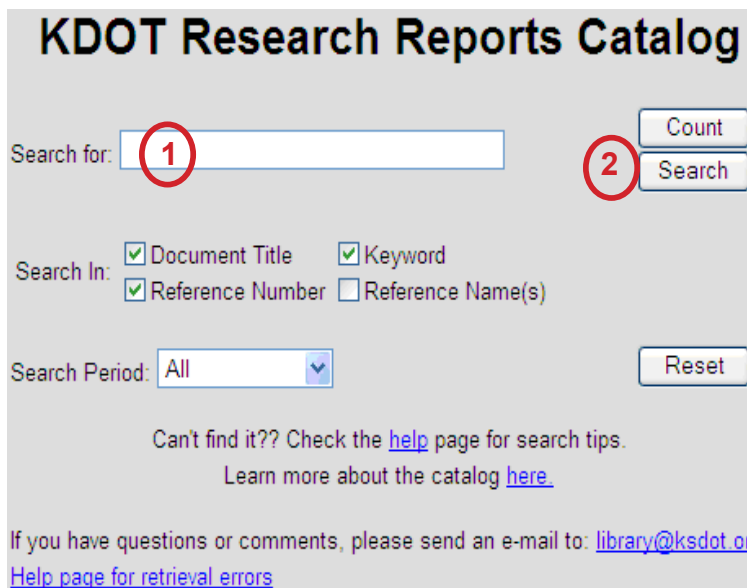
Comparison of the manual field counts and KC Scout records showed acceptable accuracy (less than 5% difference compared to field counts) if KC Scout verified that the subject sensors were recently checked and calibrated.



Reliability assessment of the subject sensors revealed excellent year-long quality of data for two pairs of detectors (about 98% good data), while the other four pairs provided approximately 85%, 79%, 75%, and 68% good-quality data, respectively. Sources of error that resulted in bad-quality data were duplicate records, zero traffic counts when vehicle speed was non-zero, extremely high traffic counts, or missing intervals. Investigating the temporal distribution of each error type provided insight on their probable causes. Finally, an assessment of the automated quality checks process of the KC Scout data portal identified errors and inconsistencies, which hinder the use of aggregate data by KDOT. Strategies that can mitigate the above issues were suggested.

Project Information

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