Probe Data for Arterial Performance Measures

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With the success of utilizing outsourced probe data for freeway monitoring and assessment, along with the recent mandates through MAP-21, DOT’s have accelerated efforts to implement performance monitoring on arterial roadways. In support of the effort by the Maryland State Highway Administration and the I95 Corridor Coalition to leverage probe data for arterial, the Univ. of Maryland investigated the fidelity of probe data for interrupted flow facilities (non-freeway), and appropriate methods to report travel time and reliability measures on these facilities. The complex flows induced by signal operation challenge existing measures, calling for an approach that captures the full distribution of travel time, rather than single measures such as the Travel Time Index or the Planning Time Index. This presentation reflects the results of investigating the accuracy of probe data for arterials, and presents a method of characterizing traffic flow based on sampled distributions using percentile measurements. This method accurately captures the sometimes complex flow characteristics of signalized corridors, while providing a compact and flexible approach to yielding travel time and travel time reliability measures.