

Travel Time Reliability in Route Choice using Adaptive Stated Preference

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Abstract

There are inherent characteristics in transportation networks that make them subject to a level of travel time uncertainty. With rising levels of congestion, travelers anticipate a level of delay on their daily commutes. However, service on a given link is affected by factors ranging from stochastic demand to weather condition and accidents, which can introduce uncertainty and additional delay beyond what is anticipated. A reliable system enables scheduling of activities. The focus in transportation thus far has been in a reduction of expected travel time and not on increasing its reliability (reducing variability). There are tradeoffs to be made in addressing either of these areas starting from available funding. This introduces the question of which of these two areas transportation professionals ought to focus on. To answer this question, it is essential to understand the value of reliability as it relates to people's commutes. Using a stated preference survey that trades off travel time variability with mean travel time, this study derives a value for reliability of travel time, finding a reliability ratio of 1.2.

Further Information:

This paper is being updated by the author. For further information, please contact the author directly.