

**COMMUTERS' PERCEPTION OF TRAVEL TIME AND UNCERTAINTY
UNDER CONGESTION PRICING:
EXPLORATION OF A SIX-WEEK FIELD EXPERIMENT DATA**

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ABSTRACT

In urban areas of many industrialized countries, it is increasingly difficult, physically, financially, and politically, to maintain adequate levels of service on roadways by constructing new infrastructure for automotive transportation. As an alternative, travel demand management (TDM) measures, such as flex time, staggered work hours, and road pricing have been implemented. For effective implementation of TDM measures, then, these measures need be evaluated with respect to their impacts of traveler behaviors while taking their perceptions of travel times into consideration. A prerequisite for such an evaluation is the identification of the relationship between actual travel time and perceived travel time. However, the data that support this has been rare; past studies typically used the data of either actual travel times or perceived travel times. In this paper, we focus on the relationships between day-to-day variations in commute travel time and the perception of them, and aim at acquiring some pieces of knowledge about the relationships between commuters' perceptions of travel time and their commute behaviors.

This study is based on the data obtained from an elaborate survey of expressway commuters. The survey covered a period of six weeks, and adopted a diary and a stated-preference (SP) questionnaire. Respondents were recruited from among the users of the Hanshin Expressway Route 13 in Osaka.

The results presented in this paper reveal relationships among actual commuting travel time and its variation, the perception of travel time and its uncertainty, and safety margin. The most important finding is that the perceived uncertainty in travel time, as expressed by the difference between the maximum and minimum travel times they have experienced while commuting, has little to do with the variance of travel times reported daily. The study results suggest that the assumption that objective variation in travel time will represent the traveler's perception of uncertainty may be entirely erroneous.