

Date: June 26th. (Tue.) 2012

Time: 15 : 00—18 : 00

Venue: Tokyo Tech. Ookayama Campus, West Bldg. 8 E, 10F, E1001 Meeting Room
(東工大・大岡山キャンパス 西8号館E棟 E1001会議室)

Programme :

15:00-15:45 Shin-ichi INOUE (The Institute of Behavioral Sciences)

and Takuya MARUYAMA (Kumamoto University)

Comparison of Convergence Performance between Recent Algorithms for User Equilibrium Traffic Assignment Problem

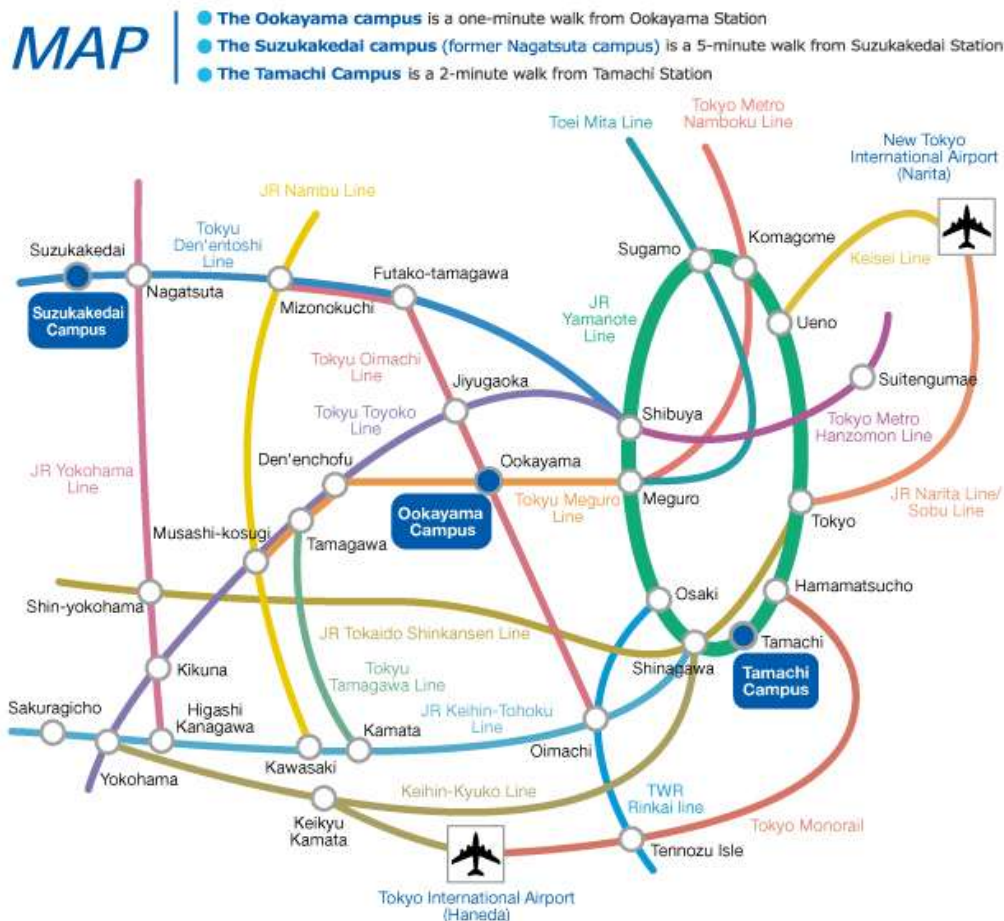
15:45-16:25 Kenetsu Uchida (Hokkaido University)

Estimation of Value of Travel Time Reliability in Road Network

16:25-16:40 Break

16:40-18:00 Agachai Sumalee (The Hong Kong Polytechnic University)

Probabilistic Fusion of Vehicle Features for Re-identification and Travel Time Estimation Using Video Image Data



Probabilistic Fusion of Vehicle Features for Re-identification and Travel Time Estimation Using Video Image Data

Dr. Agachai Sumalee (The Hong Kong Polytechnic University)

Abstract

This paper aims to propose a probabilistic vehicle re-identification algorithm for estimating travel time using the image data provided by traffic surveillance cameras. Each vehicle is characterized by its color, type, and length which are extracted from the video record using image processing techniques. A data fusion rule is introduced to combine these features to generate a probabilistic measure for re-identification (matching) decision. The vehicle matching problem is then reformulated as a combinatorial problem and solved by a minimum-weight bipartite matching method. To reduce the computational time, the algorithm also utilizes the potential availability of the historical travel time data to define a potential time-window for the vehicle re-identification. This probabilistic approach does not require vehicle platoon information and hence allows vehicle re-identification across multiple lanes. The algorithm is tested on a section of the expressway system in Bangkok, Thailand. The travel time estimation result is also compared with the manual observation data.



4th TSU (Transport Studies Unit) Seminar Advanced Methods on Travel Time Research

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