

# Application Form of EASTS IRG

Date of Submission: 2013/08/16

<p>1. Name of IRG: International Comparative Research on Value of Travel Time in Asia</p>
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<p>3. Name of contact person other than representative:</p> <p>1) a) Name: Kunnawee Kanitpong b) ID number of EASTS Regular Member: TH-95-13-0085 c) Affiliation: Asian Institute of Technology d) E-mail: kanitpon[at]ait.ac.th e) Country/Region &amp; Address: 58 Moo 9, Paholyothin Highway Klong Luang, Pathumthani 12120</p> <p>2) a) Name: Jin Murakami b) ID number of EASTS Regular Member: Non member c) Affiliation: City University of Hong Kong d) E-mail: jin.m[at]cityu.edu.hk e) Country/Region &amp; Address: Tat Chee Avenue, Kowloon, Hong Kong SAR</p>
<p>4. Keywords (Maximum: 5 words) Value of travel time, international comparison, meta-analysis, passenger transportation</p>

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## 5. Purpose and Mission of IRG:

### (1) Motivation

The value of travel time is one of the most fundamental values in transportation project evaluation (Small and Verhoef, 2007). Recently, the international meta-analysis has been implemented mainly in Europe such as HEATCO (2006), which includes the international comparison of value of travel time among EU members. This reflects the fact that the rapid globalization has promoted the international and/or cross-border investment in European transportation market. It is expected that more international organizations and firms will become concerned with infrastructure investment even in Asian transportation market. This generates further demands for scientific approach in transportation project evaluation with the computation of user's benefit stemming from saving travel time. However, in the context of Asia, the empirical study on the value of travel time has been merely reported (one of the exceptions is the research in Japan (For example, Kato et al., 2010; 2011). The study of value of travel time should contribute to rational and transparent process of public-funded transportation project investment in Asia while it may be also valuable information even in Public-Private Partnership project. Additionally, the results could be utilized by international organizations such as Asian Development Bank (ADB), Japan International Cooperation Agency (JICA) etc.

### (2) Goal

The proposed study implements an international comparative study on the value of travel time among Asian countries. The study aims to support the decision-making process of transportation projects with cost-benefit analysis using appropriate value of travel time in those countries.

### (3) Scope

The passenger's value of travel time is analyzed. It is defined as the individual's willingness-to-pay for saving marginal travel time. The value for freight transportation is out of our scope. The target countries/regions are all Asian countries, but in reality they may be limited due to the data availability. Road traffic is mainly highlighted but other transportation modes are not excluded from our study.

### (4) Approach/Method

The research may consist of the following three components:

#### (1) Review of current method of transportation project evaluation in Asia

This study first reviews the current methods used by the government in Asian countries and by international organizations such as ADB for evaluating transportation projects. Particularly the derivation or definition of value of travel time will be summarized by country/region.

#### (2) Asian meta-analysis on national value of travel time

This study first collects papers that have been published in academic journals and/or technical reports that have been published by national/local governments, estimating behavioral models using a statistical method with the data collected in Asia. Next, the value of travel time will be extracted from them. Then, they are analyzed with a meta-regression analysis (Wardman, 1998; Abrantes and Wardman, 2011). The support from local researchers in Asian countries/regions will be essential for collecting the data, particularly the papers/reports published in local languages.

#### (3) International meta-analysis on national value of time

The Asian meta-analysis will be integrated into world-wide international meta-analysis. The data collected by Professor Wardman (ITS, University of Leeds) mainly in European countries will be merged into larger database by combining Asian database. Then, they are analyzed with the meta-regression analysis.

## 5. Expected results

An equation of value of travel time will be obtained. This equation contains variables that are necessary to estimate the local value of travel time, such as GDP per capita, travel purpose, travel mode, travel attribute such in-vehicle travel time and waiting time. The equation can be utilized for estimating the value of travel time at specific area under a given condition for transportation project evaluation.

This contributes first to better project evaluation particularly in urban transportation investment of developing countries. For example, the average wage rate is often used for the value of travel time in many regions. This is theoretically supported for business travel (so-called cost saving approach), but it may not be supported for non-business travel. Actually, a number of empirical evidences show that the value of non-business travel time is lower than that of business travel time. For example, the federal government's guideline in US (USDOT, 2011) presents that the value of non-business travel time should be 50-70% of that of business travel time whereas the Department for Transport in UK (DfT, 2011) presents that the value of non-business travel time is approximately 20% of that of business travel time. World Bank (2005) also recommends the distinction of the business travel from the non-business travel for valuating the travel time saving. The equation can explicitly show the ideal value of travel time by travel purpose.

The meta-regression equation can also contribute to saving the data-collection and/or the model estimation in the area where the value of travel time is unavailable. Although World Bank (2005) shows that the most preferable approach is to estimate the value of travel time with the revealed-preference or stated-preference data, it is difficult to collect those data particularly in developing world. The estimated value of travel time with the meta-regression equation is used as one of the benchmark for local value.

### References:

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6. Target year for completion (Research period is suitable within four years.): Three years
7. Research plan: (Oct, 2013 - Sep, 2014) Data collection from local researchers (Oct, 2014 - Sep, 2015) Empirical analysis with the data (Oct, 2015 - Sep, 2016) Documentations
8. Expected research funds (ex. ICRA (Research grant of EASTS), etc. ICRA (Research grant of EASTS Other research funds

**All applications are to be delivered to:**

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