

Application Form of EASTS IRG (International Research Group)

IRG-13-2008

Date of Submission: 2008/ 08/ 05

1. Name of IRG:

Improving a tour travel demand forecasting method for Asian countries

2. List of research members (Please add if you need)

- 1) Name: Yongtaek Lim
Affiliation: Dept. of Transportation & Logistics, Chonnam National University
- 2) Name: Keechoo Choi
Affiliation: Department of Transportation Engineering, Ajou University
- 3) Name: Seungkil Baek
Affiliation: Transportation Research Team, Expressway & Transportation Research Institute
- 4) Name: Hyunmyung Kim
Affiliation: Transportation Engineering, Asian Institute of Technology
- 5) Name: Jun-Seok Oh
Affiliation: Dept. Of Civil and Construction Eng., Western Michigan University
- 6) Name: Wann-Ming Wey
Affiliation: Dept. Of Real Estate and Built Environment, National Taipei University
- 7) Name: Saksith Chalermpong
Affiliation: Department of Civil Engineering, Faculty of Engineering, Chulalongkorn University

3. Purpose and Mission of IRG:

Tourism is a sustainable business because it does not cause serious environmental issues and the protest from residents. Especially, many Asian countries have plentiful tourism resources and the tourism industries already contribute a large portion of economy in the countries. However, tour business itself is a high risk business in that its huge initial investment costs and high variations in tourist demands. While public sectors provide roads and public transit systems to support tour businesses, private companies develop new tourism attractions and services. In addition, a continuous renovation is inevitable to attract stable tourist demand.

Unfortunately, Asian tourism is being menaced by several factors such as high airfare, terrorism, and other infectious diseases. Many countries also suffered from insufficient infrastructures to support although they have great tour attractions. Understanding each Asian country's circumstances and its transportation needs for tourism will help forecast future tourist demand and corresponding needs for transportation infrastructure. This project aims to understand such needs and develop advanced tour demand forecast models to support tour demand to assist providing tour facilities and transportation services. Reliable demand forecast will lessen risks in international tourism market and help develop tourism business and stable market structure.

The goal of this program is to help researchers understand other countries' tourism activities and develop advanced models developed in economics and transportation to international and domestic tourism. Specifically, the discrete activity-based approach will be employed to enhance model capabilities. As proven in numerous transportation

problems, the activity-based approach requires more information and analyzes details on traveler behavior. Based on the tour activity patterns identified through this research program, local governments and private companies will be able to upgrade existing tour attractions and develop new tour activities and transportation services. Being compared with typical daily activity patterns, tourists' activities cover only limited number of destinations and affected by tour information. In addition, their travel objectives are simpler than commuters and substantial homogeneity is observable from tourists' activity pattern.

Another aspect in tourism is information systems for tourists' activities. Tourist information systems are expected to change tourists' activity patterns by giving opportunity for tourists to gain more satisfaction with less amount of time. When their saved time is used to buy additional utilities, the tour market system will help both tourists and the tour business. Advanced tour models will also be able to analyze such tourist activity changes through activity-based models. Therefore, applying the activity-based approach to enhance model capabilities by incorporating tour activity scheduling problem into new models. Researchers in this program will examine case studies in their own country and examine the model transferability among Asian countries. This program will publish research reports in a book in addition to papers in EASTS meeting.

4. Future research plan including time frame:

Year 1 :

- International workshop on understanding tour activities and data needs for advanced tour models
- Develop a data collection guideline for tour-related advanced models

Year 2 :

- Workshop on tour activity models for Asian countries
- Tour demands and supporting transportation services

Year 3 :

- Tour information systems and tour activity scheduling issues
- Case studies for model application and evaluation
- Final research report and possible book publication