

## Application Form of EASTS IRG

Date of Submission: 2019/08/09

### 1. Name of IRG:

Challenges of Mobile Ride-Hailing Applications in Asian Countries: Their Impacts on Local Transportation Market

### 2. List of research members

- 1)
  - a) Name of representative: Dr. Phathinan Thaithatkul
  - b) ID number of :EASTS Regular Member: TH-19-19-0009
  - c) Affiliation: Chulalongkorn, University
  - d) E-mail: phathinan.t@chula.ac.th
  - e) Tel: +66 2 218 7449
  - f) Country/Region & Address: 254 Phayathai Road, Pathumwan, Bangkok 10330 Thailand
  
- 2)
  - a) Name: Professor Hironori KATO
  - b) ID number of :EASTS Regular Member: JP-95-13-0065
  - c) Affiliation: The University of Tokyo
  - d) E-mail: kato@civil.t.u-tokyo.ac.jp
  - e) Tel: +81-3-5841-7451
  - f) Country/Region & Address: 7-3-1 Hongo, Bunkyo-ku, 113-8654 Tokyo, Japan
  
- 3)
  - a) Name: Professor Alexis Fillone
  - b) ID number of :EASTS Regular Member: PH-95-19-0012
  - c) Affiliation: Department of Civil Engineering, De La Salle University – Manila
  - d) E-mail: alexis.fillone@dlsu.edu.ph
  - e) Tel:
  - f) Country/Region & Address: 2401 Taft Ave, Malate, Manila, 1004 Metro Manila, Philippines
  
- 4)
  - a) Name: Associate Professor Saksith Chalermpong
  - b) ID number of :EASTS Regular Member: TH-95-13-0072
  - c) Affiliation: Chulalongkorn, University
  - d) E-mail: saksith.c@chula.ac.th
  - e) Tel: +66 81 567 4504
  - f) Country/Region & Address: 254 Phayathai Road, Pathumwan, Bangkok 10330 Thailand
  
- 5)
  - a) Name: Associate Professor PHUN Veng Kheang
  - b) ID number of :EASTS Regular Member: KH-12-13-0016
  - c) Affiliation: Institute of Technology of Cambodia
  - d) E-mail: kheang@itc.edu.kh
  - e) Tel:
  - f) Country/Region & Address: PO Box 86, Russian Conf. Blvd. Phnom Penh, Cambodia
  
- 6)
  - a) Name: Dr. Vu Anh Tuan
  - b) ID number of :EASTS Regular Member: VN-07-17-0017
  - c) Affiliation: The Vietnamese-German University
  - d) E-mail: drtuan.va@vgtrc.vgu.edu.vn
  - e) Tel:
  - f) Country/Region & Address: Le Lai Street, Hoa Phu Ward, Thu Dau Mot City, Binh Duong Province, Vietnam

- 7) a) Name: Dr. Ornicha Anuchitcharnchai  
b) ID number of :EASTS Regular Member: TH-19-19-0011  
c) Affiliation: Chulalongkorn, University  
d) E-mail: ornicha.a@chula.ac.th  
e) Tel: +66 2218 7449  
f) Country/Region & Address: 254 Phayathai Road, Pathumwan, Bangkok 10330 Thailand
- 8) a) Name: Dr. Patanapong Sanghatawatana  
b) ID number of :EASTS Regular Member: TH-19-19-0010  
c) Affiliation: Chulalongkorn, University  
d) E-mail: patanapong.s@chula.ac.th  
e) Tel: +66 2218 7449  
f) Country/Region & Address: 254 Phayathai Road, Pathumwan, Bangkok 10330 Thailand

3. Name of contact person other than representative:

Associate Professor Saksith Chalermpong

4. Keywords (Maximum: 5 words)

Ride-Hailing Application  
Disruptive Technology  
Informal Transport  
Paratransit  
Personal Mobility

5. Purpose and Mission of IRG:

Purpose

- To shape the direction of urban transportation, especially dealing with the emergence of mobile ride-hailing applications, in Southeast Asian countries.
- To provide academic and professional in-depth knowledge on urban transportation including the disruptive technology of mobile ride-hailing application in Southeast Asian countries.
- To support the related authorities on decision making regarding the urban transport planning with scientific tools and evidences.
- To ensure the effectiveness and efficiency of urban transport networks as well as ensuring the ability to travel of all people regardless of differences in socio-demographic factors which is one of the main problems in most developing countries.

Mission

- To investigate users' adoption of ride-hailing mobile applications, user characteristics, and the changes of users' behaviors.
- To determine the current role of ride-hailing mobile applications in the public transport network.

- To assess the effects of the existence of mobile ride-hailing applications on the incumbent transport operators including both formal and informal modes of transport.
- To assess the impacts and influencing factors of ride-hailing mobile applications on the society in terms of road traffic and environment.
- To synthesize the findings and lessons from the investigated impacts of ride-hailing mobile applications from different urban transport contexts.
- To propose regulation, management, and operation frameworks for different urban transportation context that can improve the social welfare for people in the areas.
- To develop best practice in making use of ride-hailing mobile application that can fulfil the public transport network.

6. Target year for completion (Research period is suitable within four years.):

2023

7. Research plan:

Research plan is divided into two phases. Phase 1 is to investigate and analyze the effects of the mobile ride-hailing applications’ users characteristics as well as the characteristics of their generated trips. Phase 2 is to assess the impacts on road traffic and environment and to estimate changes of social welfare.

*Phase 1*

(Oct, 2019 – Sep, 2020)

- Reviewing state-of-the-practice regarding the emergence of ride-hailing mobile applications in Southeast Asian countries.
- Synthesizing lessons from recent related policies and regulatory initiatives in each country
- Reviewing data collection methodologies regarding mobile ride-hailing applications users’ adoption, users’ characteristics, changes of users’ travel behaviors, and trips characteristics.
- Designing a general questionnaire for collecting above mentioned data
- Conducting a pilot survey in selected areas.
- Revising a questionnaire (if it’s necessary)
- Conducting full scale survey in Southeast Asian countries

(Oct, 2020- Sep, 2021)

- Analyzing the adoption and users’ characteristics of ride-hailing mobile application in each country.

## IRG-39-2019

- Determining the role of ride-hailing mobile application in public transport network of each country based on the investigated trip characteristics and the changes of users' travel behavior.
- Estimating the impacts of emergence of ride-hailing mobile application on incumbent transport operators based on the changes of users' travel behavior (e.g., mode shift).
- Synthesizing the findings across countries to determine common and context-specific effects from the ride-hailing mobile application
- Identifying primarily potential regulatory frameworks through the findings.

### *Phase 2*

(Oct, 2021 - Sep, 2022)

- Reviewing methodologies on forecasting private car ownership e.g., BASS diffusion model
- Designing survey
- Conducting a pilot survey in selected areas.
- Revising a questionnaire (if it's necessary)
- Conducting full scale survey in Southeast Asian countries

(Oct. 2022 - Sep, 2023)

- Forecasting private car ownership in each country and comparing across countries
- Analyzing the context-specific influencing factors and effects of ride-hailing mobile application on the private car ownership trend
- Assessing the impacts of mobile ride-hailing applications on road traffic and environment based on the forecasted private car ownership
- Estimating the changes of social welfare by the emergence of mobile ride-hailing applications
- Summarizing the potential regulation, management, and operation frameworks for different urban transportation context in each country that can improve the social welfare (in terms of ability to travel) for people in the areas.

### 8. Research funds:

Source of research funds(*)	Approximate amount (US\$)
-----------------------------	---------------------------

## IRG-39-2019

(Expected) International Cooperative Research Activity	9,000
(Expected) Grant for New Researcher, National Research Management System, Thailand	9,000
(Expected) Matching Funds, Chulalongkorn University, Thailand	9,000

\*: (ex.) ICRA (Research grant of EASTS), Grants-in-aid for Scientific Research of Ministry of Education, Culture, Sports, Science and Technology (Japan), and etc..

**All applications are to be delivered to:**  
Dr. Naohisa OKAMOTO, Secretary-General  
Office of EASTS Secretary General  
E-mail: [irg@eastst.info](mailto:irg@eastst.info)