

# Activity Report of EASTS IRG (International Research Group)

Date of Submission: 1st / Aug. /2008

## 1. IRG code and Name of IRG

1) IRG code: **IRG - 010 - 2006**

2) Name of IRG:

**Sustainable Neighborhood Transportation to Improve the Quality of Life in Developing Cities**

## 2. List of research members:

- 1) Prof. Hisashi Kubota, D.Eng., Saitama University, Japan (Representative)
- 2) Prof. Wimpy Santosa, Ph.D., Parahyangan Catholic University, Indonesia
- 3) Kunihiro Sakamoto, D.Eng., Saitama University, Japan
- 4) Yusak O. Susilo, D.Eng., the University of the West of England, United Kingdom
- 5) Djoen San Santoso, Ph.D., Asian Institute Technology, Thailand
- 6) Kardi Teknomo, Ph.D., Ateneo de Manila University, the Philippines
- 7) Jose Regin F. Regirot, D.Eng. University of the Philippines, Philippines
- 8) Tri Basuki Joewono, Ph.D., Parahyangan Catholic University, Indonesia
- 9) Karl B.N. Vergel, D.Eng., University of the Philippines Diliman, Philippines
- 10) Noriel Christopher C. Tiglao, D.Eng., University of the Philippines Diliman, Philippines
- 11) Ma. Sheilah G. Napalang, D.Eng., University of the Philippines, Philippines
- 12) Aya Kojima, M.Eng., Saitama University, Japan

## 3. Purpose and Mission of IRG:

It is widely believed that the built environment of the individuals' residential area highly influences the way individual composes their daily travel pattern. Unfortunately, many transportation developments and planning for neighborhood in developing countries were hardly taken the built environment factors into account. Many of previous plans are only considered the economic benefit that might be generated later by the car users, without considering other aspects of the quality of life of the local community itself. The ignorance of these factors has made the transportation condition and the quality of life of local communities in many developing cities is deteriorating.

In order to improve the synergy of infrastructure development with the development of local community's quality of live, some European cities have very strict urban policies which include a limitation of the car usage within the city centre, suppress the size of the cities, avoid a centralized development, distribute the activity centre between regions, empower the non-motorized and public transport system, and keep the shopping area in the city centre within a walkable distance. These practices are considered as a successful way to suppress car travel, support a sustainable development policy, revitalize the local economy activities, and increase the local's quality of life.

On the other side, the planning and development of residential areas earned a lot of attention in transport demand management, especially in developed countries, such as reducing through traffic, designing and installing traffic calming to reduce the speed and increase safety, selecting devices in order to reduce the noise, improving the environmental capacity of residential area, incorporating and improving residents participations, among others. The topic

of sustainability and the quality of life of residential becomes the main focus in planning and designing the residential area.

In order to create such conditions, recently, several Asian cities have tried to apply some of those policies, such as starting to re-develop their local shopping centre become a car free pedestrian mall / street mall. In addition, several examples in introducing TDM measures for residential in Japanese context can be also viewed as an early effort in improving the neighborhood. Although there are a lot of positive stories for such development in European cities, its compatibility with cities in developing countries has never been tested. The issues of whether this kind of development will reduce the amount of travel and revitalize the local economy or just another money factory for property developers and generate more congestion have never been examined before as well. The reservation of 'local value and characteristics' can also be questioned and explored for Asian context at the time the planners deal with neighborhood planning and design.

This research aims to develop an Asian type guide and practice in planning and designing a sustainable neighborhood which is able to improve the quality of life of the resident and community. This will be achieved by examining the impact of street-mall/pedestrian-mall development to the local community and exploring an appropriate residential transportation planning and design for developing cities that based on a sustainability concept, considering the quality of life of the local community, and empowering the local community's strength. The initial case study will be chosen in one of the neighborhood area in Indonesian, Thailand, and Japanese cities, while other cities in Asian countries will be included in the following research stages. The questions that will be addressed in this research are as follows:

- i. how far the existence of the street-mall boost-up the quality of life of the local residence, as well as the neighborhood economy (e.g. nearby stores and businesses);
- ii. how far the mall development could reduce the amount of the regional traffic;
- iii. some possible negative impacts of the development also will be assessed, such as how far it will generate traffic congestions and pollutions and increase the crime rate;
- iv. how far this kind of development will empower the traditional market player, improve their role, and providing new neighborhood environment in urban down-town.
- v. what measures are appropriate to improve the transportation in residential area that is effectively reduce the through traffic, reduce speed, and increase safety;
- vi. what processes should be proceed to introduce, plan, implement, and evaluate the measures that ensure the efficiency and effectiveness; also
- vii. what kind of change in travel behavior of residential area exists, when the measures are applied.

It is expected that, at the end, this research would produce such as a complete description of the influence of pedestrian-mall/street-mall to the regional and neighborhood transportation condition and the local community's quality of live, as well as a guide in planning and designing transportation in residential areas.

This research group also functions as a forum for all stakeholders to share, to transfer, and to exchange experiences, technologies, and opinions regarding the sustainable neighborhood transportation planning from developed and developing cities, which will strengthen each other. It can be obtained by conducting a workshop or international seminar which is specifically dedicated for this theme. In addition, the research reports will be published in several methods, i.e. special session in EASTS conference, book, website, among others, while the result of analysis will be published in referred journal.

#### 4. Past Achievements

- 1) Paper, Report, or Book: (Title, Authors, Year, Name of journal etc.)

Farzana Rahman, Kunihiro Sakamoto and Hisashi Kubota, Decision Making Process of Traffic Calming Devices Journal of International Association of Traffic and Safety Sciences (IATSS RESEARCH), Vol.31 No.2, pp.94-106,2007

Teknomo, K. and Gerilla, G. P. Mesoscopic Multi-Agent Pedestrian Simulation, in Transportation Research Trends, Peter O. Inweldi (ed) Nova Science Publisher, New York, 2008

Teknomo, K. and Millonig, A., A Navigation Algorithm for Pedestrian Simulation in Dynamic Environments, Proceeding of the 11th World Conference on Transport Research (WCTR), University of California, Berkeley, USA, June 24-28, 2007

Joewono, T.B. and Kubota, H. Exploring Negative Experiences and User Loyalty in Paratransit, Transportation Research Record Journal of Transportation Research Board, No. 2034, pp.134-142, 2007

Rahman, F., Kubota, H., and Sakamoto, K., Comparative Study of Traffic Calming Design Process, Journal of Eastern Asia Society for Transportation Studies (EASTS), Vol.7, pp. 2786-2798, 2007

Joewono, T.B., and KUBOTA, H., The Multigroup Analysis Regarding User Perception Of Paratransit Service, Journal of Eastern Asia Society for Transportation Studies (EASTS), Vol.7, pp.1651-1663, 2007

Joewono, T.B., Santosa, W., and KUBOTA, H., The Exploration Of The Sustainability Of Urban Transport In Medan, Indonesia", Journal of Eastern Asia Society for Transportation Studies (EASTS), Vol.7, pp.195-210, 2007

Regidor, J.R.F. Development of Philippine Trip Generation Rates, Proceedings of the 7th International Conference of the Eastern Asia Society for Transportation Studies, Dalian Maritime University, Dalian, China, September 24-27, 2007.

Amistad, F.T. and Regidor, J.R.F. The Need for Traffic Signalization from the Perspective of Local Government Units Outside Metro Manila: An Assessment," Proceedings of the 7th International Conference of the Eastern Asia Society for Transportation Studies, Dalian Maritime University, Dalian, China, September 24-27, 2007.

Amistad, F.T. and Regidor, J.R.F. Traffic Study in an Urban Area: The Case of Unsignalized Intersection Along National Highway in Urdaneta City, Pangasinan, Philippines, Proceedings of the 7th International Conference of the Eastern Asia Society for Transportation Studies, Dalian Maritime University, Dalian, China, September 24-27, 2007.

Susilo, Y.O, Joewono, T.B., Santosa, W. and Parikesit, D. (2007) A reflection of motorization and public transport in Jakarta Metropolitan Area: lesson learned and future implications towards better transportation development in developing countries. Journal of the Eastern Asia Society for Transportation Studies, Vol. 7, pp. 299-314.

Potoglou, D. and Susilo, Y.O. (2008) Comparison of car-ownership models. Transportation Research Record (forthcoming)

Susilo, Y.O, Joewono, T.B., Santosa, W. and Parikesit, D. (2007) A reflection of motorization and public transport in Jakarta Metropolitan Area. IATSS Research, Vol. 31 No.1, pp. 59 - 68.

Susilo, Y.O. and Maat, K. (2007) Structural changes in commuters' travel behaviour: Does spatial location matter? The 11th World Conference on Transport Research (WCTR), Berkeley, CA, USA.

Kim, N.S. and Susilo, Y.O. (2008) Comparison of trip generation models for pedestrian. The 87th TRB Annual Meeting, Washington D.C., USA.

Joewono, T.B., Susilo, Y.O. and Muhamad, J. (2008) Preference of vehicle holding and use in Malaysia. At the 87th TRB Annual Meeting CD ROM, Washington D.C., USA.
- 2) Seminar, Symposium or Special Session: (Title, Date, Venue & abstract)

Title: International Conference on Urban Transport in Developing Countries: Sharing Knowledge between Developed and Developing Countries.

Date: August 2008

Venue: Saitama University, Saitama, Japan

Abstract:

This conference has an aim to share experience and knowledge regarding the approaches to handle the problem of urban transport, between developed and developing countries. Several academic and practical papers will be presented by member of this IRG, i.e. from Japan, Indonesia, Philippines, United Kingdom, and Thailand. Topic for each presenter will be in a range as follows:

- a. traffic calming for residential areas;
- b. social experiment of transit mall;
- c. traffic simulation as a tool for solving neighborhood transportation's problem;
- d. public perception regarding the service quality of transit;
- e. public attitudes in using transit;
- f. travel behavior approach for neighborhood transportation

3) Group meeting: (Date, Venue, & abstract)

- a. 23<sup>rd</sup> November – 5<sup>th</sup> December 2006, Online group meeting,  
Abstract: to discuss an objective, goals, and approaches in studying the topic, including developing a list of activities
- b. 4<sup>th</sup> August- 30<sup>th</sup> August 2007, Online group meeting  
Abstract: to discuss a detail list of activities and developed a proposal to get a financial support from ICRA to be submitted EASTS in 31<sup>st</sup> August.
- c. 24th-27th September 2007, Group meeting at EASTS (Dalian Maritime University in Dalian, China)  
Abstract: to meet personally for the first time, as previous meeting was internet based. The meeting was very successful in introducing the idea for further research. Several plans have been discussed for further realization.
- d. 31th Jan – 14th May, group meeting at Saitama University  
Abstract: Dr. Regin joined in IRG-10 since January in 2008. He stayed in Saitama University in this period. There are several meeting with Dr. Regin and members of Saitama University. We discussed about new idea and new members for IRG activity.
- e. 2 June – 6 July 2008, Weekly Tele-conference (using e-mail)  
Abstract: to discuss a plan of conference in Saitama University in August 2008. The discussion covers several things, i.e. topic, papers, presenters, as well as budget. Discussion result will be written in a proposal submitted to Saitama University in the beginning of July.

4) Result of Application to other research funds: (Name & result)

Research funds from the Ministry of Research and Technology, Republic of Indonesia

Research title: Development of Transport Policy to Increase Public Transportation Uses in Indonesia based on User's Travel Behavior.

- Result:
- a. Fund was obtained for the 1<sup>st</sup> year (from 2 year) as much as 115,717,000 IDR.
  - b. Desk evaluation has been passed for 2<sup>nd</sup> year.

5) Promotional activities of your IRG: (Home page, Newsletter, Mailing list, etc.)

- a. Home page with an address as follows: <http://www.dp.civil.saitama-u.ac.jp/EASTS-IRG-10/>
- b. Mailing list using current e-mail addresses.  
N/A

**Will you continue your IRG activity in next term (after August 2008) ? [ YES ]**

→ If “YES”, please answer the following questions.

**5. Future research plan including time frame with the following items:**

- Planned seminar, symposium etc. (Date & Venue)

Title: International Conference on Urban Transport in Developing Countries: Sharing Knowledge between Developed and Developing Countries.

Date: August or September 2008

Venue: Saitama University, Saitama, Japan

Abstract:

This conference has an aim to share experience and knowledge regarding the approaches to handle the problem of urban transport, between developed and developing countries. Several academic and practical papers will be presented by member of this IRG, i.e. from Japan, Indonesia, United Kingdom, and Thailand.

- Possibility of Special Session at the next EASTS conference in 2009

Naturally we will certainly conduct special session at the next EASTS conference.

- Special considerations to young researchers

This group provides a big consideration to young researcher by involving two doctor students of Saitama University. Several undergraduate and graduate students in Parahyangan Catholic University also involve in these topics of research.