

IRG Activity Report

Date of Submission: 10th / Nov. /2009

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., Saitama University, Japan
- 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
- 13) Farzana Rahman M.Eng., Saitama University, Bangladesh
- 14) Dr. Budi Hartanto Susilo, Maranatha Christian University, Indonesia.
- 15) Seiji Hashimoto, D.Eng., Okayama 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. Achievements of IRG in 2008-2009

1) Paper, report and book: (Title, Authors, Year, Name of journal etc.)

1. Joewono, T.B. Willingness and Ability to Pay for Paratransit in Bandung, Indonesia. *Journal of Public Transportation* Vol. 12, No. 2, pp. 81-99 (in press)
2. Joewono, T.B. and Ningtyas, D.U., The Causal Relationship of The Service Quality of Transjakarta Busway, 11th International Conference on Advanced Systems for Public Transport, Hong Kong, July 20 - 22, 2009.
3. Joewono, T.B., Raharjo, A.P., and Sudradjat, A.A., Exploring The User Behavior Of Transjakarta Busway Using Stated Preference Method, 11th International Conference on Advanced Systems for Public Transport, Hong Kong, July 20 - 22, 2009.
4. Joewono, T.B., Susilo, Y.O., and Santosa, W., Understanding Travel Behavior of Public Transportation User in Indonesia Metropolitan Area, 11th International Conference on Advanced Systems for Public Transport, Hong Kong, July 20 - 22, 2009.
5. Joewono, T.B., Santoso, D.S., Indrawan, M.A.S., and Prillianti, R.N., Comparison of the Aspects of the Service Quality of Public Transport in Indonesian Cities, 89th Annual Meeting of the Transportation Research Board (in review)
6. Tarigan, A.K.M., Susilo, Y.O., and Joewono, T.B., Negative Experiences And Willingness To Use Paratransit In Bandung, Indonesia: An Exploration With Ordered Probit Model, 89th Annual Meeting of the Transportation Research Board (in review)
7. Susilo, Y.O. and Dijst, M. (2009) How far is too far? Travel time ratios for activity participations in the Netherlands. Forthcoming in the *Transportation Research Record: Journal of Transportation Research Board*.
8. Susilo, Y.O. and Stead, D. (2009) Individual CO2 emissions and the potential for reduction in the Netherlands and the United Kingdom. Forthcoming in the *Transportation Research Record: Journal of Transportation Research Board*.
9. Susilo, Y.O. and Dijst, M. (n.d.) Behavioural decisions of travel-time ratio for work, maintenance and leisure activities in the Netherlands. Forthcoming in the *Journal of Transportation Planning and Technology: UTSG special issue*.
10. Stead, D. and Susilo, Y.O. (2009) Recent Trends in Travel Behaviour and Passenger Transport Fuel Use: A Comparison of the Netherlands and the United Kingdom. The European Council for an Energy Efficient Economy (ECEEE) 2009 Summer Study, La Colle sur Loup, France.
11. Joewono, T.B., Susilo, Y.O. and Santosa, W. (2009) Understanding Travel Behavior of Public Transportation User in Indonesian Metropolitan Area. The 11th International Conference on Advance Systems for Public Transport, Hong Kong.
12. Susilo, Y.O. (2009) Changes in travel behavior overtime: Are we that straight forward?. The 12th Indonesian National Symposium of Inter-University Transportation Study Forum, Petra Christian University, Surabaya, Indonesia.
13. Susilo, Y.O. and Dijst, M. (2009) Do you really want to travel one hour just for a glass of milk? A travel time ratio study in the Netherlands. The 41st UTSG Annual Meeting, London, UK.
14. Avineri, A. and Susilo, Y.O. (2009) The effect of household size on travel/activity patterns: Exploration of household travel time budget. The 41st UTSG Annual Meeting, London, UK.

15. Susilo, Y.O. and Stead, D. (2009) Individual CO₂ emissions and the potential for reduction in the Netherlands and the United Kingdom. The 88th TRB Annual Meeting, Washington D.C., USA.
16. Susilo, Y.O. and Dijst, M. (2009) How far is too far? Travel time ratios for activity participations in the Netherlands. The 88th TRB Annual Meeting, Washington D.C., USA.
17. Susilo, Y.O. and Stead, D. (2008) Targeting TDM policies based on individual transport emissions. The 4th International Symposium on Travel Demand Management, Semmering-Vienna, Austria.
18. Kojima, A., and Kubota, H.: Involvement with Topics of Surveys and Silent Group in Surveys for Micro Area Transportation Planning, *Doboku Gakkai Ronbunshuu D(JSCE)*, Vol.64, No.3, pp.367-379, 2008
19. Kojima, A., and Kubota, H.: Effectiveness of Awareness Campaign on Rat-runners - Application of Mobility Management Methodology to Reduce Through Traffic, *Infrastructure Planning Review (JSCE)*, No.25, pp.869-880, 2008
20. Yoshida, M., Kojima, A., and Kubota, H.: Comparison of Traffic Survey Data and Questionnaire Data Regarding the Effect and Side-Effect of Humps, *Infrastructure Planning Review (JSCE)*, No.25, pp.971-978, 2008
21. Kojima, A., and Kubota, H.: Does Silence Mean Agreement? Understanding Silent Group in Neighborhood Traffic Calming Surveys, *Transportation Research Record*, 2009 (forthcoming)
22. Kojima, A., and Kubota, H.: Characteristics of Neighborhood Traffic Problems Regarding Public Participation, *Infrastructure Planning Review (JSCE)*, No.26, 2009 (forthcoming)
23. Sakamoto, K., Kojima A., Kubota H. Communication tool for traffic calming, *IATSS Review*, Vol.33 No.2, pp.32-40, 2008
24. Amistad, F.T. and Regidor, J.R.F. (2009) "Practices of Local Governments on Traffic Signalization of Intersections," *Philippine Engineering Journal*, Volume XXVII, Number 2, pp. 57-70.
25. Regidor, J.R.F. and Kubota, H. (2009) "2. Management Measures: a. Traffic impact assessment," *Sustainable Civil Engineering*, Kusakabe, et al, Eds., The University of the Philippines Press, Quezon City, pp. 59-67.
26. Regidor, J.R.F. and Kubota, H. (2009) "3.5 Impact Assessment Applications for Traffic and Environment Control in Metro Manila: 3.5.1 Traffic impact assessment" *Sustainable Civil Engineering*, Kusakabe, et al, Eds., The University of the Philippines Press, Quezon City, pp. 211-222.

2) Number of submitted papers to the 2009 EASTS conference

1. Joewono, T.B., Ningtyas, D.U., and Tjeendra, M., Causal Relationship Regarding Quality of Service of Public Transport in Indonesian Cities, *Eastern Asia Society for Transportation Studies*, Surabaya, 16-19 November 2009
2. Susilo, Y.O., Santosa, W., and Joewono, T.B., An Exploration of Public Transport Users' Attitudes and Preferences Towards Various Policies In Indonesia: Some Preliminary Results, *Eastern Asia Society for Transportation Studies*, Surabaya, 16-19 November 2009
3. Susilo, B.H, Santosa, W., and Joewono, T.B., Determination of the Conversion Factors of Road Fatal Accident Data in West Java, Indonesia, *Eastern Asia Society for Transportation Studies*, Surabaya, 16-19 November 2009
4. Hai, P.K. and Susilo, Y.O. (2009) The motorcycle ownership behavior in Hanoi City, Vietnam: How unique they are compared to other countries?
5. Regidor, J.R.F. (2009) "Evaluation of Traffic Impacts of Residential Condominiums in the Context of the Community and the Philippines' Environmental Impact Assessment System,"

- Proceedings of the Eastern Asia Society for Transportation Studies, Volume 7. (for publication and presentation in EASTS 2009)
6. Regidor, J.R.F., Vergel, K.N. and Napalang, M.S.G. (2009) "Environment Friendly Paratransit: Re-Engineering the Jeepney," Proceedings of the Eastern Asia Society for Transportation Studies, Volume 7. (for publication and presentation in EASTS 2009)
 - 7.

3) Seminar, symposium and special session: (Title, Date, Venue & abstract)

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

Date: November 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.

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

- i. January – February 2009, Online discussion.

Abstract: to discuss a plan of sharing the received research fund from EASTS.

- ii. February – March 2009, Online discussion.

Abstract: to discuss a plan to transfer research fund to the members.

- iii. March – August 2009, Online discussion.

Abstract: to discuss a progress report regarding each research activity among members.

5) Result of application for the research grants: (Name & result)

1. IRG Research Grant from EASTS, 100.000 JPY, 2009.
2. Joewono, T.B., Grant for International Conference from the Directorate of Higher Education, Ministry of Education, ROI, 2009, Result: Accepted
3. Joewono, T.B., Grant for Publication in the International Journal from the Directorate of Higher Education, Ministry of Education, ROI, 2009, Result: Accepted.
4. Joewono, T.B., Grant for Competence based Research regarding Traffic Psychology in Indonesian cities from the Directorate of Higher Education, Ministry of Education, ROI, 2009, Result: Accepted for the 1st year from 3 years.
5. Santosa, W., Joewono, T.B., and Susilo, Y.O., Grant for Incentive based Research regarding Development of Transport Policy to Increase Public Transportation Uses in Indonesia based on User's Travel Behavior, Ministry of Research and Technology, ROI, Result: Accepted for the 2nd year from 2 years; 115,717,000 IDR + 107.709.500 IDR.
6. Santosa, W., Grant for National Strategic Research from the Directorate of Higher Education, Ministry of Education, ROI, 2009, Result: Accepted for the 1st year from 3 years.
7. Name: University of the Philippines Office of the Vice Chancellor for Research and Development Outright Research Grant [PHP 280,000] for Study on Residential Trip Generation Characteristics
Results: Final Report submitted including copy of the paper "Evaluation of Traffic

Impacts of Residential Condominiums in the Context of the Community and the Philippines' Environmental Impact Assessment System"

8. Name: Toyota Motor Philippines for studies for Development of Road Traffic Safety Model Zone
Results: Field surveys scheduled for November 2009 using approved grant of PHP 1 million

6) Progress report regarding IRG Research Grant

1. Research in Bandung, Indonesia

Title: The relationship between Quality of Space, Parking, and Pedestrian in Jalan Braga, Bandung.

Allocated budget is 3792.4USD or 44.927.260 IDR.

Result:

1. Questionnaire has been developed.
2. 2nd stage of questionnaire distribution is in progress, while 1st stage of distribution has been completed.
3. Analysis for the 1st stage is in progress

Further activity:

1. All analysis can be completed in the following month.
2. Preparing abstract for ARRB Conference in Melbourne, 2010.
3. Final report will be submitted in the early of 2010.

7) 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's activity in next term (after November 2009) ?

[YES / NO]

→ If "YES", please answer the following questions.

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

- Possibility to hold seminar and symposium in 2010. (Date & Venue)

1. Some members will attend and present papers in World Conference of Transport Research in Portugal, 2010. Some members will conduct a meeting to plan a seminar in 2010.
2. There is a plan to conduct a seminar in 2010 to discuss the research result from all members. Date: August 2010. Venue: Bandung, Indonesia

- 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.