

**SOCIAL IMPACTS ASSESSMENT TOWARDS INTEGRATION OF URBAN TRANSPORT
CASE STUDY: BUS RAPID TRANSIT TRANSJAKARTA (INDONESIA)
PENILAIAN TERHADAP DAMPAK SOSIAL INTEGRASI TRANSPORTASI PERKOTAAN
STUDI KASUS BRT TRANSJAKARTA INDONESIA**

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ABSTRACT

Since 1986 environmental impact assessment has become the key component of environmental and infrastructure planning and decision making in Indonesia. Each ministry has its own term of implementation of environmental impact assessment. For example, in the transport sector the traffic impact analysis. But, social impact assessment of transport development project whereas the latest regulations on the traffic impact analysis issued in 2011 is still underestimated. In other words, the transportation sector still ignores social impact assessment in transportation project. Integrated transportation planning would be significantly enhanced if there was greater connection to the field of Social Impacts Assessment (SIA). SIA is process of analyzing; monitoring and managing all impact of planned intervention on individuals and communities and both interact with their surroundings by incorporating stakeholder analysis, public participation and community engagement. The paper presents a case of potential use of SIA in integrated modal urban transport in Bus Rapid Transit (Transjakarta) Indonesia. Document review was done and comparing implementing Social Impact Assessment in United Kingdom and Netherland. Content analysis also was done to analysis the data. The result is Social Impacts Assessment can be used toward integration different modes in urban transport and also Social Impacts Assessment can be used toward integration between local authorities. Understanding social characteristic and potential impact can be used to pursue better physical infrastructure facilities in Bus Rapid Transit (BRT) Transjakarta.

Keywords: Social Impacts Assessment (SIA), integrated, urban transport, Transjakarta

ABSTRAK

Sejak tahun 1986 analisa dampak lingkungan menjadi komponen kunci dalam perencanaan lingkungan dan infrastruktur dan pengambil keputusan di Indonesia. Setiap kementerian telah membuat istilah dari pengimplementasian analisa dampak lingkungan. Contohnya, di sektor transportasi adalah analisis dampak lalu lintas. Tetapi, analisis dampak sosial di proyek pengembangan transportasi dimana peraturan terakhir dikeluarkan pada tahun 2011 masih memandang sebelah mata mengenai analisis dampak sosial. Dengan kata lain, sektor transportasi masih mengabaikan analisis dampak sosial di proyek transportasi. Perencanaan transportasi yang terintegrasi akan berhasil secara signifikan jika ada hubungan yang luas dengan area analisis dampak sosial. Analisis dampak sosial adalah proses menganalisis, mengawasi dan mengelola semua dampak intervensi yang dilaksanakan kepada individu atau komunitas dan interaksi keduanya dengan sekitarnya dengan penyatuan analisis pemangku kepentingan, partisipasi masyarakat dan perjanjian dengan komunitas. Penelitian ini berusaha memaparkan suatu kasus yang dapat menggunakan analisis dampak sosial secara potensial dalam mengintegrasikan moda transportasi perkotaan di Bus Rapid Transit (BRT) Transjakarta-Indonesia. Dilakukan

review dokumen dan membandingkan implementasi social impact assessment di negara United Kingdom dan Netherland. Kemudian data di analisis menggunakan analisis content. Hasil dari penelitian ini adalah analisis dampak lingkungan dapat digunakan untuk mewujudkan integrasi moda transportasi perkotaan dan juga analisis dampak lingkungan dapat digunakan untuk mewujudkan integrasi antara pemerintah daerah. Mengerti akan karakteristik sosial dan dampak yang berpotensi dapat digunakan untuk meningkatkan fasilitas infrastuktur di BRT Transjakarta.

Kata kunci: Analisis dampak sosial, integrasi, transportasi perkotaan, Transjakarta

INTRODUCTION

In general, every country has a system that is building its own development plan. Planning system is structured systematically to achieve development goals that have been set (Interorganizational Committee, 1994). In Indonesia, national development prepared the basis of short, middle and long-term development in planning (PP RI, 2014). They were implemented to create a connection with the socio-economic conditions that would become better. The development activities carried out by using what is called a project. Since the enactment of laws governing environmental impact assessment in 1986 by the Indonesian government and applied in 1987, every development project must undertake an environmental impact assessment. Environmental impact assessment has become the key component of environmental planning and decision-making in Indonesia (IC, 1994).

Each ministry has a term implementation of environmental impact assessment. For example, in the transport sector is the traffic impact analysis. In this traffic impact analysis has not really encompass the social impacts of transport development project whereas, the latest regulations on the traffic impact analysis issued in 2011. In other words, transportation sector does still not really focus to social impacts assessment in transportation project (Geurs, Boon & Van Wee, 2009). For example, the transportation project in Indonesia is Bus Rapid Transjakarta that operates starting in 2004. It is not integrated with other modes of transportation that existed at that time (Sunugroho, 2009). It causes some problems where decision maker are not taking into account about the integration transportation system. Some of them are unemployment, more traffic jammed, traffic accident, etc. (Adiwinarto, 2014).

Social impacts assessment needs to deal with social conflict and social characteristic that are potential to social impacts such as transportation project Bus Rapid Transjakarta in Indonesia. What is the social characteristic and impact and why is Bus Rapid Transjakarta not integrated with the existing transportation mode? What the solution of the conflict with the existing transportation modes and Bus Rapid Transjakarta? To answer the questions we should know why we need social solution and what is social impacts assessment and integration of urban transport.

LIBRARY RESEARCH

A. Theory Of Social Impacts Assessment & Integration Of Urban Transport

This section explains about the definition of social impacts assessment itself and continued by define integration of urban transport.

Defining social impacts in general, and of transport in particular, is not an easy task. However, it is important to define this concept to make it clear at least from literature review from other scholars. First, define social impacts assessment as general and then define social impacts of transport in particular.

According to Vanclay (2003, 2012) social impacts assessment is the processes of analyzing, monitoring and managing all impact of planned intervention on individuals and communities and both interact with their surroundings by incorporating stakeholder analysis, public participation and community engagement (Vanclay, 2003; 2012). In other words, by "social impacts" it means the consequences to human populations of any pub-

lic or private actions that alter the ways in which people live, work, play, relate to one another, organize to meet their needs and generally cope as members of society (IC, 1994).

Social impacts assessment in transport sector is defined as changes in transport sources that (might) positively or negatively influence the preferences, well-being, perception, attitude, or behavior of individuals, groups, social categories and society in general. In this context, transport project/sources are defined as a movement and/or potential presence of vehicles using infrastructure or only the presence of infrastructure itself (Geurs, Boon & Van Wee, 2009)

However, the definition of social impacts is rather broad and implies an overlap with economic and ecological impacts. According to Geurs&Wee (2009) a broad definition is preferred, in this case, to avoid the risk of ignoring impacts that might be considered to be social, economic or ecological. The fuzzy definition of social impacts in particular in transport will lead the study about social impacts is useless. In other words, the definition of social impacts is important. What the criteria social impacts in a transport project are is really important to define. It is to avoid double counting in quantitative measure and also to avoid confusedness in qualitative measurement of social impacts. Each impact should be included once.

The aim of social impacts assessment itself is to develop effective and adaptive management and enhancement strategies to create more sustainable and equitable biophysical and human environment in a project/development (Vanclay, 2003; Vanclay, 2012).

Furthermore, May (1993) and Hine (2002) in Hull (2005) tried to deal with transport problems with the potential integration in transport planning and delivery in six areas: integration between authorities; integration between measures involving different modes; integration between measures involving infrastructure provision, management and pricing; integration between transport measures

and land use planning policies; integration between transport measures and policies for the environment; and integration between transport measures and policies for education, health and wealth creation. This paper is more discussing about integration different modes in urban transport and integration between authorities. It focuses on the integration of both public and private transportation within the metropolitan area of Jakarta.

Integration of urban transport is one element of sustainable transport goals that make it integrated with existing modes or other modes transport (Litman, 2013). Indeed, integration of public transport in urban areas is considered as the most rational solution to overcome the problems of urban transport (Tamin, 2000). In other words, the need for integration in urban transport is a crucial aspect. Social Impacts Assessment (SIA) in the case study (BRT Transjakarta) will show the social characteristics and potential impact of BRT Transjakarta. Understanding about it will make it easier to integrate or to find a solution for what is going on in BRT Transjakarta in particular.

Nevertheless, before analyzing social impacts in the case study, firstly, explaining implementation social impacts assessment in other countries is important to gain knowledge about social impacts assessment. Implementation social impacts assessment in UK and Netherlands will be discussed.

B. Implementation Social Impacts Assessment In Other Countries (Uk & Netherlands)

This part explains about the example implementation Social Impact Assessment in transport sector in UK and Netherlands in general. Both countries have comprehensive guidelines for transport policy appraisal, and much practical experience in applying SIA (Guers&Van Wee, 2004).

The Dutch government requires that an infrastructure impacts guideline (Overview Impacts Infrastructure, 'OEI' in Dutch) is applied to evaluate a major infrastructural plan that was funded by the national government

and was established in 2000, and extra element were published in 2004 (Ministry of Transport, Public Works and Water Management). This guidance is more quantitative and monetized social effect in a project.

British government, the Department for Transport uses the Transport Analysis Guidance as a requirement for all projects/studies that require government approval (<http://www.webtag.org.uk>). Impacts are recorded according to five main objectives: environment, safety, economy, accessibility and integration. The assessment social impacts includes both qualitative and quantitative information, the latter of which is expressed in monetary terms or other units.

Geurs, Boon & Van Wee (2009) also state that the UK transport appraisal guidance (WebTAG) includes broader spectrum of social impacts than the Dutch appraisal guidance (OEI). The Dutch guidance focuses on quantitative measurements and monetary valuation of impacts, whereas the UK guidance deals with an important range of social impacts through qualitative assessments in practice.

Furthermore, Odgaard *et al.* (2005) explain national appraisal practices in EU Member States; they distinguish five types of analysis: Cost-benefit analysis, MCA, Quantitative measurements, Qualitative assessment and no information/ not covered. Which the tool will be used to explore social impacts in on project? It depends on the context and degree of complexity (De Roo, 2006). Nevertheless, combining the tools is also possible to gain better understanding about social impact.

In this paper to analyse the case study in BRT Transjakarta qualitative assessment was used. Before discussing the main impact regarding presence of BRT Transjakarta project, the study area needed to be discussed.

RESEARCH METHODOLOGY

BRT Tranjakarta is the beginning of an idea to improve the transportation system in Jakarta. It will lead to the policy priorities using public

transport by bus. It is necessary to build a public transportation system that can accommodate users from various segments of society. Jakarta is the capital of Indonesia. Regional government formulate macro transportation pattern that are established by the Governor of DKI (Daerah Khusus Ibukota) Jakarta. Regulation number 103 of 2007 can be seen as an early stage of development of a network of mass transit system using buses on a special lane (BLU, 2014; ITDP, 2012).

Public Service Agency (PSA) of Transjakarta was originally a non-structural institution of the Government of Jakarta, namely Management Board (MB) BRT Transjakarta. The vision of Transjakarta as public transport is capable of providing a public service that is fast, safe, comfortable, humane, efficient, cultured, and internationally (BLU, 2014).

Planning, development, and management of the system are provided by local government of Jakarta, while bus operations, ticket operations, and other support activities are carried out in cooperation with the operator.

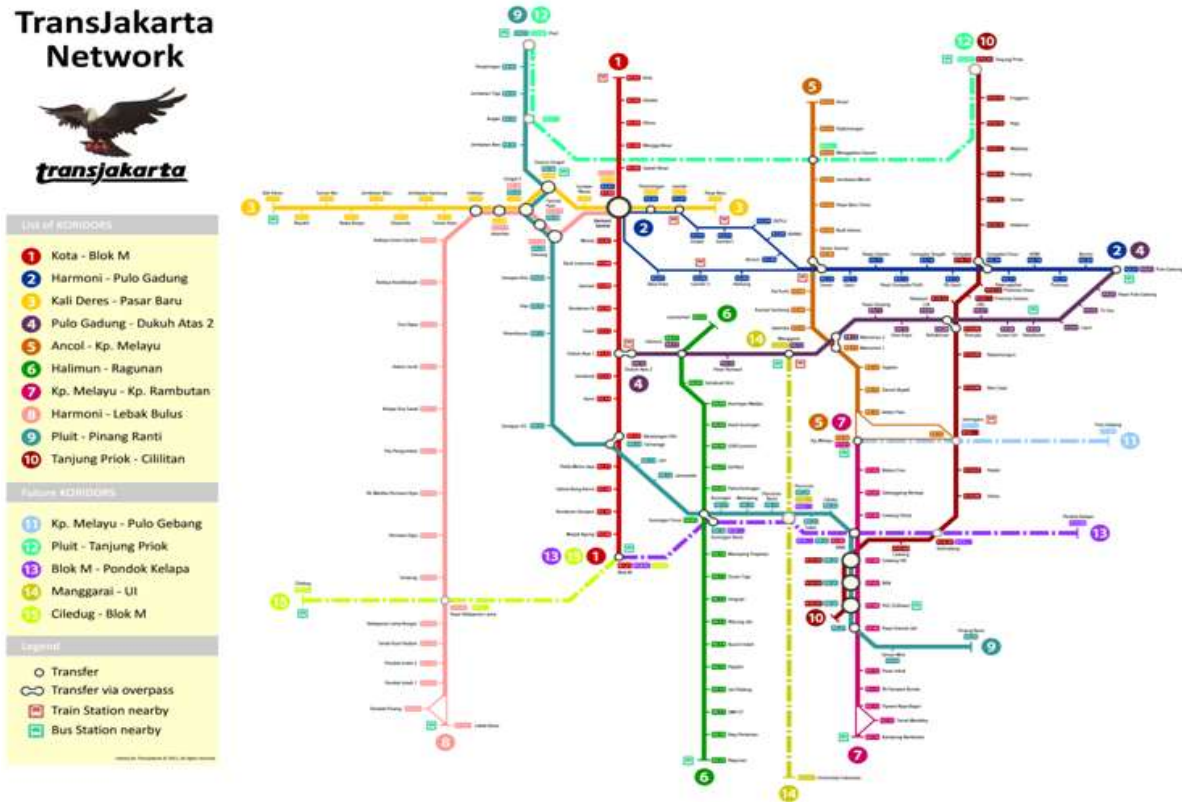
Total length of BRT Transjakarta is 123.35 km which is the longest track in the world in the current BRT system (Dit.BSTP, 2010).

In Fierek 2012 N. Caliskan (2006) distinguishes two main groups of stakeholders in the urban transportation system: local authorities and other users of the system. And also J. Zak (1999) and Zak & Thiel (2001) specify the passengers, operator/ operators of the transportation system and local authorities as major entities interested in efficient operations of the urban transportation system. The interests of these groups are often contradictory. Thus, it becomes necessary to search for compromise solutions that would satisfy (at least partially) all the parties interested in the integration of urban transportation systems.

In case study stakeholder in Transjakarta Bus rapid transit are local government: DKI Jakarta and the local authority of buffer cities (Depok, Bekasi, Tangerang, Bogor and Karawang), operator (operator under BLU Transjakarta), Operator bus existing before Transjakarta operate, transport

council, passengers and people that live in Jakarta Metropolitan area. Furthermore, by taking into account the area that is covered, stakeholders, the purpose implementing of BRT

Transjakarta, will lead and help to understand the social characteristics and lead to assessing actual social impact.



Source: BLU, 2014

Figure 1 Transjakarta Network

Social Charateristics And Actual Social Impact

Transjakarta lane construction has been controversy since 2004. Even some organization society and people around the city reported BRT Transjakarta to court because of congestion around the site Trasnjakarta track project execution becomes more severe than usual. Transjakarta line construction projects are also considered to be damaging to the environment. Such a beautiful cottage areas, residents rejected the construction corridor VIII LebakBulus-Harmoni route because it will damage hundreds of the palms which have been around for decades and have been the beauty of the road median metro cottage (MTI, 2014).

The existence of BRT Transjakarta as one kind of the public transportation in Jakarta is certainly inviting the pros and cons from the people in Jakarta. However, in general, the proportion of people who are cons is more, so there is many

criticisms from the public to the planning that comes from the government side (Purplenitadyah, 2012). Since the BRT Transjakarta is a "concept" from the Department of Transportation in Jakarta, the BRT Transjakarta own role more as "executor" or executing the plan. But, it is not a simple problem that can be dealt with certain approach like technical rationality. It is a complex problem. According to De Roo (2006,2010), complex problems should be dealing with communicative approach for example, participatory planning, collaborative planning, coalition planning etc.

In participatory or collaborative planning social characteristics are really important to understand and to lead deeper understanding of social impacts from project development.

The method that De Roo (2006) made to reduce complexity and uncertainty is actor consulting model.

According to Geurs&Wee (2009) the social impacts of transport can take on many forms. In this case study, there are some social characteristics and actual social impacts that will be discussed in this paper which are related to integration transportation system:

- a. The cogestion was increased by BRT-Transjakarta because, the lane usually able to be used by all vehicles, however, currently it can only be passed by bus Transjakarta. It seems a paradox because on one hand the purpose of BRT Transjakarta is reducing traffic jam instead of increasing traffic jams. It is caused by road capacity for other transport mode that will be decreased along the lane of BRT Transjakarta.

This is a serious matter because on one hand the government was pushed to increase road capacity to reduce congestion, but in this case the road capacity is reduced to the other mode transport due to the presence BRT Transjakarta lane.

- b. One of the public transportation which contributes for the number of traffic accidents is BRT Transjakarta. The accidents in lane BRT Transjakarta increased continuously from 2004 until 2010. It can be seen from the table below.

Table 1 Number of Accidents in Transjakarta Lane

Tahun	Number of accident	Number of victims		
		Minor injuries	Serious injuries	Died
2004	5	-	-	-
2005	13	4	8	-
2006	31	5	15	8
2007	66	37	28	7
2008	167	112	42	13
2009	303	220	36	16
2010	461	104	22	14
Total	1046	482	151	58

Source: Police Metro Jaya DKI Jakarta Indonesia, 2011

Mostly accidents occurred between BRT Transjakarta and motorcycle. The lane of motorcycle or general lane is jammed, because the riders broke into lane of BRT Transjakarta (Amelia et.al, 2012). It is very dangerous because for the motorcyclist and also for passengers and driver

of BRT Transjakarta. Sterilization for the lane of BRT Transjakarta is needed.

- c. Another problem is a conflict with the organization of other public transport and BRT Transjakarta. Because, their passengers shift modal to BRT Transjakarta. Furthermore, their income was reduced and eventually they suffer losses and eventually stop working and become unemployed. Social issues such as this are not yet known by the manager and founder BRT Transjakarta earlier because they are only did Environmental Impact Assessment. The amount of unemployment among public transport will increase because the Transjakarta operate in their track (Rimanews, 2011).

Based on data from the General Service Board BRT Transjakarta (2014), one hand BRT Transjakarta generates many people working in BRT Transjakarta. But, on the other hand the existence of BRT Transjakarta will kill other public transport in Jakarta because of competition with BRT Transjakarta that is a better system. Finally, it indirectly effects other public transport besides BRT Transjakarta "generate unemployment" (Rimanews, 2011).

- d. Jakarta is enclosed by the cities of buffer: Depok, Bekasi, Tangerang, Bogor and Karawang (see figure 1). The population of Jakarta in the morning is more than in the evening because many inhabitants from the buffer city came to Jakarta to work, study, shop and etc. It makes Jakarta more crowded and causes traffic jam everywhere.

The local authority DKI Jakarta already tried to find the solution why integration between the local authorities of the buffer city is not going well (MTI, 2014). There are many stakeholders with their interest. Transjakarta Bus Transit Rapid is faced by this problem. The main characteristics in the present social system in Indonesia and especially in BRT Transjakarta are lack of commitment and political will in the government to consistent implementation about urban transport policy development (Susilo et. al, 2007). It makes that most cases in transport policy do not achieve the expected goals or the policy itself.



Source: Googlemap& editing by Author, 2014

Figure 2 Map of Jakarta& buffer City of DKI Jakarta

RESULT AND DISCUSSION

Issues such as the characteristics of the social problems and the possible social impacts are already explained in above were faced in other countries that use the BRT concept to address the congestion problems (Fierek& Zak, 2012). This section will explain about Social Impacts Assessment towards integration different public bus operator and Social Impacts Assessment towards integration between authorities (Jakarta, Bogor, Depok, Bekasi, Tangerang and Karawang).

a. Social Impacts Assessment toward integration different modes in urban transport.

According to the priority social characteristics which were described will impact the unemployment from workers of other public transport buses. This is caused by the BRT Transjakarta taking their service lane therefore their incomes will decrease. This problem has to be addressed.

The stakeholder must consider about this problem, especially the local authority and also the agency of public services BRT Transjakarta. They have to take into account about unemployment of the employee from bus transportation operator in Jakarta. It is not easy to say the employee in operator bus transport in Jakarta can be hired by BRT Transjakarta agency. Because the project of BRT Transjakarta is still ongoing process, BRT Transjakarta already hired their employee.

How to deal with the issue?

According to Litman (2013), one of sustainable transport goal in urban transport is integration of different modes in urban transportation planning. It means that the one mode and the other modes have to integrate each other. Taking into account about the case study, integration BRT Transjakarta and the other public bus in Jakarta can be implemented. BRT Transjakarta as a major public bus to serves the major lane and the other public bus transport will be used as a feeder for BRT Transjakarta.

The operational system such as ticketing, headway, maintenance and etc. also has to consider making integration system BRT Transjakarta and other public bus in Jakarta. Who will take the responsibility about what, how about founding, and also how to monitor and control the system between BRT Transjakarta and public bus in Jakarta? Should they be in one management or be separated? How to communicate and involve stakeholder, etc.? This issue has to be considered by each stakeholder that is involved in the Transportation planning processes in the case study.

Integration BRT Transjakarta and public bus in Jakarta will decrease the number of accident. It is in line with what MTI (2014) state that integration transportation in Jakarta will decrease the number of accidents. It is an in-

direct effect of this integration. Integration makes better service and makes it easy to travel from one place to other place and will decrease the user of motorcycle that mostly causes accidents between BRT Transjakarta and motorcycle. Regarding the social characteristics and actual social impacts about the accident in the BRT Transjakarta lane, integration modes of transport in Jakarta also get better impact for the road safety in Indonesia in general.

For the explanation above, considering about Social Impacts Assessment in the transportation project like case study is really important to cope and deal with the conflict "unemployment" between operator BRT Transjakarta and other public busses. Also taking into account social impacts assessment in BRT Transjakarta project will increase awareness to integration between modals of transport.

b. Social Impacts Assessment toward integration between local authorities.

Regarding to the buffer city surrounding Jakarta (Depok, Bekasi, Bogor, Tangerang and Kerawang), it means that many stakeholders from different municipality are involved in the general case about traffic jam in DKI Jakarta. Correlating with the case study, why is BRT Transjakarta not effective enough? It is because more than 4 million people commuter every day to Jakarta from the buffer city and many of them use private vehicle and make the congestion in DKI Jakarta (MTI, 2014; Adiwinarto, 2014).

One of the solution to decrease the congestion in urban like Jakarta is park and ride (Dianto, 2013). The purposes of park-and-ride are: reducing vehicle movements; reduce traffic congestion in the city; reduce environmental damage in the city center and along the radial roads leading to city center; increasing numbers of people are getting access to the city center and the commercial area (Simpson, 2000 in Ginn, 2009). According to local regulation No 1 (2012) about spatial planning in 2030 it is stated that the local government has to make park and ride near the

public activity like station, bus station etc.. In this regulation, there are 16 places that would make park and ride but until now park and ride in Jakarta is only 4 places in bus station and it is very small. The capacity of all park and ride is only 1191 cars and 125 motorcycles. It is far from enough. Dianto (2013) stated that the number of vehicles from the buffer city to Jakarta is almost 700.000 vehicles. It is extremely far from enough. It is because lack of commitment and political will in the government to consistent implementation about urban transport policy development (Susilo et. al, 2007)

In one hand the government makes the regulation, but they don't do it as well with implementation. The transportation problems in Jakarta are not only the local government DKI Jakarta itself, but they have to cope and solve the problem with other local authority (Bogor, Depok, Tangerang, Bekasi and Kerawang). Do they know what the problem itself is, what the consequence is, who will take responsibility for the problem? And what is the impact of different local authority to taking into account in transportation planning processes and implementation? It is still vague or fuzzy. De Roo (2006) introduced the approach to dealing with fuzzy or vague actor in planning is actor-consulting. It is as a mean to address fuzziness in planning and decision-making between various stakeholders and various interests.

Recognize Social Impacts Assessment in transport is important to make integration with other local government that have to involve in transportation planning processes and also implementation about the planning by actor-consulting approach.

CONCLUSION AND RECOMMENDATION

Understanding Social Impacts Assessment to make the integrated system is very important. Social Impacts Assessment cannot separate in transportation project. What are the social characteristics and what are the potential impacts for the project are crucial for making the project or development better in processes and implementation.

According to the case study in BRT Transjakarta show, although local government has a good plan to cope the transportation problems in DKI Jakarta there are still many people pros and cons. It show that we have to do social impacts assessment to get better information and to offer solutions to them and also give information to the government what they should do and what consequences of the project are to the community. It seems to good to be true for improve quality of live.

According to the case study the solution based on social impacts assessment is the BRT Transjakarta has to integration with different modes in urban transport. Therefore, the BRT Transjakarta is a major public bus that serves in Jakarta and the other public bus can be used as feeder for BRT Transjakarta. The second solution is integration between local authorities. It is because in general the problem in Jakarta is not only because of problem in DKI Jakarta itself but because of other cities in surrounding Jakarta that contributed to transport problem in Jakarta. Especially BRT Transjakarta has many stakeholders that are involved in processes and implementation. Therefore, integration between local authorities is very important to deal with the social characteristic and potential impact in processes and implementation transportation planning in DKI Jakarta especially in BRT Transjakarta Project.

Contribution in continuously consultation all stakeholders of BRT Transjakarta in transportation planning processes is also key component that makes improvement in BRT Transjakarta in the future. Beside the solution for integration based on social impacts assessment, in this case study DKI Jakarta still needs infrastructure and also institutional design. Some of them are:

Increasing number and capacity of park and ride facilities in Jakarta that are connected to BRT Transjakarta. It is important to reduce vehicle (car and motorcycle) from cities surrounding Jakarta to city center of DKI Jakarta. It will be able to increase the number of users of the BRT Transjakarta on the one hand and reduce congestion on the other side.

Sterilization for the lane of BRT Transjakarta is needed to decrease the number of accident in

BRT Transjakarta lane. Regulation No. 8 in 2007 about discipline that prohibition to entering the BRT Transjakarta lane is already made it, but some people still enter to the lane. Disciplinary sanctions to violators should be given in order to changes their attitude and it reduces the number of traffic accidents.

Creating road network connectivity between BRT Transjakarta and other public bus in Jakarta and also feeder bus to the buffer city (Depok, Bekasi, Tangerang, Bogor and Karawang). Creating an agency like independent local public company to manage BRT Transjakarta. Hopefully the agency can make integration with local authority (Jakarta, Depok, Bekasi, Bogor, Tangerang and Karawang).

Creating better pedestrian to make connectivity between BRT Transjakarta with bus station and rail station. It is important for pedestrian to find the bus stop easily with the standard design from existing regulation and it depends on contextual situation. Because many passengers said the bus stop is too far from their location and it is not safe anymore. The national and the local government also have to working together to reduce the congestion in DKI Jakarta whereas DKI Jakarta is the capital city of Indonesia and also involve other local authority surrounding DKI Jakarta. We sincerely hope the social impacts assessment can help us to gain a better understanding of how to integrate urban modes in DKI Jakarta and also how to integrate between stakeholders that are involved.

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