DEVELOPMENT OF MASS PUBLIC TRANSPORT FOR LARGE AND MEDIUM – SIZED CITIES IN INDONESIA

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A. INTRODUCTION

Basically, Indonesia is an archipelago country that consists of five big main islands such as Sumatera, Jawa (Java), Kalimantan (Borneo), Sulawesi, and Papua, and more than 15,000 small and even tiny islands spreading from the west to the east. Total populations of Indonesia in the year of 2007 are about 230 million people and almost 60% of them live in Java, where Jakarta, as the capital city of Indonesia is in. Jakarta itself with the total area of 650 km² in the year of 2007 populated 9 million people.

In the transport sector, especially road transport, Indonesia facing a serious problem such as traffic congestion in large cities, low quality of public transport service, rapid rising of motor cycle usage, and high number of traffic accident. In terms of low quality of service, generally public transport in Indonesia’s cities are dominated by para transit with low capacity, the fleet owned personally and many of them owned by the drivers, in other words the drivers also be the operators, and managed by conventional management.

Those problems have a relationship one to each other, that then forming a circle. Unreliable of public transport service, causing people with low income that previously a potent user of public transport leave them, and they more choose motor cycle as their new travel mode. Due to that situations, income of public transport operators badly decrease day by day. For example, in the city of Denpasar – Bali, the usage of public transport decreased drastically to be only 2% from the total trips, in Pekanbaru (Riau-Sumatera), the current average load factor of public transport is only 30%, whilst in Balikpapan (East Kalimantan) is only about 20% up to 30 %.

Based on that condition, the central government through Ministry Of Transportation in co-operation with local government, excluding Special Territory of Jakarta, develops a new concept of mass public transport. In this context, Jakarta with its budget power develops its own new urban public transport that introduced in early 2004, named as TransJakarta Busway, a kind of Bus Rapid Transit (BRT). To date TransJakarta Busway serve the city through 10 corridors, part of 15 corridors planned. While, the other large and medium sized-cities, sharing the role with central government in implementing a new concept of mass public transport. Those are: Batam and Pakanbaru (Riau - Sumatera), Bandung and Bogor (west Java), Semarang and Surakarta (Central Java), Yogyakarta (Special Territory), Surabaya (East Java), Pontianak (West Kalimantan), Balikpapan (East Kalimantan), Makassar (South Sulawesi), and Manado (North Sulawesi).
The terms of new concept of mass public transport by means of air conditioned buses, high level of shelter’s platform, as high as bus floor, so the passengers can onlyboarding and alighting at the shelters provided, smart card ticketing system, and scheduled services. Compare to the existing that also called as a conventional service, using small and without air conditioned vehicles (para transit) that can only accommodate for the maximum of 10 passengers, no ticketing system, unscheduled service, and the passengers may get on and off any point, even though in some cases shelters provided. This system potentially causing users to do transit more than once, make travel become expensive and inefficient.

In line with the development of mass public transport, the government also improves or provides such infrastructure, as a pilot, such as Area Traffic Control System (ATCS) completed with bus priority control program, that able to give priority to the buses when passing intersections, that also means cut their travel time.

### B. EXISTING CONDITION OF URBAN TRANSPORT IN INDONESIA’S CITIES

Basically, the main problems dealing with urban transport in Indonesia’s cities are traffic congestion, air pollution, and low quality of public transport service. Almost of all large cities in Indonesia such as Jakarta, Surabaya, Bandung, Medan, Semarang, Makassar, etc, currently facing traffic congestion as their main transport problem. This condition already be a daily view especially in the morning and evening peak hours. The congestion actually occurred not just because of high traffic volume, but also caused by a significant increase of vehicle ownership (in Jakarta, growth rate 11% per annum), insufficient traffic management, and malfunction in road usage (illegal traders and traditional markets that occupy road space). The following pictures illustrate typical problems of Indonesia’s cities.

![Pic. 1: Air Pollution Caused by Old Buses](image1)

![Pic. 2: Traffic Congestion](image2)
Other impacts that caused by traffic congestions are economic lost, Jakarta IDR 14.8 billion per day, Bandung (the 3rd largest city) IDR 1.78 billion/day. And also air pollution due to motorized vehicles, causing 50% of illness people, and 30% premature death.

C. INTRODUCING A NEW CONCEPT OF URBAN PUBLIC TRANSPORT SERVICES

Based on the actual condition of public transport services as previously explained, Jakarta in early 2004 introduced a totally new concept of urban public transport services, a kind of Bus Rapid Transit (BRT), named as TransJakarta Busway. This new concept principally inspired from what have done successfully in Bogota, Colombia. The buses run on their exclusive lane, so that they can cut the travel time. The system implementing a concept of “buy the service”, by means of the service provided by the operator and paid by the local government (Jakarta Special Territory) calculated based on cost per kilometer that should meet the standards applied.

By implementing this new kind of public transport services, that indicated from their exclusive lanes, shelters, fully air conditioned buses, and smart card ticketing system, the local authorities do hope that the system reduce traffic congestion, by means of stimulate car user moving to BRT, and a more further this concept also potential to save fuel consumption. The following pictures illustrate existing TransJakarta Busway.

Pic. 3: On-street Traditional Market  Pic. 4: On-street Illegal Traders

Pic. 5: Exclusive Bus Lane  Pic. 6: A Type of the fleet
D. THE SUCCESSFUL OF “TRANSJAKARTA BUSWAY”

As previously mentioned that Transjakarta Busway was launched in January 2004, and currently they service the city through 10 corridors part of 15 corridors planned that scheduled completed in 2010. BRT system can be optimized up to 30,000 pax/direction/hour, and due to its exclusive lane, BRT can run in reasonable speed, in other words its cut traveling time. To illustrate, the operational of Transjakarta Busway, by the end of 2004 carried 15.9 million passengers, 2005 serviced 20.8 million pax, 2006 in total carried 38.7 millions pax, and by October 2007 they serviced 49.9 million passengers. The following picture shows passenger trends from 2004 up to 2007 (October).

Source: Transjakarta, 2007

Pic. 9 : Number of Busway Passengers from 2004 – 2007
Moreover, from the survey conducted by the management of TransJakarta Busway, the data indicates that 14% of the total number of passengers are previously private car users, while their kilometer productions year by year increase significantly (2004 = 4.6 millions km; 2005 = 5.4 millions km; 2006 = 13.1 millions km; by Oct 2007 = 17.9 millions km) as shown in the following figures:

![Initial TransJakarta Busway Passengers](image1)

Source: BLU Transjakarta, 2007

Pic. 10 : Initial TransJakarta Busway Passengers

![TransJakarta Busway Production in Km](image2)

Source: BLU Transjakarta, 2007

Pic. 11: TransJakarta Busway Production in Km
E. IMPLEMENTING MASS PUBLIC TRANSPORT IN LARGE AND MEDIUM-SIZED CITIES IN INDONESIA

Based on the facts that many cities in Indonesia facing urban transport problems, for both large and medium-sized cities, also based on the successful of TransJakarta BRT central government through the Ministry Of Transportation (MOT) then initiate to promote a smart urban transport system, such system like BRT but more simple, in terms of air conditioned buses, scheduled services, appointed shelters, and smart cart ticketing system.

The first step in implementing the system, MOT signing a memorandum of understanding (MOU) with the local government in order to specify their each role in the development of the system. According to this model, MOT provide such number of buses granted to the local government in order to stimulate them to reform their existing conventional urban public transport, and also allocate some amount of budget to provide infrastructure and supporting facility as needed, while the local authorities responsible to develop the shelters, smart card ticketing system, and subsidy for the operational of the system. As an additional, in constructing the shelters some cities applied a “Public Private Partnership” (PPP) mechanism, where the private company budgeting for the construction of the shelters that designed with advertising space, and a compensation of tax free for a certain periods.

Examples of the system that already run effectively are as follows:

1. Batam, Riau – Sumatera

   Just in a year after the launched of TransJakarta Busway, in early of 2005, Batam – Riau, launched a smart public transport system that called as Bus Pilot Project (BPP) Batam. The fleet, in total of 22 buses, operated by a state owned company, DAMRI, with subsidy provided by the local government.
2. Bogor, West Java

Before implementing a smart urban transport system, Bogor – a medium size city, was so called as “Kota Sejuta Angkot” (Millions of Para transit City). Then in April 2007 Bogor, within 50 km southern of Jakarta, launched the new system with 10 buses that named as “Trans Pakuan”, to service only for one corridor. In early 2008, an additional of 20 buses granted by MOT to strengthen the service with opening new corridors. On their operational, Trans Pakuan using bio-fuel, a mixture between diesel and waste cooking oil (20% of the composition). The following pictures illustrate the operational of Trans Pakuan Bogor.

3. Special Territory of Yogyakarta

The third city outside Jakarta that implements a smart public transport system is Yogyakarta (a special territory) in Central Java. Their new system named as “Trans Jogja”, was launched in April 2008, servicing the city through 6 corridors with 54 medium size buses operated by a Consortium. 20 units of the fleet are a grant from MOT, while the rest of 34 units procured by the consortium. In their operational, an amount of subsidy provided by the local government. Following pictures show the operational of Trans Jogja.
Moreover, the similar system that currently undergoing development and scheduled to be operated in 2009 are in the cities of: Pekanbaru (Riau - Sumatera), Bandung (West Java), Semarang and Surakarta (Central Java), Balikpapan (East Kalimantan), Manado (North Sulawesi).

In line with the improvement of urban public transport system, by means of reform from a conventional one to be a smart urban transport system, in order to run the system effectively, MOT also budgeting for traffic management improvement with the works of “Area Traffic Control System” (ATCS) that completed with bus priority system, and also provision of pedestrian facilities and bicycle lane in certain cities.

More than that as mentioned above, to date the changing from an old to be the new system of smart urban transport, for example TransJakarta Busway, gaining other positive results i.e. 14% shifting from private car users to public transport, saving of fuel consumption, reducing CO2 level in the air, promoting the usage of gas as vehicle fuel, improving public transport management from conventional to be more professional, by implementing smart card ticketing system income of the operator be more accountable.

F. CONCLUSION

It is understood that urban public transport has a vital role in the daily life of a city, whatever the level of the city is, and its performance strongly influence the habit or even life style of the city community especially in their mobility. A city with bad urban public transport service will produce a very high usage of private motorized vehicle users, while in the contrary a city where its public transport very well planned, the usage of private car would be lower and traveling around the city could be more efficient.

In a metropolitan city like Jakarta, where a smart urban transport introduced in early 2004, already gain an initial positive result such as: 14% shifting from using private car to public transport, a new paradigm of accountably urban transport management, changing habit of passengers and drivers to stop only at bus shelters, etc.

However, based on the current general condition of the cities in Indonesia, then can be stated that to develop such a new smart urban transport system is not a simple work. Central government has responsible to hand in hand with the local authorities in order to reform the existing system, by means of sharing the role including in allocating budget for provision of the fleet, infrastructures, management system, and subsidy for operational as needed.

From the experience done and based on their positive results, the government has committed to develop such similar system in order to reform the current conventional urban transport to be a smart urban transport system in even large and medium-sized cities in Indonesia.