

An Assessment of Transport Policy Framework: before and after new transit system implementation (Case Study: Jogjakarta and Palembang)

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Transport sector unsustainability is mostly linked with urban transport issues. Rapid growth of economic enhancing use of vehicle and motorcycle as main transport modes causes urban congestion and air pollution involving exhaust gas emissions, along with traffic accidents. These problems for sustainable transport are largely indicated in urban transport of most developing cities, included Jogjakarta and Palembang, Indonesia. This paper aims to discuss sustainable transport policies with focus on urban transport in selected cities of Indonesia, before and after new transit system implemented. Data is collected through interview and by browsing the websites, then, it is analyzed by using cross-case synthesis with literature review as the consideration. Recently, according to Barter (2004), the Jogjakarta and Palembang cities are categorized as city type 4: traffic saturated motorcycle city. To resolve this challenge, both cities need to implement strong transport policies to shift the private car demand, especially motorcycle, to public transport demand so as to improve the congested road transport services.

Key Words: transport policy, city type, policy alternative, Indonesia

1. INTRODUCTION

The lack of sustainable transport policy implementation might be common in most of Asian developing cities even they already know much of what to do. According to Deakin (2001), a massive research has been conducted on sustainable transport since the mid of 1990. Such researches discuss sustainability from multidimensional perspectives, including the social, economic, and environmental aspects. The present transport policies are aiming at GHG reduction, and the enhancement of the transport safety and social equality, and deal with major issues such as securing investment finances, improvement of governance, and utilization of sophisticated technologies. Based on the results of such researches, transport projects involving specific practical measures have been carried out, and significant efforts have been made to develop sustainable transport systems. It is inevitable an increase in population generates increasing in travel demand. Indonesia as one of the most populated countries in the world next after China, India, and USA face a large number of travel

demand (see **Table 1**). In the period 2000 to 2025 the city of Palembang as the second largest city in Sumatra and capital of South Sumatra province has growth rates of more than 40%, for example, is estimated to be occupied to almost two million inhabitants. In the same period, Jogjakarta has a growth rate of 18%, whose figure is almost double from Jakarta (10%). Nowadays, Indonesia deals with an explosive growth in vehicle ownership and utilization. An increased road length and new roads generate faster and longer trips, more trips by car and higher car ownership all of which trigger to more traffic congestion and pollution (see **Fig 2** and **Fig 3**).

Table 1 Growth in selected cities and state (population in 000s)

Selected cities and State	Population (000s)			% Change 2000-2025
	2000	2010	2025	
Jogjakarta	505	541	598	18
Palembang	1,339	1,455	1,899	41
Jakarta	8,361	8,981	9,259	10
Indonesia	205,132	233,477	273,219	33

Meanwhile the mode share of walking, cycling, public transport, private car, motorcycle and un-motorized varies very significantly across cities (see **Fig 1**). The Ministry of Transportation (MoT) database finds evidence of public transport mode shares as low as 16% in Jogjakarta and as high as 58.9% in Palembang. Jakarta itself is 39.1%, much higher than Jogjakarta and lower than Palembang. Much of the variation can be explained by factors such as urban density, relative prices and speeds of public versus private transport and the reach and quality of the public transport network. Even within a same region, cities which are quite close can have significantly different mode shares as a result of the different policies and history of development of the systems.

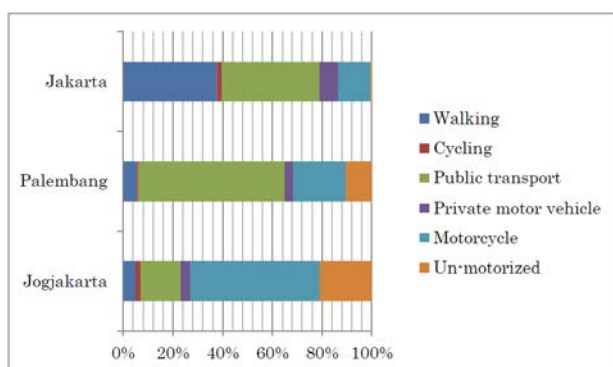


Fig 1 Modal share in selected cities and capital

One notable difference between developed and developing countries, particularly those in Indonesian cities, is the importance of powered two-wheelers where the mode share is as high as 52% in Jogjakarta, 21.1 % in Palembang and 13.1% in Jakarta. Aware of the increasingly complex issues, the Ministry of Transportation of Indonesia enacted a decree No 51 of 2007 promoting pilot cities for land transport improvement. The decree mandates the pilot city candidates to reflect their commitments by providing documents declaring their preparedness in terms of institutional capacity, funding capacity, human resource availability and transportation master plan. From the target of thirty pilot cities by 2014, to date, twenty seven cities have signed a memorandum of understanding with MoT and launched more than twenty new transit systems across the region, in addition to TransJakarta as the pioneer of a program. Both TransJogja of Jogjakarta and TransMusi of Palembang are included in it. One of an important body of empirical research is led to strong conclusions about city forms and transport policies for large cities. Using this research and observations on the evolution of Asian cities in recent decades, National University of Singapore transport

expert Paul Barter developed a city typology of transport development paths in 2004. This typology allows developing cities to assess their position and the travel direction of their existing policies.

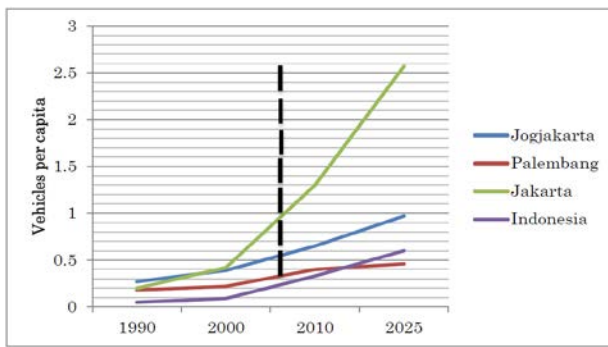
Authors explore the position of selected cities according to transport policy measures by the city before and after Trans bus implemented. Specifically, based on the aforementioned analysis of the social, economic, and urban transport characteristics of Indonesian cities, types of development are set, corresponding alternatives are provided, and major consideration are presented.

2. RESEARCH METHODOLOGY

Authors conduct both quantitative and qualitative using primary and secondary sources. Data is collected through interview and by browsing the websites, then, it is analyzed by using cross-case synthesis with literature review as the consideration. During mid-May to mid-June of 2013 we conducted field surveys and explored public transportation in both cities (regular bus, Trans bus). We also conducted the meetings with local staff of transportation offices and local experts to gain insight of progress and challenges of development of new transit systems.

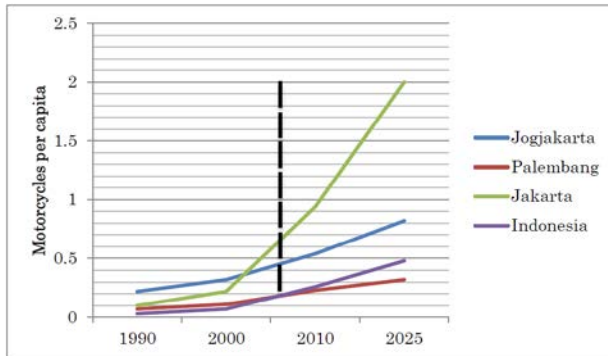
3. FINDINGS AND DISCUSSION

Actually experience of sustainable cities around the world reveals much of what is required and decades of applied research in city and transport development affords developing cities a rich understanding. The interesting question is what that knowledge has not translated into results, so a subsidized new transit system in Jogjakarta, Palembang, and even capital's Jakarta, is particularly prone to be thwarted in terms of effective urban management and decision making. However, despite the best effort of transport specialists, these cities are experiencing traffic congestion, more pollution and more traffic accidents. Authors projected changes in the number of both vehicle and motorcycle only per capita in the selected cities, Jakarta and Indonesia, respectively. The data was based on recently observed growth rate, forecast changes in GDP and population growth. As both **Fig 2** and **Fig 3** show, all selected cities and state are forecast to continue their gradually increasing in both vehicle ownership per capita and motorcycle only ownership per capita, while the levels in Jakarta is speeding into relatively very high.



— Trans buses launched

Fig 2 Forecast changes in vehicles ownership per capita



— Trans buses launched

Fig 3 Forecast changes in motorcycles ownership per capita

Referring to **Fig 2** and **Fig 3**, evidence from selected cities, Jakarta and state suggests average annual growth rates in per capita vehicle ownership and motorcycle ownership of 2 to 20% and 4 to 32%, respectively. On the other words, the presence TransJogja of Jogjakarta, TransMusi of Palembang, and TransJakarta of Jakarta itself cannot effectively create public transport mode to be better positioned to develop sustainable transport.

However, city type can be diversely defined according to objectives of the analysis. Barter (2004) presented a city and transport system development model based on mobility and grasp of private and public transport. This model defines eight types of cities according to the city and transport development courses: walking cities, non-motorized vehicle cities, bus/motorcycle cities with increasing bus/motorcycle transport shares, traffic-saturated bus cities due to rapid motorization, traffic-saturated motorcycle cities, modern transit cities due to bold investments in the public transport sector and integration policies, and automobile-dependent cities due to the ever-growing motorization and the road cost investment and the city expansion policies. Barter's (2004) city model enables the ease definition of city types suitable for development situations associated with the current situations.

Table 2 Jogjakarta city type definition and policy alternatives

Period	Type	Major Policy	Characteristics	Transport Policy Alternatives
~1970s	Low mobility city	Operated "Kolt Kampus" (1975) Amount 276 vehicles had been operated (1977)	Small vehicle/pick up as the transport mode for the students of Gadjah Mada University, which was also used by common people. Walking and cycling were the main transit mode	Sustainable transport goal: shift from motorcycles to public transport ● Implement strong demand control policies based on the characteristics of motorcycles ◇ Managing parking
1970s-90	Bus city	Introduced city bus Licenses system enforced For urban city buses: 5 cooperatives under Organda Every bus owners must be a member of a cooperative	Obligation of shifting into city bus The bus transport business was activated; Organda's the only organization represent the road transport sector City bus and cycling were the main transit mode	● Develop a fast and convenient public transport system ◇ Measures to link major public transport facilities with motorcycles
2000s	Traffic saturated motorcycle city	Local Transportation Office has a role to observe and control transport operation, route and operational license evaluation, transport and vehicle performance 19 licensed routes, only 16 routes operated	Poor transport services; the relevant laws and system were not refined Operating without service standards; no timetable; no evening bus; security problems (pick pocket) Motorcycle was the main transit mode	● Implement automobile demand control policies to prevent the motorcycle demand from shifting to private car demand
2010s	Traffic saturated motorcycle city	New transit system called TransJogja implemented; 54 fleets, 3 routes Fares subsidized by provincial government; a single operator paid based on vehicle-km traveled	Low service performance caused the lack of an appropriate control and monitoring system Absence of a city development strategy, sustainable transport policies and effective transport planning Motorcycle was the main transit mode	

Table 3 Jogjakarta city type definition and policy alternatives

Period	Type	Major Policy	Characteristics	Transport Policy Alternatives
~1970s	Low mobility city	Mostly used water bus as a mode of transport Owned and operated by an individual	Lack of the role of local government regarding service quality and safety assurance The quality and depth of the water has decreased; the number of passengers declined Water bus and walking were the main transit mode	Sustainable transport goal: shift from motorcycles to public transport ● Implement strong demand control policies based on the characteristics of motorcycles ◇ Managing parking
1970s-90	Bus and Para-transit City	Introduced city bus and para-transit as a main made; mostly competing on the same route	Poor transport service performance Para-transit, city bus and motorcycle were the main transit mode	● Develop a fast and convenient public transport system included water bus ◇ Measures to link major public transport facilities with motorcycles and water bus
2000s	Traffic saturated motorcycle city	City water tour launched (2005), with the intent of attracting more people to use the water bus	Public transport was growing up, included reinventing water bus, but the relevant laws and system were not refined Motorcycle, para-transit and city bus were the main transit mode	● Implement automobile demand control policies to prevent the motorcycle demand from shifting to private car demand
2010s	Traffic saturated motorcycle city	TransMusi of Palembang implemented (2010); 8 routes, 120 fleets Water bus Trans Musi (2013); 2 routes; TransMusi connected to airport, water bus and rail	Poor service performance, long both waiting time and travel time. Motorcycle city bus and para-transit were the main transit mode	

According to the city models associated with city transport development, both Jogjakarta and Palembang

bang's transport development courses can be defined as follows: before 1970s, a low mobility city; in the 1970s-90s, a bus city and a bus and para-transit city, respectively; and in the 2000s to today, a traffic-saturated motorcycle city (see **Table 2** and **Table 3**). Both cities policies failed continued to be formulated and implemented to respond to various types of problems by period. In the 1970s-90, as a city bus, para-transit and cycling (Jogjakarta) were the main transit mode, policies for affordable fare and high efficiency public transport were not implemented. In the 2000s to recently, to address the traffic congestion and other associated problems brought by the rapid and wide spread of private cars owing to the rapid economic growth, policies for managing the transport demands were not executed strictly. For example, a progressive tax on second vehicle owned by a household has been implemented since the last few years. However, because of no significant increase in the tax, vehicle growth remains uncontrolled. Currently, in the 2010s, the Jogjakarta and Palembang cities transport policies are striving to shift to public transport oriented to turn into a modernized public city bus. Unfortunately, even though a lot of learned from best practices around the world, but only a few were carried out during implementation. Based on such urban transport policy implementation results and on the experience of the cities in developed countries and some developing countries, the following sustainable transport policy measures for both selected cities are presented (see **Table 2** and **Table 3**).

4. DERIVING THE POLICY FRAMEWORK

Although new subsidized transit system has been operated for several years, the orientation of public transport services have so far tended to focus on increasing revenue rather than an effort to improve service quality. Stakeholders of public transportation is very broad and the collective effort to providing and improving public transport services have not been implemented in a rigorous and coordinative structures, but it still tends to rely on the performance of each individual institution. In some areas the participation and influence of local community leaders are very dominant, whereas their understanding of operation of public transport remains inadequate. Policy framework issue and regulation, for example, is shown from the inadequacy and ineffectiveness of the government law enforcement agencies to oversee the operations of private buses, in addition to the mechanism determining the route and type of transport was not conducted in accordance with ap-

plicable regulations. Other major issues related to policy framework, financial, and regulations are as follow: a) lack of synchronization and coordination with relevant stakeholders in the planning and transport system operations, as well as its relation to the land development; b) the lack of anticipation of the provision of adequate infrastructure as a result of limited funding and a lack of effective development planning conducted by the relevant institutions; c) lack of a detail basic service standards, including safety and security, as a guidance for operator in providing services; d) subsidy system that cannot be understood and not strategic to support the improvement of public transport services.

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