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## Comparison of Functions Performed of Transport Authorities: Similarities and Differences

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### Abstract

This paper developed and applied a conceptual framework highlighting the established agency to evaluate the current progress of new urban bus reforms in Jogjakarta and Palembang, Indonesia. Both cities explored regulatory reform from unregulated to a hybrid model, proposing a project implementation unit (PIU) as a lead institution with a certain degree of regulatory touch. As demonstrated by TfL of London, LTA of Singapore, TransLink of Vancouver and MTA of Seoul, a created public transport authority ideally should to have overall responsibility for the planning, design, and implementation of public transport infrastructure and services. An effective lead institution, can contribute to the success of an urban transport reform, because members' diverse skill, roles and responsibilities, management structure and accountability, and financing arrangements can complement each other

*Keywords:* urban bus reform; transport authority; lead institution; Jogjakarta; Palembang

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### 1. Background

Hitherto the urban public transport systems in large developing cities of Indonesia are facing major challenges due to the continuous growth of urban population, private vehicle ownership, congestion, and the fragility of public transportation systems. During the period of 1990-2006 the number of motor vehicles increased five-fold, despite GDP per capita only growing two and a half times. During the same period, both CO<sub>2</sub> transport emissions and liquid fuel consumption have also increased significantly, though the economic crisis hit Indonesia in 1998, as shown in Fig. 1a. This unusual phenomenon is triggered by several factors, among which, are: (1) the lack of car restriction policy; (2), excessive subsidies on fuel price; (3) the low cost of vehicle ownership including tax and parking; and (4) the decline of urban public transport services. Based on both Indonesian Transport Society/MTI (2007) and JUTPI (2010) data, the share of urban public transport has decreased significantly over the last ten years. As an example, the modal share of public transport still remained at 55 percent in 2000 and then dropped dramatically to

only 28 percent in 2010 as shown in Fig. 1b. Traffic congestion and other negative externalities may be worse in the coming years, in conjunction with the launch of low cost green car by the central government in early 2014. This is mainly triggered by motorcyclists who will shift more quickly into car users, with their increasing income. Unlike cities in developed countries, most developing cities do not have a proper mass transportation system to suppress the increase of motorization in urban areas. Moreover, the attitude of society is to use automobile ownership as one of the requirements for social acknowledgement. This has encouraged everyone to have their own private car and discouraged them to travel with public transport. In addition, sprawling urban growth with a poor public transport network has also supported the trend of motorization among urban residents in developing cities (Susilo et al. 2007). Rapid motorization allows little time for the city or provincial governments to prepare strategically effective response actions. Few cities have drawn up a coherent urban transport strategy to manage the motorization process. Those with a strategy have not been able to stick closely to it due to lack of supporting institutions and policy environment. Recently as the national leadership places a new emphasis on people-centred development, both provincial and city governments will face increasing political and financial pressure to improve mobility for all, especially for low income households. The solution to the complex urban transport problems lies in the development of an efficient and affordable public transport system. Bus operations and the future guided mass transit systems are given little consideration in road design. Moreover, the peri-urban land development is not planned in a way that would create a market for public transport. Few cities, including Jogjakarta and Palembang, have taken concrete steps to reform the sector structure as a basis for the development of a viable industry. As a result, the sector remains financially fragile in most cities. For example, the operating subsidies to Jogjakarta and Palembang bus companies amount to 76 billion and Rp23 billion a year, which account for 5 and 0.7 percent of the city's budget revenues. However, the poorest households constitute one-fourth of total households of Jogjakarta and Palembang, they receive only 5 and 6 percent, respectively, of bus subsidies.

It is also important to note that during the last fifteen years of rapid motorization coincide with the period of Indonesia's decentralization that devolves a range of functional and fiscal responsibilities from the national to provincial government, especially the cities and regencies. This autonomy regime has a fundamental impact on the ways that national, provincial and city/regency governments manage urban development. However, the regional autonomy is an on-going process and a largely unfinished business.

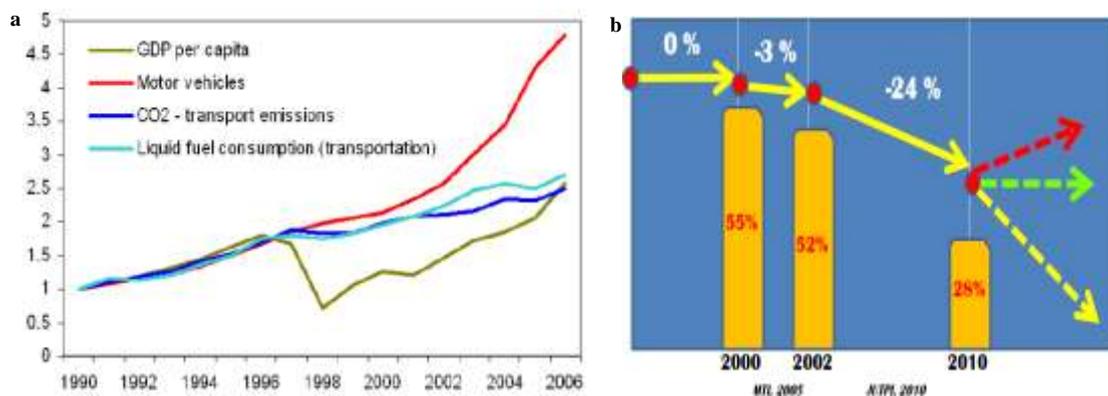


Fig. 1. (a) growth rate of GDP, motor vehicle, emissions and fuel consumption; (b) modal share of public transport

Aiming to tackle the increased motorization in Indonesian cities, particularly motorcycles phenomenon, the Ministry of Transportation (MoT) of Indonesia enacted decree No 51 of 2007, promoting pilot cities for land transport improvement. The decree mandates the pilot city candidates to reflect on their commitments by providing documents declaring their preparedness in terms of institutional capacity, funding capacity, human resource availability and transportation master plan. The initiatives subsequently gained stronger regulatory support by the enactment of the new Traffic Law No 22 of 2009. This law specifically promotes pro-public transport policy development in the cities. In Article 158, it is explicitly stated that the government must ensure the availability of a land-based mass transit system to meet urban mobility needs.

As the implementation of the law, MoT provides technical assistance to promote smart bus-based urban transport

systems in order to gradually replace the old buses and restructure the existing bus routes to create a more efficient city bus network. The MoT funds several fleets, supports some of the infrastructures and local governments are required to allocate resources and subsidies simultaneously to ensure the sustainability of the new urban bus system's operation. From the target of thirty pilot cities by 2014, to date, twenty seven cities have signed a memorandum of understanding (MoUs) with MoT and launched more than twenty Trans bus systems, including TransJogja of Jogjakarta and TransMusi of Palembang, in addition to TransJakarta as the pioneer of the urban bus reform in Indonesia.

The goal of this paper is to assess the factors that might be affecting on urban bus service performance based on a comparative analysis of roles and responsibilities of transport authority. Data for analysis is collected through interviews and by browsing the websites, then, it is analyzed by using cross-case synthesis with literature review as the consideration. The meetings with local staff of transportation offices and local experts are also conducted to gain a deeper understanding of the functions performed of local transport authority particularly in Jogjakarta and Palembang as the main case study cities. Therefore, progresses that they have been achieved compared to other cities across countries. Responsibilities for urban transport, however, need to be comprehensively assigned to an established agency (EA) to overcome the problems of lack of coordination and execution. Several cities have been attempting to set up such agencies, but only a few have succeeded (The World Bank Group, 2013). The objective here is to highlight what key success factors are worthy of adopting and then modify them to the most feasible adjustments of existing institution to demonstrate the effectiveness of this institutional model.

### 1.1. Brief outline of Jogjakarta and Palembang

The study areas are the city areas of Jogjakarta and Palembang (Fig. 2). These areas have been chosen because these are the most populated areas and the most rapid growth of transit systems, respectively. They are also of comparable size in terms of transit system operations and data is available for these areas.



Fig. 2. Jogjakarta and Palembang on Indonesia map

The total urban area is larger than these city areas, as it stretches out into some of the adjacent regencies. These regencies are much larger than the city area and are largely rural.

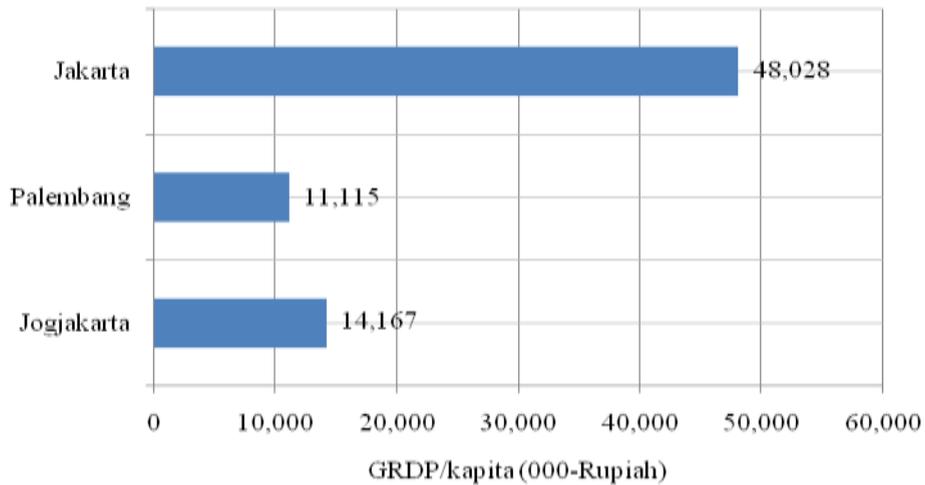


Fig. 3. GRDP/capita of selected cities and Jakarta

The size of the area of Jogjakarta city is 32.5 km<sup>2</sup>, while Palembang is a much larger with 358.5 km<sup>2</sup>. Population numbers in 2013 were 510,108 and 1,708,413, respectively, which comes down to densities of respectively 15,695 inhabitants/km<sup>2</sup> and 4,765 inhabitants/km<sup>2</sup>. For Jogjakarta the actual number of people living in the city area is probably higher as there are many students living in Jogjakarta who are still registered at their parents’ address. The gross regional domestic product per capita shows both cities are much smaller than Jakarta as the capital of Indonesia during the period of 2011 to 2012 (Fig. 3). It is inevitable that the high gap of incomes among regions is the cause of continuing massive urbanization to Jakarta from surroundings provinces, municipalities and regencies in addition to the matter of availability of employment. The Gross Regional Domestic Product (GRDP) or gross domestic product of region is a sub-national gross domestic product for measuring the size of that region's economy. It is the aggregate of gross value added of all resident producer units in the region. The GRDP includes regional estimates on the three major sectors including their sub-sectors namely:

- Agriculture, fishery and forestry (primary)
- Industrial sector, including mining and quarrying, manufacturing, construction, electricity and water (secondary)
- Service sector, including transport, communication and storage, trade, finance, renting and business services and other private services (tertiary).

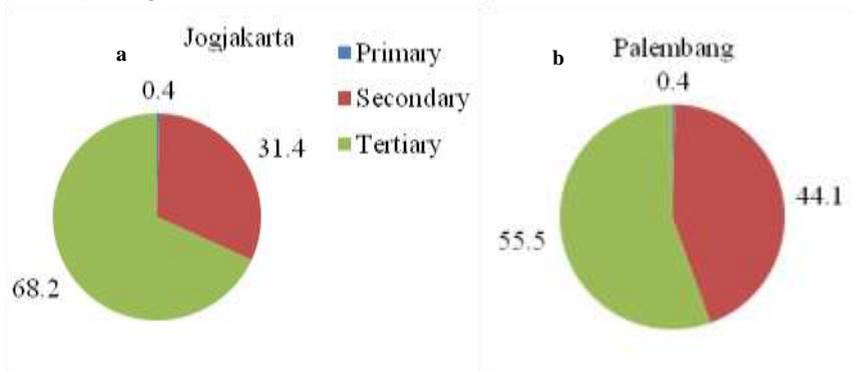


Fig. 4. (a) forming of structure economic by sector of Jogjakarta; (b) Palembang

During 2011-2012, the driving force of cities’ economics is totally structured by both secondary and tertiary sectors (Fig. 4); in Jogjakarta the secondary and tertiary sectors contributed with 31% and 68%, respectively, and in

Palembang the contribution were 44% and 55%, respectively (BPS, 2013). The lesser presence of the primary sector means agriculture is no longer attractive to most urban communities.

1.2. New urban bus and organizational structure

From the organizational structure’s point of view, TransJogja trying to superimpose its position on existing structures of the local transportation office rather than a dedicated unit with specific functions (Fig. 5). Typically, some employees are placed in a small unit, called a technical implementation unit. Most of the Indonesian cities are particularly familiar with the form of organization it was chosen to run new urban bus systems in response to improve service quality. Palembang city might be a unique case, where the TransMusi is operated through a company owned by municipal (Fig. 6). The Sarana Pembangunan Palembang Jaya Limited as an operator is responsible for procurement, operation, and maintenance of fleets, while the city government was basically in charge of preparing the infrastructures. Before being appointed as the managing body of TransMusi in 2010, it was dealing a wide array of business sectors, including public housing, water transport and land developer. Though operated by the company, authorities of managing body are very limited as well as a bus operator is generally. For example, they do not have access to finance on their own, even to repair a damaged bus, while bus stops, terminals and other supporting infrastructures are handled by other agencies. In 2011, the number of daily passengers of TransMusi recorded 20,000, but in 2013, the numbers decreased to 16,000 people per day. Recently, the number continues to drop to 13,000 passengers per day, as vehicle availability declined. The number of TransJogja users itself tends to fluctuate, but on average, it was recorded as 450,000 per month. For example, in January, February and December of 2012, the number of passengers is 484,743; 452,707 and 468,966, respectively (Dishub, 2012).

In the meantime, only 7.8 percent and 6.6 percent of commuters use urban bus in Jogjakarta and Palembang, respectively (Fig. 7). In contrary, the share of motorcycle use tended steadily risen: in Jogjakarta and Palembang the figures are 53.1 percent and 21.1 percent, respectively, due to low cost of operation and lack of cheap high quality urban bus service. Indeed, motorcycle offers what is perhaps the ultimate door-to-door transport convenience.

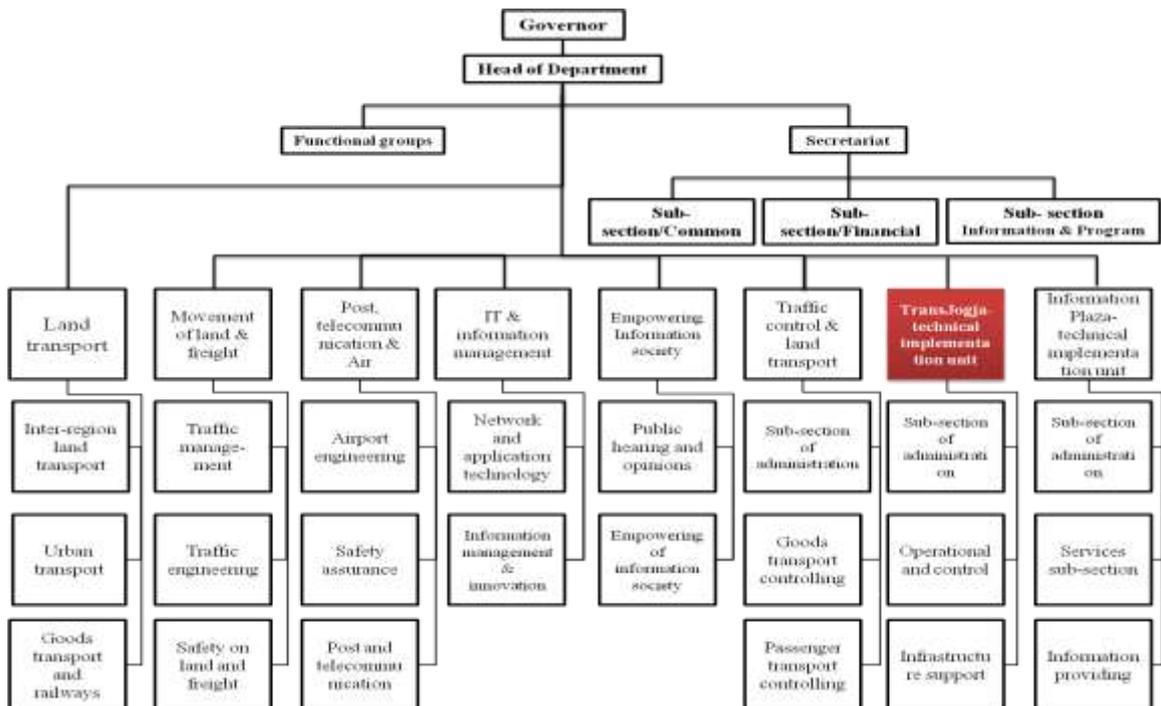


Fig. 5. Organizational structures of TransJogja

Figures 5 and 6 outline a typical organizational structure for an urban transport at the city level. In almost all cities, Dinas Perhubungan/local transport department (reporting to the Mayor) manages bus services. Bus operators run the routes decided between the City and companies but mostly without appropriate service standards. At first, the TransJogja and TransMusi were greeted quite enthusiastically, because of better services and affordable fares. But unfortunately they could not maintain service quality simultaneously making people reluctant to use their services. Local governments tended to overwhelm the operational of bus systems to the operator, while the company itself does not have adequate resources in terms of financing, skill, and management.

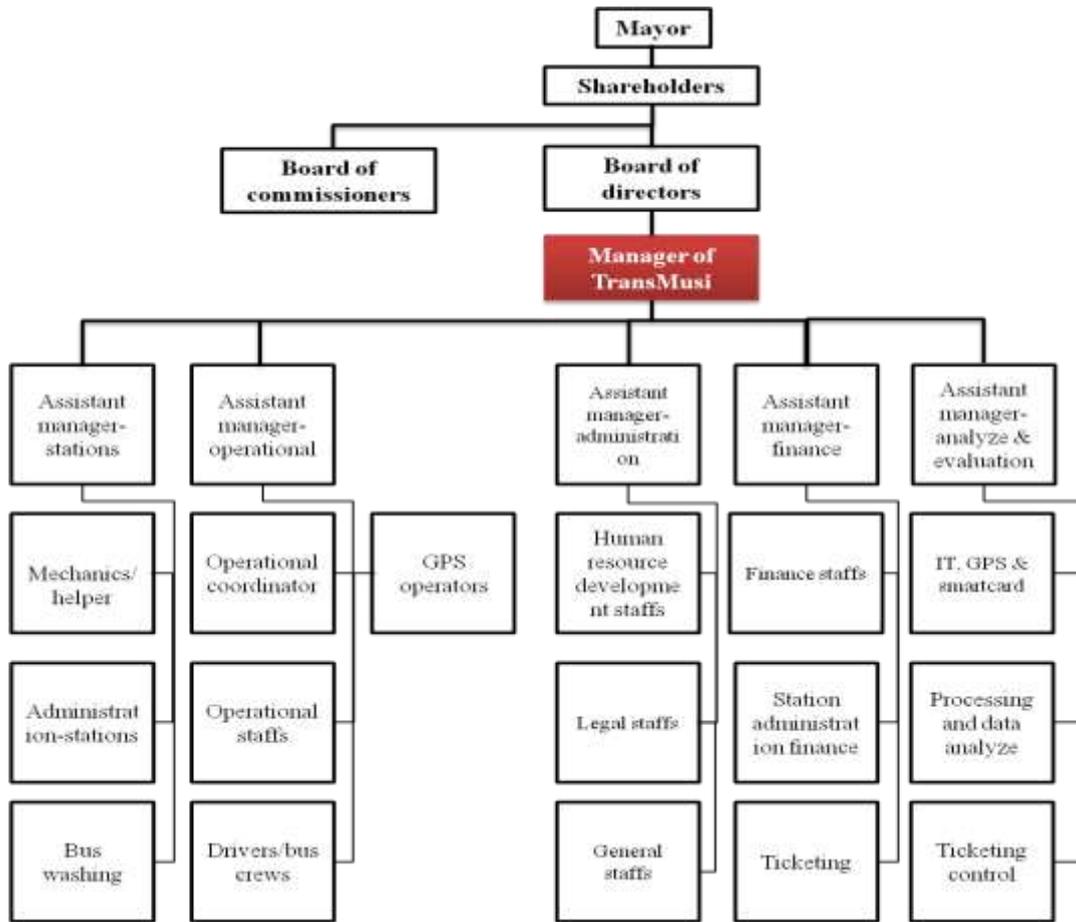


Fig. 6. Organizational structures of TransMusi

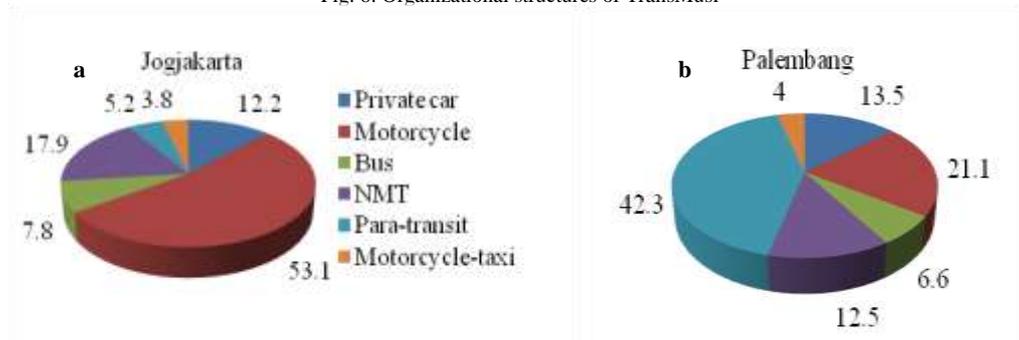


Fig. 7. (a) mode share of transport (%) of Jogjakarta; (b) Palembang

## 2. EA from point of views of international experiences

According to the International Bank for Reconstruction and Development/the World Bank Group (2013), there are several issues that usually arise when creating EA. They are (1) legal basis; (2) jurisdiction; (3) functions performed; (4) personnel profile and size; (5) management structure and accountability; (6) sources of financing; and (7) evolution, respectively.

### 2.1. *Legal basis of EA*

Based on experience of other countries, EA can either be set up as independent authorities or as agencies within national, provincial, or city governments. The specific form depends on a country's political history, current philosophy and the institutional framework of governance. Examination of cases from around the world shows that there are five principal forms that EA for urban transport have taken: (1) an existing government department or municipal authority takes on the function; (2) a separate entity is established under a dedicated statute establishing the entity; (3) a separate entity is created under a generic statute applicable to commercial entities, such as legislation setting out rules governing business; (4) a government order establishes the entity without legislative backing; and (5) multiple jurisdictions reach a mutual agreement to establish an entity.

The Seoul Metropolitan Government and the Ahmedabad Municipal Corporation offer examples of a municipality performing the lead agency function for all modes of urban transport. Jakarta is following this type for both cities since the Transportasi Jakarta Limited is also fully initiated by Jakarta's metropolitan government. In Moscow state, the Department of Transport has overall responsibility for urban and suburban transport.

In contrast, Lagos, London, Paris, Singapore, and Vancouver have established separate entities under dedicated legislation. The Indian cities of Indore and Jaipur provide example of separate entity being established under a generic statute to perform the functions of an EA for public transport.

The Indore City Transport Service Limited and the Jaipur City Transport Service Limited were set up under a generic national law that regulates commercial and business entities in the country. Indian also has example of EA being set up under executive orders of the government, without legislative backing. A number of Indian cities have set up a Unified Metropolitan Transport Authority (UMTA) by government order. Bangalore, Chennai, and Mumbai are a few examples.

Colombia provides a good example of individual jurisdictions coming together by the agreement to set up metropolitan area institutions to oversee, manage, and plan urban transport. Colombian Law 128 of 1994 provides for municipalities to form metropolitan areas in which combinations of two or more municipalities integrate around a core city. These different arrangements naturally have their relative strengths and weaknesses. The effectiveness of such an EA, however, depends on how well it has been resourced or staffed with competent professionals and guided by a dedicated and committed chief executive. Thus, based on the experience in other countries, the best arrangement is for an entity to be created through dedicated legislation. Drafting such legislation and having it passed into law takes time. It would be advantageous if a clear road map could be developed to transition the committee arrangement into a new EA model through dedicated legislation.

### 2.2. *Jurisdiction of the EA*

The jurisdiction that EAs cover varies from city to city. In some cases, such as Ahmedabad and Singapore, it is limited to one municipality, for most part because the given municipality's boundaries encompass a larger area. In such instances, for example in Pereira, it involves two or more municipalities. In others, such as Vancouver, it covers a larger metropolitan area encompassing several adjoining cities. In case of Paris, Syndicats Transportes Ile-de-France (STIF)'s jurisdiction consists of 1,284 municipalities. In India, the UMTAs cover the main city along with some adjacent satellite cities. In Lagos, the Lagos Metropolitan Area Transport Authority (LAMATA)'s jurisdiction extends throughout the entire Lagos metropolitan area.

The basic principle in determining the jurisdiction of an EA for transport is the need to serve the origins and destinations of residents spread throughout multiple municipal jurisdictions. In the largest cities, the need for intercity travel is typically lower, but even in such cases adjoining jurisdictions need to be well connected by a common transport system. From a transportation planning perspective, a larger jurisdiction offers economies of

scale that do not necessarily exist for other urban infrastructure needs, e.g. the need for a critical mass of planning expertise. Thus, the jurisdiction for an EA is determined by what constitutes a reasonable economic size for major arterial roadways and public transport systems which are used by travellers making trips that cross jurisdictional boundaries. This accounts for some of the variation seen across the cities.

### 2.3. *Functions performed by the EA*

In general, there are two major questions that arise when looking at the range of functions of EA:

- Is the EA responsible only for public transport or is it responsible for a comprehensive set of urban transport actions, including those related to the roadway system?
- Is the EA responsible only for planning and organizing urban transport services or does it also having an active role in the operation of services?

As a comparison, STIF in Paris is only responsible for public transport. STIF is in charge of organizing, coordinating, modernizing and financing public transport. It formulates the urban mobility plan, determines the routes, contracts with the operators, sets the operational, management and financing guidelines, and ensures the coherence of investment programs. In contrast, in London, Singapore, and Vancouver, the EAs' responsibilities are more comprehensive. The situation in Lagos is mixed. LAMATA is primarily responsible for public transport, but also has an expanded role through its responsibility for an identified set of so-called "declared" roads (declared roads are mainly the major arterial roads used for public bus transport operations). Most of all the cases studied by the World Bank Group, the EA has overall responsibility for strategic planning as well as public transport service planning. With regard to the other functions, however, the patterns vary.

While the relationship between the EA and public transport service operators has been evolving, the trend since the 1990s has been to separate the service planning function from actual operations. The rationale for this is that the planning function is performed in the public interest -that is, serving a common public good- while service operations are performed by entities with a commercial interest.

The Seoul Metropolitan Government is the lead entity for urban and transport planning in the city. The city itself consists of twenty five districts (gu), each of which has its own administration. The Seoul Metropolitan Government deals with area-wide policy and services, while district administrations implement these policies and provide self-contained services within the district. In 2005, the Metropolitan Transportation Association (MTA) was established by the Seoul city, Incheon city, and Gyonggi provincial governments. The purpose was to coordinate intergovernmental transportation policies, infrastructure and facility investments, including bus route planning and fare collection for all inter-municipal transportation systems, and to resolve interregional transport problems in the Seoul metropolitan area.

In contrast, in Chile as well as in Indonesia, the national government is effectively the lead authority in shaping entire metropolitan areas beyond what is undertaken at the individual municipality level. This is achieved at the sectoral level by the relevant ministries. The Ministry of Transport and Telecommunications is the lead entity for urban passenger transport, setting operational standards, issuing route licenses, and establishing tariffs.

The Ministry of Housing and Urbanism is responsible for developing the comprehensive strategic plan covering multiple sectors, such as land use, housing, and so on. The Ministry of Public Works oversees construction and maintenance of major roads, while the national police enforce the traffic laws. Traffic management, traffic engineering measures, and parking are the responsibility of the individual respective municipalities. The existence of multiple ministries in influencing transport policies and strategies creates a duplication of responsibility and possibly a conflict of interest.

However, at provincial or city levels of government of Indonesia, local transportation offices are only responsible for transport policy and service planning. Other functions such as strategic planning, fare setting, driver license, are conducted by other agencies. The responsibilities of transport authority in such countries and case study cities are detailed in Table 1.

Table 1. Responsibilities of transport authority

Functions Performed	Lagos LAMATA	London TfL	Paris STIF	Singapore LTA	Vancouver TransLink	Seoul MTA	Jakarta TJ	Jogjakarta Dishub/P	Palembang Dishub/C
Strategic Planning	✓	✓	✓	✓	✓	✓	✓	X	X
Transport Policy Planning	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fare Setting	✓	✓	✓	X	✓	✓	✓	X	X
Infrastructure Planning	✓	✓	✓	✓	✓	✓		X	X
Service Planning	✓	✓	✓	✓	✓	✓	✓	✓	✓
Driver Licensing/ Vehicle Registration	X	X	X	✓	X	X	X	X	X
Traffic Management & Enforcement	X	✓	X	✓	X	X	X	X	X
Infrastructure Construction & Management	X	✓	X	✓	✓	✓	X	X	X
Common Facilities (terminals, bus stops, depots)	X	✓	X	✓	✓	✓	X	X	X
Public Transport Operations	X	X	X	X	X	X	✓	X	X
Jurisdiction	Lagos Metropolitan Area	Greater London	1,284 municipalities	All city-state	Greater Vancouver region	Seoul, Incheon, Gyonggi	Jakarta Metropolitan Area	Greater Jogjakarta	Greater Palembang

✓ means this function is performed; X means it is not performed; Dishub/P: Provincial transportation office; Dishub/C: City transportation office

#### 2.4. Personnel profile

In some cases, public transport services are operated by direct publically owned subsidiaries of the EA, and the entire workforce is designated as the staff of the EA, whereas in other cases, operations are handled by entirely different entities, with the lead agency only determining the service parameters, e.g., routes, schedules, and fares. However, the staffing needs of EAs vary considerably based on the precise functions it performs and the mechanisms in place for executing them. As a comparison, TfL's 2012 annual report cited staff strength of 22,452. This figure, however, included the personnel of all subsidiary operating entities, among them London Underground Limited and Victoria Coach Station plus several others providing different services. TfL itself has a staff of 3,767. While during fiscal year 2011, LTA in Singapore had a total of 4,361 personnel, 42 percent of them professional staff and 33 percent technical support staff. Similarly, the 2011 annual report for Vancouver's TransLink tallied some 6,800 employees, which included the staff of its subsidiaries. In contrast, in Paris, STIF employs only 330 people, and in Lagos, LAMATA is a very lean organization, with only about 35 professional staff. UMTAs in India generally have no dedicated staff, as they are constituted as senior official committees and are provided secretariat support by an existing government department or agency.

In contrast, the full-time staff members at Ahmedabad Janmarg Limited (AJL) are municipal employees on assignment to AJL. They receive regular public service salaries and are part of the Ahmedabad Municipal Corporation (AMC) career structure. All staff members have two-year contracts (except for the general manager, who is also a deputy commissioner at the AMC). However, the key difference in the human resources available to

different agencies is explained by the variations in how staff operating the respective public transport systems is accounted for. Moreover, hiring adequate staff can be difficult because urban transport as a distinct profession is a relatively recent development in most developing countries.

### 2.5. *Management structure and accountability*

Based on the World Bank Group (2013), the management structures of EA vary to an extent, but in general, they consist of a decision making board that is supported by a full-time CEO and a technical entity or secretariat. The mayor of London chairs TfL, and the deputy mayor is responsible for transport and serves as the deputy chair. In addition, fifteen other members, drawn from a range of interest groups, lend professional strength to TfL. In Singapore, LTA is governed by a fifteen-member board that includes a chair and the LTA chief executive officer (CEO), who heads the secretariat, comprised of several group directors and subordinate functionaries. TransLink's board consists of nine directors, each appointed to six-year terms by a mayors council, composed of all the mayors of metro Vancouver. A CEO, in charge of day-to-day operations, is appointed by the board.

STIF has a twenty-nine-member board comprised of 15 representatives from the Region, 5 from the city of Paris, and one from each of the 7 departments within the region. LAMATA has a thirteen-member board of directors. The board, appointed by the governor of the State, is representative of the authority's stakeholders, consists of representatives of transport operators, transport unions in Lagos state, the organized private sector, the general public, local government areas, and transport-related Lagos state government agencies. The only full-time member is the managing director/chief executive officer (MD/ CEO), who heads the secretariat.

Therefore, the typical broad structure of the EA consists of a supervisory body or policy board, which is where key decisions are made. This governing body is supported by a technical secretariat, or unit, headed by a full-time professional.

### 2.6. *Sources of financing*

The two primary questions regarding the financing of lead institutions are as follows:

- From where does the EA obtain its financial resources -direct government grants, taxes, commercial functions, or a combination of the above?
- How much funding should the EA have control over -just enough to meet its own administrative costs and the costs of some studies and research or a larger amount that would enable it to actually make capital investments and subsidize the operating deficits of on-going services?

As an example, in London, TfL receives grants from the UK Department of Transport that consist of two components: a grant to finance its investment program and a general grant to be used for operations, including its own. In 2011–12, TfL received £4,727.5 million by way of grants. In addition, it received £4,180.9 million by way of other income, of which 78 percent came from fares, 5.4 percent from congestion fees, and 3.1 percent from advertising. The rest of the other income was derived from a host of other smaller sources. It paid £2,155.6 million to its subsidiaries to meet their operational costs (TfL, 2011/ 2012).

In Singapore, LTA's budget for financing the capital cost of projects is funded primarily by grants from the government. In addition, it has an operational budget funded through a "management fee" that it receives from the government and certain other revenues that accrue to it, such as vehicle registration fees, advertising fees, and fines. During 2010-11, LTA received a total income of S\$1,051 million, of which 38 percent was from management fee from government, 11 percent was other administrative fees (e.g., vehicle parking certificate fees, vocational license fees, vehicle inspection fees, RTS license fees), and 51 percent was a grant from government toward operational expenditures (LTA, 2012).

TransLink has been authorized by the respective Vancouver jurisdictions to collect a fuel tax, property tax, and parking sales tax for use toward transport investment and operating costs. During 2011, C\$682 million were collected, out of which C\$312 million was derived from the fuel tax, C\$280 million from the property tax, and C\$54 million from the parking sales tax. Another C\$37 million came for smaller levies and taxes (TransLink, 2011/ 2012).

In 2011, funding for public transport operations in the Paris region totalled €8,336 million. The sources of revenue include transport tax (37.4%), fare (30%), public subsidies (20.2%), employer (9.6%), and others (2.8%). In Lagos, the law grants LAMATA powers to levy and collect user charges in connection with the provision of its services and to collect any other tariffs, fees, and road taxes as may be authorized by the governor. A transport fund was set up in 2006 with dedicated funding from the Lagos state budget provision, license fees (hackney permit, road taxes, license plate registration, and vehicle registration), bus concession fees, and other road user charges (tolls). The transport fund has shown a steady increase since its inception in 2006 and in 2011 stood at approximately US\$10 million.

Referring to these experiences, it is extremely important to ensure that lead agencies have the financial muscle to actively fulfil their coordinating and facilitating role. It is this ability that enables them to exercise influence in discharging their coordinating role.

## *2.7. Evolution of the EA*

Experience from a number of other countries indicates that, the structure and form of different EA has evolved over time in response to efforts by national and city authorities to improve the delivery of transport services. In some cases, instead of institutional restructuring, an EA might be created as a new entity and given responsibility for coordination, without really causing ripples in an existing institution. In such cases, they also tend to take on responsibilities for which no one was previously responsible. In other cases, existing institutions are restructured, reformed or even eliminated to allow a shift in responsibilities to the new institution. The process of evolution can be difficult and time consuming. It is often several years before institutions can stabilize and perform a meaningful role.

As a comparison, Singapore's first integrated land use and transport plan was issued in 1971, mapping out the basic framework for physical planning along designated corridors. In an attempt to integrate the planning, development, implementation, and management of all public and private infrastructure, the Land Transport Authority was created in 1995 with the merger of four government agencies: the Roads and Transportation Division of the Public Works Department, the Land Transport Division of the Ministry of Communications (now the Ministry of Transport), the Mass Rapid Transit Corporation, and the Registry of Vehicles.

London's different modes of public transport were first brought together in 1933, under the control of the London Passenger Transport Board (LPTB), which was the EA from July 1, 1933, to December 31, 1947. It unified services in the London area for the first time. After several times of change, the Greater London Authority, a replacement authority for the Greater London Council (GLC), was set up in 2000, with a transport executive, Transport for London, taking control as the EA for transport on July 3, 2000.

Efforts to establish a body to coordinate public transport in Paris began in 1938, and a decade later of January 7, 1959, replaced the Regional Transport Office for Paris (ORTP) with the Paris Transport Union (STP). Under Law 2000-1208 of December 13, 2000, the STIF replaced STP and currently remains the EA for public transport in the region.

Vancouver's public transport system dates back to 1897, with streetcar line operated by the British Columbia Electric Railway Company (BC Electric), a private utility company regulated by the province of British Columbia. Similar to London, consolidation and strengthening of the role of the public transport services in the Greater Vancouver are amended regularly. On April 1, 1999, the Greater Vancouver Transportation Authority (GVTA), also known as TransLink, was established and became the agency responsible for planning, funding, building, and marketing an integrated transportation system for the Greater Vancouver Regional District (GVRD), now called Metro Vancouver.

The origins of LAMATA are in the Lagos Mass Transit and Transport Systems Management Program Study (LMTS) of 1992, which identified the need for an authority to provide a single focal point for Lagos. In 1996, the Detailed Framework for Establishment of LAMATA (DFEL) was developed. As noted, the law to establish LAMATA passed in 2002, and formally enacted on December 2, 2003. The law establishing LAMATA was strengthened in 2007 to include planning and regulatory functions across the various modes of transport.

However, nothing has changed in terms of the organization of urban public transport in almost all Indonesian cities, except Jakarta (TransJakarta). The city continues to search for the most appropriate type of institutional arrangement to be established, which fits local circumstances, aiming for improving service quality and reliability of

new transit system's service delivery. In the viewpoint of institutional framework, it evolved from a non-structural managing body (MB) in 2004 to a structural public service unit (BLU) in 2008 and, is currently, gradually transforming to a fully state owned enterprise (SOE). The established institution called Transportasi Jakarta Limited was created in early 2014 and managing all public transports in Jakarta, including medium regular buses, and para-transits ranging from 2015. To date, four consortiums of TransJakarta are currently operating the twelve corridors and 576 fleets. Their services are compensated per vehicle-km to cover fleet procurement, operational, maintenance, overhead costs, and some profits, except three corridors whose fleets were purchased by the government. The main problem faced by Transportasi Jakarta Limited is many of dedicated lanes are occupied by private vehicles and the lack of CNG stations. Of course it will take more times to prove that the changes in form of organization with good governance can continuously improve the service quality and make TransJakarta as a sustainable urban transport.

### **3. Steps towards change**

It should be recognized that the urban bus industries in over twenty cities that implemented new urban bus system are currently in transition from an unregulated structure to a formal and efficient industry. Each of the cities continue to search for the most appropriate type of institutional arrangement to be established, which fits local circumstances, aiming for improving service quality and reliability of new urban bus system's service delivery.

#### *3.1. Specific unit within the machinery of government*

In Jogjakarta, an effective way to address this is to establish a specific unit within the machinery of government, which would be responsible for the success of the urban bus project. For convenience, such a unit has been referenced simply as a project implementation unit (PIU). Such a unit can be established within the government structure to deliver the project, which would receive specific capacity development capabilities to ensure the delivery according to the supporting decrees of the governor. Complementing and supporting the role of the PIU would be relevant agencies (including local transportation office (DISHUB), local planning and development agency (BAPPEDA), public work agency (BINA MARGA), and police agency (POLDA/POLRES), which would provide direct assistance with timely decisions, supporting budgets and the ongoing management of the corridors as per the requirements of the project. Naturally, all of these actions would be within the scope of the decree by the governor, which requires these to be carried out within a nominated time frame and provides the ongoing authority to do so. This unit would ideally have the ability to borrow (within the guidelines of standard Government procedures), implement and be accountable for the delivery of the investment program for the short, medium and long term phases. A structure has also been agreed in principle at the Office of the Governor level and is shown in Fig. 8.

Meanwhile, during the last fifteen years, Indonesian has devolved responsibility for local transport to the governments of municipalities and regencies by the enactment of Law No. 22 of 1999 on Regional Government Administration and Law No. 25 of 1999 on the Fiscal Balance between the Central and Regional Governments. This situation makes it difficult geographical scope of the authority to cover the full extent of the conurbation transport network, overcoming problems of coordination between constituent authorities. The PIU has the role of management of the multiple functions is fragmented and the norm is multiple government agencies, at different levels of government with different or similar mandates in urban transport infrastructure and services.

Jogjakarta region itself is covering a provincial, a city and two regencies, each with their own local government. As a result of rapid growth and urbanization, Jogjakarta's population surged, huge squatter settlements developed, quality of life suffered and the environmental deteriorated rapidly. These problems put a considerable strain on the capability of individual local government units to deliver basic services, stretching their resources to the limit. PIU is required by its proposed structure to maintain links with the international agencies, local governments, national agencies performing functions at the local level and the private sector. These basic services include transportation planning and strategy, which incorporates the regulation and strategy, planning and engineering design, land acquisition, social and environmental, monitoring, evaluating and reporting, capacity building; funds generation, financing and PPP (public private partnership) development, which incorporates the economic and financial, business development, financing and accounting, PPP reference, capacity building; program implementation and

operation, which incorporates the project management, procurement, legal and contracts, operations and maintenance, capacity building (CDIA, 2011).

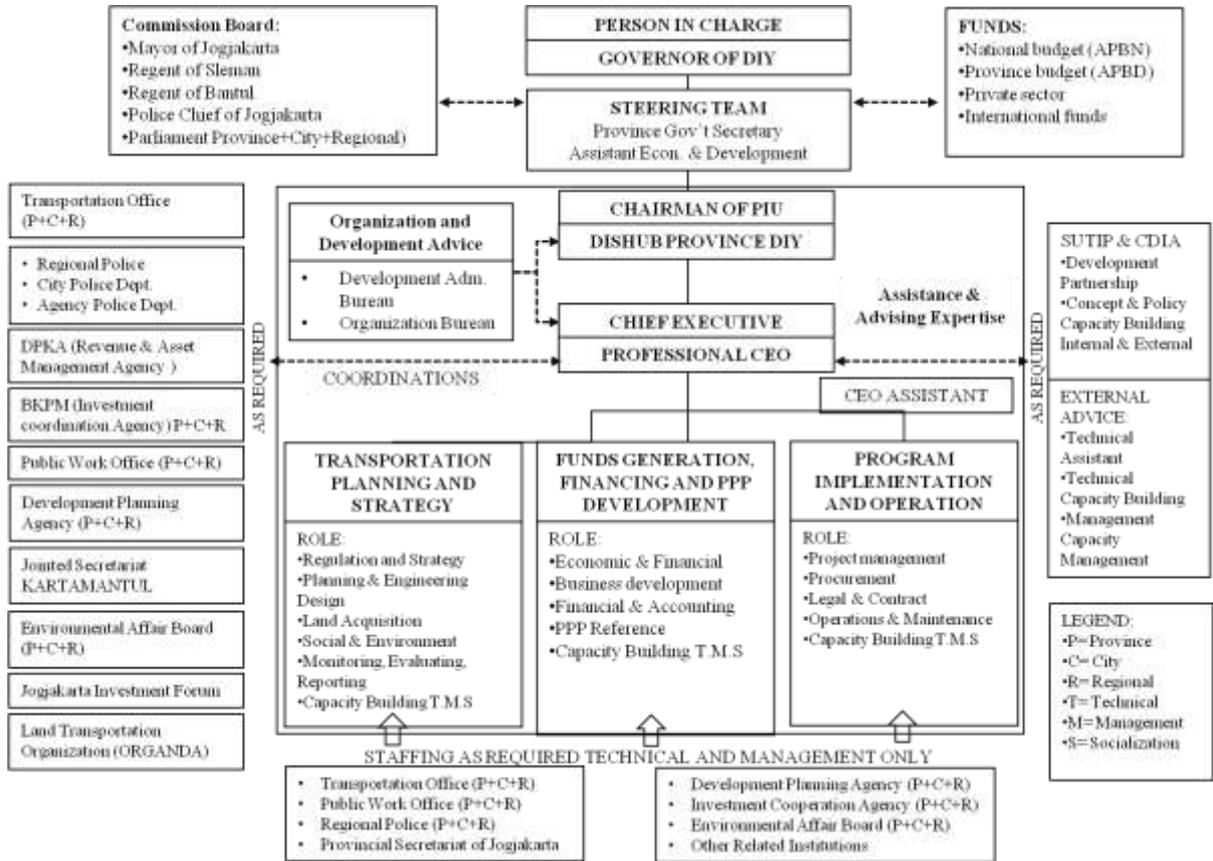


Fig. 8. Proposed organizational structures of PIU

### 3.2. Similarities and differences

Refer to roles and responsibilities, PIU seems almost similar to the LTA of Singapore, except degree of integration and organizational structure. While Singapore increased the degree of integration by merging government's transport institutions into a single LTA, in Jogjakarta, the PIU remains separate, and coordination of different agencies and operators is the responsibility of a provincial transportation office (DISHUB PROVINSI). The LTA is directed by an appointed board of directors comprising fifteen representatives of business, academia, the professions, labor and community organizations, while PIU is an established unit within the Government structure to deliver the project, which would receive specific capacity development capabilities to ensure the delivery according to the supporting decrees of the Governor. Concerning the legal basis PIU set up as a unit within provincial government, in contrast to Lagos, London, Paris, Singapore, and Vancouver which establish separate entities under dedicated legislation, rather than Governor Decree.

In terms of jurisdiction, the PIU most similar to LAMATA of Lagos where jurisdiction of the EA extends throughout the entire Jogjakarta metropolitan area as a result of agglomerations that extend across both Sleman and Bantul regencies with a population of over 2.5 million people (2013). Greater Palembang itself across several regencies: Banyuasin, Muara Enim and Ogan Ilir consist of more than 1.5 million populations (2013). Toughest challenge of the PIU is a need to coordinate across adjacent regencies in planning TransJogja and TransMusu networks to ensure a consistent set of policies and investment including Trans bus coverage, fare, service quality, main road capacity across municipal boundaries.

Meanwhile, the PIU is not directly responsible for the actual operation of Trans bus services as commonly in most cases, but oversees the operation and management of common transport facilities. In Singapore, LTA owns and operate the interchange facilities and intermodal terminals. The transport services themselves, are operated by two private companies contracted to run the metro and bus systems. In London, common facilities are operated and managed by TfL or its subsidiaries. The metro system is operated by a TfL subsidiary, whereas bus services are contracted to private operators. Most of the other cities are correspond to the two patterns of both cities with a few adjustments while PIU refers to Table 1 performs strategic planning, transport policy planning, infrastructure planning, traffic management and enforcement, infrastructure construction and management and the common facilities including terminals, bus stops and depots.

There is no detailed information on staff number of PIU, but most of the full time staff members as shown in Fig. 8 are municipal employees on assignment to PIU, approximately the same as the personnel profile between LAMATA of Lagos and AJL of Ahmedabad, whereas a number of key executives might be hiring from the market as well as training and skill enhancement of existing staff. In the case of Transportasi Jakarta Limited, some positions were advertised on more than one occasion, since urban transport as a distinct profession is a relatively recent development in Indonesia, in addition to the differential between public and private sector pay and the inability of the municipality to offer competitive salaries.

In terms of management structure, the PIU model is more similar to LAMATA of Lagos, where member board of chief executive officers is appointed by the governor as person in charge of day to day operations. In carrying out their daily duties, the board is responsible to the DISHUB PROVINSI as chairman of the PIU, while TransLink's board consists of nine directors, each appointed to six years terms by a mayors council, composed of all mayors of metro Vancouver. The DISHUB PROVINSI as a lead of PIU consists of policy board, which is where key decisions are made. Since the number of agencies involved as well as the entire long chain of organization, PIU might be classified as the typical broad structure of EA.

Financial resources are also one of the complicated problems in almost all of the developing cities of Indonesia due to unavailability of the effective, integrated institutions for urban transport policy-making and administration, with expert technical and financial staff, in both the public and private sectors. Singapore and Hong Kong experiences are clearly indicated that well-developed financial institutions are critical to support capital-intensive public transport investments. Referring to Fig. 8, the PIU obtain its financial resources from central and provincial government, private sector and international agencies, whereas both TfL and LTA's budget for financing the projects are funded by grant from their governments. As an example, LTA received a total income of S\$1,051 million, and the monies are used to defray operating expenditures, such as staff remuneration (19%), road maintenance, street lighting, maintenance of LTA property (40%), interest on loans raised by LTA, as well as the repayment of loans from government (40%) (2010-11). The less portions of grant for staff remuneration mean the highly efficient of organizational structure of lead agency. PIU as a new institution, first of all is challenged to efficiently and effectively in terms of organizational structure as expressed clearly by LTA, TfL and other lead agencies.

A leading public transport authority is essentially necessary to resolve conflict among various stakeholders and address special interests. Due to the extreme difficulty of public transport policy, it is also critical to reform the administrative system by integrating the administrative authority of policy implementation with regard to public transportation. They are suggested to create a metropolitan transport authority which is going to effectively address metropolitan transport issues over administrative boundaries and plan, construct, operate and manage public transport and facilities. The relative strength of the LTA and TfL is its holistic approach towards traffic management, which draws on urban transport continually modernizing for the past 20 years. On the contrary, the responsibilities that falls to Dishub of Jogjakarta and Palembang are relatively few: transport policy planning and service planning. Most of other services are administered and provided by other government agencies such as Public Work Authority, Regional Planning and Development Authority, Regional Police Office. Although in theory the Dishub functions as an autonomous body with considerable power, in reality it lacks the fiscal and administrative authority to act independently. The overall urban transport planning of the Jogjakarta and Palembang is uncoordinated and ineffective way, reflecting the weakness of the Dishub.

### *3.3. Barriers to project success*

It is inevitable that complexity of this aspect of the urban transport sector is likely to remain a challenge for the almost all cities of Indonesia, including Jogjakarta and Palembang. This is because it relies on effective management

practices. History has shown that provincial and city governments of both case study cities, even the capital Jakarta, have been deficient in this respect. Thus, the procedure and role of lead agency will require a coordinated effort to be effective and deliver the outcomes being expected. Furthermore, ongoing concerns by the local parliament over the poor cost recovery of the TransJogja and TransMusi operations and the continuing drain on the limited financial resources of the both provincial and city governments as well as inadequate capacity or commitment to ensure Trans bus system is supported and general traffic compliance is maintained and inability of city government to develop the capacity required to plan for, provide and manage the improvements being expected.

#### 4. Conclusions

This paper developed and applied a conceptual framework highlighting the established agency or lead institution to evaluate the current progress of new urban bus reforms in Indonesian cities. A select number of cities and metropolitan regions and how urban mobility issues are being managed are also presented for comparison. Their experience clearly shows that there are wide differences between countries as to the level at which transport planning and regulatory responsibilities are carried out.

Some Asian developing countries, including Indonesia, have devolved responsibility for local transport to the government of provinces and metropolitan cities, which enables the geographical scope of the authority to cover the full extent of the conurbation, overcoming problems of coordination between constituent authorities. Both Jogjakarta and Palembang cities explored regulatory reform from unregulated to a hybrid model, proposing a PIU with a certain degree of regulatory touch. There are such similarities in terms of creating lead institution as well as differences. Refer to roles and responsibilities, PIU seems almost similar to the LTA of Singapore, except degree of integration and organizational structure. In terms of jurisdiction, the PIU most similar to LAMATA of Lagos where jurisdiction of the EA extends throughout the entire metropolitan area as a result of agglomerations.

Meanwhile, the PIU is not directly responsible for the actual operation of Trans bus services as commonly in most cases, but mostly overseeing the operation and management of common transport facilities. In Singapore, LTA owns and operate the interchange facilities and intermodal terminals, as well as in London, where common facilities are operated and managed by TfL or its subsidiaries. The PIU obtain its financial resources from central and provincial government, private sector and international agencies, whereas both TfL and LTA's budget for financing the projects are funded by grant from their governments. Most of the full time staff members are municipal employees on assignment to PIU while LTA categorized of a 42 percent of professional staff and 33 percent of technical support staff. These differences, particularly an effective lead agency, can contribute to the success of an urban transport reform, because members' diverse skill, roles and responsibilities, management structure and accountability, and financing arrangements can complement each other.

The relative strength of the LTA and TfL is its holistic approach towards traffic management, which draws on urban transport continually modernizing for the past 20 years. On the contrary, the responsibilities that fall to Dishub of Jogjakarta and Palembang are relatively few and lacks the fiscal and administrative authority to act independently.

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