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THE ORGANIZING OF PUBLIC TRANSPORT SERVICEUNDER SERVICE CONTRACTS WITH PUBLIC PLANNING

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Regulatory reform in public transport has become one of important issues in many countries, in order to improve efficiency and provide better services to users. Since regulatory reform will bring about institutional and structure changes of the organization, then it will imply the way of the public transport services regulated and managed.

This paper highlights how public transport service is organized under service contracts system, as one of growing trends recently. That is to say a system of which the service delivery of public transport is conducted by business enterprise on specified target which is planned by authority, which works under contract agreement between them.

The study focuses on the two cases namely both London's and Seoul's models. These will illustrate how they are put into practice in those cities. It could be significant as an alternative in undertaking local public transport reform efficiently.

Key Words: *regulatory reform, public transport, service contract*

1. INTRODUCTION

Recently, many local public transport agencies are trying to improve efficiency and provide better services of their public transport. Regulatory reform is one of growing options for these purposes. Indeed, there are various underlying reasons which are confronted by them each, such as the reducing of government funding for public sector, the changes of regulations in the provision of public transport, or other reasons concerned with the improvement of services quantity and quality.

The extensive evidence internationally showed that subsidized public transport services, provided on a monopoly basis by government's operators in both developed and less developed countries tended to become inefficient[1)]. They were partial to produce services for more than necessary (at above competitive rates), and service quality was often inferior[2)]. The experiences when such services were opened to competition, usually through a competitive tendering and contracting process, were that substantial cost savings were achieved[3)]. In the mean time, the using of deregulated system in the provision of public transport in some large cities, showed the drawbacks in several aspects, mainly related to the market failure[4)].

In many countries, governments are pushing for the introduction of competition in the organization of public services and more broadly in public procurement[5)]. The development of public-private partnerships around the world is a good illustration of this trend[6)]. Moreover, the emerging of new hybrid model which is implemented in some countries around the world over the last three decades has been one of alternative choices in the provision of public transport service. In other word, a model of which the public and private sectors share responsibility in delivering the service[7)].

The service contract system is one of the growing trends under hybrid model. The main feature of the system which is intended here is that the public transport services are planned by a public agency, and procured from business enterprises under service contracts, often with competitive tendering[8)]. In addition, although this system works under contract

agreement between government as authority and business enterprises as operators but then authority takes active responsibility for planning of the service. This paper focuses on discussing of this kind of system. In a rather simpler way, the term of service contract system will then be used to represent such a system hereafter.

In view of the regulatory reform is a process of change, it will bring about the institutional changes or rule of the game, even in public transport sector. Consequently the functions of each stakeholder would also be changed. The new institutional setting including the applying of service contract system creates new roles for all actors to run the system. This will also change the structure of the public transport organization itself. Thus, in the context of public transport service, it will imply and influence the way of the services to be provided, so become important to organize it within an efficient manner.

This paper studies how the public bus transport service is organized in such an organizational form, as explained previously. The two cases, both London's and Seoul's model are used as illustration. It is preceded by explaining the shifts toward the service contracts system in those cities respective. This is then followed by highlighting the organizing of public bus transport services under such systems in the cities, which covers some aspects namely planning, operating, and monitoring. In turn, it could be worthwhile as input for local public transport in conducting regulatory reform.

2. THE SHIFTS TOWARD SERVICE CONTRACTS SYSTEM IN LONDON AND SEOUL

Both London's and Seoul's cases are interesting to study since they had difference backgrounds in introducing the service contracts system into their public transport service. Moreover, their previous systems in the provision of public transport service were different each other. In case of London, its regulatory framework in public transport has evolved over the last three decades. It has moved toward new system by introducing competitive tendering and undertaking the privatization of its publicly owned bus company gradually. It was very different from the Seoul's experience in conducting its innovative public transport reform, which was prepared in a short time, only around two years, before going into operation in the year 2004.

In historical perspective on regulatory reform of the bus industry, the United Kingdom led the way in significantly deregulating the urban and rural public transport market when it introduced the 1985 Transport Act[9]. Under the Act there are two distinct systems in providing public bus transport services through all The United Kingdom. The provision of public bus transport services for local and regional areas outside London is on the basis of unregulated system. This means that the initiative to run public bus transport services for passenger comes from private companies. They can apply and choose routes, arrange timetable and fare to be charged, based on a commercial basis.

At variance with outside London, bus service in London is operated by private bus companies as operators, which work under contract to London Buses (LB), a subsidiary of Transport for London (TfL). In addition, TfL is a functional body that responsible for delivering the Mayor of London's Transport Strategies. LB manages bus services, by planning routes, specifying service levels and ensuring the quality of services, and also responsible for providing other support services, such as bus stations, and bus stops. The contracts are awarded to private companies through a competitive tendering process, as a selection mechanism.

Previously, the provision of London's public bus service was a publicly owned and subsidized bus operation. Its service operation was an increasingly costly public monopoly at that time. Under the London Regional Transport Act 1984, London Transport (LT), which was then replaced by a new organization called TfL in 2000, was required to set up subsidiary companies to run both bus and underground. It was also demanded to introduce competitive tendering to ensure LT operated economically and required less financial assistance from public funds. In 1985 LT set up a subsidiary known as London Buses Limited (LBL), which was then split into 13 locally based subsidiaries companies. In the same year, LT also set up the Tendered Bus Division to begin the process of competitive tendering. In a consequence of the Act, LBL had to compete with private bus companies in order to get the right to run public bus transport service. Finally, LBL was sold to private sector in 1994, and all of public bus transport services are run by private companies after that. The introduction of competition for the market and the involvement of the private sector had therefore been gradual in London[6].

The average number of bus passenger in London, carried per day, had increased by 46.92% since 1985, up from 3,124,658 passengers to 5,886,800 passengers in 2008[10]. Most of the increase occurred after the privatization. Moreover, based on his study on the deregulation in bus systems of the UK's metropolitan areas, White found the indication that total operating costs declined by 10.5% in London[11]. The reduction in operating cost had been wholly swallowed up by subsidy cuts and mileage increase[12]. The average number of bus passengers per day in

London and Seoul can be seen in **Fig.1.**

In contrast to London, before the reform, the operation of public bus service in Seoul was run by a large number of private bus companies with virtually no government control of routes, schedules, or other aspects of service. Only the fare was determined by the Seoul Metropolitan Government even though its system was not reasonable either. Since there was no coordination among the different bus companies, many routes were highly circuitous, overlapping, and not adequately integrated with metro services and between bus routes themselves[13]. It was difficult by the time for bus passengers to transfer to another bus or subway. Else, whilst bus companies avoided the operation in unprofitable areas, there was high overlapping of service on the most profitable routes. Due to permanent licenses to routes owned by private companies, it was difficult to adjust routes according to passenger demand at that time.

Public bus transport being such and the conditions naturally increased the number of private vehicles, and led to aggravating traffic congestion. Consequently, it reduced the punctuality and speed of buses, and made people to avoid travelling by taking bus if possible[14]. The declining of the number of bus passengers continually brought about less fare revenue, and escalated deficit of bus operation in turn. For instance, the average number of total daily passengers per bus fell from 1,093 in 1989 to 494 in 2002[15].

The eminent action of Seoul public transport reform was the radical idea of changing its public bus operation system. It introduced what so called a semi-public operation system that retains private bus firms but leaves route, schedule, and fare decisions to the Seoul Metropolitan Government[13]. In addition, under this operation system, it applies a joint management of revenue, and competitive tendering system for trunk lines, and also controls buses service operation provided by private companies[14]. In supporting the achieving of the reform purposes, a full scale reorganization of the bus routes that integrates bus and subway was put into practice. Bus routes were grouped based on functions into four lines, namely trunk, feeder, circulation and wide-area lines. The exclusive median bus lanes were also put on congested streets. Thereby, it enabled the adoption of a bus rapid transit (BRT) system, in order to increase the speed of transit in Seoul. Moreover, the integrated distance-based fare system was applied as well, so that citizens may transfer to a bus or a subway without paying an additional fee for certain distance. As a result, the average number of bus passengers in Seoul, carried per day, increased of 14.61%, from 3,932,000 in 2003 to 4,605,000 passengers in 2009. Meanwhile, the average daily fare box revenue per bus increased from US$ 164 in 2004 to US$ 392 in 2009[16].

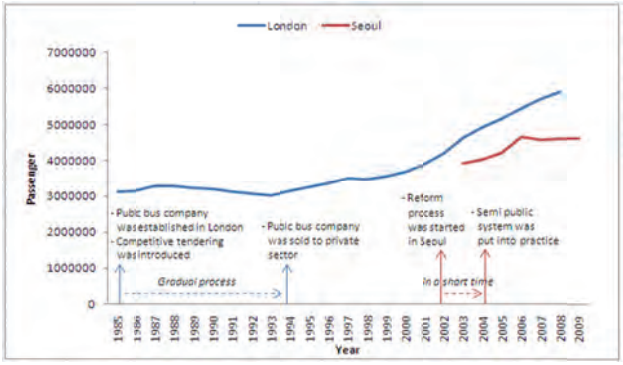

Fig.1 The average number of bus passenger per day in London and Seoul.

3. THE ORGANIZING OF PUBLIC BUS TRANSPORT SERVICE IN LONDON AND SEOUL

Despite the previous bus operation systems both in London and Seoul were different one another, however, they changed their systems into hybrid model after the reform. The public and private sectors share responsibilities in the provision of public bus transport services in those cities forth.

Under the new arrangement, the operation of public bus transport service is run by private bus companies as operators. They work under contract with local government as authority to deliver services on the assigned routes, for a certain period, based on planning prepared by authority or its agency.

Fig.2 shows the public bus operation system in London and Seoul before and after the change or reform. Meanwhile, the service characteristics and some aspects of public bus operation system in London and Seoul recently can be seen in **Table 1.**

(1) Planning responsibility

The implementation of service contract system both in London and Seoul in the provision of public bus transport service shows the separation of planning from operation. The public authority retains full control over policy and planning, and also monitors operator's performance in delivering and pursuing the previous defined objectives. By separating such

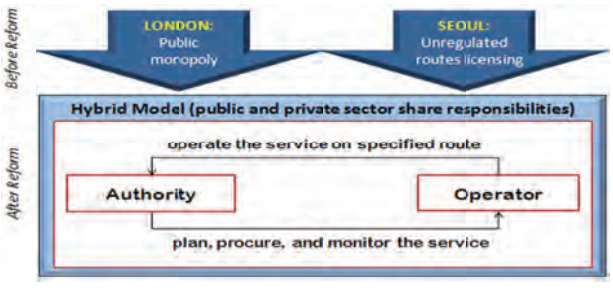

Fig.2 The change of bus operation system in London and Seoul.

Table 1 The service characteristics and some aspects of public bus operation system in London and Seoul recently.

ITEMS	LONDON	SEOUL
Service characteristics:		
✓ Area of service (km^2)	• 1,572	• 605.25
✓ Population (people)	• 7,753,600	• 10,208,302
✓ Population density per km^2	• 4,932	• 16,866
✓ Bus passengers per day	• 5,886,800	• 4,605,000
✓ Number bus routes	• 700	• 369
✓ Number of bus companies	• 17	• 66
✓ Number of buses	• 8,000	• 7,748
Level of governmental administration, responsible for service	• Local level, that is the Greater London Council	• Local level that is the Seoul Metropolitan Government (SMG)
Functional body, responsible for service provision	• Transport for London (TfL) via its subsidiary London Bus (LB)	• The SMG through its competent transport authority
Planning competence:		
✓ Route planning	• LB	• SMG team
✓ Frequency of service	• LB	• SMG team
✓ Fare structure	• TfL	• The SMG
✓ Bus stop and terminal	• LB	• The SMG
Operation and management		
✓ Procurement system	• Competitive Tendering (CT) system for entire routes	• Competitive Tendering (CT) system for trunk lines
✓ Contract system	• Extension of gross cost under Quality Incentive Contract	• Basically, gross cost contract under join management of revenue
✓ Fare system	• Separated and flat fare system	• Integrated fare system
✓ Fare management	• By third party in behalf of TfL	• By third party in behalf of SMG
✓ Bus operation management	• Authority, carried out by iBUS system	• Authority, carried out by Bus Management System (BMS)
Monitoring system Methods of monitoring	• In various methods manually	• In various methods, includes using of sophisticated technology

functions, the public transport agency's role is focused on the mission of maximizing service and ridership within public resource constraints[2]. In the mean time, operator is just accountable for daily service operation on specific target determined by authority.

Seen from governmental level of administration, the responsibility of public bus transport services in London and Seoul recently is left to local level authorities. It gives them more power in decision making process for providing of their public bus transport service.

As an integrated body which is responsible for the whole of capital's transport system, TfL implements the Mayor of London's Transport Strategy and manages the transport services wholly. It is directed by a board whose members are chosen for their understanding of transport matters and appointed by the Mayor of London who chairs the board. The policies are implemented by the Commissioner for Transport. The while, in setting transport strategy in London, the Mayor of London has to consult with Greater

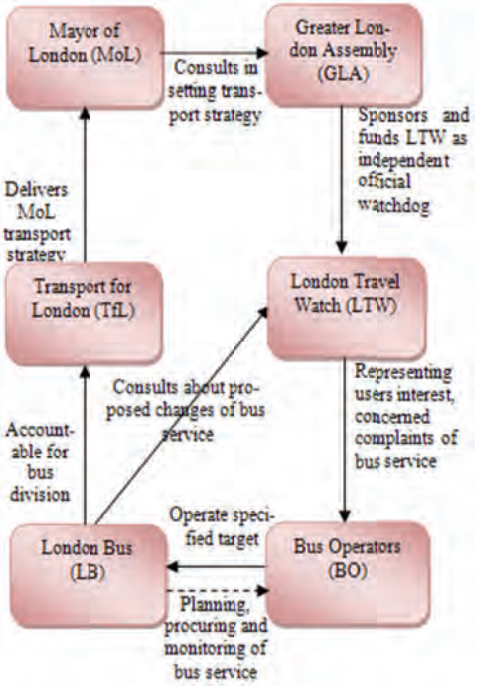

Fig.3 The working relationship of organizations in the provision of London's bus service.

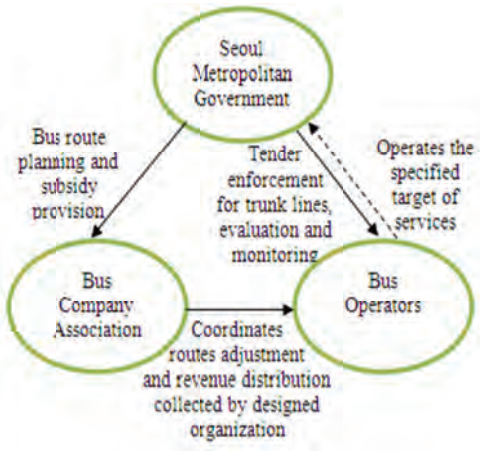

Fig.4 The mechanism of the provision of bus service in Seoul.

London Assembly as well[17].

Fig.3 shows the working relationship of the organizations in the provision of public bus services in London. Meanwhile **Fig.4** shows the mechanism of the provision of public bus service in Seoul.

Moreover, the present of London Travel Watch (LTW) which is officially known as London Transport Users Committee comes to the aid of the complaints of the bus services. It is particularly as bus operator who operates specified target ordered by LB has not satisfactorily resolved them. As the official watchdog organization, representing the interests of transport users, despite this organization is sponsored and funded by the London Assembly, which is part of the Greater London Authority, but then it is independent of the bus operators and TfL. In addition, based on the law, LB must also consult with LTW in proposing the changes of bus services in London[17].

In contrast to London, the responsibility of providing public bus transport service in Seoul is given over to the SMG. It is assisted by some public agencies, in carrying out planning, operating, and monitoring functions. A team of the SMG plans bus routes, enforces competitive tendering for trunk lines, also evaluates and monitors the whole bus services in Seoul. In practice, the SMG coordinates the planning of routes which are prepared by them with operators through the Seoul Bus Association. It is including in coordinating the allocation of subsidy to bus operators, and the distribution of revenue of bus operation, which is collected by designed organization in behalf of the SMG, under joint revenue system.

(2) Procurement and contract system

In most cases, as had been the practice, the implementation of service contract system often involved competitive tendering in order to foster competition in public transport services. It is intended to increase efficiency of public bus transport services. Therefore, this is expected to reduce the level of funding assistance from authority in turn.

Practically, the organizing of competitive tendering system in London and Seoul appear in different configurations, though basically making use of a routes-based contract. In London case, routes are generally tendered individually, but often at the same time as other routes in the same area to facilitate service changes. It is taken effect to entire network. There are 700 routes approximately which has been put for competitive tendering in London. In addition, before the privatization of its public company, the competition was between private and public companies initially.

As part of surface transport within TfL, LB reviews every route prior to tender. In addition, to do so, LB takes into account of views from the interested parties. This input will be used to provide a service specification, which covers the route the buses will take, the frequency of the service, the type and capacity of vehicles to be used, and the minimum performance standard. Operators are then asked to provide a schedule to deliver the level of service, and the total cost plus profit margin for providing the service to the specification. Further, LB issues Invitations to Tender (ITT) to approved operator based on pre-qualification process in advance. Contracts are awarded with the intention of achieving the most economically advantageous outcome within the resources available. Nowadays tender evaluation is based on best value for money, taking into account of quality and safety as essential features under Quality Incentive Contracts (QIC)[17].

Differ from London, competitive tendering is just applied for trunk lines in Seoul, as a new concept, part of the reform, which is held by a team of the SMG. This system works on the division of the greater metropolitan area into four zones, centering on the public bus depots. When it was firstly introduced, it was comprised of 10 major axes and 19 routes. The operators formed consortiums of 4 or 5 companies each. There were 8 consortiums which were established from 38 companies, with 2 tendered bids in each zone. They were evaluated on the basis of operating cost, service and operation plans. The final four were selected for a set of period of six years[14].

Basically, the contract system which is used both in London and Seoul nowadays is on the basis of Gross Cost Contract (GCC). The implementation of QIC in London currently is an extension of the gross cost model with direct financial incentives for operators linked to the quality of services, insofar TfL retains the revenue. This is in response to the older net cost and gross cost contracts which had no such an incentive to achieve quality targets[17]. In Seoul,

Table 2 Competitive tendering and contract system in London and Seoul.

ITEMS	LONDON	SEOUL
Competitive Tendering (CT) system	• Route tendering system for entire network	• Route tendering system for trunk lines only
Executor of CT	• LB as subsidiary of TfL	• The team of SMG
The number of operator	• Increase, since enables potential operators to take part in the process of CT	• Reduce, since some operators had to form consortium to take part for CT
Process of CT	• Competition was between private and public companies before privatization • Apply pre-qualification system, before issuing Invitations to Tender (ITT) to approved operators	• Work on division of the greater metropolitan area into four zones, centering on the public bus depots • Comprised of 19 routes, with 2 tendered bid in each zone when it was introduced
Evaluation criteria of CT	• The best value for money, taking into account of quality and safety by Quality Incentive Contract	• Operating cost, service and operation plans
Contract system	• The Quality Incentive Contract which is the extension of Gross Cost Contract • TfL retains fare revenue, contract payments related to mileage operated and overall reliability of the service	• Under joint management of revenue, SMG retains fare revenue, and reimburse bus operators based on total distance of service per vehicle • Shortage will be subsidized by SMG
Contract period	• A 5 year contract with possibility to a 2 year extent based on performance	• A 6 year contract for trunk lines which are put for tendering system

Table 3 The type of contracts based on the division of risks between authority and operator.

Type of Contracts	Production risk:		Revenue risk:	
	Authority	Operator	Authority	Operator
Gross Cost Contract		√	√	
Net Cost Contract		√		√
Management Contract	√		√	

under joint revenue management system, the SMG retains fare revenue, and operators are secured the reimbursement in compliance with total distance of service, according to bus operation each. In addition, in case of shortage, the SMG will subsidize bus operators. **Table 2** shows some aspects of competitive tendering and contract system in London and Seoul.

Due to the authority retains fare revenue of bus operation then it involves the central pooling of fare revenues, and payments to operators which concerned with the services and performance which is delivered. Consequently, there must be agency that responsible for collecting and distributing it. In London and Seoul, such tasks are carried out by a traffic card company in behalf of authority, in this matter TfL and the SMG.

Under GCC, despite the risk of service productions is transferred to private companies, but then they are still protected from full commercial risk, since revenue risk is born by authority. It is different from net cost contract where operator bears both production and revenue risk. The while under management contract, both production and revenue risk are borne by authority[18)]. The type of contracts on the

basis of the division of risks between contracting parties, both authority and operator, in the provision of public bus transport service can be seen in **Table 3**.

However, in London, there was an attempt to transfer the both risks to operators under net cost contract, which was applied in preparation for the privatization of its publicly owned company, London Bus Limited (LBL), until routes were tendered. It was not only to shift the revenue risk to the operators but also gave them the incentive to generate more revenue by increasing the quality of the services. Initially this contract system was not subject to competition as the routes were allocated to the incumbent operators by negotiating. However, this trial seemed not successful, and only gross cost contracts have been offered since 1999[19].

Concerned with the contractual form, the time period of contract should be considered as well. Under Quality Incentive Contract, LB signs up the contract with operator for a 5 year contract with the possibility to a 2 year contract extension on the basis of operator's performance. In Seoul, under competitive tendering, all contracts are signed for finite time period of 6 years. The longer contract term will allow for the bidder to offer the low price related to scale economies, but reduce the opportunity for competition amongst potential operators.

(3) Monitoring of bus services

The monitoring is an important part in management cycle, including public transport sector. This is being more significant as the right of operating public transport service is left to some operators. Under a gross cost regime, operators always have an incentive to supply less than the contracted amount of service, so the agreement needs to be enforced[19]. Thus, the establishment of an efficient monitoring system is required to ensure bus services are provided as defined target. Further, it could also be used as feedback for policy formulation and development to provide better public transport services to citizen as users.

As part of efforts to maintain the quantity and quality of public transport service which is provided, there are various monitoring systems which have

Table 4 Bus monitoring systems in London.

Monitoring System	Objects	Methods	Executor	Attributed to bonus & deduction of payment
Mileage operated	Lost mileage within operator control	• Compare to contract agreement	London Bus (LB)	Yes
Reliability	Operator's ability to schedule	• Roadside survey about regularity and punctuality of service (3-5% of the whole services)	LB	Yes
Driver and vehicle delivery	Service quality in compliance with contract	• Mystery traveler survey, covers: ✓Static audit, survey at bus stands ✓Mystery shopping survey	Research agency in behalf of LB	Yes
Driver quality	Driving skill of driver	• Covertly assessment • Driver receives a graded score	Specialist Contractor of LB	No
Engineering quality	Maintenance procedure and vehicles mechanical condition	• Regular check of 25 % of each operator's fleet the whole year • The average number of point per vehicle, by scoring any defects	Independent contractor of LB	No
Costumer satisfaction survey	Satisfaction of users	• Interview, includes: safety and security, information, reliability, cleanliness, staff behavior	LB	No
Public correspondence data	Public information	• Made by phone, email and letter • Data is analyzed at route level	LB	No
Contract compliance audits	Operator's compliance with the specifications in the contract	• Regular visits to operating garages, focus on administration system, handling and accounting for bus revenue and LB's owned equipment	Team of LB	No

been applied in London recently. They include: mileage operated, reliability, driver and vehicle delivery, driver quality, engineering quality, costumer survey satisfaction, public correspondence data, contract compliance audits, and others sanctions and remedies concerned with the performance of operators[17]. The monitoring systems in London recently are shown in **Table 4**.

The three earlier of the monitoring systems as mentioned above, namely mileage operated, reliability, driver and vehicle delivery monitoring, are used to determine financial bonuses and deductions on the basis of operator's performance under QIC which is implemented in London nowadays. It refers to Minimum Performance Standard (MPS) which is agreed between LB and operator at the beginning of the contract signed.

The deduction of payment for the lost mileage is just executed for some reasons within operator control, such as non availability of staff and vehicles not being mechanically fit to be used on the road. Moreover, the reliability of service is expressed on the basis of assessment of operator's ability to schedule, control and adjust service, by using data result from roadside survey of 3-5% of the whole services. Moreover, the monitoring system under driver and vehicle delivery, focuses on service quality and in compliance with contractual requirement, by carrying out mystery traveler survey whilst bus in service. Besides it is associated with the financial bonus and deduction payment, the data of this survey is also shared with operator, so they can take action to address any area of weaknesses which are identified. Further, driver quality and engineering quality being concern of monitoring objects also, despite these are not attributed directly to incentive payment under QIC.

The while, the customer satisfaction survey enables LB and bus operators to monitor the level of satisfaction of customers in term the quality of services which is provided, and identify areas where improvement needed. It is including information system, safety and security, cleanliness, reliability and drive behavior. Moreover, LB also uses and collates public information to review, understand and address specific concerns, including by undertaking field investigation, so as to be more responsive to user's need and satisfaction. All of available information will be taken into account in the evaluation of tenders and recommendation for awarding of new contracts. Basically LB will resolve any performance issues through normal contract management, but then it retains the right to terminate any contract as an ultimate sanction. In addition, recently, nearly all monitoring methods are undertaken manually, however, TfL has started using a combination of technologies, satellite tracking and general packet radio service (GPRS) data transfer, to track and assure of timely bus operation. This tracking system allows bus controllers, so called iBUs, to regulate services to make them more reliable.

In Seoul, the managing of public bus operation which is delivered by some operators is undertaken by the Bus Management System (BMS), as a functional body, a part of the SMG. By utilizing intelligent transport system (ITS) technology, this allows for a central bus control centre to monitor bus locations and speeds, adjust the number of buses assigned to any given route, communicate with bus drivers, and provide real-time information to passengers waiting at bus stops or via the internet. In addition, by managing and tracking bus operation it could more ensure the punctuality and safety of bus operation. Further, as part of the monitoring of bus operator's performance wholly, the recorded data and information concerning both reliability and safety of bus service operation will later on be concerns for the SMG in giving incentives and penalties to bus company accordingly [14].

Moreover, the monitoring of bus operation in Seoul is under control of the Transportation Operation and Information Service (TOPIS) that functions as integrated transport management system to monitor and coordinate all of traffic conditions and situations. It collects and processes all transportation information derived from relevant sources, including BMS, T-Money card which is automatic payment system, automatic violation enforcement system, police agency, and transport broadcasting.

Other than BMS and TOPIS, some other measures to monitor buses operation are also un-

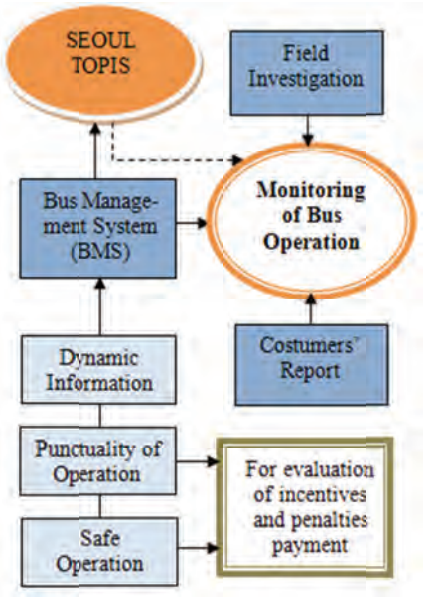

Fig.5 Monitoring system of bus service in Seoul.

Fig.6 The element of Seoul Bus Reform Citizen Committee.

dertaken in Seoul. The SMG opens up access to passengers to make report or suggestion in term services which is provided, and conducts field investigation as well. Some concerns of citizen satisfaction survey focus on: mobility of bus service, economic feasibility concerning fee, convenience, reliability, safety, driver attitude, and bus system that covers the adequate of routes, bus stops, transfer circumstance, information and fare system as well[20]. In the early of the reform, the citizen satisfaction survey was used to get information and ensure that the new system which was implemented was running well. The result of continuous surveys was used to take quick action to solve the problem in question, and to be feedback for the improvement of some areas where some obstacles still happened. The monitoring system of public bus services in Seoul can be seen in **Fig.5**.

The involvement of independent watchdog is also required to complete information concerning unsatisfactory of users against public bus service. In London, that sort of thing is left to the London Transport Users Committee, the while in Seoul to the Bus Reform Citizen Committee. The later plays a significant role particularly at the beginning of Seoul public transport reform, likes in the event of drawing agreement among interested parties, and producing reform proposal focusing on the convenience of citizens. Even after public transport reform it has continued to operate as the new controlling body of Seoul public transport, by reviewing and discussing a variety issues from citizens perspective. As an independent committee, it consists of the representative of government, bus industry, expert groups, and citizen groups in Seoul[14]. The element of Seoul Bus Reform Citizen Committee is shown in **Fig.6**.

(4) Consensus building and policy support

Other than some aspects which deal with planning, operating and monitoring of public bus transport service both in London and Seoul as explained previously, the recognition and understanding of the problems which are confronting in the provision of public transport service itself, should be a significant concern and measure as preceding stage of the reform process wholly. It has to be undertaken comprehensively and accurately. Since the delivery of transport services should respond to the different and specific needs of users. It will give guidance to the clearly stated reform objectives and the designing of the reform under appropriate circumstance. All available information as a result of grasping the existence condition will contribute to the discussion substance with relevant parties accordingly.

It is just possible that conflict of interest would be obstacles. Since the change of the system could influence the importance of concerned parties that might so enjoy existing situation. Different groups may have different views concerning the reform's goal. Therefore, it is being significant to assure them to the whole objectives of the reforms.

The rejection of driver union, bus company union, and citizens, at the beginning of the introduction of the Seoul public transport reform, reflected such things as explained previously. In this regard the competent authority must play a role in anticipating and managing such kind of conflicts by facilitating intense and worth discussion. This process will encourage to mutual understanding among relevant parties. It could also function to lessen the hesitancy and afraid of them in terms of guaranteeing the protection against their interest.

The Seoul's experience in public transport reform showed that with his strong commitment, and assisted by his knowhow staffs, the Mayor of Seoul could make efforts in a certain direction various objections and oppositions of the interest groups. He was also helped by the Bus Reform Citizen Committee, which was born to support and smooth public transport reform in Seoul. By doing intense and continued meeting and discussion the SMG could finally reach the reform proposal consensus to be implemented on the basis of collective understanding.

In conducting the reform, the experience of London was somewhat different from the Seoul. Beyond all question, it extremely depends on the form of legal authority which is left to empowered body or institution to run such functions prescribed by the acts or regulations. In case of London, the government initiated the reform by introducing competition under tendering system and undertaking the privatization of its public bus company, in order to increase the efficiency of its public bus transport service. This was realized by stipulating formerly

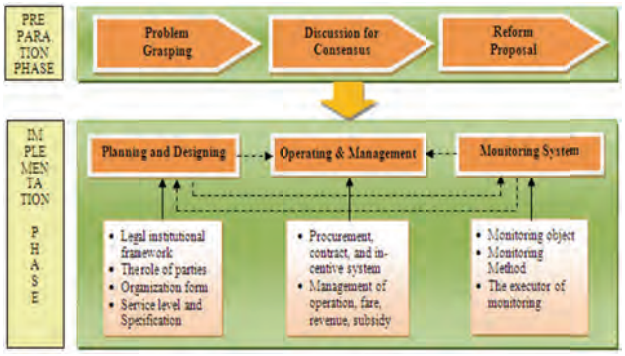

Fig.7 Some consideration in organizing public bus transport service under service contract system.

some underlying acts or regulations accordingly which was followed by technical process to bring it into reality, either through management buyouts or sole it to larger bus operators[17]. All bus service in London is run by private companies thereupon.

Absolutely, the policy support is highly required in performing public transport reform. The overview of concerned existing regulation is important for the creating of appropriate legal institutional framework as reference in applying the new system. It could probably encompassing the regulation about bus operation system, and competition system, the role definition of involved parties, and regulatory measures of financial support, likes a large amount of subsidy which possible needed for the system to run. Thereby it could secure an effective realization. In turn it will also facilitate to elaborate concerning the role and responsibility of each party who involve in the provision of public transport service, and work relation between them in detail later on. Since, it is very likely that lack of any of these areas could be considerable obstacles for the reform to run well. Thus the availability of sufficient institutional capacity becomes crucial issues in the implementation of service contract system. In the absence of it, this option may not be possible[7].

Moreover the change of the bus operation system perhaps implies to some issues within organization itself. Some related matters of resources transfer, in consequence of the regulatory reform, such as asset, staff members, and driver status, should be managed well before the implementation. In the meantime, it could also have some implications and consequences in term of operating system. It requires the introduction of the new system to both authority and operator who will manage and operate it. Thus, things like workshop and training should become significant concern so as to improve the skill and understanding to members of staff, drivers, and others relevant parties concerned, in advance.

Based on all of the explanations above, there are some considerations which could be paid intention in order to organize public bus transport service under hybrid model, particularly service contracting system with public planning. It can be seen in **Fig.7**.

4. SOME MERITS OF PUBLIC BUS OPERATION SYTEM IN LONDON AND SEOUL

The implementation of the new arrangement of public bus operation system both in London and Seoul seems to have the same purposes. They control their public bus transport services under service operation carried out by private management. Public authority or its agency takes active responsibility for planning and leaves the bus service delivery to some operators under gross cost contract system.

In London case, notwithstanding publicly owned company had been privatized and public bus services has been run by private company, however the authority still maintains coordinated structure of its public transport services by managing entire routes network. Meanwhile the change of bus operation system in Seoul is actually intended to restore public responsibility in controlling the provision of its public bus services which was weak previously, where authority retains all routes as well thereafter.

By managing entire routes network, it permits authority to outline service specification and performance target. Thereby it is much easier for authority to plan and achieve the goals of the provision of its public bus transport services. It also allows for the authority to maintain the quantity and quality of service adequately, respond to passenger demand, achieve the social goals of service provision, and facilitate the integrated system of public transport service. In addition, the integrated system seems to have played a major role in Seoul. By grafting information technology onto their public transport business, it is very helpful in creating a more reliability public transport and enhancing efficiency and quality of public transport service. A concrete measure as manifestation of integrated system is the introduction of trunk lines and feeder lines system. It is not only to integrate an unorganized public bus transport operation previously, but also has converted highly competition between buses and others mode of public transport being a mutually beneficial linking system. It also enables to secure others advantages in term of efficiency of the services by avoiding duplication of services within the whole system. It is including the integration of fare and information system which has also been implemented.

However, the service contact systems which are applied in London and Seoul require the empowered body of authority to undertake some functions under such a system. This is not only to conduct planning

tasks, but also to procure the service from operators, manage bus operation, and monitor the service provided by operators.

Despite both London and Seoul apply service contract systems under control of local level authority directly, however, the structure of organization which is responsible for planning, procuring, and monitoring the service in those cities emerge in different forms practically. Indeed, it is concerned with the underlying acts and process of the reform itself. All of such functions are held and coordinated by London bus in London. The while, in Seoul, to do so, the SMG is assisted by some specific organizations and competence authority. Moreover, the Seoul Bus Association, who represents the interest of bus companies in Seoul, plays a part in bridging the coordination between bus operators and the SMG.

With the total number of routes which is great, round about 700 routes, LB holds competitive tendering every 2-4 weeks. Therefore, it seems to be reasonably the present of LB as particular organization in handling such functions of public bus transport services in London. This is not only responsible for enforcing continued tendering but also executing other tasks concerning planning, operating, and monitoring of bus service in London.

Under a quasi public system, not all bus routes are put on competitive tendering system in Seoul. As a new concept, part of the reform, competitive tendering was just applied for 19 routes (5.2% of total number of routes), when it was first introduced. It was just applied for trunk lines, while for the feeder lines, public bus service operation is still run by a large number of private companies that work based on agreement with the SMG under joint revenue management. This system is adopted as a new rule in Seoul, results from consensus of the interested parties who involved in the reform process, particularly the SMG and the Seoul Bus Association who played leading roles in the reform process.

Indeed, the establishing of organization to plan, manage and coordinate the whole services should consider the efficiency and effectiveness of its function. Since, it requires additional budget allocation from authority to support the operation of the organization. The choosing of organization form could be associated with task's function and responsibility, including the size of area to be served, the complexity of service, and the usage of kind of technology just like the scientific bus operation system which has been applied in Seoul.

In term of the competitive tendering system as a selection mechanism to designate operators to run public bus services, it has been successful in London. Direct savings from competitive tendering have averaged 15 to 20 percent[21]**.** In the meantime, London Transport found that competitively tendered service had generally higher quality, and that when the public operator provided service in a competitive environment (faced with the threat of contract cancellation, like private carriers), service quality improved on the same services[2]. The while, competitive pressure from tendering process leads to situations in which operators must innovate in order to be competitive in the market[22]. This indicates that competitive tendering is not only could increase production cost efficiency through direct saving as a result of its process but also enhance service quality. Further, for the authority it could reduce asymmetry information as some operators offer the best competitive price and quality of service, in order to get the right to run the services on the certain routes.

In the context of monitoring system, in London, under quality incentive contract, the reliability of service, concerning both regularity and punctuality of service provided by operators, is measured by carrying out roadside survey. It is very different as compared to Seoul, which has applied the using of appropriate technology for such functions. By utilizing an intelligent transport system (ITS), global positioning system (GPS), and using a sophisticated fare collection system, it could be conducted effectively. Under this system, authority can also monitor the safety of bus service operations, and analyze the statistic performance of bus companies by utilizing smart card's recorded data and others related information. All of available information will be analyzed by TOPIS, and then used by the SMG as consideration in decision making policy for better service to community as users. This system is not only to help in creating flexible and efficient control over integrated public transport, but also in ensuring demand responsive routing and scheduling, based concrete demand data.

5. CONCLUSION

This paper focuses on the study of organizing of local public transport service, based on London's and Seoul's experiences. This describes the two previous different systems of public bus operation, which move toward the service contract system, under various rational behind their reform respective. It shows that the previous systems of public bus operation both under public monopoly and unregulated system run by a large number of private companies are allowed for shifting toward such a system.

The changes toward the new arrangement of public bus operation system in those cities were highly concerned with the underlying acts or regulations and the processes which took effect in conducting the reforms themselves. These determined

the way of the competence authorities to take initiative to start, perform, and encourage the reform process to come up with their expected goals, and influenced the result itself as well. It became more relevant due to the reform process involved many interested parties.

The separation of planning from operation under gross cost model which are applied in those cities shows the role of involved parties both authority and private operators clearly. Moreover, since authority more focuses on maximizing the service and delegates operational right to provide public bus services to operators, so the availability of an effective organization and appropriate technology become significant in supporting to run and control public bus services. Indeed in applying such a system, the solution adopted by one city cannot be directly transferred to another city. However, it is important to recognize that local circumstance of an area is different individually. Therefore it should be seen and put in particular situation of an area in question, including by linking it with policy objectives of the service provision, as is the case in London and Seoul. The information on service contracts system of their best practices, should be developed and fitted with real situation by making the best use of the advantages, things like competitive tendering system, the utilizing of appropriate technology for planning, managing, and monitoring of service, and considering obstacles to effective service contract system of a certain area, like institutional capacity, the availability of reasonably operators, and the choosing of procurement and contractual type as well.

This study doesn't come to the conclusion of which one is the better of those experiences. It is beyond of the scope of the study, in view of the backgrounds, the former systems, and the processes of change both in London and Seoul were different at all. The stressing is more given to the way of organizing public bus transport service in those cities each. Finally, it could be useful inputs and alternatives in conducting local public transport reform under service contract with public planning.

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