Some Valuable Learning of London’s and Seoul’s Experiences in Public Transport Reform

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Abstract: This paper intends to study the reform of public bus transport services, and in this case both London and Seoul experiences. The study star with briefly reviews of the reforms in those countries respectively, and then discuss some key points of the reforms in order to derive some valuable learning of their experiences. The discussion will be constrained and more focus on the regulatory framework in the provision of public bus transport service, since it will determine the way of planning and operating of public transport service provided. The results of the study could be important consideration in doing public transport reform in order to increase the efficiency and the quality of public bus service provision to communities.

Key Words: public transport, reform, efficiency, and quality.

1. INTRODUCTION

As an integral and important component of local transportation systems, public transit should be managed well in order to meet the need of community. In line with this, nowadays many public transit agencies are trying to operate public transport services more efficient, due to the level of government funding declines, or as a result of changes in regulations (Tsamboulas, 2006).

In fact there is a variety of regulatory frameworks of local public transport in worldwide. In plenty of countries, governments are pushing for the introduction of competition in the organization of public services and more broadly in public procurement (Armstrong and Sappington, 2006). And a good illustration of this trend is the development of public-private partnerships that has been implemented in many local public transport services recently (Amaral et al, 2009).

Furthermore, we have seen as well that many public transport organizations which are owned by government previously undergo the privatization process. It is aimed at paving the way for the public transport market into the competitive industry. In the mean time, in Europe there is an increasing trend towards the competitive tendering in the procurement of local public transport service. This seems to be the most effective approach to introducing competition into the public transport sector (Ongkittikul and Geerlings, 2006).
As mentioned above, there are therefore various distinct rational behind the reform of local public transport services. In practice, those variations extremely depend on situations and conditions to face by authority within itself, and also concerned the goals to be achieved of doing the reform.

This paper intends to study the reform of public bus transport services, and in this case both London and Seoul experiences. These two cases are interesting to study since they have difference background of the reform each other. In London, the regulatory framework in public bus transport system has evolved over the last three decades since the introduction of the London Regional Transport Act of 1984. The while another reform experience, Seoul Metropolitan Government (SMG), South Korea, made a radical change in public transport reform that was prepared in a short time before going into operation in the year 2004.

The study start with briefly reviews of the reforms in those countries respectively, and then discuss some key points of the reforms in order to derive some valuable learning of their experiences. The discussion will be constrained and more focus on the regulatory framework in the provision of public bus transport service, since it will determine the way of planning and operating of public transport service provided. The results of the study could be important consideration in doing public transport reform in order to increase the efficiency and the quality of public bus service provision to communities

2. LONDON AND SEOUL’S EXPERIENCES IN PUBLIC TRANSPORT REFORM

2.1 London’s Public Transport Reform

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 (Button and Costa, 1999). 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 deregulated, and this means that the initiative to run bus transport services for passenger come from private companies. They are free to take initiative in running public bus services where and when they feel necessary on a commercial basis. The private companies can apply and choose routes, arrange timetable and fare to be charged, without direct subsidy from the authority. However, for non commercial service which is necessary to meet community need the authority could provide some subsidies for operator which is chosen by using competitive tendering selection mechanism. The while, under the Transport Act 2000, local authorities can also establish Quality Partnership Schemes. Based on this scheme, authority is able to invest in providing infrastructures, such as new bus stations, and private company which wants to use the facilities must agree to provide their services to a particular standard determined by authority.

In contrast to outside London, bus services in London are operated by private companies as operator, which work under contract to London Buses (LB). LB is part of Transport for London (TfL) which is one of the organizations responsible for delivering the Mayor of London’s Transport Strategies. LB manages bus services in London, 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. And another important thing is that TfL also retains the fares revenue.
Previously, London's bus system was an increasingly costly public monopoly. Its bus service operation was publicly owned and subsidized at that time. Under the London Regional Transport Act 1984, London Transport (LT) that was then replaced by a new organization called TfL in 2000, was required to set up subsidiary companies to run both buses and the underground. It also stipulated that, where appropriate, competitive tendering should be introduced 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 which was arranged within route by route system. The operators tendered on the basis of all the costs required to operate the specified service, including vehicle, staff and overhead costs. In consequence of introducing competitive tendering, LBL should compete against private company for the opportunity to run individual bus route. As a step towards the reform of the sector, LBL subsidiaries were privatized in 1994. The Tendered Bus Division was merged with other sections such as the LT Planning bus sections to form London Transport Buses. In 2000, under the Mayor and the Greater London Authority, London Transport Buses became London Bus Services Limited/London Buses (Transport for London, 2008). The introduction of competition for the market and the involvement of the private sector have therefore been gradual (Amaral et al, 2009). Figure 1 shows the chronology of competitive tendering and privatization process of London’s bus system.

![Figure 1: The chronology of competitive tendering and privatization process of London’s bus system](image)

In 2001, Quality Incentive Contracts were introduced that are a development of previous contracts, but with direct financial incentives for operators linked to the quality of service. The contracts are an extension of the gross cost model insofar as TfL retains the revenue. Currently, bus operators compete for contracts to provide specified services for up to seven years, and are rewarded for exceeding defined targets to improve the service to the passengers. This role is crucial to the current and future success of bus transport in London (Transport for...
London, 2008). The number of bus patronage has increased by 88 per cent since 1985/86 in London, up from 1,141 million journeys to 2,149 million in 2008/09, with most of the increase occurring after 1993/94. The while the number of bus patronage outside London shows the trend of decline in the same period (Department for Transport, 2009). The local bus journey by area, in London and outside London, can be seen in figure 2.

![Local Bus Journey by Area](image)

**Figure 2: Local Bus journey by Area: 1985/1986 to 2008/2009**

### 2.2 Seoul’s Public Transport Reform

Before the Seoul Public Transport Reform in year 2004, bus operation in Seoul City was a sunset industry. They suffered from highly inefficient, uncoordinated, and dangerous operating practices of the many private bus companies who ran the services (Kim and Rim, 2000).

For decades, bus services in Seoul were operated by a large number of private firms, with virtually no government control of routes, schedules, or other aspects of service. Only the fare is determined by the Seoul Metropolitan Government even though the fare 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 the routes of other bus companies (Pucher et al, 2005). It also implied to the difficulty for buses passengers to transfer to another bus or metro/subway. Else, whilst bus companies avoided 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 by the time, it was difficult to adjust routes according to passenger demand. As a consequence, service grew worse as time went on.

Public bus transport being such and this condition naturally increased the number of private passenger vehicles, and led to aggravating traffic congestion. Consequently, traffic congestion reduced the punctuality and speed of bus, and it made people began to avoid travelling by taking bus if possible (Seoul’s Metropolitan Government, 2007). The declining of the number of buses passengers continually brought about less fare revenue, and in turn escalating operating deficits. For instance, the average number of total daily passengers per bus fell from 1,093 in 1989 to only 494 in 2002 (Korea Transport Institute, 2005).

That when The SMG decided to reform the public transit system, it was a huge task with formidable obstacles such as technical difficulties, conflict of interests, and other complicated
matters. With strong commitment that it had, supported by many elements of interested parties paid attention about better public transport services, the SMG could make spectacular reform at short notice only.

The eminent action of Seoul public transport reform was the radical idea of changing public bus operation system from bus service operation run by private company into so-called “a quasi public system”. In this new system public bus services is still run by private company, but then SMG manages all routes, implement joint management of revenue, and control buses service operation by evaluating and monitoring services provided by private companies.

In supporting the achieving of the reform purposes, a full scale reorganization of the bus routes that integrated bus and subway was put into practice. Bus routes have been grouped based on function into four lines, namely trunk, feeder, circulation and wide-area lines. The buses colors and numbering system have been changed as well in conformity with the buses function. To make the system works well, some transportation center buildings had been established to ease passenger to interchange from one bus or subway to another or between both modes of transport. The exclusive median bus lanes were also put on congested streets so as to increase the speed of transit. It is complemented by introducing Buses Rapid Transit (BRT), increasing the number of curbside lanes, and improving of others supporting facilities. In addition, for trunk lines, operators are chosen through competitive tendering.

Into the bargain, the integrated distance-based fare system had been chosen as well, so that citizens may transfer to a bus or a subway without paying an additional fee for certain distance. In addition, a revenue pool management system, a scientific bus operation namely Transport Operation and Information Service (TOPIS), and Bus Management System (BMS) have been introduced as well. As the new public traffic system became stabilized, leading to much improved service levels and reduced safety accidents, more and more citizens were responding positively to it. Consequently, over its first year of operation, the public transport drew more than 900,000 passengers on a daily basis (Seoul’s Metropolitan Government, 2007). The average number of daily bus passenger has increased of 15.2%, from 4,869,000 in 2003 to 5,608,000 in 2008 (Hwang, 2008). Figure 3 shows average daily bus passengers in Seoul 2003-2008.

![Average Daily Passengers](image)

Figure 3: Average daily bus passengers in Seoul 2003-2008
Some aspects concerning public bus transport system both in London and Seoul after the reforms, in summary, can be seen in the following table 1.

Table 1. Some aspects of both London and Seoul public bus transport system after the reform

<table>
<thead>
<tr>
<th>ASPECTS</th>
<th>LONDON</th>
<th>SEOUL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bus Operation System</strong></td>
<td>Changed from publicly owned and subsidized bus operation being partnership authority and operator</td>
<td>Changed from public bus service operation run by private firm into a quasi public system</td>
</tr>
<tr>
<td><strong>Planning and Operation</strong></td>
<td>Public sector planning by managing entire routes networks</td>
<td>Public sector planning by managing all routes</td>
</tr>
<tr>
<td></td>
<td>Operation under service contract with private operator</td>
<td>Operation carried out by private operator under contract agreement</td>
</tr>
<tr>
<td><strong>Awarding Process and Contract</strong></td>
<td>Awarding process to operator by competitive tendering for all routes (The Quality Incentive Contract (extension of gross cost contract) Operator is paid on the basis of vehicle km)</td>
<td>Tendering system for trunk routes only as a new concept of the reform Join management of fare revenue (basically gross cost) Operator gets reimbursement based on travel distance (vehicle km), and shortage will be subsidized</td>
</tr>
<tr>
<td><strong>Incentives and Penalties</strong></td>
<td>Bonus and deduction payment to operator, mainly associated with the reliability and regularity of service delivered by operator</td>
<td>Evaluation of operator’s performance annually, as basic of giving incentives and penalties to operator</td>
</tr>
<tr>
<td><strong>Monitoring System</strong></td>
<td>In various monitoring systems in compliance with contractual agreement, including the using of technology (iBUS) and field survey</td>
<td>Monitoring of services operation in compliance with contractual agreement, supported by technology (BMS, TOPIS), and field survey</td>
</tr>
</tbody>
</table>

3. SOME VALUABLE LEARNING

The following sections discuss some findings of success experience concerning both London and Seoul Public Transport Reform. It is just limited to some aspects which are regarded to have significant contribution to the success of the reform.

3.1 Controlling in Public Transport System

There is a wide variety of public transport organizational forms that can be observed across in worldwide. Some regimes are based upon the principle of market initiative, others on the principle of authority initiative. One can observe a large variation in the amount of public sector coordination and planning in the both cases. A common feature of most regimes is the growing involvement of the private sector in service production, either through deregulation or through competitive tendering (Velde, 2003). A plenty of countries have adopted competitive procedures for assigning public transport services currently.

Both London and Seoul have introduced the partnership between local governments as
authority and bus companies as operator in the provision of public transport services. In London operators just provide the services on specified route based on competitive tendering for all routes. In the mean time, bus operation in Seoul under what so called a quasi public system is still undertaken by private companies as operators. However, they work under contract agreement with the SMG, although tendering system to choose operator is still limited for trunk lines only.

Despite the former type of bus operation systems of those cities were different one another, however after the reform, both systems show the separation between planning and operation in public transport services, in that operator just provide services that is planned and determined by authority. The new system seems to have the same purpose that is to control public transport services. In London case notwithstanding publicly owned company has been privatized and public bus services has been run by private company, however the authority still control public transport services by managing entire routes network. Meanwhile the change of the system in Seoul is actually to increase public responsibility in controlling the provision of its public bus services which was weak previously, in that authority retains all routes as well. It is adopted as a new business rule for the public bus service in those cities, in which private bus company as operator run its bus operation on the assigned routes and schedules determined by the authority. Figure 4, in summary, shows the changes of bus operation system both in London and Seoul.

![Figure 4: The changes of bus operation system both in London and Seoul](image)

In order to plan, manage and coordinate public bus operation under the new system in those cities, it involved an institution or organization that responsible for handling such functions. Both in Seoul and London, the organization was established as a part of local government body to support the public bus operation system, although they emerged in different form of organizations. Under such a span of control, it gives authority more freedom of action to plan service in response to demand.

Indeed, the establishing of organization to plan, manage and coordinate the whole services should consider the efficiency and effectiveness of its function. Since it is of course requires additional budget allocation from authority to support the operation of the organization. Task function and responsibility that is connected to the magnitude of area covering, the complexity of service provided, the usage of sort of technology as scientific bus operation system (TOPIS) in Seoul, and Intelligent Transport System (ITS) that is used both in London and Seoul could be significant consideration in establishing it, to name but a few.
In the mean time, the availability of more power and discretion becomes more significant as the main objective of the provision of services is to secure adequate services to community without ignoring services quality. By managing and controlling all routes, it is much easier for the authority to implement a better service into the bus operation system, including the adjustment of routes and schedules quickly according to passenger demand. To do so, in Seoul, the SMG is supported by BMS that manages and monitors bus operation, and TOPIS that supervises, operates, and manages the overall transportation situation in Seoul. Likewise in London, TfL through its subsidiary LB is besides responsible for planning by retaining routes network, it is also responsible for procuring and monitoring of bus service. The pooling of these functions is important as the right to run services is awarded to some operators. Due to the monitoring is one of significant measures to ensure the service delivered as required under service contract system. Further, since all policies come from the authority initiatives and this allow for a more integrated policy (Ongkittikul, and Geerlings, 2006). The latter will be explained in detail hereafter.

3.2 Integrated System
One of the important key factors in supporting the success of Public transport reform is the introduction of integrated public transport system. Many countries have implemented this system in the different context, forms, and reasons, so as to increase the quality of services.

Public transport system as a result of the reform both in London and Seoul tend to allow more coordination and integration of the services being provided by operators. This involves various forms of partnership between operators and/or authorities. In many cases, ticketing integration, tariff integration or timetable coordination play a role in the provision of general facilities from the side of the authorities (bus lanes, shelters, traffic priorities, etc), this in return for better vehicles or services from the side of the operators (Velde et al., 2009).

The integrated system seems to have played a major role in Seoul, by grafting Information Technology (IT) onto public transport business. It is supported by BMS and TOPIS, a management system, which integrates the whole system of buses operation. As an effort in creating a more reliability public transport and enhancing quality of public transport service in Seoul, the introduction of trunk lines and feeder lines concept is a concrete measure as manifestation of integrated system of public transport services. It is not only to integrate an unorganized public bus transport operation run by many bus companies previously, but also has converted highly competition between buses and the subway being a mutually beneficial linking system. It also enables to secure others advantages results from efficiency of the services by avoiding duplication of services within the whole system.

The implementation of a unified fare structure between bus and subway can be seen as another form of the integration system that has been introduced in Seoul after the reform. According to this system, fares are based on distance traveled, with free transfers permitted between buses, subways as well as between bus and subway. The system which is supported by what so-called T-Money, a smart card system, has put into practice a transparent system thereof. Moreover, due to the transparent system, both in Seoul and London, in that all fare revenue go to authority under service contract, it involves a pool center for collecting fare revenue and distributing payment to operator based on its performance. In practice these tasks in those cities are undertaken by a traffic card company in behalf of authority. It would also encourage a transparent business operation for both authority and private bus operators. The transparent system is not only would enhance the trust between involved parties under contract agreement, but also will led to the creating of accountability system, especially in the
present of public fund transfer for supporting public bus services. In turn the present of a transparent system will be a response to one of the significant issues in allocating subsidy or share out revenue between authority and operator transparently, efficiently, and effectively, including in allocating incentive to operator.

Both London and Seoul have introduced integrated information system as well. In Seoul, a bus management center has been built to provide a scientific bus operation management. Meanwhile in London it uses a rather similar information system what so-called iBUs. The monitoring of bus fleet both in Seoul and London are undertaken by using information technology to ensure buses run as required. By keeping track of where buses are, allowing bus controllers to regulate services to make them more reliable.

### 3.3 Competitive Tendering and Contract System

Competitive tendering is merely a selection mechanism in the context of outsourcing. It is a method of production available to any initiator of services whatever the organizational form, but it is not an organizational form in itself (Velde, 1999). The objective of using auction procedures is to replace competition in the field by competition for the field, leading operators to operate public services at a competitive price without loss of quality (Amaral et al., 2009). Competitive tendering is carried out in order to increase efficiency of public bus transport services, and hence reduces the level of funding support by authority. It is meant that the public authority purchases public transport services from the competitive market.

Following the reform, both London and Seoul City have implemented competitive tendering in selecting potential operator to run public bus services. The tendering system is implemented in London based on route by route system, the while in Seoul it is still limited for trunk lines only that is introduced as a new concept part of the reform. Contracts are awarded with the intention of achieving the most economically advantageous outcome within the resources available.

Competitive tendering has been successful in London. Direct savings from competitive tendering have averaged 15 to 20 percent (Newton, 1994). Meanwhile, London Transport found that competitively tendered service was generally of 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 (Cox et al., 1997). Moreover, the competitive pressure from the tendering process leads to situations in which the operators must innovate in order to be competitive in the market (Ongkittikul, 2006). This indicates that competitive tendering not only could increase production cost efficiency through direct saving as a result of its process but also could enhance quality of service. Moreover, the increasing of quality could also be achieved by putting some preconditions in tendering document. This will lead to heavy competition among bidders by offering the best price and quality for services to be provided in competitive tendering process.

Indeed, there are some considerations before implementing competitive tendering as a tool to choose operator in a competitive market. There are six main aspects should be identified for preparation before implementing of competitive tendering of local public transport. They are: contractual form, the dimension of the service area to be tendered, service design in the assigned area, service quality, award criteria, and infrastructure ownership (Cambini and Filippini, 2003). And all of those must be specified clearly before the competitive tendering process is undertaken.
The choice and design of contract form has some implication to both competition and operation of public bus transport services. The contract systems that are used both in London and Seoul nowadays is basically on the basis of Gross Cost Contract, with some additional incentives for the bus operators, so long as authority retains revenue. Despite this system transfers the risk of production of service to private companies as operators yet still protect them from full commercial risk, due to the revenue risk is born by authority. It is different from net cost contract where operator bears both production and revenue risk (Isotop, 1997). Anyway, there is variety type of contract between local authority and operator in reality. It is not only either production risk or revenue risk, but also authority and operator can share both which results in new forms of contracts, including the giving of an incentive to operators in order that they can increase their performance. In addition, the rationale behind the incentive scheme is informational asymmetry between authority and operator. The regulator ought to use all information available to reduce the informational asymmetry in order to reduce the inefficiency of regulation (Laffont and Tirole, 1993).

Both London and Seoul have given an incentive to operators in order to encourage the increasing of services quality, in spite of in distinct ways. In London, under Quality Incentive Contract, this is conducted by comparing operator’s performance with the contracted Minimum Performance Standard (MPS) which is agreed between operator and LB in the early of contract agreement. It is particularly the reliability and regularity of service delivered, which is associated with financial bonus and deduction to operator. The while in Seoul the determining of incentives and penalties is on the basis of annual evaluation of operator’s performance which is undertaken by the SMG team. These are all aimed at encouraging the improvement of operator performance in providing public transport services.

Moreover, the size and the time period of contract will also affect the competitive tendering process. Both London and Seoul have implemented route by route tendering system. In London the system has been applied for the whole routes. With 700 routes approximately, LB holds routine tendering every 2-4 weeks. The while in Seoul it is still limited on trunk lines only. When it was firstly introduced, it was comprised of 10 major axes and 19 routes. The implementation of route by route tendering system allows for the number of potential bidders to take part in bidding process are high, and therefore it is expected to result in furious competition. The while a small service area cannot guarantee an optimal exploitation of the economies of scale. In other word there is a trade-off in the definition of the size of the bus service area to be assigned through a competitive tendering process (Cambini and Filippini, 2003). The while the time period of contract should be considered as well. 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. Recently the time period of contract for the routes under tendering system in London is a 5 year contract with the possibility of extension for a 2 year contract on the basis of the performance of operators. In Seoul, for the trunk routes, based on tendering system, operators are awarded the right to run the service on the specified route for a 6 year contract.

4. CONCLUSION

It is aware to that some valuable learning that is explained in this paper has not covered yet all of the success experiences of both London and Seoul in public transport reform. However, at least the successes of the reforms in those cities could be attributable to strong control of the
authority particularly in planning and monitoring services provided by operator under partnership between them.

The system has given more planning and controlling competence to authority through its empowered public organizations to coordinate the system as a whole. It also aimed at delivering better transport services both quantity and quality aspects which goes hand in hand with the efforts in creating efficiently and effectively integrated transport system. It is together with the implementation of competitive tendering that could be seen as an effort which is not only aimed at increasing cost efficiency, but also the improvement of service quality.

Realizing that it is likely not easy to make the reform of public transport services in some local areas, due to conflict of interest between involved parties. On top of those, whatever reforms which authority would probably do and achieve, of course, it needs support from stakeholders. It runs together by strong commitment complemented by clearly competence owned by local public transport authority to create and secure better public bus transport services.

Indeed, some efforts should be done continuously so as to increase and keep service quantity and quality as required. It is also intended to anticipate future development of local transport system in dynamic circumstances that change very fast. Eventually it could be in response to meet a good and efficient service in the provision of public transport for the community.

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