AN ANALYTICAL REVIEW OF 40 YEARS OF BUS TRANSPORT SINCE NATIONALIZATION

Amal S. Kumarage,
Division of Transportation Engineering,
Department of Civil Engineering,
University of Moratuwa, Sri Lanka.
AN ANALYTICAL REVIEW OF 40 YEARS OF BUS TRANSPORT SINCE NATIONALIZATION

Amal S. Kumarage,
Division of Transportation Engineering,
Department of Civil Engineering,
University of Moratuwa, Sri Lanka.

ABSTRACT

The bus industry in Sri Lanka has undergone many changes throughout its existence. Though all such changes were introduced in order to improve bus services, most attempts have been either short lived or counter-productive.

The problems facing the present bus industry in Sri Lanka are well known and do not require further discussion. This paper investigates its comparative performances over the last 40 years. During this period, the bus industry changed from being a nationalized monopoly to a loosely regulated industry within a mixed enterprise environment.

This paper traces the sociopolitical influences that have formed the very character of bus services since nationalization. It then examines the relative performances of regulated and deregulated bus services in such an environment. Such discussions include the productivity of input resources; fare levels and affordability; levels of financial support provided by the State; safety and load factors representing quality of transport. The discussions are based on analysis made from historical databases.

The general findings of this research provide insight to many unresolved problems still facing the bus industry in Sri Lanka. They are not dissimilar to problems faced by other countries, particularly in the third world.
INTRODUCTION

Buses provide the predominant mode of passenger travel in Sri Lanka. The industry has undergone three major metamorphic changes in ownership and management over the last 90 years since the first bus operated. These can be described in the stages of:

- Exclusively Private Sector: 1907 to 1957
- Exclusively Public Sector: 1958 to 1978
- Private & Public Sector: 1978 to date

The initial stages of bus operations were unregulated and exclusively in the hands of the private sector. It then went through a series of regulations aimed at improving the service conditions which were described in terms of cut-throat competition, poor vehicle conditions, long working hours for crews, high speeds etc (Hammond Commission Report, 1937). A total of 5,432 buses had been registered up to 1957 (Kumarage, 1996). A total of 73 companies were operating 903 routes at this time (Ameer et al, 1982). The inability to curb wastage of resources, unhealthy competition, neglect of un-remunerative rural routes and lack of proper service finally led to State nationalization in 1958.

Bus Services as a State Monopoly

In its early years, the emphasis for the Ceylon Transport Board (CTB), managed as a State agency, was to develop in management and operational competence. The first decade of the CTB saw the resulting development of high standards of professionalism, crew training and discipline, vehicle fitness and safety. This in turn led to improvements in a number of operational features such as increased vehicle utilization; improvement of worker rights and welfare measures; increase of financial self-sufficiency etc.

This operational success of a nationalized venture, soon became a sociopolitical tool pursued by successive governments. Their implicit 'bus transport policy' that evolved in its wake was characterized by:

- Ensuring low fares based on the primary criterion of affordability to the passenger rather than financial viability of the operator as an agency (or institution);
- Provision of rural accessibility, even though such services were un-remunerative to operate and
- Provision of concessionary travel to students without fully reimbursing the operator.

The technical efficiency coupled with the wave of public opinion and political support following these populist measures, enabled the CTB to grow to be one of the world's largest publicly owned bus transport organizations by 1978, operating nearly 6,000 buses/day, with nearly 60,000 employees.
However, after the first decade of the CTB, the welfare-oriented development policies under which the bus services were operated did not increase incomes on par with the rising cost of providing quality bus services. Consequently, keeping bus fares at affordable levels (which will be discussed separately) was considered more important that ensuring the long-term viability of the bus services. Moreover, the tide of public opinion was beginning to turn against the CTB, as there was evidence of increasing vehicle breakdowns, insufficient capacity and lack of reliability in the services. Moreover, its continuity as a State organization had led to political interference, apparent loss of authority and decline in initiative of management, trade union volatility and wastage of public resources.

![Bus Operational Cost vs. Per Capita Income](image)

**Figure 1: Bus Operational Cost vs. per Capita Income**

With the increase in operational deficits, it was capital replacements that were neglected. Consequently, the apparent practice of replacing 10% of the existing fleet and adding a further 4-5% for growth was abandoned in the early seventies. This as seen in Figure 2, led to a sharp increase in load factors (crowding levels) within the next three to four year, thus sealing whatever long-term capability remaining in the CTB of meeting the transport needs of the country.

**Mixed Competition in a Market Dominated by Private Buses**

Privately owned and operated buses were re-introduced in 1978. The Government, in its enthusiasm to provide adequate buses to speedily close the deficiency that had arisen, gave every encouragement for the unrestricted entry of the private sector. This led to the rapid increase of private operators from 1,418 permit holders in 1979 to 3,811 by end of 1980. Although load factors were anticipated to reduce, they continued to increase
steadily. This was however due to the absence of adequate regulatory controls, which will be discussed separately in this paper.

Within a few years, private buses had begun to dominate the market.

The unplanned and rapid growth led to ‘Single bus’ operators owning the vast majority of private buses. Companies, which had earlier provided bus transport services, were wary of the experience of nationalization and had kept off. The ‘single bus’ owners were unable to provide the professional management required for a bus service of acceptable quality. Moreover, their limited technical know how and lack of management experience, contributed to low vehicle utilization, high cost of operations, loss of revenue, high accident rates etc (UoM, 1993).

![Figure 2: New Bus Additions & Load Factors of State Buses (1958-97)](image)

Private bus crews who have little or no training are hence mostly undisciplined. Illegal and anti-social activities such as speeding, overloading, rough handling of passengers, lingering at bus halts, not departing till bus is full, obstructing traffic, touting for passengers have become generic features of such operations. Generally, travel times have increased and quality of service reduced. The absence of bus depots, garages, terminals etc. also contribute to excessive roadside parking and congestion at most urban centres.

The regulating powers for private buses, though vested with the National Transport Commission and with Provincial Councils, are over-ridden by political interventions from time to time. They lack independence and in some cases, even the technical competence to regulate the private bus fleet in order to pass on the optimal benefits to the public.

Notwithstanding any of the above deficiencies in bus operations, the private sector bus fleet has at present increased to nearly 12,000 vehicles. This has brought in a
considerable amount of bus capacity, which the State was not willing to provide. But even in this case, the popular routes are over-supplied, while the un-remunerative routes and times are left to the public sector. Market failures are common where buses lie empty and idle at terminals, while those on route are often crowded and overflowing.

On the other hand, the CTB, which was decentralized to the Regional Transport Boards (RTBs), by the time of the re-introduction of private buses in 1978, were burdened with aging buses and high overheads. They were entrenched in their social obligations and continued to be subject to political interventions from time to time. This led to the withdrawal of more and more services, thereby plunging the entire bus industry into an abysmal reduction in terms of quality of service.

In the wake of pressure from the World Bank, suggesting that the State should withdraw from providing bus services, the RTBs were re-structured as People's Transport Services (PTS) companies in 1992. Furthermore, a transport policy publication (MoTH, 1992) prohibited any government or government agency to own or operate buses. However, the bus industry suffered further with the PTSs being unable to be financially viable in the face of intense private sector competition and the continuing political interference in operational matters (Dindas Committee, 1994).

On the subsequent failure of the Peopleisation ventures, 11 Regional Transport Companies (RTC) have been formed. These are virtually fully State owned, and similar to the Regional Transport Boards set up in 1978. They still continue to be burdened by many of the problems of the CTB in management and financial areas. Their operations continue to be sociopolitically oriented. However, they provide an important baseline quality and service which acts as a safeguard from plunging the entire bus industry on its downward spiral that poorly regulated private bus services have induced.

It is clear that, the price the bus passenger has had to pay for the lack of a clear cut and sustainable bus transport policy in Sri Lanka has been very high. The abuse of the State owned CTB for unsustainable social and political ends alone, followed by the expectation that transport could be entirely provided on the basis of market forces of demand and supply, have been two experiments that have given unsatisfactory results over the last 40 years.

ANALYSIS

This paper analyses selected and salient features of the bus industry in Sri Lanka, both under conditions of exclusive State monopoly and mixed competition (i.e.; before and after 1978). This has provided a useful comparative statistical analysis wherein, well known problems of the bus industry have been factually established.

Bus Fares

The bus industry in Sri Lanka has had diverse ‘fare policies’. Before nationalization, fares were deregulated until 1940. Thereafter, the Commissioner of Motor Traffic fixed
minimum fares on all the routes. (Wijesinghe, 1961). Since nationalization, fares users fixed & regulated and the provision of bus services became an election issue. Expanding the rural network and keeping bus fares affordable to the poor became the de-facto policy after nationalization. In fact, the CTB got by without a single fare increase up to 1971. During this period, the ‘low fares’ were achieved by operational improvements brought about by technical and management innovations. It is noteworthy to mention that during the period 1964-68, over 98% of the CTB’s operational costs including capital replacement were earned through fares.

However, as shown in Figure 3, the implicit ‘low fares’ policy could not be sustained after the oil crisis in the early to mid 1970s. The ‘low fares’ policy was seemingly abandoned in 1980 with a phenomenal increase in fares by 113% in a single year.

![Figure 3: Operating Costs & Investment in New Buses for State Sector (1958-97)](image)

The experience of relatively higher fares for a seemingly poor service was beginning to sound ominously similar to pre-nationalized bus services. Consequently, the poor service levels have once again prompted the return of the ‘low fares’ policy in the nineties. Today, the bus fares are in real terms the lowest ever in the 40 years since nationalization. However, the corresponding problems of high load factors and associated lower quality of service have not gone away.

The Bus Transport Policy (MoTH, 1998) makes several recommendations to overcome these in the future;

- The introduction of an annual fare revision for basic services- tied with quality of service parameters;
- The introduction of higher priced luxury services without fare regulation;
- Provision of financial support by the State to ensure that the bus fleet operated by both the private and public sectors grows systematically.
Productivity of Input Resources

In general, bus transport has been a poor example of efficient resource utilization. However, the historical variations provide interesting results. The bus industry has two types of major inputs, namely human resources and buses. Its quantitative outputs are essentially the supply of passenger places, measured in either bus kms or place kms operated. Its qualitative outputs are riding comfort (measured in load factors), travel speeds, and a host of other un-measurable characteristics such as convenience of transfers, cleanliness, courtesy of crew etc.

The experience in employee productivity of the CTB/RTB/PTBS as public sector agencies is shown in Figure 4, where the employee strength grew from 15,226 in 1958 to 58,986 in 1978. Analysis shows, that the incidents of growth of employees is found to be more related to the timing of General Elections, rather than any increase in the scale of bus operations. This gives the strong impression that the CTB has been used as an expedient dumping ground for employment of political supporters.

![Graph showing employee strength and productivity of state owned buses (1958-97)](image)

Figure 4: Employee Strength and Productivity of State Owned Buses (1958-97)

Even though vertical expansion took place in the CTB, it does not justify the fact seen in Figure 4, where employee productivity reduced from 10,000 bus kms per employee per year in 1958, to just over 7,000 bus kms by 1978. The latter was partly attributed to the fact that the CTB in 1978 was under-bussed and over-staffed at the same time. Management re-organizations since then have enabled the reduction of the staff levels to around 40,000 and the recovery of the employee productivity to around 10,000 bus kms per employee per year.
As shown in Figure 4, the bus kms per operated bus per year for the public sector has seen a steady improvement since nationalization, dropping only after the re-introduction of private buses in 1978.

The private sector on the other hand, has never been able to achieve comparable bus productivity. This is mainly due to the fact that most buses are operated by 'one-bus' owners and constrained by crew absenteeism and single shift daily operations. Thus on the basis of bus productivity, the present private sector is very inefficient. The fact that private buses are smaller in capacity means that an average private bus operates less than 50% of the passenger capacity when compared to the present public services. When compared to the better days of the CTB, this is around a third.

![Graph showing bus productivity over years](image)

**Figure 5: Bus Productivity (Public vs. Private Owned Buses)**

In terms of human productivity, it was observed that the public sector had low productivity due to its often-politicized 'staffing policies'. Comparisons between the physical performances of the CTB, PTS and Private operators are given in Table 1 (MoTH, 1998). It shows that in terms of supply of bus kms, the private sector employee productivity is not significantly better. In fact in terms of place kms- it is lower than that of the PTS.

The analysis of the productivity of resources shows that while staffing appears to be an endemic problem to the public sector bus operations, it was set off by its superior technical efficiency. The present day private sector, which has a lean ratio of employees to buses, does not appear to be significantly better in human productivity due to the fact it is poorly organized and technically inefficient. On the other hand, the bus utilization even during the worst times of the public sector has been better than the best days of the private sector. This too stems from the fact that the present private sector is poorly organized and unable to reap the benefits of low overheads and staffing.

Poor regulation can be cited for the poor performance of the private bus sector. Interestingly, some call for complete deregulation in order to revive the industry, while others recommend stricter regulation.
Table 1: Productivity Indicator of Bus Operations

<table>
<thead>
<tr>
<th>PRODUCTIVITY INDICATOR</th>
<th>1967</th>
<th>1977</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CTB</td>
<td>CTB</td>
<td>PTS</td>
</tr>
<tr>
<td><strong>Bus Productivity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus-kms per operated bus per day</td>
<td>253</td>
<td>241</td>
<td>202</td>
</tr>
<tr>
<td>Place-kms per operated bus per day</td>
<td>16,667</td>
<td>15,463</td>
<td>11,007</td>
</tr>
<tr>
<td><strong>Employee Productivity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus-kms operated per employee per day</td>
<td>21</td>
<td>28</td>
<td>27</td>
</tr>
<tr>
<td>Place-kms operated per employee per day</td>
<td>1,372</td>
<td>1,847</td>
<td>1,374</td>
</tr>
</tbody>
</table>

Problems of Self-Regulation

Public transport worldwide has undergone changes from time to time with respect to the degree of regulation and State intervention (Howe, 1997). Some countries have experiences similar to that of Sri Lanka, where bus transport has evolved from being fully privately owned to public monopolies and thereafter to numerous contemporary forms of mixed competition.

The role of the State has also changed in keeping with these organizational changes. For example, under fully State ownership, the CTB was a self-regulator. It also had monopoly of route operations, and formulated its own standards for passenger quality and safety. However, the weaknesses of self-regulation were evident when passenger quality was unresistingly compromised in the face of the State’s (a) desire to keep fares low and (b) its reluctance to meet the resulting financial obligations. Furthermore, the stability of the institution (i.e. CTB) as an independent body was not considered. It was only seen as an extended arm of the State in providing welfare oriented services.

De-regulation & Safety

On the other hand, Table 2 shows that the safety record appears to have performed best under self-regulatory practices. The CTB which inherited very poor safety standards from the private sector in 1958, improved its internal standards to effect significant reductions in accidents by 1977.

It is also seen that under less regulatory practices, as in the case of the publicly owned
PTTs, these accident rates have again increased marginally. In general, the lower the degree of regulation, the higher has been the accident rate observed. At extremes, the private operators appear to have an accident incidence rate of around twice that of the CTB as a fully regulated operator. In a market-oriented environment, this is to be expected, as private operators pursuing to maximize their individual revenues have little or no incentive for reducing accidents unless stringent regulations associated with stiff penalties are in place. The inability of the Regulating Authorities to impose such standards free of political interference has resulted in safety and other qualitative standards been largely unenforceable.

<table>
<thead>
<tr>
<th>SAFETY INDICATOR</th>
<th>1967</th>
<th>1977</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CTB</td>
<td>CTB</td>
<td>PTS</td>
</tr>
<tr>
<td><strong>Accident Incidence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reported Accidents per mn bus kms operated</td>
<td>20.3</td>
<td>10.8</td>
<td>12.3</td>
</tr>
<tr>
<td><strong>Pedestrian Fatality Incidence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrians killed per bn bus kms operated</td>
<td></td>
<td>2.8</td>
<td>2.9</td>
</tr>
</tbody>
</table>

De-regulation & Market Failures

In addition to deteriorating safety, competitive bus transport has seen a number of market related problems not observed under self-regulation. These maybe summarized as follows:

I. Competition in bus industry appears to be only illusory. This is because the intrinsic nature of bus operations does not allow passengers to identify a particular operator together with his quality of service. Competition is mostly in the form of soliciting passengers while on route by racing between stops and thereafter lingering at the stop to wait for more passengers (MoTH, 1998).

II. The private sector operators collude on a route by working in turn. Each bus delays its departure until it has a full load. This practice constrains supply and an artificial shortage is created. The ensuing over-loading enables private operators to earn greater profits, while significantly reducing both the quality and quantity of bus transport that is available and could be offered to the public (Kumarage, 1998).

III. Private buses are attracted to popular routes and to popular (peak) times. They are averse to taking risks with innovative services and prefer the relative security of ‘cartelisation’ resulting in each operator’s output being sub-optimal. Thus, private bus operations in Sri Lanka offer a classic example of market failure.

Private Sector Investment & State Support

Table 3 shows that the intention of the State of reducing expenditure on bus transport in
1978 by allowing private sector investments and operations has not materialized. As shown, the entry of the private sector has only led to the increase of State support levels from 4% of costs before 1978 to a high of 40% by 1992.

Table 3: Support to State Buses as against total operational costs

<table>
<thead>
<tr>
<th>Period</th>
<th>Cost of Operations of State Buses Rs. Mn. (Current)</th>
<th>State Support Rs. Mn. (Current)</th>
<th>% of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTB</td>
<td>1962-69</td>
<td>131</td>
<td>5</td>
</tr>
<tr>
<td>CTB</td>
<td>1970-77</td>
<td>609</td>
<td>76</td>
</tr>
<tr>
<td>RTB/Private Bus</td>
<td>1978-91</td>
<td>3,188</td>
<td>1,271</td>
</tr>
<tr>
<td>PTS/Private Bus</td>
<td>1992-97</td>
<td>6,339</td>
<td>2,034</td>
</tr>
</tbody>
</table>

This clearly shows that the State’s obligations in the transport sector cannot be entirely delegated to the private sector. Issues such as affordability, safety, rural services, subsidies to school children, which have far reaching social ramifications, are continuing responsibilities of the State. In addition, important long-term economic considerations are also at stake.

The low productivity and the rising overall cost of transport due to sub optimal operations are features that cannot be ignored. State intervention in terms of either Public Sector Obligations (PSOs) or Transport Purchase Contracts (TPCs) appear to be the most likely forms of State intervention in the transport sector. Regulatory powers both in terms of safety and quality of service have been proposed in the Bus Transport Policy (MoTH, 1998).

Conclusions

The experiences of the last 40 years of bus transport in Sri Lanka offers a number of insights into the complexities of providing an efficient and viable bus service. The analytical review of a number of key features concerning ownership; regulation; resource utilization; affordability; safety and State support can be traced in the diagnosis of the problems facing the bus industry at the present times. The paper concludes that the analytical review provides a learning experience to plan for a balanced and sustainable bus transport system for the future.

Acknowledgements

This research was conducted during the preparation of the Bus Transport Policy in 1998. Much of the findings of this research have found its way into the Policy. The author is
indebted to the other members of the Minister’s Committee on Bus Policy for their valuable insights and comments on research findings. However, the author alone bears responsibility for all views expressed in this paper. The CTB and the National Transport Commission compiled the historical bus data used in the analysis.

References


