

Master SHS
Mention Sciences Sociales
Villes et Territoires



UMR 6173 CITERES

Cités, Territoires, Environnement et Sociétés

CNRS-Université de Tours

MSH de Tours

**Scope For Deregulation In Urban Bus
Transport System.
A Case Of Chennai, India.**

Master dissertation

Année 2010

Tutor Baptiste Herve

MARIAMMA VARGHESE- Nimisha

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Summary:

The study attempts to understand the scope of successful deregulation in the urban bus transport system of Chennai, Tamil Nadu, India. For this, the existing bus transport scenario of Chennai, the major problems faced by the city and by public owned Chennai Metropolitan Transport Corporation is studied. The fact that this system is mainly preferred only by population of lower economic strata due to its minimal service level is to be altered. This situation is coupled with the financial instability of the bus industry. The study begins with the hypothesis that appropriate deregulation of urban public transport in Chennai can carry out the expected role efficiently due to its competitive nature, by maintaining a transparent, regulated and cooperated relation with the authority.

A detailed analysis of deregulation cases in the world, especially in the cities of developing nations is done. A separate analysis of the successful and unsuccessful cases helped to sort out the components that play an important part in the successful introduction of private sector. Four elements that are coined as the essential components for successful deregulation are competition, commercialization, transparency and regulation. The comparative study also helped to estimate a model on the strength of inter relation of the components. The resultant essential components from comparative study are applied to context of Chennai. An operation model of bus service tendering for private sector involvement is developed for Chennai.

Keywords + geographic location : Deregulation, Competitive Tendering, Competition, Commercialization, Regulation, Transparency.

Chennai, Tamil Nadu, India.

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ABBREVIATIONS AND ACRONYMS

BMTA	Bangkok Mass Transit Authority
AIA	All India Average, For Performance Parameters.
CMTC	Chennai Metropolitan Transport Corporation)
CTB-	The Ceylon Transport Board (Colombo, srilanka.)
DDD	Dakar Dem Dik (Dakar Bus Operator)
FUTS	Faisalabad Urban Transport Society
L A	Local Authority.
KKTC	Kuo Kuang Motor Transport Company
MMT	Metro Mass Transit. (Accra Bus Operator)
NGO	Non Governmental Organization
NPBC-	Negotiated Performance Based Contracts.
RTB	Regional Transport Board. Colombo, srilanka.)
RTC	Road Transport Corporation.
STU	State Transport Undertakings
SOCATUR	(Douala Private Bus Operator), (Société Camerounaise De Transport Urbain)
TMTC	The Taiwan Motor Transport Company

1. INTRODUCTION

1.1 Objective

1. To study the scope of introduction of privatization into the urban road transport scenario in Tamil Nadu. The study demands a deep understanding on how the current urban transport system functions.
2. To do a broad comparative study between the developing and developed nations, to understand the flaws and to borrow practices that can be adapted to the context of India. This is done by reviewing urban transport reform/privatization efforts in other developing and developed countries to develop a conceptual framework to illustrate best practices and lessons learnt.
3. To study and understand the essential components for successful deregulation of urban bus transport industry.
4. To analyze the determinants of private sector involvement for an efficient urban public road transport system in Chennai city, Tamil Nadu.
5. To identify a good organizational model for awarding local public transport services, depending on the local needs and organizational possibilities.

The assumptions that I would like to analyze in this paper is that,

Hypothesis - “Appropriate Deregulation of urban public transport in Chennai can carry out the expected role efficiently due to its competitive nature, by maintaining a transparent, regulated and cooperated relation with public sector, backed by well- structured contracts.”

Explanation:

A competitive—or “contestable”—market environment is the key to the efficient provision of urban transport services than public monopolized because competition forces producers to be efficient in order to survive.¹ (Charles A. Hedges). The government, as observed in developing nations, fails to support the public transport due to lack of finance. Introduction of regulated privatization through competition, into the field helps to boost up the economy as well as service quality.

¹ Source: The potential of entrepreneurial urban public Transport in transition economies Charles a. Hedges, http://www.seedcenter.gr/projects/MNE/1stconfer/1stconf_papers/Hedges.pdf

1.2 Scope of study

The capacity of Chennai roads cannot be increased while the volume of vehicles plying on these roads multiplies every year. There's no denying that the widening of roads to accommodate this increasing traffic is not a wise solution.

Road widening is necessitated due to unchecked growth and usage of private vehicles. To address this problem, we need to have excellent public transport services. CMTC² cannot cope up with the needs, as long as they continue to enjoy a monopoly status.

There is little justification to allow cars to occupy 70 percent of the road space, given that they move less than 10 percent of the people. In contrast, buses may occupy twice the space of a car, but can carry 40 times the amount of passenger load.

1.3 Content of study

The study tries to understand the scope for bus transport deregulation in the city of Chennai, India. The whole report is divided into six chapters. The first chapter introduces to the topic, its aim and scope.

The second chapter details out the background of the research, the relevance of the particular topic, the advantages and disadvantages of privatizing the public transport sector. The next chapter explains the methodology adopted in analyzing the related case studies to arrive at the results.

In the fourth section, I have tried to comprehend the present context of Chennai along with the problems faced by the transport corporation of Chennai.

Comparative analysis of the deregulation stories is done in the subsequent chapter to understand the success components of the process. The four possible scenarios of comparison is adopted in this chapter.

The final result is detailed out in the last chapter in four parts. It explains the success components and its impacts on deregulation process. The need for adopting competitive tendering in Chennai and the kind of operational model that could be adopted in a city like Chennai is explored in this section.

² CMTC – Chennai Metropolitan Transport Corporation

2. BACKGROUND OF RESEARCH

2.1 Importance Of Public Road Transport In India

Road transport has a unique role in movement of people and goods in any economy, especially over short distances in an urban scenario. The role of road transport is even more significant and important in a developing country, where various parts of country are not well connected by rail transport and resources of railway are inadequate. Bus transport is ideally suited to meet the quick and frequent travels in a country like India where travel needs of people occurs not only between cities, but also between taluks, towns and village centers. Increase in population is another reason for the importance of road transport.

The National Urban Transport Policy of India, 2006, focuses on public transport and private sector partnership in this sector.

NUTP advocates greater involvement of the private sector in public bus transport, where competition is possible, under close regulation and with well structured contracts.

It intends to -Encourage and support investments in facilities which would wean people away from the use of personal vehicles rather than build facilities which would encourage greater use of personal motor vehicles. The same is emphasized through adoption of mechanisms to restrain the use of private motors vehicles through the market mechanisms such as higher fuel taxes, higher parking fees, and reduced availability of parking spaces. (NUTP)

However, the strategy to attract public by offering quality transport services is to be preferred over forced regulations. Citizens should prefer public transport of free will and not because they are out of choice.

2.2 Why Nationalization?

The major argument against private sectors is that it is profit oriented and not service oriented. No subsidies and concessions are provided by them. It is also blamed for exploitation of users and labour. Private sector are usually smaller scale and not appropriate for organized and centrally planned or integrated transport

system. Mohring (1972) argued that unregulated private operators may supply too little service (in terms of frequency) since they do not take into account the social benefits of reducing waiting times of passengers by running additional buses on the network. This is because, although each extra bus decreases the interval between buses for the whole route, it also adds private cost that the firm must recoup. However, the above concern can be avoided by supporting controlled privatization and not a complete deregulation as in the case of Delhi. Appropriately regulated regimes would be the best solution.

Reason for nationalization of bus transport in India

The need for nationalization was felt as private operators could not provide increased services or improve their services according to the user demands for better comfort or convenience of travel. Private operators were also assumed to exploit the users through monopoly of operations. Thus raised the need of state run road transport services either exclusively or in competition with existing private operators.

The RTC³'s act 1950's was brought into force enabling the state governments to form Road Transport Corporation in public sector. This act provided monopoly in road transport, government ownership and operations of transport.

The outcome of nationalization

The state transport undertakings, STU's⁴ have fulfilled to a large extent the social objective by enlarging the scope of road transport services, covering unserved areas in rural country and areas that private operators wouldn't be able to serve. It also helped to make transport services affordable for urban poor through subsidies.

But a large number of STU's proved lacking in productivity, optimum utilization of vehicles, efficiency in operation, unsatisfactory performance leading to substantial losses. The public bus transport due to its unclean, overcrowded and uncomfortable journey is noticed to be preferred by the low income group. The high income

³ Road Transport Corporation.

⁴ STU - State Transport Undertakings

thereby opting for other comfortable personal modes adds to the heavy traffic on roads.⁵

2.3 Why privatization?

Privatization has proved in some cases to lead to increased efficiency, however, if not regulated, it can become extremely chaotic. There is extensive evidence internationally, in both developed and less developed countries, that subsidised public transport services provided on a monopoly basis by government operators tend to become inefficient (e.g. refer Bly & Oldfield, 1986; Bly, Webster, & Pounds, 1980).

Correspondingly, the experience when such services are opened to competition, usually through a competitive tendering and contracting process, is that substantial cost savings are achieved (Wallis & Hensher 2005).

Experience has shown that a competitive—or “contestable”—market environment is the key to the efficient provision of urban transport services and other merit goods. The private sector generally provides urban transport more efficiently than government because competition forces producers to be efficient in order to survive. Where public sector performance matches that of the private sector, it is the result of privatization, or through the competitive tendering of services. Monopoly power, whether wielded by private firms or SOEs, is not consistent with efficient performance.

Privatization assists the transport sector through enhanced speed of execution and the availability of the funds. Capacity of innovation, Integrated process, Private logic, competition for efficiency, market based approach. So in overall, it helps in improved performance. Privatizing the respective sector makes it possible to exploit the comparative advantage of both public and private sectors.

Other major advantages are the saved money, reduced municipal administrative burden, stimulating the private sector and the urban economy.⁶

⁵ Source: Sudarsanam Padam, Sanjay K. Singh, Urbanization And Urban Transport In India: The Sketch For A Policy, http://www.deas.harvard.edu/TransportAsia/workshop_papers/Padam-Singh.pdf

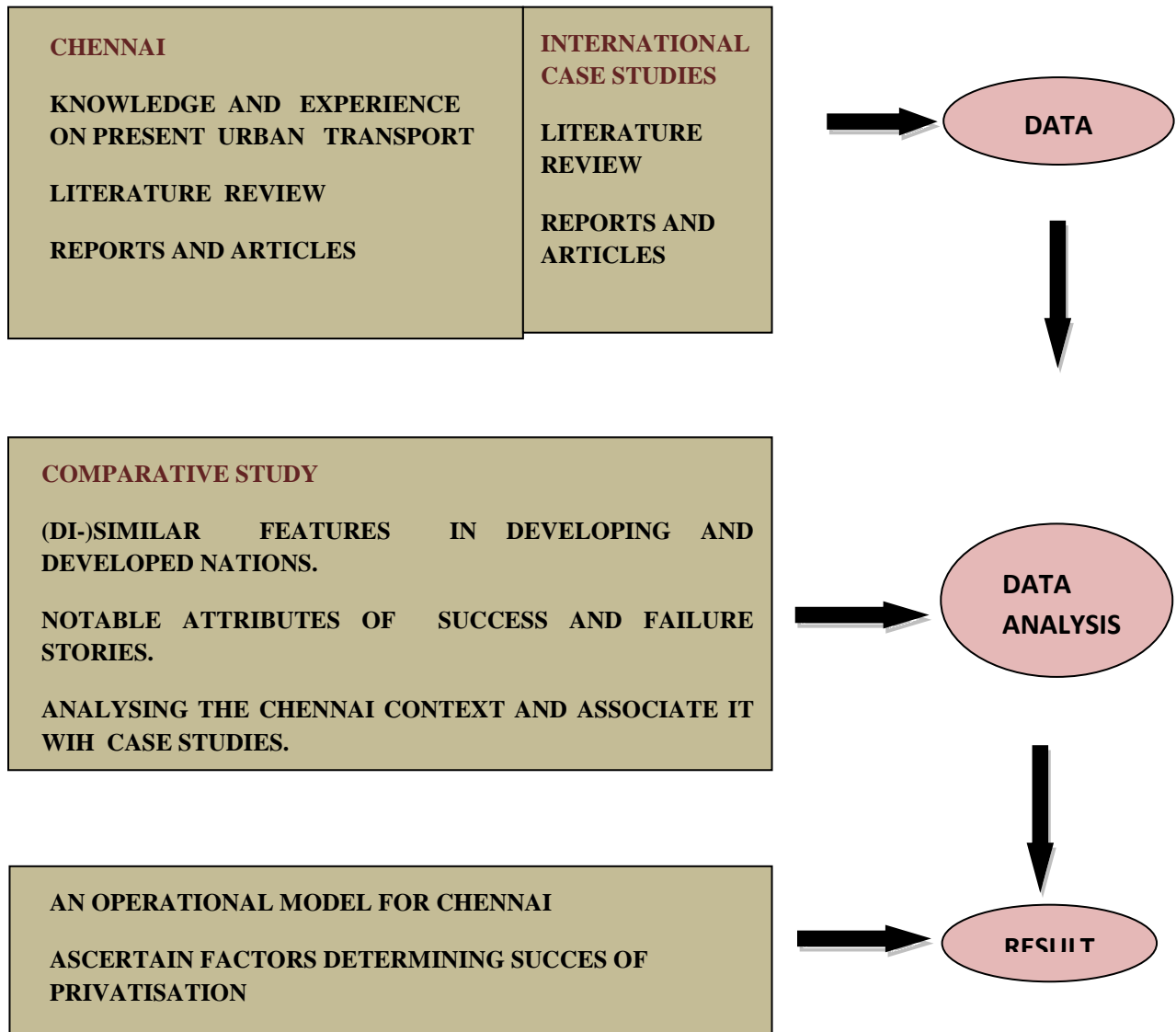
The CMTC has had a monopoly position, which is now under question. A wave to bring the private sector back into public transport services started in 2002 and was immediately opposed by the unions.

⁶ Source: Charles a. Hedges ,The potential of entrepreneurial urban public Transport in transition economies, http://www.seedcenter.gr/projects/MNE/1stconfer/1stconf_papers/Hedges.pdf

3. METHODOLOGY

This paper adopts the method of comparative analysis to understand the kind and degree of privatization applicable in Chennai bus transport sector.

Figure 1. Methodology



Different papers have been published on the outcome of privatization in different regions of the world. This has been studied in detail. Those cases are chosen that

have some similar factors and would enable comparison. The difference in outcomes is certainly due to the input factors that vary. And these varying factors are the focus of my study.

The final goal of my study is to generalize my study and to be able to apply it to the context of Chennai for its benefit. The cases that I have selected could be divided into four different scenarios, a matrix product of four different factors. they are developing and developed nations and the other factors are failed or success cases.

Table 1. Matrix on four developed scenario.

	Success (S)	Failure(F)
Developed Nation (D1)	D1.S	D1.F
Developing Nation(D0)	D0.S	D0.F

Thus the four scenarios derived in terms of privatization attempts are

1. Success stories of privatization in developed nations
2. Failure stories of privatization in developed nations.
3. Success stories of privatization in developing nations
4. Failure stories of privatization in developing nation.

And thus it would help to recognize the major elements that cause the success or failure of a case. And these elements would play the role in the resulting operational model for Chennai.

4. DATA ON CHENNAI

4.1 Context Of Chennai

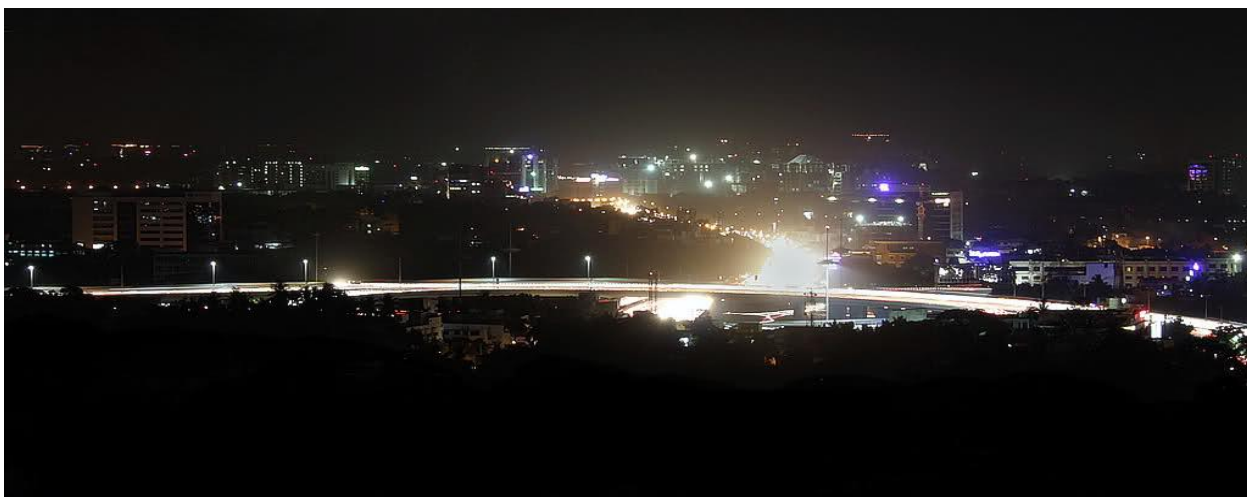
Map 1. Location of Chennai.



Chennai is the capital city of the Indian state of Tamil Nadu, located on the Coast of the Bay of Bengal. From being a small fisherman's village in 1639, Chennai has become one of the most enormous and beautiful city in India. This city of Chennai boasts of beautiful and intricate Hindu temples and has come a long way from where

Scope For Deregulation In Urban Bus Transport System,
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The heritage



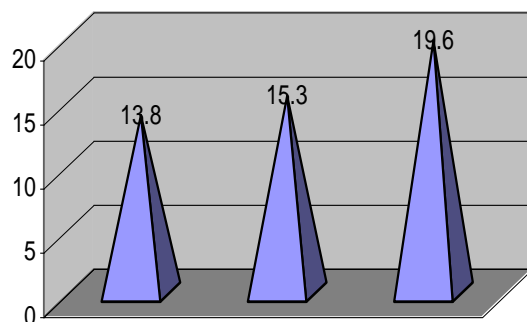
it once stood. The density pattern is poly-nuclear, but differing sharply from poly-nuclear cities with well-developed land markets. The city has an urban pattern of higher-density historical center with developments along major radials. It is complemented with the major radial roads and the semi circular ring roads.

Chennai being the fourth most populous metropolitan area and the fifth most populous city in India, it is also the world's 36th largest metropolitan area. Chennai had a population of 4.62 million in the 2010 census within the area administered by the Corporation of Chennai.

Chennai's economy has a broad industrial base in the automobile, computer, technology, hardware manufacturing, and healthcare industries. The city is India's second largest exporter of software, information technology (IT) and information-technology-enabled services (ITES). A major chunk of India's automobile manufacturing industry is based in and around the city. Chennai Zone contributes 39 per cent of the State's GDP. Chennai accounts for 60 per cent of the country's automotive exports, which leads it to be called as 'The Detroit of Asia'.⁷

The major economic concern of the city is the informal sector informal employment which is estimated to account for as much as 58% of all jobs. The largest slum population is found in the city of Chennai which forms 26 % of total population. Its been growing at a rate of 41.03 %.

Figure 2. Slum Population in Chennai UA : 1981 – 2001.⁸



⁷ Source: www.wikipedia.org,

⁸ Source: Industrial And Economic Planning Division ,TCPO, Chennai.

4.1.1 Institutional Framework

In India, the management of urban areas is essentially the responsibility of the State Government, therefore, Urban Transport, is primarily the responsibility of the State Governments.

However, it may be observed that Urban Transport is an activity that is controlled by multi institutions. The multiplicities of agencies providing various urban services get into a familiar bureaucratic jam. This multiplicity of institutions has resulted in:

- Fragmentation of functional responsibilities
- Lack of local resources.
- Paucity of financial resources and
- Lack of privatization strategy for the sector, as a whole.

In fact, the responsibilities for policy making, planning, investment, operations and management are divided in Central, State and local government organizations with the result, there is no unity of command and coherent approach to various issues confronted by this sector.⁹

Traffic and transportation in Chennai is managed by diverse departments. Long-term plans are done by CMDA¹⁰, but lacks power to do public transport regulation. Bus transport served by MTC and traffic enforcement by Chennai traffic police.

In this regard, a streamlined and strengthened institutional setup is required. An empowered body should coordinate, oversee and regulate all the transportation projects

⁹ Source: Report on Institutional Frame-Work for Urban Transport , Ministry of Urban Development

¹⁰ Chennai Metropolitan Development Authority

The key state-level transport institutions active in Chennai, and their subordinate city institutions, are as follows: ¹¹

Table 2. Traffic and transport Institutions and its functions in Chennai.

STATE DEPARTMENT	CHENNAI CITY	FUNCTIONS
Department of Highways and Rural Works,		responsible for state roads
Municipal Administration- Water Supply	Chennai municipal corporation (CMC).	Responsible for non state roads in city
Transport Department	Chennai metropolitan transport corporation	Setting government policy in the urban public transport sector
Home Department	Chennai City Traffic Police.	Motor vehicle regulation, traffic management and law enforcement
Housing and Urban Development Department,	Chennai Metropolitan Development Authority (CMDA),	Transport planning
Tamil Nadu Urban Finance and Infrastructure Development Corporation, parastatal owned by the state government		A transitional bank for local governments, with funds drawn from various national funds

Institutional Gaps

- Political interference in decision making
- Lack of coordination between activities of different govt. agencies (esp. Transport, PWD, Urban Development)
- Lack of a transport apex agency to overlook all modes.
- No accountability in ownership, performance, and maintenance in transportation infrastructure.
- Lack of clear knowledge within/ between organizations.

¹¹ Source: Report on Institutional Frame-Work for Urban Transport, Ministry of Urban Development, <http://www.sutp.org>.

4.2 Urban Transport Scenario of Chennai

Hensher and Stanley (2008: 1144) believes that the broad objectives of government in public transport service provision can be described “as to provide a good quality, integrated and continually improving transit service that is available to all for a fair price, with reasonable return to operators that gives value for money under a regime of continuity”.

In case of Chennai, the urban bus transport system lacks

1. Continually increasing transit service.
2. Availability to all.
3. Reasonable returns to operators.

In fact,

- The service provided by bus sector is minimal.
- It doesn't attract the high income/middle income sector which prefers comfortable auto rickshaws and cabs.
- No returns are made by the transport corporation and it faces a financial loss of about 100 crore Rupees/year.

The bus commuters in Chennai face many problems. These can be very easily noticed in this metropolitan city.

4.2.1 A system meant for poor

Chennai is characterized by its heterogeneous population supplemented by high density slum settlements near the central business district and other employment centers. The public transport in Chennai has been set on the premise that this mode of travel is used by the poor, who have no other means of meeting their travel needs. As such, fares have been kept low as a measure of social equity. This has resulted in most public transport systems being unable to recover their operating costs. It has, in fact, encouraged poorly operated systems that have been financially sustainable only

through serious compromises on the quality of the service they render. However, the affluent sector aspires for improved quality and not so much for low fares. This segment that values time saved and comfort more than price, would shift to public transport if high quality systems are available to them.

Lack of comfort – hot weather, overcrowded buses.

The hot and unpredictable climate of Chennai does not support a preference for such a bus system especially for those who can afford a car. To add, the buses are overcrowded and rusty and dirty, definitely not the preferred option for a car commuter who values comfort over time. Most citizens would rather travel by car and spend extra 15 minutes on a certain stretch than reach office in dirty, sweaty clothes.

The huge demand gap is only one of the reasons why a person would not prefer public transport. The poor quality of buses, and the lack of accountability are other factors. Until we don't have the high capacity low floor bus system in Chennai on the roads on a large scale, private vehicles will always be the preferred mode of transit.

4.2.2 Competing Motor vehicles

The costs of motorized transport are dropping and becoming competitive with that of the MTC. Increasingly, less expensive motorized transport is taking the form of two-wheeled scooters and motorcycles. Plus the well developed automobile industry in Chennai brings the costs of car ownership within the reach of a larger swath of the middle class there. The recent introduction of very low-cost new autos in India will eventually exacerbate the situation further. All of this will create pressure to build more roads and overpasses and further the use of motor vehicles. It will do nothing to solve the larger problems of improving public transport, reducing congestion and environmental pollution.

4.2.3 Conclusion

The above mentioned are few characteristics of Chennai public transport that could be easily observed. These factors are responsible for further degradation of the system.



Over crowded MTC buses of chennai



Ply of share autos and two wheelers on the chennai roads

4.3 Metropolitan Transport Corporation Chennai (MTC)¹²

4.3.1 Introduction

History

In the early days of 1900, private companies operated the bus services. Presidency transport and city motor service were pioneers in operating bus service in madras in 1910. The first organized bus transport was operated by madras tramways corporation. In 1939 the motor vehicle act was passed for the restriction on public owned bus and motor services.

In 1947, the Government of Madras nationalized the passenger transport for the first time by introducing 30 buses in Madras City, side by side with the buses run by the private operators at that time. The operation was under the control of the then Madras State Transport Department. In 1972, the departmental setup was transformed into a company setup in order to inoculate a commercial approach without sacrificing the social responsibilities. Thus, Pallavan Transport Corporation limited was formed under the Companies Act 1956, by the Government of Tamil Nadu on 01.01.1972 with a fleet strength of 1029 buses. In 2001, MTC (Metropolitan Transport Corporation) was set up. It runs an extensive city bus system for which the demand far outstrips supply, leading to inhuman conditions of travel. One of the objectives of MTC, initially, was “to run it on sound commercial principles and hence zero operational subsidy.”

Organization and Management

MTC operates with fleet strength of 3260, transporting 5.86 million passengers per day covering 50 km around Chennai. Fares and service schedules are set by state.

MTC has its functions divided into three sections. They are mentioned below.

¹²Source: <http://www.mtcbus.org/>

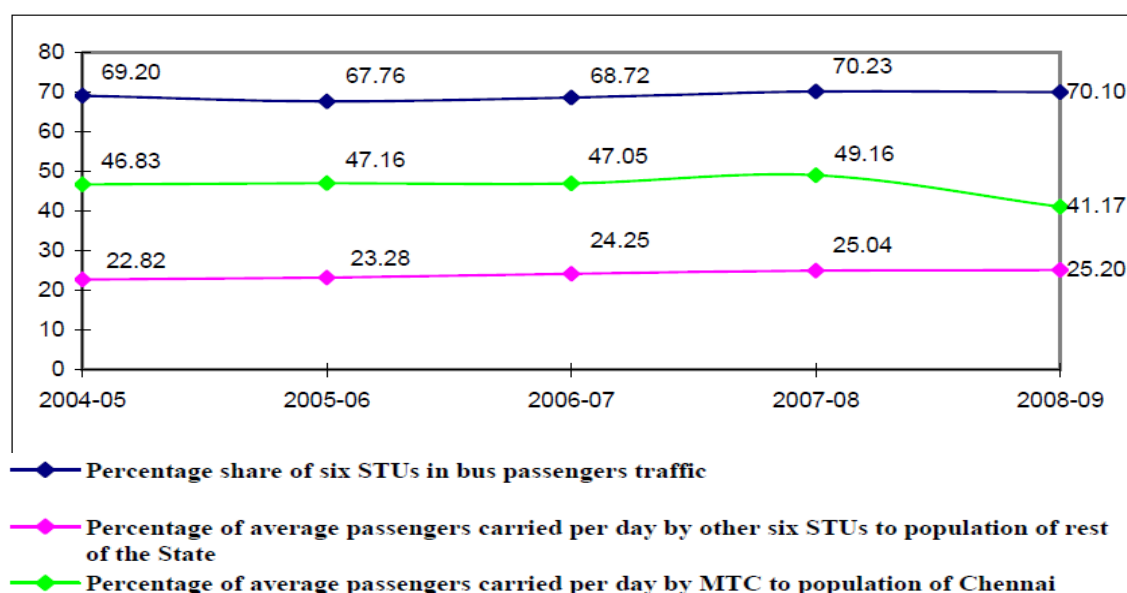
Table 3. Divisions of MTC and its functions.

Name	Function
Administration wing	Recruitment of employees, establishment matters, implementation of the policy decisions, implementation of government orders, service details, pay control etc. Public relation activities, issue of free passes, lost property matters, labour welfare matters
Operation wing	Operation of bus services, maintaining fare tables, time schedule, curtailment /augmentation, deviation of services, operation of chartered trips, issue of students concession ticket and monthly season ticket, checking of buses, collection of penalty, accident investigation.
Technical wing	The maintenance of buses in the 25 depots of this corporation, running of work shops and other technical units are the main functions.

4.3.2 Problems Faced By MTC ¹³

1. Decline in passenger

Figure 3. Passenger share of MTC.



¹³ Source - MTC Audit Report (Commercial) for the year ended 31 March 2009

In Chennai, as per the above graph, the percentage of passenger carried per day showed a sudden decline from 49.16 *per cent* in 2007-08 to 41.17 *per cent* in 2008-09. The population of Chennai city is 4.6 million with about 350 vehicles per 1000 persons. The usage of public transport services has not risen in the past decade, despite population increases and higher travel rates.

The ratio of average passengers carried per day to population is more than 40 per cent in Chennai. A good share (80%) of bus passengers are from low income group. But the disparity in the middle/high income group passenger composition is due to the higher preference of two wheelers/auto/taxi/cars etc to bus transport for comfort and convenience.

On comparing the income wise class distribution of Chennai city population with that of MTC Bus Passengers, a large mismatch is noticed in middle /higher income household sector (that is with an income more than 1 lakh/ annum). About 25% of the household in Chennai city comes in this sector, but only 4% of bus passengers are accounted to this sector.

Table 4. Income wise distribution of MTC passengers.¹⁴

Monthly HH ¹⁵ income,(annual)	% in Chennai city	% of MTC bus passengers
1001-2500 (35,000)	37.4	32.0%
2501-5000 (30,000 – 60,000)	22.1	34.5
5001-7500 (60,000- 90,000)	17.5	16.0
more than 7,500 (90,000)	24	4.0

This gap in the number of passengers with respect to population can be directly related to the unmet expectations of the middle/higher income populations. Rising incomes have increased service expectations of some public transport passengers, especially if they own or aspire to own a motor vehicle. They expect higher-quality services: easy access, a seat, high travel speed, air conditioning (especially in Chennai with its humid and hot climate).

¹⁴ Source - MTC Audit Report (Commercial) for the year ended 31 March 2009, Chennai.

¹⁵ House Hold

The continuous degeneration in quality of service rendered by the public transport system leads to the use of personalized mode of transport in quest of better comfort. MTC buses very often exhibit disregard to passenger comfort and facilities. Unclean seats and slow moving traffic worsens the situation.

During peak hours in Chennai, passengers are usually squeezed to death in deluxe buses due to overcrowding. The number of public transport buses operating under Stage Carriage permits is significantly low as compared to the demand of the city, thus leading to overcrowding.

Apparently, due to the many reasons, public bus transport is not preferred by a person who the least can afford a share auto or an auto for the journey. A citizen travelling to work or education in the usual morning peak hours would always be accompanied with the exhaustedness and worn out aura as he reaches the destination, irrespective of the length of the journey. Atmospheric pollution due to the congested traffic along with the hot and humid climate of Chennai worsens the situation.

In terms of relations between motorization and incomes, car-based motorization is linked to higher and high-middle income households. Motorcycles, on the other hand, are bought by low-middle and low-income households. From transport planning point of view, they are bought by households who are “normally” major users of public transport services.

Thus, it could be noted that many bus users are not captive and make their modal choice on the basis of some calculus of price, travel time, comfort, convenience, etc. The travel markets in Chennai are heterogeneous: car owners are at one end of the spectrum, and slum dwellers are at the other. Between these extremes are two partially overlapping groups which use public transport services and/or own motorized 2-wheelers. This is where the battle for modal dominance is being fought and where a strategic approach is called for.¹⁶

¹⁶ Source; A World Bank Document, Towards A Discussion Of Support To Urban Transport Development In India,(2005), Energy & Infrastructure Unit, South Asia Region, <http://siteresources.worldbank.org/INTSARREGTOPTRANSPORT/Resources/UrbanTransportSectorStrategyNote.pdf>

2. Financial Inefficiency Of MTC^{17 18}

As per the data from www.mtcbus.org/, the MTC passengers per day is 55.29 lakhs [avg.] ,and the average collection per day is 205.33 lakhs, as of the year 2010.

Table 5. The Finance Outline Of MTC For The Year 2008-2009¹⁹

Description	Amount in crores
Total Revenue	745.92
Total Expenditure	846.46
Profit/Loss for the year	- 100.54
Fixed costs(personnels.etc)	545.19
Variable costs(Fuel cost, maintenance,MV.)	301.27

It can be seen that the MTC had to face a budget loss of 100 crore rupees for the budget year 2008-2009. It could be accounted to higher wages paid to employees and the operations of uneconomical routes worsened by untimely availability of subsidies from government.

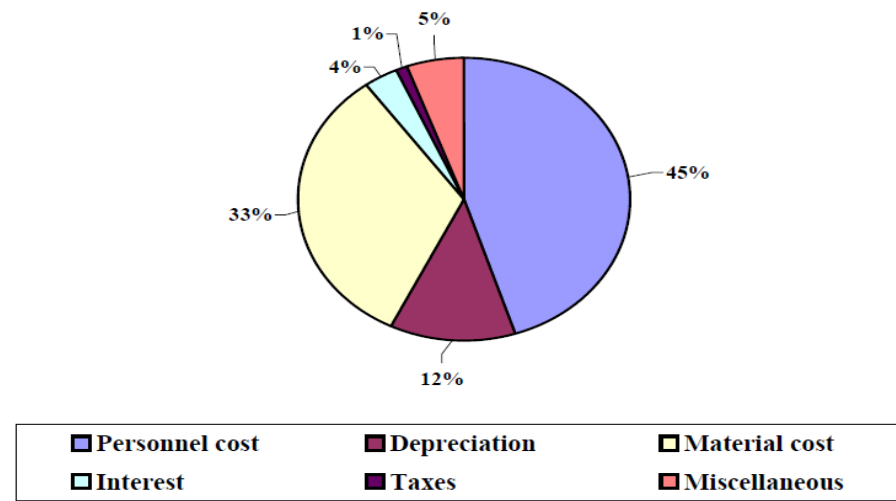
As per the Audit Report (Commercial) for the year ended 31 March 2009), the inefficiency of MTC is noticed in the financial handling of man power cost and material cost. This has ultimately resulted in 12% depreciation.

¹⁷ Source; A World Bank Document, Towards A Discussion Of Support To Urban Transport Development In India,(2005), Energy & Infrastructure Unit, South Asia Region,
<http://siteresources.worldbank.org/INTSARREGTOPTTRANSPORT/Resources/UrbanTransportSectorStrategyNote.pdf>

¹⁸ source : www.mtcbus.org/

¹⁹ Source : Audit Report (Commercial) for the year ended 31 March 2009, Chennai.

Figure 4. Components of various cost elements of MTC.



- **Manpower Cost**

The State Government, fixed the overall employee ratio of 6.5, (March 2007) with the internal composition of norms as drivers: 2.625, Conductors: 2.625 and other categories: 1.25. This is not followed by MTC where the 'other category' has exceeded the rate accommodating more staffs.

Absenteeism

The manpower cost of MTC was Rs.12.52 per KM in 2008-09 against the AIA²⁰ of Rs.7.50 per KM (2006-07). The idle wages worked out for MTC is Rs.85.65 Crore for the budget year 2008- 2009.

- **Material Cost**

Fuel Cost

MTC had recorded 4.82 lakh dead kms on theoretical estimation towards garage distance in respect of six depots even though the depots and terminus are located in the same complex.

The MTC recorded 29.24 lakh kms for the period 2005-06 to 2008-09 as dead kms without assigning any reason indicating absence of management control over the dead kms and fuel consumption.

²⁰AIA - All India Average, for performance parameters.

Maintenance

MTC, despite having their own in-house capacity for construction of ordinary buses, outsourced bus body construction of 453 ordinary buses at a total cost of Rs.24.72 crore. However, the cost would have been Rs.17.86 crore if the work was undertaken in-house. Thus, unregulated outsourcing of the activity led to an avoidable extra expenditure.

There are obvious inefficiencies such as excess tyre cost, defective route planning, *etc.* in MTC operation. This shows that the net loss could be lower, if the operations are properly planned and efficiently managed than what they actually are. Thus, the case made by the STU²¹'s for increase in fare includes their inefficiencies and would make the commuters pay more than what they should be actually paying.

- Services on uneconomical routes

About 99 per cent of the routes operated by MTC²² became uneconomical as of 31 march 2009. This could be rectified by improving their efficiency in fuel, operation of scheduled kms, manpower management, *etc.*

A grant of 30% would be made available from state government if the MTC would have an independent regulatory body to specify the quantum of uneconomical services based on demand.²³

4.3.3 Conclusion

The financial situation of CMTC, as reflected in its balance sheet, is not good: its working capital is negative, accounts payable are high and growing, and more than half of the company's debt is short-term. The finances of CMTC have been subject to vagaries of fare policies dictated by the state government, the scale and timing of compensation payments for discount tickets and uneconomical routes, as well as the relations between the state and the organized labor. The state policy generally has been to keep the fares low on the account of low incomes of the

²¹ STU – State Transport Undertakings

²² MTC – Metropolitan Transport Corporation.

²³ Source: Audit Report Commercial) for the year ended 31 March 2009, Chennai.

population, make up the gap in the operating income through compensation payments, and the capital budget through subsidies. This has ensured that the services remained at a very basic level, acceptable to the majority of passengers while the level of motorization was low.

But in present scenario, the motorization level has increased and the basic level services provided wouldn't be helpful in attracting the well off citizens of the city who are responsible for increased motorization. To reduce the traffic congestion and thereby to facilitate the speed of urban traffic, it is important to modify the operating structure to an efficient service system. Thus it should alter the image of the public transport system from being provided only for poor to a system for all. If CMTC tried to raise its level of service, a major restructuring effort would be necessary in several dimensions.

4.4 Problems

1. Chennai has a heterogeneous travel market. Income inequities lead to diverse travel expectation.
2. The responsibilities for policy making, planning, investment, operations and management are divided in Central, State and local government organizations. Thus there is no unity of command and coherent approach to various issues confronted by this sector.
3. Lack of an independent metropolitan transport regulatory authority
4. High rate of motorization in Chennai city. The ply of personal vehicles on roads could be arrested.
5. Problems faced by the Chennai MTC
 - Decline in bus passenger rate in spite of population growth and increased mobility rates.

-
- Increase in fleet not resulted in improved service/ frequency. It lacks in productivity, optimum utilization of vehicles. Infrequent, slow moving, over crowded bus marks the inefficiency.
 - Higher rate of absenteeism among employees reported.
 - The financial loss of MTC to the low fare policies set by state and due to the scale and timing of compensation payments of discount tickets and uneconomic routes.

It is important that the Chennai public transport system has to be service oriented, but at the same time efficient enough to attract the middle/higher income group. Thus arise the need to introduce commercialization and competition. An improved image of the sector is essential to attract this high income section of population.

The essential remaining question is this: can the current regulatory arrangement, a public-sector monopoly, with an outsourcing complement, produce the cost efficiency and service levels to make this mode competitive with individually owned motor vehicles? A clear and promising option is to move toward a market-based arrangement, by separating regulatory and service planning functions from the provision of operations, organizing the latter through the medium of competitively awarded service contracts

5. A COMPARATIVE STUDY ON WORLD DEREGULATION STORIES.

In my thesis, I have done the study on Privatized urban transport system in different socio political background. A detailed understanding on the related efficiency, advantages and the associated disadvantages of the system of privatized transport is also attempted.

The different cases of public transport privatization in countries like France, London, Netherland, South Africa, Brazil, Afghanistan, India are analyzed. Each region has a unique character. Different organizational models for privatization were identified depending on the local needs and organizational possibilities.

My attempt is to understand the factors that promote efficient privatization, which can at the same time, be borrowed and finely tuned to the context of Chennai.

The major areas focused are on:

- The kind of contracts and tendering system that could be applied in Chennai's context.
- To draw out a qualitative model on the essential criteria's for successful privatization of bus transport.
- The kind of organizational model, operator-authority relations that proves efficient.
- The innovative solutions adopted by the governments to tackle privatization related issues.

This chapter is divided into two sections, where in the first part a brief summary of the referred literatures on the deregulation stories of developing nations is presented. This is done to draw its similarities to the case of Chennai.

The second section analyze in detail, the bus transport deregulation stories in developing and developed nations respectively.

5.1 A glance at the literatures on developing nation.

In this section, I have tried to comprehend the general characteristics of bus transport deregulation in developing Nations. The literatures that were understood to have similarities with the context of Chennai, India are briefly outlined. A brief description on the characteristics of south Asian countries, China and African countries is explained.

5.1.1 Explanation of the bus regulatory cycle as per the article by Ken Gwilliam.

During the colonial period, private monopoly is common in transport sector which is nationalized during decolonialisation. The public governed transport tends to reduce the fair rates due to the poor economic condition of the population. But as a result of the financial constraints of the government, the controlled fair rates wouldn't be supported with subsidies. This causes decline in quality and quantity of service. Governments' response to the process of decline was to encourage fragmented competition. Informal sector operators were tolerated as a necessary evil as the public sector declined, and were legalized when public services were terminated.²⁴

Up until the late 1970s public transport in the developing world had been partially or fully regulated. Deregulation was promoted in response to increasing subsidy levels required from governments; consumer dissatisfaction; and increasing pressure from private operators to enter the market. The model of deregulation and privatization adopted in the UK was subsequently used in many developing countries in the 1980s, with various levels of success (Amsler, 1998).

²⁴Source; Ken Gwilliam, Bus transport: Is there a regulatory cycle?, Transportation Research Part A 42, (2008), 1183–1194

Fig 5. The post colonial regulatory cycle.²⁵

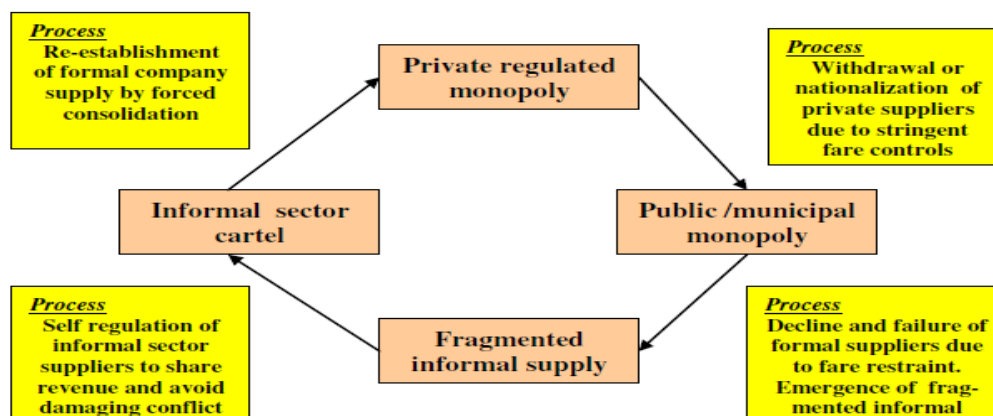
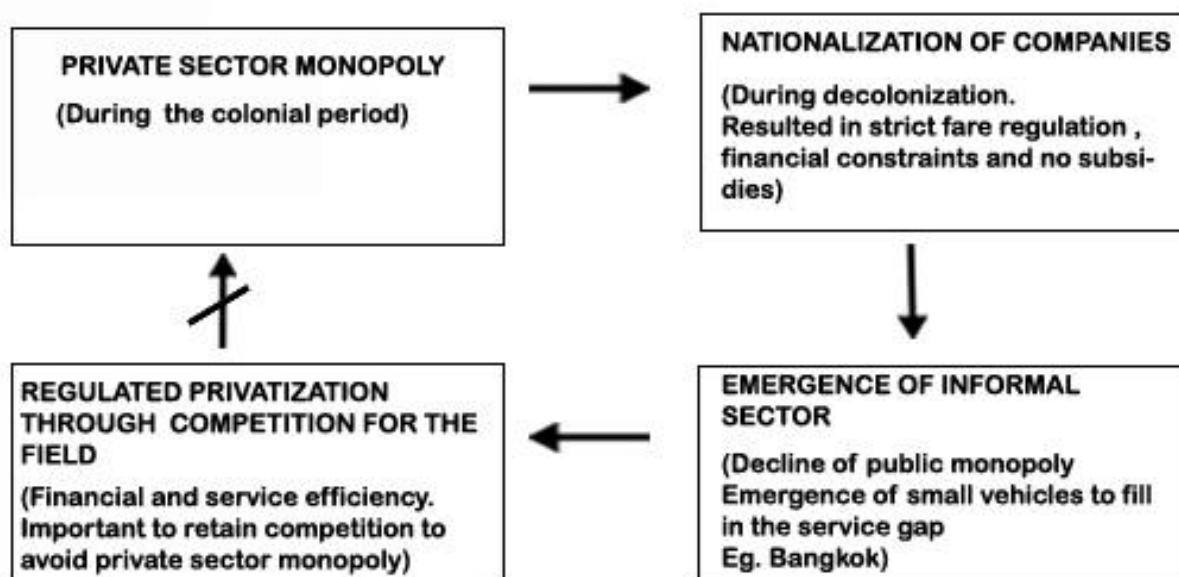


Figure 6. The altered regulatory cycle through regulated privatization.



²⁵Source; Ken Gwilliam, (2008) , Bus transport: Is there a regulatory cycle?, Transportation Research Part A 42,1183–1194, http://www.thredbo-conference-series.org/downloads/thredbo10_papers/thredbo10-themeC-Gwilliam.pdf

In the article by Ken Gwilliam, “Bus transport: Is there a regulatory cycle?” He advocates a typical observed bus regulatory cycle. This cycle can be altered by introducing competitive private supply. Thus a complete private sector monopoly can be avoided through controlled competitive regime.

5.1.2 A Brief on privatized bus transport cases in South Asian countries.²⁶

In countries of South Asia, low incomes and high population densities might be expected to support a viable transit service. In practice, that was not the case, with failures of public transport policy having serious adverse effects in most countries. Most commonly, the failure has initially taken the form of unrealistic fare regulation of conventional public sector bus services, and subsequently been compounded by inappropriate regulation of the emerging private sector. Controlled low fares have strained the capability of the enterprises to maintain services. This has attracted uncontrolled informal sector supplementation of service, including share autos, cycle rickshaws, often at premium prices.

In India urban bus services were traditionally supplied by municipal enterprises of varying efficiency. The attempt in Delhi to open up the market to private sector supplementation by licensing private operators to run on DTC routes increased supply substantially. However, because private operators were not incorporated into a disciplined operating regime it gave rise to much concern about unsafe operating practices (referred to as the “killer buses”).

In Pakistan the traditional public sector has declined even further than in India, and efforts are now being made to attract private suppliers.

In Bangladesh the combination of public supply and fare control also ruined traditional bus services. The public sector supplier, found urban operations commercially unviable, and leased its vehicles instead to the private sector. The private sector often found it more profitable to operate these vehicles on the inter-city lines, rather than the urban market. Meanwhile private sector minibuses and

²⁶ Source; PA Pienaar, The Role Of The Bus In Public Transport In Developing Countries , Saboa Conference: 22 February 2007

cycle rickshaws took over an increasing proportion of the market. Though it still lacks the effective regime or policy for the core demands.

The tension between the objective to encourage private supply and the objective to maintain public transport as a low price social service has come almost full circle in Sri Lanka. The early stages were similar to that in other countries of the region, with the public company failing to supply the required service at controlled fares. Supplementation came first from private minibuses, mostly Japanese vehicles supported by credit, which further accentuated the failure of the public company. Eventually this ended in a process of “peoplization”, the transfer of ownership of buses to the former employees. But, in the absence of any structured subsidy mechanism neither the private sector nor the “peoplized” sector could satisfy the service aspirations, with the result that, in the last few years regional transport companies have been created through which a new round of subsidy support is being channeled. Only very recently has the regulatory agency begun to move to competitive tendering of subsidized services as a means of reconciling subsidy with operating efficiency.²⁷

5.1.3 Public transport privatization in China²⁸

Institutional structure of china is very similar to India. The government structure includes the State Council and ministries at the central level, provincial governments and municipal governments at the local levels.

Historically, like India, China’s urban public transport sector was characterized by state-owned monopoly operators, providing regular bus services with simple fare structures. These state-owned enterprises (SOEs) exhibited labour intensive operations, low-tech management and simple operating methods, reflecting the use of planning targets rather than efficiency benchmarks for staff scheduling, capital planning and operations. Ridership was stable or growing slowly. Other than fare

²⁷ Source - The Role Of The Bus In Public Transport In Developing Countries, Saboa Conference: 22 February 2007

²⁸Source: Liu Zhi , Brendan Finn, Ken Gwilliam, (2009), Recent Developments In Bus Transport In China, 11th Conference On Competition And Ownership In Land Passenger Transport, Netherlands.

revenue, municipal budgets were the only source of financing for public transport, and large subsidies were needed for both capital and operating expenses.

In 1980's, public transport lost mode share due to the combined effects of increased motorization, congestion and increased operating costs. The reform took place because of this decline. Lack of resources with government to sustain operations forced the need to commercialize the operations.

Various devices were used to enhance the commercialization and competitiveness of the sector, including commercial freedom for fragmented public enterprises, competitive franchising, and outright sale of service rights. The private sector, both domestic and foreign, was seen as a source of capital and was often involved in joint venture enterprises.

- Promoting the franchise system. This was to involve opening the market to multiple suppliers while avoiding the unconditional and reckless selling of facilities and route operating rights. Individual routes were to be granted as monopoly operations to selected suppliers subject to withdrawal of those rights if performance was inadequate.
- Strengthening market regulation. This required improved administrative regulation of the operation and service quality of public transport supply enterprises.
- Upgrading the service level. This required improvements in route planning, vehicle quality and operations and in terminal operations.

Outcome

The results were very mixed. Most cities saw some improvement of Public transport service quality. But increased commercial freedom often resulted in loss of some services deemed socially desirable. Rarely did the new arrangements address the issue of how to reconcile the continued provision of unprofitable services with a market based supply arrangement

Lessons learnt

The case of china edifies the relevance of commercial and competitive elements in public transport sector. Decentralized implementation that would give freedom and flexibility at local level encourages innovation. The explanation for failure case of Shanghai is observed to be the lack of social objectives and regulation by government. This thus reveals the significance of the same.

5.1.4 Public transport characteristics of African cities^{29 30}

Similarly to the Indian scenario, the African countries also face the financial constraints and the dominance of para transit modes in the urban bus transport sector. The average monthly household income is less than 6000. It is interesting to note that even at the lower end of household income; access to the motorcar is possible. This trend is worrying as many of the previously captive public transport users are converting to the car for their mobility needs. Twenty percent of income is spend on public transport. Affordability and accessibility are other major issues.

As the constraints on commercial freedom of operators – whether privately or publicly owned – became increasingly binding, their finances deteriorated dramatically. Eventually cash starvation drove most of the traditional large private companies in Africa to bankruptcy.

In some cases, such as that of Anbessa in Addis Ababa, Ethiopia, where the government has frozen fares at the 1992 level, the government has recognized the need for subsidy. But rarely were adequate subsidies actually paid. As a consequence, as in Douala, Cameroon, where the budgetary burden of adequate subsidy became excessive, and the failure of the formal bus company SOCATUR³¹ left the sector effectively unregulated, the sector relied increasingly on service from small vehicles in fragmented ownership. Eventually, the traditional services were totally replaced by an informal sector which was sometimes more able to survive because of lower costs and sometimes escaped the constraints on the traditional formal sector enterprises. (Gwilliam, 1999).

²⁹ Source: The Role Of The Bus In Public Transport In Developing Countries, Saboa Conference: 22 February 2007

³⁰ Source: Jackie Walters ,(2010),Is the bus transport contracting system in South Africa leading to trusting relationships between contracted parties?, Research in Transportation Economics. <http://www.sciencedirect.com/science/article/pii/S0739885910000764>

³¹ Société Camerounaise de Transport Urbain (Douala private bus operator)

Cities of Dakar and Accra also share some common characteristics with that of India: a growing urban population inadequately served by the transport system, declining standards of public transport, overlaps and conflicts among the agencies responsible for planning and implementing transport solutions, massive growth in the use of minibus services, growing dependence on private transport (cars and motorcycles), inadequate and deteriorating transport infrastructure, and poor facilities for non motorized transport (walking and bicycling).³²

In Africa, governments in Accra, Lagos and Dakar have attempted to establish large bus operation either by re-creating publicly owned companies (as in Accra) or by subsidizing and protecting a selected private company (as in Dakar). Similarly in the Dominican Republic in the Caribbean, the government has re-established a public large bus operating company. The fundamental causes of the decline of big bus services (inappropriate regulatory control unmatched by adequate financial support) been addressed. So, as is already apparent with DDD³³ in Dakar and MMT³⁴ in Accra, it is likely that the effort will ultimately fail because of the unsustainability of the budget burden.³⁵

Emergence of Self-regulated private bus services in Africa

Control and regulation of the urban transport market by operators associations has evolved as an industry response to the regulatory vacuum created by the failure of government. Thus it results in a service that is not concerned about passenger

³² Source: Ajay Kumar & Fanny Barrett ,(2008), Stuck in traffic: urban transport in Africa, Africa Infrastructure Country Diagnostic, draft final report.
<http://siteresources.worldbank.org/EXTAFRSubSAHTRA/Resources/Stuck-in-Traffic.pdf>

³³ Dakar Dem Dik (Dakar bus operator)

³⁴ Metro Mass Transit.

³⁵ Source: A World Bank Urban Transport Strategy Review , Cities On The Move,(2002) , The World Bank, Washinaton. D.C.,
http://www.wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2002/10/12/000094946_02100204022071/Rendered/PDF/multi0page.pdf

demands, causes longer waiting time during off peak and no option is left for the users. The need of stronger enforcement of regulation is raised in Nigeria. (Bolade, 1998) and Ghana (Fouracre et al, 1994).

Institutional inadequacy

UNCHS argue that urban transport decision-making should be decentralized to the local level, as a means of ensuring that all urban residents are adequately served by effective transport services at affordable prices (Williams, 1998). Vasconcellos (1996) notes that excessive centralization of powers in developing countries can hinder local authority decision-making, and this is demonstrated in Cairo where a strong central state has conspired against local level implementation (Mitric, 1994) Local nature of the bus market should not be avoided.

5.1.5 Conclusion

Urban transport characteristics of developing world.^{36 37}

1. Abundance of low capacity vehicles which include minibuses, three-wheeled vehicles, and motorized and non motorized rickshaws in commuter services and the dominance of this form of public transport in the overall public transport sphere. Characteristics of small vehicle services – speed, frequency, network density, etc. – which may be highly valued by passengers. And this adds to the congestion on roads.
2. Inappropriate market structure is typically characterized by low barriers to market entry when no effective legal or extra-legal impediments are set in place for potential service suppliers and hence results in a highly competitive system in which individual owner-drivers compete with one another along a

³⁶ Source; PA Pienaar, The Role Of The Bus In Public Transport In Developing Countries , Saboa Conference: 22 February 2007.

³⁷ Source; Ken Gwilliam, Bus transport: Is there a regulatory cycle?, Transportation Research Part A 42, (2008) ,1183–1194, url: http://www.thredbo-conference-series.org/downloads/thredbo10_papers/thredbo10-themeC-Gwilliam.pdf

mix of uncoordinated and informally designated routes. A typical example is the case of public transport deregulation in Delhi, India.

3. Institutional inadequacy. Another problem faced by African countries are the lack of proper focal institution to regulate bus service. Overlap of jurisdiction between state, national, and municipal level should be resolved.
4. Financial constraints- Public transport in developing countries is also generally characterized by a lack of adequate financial resources to fund operational subsidies. Inefficient fare regulation complements the burden.. This gives rise to issues such as a lack of timeous capital investments to replace rolling stock, lack of integrated transport planning, absence of a firm commitment to public transport, etc.
5. Unaffordability -On the other hand, most of the captive users of public transport are generally not in a position to contribute significantly towards the fare box due to low levels of income and unemployment.
6. Corruption- Corruption can undermine sector efficiency in many ways. Where bribery rather than operational efficiency is the route to gaining franchises, then it would be the direction in which entrepreneurs will direct their efforts, at the expense of operational efficiency. The case of France is a good illustration of this case.
No Law enforcement, in both road traffic and road transport, is often also deficient and problematic in the developing world. This often gives rise to unlawful operations and poor driving habits.

5.2 Analysis Of The success and failure stories of Deregulation In Developing And Developed Nations.

From the related literature studies, I have come to an assumption that some of the cases can be classified into successful deregulation, while few others can be categorized as the failure cases of privatizing the bus transport. The reason of my

assumption is due to the impact of the introduction of private sectors on the financial as well as service efficiency.

In this chapter, I segregate the success cases and failure cases of privatization in developing and developed nations into different section, and then analyze it. By this segregation, it would help me to understand the common elements present in each group, which could be a major cause to the success or failure of the process.

Contracting

On introducing private sector into public transit services, there would be an agreement between the public sector and the private sector that the interests of the public would be protected, and at the same time, adequate incentives would be provided for encouraging the private sector.

The kind of public and private cooperated regime is such that there would be no change in ownership, but it's the transfer of rights for transit service provisions. The contracting out of process can be through competitive tendering or negotiated contracting. The three kinds of controlled regimes are competitive contracting, franchising and licensing.

Related Terms

1. Competitive Contracting ³⁸

Management contracting

The operational assets are owned by the authority and the operator is responsible for the management of operations. The authority usually bears both production and revenue risks, although there may be performance responsibilities for the operator in terms of production cost, quality of service and overall financial performance. Eg. Bus contracting cases in France and in the US

Gross service contracting

A public authority procures transit services to an operator, without the operator taking any revenue risks. The operator is only responsible for production risks and

³⁸ Source : Matthew g. Karlaftis, (2007), Privatisation and regulation of urban transit systems, Round Table 141, <http://www.internationaltransportforum.org/Pub/pdf/08rt141.pdf>

his compensation is related to production. Eg. Cases in Curitiba (Brazil), and Copenhagen (Denmark).

Net cost service contracting.

This is similar to gross service contracting. The operator bears both production and revenue risks and is compensated according to anticipated production and revenues. Eg. Buses in London

2. Franchising

The franchisee is granted an exclusive right to provide services, usually as a result of a competition.

It gives more freedom to the operator in planning and adjusting services to fit the needs of the market. The public authority specifies the desired transport product and bears any consequent cost responsibilities. Eg. Buses in Nairobi (Kenya) and Singapore.

3. Licensing

Quality Licensing

A service is allowed to be operated by anyone receiving a license and complies with its standards. This type is close to a market liberalization regime. Eg. Buses in Mexico City.³⁹

In the map below, few of the cities in the world that have attempted introducing private sector into public transport scenario are cited. These cities are chosen for a detailed study to find out the success components.

³⁹ Source : Matthew g. Karlaftis, (2007), Privatisation and regulation of urban transit systems, Round Table 141, <http://www.internationaltransportforum.org/Pub/pdf/08rt141.pdf>

Map 2. Location of analyzed cities on the map.



5.2.1 The Deregulation Story Of Developing Nations

Table 6. The success cases of bus transport deregulation in developing nations

Scenario (D0.S/D0.F)	D0.S			
Country/city(details)	Taiwan intercity/Taipei (Population- 3 million , public transport usage 34%)	Pakistan/Faisalabad (population- 2 million, public transport usage- 15%)	China/ Guangzhou (Population -10 million)	South Africa /Durban (population -3.5 million)
Type of regime	Deregulated / licensing	Net cost contracting	Competitive tendered / Franchising	Negotiated-net cost contracting

History	In 1980's public monopoly existed. Owing to its decline, the TMTC ⁴⁰ was fully privatized in 2001 and KKTC ⁴¹ was formed.	Urban bus transport was of poor quality and undue regulation. NGO ⁴² based regulatory system introduced to run bus transport. It is registered with the Social Welfare Department as the Faisalabad Urban Transport Society (FUTS)	In 1980's public transport lost mode share due to increased motorization, congestion and operating costs. Lack of resources with government to sustain operations forced the need to commercialize the operations in 1994.	Durban Transport operated municipal bus service. Subsidies were escalating at an alarming rate due to severe competition from the taxi industry. In 2001 , the system was privatized and contracted out.
Operation	KKTC is a privatized enterprise operating in a partially-deregulated transportation market, but almost entirely free from the government's restrictions placed on a statelty-owned enterprise (SOE). Universal ticketing and fare structures. Revenue collected and given to management and later distributed to operators.	The workings of the NGO are such that operators make vehicles available to the NGO, and agree to abide by certain rules of courteousness, fare levels and safety. FUTS ⁴³ plans, operates, and controls public transport services under the 'FUTS flag'. The society specifies the size and type of vehicles	Guangzhou introduced a comprehensive competitively tendered franchising system. Individual routes were granted as monopoly operations to selected suppliers subject to withdrawal of those rights if performance was inadequate. 14 bus companies operated in the market. Later, Guangzhou took action to integrate a number of bus companies into three major operators.	Ten smaller service areas open to be contracted, later combined to three larger services. The management of the contract resides with the EThekwini Transport Authority.

⁴⁰ The Taiwan Motor Transport Company

⁴¹ Kuo Kuang Motor Transport Company

⁴² Non Governmental Organization.

⁴³ Faisalabad Urban Transport Society

Regulation	Taipei City Traffic Bureau makes a bi-annual service quality evaluation on each of the operating agencies, and uses the evaluation as a reference in operator's application for new routes as well as the public transit subsidization.	<p>The NGO employs staff to monitor the adherence of operators to the rules. It raises funds for the NGO through service charges by operators and fines from operators.</p> <p>The NGOs have taken over responsibility for route permits; fare control; route demarcation; safety of vehicles and the enforcement regime.</p>	The SOEs have been the real executive arm of Government for Urban Public Transport, managing card schemes and dispatching systems and doing route planning as well as being the sole operator.	The services are clearly mentioned in the documents.
Outcome/Impacts	The impact of privatization has resulted in an improved financial performance by KKTC	The conclusion is that the NGO system appears effective, improving service levels to passengers and overcoming bureaucratic hurdles to effectiveness.	A provision of more convenient, integrated services to the public and to the rapidly expanding metro system.	<p>The passenger base increased by about 8% after the negotiated contract was concluded.</p> <p>Passenger revenue per bus increased by 12% in the year following the negotiated contract.</p>
Reason of impacts	Improved performance and the fall in average fare rate are due to competitive pressure.	Realistic fares, the involvement of private operators in decision making, freedom from the constraint of government bureaucracy, and strict enforcement of service standards.	Understanding of more successful and better prepared strategies, like that of Guangzhou, is limited and dispersed.	<p>A thorough interview process where the preferred bidding companies' proposed pricing was negotiated downwards.</p> <p>Each bidder was evaluated for their bus operating experience and their financial capacity.</p>

Lessons learnt	Well oriented, market based and competitive approach leads to efficiency. Need of strict regulation for good performance. Ensuring quality by performance based licensing.	Importance of <u>complementarily</u> between the informal and formal sectors, that is, accepting the roles each have to play, but requiring the local authority to clearly demarcate those roles.	Priority to commercial and competitive nature. Decentralized implementation to give freedom and flexibility at local level.	A detailed analysis, monitoring and regulation is necessary. A common misconception is that contracting out doesn't need detailed monitoring.
Reference	Ming-Miin Yu, Chih-Ku Fan (2008) ⁴⁴ .	Lisa Kane, (2002). ⁴⁵ Russell and Anjum (1998). ⁴⁶	Liu Zhi , Brendan Finn, Ken Gwilliam, (2009). ⁴⁷	Prof. Jackie Walters, 2008. ⁴⁸ Lisa Kane ,(2002)

This above table helps to roughly comprehend the major cause of the successful outcome.

⁴⁴ Source: Ming-Miin Yu, Chih-Ku Fan, (2008), The effects of privatization on return to the dollar: A case study on technical efficiency, and price distortions of Taiwan's intercity bus services Transportation Research Part A 42 935–950, <http://www.sciencedirect.com/science/article/pii/S0965856408000529>

⁴⁵ Source: Lisa Kane, (2002), Urban transport problem in south Africa and developing world. Urban Transport Research Group. UTRG Working Paper 3, Cape town.

⁴⁶ Source: Russell and Anjum (1998), Regulating public transport in Pakistan: a role for NGOs. In: Urban Transport Policy, pp129-134. Proceedings of the International Conference, Rotterdam, Brookfield.

⁴⁷ Source: Liu Zhi , Brendan Finn, Ken Gwilliam, (2009), Recent Developments In Bus Transport In China, 11th Conference On Competition And Ownership In Land Passenger Transport, Netherlands.

⁴⁸ Source: Prof. Jackie Walters, The south African experience with negotiated versus competitively tendered bus contracts, Transportation Research Part A 42 (2008) 1163–1175.

Table 7. The comparative study on unsuccessful deregulation cases in developing nations.

Scenario (D0/D1/S/F)	D0.F		
Country/city (details)	Thailand/Bangkok (Population-11.4 million, public transport use- 50%)	India/ Delhi (Population -13 million, public transport use -40%)	Srilanka/ Colombo (Population- 5.6 million.)
Kind of regimes	Sub contracting without tendering	Market liberalized	Deregulated privatization
History	Urban bus services are managed by Bangkok Mass Transit Authority (BMTA) established as statutory monopolist in 1976 Large proportion was sub franchised without tendering.	Delhi Transport Corporation is the main public provider of bus service in the city. Established in 1971. Financial loss observed along with increase in staff cost.	In 1977, the inefficient CTB ⁴⁹ was regionalized to RTBs ⁵⁰ , plus permits were issued to private operators on a vehicle basis through separate ministry. In 1987 peopleization of RTBs to 94 companies. In 1996 peopleized companies consolidated into 11 cluster companies. 2004 move towards competitively tendered franchising
Operation	BMTA ⁵¹ operates a fleet of 3,650 of its own buses and controls the operation of a further 3,400 buses	Earn & Keep Scheme (EKS)1990, Large-scale liberalization of services was attempted	By 2004, 13 public sector services operated a fleet of 9000 vehicles along

⁴⁹ The Ceylon Transport Board

⁵⁰ Regional Transport Board.

⁵¹ Bangkok Mass Transit Authority

	<p>run by sub-contractors.</p> <p>Private operators run bus services on most routes under contract to BMTA. Tickets are issued by on-board conductors who are part of a powerful union.</p>	<p>and operators chosen by lots, were to ply routes for a fee.</p> <p>Owners provided both drivers and conductors. Owners retained the fare box collection.</p> <p>Drivers paid for number of trips thereby causing over speed. Redline Bus Scheme favored small operators.</p>	<p>with a fragmented private sector of 20,000 vehicles which carried 75% of passengers. Many [services] came to be dominated by small cliques of operators who ran the route of their own benefit and maintained control through physical intimidation of other members and bribery of local officials”</p>
Regulation	Bus fares are controlled by regulatory authority.	New Delhi policy makers also lost control of the system.	Privatization with fare and route deregulation is attempted.
Outcome/Impacts	<p>Decline of proportion of social service.</p> <p>High wage employer.</p> <p>Operating costs doubled compared to those of private sector.</p>	<p>Rash driving, over speeding, overcrowding, ill maintained bus.</p> <p>Social objectives not considered.</p>	Colombo’s bus system is described in Meyer and Gobeze as overcrowded and inadequate. Increase in fare rates.
Reason of impacts	Allowing the franchised operator to choose services to sub contract, disguises the problem by allowing it to concentrate its own resources on more profitable services.	‘Profit motive’ of the private operators is the main factor. Small individual operators do not have enough finances for maintenance of the buses.	<p>Unrestricted entry of enormous number of private operators.</p> <p>The attempt to introduce competitive tendering was a failure as potential buyers found the terms unattractive.</p>
Lessons learnt	<p>Absence of a strategic metropolitan transport authority severely damages modal coordination</p> <p>Absence of competitive</p>	<p>Social objectives should be given importance.</p> <p>Wrong set of incentives, forces the driver to claim revenue through over speeding</p>	<p>Franchising individual buses is very difficult to manage.</p> <p>When competition exists, privatization can reduce costs and improve the quality of</p>

	tendering allows inefficient allocation of service responsibility among suppliers.	and overcrowding. A minimum contract size to be mentioned, to avoid unskilled, unexpertised entrants into the sector.	urban bus services. Privatizing should be associated with regulatory reforms. Need to be aware of existing conditions.
Reference	Ken Gwilliam,(2005). ⁵²	Tripti Bhatia, Mugdha jain, 2009. ⁵³	Meeting the Challenges of Megacities in the Developing World,(May 1996) ⁵⁴ . Ken Gwilliam (2005.

This above table.7 helps to roughly understand the major elements that cause failure of the privatization attempt in developing nations. It can be otherwise explained as the absence of certain elements that lead to the failed result. In the next section, a brief study on the cities in developed world is done to draw out the major differences and to borrow practices that can be adapted to Chennai.

⁵² Ken Gwilliam ,(2005), Bus Franchising in Developing Countries: Some Recent World Bank Experience,
http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/bus_franch_gwilliam.pdf

⁵³ Tripti Bhatia, Mugdha jain, 2009, Bus transport in Delhi, Working Paper No. 210, Summer Research Internship 2009, <http://www.ccsindia.org/ccsindia/downloads/intern-papers-09/bus-transport-in-delhi-210.pdf> .

⁵⁴ Meeting the Challenges of Megacities in the Developing World, A Collection of Working Papers, National Research Council, May 1996, <http://onlinepubs.trb.org/onlinepubs/admin/megacities.pdf>

5.2.2 The Deregulation Story Of Developed Nations

In this section, the urban bus transport scenario of France and London is analysed. The special characteristics of each case is explained and a comparative study is done further for better understanding.

Table 8. The Deregulation Story Of Developed Nations

Scenario (D0/D1/S/F)	D1.S	D1.F
Country/city (details)	Great Britain	France
Kind of regimes	Net cost service contracting	Management contracting
History	In 1984, nearly all bus services in London were provided directly by London Transport through its subsidiary LBL (London Buses Ltd) (London Transport 1995). Later the government decided to privatize all the LBL companies, and by December 1994 all of them were privatized.	A decentralized model Since 1982, responsibility for the organization and the management of urban public transport has been decentralized to the local authorities. A new law (the 'Sapin' Act) was promulgated in 1993, Against corruption and enhancing competition between operators, has made the use of competitive tendering for delegated management compulsory.
Operation	A regulated, planned network was retained, but a system of competitive tendering and independent operators was introduced. Initially, this applied mainly to minor routes in suburban areas, which existing independent firms could easily operate. It was subsequently extended to include trunk routes and high-frequency services in central London. Private sector companies now	The LA ⁵⁵ therefore has the authority to define the characteristics of the service to be procured and choose the mode of organization of their urban public transport system. More precisely, they define the network route, schedules and fares as well as the amount of subsidies given to the sector. In each urban area, the urban public transport

⁵⁵ Local Authority.

	perform all bus operations within London. However, London Transport retains a major role, through its responsibilities for service procurement (contracts), network planning, pricing, and passenger information.	services are supplied by a single operator and for a given period of time.
Regulation	<p>London organization is based on the existence of a regulator with a discretionary power counterbalanced by the fact that the selection process is transparent with an emphasis on the development of competition through the use of “small size” and “package” tendering processes.</p> <p>Regulated discretionary power of the local governments.</p>	Unregulated discretionary power of the local governments.
Outcome/Impacts	London type of tendering process achieved better results as size and transparency of auctioning is associated with fostering competition.	Difficulty in maintaining competition and to avoid capture/corruption. Repeated competitive tendering undermines trust relation. They argue renewing the contracts rather than retendering.
Reason of impacts	Since London Transport retains procurement/coordinating role, on-the-road competition will be limited.	Discretionary power of authority doesn't provide transparency of procedures.
Lessons learnt	<p>The need to maintain competition in this sector.</p> <p>The importance of an authorized body to coordinate.</p>	The French case is interesting (anti corruption) because it clearly illustrates that the rules of the game imposed on competitors are crucial and may not foster competition nor prevent anti-competitive behaviours.
Reference	Stephane Saussier , Anne Yvrande-Billon,2007, Auction procedures and competition in public services: The case of urban public transport in France and London, http://www.adis.u-psud.fr/docs/WP/2008/Utilities_Policy-V6.pdf	Stephane Saussier , Anne Yvrande-Billon,2007, Auction procedures and competition in public services: The case of urban public transport in France and London, http://www.adis.u-psud.fr/docs/WP/2008/Utilities_Policy-V6.pdf . Bulow and Klemperer, 1999.

Explanation of the characteristics of the above two cases.

1. Transparency of the auctioning procedure

A transparent procedure implies both that the award criteria are clearly and objectively defined and that a record of the award process is easily accessible. Transparency of procurement processes has an ambiguous effect on competition and favouritism.

As opacity may increase risks of capture and favoritism and therefore facilitate corruption (Caillaud, 2001).

2. Discretionary power of public bodies.

Allowing a public buyer to exercise his discretion to exclude dubious providers ex ante and/or punish opportunistic suppliers ex post is seen as desirable and efficient, especially in repeated procurement (Kim, 1998; Doni, 2006; Calzolari and Spagnolo, 2006). Compte et al. (2005, p. 9), “a common justification for [discretion over the selection process] is that there may be quality concern over the way the contract will be handled, and that the bureaucrat may better assess the relative quality of each firm’s offer”.

3. Avoid Corruption

Risk associated with the presence of discretion over the allocation process is corruption.

Corruption, defined as self-interested abuse of discretion to extract rents, provides a mechanism to enforce collusion. Therefore, depending on the form of discretion (e.g. providing the opportunity to resubmit, not choosing the lowest-bidding firm, restricting the number of participants, etc.), one might expect collusion and corruption to go hand in hand in public procurement instead of the classical trade-off between collusion and corruption.

This drawback associated with the discretionary power of public bodies might be reduced with fully transparent auction procedures and fully transparent ex post

evaluations of the performance of private operators. The discretionary power of public bodies could then be viewed as one instrument to prevent collusion, counterbalancing the transparency of the procedure aiming at preventing corruption. Transparency of the procedure and discretionary power of public bodies might then be viewed as complementary instruments to organize competition for the field.⁵⁶

4. Degree of competitiveness of the environment

The objective of using auction procedures is to replace competition in the field by competition for the field.

The theoretical effect of competition on corruption is nevertheless more ambiguous. Indeed, the conventional wisdom is that increased competition leads to lower corruption since it reduces rents. The presumption is that no bribes can occur in markets where perfect competition prevails, that is where there are no excess profits from which to pay the bribes

Thus, since the market structure affects the level of rents, it also determines the level of corruption but its effect appears to be theoretically ambiguous. Empirically, however, most of the literature shows that policies aimed at making markets more competitive play a role in controlling corruption (Celentani and Ganunza, 2002).

Case of London deregulation.

The auction procedure chosen in London is the combination of transparent procedures (to prevent corruption and provide incentives for private operators to bid), discretionary power of the regulator and incentives for private operators to encourage competition for the field, (bids are organized on a route-by-route basis in order to encourage the participation of many competitors and hence prevent collusive strategies).

⁵⁶ Stephane Saussier , Anne Yvrande-Billon, 2007, ‘ Auction procedures and competition in public services: The case of urban public transport in France and London’, viewed on 13 March 2011, http://www.adis.u-psud.fr/docs/WP/2008/Utilities_Policy-V6.pdf.

The 1984 reform- London Regional Transport Act of 1984, advocated that competitive forces should be introduced via a bus route tendering regime in order to increase efficiency and reduce financial assistance from public funds.

In the early stages the routes available for tender were very short; they were peripheral routes requiring few vehicles to operate so as to facilitate the entry of small independent operators (Glaister and Beesley, 1991).

Two contradictory objectives exist. On the one hand, the unbundling of the network is expected to encourage the participation of small bus operators, and consequently to foster competition. On the other hand, the possibility of bidding for packages of routes should make it possible to benefit from coordination synergies and economies of scale and scope.⁵⁷

French deregulation system.

Until the sixties, transit was profitable in French towns. Demand decreased because of the high rate of motorization that lead to a reduction of the service supplied soon followed by their suppression. In the late sixties and mainly in the seventies, local governments (LTA's-Local Transit Authorities) had to take over transit responsibility. In the eighties and nineties, there was a strong trend toward delegation of transit services. Most networks previously directly operated by the LTA's were delegated. Smaller companies were acquired by the larger ones. Three companies control today the transit delegation market.

Roles

The operator is more often the owner of the rolling stock and must balance a budget including expenses and revenues from different clients.

⁵⁷ *ibid.*

The LTA is in most cases the owner of the infrastructure (guided systems), controls fare and sets fairly precise guidelines for defining transit supply.⁵⁸

Comparison

The London model is shaped to foster competition through its small size contracts, at least to increase the number of competitors (i.e. to provide incentives for competitors to bid effectively). the transparency of the model avoids corruption. This is not the case in the French model due to its opaque nature and the discretionary power of authorities. Anti competitive behavior exists in the French model.

This results in two contrasting situations. On the one hand, few bidders and a decreasing number of bidders through time characterize the French case .On the other hand, the London case is characterized by a large number of potential bidders and effective bids.

Table 9. Comparison of tender characteristics

LONDON	FRANCE
Foster competition through -Multiple-unit auction format.	Lack of competitive strategy- Single-object auction.
Anti corruption- Transparent procedures	Corruption exists- A low level of transparency
Discretionary power of authority	Discretionary power of authority
Small size tendering processes encouraging competition	“Big size” tendering process.
The service is the responsibility of local government - not centrally planned. The London network is unbundled and bidders can submit bids on any number of routes and routes packages,	The service is the responsibility of local government - not centrally planned. Usually only one operator operates each network so that bidders submit bids on an entire network.

⁵⁸ Jean-Claude ZIV, French Public Transport Contracting, Urban Mobility India 2010, Conference And Expo, Dec 3-5, New Delhi.

Conclusion

On analyzing the deregulation cases of developing nations, the many comparable factors are noticed between them, and also with the case of Chennai. The developed nations have a well structured system while the system is still not evolved in the case of developing nations.

From the attempts that proved to be successful, it is possible to understand the major components and try to adapt it to the context of Chennai. The major reason for the unsuccessful attempts could also be coined to an extend and try to find a solution to it.

In the next chapter on results, I have tried to coin these major components that I have recognized as the essential elements for successful deregulation.

6. RESULTS

6.1 Success components of deregulation.

From the literature studies, I understand that there are three levels of activities for a public transport service provision, namely strategic, tactical and operational level.

1. Strategic level- deals with the major goals to be achieved in the bus transport sector. The major goals should be complementing. In Chennai, the congestion on road is mainly due to the private vehicles. But the policies aim at boosting the automobile industry of Chennai which in fact is against the major objective.
2. Tactical level – this level is about the detailed service characteristics that should be provided to attain the specific goals. It would be on fares, schedules, vehicles and also on the image of service, employees etc.
3. Operational level is where the decided services are executed. Thus ensuring realization of services efficiently.^{59 60 61}

In this paper, I try to find out the essential factors that contribute to a successful deregulation process at the tactical/operational interface, at which contract development and management takes place.

From the literature case studies that I have analyzed for the research, I deduce four factors that prove important at the tactical level:

Competition, Commercialization, Transparency And Regulation.

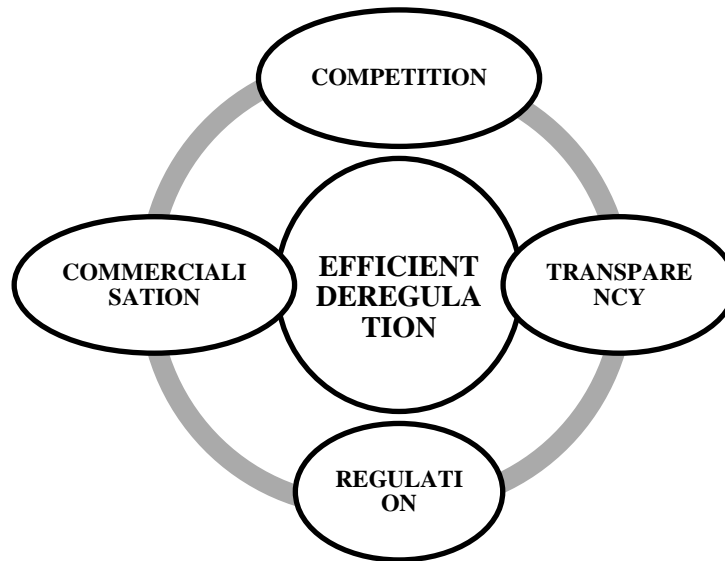
⁵⁹ Van de Velde, D. (2004). Reference framework for analyzing targeted competitive tendering in public transport. Toi-report 730/2004.

⁶⁰ Frode Longva*, Oddgeir Osland, Regulating the regulator: The impact of professional procuring bodies on local public transport policy and its effectiveness, Research in Transportation Economics 29 (2010) 118e123

⁶¹ John Stanley, Didier van de Velde , Risk and reward in public transport contracting, Research in Transportation Economics 22 (2008) 20–25.

All the four elements should be interwoven.

Figure 7. Success components of deregulation.



6.1.1 Competition

It can be direct or indirect (in the field or for the field) as well as regulated or unregulated. From my case studies, I realize that indirect and regulated competition has proved efficient. Direct competition in the field causes high risks of over speeding, accidents, overcrowding and lack of service objectives and profit motivated acts as observed in the case of Delhi. Therefore a competition for the field must be encouraged rather than, in the field. The objective of using auction procedures is to replace competition in the field by competition for the field. The level of competition is measured by the number of bidders.

Competitive environment proves to boost efficiency.

Experience has shown that a competitive—or “contestable”—market environment is the key to the efficient provision of urban transport services and other merit goods. The private sector generally provides urban transport and other merit goods

more efficiently than government because competition forces producers to be efficient in order to survive.⁶²

The theoretical effect of competition on corruption is nevertheless more ambiguous. The presumption is that no bribes can occur in markets where perfect competition prevails. Empirically, most of the literature shows that policies aimed at making markets more competitive play a role in controlling corruption (Celentani and Ganunza, 2002).

6.1.2 Commercialize

The broad objective(s) of government in public transport service provision can be summarized as “to provide a good quality, integrated and continually improving transit service that is available to all for a fair price, with reasonable return to operators that gives value for money under a regime of continuity.” Commercializing would help to enable zero subsidy condition and this was a part of initial objective of MTC. Need of market initiatives is to develop some (commercial) niches and that private initiative-takers should be able to create commercial lines in these cases.⁶³

Commercializing can be through two types – authority initiated and market initiated.

Authority initiative is that the right to initiate the creation of passenger transport services is reserved to the authority (who could, however, delegate this to an independent operator). In the market initiated kind this right lies ‘in the market’, for anyone to make use of.

According to this paper, commercializing is not just about privatizing the service and still looking at it as a social service for poor. It is about marketing it as a

⁶² ⁶² Source: The potential of entrepreneurial urban public Transport in transition economies Charles a. Hedges, http://www.seedcenter.gr/projects/MNE/1stconfer/1stconf_papers/Hedges.pdf

⁶³ Didier van de Velde a,*, Arne Beck, Workshop report e Beyond competitive tendering, *Research in Transportation Economics*, Volume 29, Issue 1, 2010, Pages 145-15.

product, and making it attractive with a value for money and yet reaching the social objectives. Thus, concept of commercialization should not be against the social objectives. It should be complementing each other.

Commercializing of public transport doesn't mean aiming at unchecked profit. There should be marketing ideas to promote and advertise as in the case of any product. It is essential to look at many ideas to get businesses that can be sustained long-term. For commercializing, studies and researches should be done to identify the location where, it could be introduced, and to identify the primary target user groups and thus promising the viability. It is important to be responsive to the changing market conditions. A greater market discipline is achieved through commercialization.⁶⁴

In a competitive market, enterprises have the incentive to set profit maximizing prices. But these prices will also be economically efficient. Given the high level of fixed costs in many transport modes, efficient pricing may involve extensive differentiation of prices to make the most effective use of capacity.

Like any other product that enters the market, transport service should be marketed as a product that gives value for money and not merely a service that they offer. Thus the service quality of the transport service could be marketed to attract the customers.

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6.1.3 Transparency

Transparency of procurement processes has an ambiguous effect on competition and favouritism. Opacity may increase risks of capture and favouritism and therefore facilitate corruption (Caillaud, 2001).

The lack of transparency in the French case may not foster competition and cause corruption. Minimum standards of transparency when introducing market initiatives for commercial services are: clarity about policy aims on national and regional levels; full information/transparency for both authority and operator in terms of reporting of patronage and fare revenues; clear minimum (quality)

⁶⁴ www.wikipedia.org

standards; assets (rolling stock) owned by operators and infrastructures (e.g., stations) owned by PTAs; all operators in private ownership.^{65 66}

6.1.4 Regulation - Regulated deregulation

Regulation of urban bus transport happens at two levels, tactical level and operational level. At the tactical level where the management procedure occurs, regulation refers to the dictation of service quality that is expected from operators by the authority. The kind of service like the frequency, maximum fares, schedules would be as per the authority. Restricting the entry of inefficient operators to the market through benchmarking of minimum service quality is a way to regulate competition. Thus it avoids impotent operators and unhealthy competition in the market.

At the operational level, regulation refers to the monitoring of services for the adherence to schedules and quality etc. this can be done by an enforcing authority. This kind of regulation should be complemented by providing incentives for an improved service quality.

Ashmore and Mellor (2009) compared both the British and the New Zealand regulatory systems for bus transport services. In their view an eventual move to the regulatory 'middle ground' between a deregulated market for commercial services (market initiatives) and a regulated market with tendered services is inevitable over time if public transport targets are to be met.

The need for regulation is inevitable when the idea of commercializing or market initiative is considered. A well developed regulatory framework should take over the role for monitoring and coordinating. The power must be with the government. Self regulation and external governmental monitoring must be combined as in the case of Adelaide.

A stronger regime would require operators to maintain their vehicles in roadworthy condition and to enforce the service quality requirement through inspections, tests, and sanctions. Control and regulation of the urban transport market by operators associations has evolved as an industry response to the regulatory vacuum created

⁶⁵ Source: Miguel Amaral , Stephane Saussier , Anne Yvrande-billon ,2007.

⁶⁶ Source: Didier van de Velde, Arne Beck, 2010.

by the failure of government as in the case of the African cities. The negatives associated with self regulation is the lack of concern for passenger demands, longer waiting time during off peak and no options are left for users.

In case Adelaide, CTC has involved monitoring of operator performance through a combination of self-monitoring/reporting by the operators and external monitoring by the PTD. Standards have been set at a level that has stretched operators, and have included minimum performance levels that can trigger early contract termination or non-rollover of contracts at the end of their first 5-year.⁶⁷

Service incentives

The assessment of alternative contract regimes in delivering bus public transport recognizes that efforts to recover costs and reduce subsidy outlays cannot (and should not) be at the expense of a diminution in the public transport task. The best single measure of the success of a specific contracting regime is the growth in patronage.

Patronage incentive refers to the incentive provided on an increase in number of passengers (ticket based) or an increase in kilometers, and thus the frequency of bus in a route. The increase number of passengers and the need to increase the frequency above the prescribed level depends on the local demands.

Given that many factors affecting patronage are outside the influence of the operator, the appropriate level of patronage incentive payment may be fairly modest; and this will then need to be supplemented by a service incentive payment to provide the operator with sufficient incentive to expand services.

The Adelaide model adopts this approach, and requires a tactical-level sign-off on service proposals. This service incentive payment may be a marginal payment rate (as in Adelaide) or an amount competed by operators who grow service from an agreed minimum service level (MSL) linked to a base payment. The introduction of a service incentive payment, where one does not compete for subsidy budget between operators in different spatial settings, is an appealing model for developing economies.

⁶⁷ David Bray a, Ian Wallis, Adelaide bus service reform: Impacts, achievements and lessons, Economic and Policy Services Pty Ltd and Transport Systems Centre, New Zealand, *Research in Transportation Economics*, 22 (2008) 126–136.

6.2 The Impact And Nature Of Success Components In The Case Studies.

The table attempts at analyzing the different kinds of privatization and the scale of the four elements in each kind. (Y- Yes, N-No)

Table 10. The Impact And Nature Of Success Components In The successful Case Studies.

Country			Taiwan (Taipei)	Pakistan(Faislabad)	China (Guangz hou)	South Africa (Durban)	Londo n	Recurrence On a scale of 1
TEN DER	Type	Competitiv e	Y	N	Y	Y	Y	0.8
		Direct awarding(n egotiated)	N	Y	N	Y	N	0.4
	Size	Large – single(area)	N	N	N	Y	N	0.2
		Small- multiple(ro ute)	Y	Y	Y	N	Y	0.8
COMPETITI ON		Direct	N	N	N	N	N	0
		Indirect	Y	Y	Y	Y	Y	1
COMMERCI ALIZATION		Authority initiative	Y	Y	Y	Y	Y	1
		Market initiative	Y	N	N	N	N	0.2
TRANSPARENCY			Y	N	Y	N	Y	0.6
REGU LATI ON	Tacti cal level	Quality based entry restriction.	Y	Y	Y	Y	Y	1

		Service dictated by authority.	Y	Y	Y	Y	Y	
	Operational level	Strict monitoring	Y	Y	Y	N	Y	0.5
		Through incentives	Y	N	N	N	N	

Table 11. The Impact And Nature Of Success Components In The un successful Case Studies.

Country			Thailand/bangkok	India/delhi	Srilanka/colombo	Recurrence On a scale of 1
TENDER	Type	Competitive	N	N	N	0
		Direct awarding(negotiated)	Y	Y	Y	1
	size	Large – single(area)	N	N	N	0
		Small-multiple(route)	Y	Y	Y	1
COMPETITION		Direct	Y	Y	Y	1
		Indirect	N	N	N	
COMMERCIALIZATION		Authority initiative	N	N	N	0
		Market initiative	Y	Y	Y	1
TRANSPARENCY			X	Y	Y	0.6

REGULATION	Tactical level	Quality based entry restriction. ¹	N	N	N	0
		Service dictated by authority. ¹	Y	Y	N	0.6
	Operational level	Strict monitoring ¹	N	N	N	0
		Through incentives ¹	N	N	N	0

I assume that the count of Y in table 10 could indicate the probability of recurrence of that element in a successful deregulation case. Thus, the analysis of the table helps us to conclude on the commonly observed features.

1. Competitive tender type
2. Route franchising- small in size and are of multiple units encouraging more entrants to the market.
3. Indirect competition that is competition for the market which ensures entry of qualified operators and avoids over speeding, overcrowding and related risks.
4. Controlled commercializing – value for money concept through authority initiated commercializing. The control can be executed through functional or constructive service specifications.⁶⁸
5. Regulation at the tactical level by restricted entry of operators on basis of skill, experience, quality of vehicle and service. Benchmarking of service design by authority on routes, fares, schedules, frequency etc. depending on the demand as well as socio economic characteristics.
6. Strict monitoring by a regulatory authority at the operational level.

⁶⁸ A functional specification: only broad (sometimes minimum) service requirements (route, frequency etc.) and space for operator to optimize on detail time tables, vehicles, information and other services. A constructive (detailed) specification: usually specification of routes, timetables, days, tariffs, vehicles, information etc.

In Table 11. where privatization wasn't an obvious successful event, the features that were observed to be common are,

1. Direct awarding of contract –This would not necessarily have any pre requisites service quality as in case of Delhi. It lacks transparency in the procedures and information isn't accessible to all. So chances are that incumbent operator continues in the field and efficient ones might lose the opportunity. Corruption is another flaw of this kind.
2. Small size and route based contracts. It encourages small scale operators to enter the market, but as in case of Delhi, difficulty of maintenance and integration was the obvious flaw.
3. Direct Competition- which means direct on the road competition. And it also causes unhealthy profit motivated competition. Social objectives would not be attained.
4. Pure market initiated commercialization- this would encourage entrepreneurial skills and innovative service strategies by private operators. But the disadvantages that might be caused due to the profit motivated acts can be smoothened by authority initiated regime with broad functional specifications.
5. Transparency - it is important to ensure that, throughout the procedure, all competitors have access to an equal and necessary level of market information to become competitive.
6. Regulation at tactical level through the dictated service by authority. This reduces scope of innovation by the operators.

The different case studies done on privatizing urban bus transport leads to the fact that partial deregulation of bus operation through competitive tendering would be the rational decision.

6.2.1 Conceptual model

From the table 10. analyzing the success cases, the five elements are observed to have its impact on the successful outcome. The degree of relevance of each element can be understood by analyzing the degree of recurrence of the elements in the sample cases.

The five elements here are

1. Cp: Competition referring to indirect competition.
2. Cm: Commercialization referring to authority initiated commercialization.
3. R_T : Regulation at tactical level.
4. R_O : Regulation at operational level.
5. T: Transparency of procedure.

Two assumptions can be made from the analysis.

Assumption 1.

All the five elements are disjoint and have unrelated impact on the resulting unit success factor. As per the analyzed data, fig.5 represents the scale of impact of each element on the outcome. The values are indicated on a scale between zero and one.

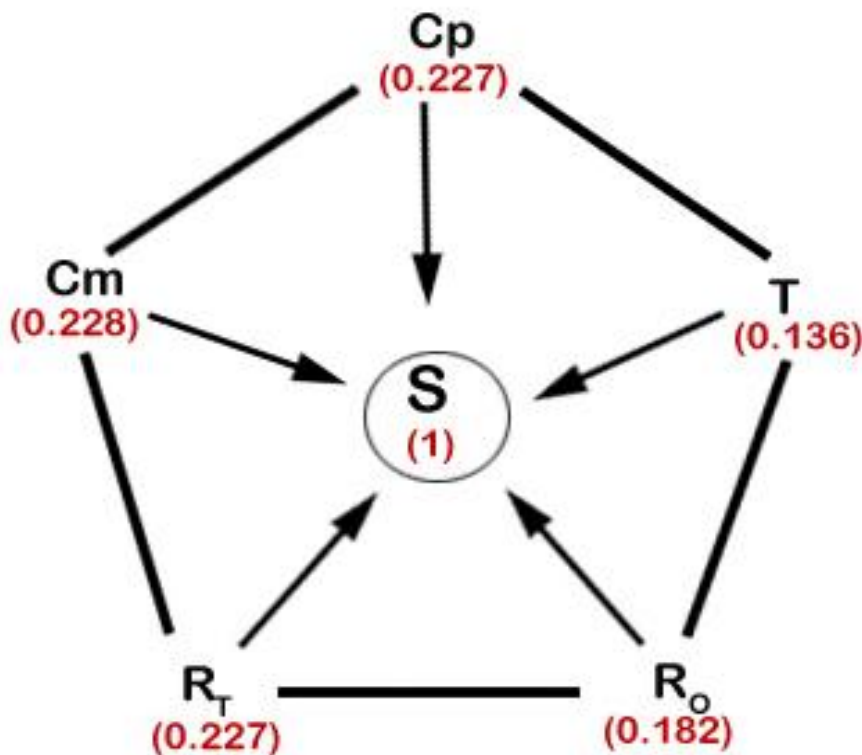


Fig 8. The degree of impact of each element on the success factor. Each arrow depicts an independent relation.

Assumption 2.

In this case, the existence of relation between the elements is observed. The occurrence of competition in each case is noticed to trigger commercialization, transparency and regulation to some extent by default. Then, the strength of its inter relationship as well as to the outcome can be illustrated on a scale between the values zero to one. The strength of the relationship is determined from the weighed occurrence of the three elements in relation with competition as well as with the unit success factor.

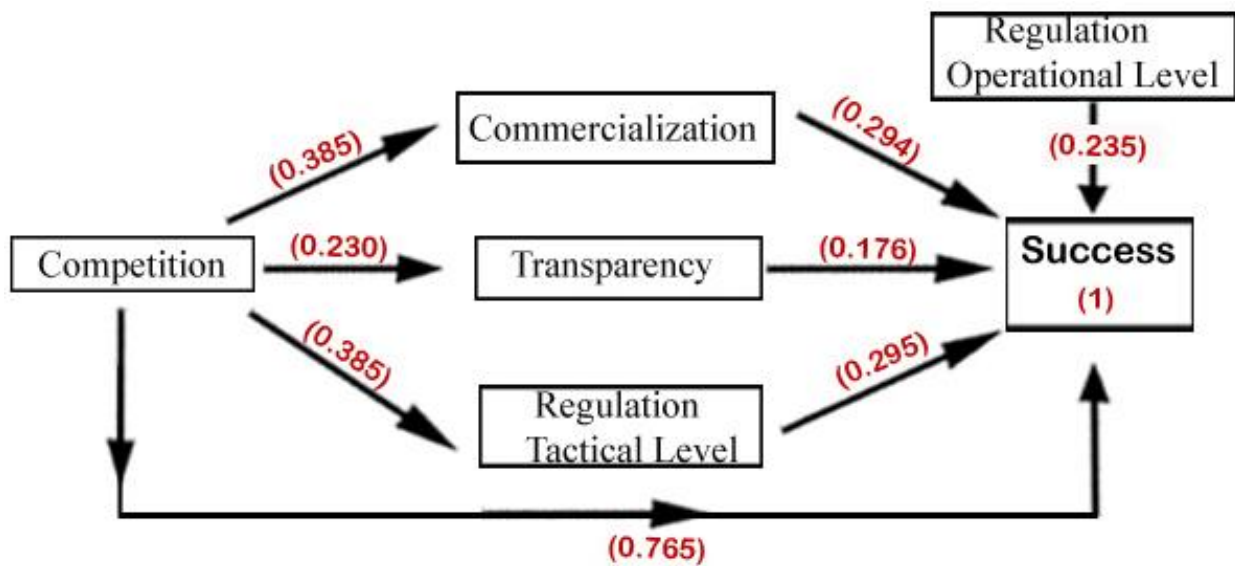


Figure 9. Illustrates the positive effect of each component on the succeeding component. Each arrow depicts an independent relation.

6.3 Adopting Competitive tendering in Chennai.

Introduction

Competitive tendering is a service delivery strategy and member of the broad class of contractual regimes. Within such a contractual regime an operator provides services at best practice cost levels for a given level of service delivery, either in return for direct financial support from government, awarded by either competitive tendering or negotiation, or in return for permission to operate a negotiated/agreed

level of service without subsidy but, for example, subject to a cost-plus fare determination.⁶⁹

Tendering avoids wasting resources in competitive battles, offers the opportunity to balance fares and service policies efficiently, and avoids the loss of consumer confidence associated with instability. The Dutch have been strong advocates of the competitive tendering.

International experience with competitive tendering of previously government-provided bus services is summarized in Wallis and Hensher (2007).⁷⁰ They conclude that, in most cases, competitive tendering reduced the cost of services by 10-50%, the scale of saving depending on the efficiency of the previous monopoly operator, a range of factors relating to the design and management of the tendering process and whether or not a strong market of potential bidders existed. The largest savings have been gained through lower overhead and management costs (both labour and non-labour) and lower driver costs (through better utilisation, more flexible award conditions and some reductions in hourly pay, e.g. for overtime). In subsequent re-tendering, a key expectation in the use of competitive tendering was that it would drive operator innovation and improve customer service.⁷¹

The introduction of Competitive Tendering to a previously monopoly situation is typically accompanied by institutional restructuring, with the separation of policy, funding, and contracting functions from operating functions. The competitive tendering events in Stockholm and Helsingborg in Sweden , Helsinki in Finland and Copenhagen in Denmark also points to the improved unit cost impact it has brought in. (Refer annexure 1).

⁶⁹ Source: Didier van de Velde, Arne Beck, 2010.

⁷⁰ Source: Hensher, D.A., Wallis, I., 2005. Competitive tendering as a contracting mechanism for subsidising transportation: the bus experience. *Journal of Transport Economics and Policy*, 39(3), 295-321.

⁷¹ Ibid.

This supports my argument to introduce deregulation in the urban bus transport in Chennai through competitive tendering. It promises efficient cost savings, with some adapting changes that has to be made to tune it to the context of Chennai.

Competitive Tendering In Chennai

Competitive Tendering has been successful in delivering cost reductions but generally this relates to the first round of tendering of a public monopoly service, and thus could be similar to the case of Chennai.

It is important to look at the Chennai bus transport as a public good with a minor role for market forces in determining patterns of day-to-day use. Best practice would be for the state to take some significant responsibility for the system as a whole and calls for private provision via some kind of contracting out mechanism, usually with competition for the market or at least its threat (Bayliss, 2000; Gwilliam, 2005; Meakin, 2002)

This kind of approach should prove to be an enduring and successful one for low income contexts.

At present, the city of Chennai is in need of a model that is a combination of competitive structure with scope for market initiative service. Introduction of commercialization must be complemented with regulation by authority and transparency of procedures to avoid the disadvantages of market based services. The market structure of Chennai should be analyzed to understand the kind of impact to be expected.

It is now important to understand that, what kind of competitive regime would sustain a less concentrated market structure? And what degree of regulation by authority would still allow freedom for market initiation without danger of monopolizing by authority. And what degree of the same regulation would still be able to attain the essential social objectives? To what extend should all these elements be combined for a successful transport organizational model for Chennai.

The essential factor in achieving efficient privatization has been well structured contracts that have facilitated market initiated competition along with adequate transparency and regulations of procedure.

6.4 Operational model for Chennai

6.4.1 Introduction

Chennai has a heterogeneous spatial structure. It is marked by very high income residential areas and IT sectors and also with slum areas which accounts to about 27 % (12 Lakh) of total population. Operators should be given the flexibility to propose upgradation of bus services (comfort /facilities) in rich residential areas and expansion of service routes as per needs that would bring profit or reduce car users. In regions of low income people, frequent bus services and adequate shift in routes according to commuting pattern can be adopted. This area specific demand based approach would encourage innovative ideas by the contractors. This approach should be backed up by incentive from government after the approval. The approval of such proposals would be based on its society oriented or profit based achievements.

This approach would give the authorities a policy instrument to improve supply according to passengers' changing preferences over time within the region without regulating the services in detail. Provision of patronage or service incentives would make it possible to establish a healthy localized system at the service delivery stage.

Scope for innovation

The Chennai situation demands a bus transport system that is 1. More localized 2. Market biased.

Localization of the system doesn't refer to strategic or tactical localization. The operational stage could be more flexible to adapt to the local needs in terms of increasing the service from the prescribed minimum level. That is frequency, expanding routes, and comfort level. But this should be reported to the authority for approval and to avail the incentives for respective service enhancement.

Market in Chennai

In Chennai, there is no much need to develop market of potential bidders for bus transport sector due to the already well developed private bus transport sector for long route (to other states) journeys. The need to evolve a market is not relevant in case of Chennai due to the presence of skill and expertise. Thus the subsidies provided from the government to this sector can be reduced to a fair extent. This

provides evidence for the scope of success while bringing in competitive tendering to this sector. This competitive tendering could be complemented with negotiated contracts in the second or later rounds. a move to NPBC⁷²s can not only reduce transactions costs (associated with tendering) but also offers the opportunity to work closely with efficient incumbents to grow trust and build patronage.⁷³ This kind would help to sustain the labour force and provides the job security. But in this system, as competition and entry of new operators would be hindered, competitive tendering can be repeated with specific contract conditions on retaining the labour force. The provision for competitive tendering should be given as the threat of competitive tendering would enable cost efficiency.

6.4.2 Operational model

For competitive franchising systems the emphasis was put on the importance of restructuring public sector institutions and developing skills to perform the new tasks of design, procurement, monitoring and enforcement.

Table 12. Bus transport service tendering model.

	Generic model	Adopting to Chennai
I. Strategic level	Mobility policy should reflect the public needs and demands.	Decision to introduce competition and commercialization into transport service through private sectors.
	<ul style="list-style-type: none"> <u>Tender Notification</u> 	
	Accessibility to information. Ensure transparency.	Targeting the major transport industries in Chennai. Information to be available on websites.

⁷² Negotiated Performance Based Contracts.

⁷³ Source: Hensher, D.A., Stanley, J.K., 2008. Transacting under a Performance-based contract: The Role of Negotiation and Competitive Tendering. Transportation Research Part A, 42(10), 1295-1301.

II. Tactical Level	1. <u>Size and length of contract-</u> A clear network definition-	100 – 200 buses per operator. Developed route structure. Route package based contracts Networks in Chennai. The radial roads, Ring roads and arterial roads. A contract period of 3 – 4 years, with renewal provisions.
	2. <u>Kind of contract?</u> - Clear allocation of risks. Clarity of responsibilities.	<ul style="list-style-type: none"> • Net cost contracts. • Production and revenue risk by operator with clearly set benchmarked standards from authority. •
	3. <u>Service and quality specifications.</u> Internal systems of quality control	Functional – to allow innovation and adapt to market demands. To attain the social objectives, supervising is important.
	<ul style="list-style-type: none"> • <u>Acceptance and evaluation of bids</u> 	
	1. Need of a system of evaluation and criteria.	Chennai has many transport industries which ensures good competition. Criteria- Not just lowest bid, but qualities of plan, expertise and past records are to be verified.
	<ul style="list-style-type: none"> • <u>Awarding</u> 	
	1. Procedure? 2. Who awards?	1. Competitive tendering is best preferred and ensures control. 2. Awarding of contract by MTC and CMDA. An agency independent from operators.

III Operatio nal level	• <u>Service Production.</u>	
	1. Type of operation. 2. Assets – vehicle utilization and maintenance. 3. Marketing 4. Staff management -Training	1. Localized character- Scope for innovation and market initiation. 2. Well integrated services to allow better asset utilization. Need of coordinating authority in Chennai. 3. Service design freedom of operator to gain the incentives. 4. Staff management to avoid absenteeism that exists in Chennai.
	• <u>Regulation</u>	
	1. Systems of incentives 2. Supervision/ monitoring Joint monitoring or self monitoring. 3. Route licensing/ renewal.	1. Incentives. It regulates the performance. In a city like Chennai with large slum population, it is important to take care of the uneconomic routes to attain the social objectives. 2. Need of Independent regulating agency for Chennai. 3. Must be awarded on performance basis.

I. Strategic level.

In Chennai, contradiction in the policies at strategic level exists. The decisions taken by authority at this level should be complementary. An example is the strategies taken to reduce road congestion, but at the same time, automobile industries are boosted.

II. Tactical Level

• Tender notification

1. Size of contracts

In case of Chennai, route bundling would help for integrated services. Routes can be allotted in such a way that each operator gets a combination of both economic

and uneconomic routes. This would call for medium and large scale operators with good operational expertise and better quality assets. But to avoid monopoly, conditions restricting the size of contract per operator are to be prescribed along with the minimum size to assure the quality of service.

Network design should be under the control of the administrative authority, although the design work may be contracted out.

By packaging routes and services the CMDA is more likely to enable bidders to factor in their own specific operational structures, opportunities and constraints (as well as knowledge of the passenger market) in responding to a tender.

Map 3. Chennai Major roads.



Four major National Highways radiate outward from Chennai:

- Erukkancherry High Road to the northwest, becoming National Highway 5 to Kolkata;
- Poonamallee High Road (Periyar Salai) to the west, becoming National Highway 4 to Mumbai
- Mount Road (Anna Salai) to the south-west, becoming National Highway 45 to Tiruchirapalli and the interior of Tamil Nadu;
- Madras-Tiruvallur High Road (MTH Road), built parallel to NH 4 to the west, becoming National Highway 205 to Tiruvallur;

It could be suggested to keep these destinations oriented routes with MTC, and auctioning off direction based routes, inner ring roads and arterial roads to private players.

2. Length of tender

Length of contract should be such that it allows competition. There will be no competition for a longer duration of the tender. And a tender of shorter span will not guarantee the operators a good return for their capital investments. In case of Chennai, a period of 3- 4 years would be preferable with the renewal of contract based on the performance.

3. Kind of contract- Net cost contract: in this type of contract, both production and revenue risk are borne by the transport company. Though for uneconomic packages, shared revenue risks could be discussed.

To allow market initiatives in the current public monopolized sector, it is important to have the operator to take care of revenue risks. This relieves the authority from the subsidy burdens and no investments on buses are required to be made by the Government. The social objectives could be attained by benchmarking the standards.

In terms of production risks, provision can also be made to lease out the MTC vehicles.

4. Service and quality specifications

A functional specification gives an outline of services, or minimum service to be provided. . To enable adequate integration and cooperation, the authority sets standards with respect to fare rebates, inter-available fares and ticketing. Minimum quality of vehicles, route and frequency requirements etc would be prescribed.

It gives Substantial freedoms for the operator: trust on the creativity of the operator, space for operator to optimize, detail time tables, vehicles, information and other services. Chennai being a fast growing city, it is important to be flexible to the changing demands and market needs.

- Acceptance and evaluation of bids

The bid could be accepted from the operators that meets the conditions as per the tender document. Lowest cost usually wins the tender but it is important not to trade off quality against cost in circumstances when lowest cost is not matched by highest quality.

- The awarding procedure

Competitive tendering assures transparency to the system and avoids corruption to a good level. Competitive tendering procedure could begin with the core-network (the major radial roads and inner ring roads) designed by the public transport authority and based on their definition of services of general interest.

MTC and CMDA should play the role in awarding of tender. An independent agency of government, which has the responsibility to handle the bid management process, monitoring and management of the operation of private stage carriage buses, preparation of unified time table (UTT), monitoring of service level standards and other key aspects. It selects the operator for each area through competitive tendering. Selected players will provide private carriage services under a suitable contractual structure. These contractual structures will be designed to ensure universality, uniformity and compliance to prescribed performance standards. The private operators will also have to meet specific performance standards relating to (a) safety, (b) punctuality, (c)

other customer service parameters, (d) vehicle condition (e) operational practices, etc.

III. Operational Level.

- Service operation

1. Asset management

It is important to ensure maximum utilization of vehicles and its good condition. Minimum age and condition of vehicles should be strictly mentioned in tender document. Public bus transport vehicles must be maintained in road-worthy condition. No public bus transport vehicle to be more than 10 years old.

There is a need to increase the buses with higher service level to increase the coverage of public transport and avoid overloading of buses, thereby increasing comfort levels. There should be sufficient incentives for bus maintenance and adequate penalties and fines for non-compliance of requisite standards, route schedules, timetables etc. The vehicles of MTC could be leased to operators for a particular period.

2. Staff management

It is necessary that the government facilitate the establishment of driver training schools and arrangements for their certification, registration and ongoing training. Absenteeism is observed in MTC at a larger scale.

3. Marketing

Adequate marketing techniques are to be adopted to introduce public transport as a market product rather than as a social service. Operators should have the space to respond to the market demands.

There should be an emphasis on non traffic revenue like advertising revenue which can be an additional source of revenue at virtually no extra cost. A demand based service could be encouraged. Thus it adds dynamism by providing innovative forms of low-cost transport which meets the transport demands of the poorer groups or higher quality alternatives meeting the needs of those willing to pay. It is important to ensure easy accessibility to information on its services, time schedules and other relevant details.

- Regulation

1. System of incentives

Financial support should be given for plying the buses on economically unviable but socially desirable routes.

Award on quantities such as price and service hours, evaluation based on inputs. Ensure that the compensation for the services given by the authority is proportional in relation to the services rendered. Also, for bonuses to be awarded, there must be a reasonable relationship between the bonus paid and the performance improvement (quality and quantity of services) to avoid overcompensation.

In case of Chennai, the patronage incentive on passenger count and trip length can be combined to enhance efficiency. Because provision of isolated schemes would result in overcrowding of buses and otherwise free running buses to avail incentive on trip lengths even when demand is not high enough. This could be avoided by right placing of incentive. An approach, for example, on every increase in particular number of passengers, a respective increase in trip length(frequency), will be provided an incentive. The revenue-km subsidy could be implemented through two components — subsidy rates per vehicle-km and per vehicle-hour—to accommodate the time wasted in congested urban conditions

The service based incentives could be introduced and can be diverse in application. The scope of this incentive is wide to be utilized by the operators. Within the contract specification, an operator may change fare levels and offer more flexible fares. The service level can be changed if it is within a given average of service level defined in advance and specified in the contract. This enables an operator to rationalize services and improve resource allocation over time (Berge et al., 2005).

2. Supervision/ monitoring

Joint monitoring or self monitoring.

The operation and regulatory bodies should be separated. There should be separate agency to prepare well coordinated plans.

There must be increased usage of information technology as manual checking is bound to be inefficient. This will reduce the operating cost; enable planning of routes and exercise better control.

Policing of public bus transport vehicles to be made very strict, with heavy penalties being levied in cases of offences like over-speeding, rash & negligent driving, drunken driving, over-loading, etc.

3. Route licensing/ renewal.

Need for route licensing system. a route licensing system helps to confer exclusive operating rights on specified routes through a tender process, the issuing authority must have a good understanding of the shape of the transport network as it is currently operating and of the changes needed to make the network more responsive to passenger demand.

6.4.3 Conclusion

Thus a competitive tendering of the bus operations in the urban area of Chennai, would be more promising in its efficiency, when supplemented with a detailed contract and regulatory measures. This would gradually help to spare the commuters from the dreadful experience of overcrowded, uncomfortable bus journeys every morning.

Map 4. Major Bus Stations And Commuter Centres In Chennai



6.5 Conclusion

The Likely Resulting Scenario

The major advantage of privatizing bus transport in Chennai would be that, it would no more be discredited as a service that is for poor. It would be marketed as a service that provides value for money, and capable to attract the affluent sector of population.

At the upper end, comfortable bus with high end facilities and deluxe services (possibly with broad, reclining seats, newspapers & magazines for reading, etc) catering to corporate executives, and major office buildings in Guindy, operating from T.Nagar and Broadway towards the IT corridor. These buses may also cater to the commuters to the office buildings in Mount road. Another major route for high end bus service would be to cater the commuters from other states entering Chennai at Koyambedu, Chennai Mofussil Bus Terminus (state owned CMBT) and Chennai Contract Carriage Bus Terminus (private owned- CCCBT) towards Adyar and Thiruvananthapuram.

For the low economic sector, people's services, stopping at all bus stops enroute, and charging the barest minimum would be available.

Corporates like TVS, Ashok Leyland, Tata motors etc, alongside the present contract-carriage operators like KPN, Parveen Travels, Solamalai, PVR etc, are likely to come on the scene with hundreds of buses, catering to all kinds and classes of demand. The resulting competition will automatically drive the different service providers to come up with innovative schemes of attracting more and more people to switch over to the use of the buses rather than relying on their individual vehicles.

The usage of two-wheelers and cars will reduce drastically, leading to reduced congestion. Restricting three wheelers to the interior roads would also benefit in de-cluttering of city roads, thereby providing room for speedy movement of buses.

Findings

I had began my study on the assumption that, "Appropriate Deregulation of urban public transport in Chennai can carry out the expected role efficiently due to its competitive nature, by maintaining a transparent, regulated and cooperated relation with public sector, backed by well- structured contracts."

My study on the scope of deregulation in urban bus transport operations in Chennai, proves my hypothesis true to a fair extent. The study helps to comprehend four important components essential for successful deregulation. They are competition, commercialization, regulation and transparency of procedure.

The study serves to realize that efficient and effective bus transport services in Chennai city can be provided under a carefully crafted regulatory framework that provides appropriate competitive pressures. It is possible through the competitive tendering of the services, backed up with a detailed contract on the expected level of services and strict regulation of it. Net cost contract type would prove promising to the private sector and gives the private operator opportunity to design the services according to market demands. The broad functional service specifications would also encourage innovation in service designs. These liberal provisions should be regulated through performance based contracts and renewals.

I understand that the present bus transport service in Chennai provides good accessibility, but the issue, according to me, lies in the unwillingness of commuters to chose an unpleasant journey over the readily available other modes of transport. Thus the bus travel is mostly chosen by those commuters, who cannot afford the other modes and can manage a good day of work after the long tiring journey. The bus industry therefore can be categorized as a service only for this section of population. Appropriately privatizing this sector will promise good conditioned vehicles and innovative service designs. Chennai being a fast growing metropolitan city, it is important to seek efficiency in the system and look forward to an urban transport system appealing to all.

BIBLIOGRAPHY

Ajay Kumar & Fanny Barrett,(2008) , Stuck in traffic: urban transport in Africa, Africa Infrastructure Country Diagnostic, draft final report.

<http://siteresources.worldbank.org/EXTAFRSUBSAHTRA/Resources/Stuck-in-Traffic.pdf>

Charles A. Hedges , The potential of entrepreneurial urban public Transport in transition economies,

http://www.seedcenter.gr/projects/MNE/1stconfer/1stconf_papers/Hedges.pdf

Cities On The Move, (2002), *A World Bank Urban Transport Strategy Review*, The World Bank, Washington. D.C.,

http://www.wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2002/10/12/000094946_02100204022071/Rendered/PDF/multi0page.pdf

Didier van de Velde, Arne Beck, (2010), Workshop report e Beyond competitive tendering, *Research in Transportation Economics*, Volume 29, Issue 1, 2010, Pages 145-15.

David Bray, Ian Wallis, (2008), Adelaide bus service reform: Impacts, achievements and lessons, Economic and Policy Services Pty Ltd and Transport Systems Centre, New Zealand, *Research in Transportation Economics*, 22 126–136.

Frode Longva, Oddgeir Osland, (2010), Regulating the regulator: The impact of professional procuring bodies on local public transport policy and its effectiveness, *Research in Transportation Economics*, 29 118e123

Hensher, D.A., Wallis, I., (2005), Competitive tendering as a contracting mechanism for subsidising transportation: The Bus Experience, *Journal of Transport Economics and Policy*, 39(3), 295-321.

Hensher, D.A., Stanley, J.K., (2008), Transacting under a Performance-based contract: The Role Of Negotiation And Competitive Tendering, *Transportation Research Part A*, 42(10), 1295-1301

Jackie Walters, (2010), Is the bus transport contracting system in South Africa leading to trusting relationships between contracted parties?, *Research in Transportation Economics*.

<http://www.sciencedirect.com/science/article/pii/S0739885910000764>

Prof. Jackie Walters, (2008), The south African experience with negotiated versus competitively tendered bus contracts, *Transportation Research Part A* 42 1163–1175.

Jean-Claude ZIV, French Public Transport Contracting, Urban Mobility India 2010, Conference And Expo, Dec 3-5, New Delhi.

John Stanley, Didier van de Velde, (2008), Risk and reward in public transport contracting, *Research in Transportation Economics*, 22 20–25.

Ken Gwilliam, (2008), Bus transport: Is there a regulatory cycle?, *Transportation Research Part A* 42, 1183–1194, http://www.thredbo-conference-series.org/downloads/thredbo10_papers/thredbo10-themeC-Gwilliam.pdf

Ken Gwilliam, (2005), Bus Franchising in Developing Countries: *Some Recent World Bank Experience*,
http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/bus_franch_gwilliam.pdf

Lisa Kane, (2002), Urban transport problem in south Africa and developing world, *Urban Transport Research Group*. UTRG Working Paper 3, Cape Town.

Liu Zhi, Brendan Finn, Ken Gwilliam, (2009), Recent Developments In Bus Transport In China, 11th Conference On Competition And Ownership In Land Passenger Transport, Netherlands.

Matthew G. Karlaftis, (2007), Privatisation and regulation of urban transit systems, Round Table 141, <http://www.internationaltransportforum.org/Pub/pdf/08rt141.pdf>

Meeting the Challenges of Megacities in the Developing World, (1996), A *Collection of Working Papers*, National Research Council
[,http://onlinepubs.trb.org/onlinepubs/admin/megacities.pdf](http://onlinepubs.trb.org/onlinepubs/admin/megacities.pdf)

Ming-Miin Yu, Chih-Ku Fan, (2008), The effects of privatization on return to the dollar: A case study on technical efficiency, and price distortions of Taiwan's intercity bus services, *Transportation Research Part A* 42 935–950,
<http://www.sciencedirect.com/science/article/pii/S0965856408000529>

MTC Audit Report (Commercial) for the year ended 31 March 2009, Chennai.

PA Pienaar, (2007), The Role Of The Bus In Public Transport In Developing Countries , Saboa Conference: 22 February 2007

Report on Institutional Frame-Work for Urban Transport, Ministry of Urban Development, <http://www.sutp.org>

Russell and Anjum (1998), Regulating public transport in Pakistan: a role for NGOs. In *Urban Transport Policy*, pp129-134. Proceedings of the International Conference, Rotterdam, Brookfield.

Stephane Saussier, Anne Yvrande-Billon, (2007), Auction procedures and competition in public services: The case of urban public transport in France and London, http://www.adis.u-psud.fr/docs/WP/2008/Utilities_Policy-V6.pdf

Sudarsanam Padam, Sanjay K. Singh, *Urbanization And Urban Transport In India: The Sketch For A Policy*,
http://www.deas.harvard.edu/TransportAsia/workshop_papers/Padam-Singh.pdf

Towards A Discussion Of Support To Urban Transport Development In India,(2005), *A World Bank Document*, Energy & Infrastructure Unit, South Asia Region.

Tripti Bhatia, Mugdha jain, (2009), Bus transport in Delhi, *Working Paper No. 210*, Summer Research Internship 2009,
<http://www.ccsindia.org/ccsindia/downloads/intern-papers-09/bus-transport-in-delhi-210.pdf>.

Van de Velde, D.,(2004), Reference framework for analyzing targeted competitive tendering in public transport, To-report 730/2004.

Industrial And Economic Planning Division, TCPO, Chennai.

<http://www.mtcbus.org/>

www.wikipedia.org,

<http://siteresources.worldbank.org/INTSARREGTOPTRANSPORT/Resources/UrbanTransportSectorStrategyNote.pdf>

ANNEXURE

Annexure 1. Impacts of competitive tendering

Country	Great Britain	Norway	Sweden	Australia
City	London	Lillehammer	All (national)	Adelaide
Prior operations	Govt monopoly operator	Private operators	Primarily public operators	Public (state govt) operator
Initial CT Timing	1985–2000	1995	1989 onwards	1996–2000
Proportion of services subject to CT	Progressively to 100%	100%	Progressively to 95% (in 2000)	100% over 4 year period
Key tender & contract features	Route contracts, gross cost, mostly 5 years.	Route, gross cost + incentive, 6 years.	Mostly route, gross cost.	Area (large), gross + patronage incentive, 5+5 years.
Unit cost impacts of CT	51% reduction (1985–2000).	Initial 21% reduction. Subsequent increase of 33% in second tender round.	Average reductions due to CT, 1987–93, originally estimated at 12–14%; more recent re-estimates 5–6%. Little further change 1993–2001.	Reduction 38% (1994–2001).
Other impacts	Increase in bus kms (32%), patronage (12%) and farebox cost recovery (60% to 95%),	Initial increase in patronage (33%) and revenue (17%).	Services have increased, quality improved and vehicle age reduced in most cases	Service levels and patronage increases since full CT implementation.

Annexure 2. MTC Details

	As on 01/01/1972	Latest
Depots	8	25
Fleet	1029	3421
Route	176	690
Employees	12178	22891
Passengers per day	12 lakhs	56.93 Lakhs [Avg.]
Collection per day	2 lakhs	215.33 Lakhs [Avg.]