

## Chapter III

### 3. Performance audit relating to Statutory Corporation

#### Rajasthan State Road Transport Corporation

#### Performance Audit on the Functioning of Rajasthan State Road Transport Corporation

##### Executive summary

*The Rajasthan State Road Transport Corporation (Corporation) provides public transport in the State through its 48 depots. The Corporation had fleet strength of 4,875 buses as on 31 March 2009 and carried an average of 10.62 lakh passengers per day. It accounted for a share of 17.31 per cent in public transport with rest coming from private operators. The performance audit of the Corporation for the period from 2004-05 to 2008-09 was conducted to assess efficiency and economy of its operations, ability to meet its financial commitments, possibility of realigning the business model to tap non-conventional sources of revenue, existence and adequacy of fare policy and effectiveness of the top management in monitoring the affairs of the Corporation.*

##### *Finances and Performance*

*The Corporation suffered a loss of Rs. 88.16 crore in 2008-09 without considering prior period adjustments. Its accumulated losses and borrowings stood at Rs. 602.51 crore and Rs. 210.24 crore as at 31 March 2009, respectively. The Corporation earned Rs. 18.01 per kilometre and expended Rs. 19.47 per kilometre in 2008-09. Audit noticed that with a right kind of policy measures and better management of its affairs, it is possible to increase revenue and reduce costs, so as to earn profit and serve its cause better.*

##### *Declining Share*

*Of 19,268 buses licensed for public transport in 2008-09, about 25.30 per cent belonged to the Corporation. The percentage share declined marginally from 25.85 per cent in 2004-05. However, since the load factor (percentage of passengers carried to seating capacity) of buses of private operators was higher, the percentage of the Corporation in public transport was estimated at 17.31 per cent in 2008-09 which declined from 18.27 per cent in 2004-05. The decline in share was mainly due to its operational inefficiency (leading to non-availability of adequate funds to replace/add new buses) and lack of support from the State Government. Nonetheless, vehicle density (including private operators buses) per one lakh population increased marginally from 28.75 in 2004-05 to 28.89 in 2008-09 indicating stability in the level of public transport in the State.*

##### *Vehicle profile and utilisation*

*Corporation's buses consisted of own fleet of 4,680 buses and 195 hired buses. Of its own fleet, 514 (10.98 per cent) were overage, i.e., more than eight years old. The percentage of overage buses declined from 19.70 per cent in 2004-05 due to acquisition of 2,044 new buses during 2004-09 at a cost of Rs. 236.09 crore. The acquisition was primarily funded through net addition of loans (Rs. 61.71 crore) and deferment of payment of current liabilities.*

Corporation's fleet utilisation at 93.48 per cent in 2008-09 was above All India Average (AIA) of 92 per cent. Its vehicle productivity at 388 kilometres per day per bus was above the AIA of 313 kilometres. Similarly, its load factor at 71.83 per cent, remained above the AIA of 63 per cent. However, the Corporation could not achieve its own targets of vehicle productivity and load factor though the same were fixed after taking into consideration the local factors and constraints. Though, the Corporation did well on operational parameters, its 87 per cent schedules of buses were unprofitable due to high cost of operations and non-reimbursement of full cost of free/concessional passes by the Government. Corporation's performance on preventive maintenance was poor with only about 42-43 per cent maintenance done on time.

#### **Economy in operations**

Manpower and fuel constitute 75.69 per cent of total cost. Interest, depreciation and taxes account for 14.05 per cent and are not controllable in the short term. Thus, the expenditure control has to come from manpower and fuel. The Corporation succeeded in reducing the manpower per bus from 5.21 in 2004-05 to 4.70 in 2008-09. However, the expenditure on repairs and maintenance was Rs. 97.39 crore (Rs. 2.08 lakh per bus) in 2008-09, of which nearly 89 per cent was on manpower. The Corporation did not attain its own fuel consumption targets resulting in excess consumption of fuel valued at Rs. 30.42 crore during 2004-09.

The Corporation has just 195 hired buses where bus owners provide buses with drivers and incur all expenses. The Corporation provides conductors and makes payment as per kilometres operated. The Corporation earned a net profit of Rs. 3.53 crore from hired buses. As this arrangement has the potential to cut down the cost substantially, the Corporation needs to explore possibility to replace overage buses by hired buses in future.

#### **Revenue Maximisation**

Corporation's staff at depot and Head office conduct enroute checking of buses. The ticket less travel reported by Headquarters staff was much higher than that reported by depot level

staff. This is one area for the Corporation to plug leakage of revenue. The Corporation also incurred a loss of Rs. 31.60 crore during 2004-09 due to non-reimbursement of free/concessional passes by the Government. Further, the Corporation has about 16 lakh square metres of land. As it mainly utilises ground floor/land for its operations, the space above can be developed on public private partnership basis to earn steady income which can be used to cross-subsidise its operations. The Corporation has not framed any policy in this regard.

#### **Need for a regulator**

The fare per kilometre stood at 52 paise from 28 June 2008. Though the Government approves the fare increase, there is no scientific basis for its calculation. The Corporation has also not formed norms for providing services on uneconomical schedules. Thus, it would be desirable to have an independent regulatory body (like State Electricity Regulatory Commission) to fix the fares, specify operations on uneconomical routes and address grievances of commuters.

#### **Inadequate monitoring**

The fixation of targets for various operational parameters and an effective Management Information System (MIS) for obtaining feed back on achievement thereof are essential for monitoring by the top management. The monitoring by the Board of Directors fell short as it did not take/recommend suitable measures to control the cost and increase the revenue.

#### **Conclusion and Recommendations**

Though the Corporation is incurring losses, it is mainly due to its high cost of operations and negligible reliance on hired buses and not due to low fare structure. The Corporation can control the losses by resorting to hiring of buses and tapping non-conventional sources of revenue. This review contains seven recommendations to improve the Corporation's performance. Hiring of buses, creating a regulator to regulate fares and services and tapping non-conventional sources of revenue by undertaking PPP projects are some of these recommendations.

## Introduction

**3.1.1** In Rajasthan, the public road transport is primarily provided by the Rajasthan State Road Transport Corporation (Corporation), which is mandated to provide an efficient, adequate, economical and properly co-ordinated road transport. The State also allows the private operators to provide public transport. The State has reserved certain routes exclusively for the Corporation while other routes are served by the private operators only. There are also some routes where both the Corporation and private operators provide the services. The fare structure is controlled and approved by the Government. This structure is same for both the Corporation as well as the private operators.

**3.1.2** The Corporation was incorporated on 1 October 1964 by the Government of Rajasthan under Section 3 of the Road Transport Corporations Act, 1950 and is under administrative control of the Transport Department of Government of Rajasthan. The management of the Corporation is vested with a Board of Directors comprising Chairman, Managing Director and Directors appointed by the Government of Rajasthan. The day-to-day operations are carried out by the Managing Director, who is the Chief Executive of the Corporation, with the assistance of Executive Directors, Financial Advisor, General Managers, Chief Production Managers and Chief Managers. The Corporation has 48 Depots, three Central Workshops and a tyre retreading plant. The bus body building is carried out through external agencies.

**3.1.3** The Corporation had a fleet strength of 4,875 buses as on 31 March 2009 including 195 hired buses. The Corporation carried an average of 10.62 lakh passengers per day during 2004-05 to 2008-09. The Corporation's share in the passenger transport operations in the State during 2008-09 was 17 per cent and the remaining 83 per cent was accounted for by private operators. The turnover of the Corporation was Rs. 1,082 crore in 2008-09, which was equal to 0.56 per cent of the State Gross Domestic Product. The Corporation employed 20,615 employees as at 31 March 2009.

**3.1.4** A performance review on "Planning, fabrication and operation of buses by the Corporation" was included in the Report of the Comptroller and Auditor General of India for the year 2005-06 (Commercial), Government of Rajasthan. The report was discussed by the COPU in May 2008, recommendations thereto are awaited.

## Scope of Audit and Audit Methodology

**3.2.1** The present review conducted during February to June 2009 covers the performance of the Corporation during the period from 2004-05 to 2008-09. The review mainly deals with operational efficiency, financial management, fare policy, fulfillment of social obligations and monitoring by top management of the Corporation. The audit examination involved scrutiny of records at the Head Office including Central Store and Tyre Plant, One

Central Workshop\*\* and 12 selected depots<sup>∞</sup> out of 48 depots. The selection of depots and workshop was made by using “Monetary-Unit Sampling Method” on the basis of their operating income in 2006-07. The selected sample had two\* profit earning depots, 10 loss making depots; one♥ city serving depot. Operating income of the selected depots constituted 30 per cent of the total operating revenue of the Corporation.

**3.2.2** The methodology adopted for attaining the audit objectives with reference to audit criteria consisted of explaining audit objectives to top management, scrutiny of records at Head Office and selected units, interaction with the auditee personnel, analysis of data with reference to audit criteria, raising of audit queries, and issue of draft review to the Management for comments.

### **Audit Objectives**

**3.3** The objectives of the performance audit were to assess:

#### **3.3.1 Operational Performance**

- the extent to which the Corporation was able to keep pace with the growing demand for public transport;
- whether the Corporation succeeded in recovering the cost of operations;
- the extent to which the Corporation was running its operations efficiently;
- whether adequate maintenance was undertaken to keep the vehicles roadworthy; and
- the extent to which economy was ensured in cost of operations.

#### **3.3.2 Financial Management**

- whether the Corporation was able to meet its commitments and recover its dues efficiently; and
- the possibility of realigning the business model of the Corporation to tap non-conventional sources of revenue and adopting innovative methods of accessing such funds.

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\*\* Central Workshop Ajmer.

∞ Abu Road, Barmer, Bharatpur, Bikaner, Deluxe depot, Dholpur, Ganganagar, Hindaun, Jalore, Jodhpur, Sikar and Vidhyadharnagar.

♣ Deluxe depot and Jalore

♥ Vidhyadharnagar

### **3.3.3 Fare Policy and Fulfillment of Social Obligations**

- the existence and adequacy of fare policy; and
- whether the Corporation operated adequately on uneconomical routes.

### **3.3.4 Monitoring by Top Management**

- whether the monitoring by Corporation's top management was effective.

## **Audit Criteria**

**3.4.1** The audit criteria adopted for assessing the achievement of the audit objectives were:

- all India averages as well as best performance on various performance parameters;
- performance standards and operational norms fixed by the Association of State Road Transport Undertakings (ASRTU);
- physical and financial targets/norms fixed by the Management;
- manufacturers' specifications, norms for life of a bus, preventive maintenance schedule, fuel efficiency norms, *etc.*;
- instructions of the Government of India (GOI) and Government of Rajasthan and other relevant rules and regulations; and
- procedures laid down by the Corporation.

**Financial Position and Working Results**

**3.5.1** The financial position of the Corporation for the five years upto 2008-09 is given below.

(Rs. in crore)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
<b>A. Liabilities</b>					
Paid up Capital	220.06	220.06	220.06	220.06	220.06
Reserve & Surplus (including Capital Grants but excluding Depreciation Reserve)	4.82	4.89	4.99	5.03	5.11
Borrowings (Loan Funds)	148.53	173.44	163.67	149.21	210.24
Current Liabilities & Provisions	257.26	295.45	301.26	299.86	487.34
<b>Total</b>	<b>630.67</b>	<b>693.84</b>	<b>689.98</b>	<b>674.16</b>	<b>922.75</b>
<b>B. Assets</b>					
Gross Block	438.28	472.23	492.51	480.92	586.93
Less: Depreciation	229.64	241.82	267.89	285.65	310.01
Net Fixed Assets	208.64	230.41	224.62	195.27	276.92
Capital works-in-progress (including cost of chassis)	1.50	1.49	1.23	0.17	0.02
Investments	0.14	0.32	6.55	0.49	0.48
Current Assets, Loans and Advances	74.90	86.06	62.88	59.95	42.82
Accumulated losses	345.49	375.56	394.70	418.28	602.51
<b>Total</b>	<b>630.67</b>	<b>693.84</b>	<b>689.98</b>	<b>674.16</b>	<b>922.75</b>

The actual accumulated losses were higher than Rs. 602.51 crore shown as on 31 March 2009 as the same were worked out without considering adequate provision in respect of claims of 'Motor Accident Claims Tribunal' of Rs. 167.61 crore as on 31 March 2008, as well as pension liability for which actuarial valuation was not done. Accumulated losses were financed by increasing current liabilities and provisions.

The Government stated (October 2009) that due to implementation of recommendations of Fifth and Sixth Pay Commissions and increase in expenditure on diesel, the accumulated losses increased. Audit, however, noticed that in addition to above reasons, the losses also increased due to various inefficiencies as discussed in paragraphs 3.12.9, 3.15.2, 3.18.2, 3.19.6 and 3.19.8.

**3.5.2** The details of working results like operating revenue and expenditure, total revenue and expenditure, net surplus/loss and earnings and cost per

Kilometre of operation are given below.

(Rs. in crore)						
Sl.No.	Description	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Total Revenue	775.48	876.76	978.50	1,002.27	1,081.89
2.	Operating Revenue <sup>φ</sup>	749.87	851.40	944.34	975.08	1,054.65
3.	Total Expenditure	812.97	904.26	996.81	1,025.89	1,170.05
4.	Operating Expenditure <sup>ψ</sup>	798.11	890.46	980.55	1,008.54	1,149.97
5.	Operating Profit/Loss	(-)48.24	(-)39.06	(-)36.21	(-)33.46	(-)95.32
6.	Profit/Loss for the year	(-)37.49	(-)27.50	(-)18.31	(-)23.62	(-)88.16
6a.	Prior period adjustment	32.86	(-)2.57	(-)0.83	0.04	(-)96.07
6b.	Net Profit/Loss after prior period adjustment	(-)4.63	(-)30.07	(-)19.14	(-)23.58	(-)184.23
7.	Accumulated Loss	345.49	375.56	394.70	418.28	602.51
8.	Fixed Costs					
	(i) Personnel Costs	289.96	308.41	328.24	364.01	470.09
	(ii) Depreciation	43.22	43.88	49.63	33.62	38.28
	(iii) Interest	14.86	13.80	16.26	17.35	20.08
	(iv) Other Fixed Costs	35.98	32.13	34.58	40.08	33.17
	Total Fixed Costs	384.02	398.22	428.71	455.06	561.62
9.	Variable Costs					
	(i) Fuel & Lubricants	256.76	335.09	386.96	379.13	421.53
	(ii) Tyres & Tubes	16.90	19.71	26.09	32.01	28.00
	(iii) Other Items/spares	20.59	21.81	23.99	30.39	30.16
	(iv) Taxes (MV Tax, Passenger Tax, etc.)	97.45	98.36	106.88	103.08	106.02
	(v) Other Variable Costs	37.25	31.07	24.18	26.22	22.72
	Total Variable Costs	428.95	506.04	568.10	570.83	608.43
10.	Effective KMs operated (in lakh)	5573.80	5933.90	6055.48	6015.26	6008.62
11.	Earnings per KM (Rs.) (1/10)	13.91	14.78	16.16	16.66	18.01
12.	Fixed Cost per KM (Rs.) (8/10)	6.89	6.71	7.08	7.56	9.34
13.	Variable Cost per KM (Rs.) (9/10)	7.70	8.53	9.38	9.49	10.13
14.	Cost per KM (Rs.) (3/10)	14.59	15.24	16.46	17.05	19.47
15.	Net Earnings per KM (Rs.) (11-14)	(-)0.68	(-)0.46	(-)0.30	(-)0.39	(-)1.46
16.	Traffic Revenue <sup>§</sup>	730.23	823.44	921.49	950.87	1027.61
17.	Traffic Revenue per KM (Rs.) (16/10)	13.10	13.88	15.22	15.81	17.10
18.	Operating loss per KM (Rs.) (5/10)	0.87	0.66	0.60	0.56	1.59

The loss after prior period adjustment of the Corporation increased due to rising manpower cost without corresponding rise in the productivity of manpower and continuous deterioration in the various operational parameters.

φ Operating revenue includes traffic earnings, passes and season tickets, reimbursement against concessional passes, fare realised from private operators under KM Scheme, etc.

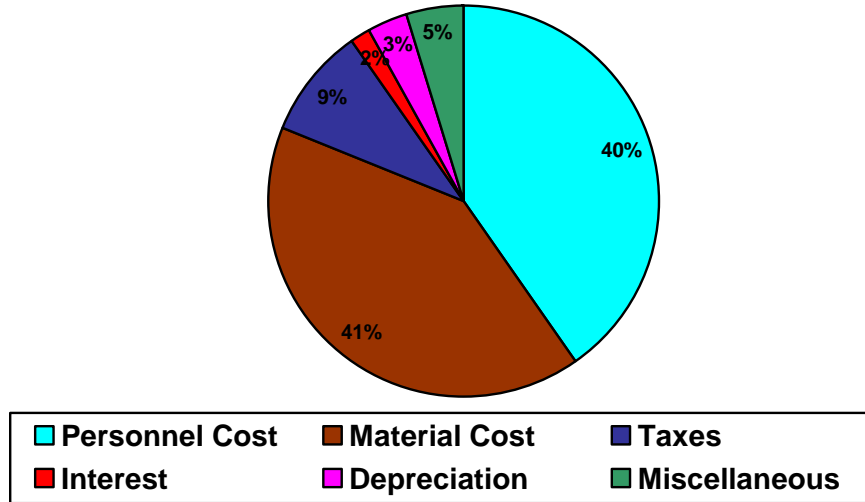
ψ Operating expenditure include expenses relating to traffic, repair and maintenance, electricity, welfare and remuneration, licences and taxes and general administration expenses.

§ Traffic revenue represents sale of tickets including revenue from passes, advance booking, reservation charges and contract services earnings.

**Elements of Cost**

**3.5.3** Personnel costs and material costs constitute the major elements of costs. The percentage break-up of costs for 2008-09 is given below in the pie-chart.

**Components of various elements of cost**

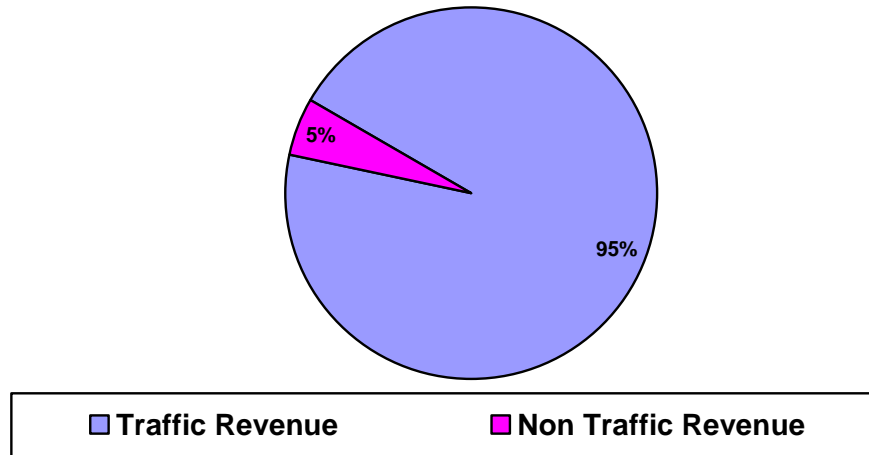


The share of personnel cost and material cost increased from 72 to 81 *per cent* during the review period.

**Elements of revenue**

**3.5.4** Traffic revenue and non-traffic revenue constitute the major elements of revenue. The Corporation did not receive any subsidy/grant during the review period. The percentage break-up of revenue for 2008-09 is given below in the pie-chart.

**Components of various elements of revenue**



The working results show that the Corporation was not able to recover the cost in all the five years and the losses kept on mounting and were Rs. 602.51 crore at the end of 2008-09.



### **Audit Findings**

**3.6** Audit explained the audit objectives for the Performance Audit to the Corporation during an 'entry conference' held on 25 February 2009. Subsequently, audit findings were reported to the Corporation and the State Government in July 2009 and discussed in the exit conference (November 2009), where the State Government was represented by the Deputy Secretary, Transport Department and the Corporation was represented by the Chairman and Managing Director and other officials. The performance audit has been finalized after considering/incorporating the view point of the Government/Corporation. The Management in exit conference stated that internal targets on various performance parameters were ambitious and aggressively set and may not be fully achievable and therefore, performance of the Corporation needs to be appreciated accordingly. However, the fact remains that targets are generally specified benchmarks to evaluate the performance, in addition to other benchmarks. The audit findings are discussed below:

### **Operational Performance**

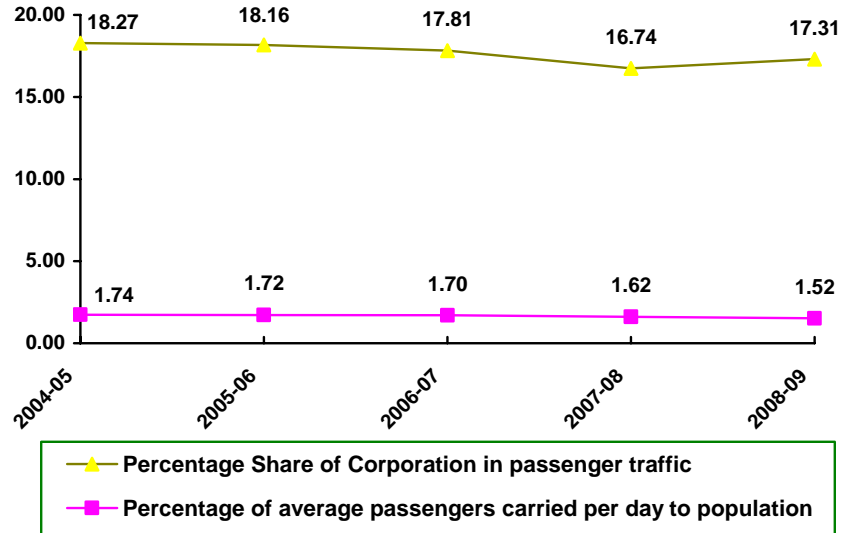
**3.7** The operational performance of the Corporation for the five years ending 2008-09 is given in the **Annexure-11**. The operational performance of the Corporation was evaluated on various operational parameters as described below. It was also seen whether the Corporation was able to maintain pace with the growing demand of public transport and recover the cost of operations. Audit findings in this regard are discussed in the subsequent paragraphs. These audit findings show that the losses were controllable and there is scope for improvement in performance.

### **Share of Corporation in public transport**

**3.8.1** The State Government does not have a documented transport policy. However, an ideal transport policy may seek to achieve a balanced modal mix of public transport and to discourage personalized transport. The focus should be on increasing mass transport options by providing adequate, accessible and affordable modes like buses, mini-buses, electric trolley buses complemented by network of rail based mass rapid transit systems like metro and commuter rail. The policy should recognise that even after fully developed rail based Mass Rapid Transit System comes into existence, the bus system will continue to play the role of main mass transport system provider.

**3.8.2** The public road transport in the State is provided by the Corporation and private operators. Though the Corporation maintained the data for total passengers carried by it, there was no mechanism in place which provides regular data on total passenger transport in the State. On the basis of best performing State Road Transport Undertakings (SRTUs), the Working Group

on Road Transport for the Eleventh Five Year Plan assessed Billion Passenger Kilometre (BPKM)\* per private bus at 0.007. Assuming the same parameter and taking into consideration the fitness certificates issued by the Transport Department to private bus operators, BPKM of private buses has been worked out by Audit to arrive at the share of Corporation vis-à-vis private operators. The Line-graphs depicting the percentage share of the Corporation in the passenger traffic of the State by public road transport and percentage of average passengers carried per day by the Corporation to the population of the State during five years ending 2008-09 are given below:



3.8.3 The table below depicts the growth of public transport in the State.

S.No.	Particular	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Corporation's buses including hired buses <sup>⊕</sup>	4564	4553	4551	4367	4875
2.	Private stage carriages	13091	13417	14035	15440	14393
3.	Total buses for public transport	17655	17970	18586	19807	19268
4.	Percentage share of Corporation	25.85	25.34	24.49	22.05	25.30
5.	Percentage share of private operators	74.15	74.66	75.51	77.95	74.70
6.	Estimated population (crore)	6.14	6.29	6.40	6.53	6.67
7.	Vehicle density per one lakh population	28.75	28.57	29.04	30.33	28.89

A comparison of the share of passenger traffic carried by the Corporation in the line graph given in previous paragraph indicates that the load factor of the buses operated by the Corporation was less than that of private buses.

\* BPKM is worked out on the basis of effective KMs operated multiplied by average seating capacity and load factor.  
 ⊕ Vehicle held as on 31 March every year.

**3.8.4** The Corporation has not been able to keep pace with the growing demand for public transport as percentage share of the Corporation in passenger traffic decreased from 18.27 to 17.31 *per cent* during the review period and average passengers carried per day to population also decreased from 1.74 to 1.52 *per cent* during the above period. Despite increase in the number of buses from 4,564 to 4,875 during the review period, the Corporation's share decreased from 25.85 to 25.30 *per cent* of the bus traffic due to lower fleet utilization. Thus, the Corporation failed to provide adequate transport service to the growing population in the State. The effective per capita KM operated per year is given below:

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Effective KM operated (lakh)	5573.80	5933.90	6055.48	6015.26	6008.62
Estimated Population (crore)	6.14	6.29	6.40	6.53	6.67
Per capita KM per year	9.08	9.43	9.46	9.21	9.01

**3.8.5** The above table shows the decline in service by the Corporation as the growth in effective KMs operated over review period was less than two *per cent* against the rise of 2.7 *per cent*\*\* per annum in overall passenger traffic during the same period.

**3.8.6** Public transport has definite benefits over personalised transport in terms of costs, congestion on roads and environmental impact. The public transport services have to be adequate to derive those benefits. In the instant case, the Corporation was not able to maintain its share in transport mainly due to operational inefficiencies (leading to non-availability of enough funds to replace/add new buses) as described later as well as lack of support from the State Government.

The Management stated (September 2009) that the State Government was consistent in encouraging private transport operators. The State Government while endorsing the Management's reply stated (October 2009) that it has been initiating various projects to improve public transport in the State. Reply is not based on facts since vehicle density remained stagnant with minor fluctuations during review period.

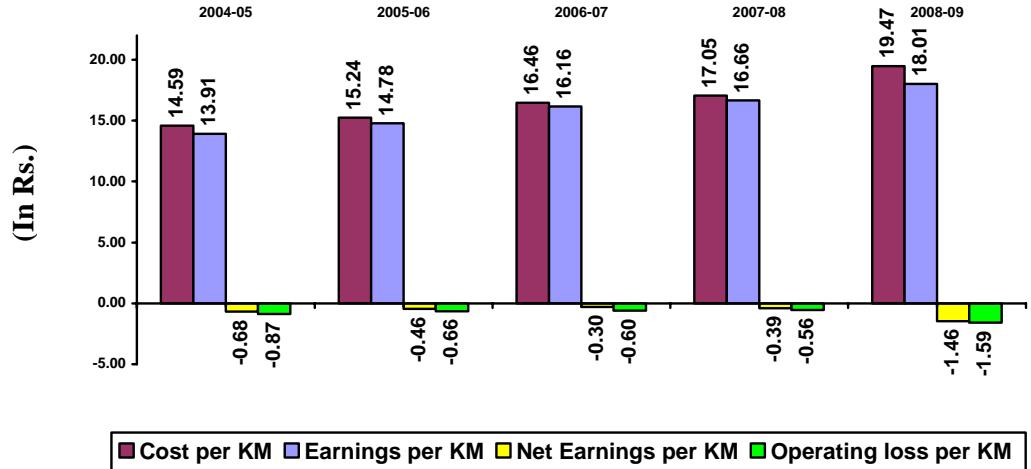
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\*\* The percentage of growth of total Billion Passenger kms during 2004-05 to 2008-09 at annual compounding.

**Recovery of cost of operations**

The operating loss per KM increased from Rs. 0.87 in 2004-05 to Rs. 1.59 in 2008-09.

3.9.1 The Corporation was not able to recover its cost of operations. During the last five years ending 2008-09, the net revenue showed a negative trend as given in the graph<sup>⊗</sup> below:



3.9.2 Above graph indicates the poor performance of the Corporation over the period. The Corporation was consistently incurring operating losses over the period as against operating profit per KM of best performers. Though the

Orissa, Uttar Pradesh and Karnataka registered best net earnings per KM at Rs. 0.49, Rs. 0.47 and Rs. 0.34 respectively during 2006-07. (Source: STUs profile and performance 2006-07 by CIRT, Pune)

cost per KM of the Corporation was lower than the All India Average (Rs. 19.94), its revenue was also lower than All India Average (Rs. 18.22). The poor performance has been impacting the ability of the Corporation to provide public transport

services adequately as it is not able to replace its fleet on time or increase the fleet strength to meet growing demand.

The Government stated (October 2009) that comparison with best performing states was not reasonable as the conditions were not same in all the states. The reply is not convincing as the State Government should take effective steps for improving performance of the Corporation in the areas as the scope of improvement generally existed as discussed in succeeding paragraphs.

⊗ Cost per KM represents total expenditure divided by effective KM operated. Revenue per KM is arrived at by dividing total revenue with effective KM operated. Net Revenue per KM is revenue per KM reduced by cost per KM. Operating loss per KM would be operating expenditure per KM reduced by operating income per KM.

## Efficiency and Economy in operations

### Fleet strength and utilisation

#### *Fleet Strength and its Age Profile*

**3.10.1** The Corporation has its own fleet of buses. It also hires buses from contractors. Audit findings in respect of hired buses are given in paragraphs 3.16.1 and 3.16.2. The paragraph below explains the position of corporation's own fleet.

**3.10.2** The Association of State Road Transport Undertakings (ASRTU) had prescribed (September 1997) the desirable age of a bus as eight years or five lakh kilometres, whichever was earlier. The table below shows the age-profile of the buses held by the Corporation for the period of five years ending 2008-09.

S. No.	Particulars <sup>Π</sup>	2004-05	2005-06	2006-07	2007-08	2008-09
1	Total No. of buses at the beginning of the year	4558	4345	4403	4421	4259
2	Additions during the year	246	520	375	0	903
3	Buses scrapped during the year	459	462	357	162	482
4	Buses held at the end of the year (1+2-3)	4345	4403	4421	4259	4680
5	Of (4), No. of buses more than 8 years old	856	879	1000	868	514
6	Percentage of overage buses to total buses	19.70	19.96	22.62	20.38	10.98

**3.10.3** The above table shows that the Corporation was not able to achieve the norm of right age buses. During 2004-09, the Corporation added 2,044 new buses at a cost of Rs. 236.09 crore<sup>Ø</sup>. Over a period of five years ending 2008-09 the Corporation had taken loan from commercial banks amounting to Rs. 215.78 crore. The remaining amount was funded by deferring the liabilities. To achieve the norm of right age buses at the end of 2008-09, the Corporation is required to additionally buy 514 new buses at a cost of Rs. 62.55 crore<sup>≠</sup> approximately. However, the Corporation did not generate any resources through its operations to finance the replacement of buses as it incurred loss of Rs. 53.02 crore before charging depreciation during 2004-09.

Π Excludes hired buses.

Ø The cost has been worked out on the basis of average cost of chassis, bus body and seats.

≠ Worked out on the basis of bus cost incurred during 2008-09.

Thus, the Corporation's ability to survive and grow depends on its efforts to remove operational inefficiencies, cut costs and tap non-conventional revenue avenues so that it can fund its capital expenditure and be self-reliant.

The borrowings of the Corporation increased (net) from Rs. 148.53 crore to Rs. 210.24 crore only as a result of repayments made during the review period. Consequently, interest burden also increased from Rs. 14.86 crore to Rs. 20.08 crore during the review period. The percentage of overage buses increased from 19.70 in 2004-05 to 20.38 in 2007-08 but significantly decreased to 10.98 *per cent* in 2008-09 due to purchase of 903 buses. Audit observed that the Corporation was not able to replace the overage buses timely due to constant cash losses over the period resulting in non availability of funds and absence of budgetary support from the State Government.

The Management agreed (September 2009) to the need of reviewing policy of overage buses.

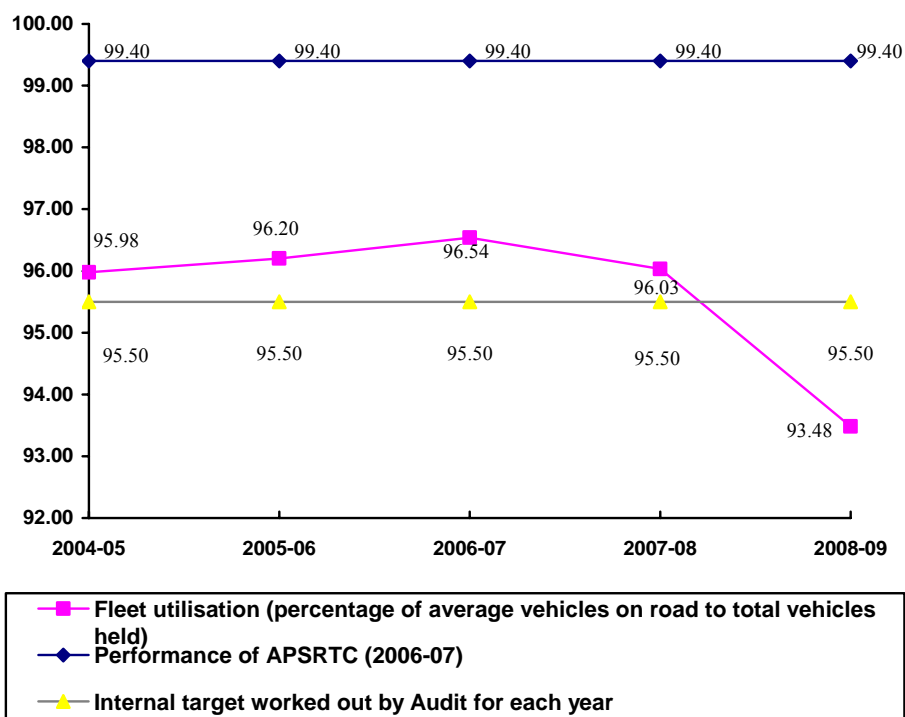
**3.10.4** The overage fleet requires high maintenance and results in extra cost and less availability of vehicles compared to right age fleet, other things being equal. This only goes on to increase operational inefficiency and causes losses which, in turn, affects the ability of the Corporation to replace its fleet on a timely basis.

#### ***Fleet Utilisation***

**3.10.5** Fleet utilisation represents the ratio of buses (excluding hired) on road to buses held by the Corporation. The Corporation has not fixed any targets as such for fleet utilization. However, at the time of allotment of buses in depots, considering the schedules, the Corporation makes provisions for spare buses at the rate of 4 to 6 *per cent*. Thereby, the targeted fleet utilization would work out to 94 to 96 *per cent*. The average fleet utilization target as worked out by Audit was 95.50 *per cent* during the review period. Thus, the fleet utilisation of the Corporation was above the target up to 2007-08 though it was below the performance of APSRTC (best performer) of 99.40 *per cent*. However, during 2008-09 the Corporation failed to achieve even its own target. The particulars for the review period are indicated in the

Andhra Pradesh, Tamil Nadu (Kumbakonam) and Tamil Nadu (Coimbatore) registered best fleet utilisation at 99.4, 98.4 and 98.3 *per cent* respectively during 2006-07. (Source: STUs profile and performance 2006-07 by CIRT, Pune)

graph given below.



**3.10.6** The percentage of fleet utilisation deteriorated during 2008-09. The main reasons which contributed to this, as analysed by Audit, were as follows:

- The overall rate of breakdowns per ten thousand KMs increased from 0.11 in 2004-05 to 0.13 in 2008-09. In 23 depots it ranged between 0.14 and 0.28 in 2007-08. Due to cancellation of scheduled KMs on account of breakdowns during 2008-09, the Corporation lost the contribution of Rs. 2.54 crore.
- Delay of 1,152 days in putting the 292 buses for repairs at Central Workshop, Ajmer after receipt from depots.
- Delay of 103 days in putting 25 new buses at 12 selected depots (out of 193) on road and,
- 'Out of service buses (421)' were not declared as condemned leading to increase in number of buses held without operation.

**3.10.7** Thus, the Corporation was not able to achieve an optimum utilization of its fleet strength in 2008-09, which in turn impacted its operational performance adversely.

The Government stated (October 2009) that the comparison with South Indian states is not reasonable and 99.40 *per cent* vehicle utilisation achieved by some of these Road Transport Corporation is not realistic.

**Vehicle productivity**

**3.11.1** Vehicle productivity refers to the average Kilometres run by each bus (including hired buses) per day in a year. The operated KMs and vehicle productivity were recorded by the Corporation on the basis of schedule KMs as the milometers were not functioning in 863 buses out of 1,176 buses in 12 selected depots of the Corporation. The vehicle productivity of the Corporation vis-à-vis the overage fleet for the five years ending 2008-09 is shown in the table below.

S.No.	Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Internal targets	357	382	394	405	397
2.	Vehicle productivity (KMs run per day per bus)	346	370	380	387	388
3.	Overage fleet (percentage)	19.70	19.96	22.62	20.38	10.98

**3.11.2** It is evident from the above table that the vehicle productivity of the Corporation improved from 346 KMs to 388 KMs during 2004-05 to 2008-09

**Tamil Nadu (Villupuram), Tamil Nadu (Salem) and Tamil Nadu (Kumbakonam) registered best vehicle productivity at 474, 469 and 462.8 KMs per day respectively during 2006-07. (Source : STUs profile and performance 2006-07 by CIRT, Pune)**

due to efforts of the Corporation to increase vehicle productivity through change in schedules. The vehicle productivity of the Corporation was better than the All India Average of 313 KMs per day. However, the Corporation failed to achieve the targets fixed by it in all the five years and was considerably lower than the vehicle productivity of 474 KMs per day of the best performer. Further analysis in Audit revealed that vehicle productivity of 16 to 19 depots was above the targets during the review period. Audit observed that vehicle productivity of seven<sup>~</sup> and six<sup>€</sup> depots during 2007-08 and 2008-09 was in range of 336 to 348 and 332 to 352 respectively. However, no effective measures were taken to improve the vehicle productivity of these depots where ample scope for improvements existed. The lower productivity was mainly on account of increased rate of breakdowns (Paragraph 3.10.6) and cancellation of scheduled KMs (Paragraphs 3.12.8 and 3.12.9).

The Government stated (October 2009) that the low productivity was mainly due to number of overage buses, city serving and sub-urban depots which operated shuttle services on short routes and also due to other uncontrollable reasons like road blockades, public agitations *etc.* The reply is not convincing since depots referred to in para do not include city serving depots. Moreover, reply is not supported by any data.

~ Ajaymeru , Alwar, Baran, Bundi, Dausa, Hindaun and Srimadhampur.  
 € Ajaymeru, Alwar, Baran, Dausa, Hindaun and Vaishali Nagar.

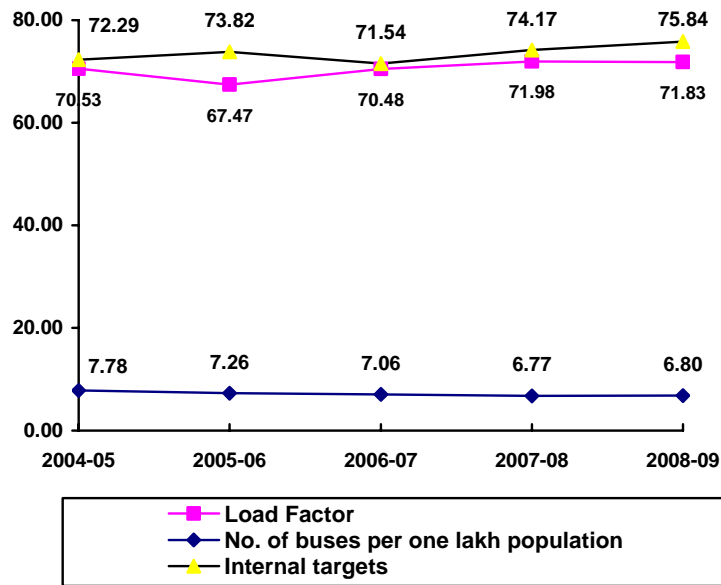


## Capacity Utilisation

### Load Factor

3.12.1 Capacity utilisation of a transport undertaking is measured in terms of Load Factor, which represents the percentage of passengers carried to seating capacity. The schedules to be operated are to be decided after proper study of routes and periodical reviews are necessary to improve the load factor. The load factor of the Corporation varied from 67.47 to 71.98 *per cent* during the review period. Though it was better than the All India Average of 63 *per cent* yet it was considerably lower as compared to the best performers. The Corporation even failed to achieve its internal targets in all the five years. A graph depicting the load factor *vis-à-vis* number of buses per one lakh population is given below.

**State Express Transport Corporation (Tamil Nadu), Tamil Nadu (Coimbtore) and Tamil Nadu (Villupuram) registered best load factor of 85.69, 79.57 and 79.06 *per cent* respectively during 2006-07. (Source : STUs profile and performance 2006-07 by CIRT, Pune)**



**The load factor of the Corporation was lower than best performers and even failed to achieve its internal targets in all the five years due to ineffective checking system.**

It is evident from the above graph that in spite of decrease in number of buses per one lakh population, the load factor of the Corporation did not show significant improvement which indicates diversion of passengers to other modes of transport including other reasons. Ticket less travel reduces the reported load factor and amounts to revenue leakage. An effective control on ticket less travel and leakage of revenue can improve the reported load factor and reduce losses. The Corporation has a system of checking buses en route by the depot level as well as head office level checking staff. It was noticed in audit that the effectiveness of depot level checking was not satisfactory as out of total buses checked, only in 0.63 *per cent* cases of ticket less travel were reported as against 2.11 *per cent* cases reported in checking by head office level staff during the review period. As against deployment of 223 permanent checking staff along with other staff, the total amount of recovery from ticket

less passenger/luggage was merely Rs. 9.36 lakh from 19,059 cases (0.94 per cent only) out of 20.38 lakh buses checked during five years period indicating extremely low effectiveness of checking system. It was observed that the responsibility for ticket less travels vest with the conductor and not with the passenger and therefore possible collusion between the roadways staff in not conducting the checking or not reporting the cases of ticket less travels can not be ruled out particularly in the checking by the depot level staff.

**3.12.2** The table below provides the details for break-even load factor (BELF) for traffic revenue as well as total revenue. Audit worked out this BELF at the given level of vehicle productivity and total cost per KM.

S.No.	Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Cost per KM (Rs.)	14.59	15.24	16.46	17.05	19.47
2.	Traffic revenue per KM at 100 per cent load factor (Rs.)	18.57	20.57	21.59	21.96	23.81
3.	Break – even load factor considering only traffic revenue (1/2)	78.57	74.09	76.24	77.64	81.77

**3.12.3** The break-even load factor is quite high and is not likely to be achieved given the present load factor and the fact that the Corporation is also required to operate uneconomical routes. Thus, there is a need to improve upon the load factor by arresting revenue leakage and cut down costs of operations as explained later.

The Government stated (October 2009) that expansion of rail services in the State, increase in operations by unauthorized vehicles on nationalized routes and non-replacement of overage buses affected the load factor. It further stated that wide area coverage of checking programmes prepared at head office level, its confidentiality and suddenness resulted into higher rate of cases of ticketless travel by head office level checking as compared to depot level checking. The Management, while explaining various constraints including inability to keep pace with technology in checking ticketless travel during exit conference stated that efforts are being made to improve the system.

### **Route Planning**

**3.12.4** Appropriate route planning to tap demand leads to higher load factor. However, the Corporation plans and monitors schedule wise profitability instead of routes. The schedules are planned and revised monthly on the basis of feedback received from the depots.

The percentage of uneconomical schedule increased to 87 per cent in 2008-09 from 70 per cent in 2007-08 contributing to increased Break Even load factor.

**3.12.5** Some routes are profitable while others are not. The Corporation did not maintain records to ascertain route wise profitability, however, it ascertained the profitability of schedule\* at depot level. Consolidated records showing profitability of all the schedules were not maintained at Corporation level upto 2006-07. Further, the Corporation did not maintain any records for number of schedules not meeting variable cost. The position of profitability of schedules for the year 2007-08 and 2008-09 is given in the table below:

Particulars	Total No. of schedules	No. of schedules making profit	No. of schedules not meeting total cost
<b>2007-08</b>	4131 (100)	1251 (30)	2880 (70)
<b>2008-09</b>	4312 (100)	546 (13)	3766 (87)

Figures in brackets show percentage to total schedules.

**3.12.6** Though some of the schedules now appearing unprofitable would become profitable once the Corporation improves its efficiency in all the operational parameters particularly vehicle productivity, load factor apart from fuel cost, manpower, maintenance *etc.*, there would still be some uneconomical schedules. Given the scenario of mixed routes and obligation to serve uneconomical routes, an organisation should decide an optimum quantum of services on different routes so as to optimise its revenue while serving the cause. However, no such exercise was carried out by the Corporation. It can be seen from the table that the percentage of uneconomical schedules increased to 87 per cent in 2008-09 from 70 per cent in 2007-08. Audit observed that the worsening of the position was mainly due to increase in the manpower cost as discussed in paragraph 3.14.2.

The Government while accepting the facts stated (October 2009) that with a view to minimise the unprofitable schedules, analysis of each schedule of every depot is being done besides pruning uneconomical schedules which are giving income below variable cost. The operations are being so planned that contribution towards fixed cost may be increased substantially.

#### ***Cancellation of Scheduled Kilometres***

**3.12.7** A review of the operations indicated that the scheduled kilometres were not fully operated mainly due to non-availability of adequate number of buses, shortage of crew and other factors like breakdowns, accidents, low income, deployment of buses for other services *etc.*

**3.12.8** The scheduled KMs were fixed by the Corporation on monthly basis looking at the availability of buses, vehicle productivity, load factor and public demand. Audit noticed that while planning for scheduled KMs the provision for deployment of buses for special purpose was not made. The details of scheduled KMs, effective KMs operated against scheduled KMs and

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\* Daily operation of a bus.

cancelled KMs are furnished in the table below.

(In lakh KMs)

S.No.	Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Scheduled kilometres	5725.04	6087.41	6213.00	6256.37	6276.54
2.	Effective kilometres <sup>#</sup>	5444.62	5757.72	5868.28	5839.51	5812.18
3.	Kilometres cancelled	280.42	329.69	344.72	416.86	464.36
4.	Percentage of cancellation	4.90	5.42	5.55	6.66	7.40
<b>Cause-wise analysis</b>						
5.	Want of buses	51.00	65.96	88.09	106.81	99.92
6.	Want of crew	68.44	54.57	39.57	31.39	46.61
7.	Others	160.98	209.16	217.06	278.66	317.83
8.	Contribution* per KM (in Rs.)	5.40	5.35	5.84	6.32	6.97
9.	Avoidable cancellation (want of buses and crew) (5+6)	119.44	120.53	127.66	138.20	146.53
10.	Loss of contribution (8x9) (Rs. in crore)	6.45	6.45	7.46	8.73	10.21

Due to cancellation of scheduled KMs for want of buses and crew alone, the Corporation was deprived of contribution of Rs. 39.30 crore during the review period.

**3.12.9** It can be seen from the above table that the percentage of cancellation of scheduled KMs increased continuously from 4.90 to 7.40 during the review period. The rise of more than 51 per cent in cancelled KMs during the review period indicated that the Corporation was not able to control the cancelled KMs which remained on the higher side as compared to the best performers. The increase in the percentage of cancelled KMs for want of buses during the review period was attributed to high percentage of overage buses and failure of the Corporation in carrying out timely preventive maintenance. The lack of proper provision during planning for deployment of buses for special purpose *i.e.* Mela services, contract services *etc.* also contributed to rising cancellation. Due to cancellation of scheduled KMs for want of buses and crew alone, the Corporation was deprived of contribution of Rs. 39.30 crore during the review period.

Tamil Nadu (Salem), State Express Transport Corporation (Tamil Nadu) and Tamil Nadu (Villupuram) registered least cancellation of scheduled KMs at 0.45, 0.67 and 0.78 per cent respectively during 2006-07. (Source: STUs profile and performance 2006-07 by CIRT, Pune)

The Government stated (October 2009) that there was shortage of buses and crew due to non replacement of overage buses in time and ban on recruitment.

## Maintenance of vehicles

### Preventive Maintenance

**3.13.1** Preventive maintenance is essential to keep the buses in good running condition, reduce breakdowns and other mechanical failures. Preventive

# Does not include KMs run over and above scheduled KMs.  
\* Traffic revenue per KM minus variable cost per KM.

maintenance schedules are monitored at depot level. The Corporation has Tata and Leyland make buses, for which two major preventive maintenance schedules have been prescribed as under:

- On completion of 16,000/18,000 KMs for Leyland/Tata buses respectively there should be change of oil, wheel alignment, cleaning of fuel injection pump, engine tuning, brake adjustment *etc.*
- On completion of 40,000 KMs there should be overhauling of engine, spring leaves, wheels, brakes, fuel injection pump, cooling system *etc.* and change of gear oil, body work *etc.*

**3.13.2** During scrutiny of maintenance records at selected depots, the information in respect of five depots<sup>®</sup> was not made available. From the scrutiny of records of remaining depots audit observed that the required preventive maintenance schedules were not being adhered to as shown below:

**Schedules of preventive maintenance were not adhered to on more than 56 per cent buses.**

Year	On completion of 16000/18000 KMs			On completion of 40,000 KMs		
	Total maintenance done	Done on time within (+)/(-) 10 per cent KMs	Percentage of maintenance done on time	Total maintenance done	Done on time within (+)/(-) 10 per cent KMs	Percentage of maintenance done on time
2004-05	5660	2274	40.18	2384	962	40.35
2005-06	6011	2675	44.50	2544	960	37.74
2006-07	5559	2297	41.32	2597	1060	40.82
2007-08	8064	3549	44.01	3637	1735	47.70
2008-09	7272	3307	45.48	3613	1511	41.82
<b>Total</b>	<b>32566</b>	<b>14102</b>	<b>43.30</b>	<b>14775</b>	<b>6228</b>	<b>42.15</b>

It is evident from the above table that in selected depots, schedules of preventive maintenance were not adhered to on more than 56 per cent of buses. It was also noticed that preventive maintenance in respect of 1,812 cases (3.83 per cent) was done after completion of approximately 50 per cent KMs higher than the schedule KMs. The reasons, as analysed in Audit, were shortage of maintenance staff, lack of oil and spare parts and late availability of buses for maintenance. It was further observed that the Corporation has not maintained the complete records of items of work done at preventive maintenance schedules, in absence thereof the completion of all items prescribed for preventive maintenance could not be verified. Lack of carrying out preventive maintenance in time contributed to increased rate of breakdowns.

The Government stated (October 2009) that shortage of technicians due to Government's ban on recruitment led to delay in carrying out preventive maintenance. The reply is not convincing as the Corporation could have carried out schedule maintenance of buses through outsourcing.

### ***Repairs and Maintenance***

**3.13.3** A summarised position of fleet holding, over-aged buses, repairs and

<sup>®</sup> Barmer, Jalore, Hindaun, Abu Road and Bharatpur.

maintenance (R&M) expenditure for the last five years up to 2008-09 is given below.

Sl. No.	Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Total buses (No.) <sup>μ</sup>	4345	4403	4421	4259	4680
2.	Over-age buses (more than 8 years old)	856	879	1000	868	514
3.	Percentage of over-age buses	19.70	19.96	22.62	20.38	10.98
4.	R&M Expenses (Rs. in crore)	61.41	65.10	70.10	76.76	97.39
5.	R&M Expenses per bus (Rs. in lakh) (4/1)	1.41	1.48	1.59	1.80	2.08
6.	Percentage of manpower cost in R&M expenses	87.91	87.62	86.38	86.08	88.89

**The share of manpower cost in repair and maintenance expenses per bus was high and ranged from 86 to 89 per cent during the review period.**

**3.13.4** The repairs and maintenance expenditure per bus increased from Rs. 1.41 lakh to Rs. 2.08 lakh during 2004-05 to 2008-09. It is evident from the above table that the share of manpower cost in repair and maintenance expenses per bus was high and ranged from 86 to 89 *per cent* during review period. Higher percentage of manpower cost in repair and maintenance expenses indicated that manpower in Repair workshop was in excess of actual requirement and contributing to unreasonably higher repair cost. The annual repair and maintenance expenses constituted almost 17 *per cent* of cost of new bus and Rs. 1.69 per effective KM operated by Corporation buses during 2008-09 which was on higher side and adversely affected the operation of the Corporation. Thus, there was need to reduce the component of manpower cost in repair and maintenance expenses by improving productivity, redeployment and outsourcing of this activity. Further, looking to the high repairs and maintenance cost, hiring of buses can prove a prudent option as described later.

The Government stated (October 2009) that in absence of permission to purchase new buses the Corporation had to operate available old fleet during 2006-07 and 2007-08 which resulted in higher maintenance cost. However, the Management could rationalise its excess manpower deployed on repair and maintenance activity.

### Manpower Cost

**3.14.1** The cost structure of the Corporation shows that manpower and fuel constitute 75.69 *per cent* of total cost. Interest, depreciation and taxes – the costs which are not controllable in the short-term – account for 14.05 *per cent*. Thus, the major cost saving can come only from manpower and fuel.

**3.14.2** Manpower is an important element of cost which constituted 40.18 *per cent* of total expenditure of the Corporation in 2008-09. Therefore, it is

<sup>μ</sup> Total buses held on 31 March every year excluding hired buses.

imperative that this cost is kept under control and the manpower is utilised optimally to achieve high productivity. The table below provides the details of manpower, its cost and productivity.

Sl.No.	Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Total Manpower (Nos.)	22651	22369	21798	20961	20615
2.	Manpower cost (Rs. in crore)	289.96	308.41	328.24	364.01	470.09
3.	Effective KMs (in lakh)	5573.80	5933.90	6055.48	6015.26	6008.62
4.	Cost per effective KM (Rs.)	5.20	5.20	5.42	6.05	7.82
5.	Productivity per day per person (KMs)	67.42	72.68	76.11	78.62	79.85
6.	Total Buses (No.) (Average buses held) <sup>⊞</sup>	4348	4373	4389	4306	4384
7.	Manpower per bus	5.21	5.12	4.97	4.87	4.70

The Corporation succeeded in reducing manpower per bus from 5.21 in 2004-05 to 4.70 in 2008-09. Audit observed that the substantial increase in manpower cost by Rs. 1.77 per KM in 2008-09 was due to implementation of the recommendation of 6<sup>th</sup> Pay Commission (September 2008). Further audit analysis of the deployment of traffic staff revealed that despite shortage of traffic staff in some depots, excess staff was posted at certain other depots as is evident from the table below:

Year	Drivers		Conductors		Booking Clerk	
	No. of depots having excess drivers	Excess staff	No. of depots having excess conductors	Excess staff	No. of depots having excess Booking Clerk	Excess staff
2004-05	3	9	13	93	28	285
2005-06	5	17	7	108	20	176
2006-07	6	26	9	140	14	91
2007-08	4	13	8	159	10	49
2008-09	6	21	8	174	8	36

Deployment of excess staff at above mentioned depots led to curtailment of trips at other depots having shortage of traffic staff causing loss of contribution of Rs. 14.16 crore out of Rs. 39.30 crore as discussed in paragraph 3.12.9.

The Government stated (October 2009) that the manpower cost increased mainly due to implementation of recommendations of the Sixth Pay Commission. The Management, while agreeing to the fact that there is no equitable distribution of manpower and there is need for improvement, stated that excess drivers were posted for uninterrupted operations in depots where medically unfit, suspended and on long leave drivers were posted. The reply is however, silent about the steps taken to increase manpower productivity.

⊞ Excluding hired buses.

### Fuel Cost

**3.15.1** Fuel is a major cost element which constituted 35.51 per cent of total expenditure in 2008-09. Control of fuel costs by a road transport undertaking has a direct bearing on its productivity. The table below gives the targets fixed by the Corporation for fuel consumption, actual consumption, mileage obtained per litre (Kilometre per litre *i.e.* KMPL) and estimated extra expenditure.

S.No.	Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Gross Kilometres (in lakh) of own buses	5311.32	5793.62	6029.68	6010.08	5901.37
2.	Actual Consumption (in lakh litres)	1061.36	1139.31	1205.40	1208.92	1185.07
3.	Kilometre obtained per litre (KMPL)	5.00	5.09	5.00	4.97	4.98
4.	Target of KMPL fixed by Corporation	4.96	5.16	5.15	5.10	5.05
5.	Consumption as per internal targets (in lakh litres) (1/4)	1070.83	1122.79	1170.81	1178.45	1168.59
6.	Excess Consumption (in lakh litres) (5-2)	0.00	16.52	34.59	30.47	16.48
7.	Average cost per litre (in Rs.)	23.50	28.67	31.34	30.54	33.54
8.	Extra expenditure (Rs. in crore)(7X6)	0.00	4.74	10.84	9.31	5.53

**3.15.2** It can be seen from the above table that during 2006-07 there was steep increase in fuel consumption as compared to previous year. This was

**North East Karnataka State Road Transport, Uttar Pradesh and Andhra Pradesh registered mileage of 5.45, 5.33 and 5.26 KMPL.**  
(Source: STUs profile and performance 2006-07 by CIRT, Pune)

attributable mainly to increase in number of overage buses from 879 to 1,000. Besides, average age of the fleet also increased from 5.05 years to 5.16 years. Instead of taking measures for improvement in mileage, the Corporation constantly

reduced the targets of KMPL from 5.16 to 5.05 during 2005-06 to 2008-09. The records of fuel consumption were examined in selected 12 depots and noticed that during 2006-07, 2007-08 and 2008-09 depots-wise targets of KMPL were not achieved in 9, 9 and 8 depots respectively due to overage fleet, heavy body star line buses, *etc.* The Corporation consumed 98.06 lakh litres of fuel valued at Rs. 30.42 crore in excess during the review period as compared to its internal targets, which had been fixed considering the local situation.

The Government stated (October 2009) that targets of KMPL were generally fixed on higher side to achieve better KMPL based on the fleet age, geographical location of depots and previous achievements. The reply is not based on facts as the targets were achievable as the actual KMPL achieved in 2004-05 was more than the target. Further, in 2008-09 despite inclusion of new buses in the fleet, the targets were reduced which also could not be achieved.



### Cost effectiveness of hired buses

**3.16.1** The Corporation started since 1975-76 hiring private buses on Kilometre payment basis (KM Scheme). Agreements with the private bus owners were initially entered into for a period of two years under KM Scheme. The owners of these buses were required to provide buses with drivers and to incur all expenditure for running the buses. The Corporation was to provide conductors and make payment as per the actual Kilometres operated by the hired buses. During the review period, the Corporation earned a net profit of Rs. 3.53 crore from the operation of 114 to 244 hired buses as shown below:

(Amount in Rs.)

S.No.	Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
	<b>Own fleet<sup>◇</sup></b>					
1.	Cost per effective KM	14.86	15.63	16.56	17.43	19.25
2.	Traffic Revenue per effective KM	13.34	14.18	15.35	15.84	17.17
3.	Net Revenue per effective KM	(-)1.52	(-)1.45	(-)1.21	(-)1.59	(-)2.08
	<b>Hired buses</b>					
4.	No. of Hired buses at the end of the year	219	150	130	108	195
5.	Cost per effective KM <sup>£</sup>	11.19	12.48	13.30	14.39	14.96
6.	Traffic Revenue per effective KM	11.69	12.32	13.06	14.90	15.53
7.	Net Revenue per effective KM	0.50	(-)0.16	(-)0.24	0.51	0.57
8.	Total effective KMs operated (in lakh)	417.72	304.16	185.01	172.82	261.75
9.	Profit from hired buses (Rs. in crore)	2.09	(-)0.49	(-)0.44	0.88	1.49
10.	Traffic revenue per KM at 100 per cent load factor	18.57	20.57	21.59	21.96	23.81
11.	Break-even load factor considering traffic Revenue (5/10)	60.26	60.67	61.60	65.53	62.83

**3.16.2** The break-even load factor in respect of hired buses is lower than the actual load factor achieved by the Corporation. This substantiated the proposition that hired buses are more profitable than own fleet. In view of the profitable segment, the number of hired buses should have been increased over a period of time. However, the number of hired buses decreased from 219 in 2004-05 to 108 in 2007-08 due to inadequate rate of hire charges and unfavourable terms of payment to private bus owners. Thus, the Corporation failed to increase the number of hired buses which would have resulted in additional revenue and avoidance of cancellation of scheduled KMs for want of buses. The buses held by the Corporation as well as effective KMs operated did not show significant improvement during the review period and the percentage of overage buses also remained high up to 2007-08. Due to constant losses the Corporation does not have resources to replace all its overage fleet. Looking at the fund constraint the Corporation should explore the possibility to replace the overage buses by hired buses. Secondly, the traffic revenue per effective KM is less in case of hired buses than that of own buses. Thus, there is scope to earn more.

◇ The figures in the S. No. 1 to 3 will not tally with the figures given in the table under paragraph 3.5.2 as the same are for the Corporation as a whole and include hired buses. This table deals with ordinary buses only.

£ This includes contract price, conductors' pay and overheads of depots/head office.

The Government stated (October 2009) that hired buses appeared comparatively more profitable because of their operation on long schedules and also due to higher establishment cost of the Corporation buses. Further, buses were not available for hiring in many depots and as per norms of keeping not more than 20 *per cent* of hired buses, the Corporation could not operate unlimited number of hired buses. The reply is not based on facts as during the review period the actual percentage of hired buses was less than five *per cent*.

### **Body Building**

**3.17** The Corporation does not have its own body building unit. The Corporation got 2,039 bus bodies fabricated during 2004-05 to 2008-09 through outsourcing. The cost of fabrication per bus was Rs. 4.23 lakh during 2008-09. This arrangement helps as the Corporation is not saddled with huge overheads as in case of repairs and maintenance expenses.

### **Financial Management**

**3.18.1** Raising of funds for capital expenditure, *i.e.*, for replacement/addition of buses happens to be the major challenge in financial management of Corporation's affairs. This issue has been covered in Paragraph 3.10.3. The section below deals with the Corporation's efficiency in raising claims and their recovery. This section also analyses whether an opportunity exists to realign the business model to generate more resources without compromising on service delivery.

### **Claims and Dues**

**3.18.2** The Corporation gives its buses on hire for which parties were required to pay in advance the charges at prescribed rates per kilometre basis at the time of booking. It was, however, noticed during Audit that speedometers were not working due to which, the charges were worked out on the basis of scheduled KMs of the destination and hours for which buses were hired. This left room for manipulation of actual KMs covered by bus. It was further noticed during Audit that despite the continuous increase in the operational cost per kilometre and increase in passenger fare, the Corporation did not take timely steps for increasing the hire charges. Had the revision in hire charges been effected by 50 Paise per KM at the time of revision of the passenger fare by 1 Paise per KM, the Corporation could have earned additional revenue of Rs. 4.50 crore during the period from 2005-06 to 2008-09.

The Government stated (October 2009) that the rate of hire charges was frequently analysed and revised keeping in view the competition with private operators. The fact remains that hire charges should have been revised in proportion to passenger fare as the Corporation has shortage of buses and providing of buses given on hire resulted in curtailment of schedules.

### Realignment of business model

**3.19.1** The Corporation is mandated to provide an efficient, adequate and economical road transport to public. Therefore, the Corporation cannot take an absolutely commercial view in running its operations. It has to cater to uneconomical routes to fulfil its mandate. It also has to keep the fares affordable. In such a situation, it is imperative for the Corporation to tap non-traffic revenue sources to cross-subsidize its operations. However, the average share of non-traffic revenues (other than interest on investments and sale of scrap) was nominal at 1.64 *per cent* of total revenue during the review period. This revenue of Rs. 77.42 crore during 2004-09 mainly came from advertisements and restaurant/shop rentals. Audit observed that the Corporation has non-traffic revenue sources which it has not tapped substantially.

**3.19.2** Over a period of time, the Corporation has come to acquire sites at prime locations in cities, districts and tehsil headquarters. The Corporation generally uses the ground floor/land for its operations, leaving an ample scope to construct and utilise spaces above. Audit observed that the Corporation has land (mostly owned/leased by the Government) at important locations admeasuring 16.17 lakh square metres as shown below.

Particulars	Cities (Municipal areas)	District HQrs.	Tehsil HQrs.	Total
Number of sites	15	34	64	<b>113</b>
Occupied Land (lakh sq. mtrs.)	5.03	6.61	4.53	<b>16.17</b>

**3.19.3** It is, thus, possible for the Corporation to undertake projects on public private partnership (PPP) basis for construction of shopping complexes, malls, hotels, office spaces, *etc.* above (from first or second floor onwards) the existing sites so as to bring in a steady stream of revenues without making any investment. Such projects can be executed without curtailing the existing area of operations of the Corporation. Such projects can yield substantial revenue for the Corporation which can only increase year after year.

The Management during exit conference stated that the Corporation has started looking at new areas to earn income from non conventional sources including development of bus stands on public private partnership basis.

**The Corporation had not framed any policy or strategy to increase the share of non-traffic revenue.**

**3.19.4** Audit observed that the Corporation had not framed any policy or strategy to increase the share of non-traffic revenue and in absence of policy, failed to execute any such project due to lack of proper study of this aspect. Since substantial non-traffic revenue will help the Corporation to cross-subsidize its operations and fulfil its mandate effectively, the Corporation may like to study realigning its business model and frame a policy in this regard.

### Fare policy and fulfilment of social obligations

#### Existence and fairness of fare policy

**3.19.5** As per Section 67 of the Motor Vehicle Act, the State Government has powers to issue notification in Gazette for fixation of maximum rate of passenger fare of stage carriage buses of the Corporation as well as private operators. The Corporation makes proposal for increase in maximum rate of fare whenever the cost of fuel is increased. The State Government after considering the proposal and other factors decides to increase the fare and accordingly the Corporation increases its passenger fares. Audit observed that the Corporation did not have a fare policy and fare is revised on ad hoc basis without any assessment of actual cost of the Corporation. The maximum fare prescribed by the State Government and fare rate charged by the Corporation during the review period was as under:

S. No.	Date of notification for fare revision	Government for fare	Notified fare per (in Paise)	fare KM	Fare charged by the Corporation (in Paise)	Effective date of fare change by the Corporation
1.	23.10.2002	(Effective from 22.06.2002)	40		40	22.06.2002
2.	01.07.2005		45		43	03.07.2005
					45	10.09.2005
3.	06.07.2006		50		47	12.07.2006
					49	18.02.2008
4.	27.06.2008		53		52	28.06.2008

The Management during exit conference stated that there would be little use in preparing fare policy as the fair structure is controlled by the State Government. The reply is not acceptable as there is need to frame fare policy based on normative costs despite control on fare revision by the State Government.

**3.19.6** The Corporation provides free/concessional passes to various categories of passengers like students, journalist, physically and mentally challenged persons, freedom fighters *etc.* as per instructions of the State Government. The State Government decided (January 2004) to adjust two months Special Road Tax (SRT) each year against the cost of such free/concessional fare. Audit noticed that the actual cost of free/concessional passes was higher than the amount of two months SRT adjusted by the State Government. The Corporation thus, incurred loss of Rs. 31.60 crore during the

review period on this account. Audit further noticed that after the Government decision (January 2004) regarding adjustment of two months SRT against free/concessional passes, the Corporation allowed free/concessional passes to six more categories of passengers namely senior citizens, attendant accompanying the blind and widow of freedom fighters, women in group, tribal and licensed porters without obtaining firm commitment from the Government for reimbursement of cost of such additional concessions. The Corporation incurred loss of Rs. 8.80 crore on this account during the period September 2004 to January 2009.

The Management stated (September 2009) that matter relating to reimbursement of excess of actual cost of free and concessional facility over and above two months SRT was taken up with the Government from time to time. The Government, however, did not further elaborated the issue.

**3.19.7** The fare policy of the Corporation has no scientific basis as it does not take into account the normative cost. Thus, there is a risk of commuters paying for inefficiency of the Corporation. The table below shows how the Corporation could have curtailed cost and increased revenue with better operational efficiency.

S.No.	Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Cost per KM (Rs.)	14.59	15.24	16.46	17.05	19.47
2.	Revenue per KM (Rs.)	13.91	14.78	16.16	16.66	18.01
3.	Loss of revenue due to low load factor (per KM) <sup>↔</sup> (Rs.)	0.35	1.39	0.24	0.51	1.01
4.	Excess cost due to low manpower productivity (per KM) <sup>↑</sup> (Rs.)	0.14	0.13	0.14	0.23	0.33
5.	Excess cost due to excess consumption of fuel (per KM) (Rs.)	0.00	0.08	0.18	0.16	0.10
6.	Ideal revenue per KM (2+3) (Rs.)	14.26	16.17	16.40	17.17	19.02
7.	Ideal cost per KM [1-(4+5)] (Rs.)	14.45	15.03	16.14	16.66	19.04
8.	Net revenue per KM (2-1) (Rs.)	(-)0.68	(-)0.46	(-)0.30	(-)0.39	(-)1.46
9.	Net ideal revenue per KM (6-7) (Rs.)	(-)0.19	1.14	0.26	0.51	(-)0.02
10.	Effective KMs (in crore)	55.74	59.34	60.55	60.15	60.09
11.	Avoidable loss (Rs. in crore) [(9-8) x 10]	27.31	94.94	33.91	54.14	86.53

**3.19.8** The above Table does not take into account other inefficiencies such as low fleet utilisation, excess tyre cost *etc.* Nonetheless, it shows that the net revenue could have been higher by Rs. 296.83 crore if the operations were properly planned and efficiently managed, than what they actually are. By increasing the proportion of hired buses, the expenditure on manpower and repairs can also be curtailed substantially. Thus, the losses suffered by the Corporation are mainly on account of its high cost of operations and not due to low fare structure.

↔ Worked out on the basis of difference of revenue at targeted load factor vis-à-vis actual revenue earned per KM.

↑ It is the difference of manpower cost per KM on the basis of scheduled KMs and actual KMs run.

The Government accepted (October 2009) that in absence of ideal conditions, there is a scope for improvement in all areas and the Corporation is trying for that.

**3.19.9** The above facts and analysis lead to conclude that it is necessary to regulate the fares on the basis of a normative cost and it would be desirable to have an independent regulatory body (like State Electricity Regulatory Commission) to fix the fares, specify operations on uneconomical routes and address the grievances of commuters.

#### **Adequacy of services on uneconomical routes**

**3.19.10** The Corporation had about 13 *per cent* profit making schedules as on 31 March 2009 as mentioned in paragraph 3.12.5. However, the position would change if the Corporation improves its efficiency. Nonetheless, there would still be some schedules which would be uneconomical. Though the Corporation is required to cater to these schedules, the Corporation has not formulated norms for providing services on uneconomical schedules. In the absence of norms, the adequacy of services on uneconomical schedules cannot be ascertained in audit. The desirability of having an independent regulatory body to specify the quantum of services on uneconomical schedules and routes, taking into account the specific needs of commuters, is further underlined.

**3.19.11** Out of 5,833 routes having a length of 7.06 lakh KMs, the Corporation operated 2,537 numbers of routes of total length of 5.04 lakh KMs in the State during 2007-08. The Corporation has sole right to operate on routes which are declared nationalised<sup>@</sup> routes by the State Government. There were 3,296 numbers of other routes of total length of 2.02 lakh KMs which were served only by the private operators for which adequacy of services was not ascertainable. Audit further observed that the Corporation did not operate buses on 26 nationalised routes being uneconomical and on the request of the Corporation, the State Government de-notified (6 December 2006) these routes without ensuring adequacy of services on these routes by private operators.

The Government during exit conference stated that route surveys are being conducted to ascertain services in underdeveloped routes.

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<sup>@</sup> Routes notified by the State Government to be solely operated by the Corporation.

### Monitoring by top management

#### MIS data and monitoring of service parameters

**3.20** For an organisation like a Road Transport Corporation to succeed in operating economically, efficiently and effectively, there has to be written norms of operations, service standards and targets. Further, there has to be a Management Information System (MIS) to report on achievement of targets and norms. The achievements need to be reviewed to address deficiencies and also to set targets for subsequent years. The targets should generally be such that the achievement of which would make an organisation self-reliant. The Corporation has a Statistical Cell headed by a Deputy General Manager under the control of Executive Director (Traffic). Statistical cell compiles monthly information received from depots for various performance indicators and communicates it monthly to concerned Heads of Department (HOD) *i.e.* Executive Directors, Engineering and Traffic and Finance Advisor. The depot wise monthly or yearly targets for various performance parameters are set by the concerned HOD. The system was deficient as effectiveness and usefulness of various information compiled had not been reviewed and MIS did not provide information on schedules operating below variable cost. Audit also found that the Board of the Corporation, while appraising the quarterly financial and operational performance of the Corporation did not recommend corrective action on operational underperformance.

The Management during exit conference stated that there is over-monitoring as too many parameters are being monitored instead of focused specific performance parameters. The Management also explained that the Board discuss various operational performance parameters and traditionally suggest to CEO (MD/CMD) to examine and initiate proposal for consideration, while agreeing to the need of recording such suggestions in minutes of Board of Directors for improving effectiveness in monitoring.

### Conclusion

#### *Operational performance*

- **The Corporation could not keep pace with the growing demand for public transport as its share declined from 18.27 per cent in 2004-05 to 17.31 per cent in 2008-09.**
- **It could not recover the cost of operations in any of the five years under review. This was mainly due to operational inefficiencies, and inadequate/ineffective monitoring by top management.**
- **The Corporation has scope to improve its operations as its performance on important operational parameters such as fleet**

utilization, vehicle productivity and load factor was not up to its internal targets and performance of best STUs in respective categories.

- The Corporation did not carry out the timely preventive maintenance in more than 56 *per cent* cases, as seen in selected depots, affecting the roadworthiness of its buses.
- The Corporation did not ensure economy in operations as its fuel cost was higher than its internal targets. Bus checking system was not effective to plug the possible revenue leakage.
- Despite having shortage of buses and hired buses being profitable, the Corporation did not increase the number of hired buses.

*Financial management*

- The Corporation does not have a policy in place to exploit non-conventional sources of revenue.

*Fare policy and fulfillment of social obligations*

- The Corporation neither has a fare policy based on scientific norms, nor any yardstick for adequacy of operation of uneconomical routes.

*Monitoring by top management and future needs*

- The MIS was not effectively used by the top management for monitoring key operational parameters.

Though the Corporation has been incurring losses, it is mainly due to its high cost of operations and negligible reliance on hired buses and not due to low fare structure. On the whole, there is immense scope to improve the performance of the Corporation. The Corporation can control the losses by resorting to hiring of buses and tapping non-conventional sources of revenue. Effective monitoring of key parameters coupled with certain policy measures can see improvement in performance.

**Recommendations**

The Corporation may:

*Operational performance*

- Increase its operations and share in passenger traffic by increasing its fleet strength through hiring of buses which would also result in reduction of manpower cost and repair expenses.



- **Strengthen its bus checking system to plug revenue leakage.**

*Financial performance*

- **Consider devising a policy for tapping non-conventional sources of revenue by undertaking PPP (Public Private Partnership) projects.**

*Fare policy and fulfillment of social obligations*

- **Devise a fare policy on the basis of normative costs.**
- **The Government may consider creating a regulator to regulate fares and also services on uneconomical routes.**
- **The Government may consider reimbursing the Corporation the actual cost of free/ concessional travel facility provided on its instructions.**

*Monitoring by top management*

- **The top management should regularly monitor the important operational parameters and take remedial measures for improvement.**