



# An Appraisal on Performance of Karnataka State Road Transport Corporation – Empirical Evidence

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## Abstract

The productivity or performance of the organisation clearly reveals its success or achievement. There are so many factors which influence the performance of the organisation which may include both internal and external factors, qualitative and quantitative factors, physical and financial factors. Generally the success of every organisation normally depends upon how the management can effectively utilise the resources and how best they can reduce the cost incurred which may include physical resources<sup>1</sup> (Laxman, 2017). The main aim of the study is to appraise the performance of Karnataka State Road Transport Corporation by considering both physical and financial parameters. However, an attempt is made to appraise the performance, certain criteria's are used – staff ratio per schedule, fleet utilisation, kms per litre of fuel consumption, accident rate, cost per passenger km, traffic revenue per effective km and return on investment etc.

**Keywords:** Appraisal, Performance, SRTC, Growth, Cost Effectiveness, Physical Performance, Financial Performance.

## Introduction

In the growing civilization, movement of personnel and goods from one place to another is an important need of mankind. The extensive expansion of economic activities with growing population explosion it demands for increase in transportation. Normally a good transportation system is, therefore, a very essential for the overall development of the country<sup>2</sup> (Madegowda, 2012). The main objective of transportation system is carrying passenger, merchandise and services from one place another<sup>3</sup> (Madegowda J. , 1996). After introducing LPG in the country, India has grown drastically in terms of its Infrastructure, FDI, Industries and many more. However, transportation system especially road transportation is one of the linkage between people and the market. It plays a significant role in the growth of the Indicant economy.

Basically the State Road Transport Corporations are primarily service oriented undertakings. They are also required to function on basic business principles by their governments and by the legal provisions of the Road Transport Corporation Act.1950<sup>4</sup>. (Mahesha, 2021)

Karnataka State Road Transportation playing a pivotal role by providing passenger road transport service to every nook and corner of the country. They have been expanding their service to new areas besides augmenting their services in the existing routes served by them. They are also providing transport services to certain sections of travelling public either at free of cost or at concessional fare. However, these STU are suffering and reporting loss on a continuous basis for the last few years. Though the corporations have been successful in improving their performance over the years, there is no consistency in their performance<sup>5</sup>. (Mahesha, 2021)

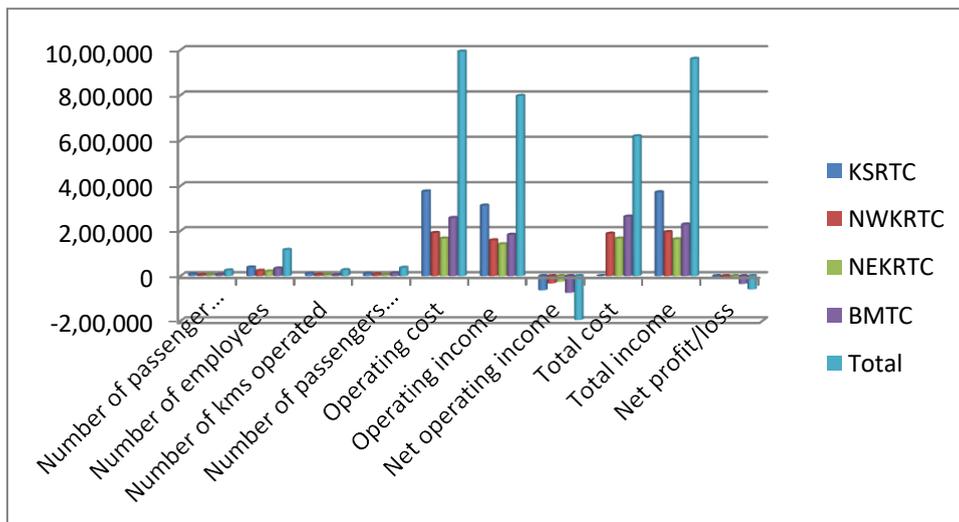
**Table : 1- Appraisal on Performance of STUs in Karnataka A bird eye view**  
(till 31 March 2019)

Particulars	KSRTC	NWKRTC	NEKRTC	BMTC	Total
Number of passenger vehicles	8,695	5,048	4,759	6,521	25,023
Number of employees	38,604	23,707	20,218	33,878	1,16,407
Number of kms operated	10,977.56	6,231.31	5,205.78	4288.56	26,703.21
Number of passengers carried	10,986.09	8,249.00	4,934.80	12,775.00	36,944.89
Operating cost	3,76,179.59	1,91,632.10	1,66,874.96	2,58,322.20	9,93,008.85
Operating income	3,13,170.58	1,58,958.98	1,41,549.60	1,83,884.05	7,97,563.21
Net operating income	-63,009.01	-32,673.12	-25,325.36	-74,438.15	-1,95,445.64
Total cost	38,59,28.46	1,88,444.91	1,66,874.96	2,64,278.29	61,95,98.15
Total income	3,72,435.31	1,95,642.43	1,63,544.37	2,29,329.55	9,60,951.66
Net profit/loss	-13,493.15	-7,197.53	-3,330.59	-34,948.74	-58,970.01

**Source:** Annual report of KSRTC, NWKRTC, NEKRTC, BMTC.

**Note:** NWKRTC and NEKRTC statistical data covers for the period 2017-18

However, the STUs in Karnataka are suffering from, and reporting, loss year after year for the last few years. Of course, there are many reasons for this situation including delay in the revision of fare, higher motor vehicle taxes, continuously increasing costs on account of both hike in the prices of input factors and also due to lower productivity.

**Figure 1- Appraisal on Performance of STUs in Karnataka A bird eye view****Review of Earlier Works:**

Many studies pertaining to performance evaluation of transport undertakings have been carried out in India and abroad over last few decades. Few studies are summarised below:

(Madegowda J. , 1996) Examined the man-power productivity in state transport undertakings. The study considered the performance of employees of state transport undertakings in India for a period ten years. The researcher examined both cost and benefit side of human resources. Based on the factual evaluation, he infers that the employees of STUs are not that inefficient as generally pointed by the general public. The poor performance of STUs cannot be attributed to the inefficiency of human resources alone.

(Kothia., 2012) made an attempt to analyse performance of STUs. The study considered performance variables such as fleet utilisation, fare revision, bus staff ratio, fuel efficiency, etc., for two years. The researcher opined that most of the SRTCs are loss making and their performance is going downwards. Hence, government should provide adequate financial incentives and allow STUs to decide its service price as per market conditions – suggests the author.

(Fakudu, 2013) the study focuses to assess the informal bus operations in Ethiopia. The study uses both qualitative and quantitative approaches. Qualitative approach carried through primary data (Interview and Questionnaire). Whereas quantitative analysis carried by using survey data via SPSS. On the other hand the study funds that most of the mini bus belongs to informal sector, normally medium and large buses were run by formal operators. The raise of informality happened during season is due to congestion of passenger in formal industry.

Frequently of low quantity and quality of formal services and it also inspires the adoption of illegal man power contributes more.

(Vishnu, 2014) the study evaluate the performance of Road Transport Corporations. And also made an attempt to compare the performances between Kerala State Road Transport Corporation (KSRTC), Karnataka State Road Transport Corporation (KSRTC) and Tamil Nadu State Road Transport Corporation (TNSRTC). Data

Envelopment Analysis is used to evaluate the performance of road Transportation Corporations. As the study finds that there is burden of interest over various loan is huge. Average revenue per kilometre is less. It shows that Karnataka road transportation performance is more compare to Kerala and Tamil Nadu. The government should provide adequate financial incentives so as to enable the KSRTC pay for outstanding debt. Schedules of buses must be properly planned so this will be increase the revenue per kilometre.

(Vini, 2017) the study examines the performance of Kerala State Road Transport Corporation (KSRTC). Few yardsticks used to evaluate the performance such as, average daily collection of buses, schedules etc. Further, for the purpose of examining the trend in performance, the relevant data will be used for a period of 5 years, from 2012-13 to 2016-17. The study restricted to Kerala state only. The major findings of this study is functioning of this concern is not so satisfactory. The number of buses and schedules are not correlated with earnings and the earnings is getting down in the last year because of increase in the operational cost. To improve the efficiency it is required to enhance the operational efficiency.

(Singh, 2017) the study primarily focuses on present status and selected issues are highlighted. The status of selected STUs are reviewed by taking consideration of number of state transport undertakings, total employment, number of bus and passenger kilometre per unit of labour. Further, study also evaluate the performance of selected STUs with few yardsticks cost incurred, kilometre per day, earning per bus per kilometre. The study uses panel data over a period of years (2010-11 to 2013-14). The study reveals that, the STUs are facing a hurdle of improving financial health due to lack of competitiveness and market orientation. The study evidenced that state transport undertakings are suffering from loss continuously during the study period. The main issue identified by the researcher is the STUs are not meet the demand of the public.

(Vijayan, 2017) passenger road transportation is an important segment of road transport industry in Kerala. The study primarily aims to compare the income and operational expenditure to evaluate the performance. The analysis reveals that, the income of corporation was not going to meet operating expenses of the corporations. Kerala State Road Transport Corporation (KSRTC) incur losses continuously during the study period (1991-2012) analysis. Due to increase in the operational expenditure arises out of huge amount for petroleum product, increase in wage and improper revision of fare from the last one decade. KSRTC has to be profit oriented in order to achieve the better financial performance and the corporation should adopt an automatic fare revision system without intervention from the side of political parties. Also focus on generate revenue that can ensures efficient and effective supply of public transport services.

(Raghavendra, 2018) examines the operating cost in passenger road transportation of public sector and private sector undertaking. And a number of yardsticks identified (material cost, labour cost, depreciation, motor vehicle tax, interest and administrative expenses) and how these factors influence on the cost of public and private transport. However, for analyses descriptive and inferential statistics applied. The present research study is confined to few passenger road transport undertakings in Karnataka state. The study reveals that, average labour cost per km found higher in public sector as compared to private sector.

(Akkara, 2019) evaluates the performance of Kerala road transportation and also compare the performances of

depots on the basis of operational and financial parameters. Data envelopment analysis is used to measure the efficiency of depots by using panel data of three financial year. The study used staff ratio as input and revenue as output. It infers that Trivandrum city and Trivandrum central depots working operating efficiently during the study period and has maximum degree of efficiency in every year.

(Prakash, 2020) measures the performance of premium bus operations in Bangalore city. The efficiency of the corporation is measured in two dimensions, one is ratio analysis and another one is efficiency analysis (Data Envelopment Analysis). The cost of operation in terms of fuel and maintenance cost has increased drastically. The efficiency of selected depots depicts good efficiency score.

(Mahesha, 2021) Opined that the performance of Karnataka SRTC specially focus on physical and financial parameters. Physical performance is concerned, the number of parameters shows improving results during the study period. Of course a few physical parameters achieved in overall improvement but there was no continuous improvement. There are many reasons which directly impacting on performance (a) due to the inefficiency of the corporation to obtain higher yield from the input factors (b) The price of all input factors have been increasing on an incessant basis. Unfortunately the corporation fails revise the faire according to the increase in the inputs price. As far as financial parameter is concerned, the study evidenced.

### **Research Gap:**

On the lines of the above, many more studies have been undertaken and completed by the various researchers in the past. Both physical and financial parameters are taken for performance evaluation has not received adequate attention (only a few selected yardsticks used) of the researchers in the past.

### **Statement of the Problem**

Appraisal on performance of State Road Transport Corporation can be categorised in to two parts namely financial parameter and physical parameters. The first one is to examine the financial parameters based on its efficiency. The second one is to examine the physical parameters on its ability to meet the basic objectives like improved service to the common public. The performance of the SRTC can't be determined only by considering financial performance or physical performances. Performance of the SRTC is assessed by taking into consideration of financial and physical performances. A public transport corporation like KSRTC is giving equal importance to both financial and physical parameters for performance evaluation. (Laxman, 2017) The reason behind giving importance to financial aspects here that all the expenditure are met by the corporation, it has to manage with the revenue generated by the corporation (for self-survival). Therefore the survival of the corporation is largely depended on the revenue accumulated by the way of traffic revenue as well as other commercial revenue. In olden days the performance of the public transport undertakings was assessed depending on the extent of reach of its vehicles to the commuters. Later on the performances is assessed on the load factor, frequency, number of schedules etc., through these are the physical parameters for performance evaluation but considered as a major techniques to assess the quality of the services rendered and for further performance improvements. So in view of the above backdrop the study assumes greater importance to carry out the present work.

## Objectives of the Study

The following are the important objectives they are as follows:

01. To appraise the performance of State Transport Undertakings in Karnataka.
02. To analyse the Performance of KSRTC with respect to financial parameters.
03. To examine the performance of KSRTC with respect to Physical parameters.
04. To offer the suggestions in the light of the findings of the study.

## Methodology

To achieve the above stated objective both financial and physical parameters are used in the study. For the purpose of the analysis ten-year data has been considered (2009-10 to 2018- 19). The present research work is purely descriptive in nature. The required sources of data are gathered from secondary source. They are collected from annual administrative reports, research papers, websites, etc. Trend percentage and compounded annual growth rate (CAGR) techniques applied for analysis purpose. Few yardsticks have been selected from both physical and financial parameters for analysing the performance of the corporation they are,

Physical Parameters		Financial Parameters	
(1)	Fleet Utilisation	(1)	Cost per Effective km
(2)	Staff Ratio per Schedule	(2)	Traffic Revenue per Effective km
(3)	Kms per Litre of Fuel	(3)	Total Cost per Effective km
(4)	Km per Day per Employee	(4)	Return on Capital

## Data Analysis and Interpretation

The performance evaluation is done by taking few parameters pertaining to both physical and financial performances. The details of parameters taken for the study is summarised below:

### Physical Parameters

To assess the performance of the corporation as they how economical and efficient in its operations, the physical parameters are the key yardstick. The corporation should obtain maximum yield from each physical asset. The use of these parameters is necessary to evaluate the performance of the corporation.

**(1) Fleet Utilisation:** Fleet utilisation is the ratio of the number of vehicles on road (vehicle operated for effective kilometre) to fleet by the corporation.

**Table -2: Fleet Utilisation Percentage**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>FU (%)</b>	91.0	92.2	91.9	92.2	91.7	91.5	91.1	90.8	92.6	92.1

Source: Administrative report of KSRTC. 2009-10 to 2018-19.

From the above, it is obvious that the performance of corporation is not increased continuously during the study period. There was a swing (increase and decrease movement) during 2009-10 to 2018-19. The corporation utilised 92.6% of vehicles held by them during 2017-18 which is the highest achievement in this ten year study period. The corporation have to search for the reason as the percentage of fleet utilisation in lowest decline 90.8% in the year 2016-17. The statistics evidenced that the corporation registered an increase in FU 91.0 in 2009-10 to 92.1 in 2018-19 accounting for an increase of 1.1% which works out to 1.19%. However, during this ten year the corporation have succeeded in improving the ratio consistently with few exceptions.

(2) **Staff Ratio per Schedule:** Is the ratio of the total staff employed on the last day of the accounting period to the total number of schedules on that day. Staff sanctions influenced by the number of schedules, it is necessary to establish the relationship between the number of employees and the number of schedules.

**Table-3: Staff Ratio per Schedule**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>SR</b>	5.19	5.08	5.11	4.90	4.98	4.85	4.87	4.79	4.69	4.70
<b>% Change</b>	-	-2.12	1.54	-5.59	-4.05	-6.55	-6.16	-7.71	-9.63	-9.44

Source: Administrative report of KSRTC. 2009-10 to 2018-19.

From Table-3 it is obvious that except during 2011-12, 2013-14 2015-16 and 2018-19, the staff ratio significantly declining continuously from one year to another. That means it has been a decreasing trend in the number of employees working in the KSRTC per vehicle onroad. The statistics evidenced that the staff ratio reduced from 5.19 employees per schedule on March 31, 2010 to 4.70 by March 31, 2019 registering a reduction of -0.49 employee per schedule which works out to -9.44%. Hence, declining in the percentage change in the staff ratio leads to an improvement in the employees per schedule. The corporation achieved the significant improvement in the staff ratio.

(3) **Kms per Litre of Fuel:** Fuel is the major component of the total cost. Kms per litre of fuel is the ratio of total gross kms covered by the vehicle to the total litres of fuel consumed by the vehicles.

**Table-4: Kms per Litre of Fuel**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>KMPL</b>	4.84	4.85	4.87	4.80	4.76	4.82	4.83	4.84	4.84	4.87
<b>Trend %</b>	100	100.21	100.62	99.17	98.35	99.59	99.79	100	100	100.62

Source: Administrative report of KSRTC. 2009-10 to 2018-19.

It is clear from the above table that the corporation have improved its performance on perennial basis with the exception of 2012 to 2015 which the fuel productivity declined marginally when compared to the immediate preceding year. However, the number of kms obtained per litre of diesel increased from 4.84 during 2009-10 to 4.87 which represents an increase 0.03 km per litre or by 0.62% during this ten year period. This reduction appears to very trivial, is a significant one, if the share of fuel cost in total operating cost is reckoned.

(4) **Km per employee per Day:** This ratio is used to measure the productivity of man-power. It shows the number of kilometre operated per employee per day. Total kms operated during the year divided by the product of number of employees on roll and 365 days.

**Table-5: Km per Employee per Day**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>KPEPD</b>	69.3	70.1	69.3	71.2	69.8	72.5	71.3	71.6	74.7	75.2
<b>Trend %</b>	100	101.15	100	102.74	100.72	104.62	102.89	103.32	107.79	108.51
<b>CAGR – 0.82%</b>										

Source: Administrative report of KSRTC. 2009-10 to 2018-19.

From the Table-5 it is obvious that the kilometres operated per employee per day has increased continuously during the study period. The corporation has increased KPEPD 69.3 in 2009-10 to 75.2 in 2018-19 which accounts for an increase of 7.84%. However, in between the study period there was a slight reduction in man-power productivity. From this analysis, it can be said that the increase in the kilometres per employee per day increases the man-power productivity and also which leads to increase the profitability of the corporation.

### Financial Performance

Financial parameter are the most effective yardsticks to measure and evaluate the performance of the corporation. It assess the financial stability and profitability of the corporation. Which includes both revenue and expenditure elements.

(1) **Cost per Effective km:** Cost per effective km is one of the effective element used to measure the cost effectiveness. It is determined by selecting effective kms operated as a unit of measurement. It can easily be calculated by dividing the total effective kms operated and the result is normally expressed in terms of paise.

**Table-6: Cost per Effective km**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>CPEK (Paise)</b>	2,014. 07	2,315. 92	2,487. 64	2,751. 37	3,078. 73	3,287. 41	3,230. 05	3,402. 03	3,321. 83	3,641.3 2
<b>% Change</b>	-	14.98	23.51	36.46	52.86	63.22	60.37	68.91	64.93	80.79

Source: Administrative report of KSRTC. 2009-10 to 2018-19.

The total cost (both operating and non-operating cost) per effective km operated has also increased by 1,627.25 paise (from 2,014.07 paise to 3,641.32) during this ten year period representing an increase of 80.79%. That means, the cost per effective km increased, on an average increase of 8.08%. Except the year 2013-15 and 2016-17 there was a reduction in the cost. This type of increase is common and this increase may be due following reasons.

(a) The kilometreage total cost may be increased due to the inefficiency of the corporation to obtain higher yield from the input factors.

(b) The price of all input factors have been increasing on an incessant basis. Therefore this will result in the corporation to pay higher amount for obtaining the given quantum of input factors.

(2) **Gross Earnings per effective Km (paise):** Gross earning constitute by total revenue earned from the corporation from all sources include both operating and non-operating revenues. This ratio expresses the relationship of total revenue to effective kms operated in

terms of paisa representing the number of paise of gross revenue earned per effective km operated.

**Table-7: Gross Earnings per effective Km (paise)**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>GEPEKM</b> <b>((paise))</b>	2072. 03	2387. 19	2508. 65	2753. 22	3002. 27	3243. 40	3282. 66	3222. 24	3326. 13	3514.0 1
<b>Trend %</b>	100	115.21	121.07	132.87	144.89	156.53	158.43	155.51	160.52	169.59
<b>CAGR – 5.4%</b>										

Source: Administrative report of KSRTC. 2009-10 to 2018-19.

From the table it is evidenced that the gross earnings per effective km registered a continuous increase during this study period except in the year 2016-17. It increased from 2072.03 paise during 2009-10 to 3514.01 paise in 2018-19 representing an average increase by 1441.98 paise or by 69.59% or 169.59 trend percentage. That means the gross earnings per effective km increased at the rate of 6.9% per annum. This indicates there is lower than the rate of increase in total cost per effective km of 8.08%. These movements leads to put the corporation under pressure.

(3) **Traffic Revenue per Effective km:** Total revenue includes both operating and non- operating revenues. Non-operating revenue is not directly related and influenced by the traffic operation.it necessary to calculate the traffic revenue per km operated to know whether the operations are carried out with required degree of efficiency.

**Table-8: Traffic Revenue per Effective km**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>TRPEK</b>	1797. 59	2031. 53	2286. 71	2460. 88	2639. 43	2874. 88	2869. 12	2780. 08	2836. 73	2954.8 4
<b>Trend %</b>	100	113.01	127.21	136.90	146.83	159.93	159.61	154.65	157.97	164.38
<b>CAGR – 5.09%</b>										

Source: Administrative report of KSRTC. 2009-10 to 2018-19.

Traffic revenue per effective km has also increased year after year except 2015-16 and 2016-17 there is a slighter down fall in traffic revenue per effective km. as per the trend ratio the annual increase from year over year. On an average traffic revenue has increased to 1157.25 which accounts for 64.38% or 164.38 trend %. Increase in the traffic revenue per effective km leads to increase the gross revenue of the corporation which helps the corporation to increase their profitability.

(4) **Return on Investment:** It is the percentage ratio of net profit on the capital employed. The ratio shows the relationship between the size of profit and the capital invested. Higher the ratio indicate the better profitability on the capital employed.

**Table-9: Return on Investment**

Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
ROI	6.94	7.80	2.48	0.25	-1.10	-6.36	7.74	-28.63	0.63	-1.87

Source: Annual Administrative Report 2018-19

It is obvious from the above that the return on investment having both negative and positive swing during the study period. There is a negative trend in majority of the years. This is due to negative net profit ratio. High negative return on investment indicate not only nil reward for the corporation from its operations but also payment of interest out of capital as the profit before interest was either negative or inadequate.

#### Summary of Major Findings

- (1) Percentage of fleet utilization is not stable and it varies continuously year to year during the study period. Which shows that the corporation is not utilizing its fleets effectively.
- (2) Staff ratio reduced which accounts for -0.39 employee per schedule. This change leads to an improvement in the employees per schedule.
- (3) Fuel productivity having constant efficiency. Government initiative is very less in case of fare revision.
- (4) The cost per effective km has increased continuously due to increase in the price of the fuel. Gross earnings and as well as traffic revenue per effective kms has increased continuously during the study period but still return on investment and its profit shows negative sign.

#### Suggestions

Karnataka State Road Transport Corporation is suffering from loss and its performance is downgrading. Perhaps, to improve the performance of the corporation few suggestions should be followed:

- (1) To increase the fleet utilization the corporation need increase the staff productivity and kilometre efficiency. And should decrease the dead kilometre and breakdown during working hours. The employees of the corporation need to scheduled work on time.
- (2) The corporation should revise the fare in an appropriate manner (whenever price of inputs increases).
- (3) The transport authority should take strong action for cost reduction especially in operating expenses.
- (4) The government should provide necessary incentive facility to improve financial viability, services and infrastructure.

- (5) Government should allow the corporation to decide its service price by cop upping onmarket condition.
- (6) The authority should enhance the material and labour productivity by adoptingscientific approach in the area of human resource management.

### Concluding Remarks

An attempt is made to evaluate the performance of Karnataka SRTC specially focus on physical and financial parameters. Physical performance is concerned, the number of parameters shows improving results during the study period. Of course a few physical parameters achieved in overall improvement but there was no continuous improvement. There are many reasons which directly impacting on performance (a) due to the inefficiency of the corporation to obtain higher yield from the input factors (b) The price of all input factors have been increasing on an incessant basis. Unfortunately the corporation fails revise the faire according to the increase in the inputs price. As far as financial parameters is concerned, the study evidenced that there is an excess of total cost over revenue this leads to negative return on investment. Again inadequate and inordinate delay in the revision of fares is the main reason for this movement. In this view point, corporation and government should lay more on cost control and revenue maximisation.

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