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Transport as a Right and the Need to Re-Orient India's SRTUs

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State Road Transport buses at a government depot in Krishnagiri, Tamil Nadu. File photo: The Hindu

India's road network carries close to 90 per cent of the country's passenger traffic and about 60 per cent of its freight. This sector also includes the socially important State Road Transport Undertakings (SRTUs), which have a modest share in India's total fleet of buses but play an irreplaceable social role. By providing affordable transportation to a large majority of ordinary citizens, SRTUs open up opportunities for economic advancement. Although it is inevitable that such public undertakings with social obligations incur losses, their sustainable viability is equally important.

In this article, S. Raja Sethu Durai, Professor of Economics, University of Hyderabad, uses official data to analyse the reasons for their poor performance that go beyond social obligations and suggests ways to reinvent the services using inputs from best practices from India and elsewhere. Transport, he points out, is a service that enables citizens to access freedoms that are enshrined in the Constitution, and needs to be considered as a basic right. Some policy modifications that are required to improve the functioning of SRTUs include effective resource allocation, exploring new sources for revenue generation, and changes in the ownership and governance structures.

1. Introduction

Transportation is central to the nation-building process. Its role in economic development is significant in terms of its multiplier effect on employment and growth in GDP. From the lens of Nobel Laureate Amartya Sen's 'capabilities' and 'functioning' logic, mobility should be considered as an equal opportunity tool and, by implication, a fundamental right. Access to low-cost and wide transport networks enhance the capability of individuals to move from one place to another. This opens up wider opportunities, expands their social and economic reach, and delivers several other advantages that increase their 'function', resulting in productivity gains for the economy.

> **"When transport systems are efficient, they provide economic and social opportunities and benefits that result in positive multiplier effects such as better accessibility to markets, employment, and additional investments. When transport systems are deficient in terms of capacity or reliability, they can have an economic cost such as reduced or missed opportunities and lower quality of life."**[1]

Within the transportation sector, the road segment has been a major driver of India's economic growth since independence. Its cost-effectiveness makes it "the most preferred mode of transport." Moreover, the "level of penetration into populated areas" plays a critical role in integrating India's society and economy.

> **"Road Transport has emerged as the dominant segment in India's transportation sector with a share of 4.5 per cent in India's GDP in 2005-06. The Road Transport Sector accounts for about 87 per cent of passenger traffic and 60 per cent of freight traffic movement in the country. Easy availability, adaptability to individual needs, and cost savings are factors that go in favor of road transport. Road transport also acts as a feeder service to the railway, shipping, and air traffic."**[2]

However, there are areas of concern that cannot be ignored. For instance, despite India having the world's second-largest roads network, there is still what can be termed "transport poverty" in the country. Transport poverty refers to a condition where no transport option is available that connects people's capability to fulfill their needs for a decent life or spending more time and amount towards traveling pushes them below the poverty line and social isolation[3]. Further, it limits their social mobility resulting in intergenerational consequences, including on income deprivation. The economic potential of marginalised individuals (e.g., low income, low education, limited digital literacy, precarious employment) who do not have access to public or private transportation remains unrealised[4]. International literature has also pointed out the need for Universal Basic Mobility, with attempts already underway in parts of Europe to move towards providing free public transport for all within specific geographic locations.[5]

Transport poverty limits social mobility and the economic potential of marginalised individuals remains unrealised.

2. The Constitutional case for public transport

India, however, continues to grapple with issues relating to transportation that have negative externalities on individuals in terms of access to opportunities. The fundamental right to freedom of movement, enshrined in the Constitution of India's Article 19 (1) (d), provides all citizens the right "to move freely throughout the territory of India."[6] However, this "freedom" would be reduced to a mere nominal right without adequate and affordable modes of transportation. Public transport, therefore, plays an "enabling" function to the state's political obligation to ensure that all the rights provided by it translate to the empowerment of all its peoples, in particular the marginalised and vulnerable sections. For instance, the Right to Education for a child in a remote village will be brought to naught in the absence of physical connectivity to the outside

world; not merely a transport arrangement to and from the school but a comprehensive one that links such far-flung hamlets to the socio-economic mainstream.

At a conceptual level, the U.S. Supreme Court observed that "the right to travel, though not explicitly granted in the [U.S.] Constitution, is considered to be a basic right necessary to secure personal liberty and overall strength of the Union."[7] In such a world which is moving towards a framework where access to mobility "should be considered a basic right", the importance of an effective public transportation system is undeniable. More so for a highly populated and inequalities-ridden country like India, which requires transportation networks that provide access to affordable mobility to every stratum of people. This core objective is the basis and foundation for The Road Transport Corporations Act, 1950[8], that allowed almost all the States to start public bus transportation and provide equitable services for all.

In the pre-Independence period, railways were the primary mode of transportation for both passengers and freight. It was then believed that there should be inter-modal coordination between the railways and road transportation. Like railways, road transportation is also capital-intensive and requires big players to operate it efficiently by covering both profitable and non-profitable routes[9]. This credence put the onus on the state to operate transport services, first by princely States and after independence, as the idea of nationalisation swept the country, by the State governments in the case of road transport and the Union government for the Railways.

The Road Transport Corporations Act paved the way for many States to start their own road transport corporations. Later on, private players were also allowed to enter the market to enhance this service provision to supplement government entities. Over the years, state-owned transport corporations have played a significant role in providing passenger transportation, although their function as freight transporters has gradually decreased.

State transport corporations have played a significant role in transporting passengers but have fallen behind in moving freight.

The role played by these SRTUs cannot be delinked from the socio-economic growth of the States that operate them. There is a lot of evidence on the positive relationship between an efficient public transportation system and the economic well-being of ordinary citizens in many ways[10]. First, it provides essential mobility services at a lower

cost, thereby enhancing equitable access to health care, employment and education. Second, in doing so, it lowers pollution levels and related incidence of health hazards by reducing congestion on the roads. Third, the strong association between transportation and economic activity can be seen by the fact that the southern and western States like Andhra Pradesh, Kerala, Tamil Nadu, Gujarat, and Maharashtra, the first ones to start transport corporations, are well ahead even today in terms of economic prosperity.

The phenomenal development of the Indian economy and the road infrastructure in the last three decades have altered the landscape of transportation with more private and personalised modes preferred by the people. However, the increase in the number of two-wheelers and cars on Indian roads has also had its costs in terms of pollution. Two scientific reports[11] suggest that the emission factor per passenger kilometre is higher for two-wheelers and cars compared with buses, indicating that the growth of private modes of transportation will hurt the country from an environmental angle. Despite the higher levels of economic growth witnessed in recent years, India is still one of the lowest in vehicle ownership and bus penetration among developed and developing nations.

Total vehicle penetration stands at 32 per 1,000 people in India, while it is more than 500 per 1,000 people for most developed countries. For developing countries like Brazil, the number stands at 330, while highly populated China has 134 per 1,000 people[12]. As much as this indicates India's poor state of affairs in terms of transport accessibility, it is also a pointer to the potential that remains to be covered. Despite this space and need for improved provision of public transportation, the economic and financial performances of the SRTUs are not at par, with most of them reporting losses continuously for the last 10 years.

This article explores the reasons and tries to find out the origins of the poor financial stature of these SRTUs by evaluating their efficiency in comparison with benchmarks and suggests possible ways to improve them, with the lessons that can be drawn from best practices followed by other transportation modes and systems.

3. Evaluating Productivity of SRTUs

According to the Ministry of Road Transport and Highways, Government of India, there are 56 SRTUs (Table 1).

Table 1: State Road Transport Undertakings

CORPORATIONS	COMPANIES
Andhra Pradesh SRTC	Kadamba TC Ltd.
Assam STC	Metro TC (Chennai) Limited
Bangalore Metropolitan TC	PUNBUS
Bihar SRTC	State Exp.TC TN Ltd.
Calcutta STC	TN STC (Coimbatore) Ltd.
Delhi TC	TN STC (Kumbakonam) Ltd.
CORPORATIONS	**COMPANIES**
Gujarat SRTC	TN STC (Madurai) Ltd.
Himachal RTC	TN STC (Salem) Ltd.
J&K SRTC	TN STC (Villupuram) Ltd.
Karnataka SRTC	TN STC (Tirunelveli) Ltd.
Kerala SRTC	**GOVT DEPARTMENTS**
Maharashtra SRTC	Andaman & Nicobar ST
Meghalaya STC	Arunachal Pradesh ST
North Bengal STC	Chandigarh TU
North Eastern Karnataka RTC	Haryana ST
North Western Karnataka RTC	Mizoram ST
Odisha SRTC	Nagaland ST
Pepsu RTC	State Transport Punjab
Rajasthan SRTC	Sikkim NT
South Bengal STC	**MUNICIPAL UNDERTAKINGS**
Telangana SRTC	Ahmedabad MTC
Tripura RTC	BEST Undertaking
Uttar Pradesh SRTC	Kolahpur MTU
Uttarakhand TC	Navi Mumbai MT
Puducherry Road Transport Corp	Pune Mahamandal
West Bengal Surface Transport Corp.	Sholapur MT
SPECIAL PURPOSE VEHICLES	Thane MT
CORPORATIONS	**COMPANIES**
MEERUT CIY TSL	Kalyan Dombivali MT
KANPUR CITY TSL	**ASSOCIATE MEMBERS**
	Himachal Pradesh TDCL
	Delhi Integrated Multi-Modal Transit System Ltd.

Source: *Review of the Performance of SRTUs 2016-2017,* Ministry of Road Transport and Highways, GoI

Of these, 26 are Corporations, 10 are registered as Companies, eight each as State Government Departments and Municipal Undertakings, and the remaining four are Special Purpose Vehicles (two) and Associate Members (two). Most of the SRTUs are loss-making units. As per the latest *Review of the Performance of SRTUs* published by the Ministry, only seven SRTUs reported net profits in 2016-17, the latest year for which data are available in the public domain[13]. As most SRTUs are inherently chronically loss-making entities, evaluating their financial performances needs a different approach.

First, a look into the physical performances of these SRTUs and for any efficiency analysis requires units that are comparable across entities. For this purpose, the size of SRTUs through the Fleet Held (number of buses) and the Staff Strength are considered. SRTUs with fleet- and staff-strengths of more than 1,000 and 3,000, respectively, are selected for the analysis. Only 24 of the 56 SRTUs qualify under this criterion and are listed in Table 2. If these two variables – fleet and staff – are respectively taken as capital and labour inputs in transportation operation; the Revenue-earning Effective Kilometres (kilometres travelled by paying passengers) is considered as the output. As many SRTUs offer free travel for various deserving sections of people, the Revenue-earning Effective Kilometers is the best output benchmark for the analysis. Three simple measures of productivity are derived as follows:

As most SRTUs are inherently loss-making entities, evaluating their financial performances needs a different approach.

Staff Productivity = (Effective Kilometers / Staff Strength / 365)

Fleet Productivity = (Effective Kilometers / Fleet Held / 365)

Total Productivity = Staff Productivity + Fleet Productivity

The derived values for all these three measures are benchmarked independently with their highest values to derive the relative efficiency score for each SRTUs.

Efficiency Score = Productivity / Highest Value of Productivity

An Efficiency Score of 1 indicates that the SRTU is the benchmarked unit with 100 per cent efficiency. Lower values show the efficiency gap that the particular SRTU has with respect to the benchmarked unit.

Table 2: Performance Indicators of selected SRTUs – 2016-2017

STATE ROAD TRANSPORT UNDERTAKING	Fleet Held	Staff Strength	Revenue-earning Effective KMs (in Lakhs)	Total Revenue (₹ Lakhs)	Total Cost (₹ Lakhs)
Maharashtra SRTC	18,710	1,03,043	20,661.2	7,07,827.4	7,58,376.2
Andhra Pradesh SRTC	12,072	56,592	16,580.4	5,25,046.2	4,95,154.6
Telangana SRTC	10,415	54,117	12,727.1	4,29,571.2	5,04,468.8
Kerala SRTC	5,869	43,086	5,771.0	1,86,111.0	3,63,173.0
Gujarat SRTC	7,863	37,688	10,740.5	2,62,262.2	3,03,151.5
Karnataka SRTC	8,212	37,675	9,848.8	3,17,351.2	3,35,058.8
Bangalore Metropolitan TC	6,270	34,306	4,205.2	2,10,610.4	2,36,701.4
BEST Undertaking	3,844	32,676	2,137.5	1,29,553.7	2,28,564.0
Delhi TC	4,168	27,879	2,578.7	2,47,110.1	6,30,321.3
Metro TC (Chennai) Limited	4,002	24,326	3,483.9	1,39,570.2	1,91,518.2
North Western Karnataka RTC	4,802	24,321	5,854.1	1,74,037.6	1,85,992.9
TN STC (Kumbakonam) Ltd.	3,718	23,527	6,215.1	1,63,549.4	2,11,271.9
Uttar Pradesh SRTC	10,780	23,487	13,517.4	3,96,747.9	3,87,028.5
TN STC (Villupuram) Ltd.	3,576	22,530	6,413.3	1,64,866.9	2,02,480.1
North Eastern Karnataka RTC	4,385	20,577	4,853.0	1,51,942.3	1,58,898.9
TN STC (Coimbatore) Ltd.	3,245	18,948	4,715.4	1,26,594.4	1,74,674.3
Rajasthan SRTC	4,635	17,844	5,810.3	1,79,563.8	2,34,313.0

STATE ROAD TRANSPORT UNDERTAKING	Fleet Held	Staff Strength	Revenue-earning Effective KMs (in Lakhs)	Total Revenue (₹ Lakhs)	Total Cost (₹ Lakhs)
Haryana ST	4,145	16,968	4,601.9	1,43,602.2	2,03,375.2
TN STC (Madurai) Ltd.	2,593	15,089	3,972.1	1,06,380.7	1,40,915.3
TN STC (Salem) Ltd.	2,222	13,516	3,785.9	93,183.8	1,23,713.5
TN STC (Tirunelveli) Ltd.	1,881	11,839	2,864.0	75,070.6	1,11,887.3
Pune Mahamandal	2,045	9,656	1,093.3	72,093.1	93,137.5
Himachal RTC	3,105	9,236	2,129.2	94,550.5	1,04,076.6
State Exp.TC TN Ltd.	1,184	6,203	2,332.5	68,029.9	85,739.2

Source: *Review of the Performance of SRTUs 2016-2017,* Ministry of Road Transport and Highways, GoI.

Table 3 provides the productivity measures and the efficiency scores of the selected SRTUs for 2016-17. Two essential pieces of information can be inferred from this Table. First, the average efficiency score for the total productivity measure is 0.614, suggesting that 38.6 per cent inefficiency is a drag on the total productivity of the analysed SRTUs. Second, significant inefficiencies stem from the staff productivity than from fleet productivity. The State Express Transport Corporation of Tamil Nadu is the best performing SRTU in Total and Fleet Productivity, and the Uttar Pradesh State Transport Corporation does so for Staff Productivity.

Ranking SRTUs with respect to their efficiency scores gives additional evidence (Table 4). All the SRTUs operated by the Tamil Nadu government come within the first 10 ranks in Total and Fleet efficiency scores. Although they slip in staff efficiency scores, they nevertheless manage to secure a place in the top 15 ranks. Uttar Pradesh SRTU gets the top position in Staff Efficiency but drops to rank 10 in Fleet Efficiency. For the rest of the SRTUs, there is still scope for improvement in both Staff and Fleet productivities. The

The top-10 SRTUs suffer from inefficiencies in Staff Productivity; in others both Staff and Fleet productivities are problematic.

overall inference from this analysis is that the top 10 SRTUs suffer from inefficiencies in Staff Productivity, while in the rest of the 14 SRTUs both Staff and Fleet productivities are problematic factors.

On an average, 58.1 per cent and 39.1 per cent inefficiencies affect Staff and Fleet productivities, respectively. Higher levels of inefficiency clearly indicate the larger burden caused by overstaffing in these SRTUs and warrant systematic rationalisation plans.

Table 3: Productivity and Efficiency Scores of selected SRTUs – 2016-2017

STATE ROAD TRANSPORT UNDERTAKING	Staff Productivity	Staff Efficiency Score	Fleet Productivity	Fleet Efficiency Score	Total Productivity	Total Efficiency Score
Maharashtra SRTC	54.9	0.348	302.5	0.561	357.5	0.556
Andhra Pradesh SRTC	80.3	0.509	376.3	0.697	456.6	0.710
Telangana SRTC	64.4	0.409	334.8	0.620	399.2	0.621
Kerala SRTC	36.7	0.233	269.4	0.499	306.1	0.476
Gujarat SRTC	78.1	0.495	374.2	0.693	452.3	0.704
Karnataka SRTC	71.6	0.454	328.6	0.609	400.2	0.623
Bangalore Metropolitan TC	33.6	0.213	183.7	0.340	217.3	0.338
BEST Undertaking	17.9	**0.114** [L]	152.3	0.282	170.3	0.265
Delhi TC	25.3	0.161	169.5	0.314	194.8	0.303
Metro TC (Chennai) Limited	39.2	0.249	238.5	0.442	277.7	0.432
North Western Karnataka RTC	65.9	0.418	334.0	0.619	399.9	0.622
TN STC (Kumbakonam) Ltd.	72.4	0.459	458.0	0.849	530.4	0.825
Uttar Pradesh SRTC	157.7	**1.000** [H]	343.5	0.636	501.2	0.780
TN STC (Villupuram) Ltd.	78.0	0.495	491.3	0.910	569.3	0.886

STATE ROAD TRANSPORT UNDERTAKING	Staff Productivity	Staff Efficiency Score	Fleet Productivity	Fleet Efficiency Score	Total Productivity	Total Efficiency Score
North Eastern Karnataka RTC	64.6	0.410	303.2	0.562	367.8	0.572
TN STC (Coimbatore) Ltd.	68.2	0.432	398.1	0.738	466.3	0.725
Rajasthan SRTC	89.2	0.566	343.4	0.636	432.7	0.673
Haryana ST	74.3	0.471	304.2	0.564	378.5	0.589
TN STC (Madurai) Ltd.	72.1	0.457	419.7	0.778	491.8	0.765
TN STC (Salem) Ltd.	76.7	0.487	466.8	0.865	543.5	0.846
TN STC (Tirunelveli) Ltd.	66.3	0.420	417.2	0.773	483.4	0.752
Pune Mahamandal	31.0	0.197	146.5	**0.271** L	177.5	**0.276** L
Himachal RTC	63.2	0.401	187.9	0.348	251.0	0.391
State Exp.TC TN Ltd.	103.0	0.653	539.7	**1.000** H	642.8	**1.000** H
Average	**66.0**	**0.419**	**328.5**	**0.609**	**394.5**	**0.614**

Source: Author's calculations from Table 2. **H – Highest value; L – Lowest value**

Table 4: Rank of selected SRTUs – 2016-2017

STATE ROAD TRANSPORT UNDERTAKING	Ownership structure	Total Efficiency Score Rank	Staff Efficiency Score Rank	Fleet Efficiency Score Rank
State Exp.TC TN Ltd.	Company	1	2	1
TN STC (Villupuram) Ltd.	Company	2	6	2
TN STC (Salem) Ltd.	Company	3	7	3
TN STC (Kumbakonam) Ltd.	Company	4	9	4
Uttar Pradesh SRTC	Corporation	5	1	10
TN STC (Madurai) Ltd.	Company	6	10	5
TN STC (Tirunelveli) Ltd.	Company	7	13	6
TN STC (Coimbatore) Ltd.	Company	8	12	7
Andhra Pradesh SRTC	Corporation	9	4	8
Gujarat SRTC	Corporation	10	5	9
Rajasthan SRTC	Corporation	11	3	11
Karnataka SRTC	Corporation	12	11	14
North Western Karnataka RTC	Corporation	13	14	13
Telangana SRTC	Corporation	14	16	12
Haryana ST	Government Department	15	8	15
North Eastern Karnataka RTC	Corporation	16	15	16
Maharashtra SRTC	Corporation	17	18	17
Kerala SRTC	Corporation	18	20	18
Metro TC (Chennai) Limited	Company	19	19	19
Himachal RTC	Corporation	20	17	20
Bangalore Metropolitan TC	Corporation	21	21	21
Delhi TC	Corporation	22	23	22
Pune Mahamandal	Municipal Undertaking	23	22	24
BEST Undertaking	Municipal Undertaking	24	24	23

Source: Author's calculations from Table 3.

4. Evaluating Financial Performance of SRTUs

To evaluate financial performance, a simple break-even ratio can be derived:

Break-even Ratio = Total Cost / Total Revenue

When a Break-even Ratio equals one, the entity's revenues are sufficient to cover costs; less than one means profit; and greater than one reflects a loss for the SRTUs. This Ratio is slightly different from the Operating Ratio, in which only the current revenue and expenditures are considered but not the Total Cost, including the Debt Services; and Total Revenue, including Subsidies. From the Break-even Ratio, the Efficiency Score is then derived as:

Efficiency Score = Lowest Value of Break-even Ratio / Break-even Ratio

An Efficiency Score of one indicates that the SRTU is the benchmarked unit with the highest profit; less than one signifies the distance from the highest profit. The Break-even Ratios and Efficiency Scores are given in Table 5.

Table 5: Break-even Ratios and Efficiency Ratios of SRTUs - 2016-2017

STATE ROAD TRANSPORT UNDERTAKING	Break-even Ratio	Efficiency Score	Rank
Andhra Pradesh SRTC	**0.943**	**1.000**	**1**
Uttar Pradesh SRTC	**0.976**	**0.967**	**2**
North Eastern Karnataka RTC	1.046	0.902	3
Karnataka SRTC	1.056	0.893	4
North Western Karnataka RTC	1.069	0.882	5
Maharashtra SRTC	1.071	0.880	6
Himachal RTC	1.101	0.857	7
Bangalore Metropolitan TC	1.124	0.839	8
Gujarat SRTC	1.156	0.816	9
Telangana SRTC	1.174	0.803	10
TN STC (Villupuram) Ltd.	1.228	0.768	11
State Exp.TC TN Ltd.	1.260	0.748	12
TN STC (Kumbakonam) Ltd.	1.292	0.730	13

STATE ROAD TRANSPORT UNDERTAKING	Break-even Ratio	Efficiency Score	Rank
Pune Mahamandal	1.292	0.730	14
Rajasthan SRTC	1.305	0.723	15
TN STC (Madurai) Ltd.	1.325	0.712	16
TN STC (Salem) Ltd.	1.328	0.710	17
Metro TC (Chennai) Limited	1.372	0.687	18
TN STC (Coimbatore) Ltd.	1.380	0.683	19
Haryana ST	1.416	0.666	20
TN STC (Tirunelveli) Ltd.	1.490	0.633	21
BEST Undertaking	1.764	0.535	22
Kerala SRTC	1.951	0.483	23
Delhi TC	2.551	0.370	24

Source: Author's calculations from Table 2.

From the Break-even Ratio, it is evident that of the 24 SRTUs analysed, except Andhra Pradesh STC and Uttar Pradesh STC, all others incurred losses in 2016-17. Therefore, these top two SRTUs are considered as benchmarks to understand the performances of the other SRTUs. Tables 4 and 5, show a drastic shift with respect to capital (fleet) and labour (staff) productivities, and financial performance (Break-even Ratio). Except for Uttar Pradesh STC, most of the top-ranked SRTUs under productivity criteria slide below the rank of 10 in financial performance.

Table 6, which gives the relevant revenue streams, brings out some interesting observations. The SRTU that stands out is Delhi TC, where Subsidies constitute more than 65.3 per cent of its Total Revenue, which for most of the rest is below 20 per cent. Another important point is except for Pune Mahamandal, Non-traffic Revenues are in single-digit percentages. Looking at the top 10 SRTUs in Table 6, a fall in Traffic Revenue is adequately compensated either by Subsidies or Non-traffic Revenues. Still, these SRTUs report financial losses indicating two things: Subsidies are not correctly valued and Non-traffic Revenues are not the main focus of these SRTUs.

Table 6: Revenue Structure of selected SRTUs as Percentage to Total Revenue (2016-2017)

STATE ROAD TRANSPORT UNDERTAKING	Traffic Revenue	Non-Traffic Revenue	Subsidies
Andhra Pradesh SRTC	**84.7**	**5.7**	**9.6**
Uttar Pradesh SRTC	**98.4**	**1.6**	**0.0**
North Eastern Karnataka RTC	87.2	3.9	8.9
Karnataka SRTC	86.3	5.2	8.6
North Western Karnataka RTC	85.9	4.2	9.8
Maharashtra SRTC	76.9	3.7	19.3
Himachal RTC	69.9	1.1	29.1
Bangalore Metropolitan TC	84.1	5.9	10.0
Gujarat SRTC	75.7	4.7	19.6
Telangana SRTC	81.4	5.7	12.9
TN STC (Villupuram) Ltd.	82.5	1.6	15.8
State Exp.TC TN Ltd.	83.8	0.2	15.9
TN STC (Kumbakonam) Ltd.	82.0	2.0	16.0
Pune Mahamandal	81.9	18.1	0.0
Rajasthan SRTC	94.4	5.5	0.1
TN STC (Madurai) Ltd.	80.1	1.6	18.4
TN STC (Salem) Ltd.	83.0	1.4	15.5
2Metro TC (Chennai) Limited	74.7	2.7	22.6
TN STC (Coimbatore) Ltd.	81.2	2.1	16.7
Haryana ST	92.7	7.3	0.0
TN STC (Tirunelveli) Ltd.	81.4	1.9	16.7
BEST Undertaking	92.2	7.8	0.0
Kerala SRTC	98.2	1.8	0.0
Delhi TC	31.4	3.2	65.3

Source: Author's calculation from the data provided in Annexure II of *Review of the Performance of SRTUs 2016-2017* (Pp.49-55), Ministry of Road Transport and Highways, GoI.

Table 7, which provides the costs incurred by the SRTUs, brings out further notable points. For instance, for Delhi TC, the highest revenue source is Subsidies (65 per cent) and Interest Payments the highest expenditure component, indicating a real financial calamity.

Table 7: Cost Structure of selected SRTUs as Percentage to Total Cost (2016-2017)

STATE ROAD TRANSPORT UNDERTAKING	Staff Cost	Fuel and Lubricants	Interest	Taxes	Depreciation	Other Costs	Misc.
Andhra Pradesh SRTC	**51.5**	**28.9**	**5.2**	**8.4**	**3.1**	**2.9**	**0.0**
Uttar Pradesh SRTC	**35.8**	**27.0**	**0.3**	**11.5**	**4.5**	**20.9**	**0.0**
North Eastern Karnataka RTC	43.6	34.1	0.4	4.4	3.4	5.9	8.2
Karnataka SRTC	43.2	35.2	0.5	4.6	4.6	11.9	0.0
North Western Karnataka RTC	45.4	35.2	0.9	3.9	4.8	9.7	0.0
Maharashtra SRTC	41.6	32.9	0.0	13.1	4.1	8.4	0.0
Himachal RTC	44.6	28.3	2.1	6.2	3.5	13.6	1.7
Bangalore Metropolitan TC	52.6	27.8	2.2	4.2	5.3	5.6	2.5
Gujarat SRTC	39.3	37.7	3.0	6.8	5.4	3.8	4.0
Telangana SRTC	43.1	21.2	2.7	5.4	2.2	25.4	0.0
TN STC (Villupuram) Ltd.	51.6	31.6	3.7	2.0	1.9	5.1	4.1
State Exp.TC TN Ltd.	36.2	28.5	9.8	6.3	4.0	3.0	12.2
TN STC (Kumbakonam) Ltd.	51.0	28.9	5.6	3.3	1.8	6.7	2.8
Pune Mahamandal	53.9	9.8	0.4	0.4	1.3	34.2	0.0
Rajasthan SRTC	49.7	26.7	3.7	9.5	2.7	5.6	2.1
TN STC (Madurai) Ltd.	51.8	29.5	5.1	1.6	1.9	6.1	4.0

STATE ROAD TRANSPORT UNDERTAKING	Staff Cost	Fuel and Lubricants	Interest	Taxes	Depreciation	Other Costs	Misc.
TN STC (Salem) Ltd.	49.7	30.4	5.3	2.1	1.8	10.6	0.0
Metro TC (Chennai) Limited	49.5	22.0	6.0	0.6	2.3	17.5	2.2
TN STC (Coimbatore) Ltd.	53.1	28.7	6.9	2.0	1.8	4.9	2.5
Haryana ST	48.5	26.0	1.9	14.3	2.0	4.0	3.2
TN STC (Tirunelveli) Ltd.	48.3	27.8	11.1	2.0	1.7	4.7	4.5
BEST Undertaking	68.6	15.9	4.1	1.5	1.6	4.1	4.1
Kerala SRTC	46.7	24.7	16.7	2.8	2.1	7.2	0.0
Delhi TC	24.5	6.1	60.8	0.3	2.7	5.7	0.0

Misc. = Miscellaneous

Source: Annexure IV of *Review of the Performance of SRTUs 2016-2017* (Pp.57-61), Ministry of Road Transport and Highways, GoI.

The SRTUs occupying the last three positions in the Table indicate that either Staff Costs or Interest Payments are the main reason for their poor showing. Profitable SRTUs have a lower share of Interest Payment and Staff Cost. For Uttar Pradesh STC, the Staff Cost is considerably lower as they hire more buses for their fleet and cover it under Other Costs. SRTUs like Pune Mahamandal, Telangana SRTC, Metropolitan TC (Chennai) Limited, Himachal RTC, Karnataka SRTC, and TN STC (Salem) Ltd have more Other Costs that include the cost of spares, accident compensation, and payment for the hiring of buses. These SRTUs can rationalise this expenditure head to refine their financial position. From the performance of Andhra Pradesh STC, it can be inferred that if the outgo on Staff Cost is more than half of the total cost, prudent spending on Other Costs and Interest Payment improves performances.

For most of the SRTUs, the Staff Cost is almost half of the total cost. This is an outcome of overstaffing. Additionally, most of these SRTUs have pensionary benefits to retired staff members. Given the financial strain caused by perpetual pensionary benefits, the second-best option available to SRTUs is to rationalise Interest Payment and Other Costs

that include the cost of spares, accident compensation, and payment for the hiring of buses, along with Miscellaneous expenditure.

Prasad (2001) points out that sticky passenger fares (for which the SRTUs have to complete with private players) and the loss of most of the profitable routes to private operators make SRTUs unviable. He suggests having an automatic revision of fares whenever there is a significant increase in the input cost or a suitable compensation mechanism, and a fair allocation of routes among public and private players[14]. Although governments clearly recognise this problem of inefficiency, they continue to expose SRTUs to financial peril, rather than risk adverse political fallouts caused by any change from the status quo. The recently published *White Paper on Tamil Nadu Government Finances* appears to make a start in addressing this issue by admitting that "the factors contributing to a sustained loss over the last 10 years have been due to high employee, pension, diesel and interest costs".[15] It also notes that the accumulated loss by these SRTUs amounts close to ₹42,143 Crores in this period and highlights the importance of route rationalisation.

Sticky fare structures and loss of profitable routes to private operators are two factors that affect viability of SRTUs.

5. Learnings from Indian Railways and Transport for London

Indian Railways is the other public transportation service provided by the Government of India. It has been a monopoly since 1951, when it was fully nationalised. It runs with an operating ratio of less than one, indicating profitable financial performance. Even though the performance of the Indian Railways can be attributed to its monopoly status, the cost structure is very similar to that of SRTUs. Staff costs, including pensions, account for more than 50 per cent of the total cost, and the rest is spent to meet lease charges and miscellaneous expenditures.

The importance of freight: An important message from Indian Railways is from the revenue side: more than 60 per cent of revenue share is from its freight services, which are used to provide concessions and better passenger services[16]. Along similar lines, freight services are an area that SRTUs should consider

As in the case of the Indian Railways, freight services are an area that SRTUs can consider to improve their financial viability.

deploying its staff and fleet to both improve financial viability and cross-subsidise their social obligations in providing passenger services.

Some SRTUs have recently realised the importance of freight services and have either commenced or revived freight operations. These include Maharashtra State Road Transport Corporation (MSRTC), Telangana State Road Transport Corporation (TSRTC), and Jammu and Kashmir Road Transport Corporation (JKRTC). Interestingly, MSRTC converted their older fleets into freight trucks to optimise operations. This shows a positive direction to other SRTUs to rationalise their staff and fleet by channeling them to operate freight services. Given the increasing share of road transport in freight movement, which stands at around 70 per cent[17] of the total freight movement in the country and growing, it is an opportune time for SRTUs to evaluate the prospects of this area of operation as a profit-making division that can cross-subsidise its social obligations.

Institutional frameworks: As transportation service is a commercial operation, institutional frameworks like the Railway Board for governance and Recruitment Board for recruitment are required for the SRTUs. These SRTUs, including those registered as companies, are headed by a Managing Director without a board for monitoring and decision making. Such structures create space for some level of arbitrariness and raise issues of accountability in management and recruitment, which also contribute to poor performances.

Revenue generation: Outside India, there are useful learnings from Transport for London (TfL) in terms of revenue generation and governance of public transport systems that are worthy of serious consideration. Interestingly, a formal arrangement for sharing experiences already exists in the form of a 2018-MoU between the Ministry of Road Transport and Highways and TfL for bilateral cooperation in urban transport policy, planning, technology transfer, and institutional organisation for transport. TfL will also provide policy prescriptions to improve Public Transport Undertakings and a broader collaboration in urban mobility solutions[18].

TfL is an integrated transport authority under the Greater London Authority, a local body headed by the Mayor of London, which runs the daily operations of the British capital's public transport network and manages the city's main roads. Even if only TfL's bus transport component is considered, a striking fact from its finances indicates that a

higher commercial revenue is subsidising its operations, most notably from its advertisement revenues[19]. Full utilisation of the resources available with the transport authority, including the bus stations, buses, and the webpage for online ticketing, are all used for advertisement. Compared with such a revenue generation effort by TfL, a comprehensive plan for advertising is non-existent in India's SRTUs. Well-designed strategies and efficient implementation measures to monetise all the resources available with SRTUs for commercial advertisements are required for better revenue generation.

Governance: An even broader question of governance arises: Unlike SRTUs in India, TfL is operated by a local body. From an organisational perspective, it was established in 2000 as

> **"the integrated body responsible for London's transport system and manages London's buses, London Underground, Docklands Light Railway, London Overground and London Trams. It also runs London River Services, Victoria Coach Station and the congestion charge scheme. TfL also has responsibility for a network of main roads, all of London's 6,000 traffic lights and regulates taxis and the private hire trade."**[20]

Similarly, a rethink on ownership and governance structures of SRTUs is required: should not local bodies, which have a more direct connect with people, be vested with the responsibility of operating transport services? This issue of which level of government should own and operate public transport services is not unique to SRTUs but is applicable to all forms of transport, including ports.[21]

6. Policy Inferences

Analysing the latest available data on 24 major SRTUs for 2016-17, the discussions advanced in this article, and the learnings from best practices from the Indian Railways and TfL, provides the following policy inferences:

1. **Improving productivity:** Despite the dismal state of finances, there is scope to improve the Staff and Fleet productivities of SRTUs by regular training programs for staff and investment in technology for a more productive fleet. Road Transport Institutes should be operated as full-time staff colleges. A systematic plan for rationalising excess staff and underutilised fleet is the need of the hour to safeguard public transport undertakings and strengthen their financial viability.

2. **Fares and subsidies:** On the revenue side, a scientific method to calculate the fair fare adjusted for input costs and just adequate compensation for subsidies, and effective plans to generate non-traffic revenues of these SRTUs are required.
3. **Borrowings and Other Costs:** On the cost side, the analysis suggests that the loss-making SRTUs have a combination of higher Interest Payment, higher Other Costs, and higher Miscellaneous Expenditure. Therefore, steps to rationalise excess Other Costs and high-cost borrowings can improve their financial position.
4. **Freight services:** As Staff Costs (with pensionary benefits to retired staff) offer little scope for restructuring, an even better solution can be conceived by channelising the staff and fleet to provide freight services by these SRTUs for better utilisation of resources to create steady streams of healthy revenue generation.
5. **Advertisement revenues:** A complete review of the status quo of the SRTUs – where resources are under-utilised and commercial incomes are non-existent – is required. A proper plan to make these resources available for commercial advertisement can generate huge revenues that can solve most of the financial woos of these SRTUs.
6. **Governance:** As with many public transport utilities in India, STRUs are run under the control of State governments. The experience of TfL, where a local body is responsible for the running of transport services merits serious consideration.

Amartya Sen's capabilities framework suggests that the accomplishment of any social arrangements (such as "medical coverage, public health care, school education"[22]) lies in providing freedom to obtain capabilities for people to achieve their intended functionalities. Public transport, as discussed earlier in this article, is an enabler of this process.

The socially and economically transformational role played by public transportation, which enhances the capabilities and functioning of an ordinary citizen, validates the critical need to safeguard, sustain, and improve the operations of this public utility. At the same time, any loss accruing from a public utility is also a loss for the ordinary taxpayer. Re-orientating SRTUs to provide uninterrupted and affordable mobility services, without compromising on their viability should, therefore, be given high priority by the political leadership and policy makers.

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