CHAPTER II

REVIEW OF LITERATURE

2.1 Introduction

2.2 Review of Previous Studies

2.3 Research Gap
2.1 INTRODUCTION

This chapter deals with the review of important studies on the various facilities available, quality of services, social responsibilities of the TNSTC/Crew, punctuality and regularity of the TNSTC bus Services, the safety aspects of the TNSTC in Tirunelveli and the facilities offered by the TNSTC Buses in Tirunelveli Division. A number of studies have already been made on the various aspects of the services offered by TNSTC buses in Tirunelveli Division. A careful analysis of such studies has been made and they are tentatively categorized in relation to the focus of the study. Moreover aspects covered by earlier studies and relevant to the present study have been taken into account with due importance. Knowledge of various studies made already is essential for a better understanding of the research problem. It enables easy identification of the various dimensions and issues relating to the study.

2.2 REVIEW OF PREVIOUS STUDIES

D. Dalton, J. Nestler, J. Nordbo, J, St. B. Clair, E. Wittwer and M. Wolfgram\(^1\) (2000) in their study on “Transportation Data and Performance Measurement” have considered the input, output, or outcome measures. Input measures deal with spent money, kilometres of tarmac road placed; output measures concentrate on the products produced; outcome measures concentrate on the impact of the products or service and the goals like reasonable time consumption by working personnel, Increase in hours of bus service and reduced travel time.

C. Enz and J. Siguaw\(^2\)(2000) in their research article titled, “Best Practices in Service Quality” have reported on the importance of employee courtesy. These studies indicate that there is a positive relationship between employee performance and consumer perception of service quality.
M, Meyer\(^3\) (2000) in his study on “Measuring that which Cannot be Measured at Least According to Conventional Wisdom” has subdivided the indicators of performance into three broad categories. The first segment is characterized by common performance such as covered service area and vehicle kilometers, passenger trips. The second performance indicator is represented by determining the effectiveness including service supply such as departures per hour; quality of services and availability of services like services in weekdays. The third category of the performance indicator includes measuring the efficiency such as cost efficiency, operating expenses per hour; operating ratios i.e. difference between revenue and operating expenses, vehicle utilization, energy usage and fare.

M.J. Smith, and R.V. Clarke\(^4\) (2000) in their article titled, “Crime and Public Transport. Crime and Justice” have focused on the safety measures in bus transport and they found that there is a hesitation for the people to choose public bus transport as their travel mode and as their choice. It was also found that pick-pocketing, high speed, overcrowding and lack of supervision are also important factors.

M.B. Friman, Edvardsson and T. Gärling\(^5\) (2001) in their research article entitled, “Frequency of Negative Critical Incidents and Satisfaction with Public Transport Services” have conducted a mail survey to investigate factors affecting customer satisfaction in public transport service in Sweden. The results showed that overall cumulative satisfaction is related to attribute specific cumulative satisfaction and remembered frequencies of negative critical incidents for instance the driver behaving unexpectedly bad or the bus leaving before scheduled departure time.

K. Ramamoorthy and S. Ponnuraj\(^6\) (2001) in their research study entitled “Passenger perception of Omnibus service- An analysis” have listed out the
perception of passengers towards omnibus service by adopting factor analysis technique. They have observed that the comfortable seating arrangement, journey time, normal speed of the bus, politeness of the crew and cheaper rates as compared to train travel which had high factor loading and influenced passenger perception to a great extent towards omnibus service. The study proved that there was significant relationship between passenger perception and physical comfort, time and punctuality, safety, behavior of the crew and the social responsibility but there is no significant variation between the characteristic variables of the passengers.

G. Stone, B. Corti, S. McBride, B., Dan Jackson (2001) in their study on “Perceptions of Active Modes of Transport, World Transport Policy and Practice” have discussed the public transport user satisfaction researching the performance of public transport, carried out by a variety of indicators or variables that affect satisfaction as indicators of comfort, safety and travel time.

Vijayalakshmi Nambiar (2001) in her research article titled, “Service Quality of MSRTC as Perceived by Passenger in and Around Pune” has revealed that passengers were primarily interested in the reliability of service followed by responsiveness, while assurance dimension was of least importance to them. This study also revealed the highest service gap on responsiveness dimension and least on the tangible dimensions.

M.D. Meyer (2002) in his study on “Measuring System Performance - Key to Establishing Operations as a Core Agency Mission in Transportation Planning and Analysis” has stated that the performance of the transportation system services, user satisfaction are indicators that affect the reliability of the public transport system, travel time, speed, security, delays and travel expenses.
V. Renugadevi\textsuperscript{10}(2002) in her dissertation entitled, “Passenger Satisfaction in Rural Transport Services- Erode District, Tamil Nadu” has studied various modes of transport available to passengers in Erode District, the salient features of rural transport services and the level of passenger satisfaction in rural transport services in Erode District.

P. Chinnaiyan and R. Nandagopal\textsuperscript{11}(2003) in their study feel that the minibus scheme had a positive response from rural people. Respondents were satisfied with the frequency, time schedule and the permission granted for carrying luggage. It was observed that the minibuses were overloaded with passengers in order to reduce the average cost. Though the owners were satisfied with the time schedules they were unhappy with the bus fare. Restricted number of operators per route and plying of minibuses only on the routes where the regular buses do not operate may make the scheme more attractive to the operators. It is also suggested to privatise the rural roads for better motorable condition and educate the rural people on the maintenance of the roads. Increasing bus fare for minibuses also could be considered to make the scheme attractive for the owners.

K.S. Nesamani\textsuperscript{12}(2003) in his article titled, “Sustainable Transportation Development in hill Towns -A Case of Darjeeling” has analysed various modes of transport like car, minibus, Taxi, Jeep and truck used in the hill Town Darjeeling. He has pointed out that 10 per cent of passengers used minibuses whereas 15 per cent used taxi/jeep and 20 per cent used truck. Minibuses usage rate has been in increasing trend.

Sreedharan\textsuperscript{13}(2003) in his article titled, “Need for Urban Mass Rapid Transport System for our Cities” has stated that mass transportation in our cities is
primarily by road except that rail-road transport services exist in the metropolitan cities of Mumbai, Chennai and Kolkata. The Indian Railways is operating Electric Multiple Unit (EMU) sub-urban train in Mumbai, Kolkata and Chennai to carry common traffic from sub-urban areas to the cities. In Delhi only skeletal urban rail services exist and buses are almost the only means of public transport.

Zahoor Ahmad Bhat\textsuperscript{14} (2003) in his article entitled, “Public versus Private Bus Operation-An Evaluation of Quality of Service in Kashmir” has revealed that overloading had been one of the most prominent factors that had adversely affected the comfort and convenience of bus travel in the private sector. The crew in public sector, as the study revealed, had much better attitude towards the commuters, better appearance, professionalism and courtesy while private sector crew was generally lacking in these quality in the passenger transport sector and had not been up to the mark and the expectations of the commuters.

S. Murali and B. Vittaladasa Prabhu\textsuperscript{15}(2004) in their article entitled, “Dimensions of Road Safety” have explained the growth of the transport sector. Road accidents in India cause an estimated loss of 3.2 per cent G.N.P. Often the road accidents can be avoided if one is aware of the causes of road accidents. A comprehensive road safety model has been developed and the various causes have been discussed.

S. Ramakrishna and Trishul Palekar\textsuperscript{16}(2004) in their study entitled, “Inadequacy of Proper Transport Facility to Rural Areas” have argued that it resulted in poor living conditions for people living in rural areas. Presently there is a need to carry out a comprehensive rural transport policy and management study to understand the transport requirements of rural areas. In this paper, an attempt also has been made
to identify the role of State Transport Undertakings for providing transport facilities to rural traveling public.

M.R. Ramasamy\(^{17}\) (2004) in his dissertation titled, “A Study on Passengers Satisfaction with the Performance of the Rural Transport Services by Tamilnadu State Transport Corporation Salem” has studied the role of road transport, nationalisation of rural passengers transport scenario, passengers’ perception and the level of satisfaction. He has suggested that the operators should conduct frequent training programmes, seminars and workshops for minimising the fuel consumption, accidents, breakdowns and also enhance human relations that will improve the quality of bus services.

Sanjeev Shami\(^{18}\) (2004) in his article titled, “Road Financing and the Use of Technology” has elaborately discussed the ways to finance the road construction and enhance the collection of revenues from road users drawing lessons from abroad. The use of technology in collection of revenues will help in recovering the expenditure and generate surplus for financing other projects.

Wildes, Vienne and Sara Parks\(^{19}\) (2004) in their article titled, “Internal Service Quality” have stated that the improvement in product and service and its quality have been widely discussed in the literature for achieving sustainable competitive advantages. It requires management to examine current processes on the demands of customers in market and to update their operations in line with market requirements.

K.D. Theng\(^{20}\) (2004) in his article titled, “Accidents due to Design Deficiencies in Propeller Shaft System – A Case Study” has observed that the failure of propeller shaft system at times results in major accidents. Hence, it calls for an in-depth analysis to find out the deficiencies in the propeller shaft system for taking
necessary corrective action. The analysis reveals that propeller shaft failure is due to critical speed failure at resonance frequency. This indicates that the design specifications of propeller shaft requires changes. The article suggests necessary changes to be brought about in the design of propeller shaft system.

Indrasen Singh\(^\text{21}\) (2005) in his article entitled, “Need of Road Policy for Tamilnadu” has examined the road safety policy in Tamilnadu and reducing accidents by atleast 30 per cent. As road safety policy will have immediate impact on solving road safety problems of Tamilnadu, it is suggested that the government should implement this policy with a time-bound programme on a priority basis.

Pura and P.S. Rama\(^\text{22}\) (2005) have stated in their article, that there is a need to arrange migration from rural areas and small towns to large cities and in fact, encourage reverse migration to rural areas through creation of job, improving the quality of life, providing basic amenities and access to city. This will lead to urbanization of selected rural locations. The rate of urbanization in India is, therefore, going to increase significantly in the decades to come and this would put unprecedented demand for growth in urban areas.

T. Vijayaragavan\(^\text{23}\) (2005) in his study entitled, “A Study on the Operators and Crew of Private Buses in Sattur Taluk”, have discussed the physical, operational and financial performance of private bus operators and the job satisfaction of crew members in private buses. The problems expressed can easily be redressed and services of the private buses can be improved. It is concluded that the private bus services in Sattur Taluk render valuable service to the public at large.

K.Vijayarani and E. Raja Justus\(^\text{24}\) (2005) in their article titled, “Impact of Absenteeism in the Public Passenger Road Transport Undertaking with Special
Reference to TNSTC Kumbakonam Division-I” have concluded that a majority of the respondents produced only a negative impact or ill effects of crew absenteeism.

M. Zineldin25 (2005) in his article entitled, “Quality and Customer Relationship Management as Competitive Strategy in the Swedish industry” has concluded that customers want the best service whether it would be given by private companies or public companies and by improving quality and responsiveness of the customers could be satisfied which would ultimately boost the reputation and profit of the companies. All the above researches conducted by different researchers have concluded that in transportation sector, quality of services plays an important role with some other moderating variables which could be stability, capacity, security and not only these feedback from customers should also be there as it helps to enhance the service quality and provide what customers want.

B. Vittaldasa Prabhu and Murali26 (2006) in their article entitled, “Human Resource Management for Truck Transport Industry” have studied current status of transport industry, human productivity, human resource planning, job analysis, recruitment, development of human resources, motivating of human resources, maintenance of human resources, safety and health. They have concluded that job evaluation, compensation and incentive administration can make the HRM effective.

Abdul Sameen Ansari27 (2007) in his paper titled, “Road Users’ Perceptions on the Traffic Management in Hyderabad” states that the traffic management has assumed global importance. Its identity requires more attention in metropolitan cities especially in Hyderabad. His article emphasises the dire necessity of educating the road users about the traffic rules and regulations. In Hyderabad, the number of vehicles, population, modes of transport and so on have been increasing abnormally.
V.Anbalagan, Bijan sankar, Gaudam Manjumdan and S. Narayanasamy (2007) in their article titled, “Critical Analysis on Maintenance System for Vehicles in State Transport Undertakings” have stated that the nature of transport plays a crucial role in enhancing the productivity and economic efficiency of the country. In order to analyse the imperfections on a selected STU in Tamilnadu and to suggest various improvement factors, critical analysis was done. This analysis was done to evaluate the significance of maintenance and improved performance with an increase in the productivity of vehicles.

W.S. Anderson, L.S. Baggett and S.K. Widener (2007) in their study on “The Impact of Service Operations Failures on Customer Satisfaction” have explained that the dissatisfaction of the customers regarding services leads to failure in operation. As per this study, the main reason for operation related failure is the delay of transportation which leads to dissatisfaction.

Anupamthapliyal and R. Thamarai Selvi (2007) in their article titled, “A Study on various Modes of Transportation in India Logistic Industry – An Over View” have stated that most of the service provided is associated with road, sea, air and railways along with inputs pertaining to the infrastructure. It will serve as an invaluable reference tool for the industry, government and academy. Transport cost includes all costs associated with the movement of product from one location to another. In recent years there has been development of multimodal transport involving a combination of the various modes of transportation.

G. Beirão and J.Sarsfield and A. Cabral (2007) in their article titled, “Understanding Attitudes towards Public Transport and Private car: A Qualitative Study” have revealed advantages in using public transport according to Portugal
public transport users. The result highlights the importance of a cost-friendly and less stressful public transport service. It is perceived as less stressful since there is no need to drive, it is possible to relax and one may be able to rest or read.

R.Y. Cavana, and L.M. Corbett (2007) in their research article with the caption, “Developing Zones of Tolerance for Managing Passenger Rail Service Quality” have stated that satisfaction is an indicator that affects reliability, travel time and convenience. This indicator has a good impact on customer satisfaction in travel.

K. Dziekan and K. Kottenhoff (2007) in their study on “Dynamic at-Stop Real-time Information Displays for Public Transport: Effects on Customers” have found out that at the bus stop, information displays influence customer satisfaction. In addition, it has optimistic psychological effects and decreases uncertainty and stress as customers know the actual departure time. Information displays also increase the sense of security among customers especially at night.

L. Eboli and G. Mazzulla (2007) in their article titled, “Service quality Attributes Affecting Customer Satisfaction for Bus Transit” have investigated the service quality attributes which are essential to create customer satisfaction in bus transit service. Respondents were asked to rate the importance and satisfaction with 16 service quality attributes such as bus stop availability, route status, frequency in bus operation, reliability, bus stop status and facilities, overcrowding, cleanliness, fare, information schedules, service promotion, safety on board, individual security, working personnel, complains and grievances, environmental protection and bus stop maintenance. The study found that the above stated variables are more important for creating global customer satisfaction.
B. Gatersleben and D. Uzzle\textsuperscript{35} (2007) in their paper titled, “Affective Appraisals of the Daily Commute: Comparing Perception of the Drivers, Cyclist, Walkers, and Users of Public Transport” have investigated the affective experiences of daily commute. They studied through satisfaction parameters in public transportation. The results revealed that commuting by car as well as by public transport can be stressful because of delays caused by the traffic volume. Also, public transports are stressful due to unpredictability and longer travel times.

G. Gopal and S. Cline\textsuperscript{36}(2007) in their research article with the caption, “Driving towards Sustainable Profitability: Transportation Service Providers and Customer Relationship Management. Supply Chain Management” have stated that on one hand, the importance of ‘Customer Relationship Management’ in public transportation is the key factor for customers’ decisions. Customer Relationship Management is an important technique to help the management to evaluate their customers’ behavior, and to provide quality services.

C. Madhavaiah and S. Durga Rao\textsuperscript{37} (2007) in his study on “Service Quality Measurement in Passenger Road Transportation Service in Andhra Pradesh” have conducted a one-factor SERVQUAL used in the study and a total sample size of 402 was taken for collecting data. The main findings of the study indicated that there were significant differences between expectations and perceptions of service quality in both APSRTC and private travel operator buses. Overall expectations on APSRTC services were lower than overall expectation in private buses. It was also found that the overall perceptions were higher on APSRTC than on private bus.

N. Markkandeyan\textsuperscript{38} (2007) in his thesis titled, “Human Resources Management in State Transport Undertakings in Tamil Nadu” has analysed the various aspects in
human resources management in State Road Transport undertakings in Tamil Nadu, such as personnel policies and practices and job satisfaction of workers. He has also analysed the workers’ participation in management and the problem of crew in State Road Transport undertaking in the State of Tamil Nadu.

K.R. Mini (2007) in her dissertation titled, “A Study about Consumers Satisfaction with Regard to Nesamony Transport Corporation” has studied the historical background of Nesamony Transport Corporation Ltd, the various services rendered by Nesamony Transport and analysed its operational efficiency and profitability. She has concluded that the majority of consumers of Nesamony Transport Corporation Ltd are satisfied.

K. Muthuramalingam (2007) in his study titled, “Passengers’ Attitude towards the Services of Minibuses Functioning in Sithurajapuram” has explained that the minibus can be defined as a system of transport, which is carried on by vehicles operated either by power or animals on any prepared route for the movement of goods and passengers. He has fully studied only the passengers’ views.

A.O. Somuyiwa (2007) in his paper titled, “Transport Demand Management (TDM): A Conceptual Appraisal” has focused on an efficient transport system which is, perhaps, the backbone of any national development especially in inducing locational, integrating various regional spaces and enhancing spatial interaction. This paper concludes that emphasis should be placed on the mode of transport that is environmentally friendly and concomitantly improves the condition of the health of many urban dwellers.

S.M. Stradling, T. Carreno and Rye, A. Noble (2007) in their study on “Passenger Perceptions and Ideal Urban Bus Journey Experience” have discussed
that the passenger safety is a factor of concern for many passengers and has a major role in satisfaction. Safety includes road and traffic safety at stops or the behaviour of other passengers that could cause concern for personal safety, which may be abusive, frightening or intimidating.

N. Subbaran\textsuperscript{43} (2007) in his paper has made it clear that public transport is today facing a highly competitive market share and contain competition. The quality of service provided is improved to attract the customer. Public transport needs marketing because commuters have more and more choices between different modes making the activity highly competitive. The competitive strategy depends on the nature of the route and its potential extent of competition.

J.R. Aworemi, A.O. Salami, J.O. Adewoye, and M.O. Ilori\textsuperscript{44} (2008) in their research article with the caption, “Impact of Socio-economic Characteristics on Formal and Informal Public Transport Demands in Kwara State, Nigeria” have conducted a research including 388 passengers who use Ferry. They have found that people want not only the road transport but also all the means of transport to be very efficient so that their time will be saved. People also want its appearance to be outstanding. Though usually Ferry is used by employees because it saves their time as there are no signals and traffic, still some of them are not satisfied. The reason was its appearance and cleanliness. So the results of this study suggest that customer satisfaction is effected by the substantial elements of the service and it involves the overall satisfaction level.

R. Balasubramanian\textsuperscript{45} (2008) in his paper titled, “Current Public Transport Scenario in India” has analysed the profile of the bus operations in the country with special emphasis on State Transport Undertakings. There is a need to review the
regulatory aspects to promote the public transport sector. The paper mainly focuses on passenger demand, intelligent transport systems, accident scenario, creation of infrastructure including multi-model transit hubs, financing of rolling stock, reducing the tax burden and autonomy in fare fixation, need for public partnership, operational and financial performance of STUs with special focus on urban transport and strategies for improving the performance of these organizations in future.

T.Dhanlakshmi\textsuperscript{46} (2008) in her dissertation entitled, “Industrial Relations in Public Passenger Road Transport Industry in Tamil Nadu” has studied the attitude of workers in TNSTC, factors influencing industrial relations, trade unions, perceptions of workers towards industrial relation and the management’s perception towards industrial relations. He suggests, in his research that the financial conditions of transport industry can be improved by better labour management relations; deciding after consulting trade unions and by ensuring effective grievance redressal mechanism.

S.B. Liden, M. Fellsson, L. Haglund and H. Sutomo\textsuperscript{47} (2008) in their paper on “Bringing the Customer into Public Transport Development – A Pilot of Quality in Public Transportation in Indonesia” have concluded that public transport is delivering poor service quality, poor maintenance of fleet, and unsafe operation. A large share of vehicle fleet consists of second-hand vehicles quite old and there is low maintenance budget.

A.Jegan\textsuperscript{48} (2008) in his dissertation titled, “A Study of Public Attitude towards the Services of Tamil Nadu State Transport Corporation (Tirunelveli) at Kovilpatti” has studied the history of Tamil Nadu State Transport Corporation Tirunelveli Division, and the passengers’ attitude towards the services of TNSTC. He has
suggested that TNSTC should insist more on road safety week observation effectively.

V.K. Kaushik and Neeraj Kaushik\textsuperscript{49} (2008) in their study on “Buying Behaviour for Passengers Cars – A Study in South – West Haryana” have felt that since the early 1940’s when the first passenger car made its entry on Indian roads, the automobile industry has shown great advancement. From its early days until the 1980’s for two-wheelers and light commercial vehicles and until the early 1990’s for passengers cars, the focus of development of the automobile industry was on import substitution. But in the post de-incensing period opening up of the sector for foreign direct investment in 1993 had a strong multiplier effect.

H. Naleera Banu\textsuperscript{50} (2008) in her dissertation titled, “A Study on Labour Absenteeism in TNCTC, Madurai Division III Ranithotham, Nagercoil” has studied the level of labour absenteeism, reasons for labour absenteeism, ill effects of labour absenteeism and analysed the various measures to be used to minimise the labour absenteeism. She has concluded that labour absenteeism should be controlled by taking strong and systematic measures

I.C. Richard, Tambulasi and M. Kayuni\textsuperscript{51} (2008) in their article on “Can the State Perpetuate the Marginalization of the Poor? The Socio-economic Effects of the State’s Ban on Minibus Callboys in Malawi” have pointed out that Malawi is a southern African country that has a huge informal sector due to high levels of unemployment. One of the ways people earned income in this sector was minibus-calling. But the State has recently declared such acts illegal and any one found minibus calling is now arrested. They investigated the socio-economic impacts of this
ban on the former beneficiaries’ livelihoods and concluded that the ban has adversely affected the socio-economic status of these marginalized Malawians.

Sami. A. Khan\textsuperscript{(2008)} in his article titled, “Transportation of Human Resource Management Demonisms in the Twenty First Century” has stated that it was an endeavour to acknowledge and examine the metamorphosis of traditional administrative personnel function into more proactive and strategic HRM. The paper has dealt with the emergence of new organisation which set the stage for more proactive HR function. He has concluded that the impact of the transformation of the HR programmes has to be more answerable in short and long perspectives.

A.S. Shiralashetti and S.S. Hugar\textsuperscript{(2008)} in their article titled, “Passenger Satisfaction towards Karnataka State Road Transport Corporation in Gadag District” have reported a study with the objective to analyze the passenger satisfaction towards the various services of the KSRTC. The study revealed that the passenger satisfaction towards the overall services of the KSRTC was negative and it was necessary to improve the quality of services by adopting TQM. It had also been suggested to improve the quality of roads and buses, cleanliness in bus stands and in bathrooms and toilets, first aid, maintenance timings of rural buses etc., in order to meet the expected level of passenger requirement and to earn higher income.

M.Thenmozhi\textsuperscript{(2008)} in her dissertation titled, “Profitability Analysis-A Study of Selected State Transport Undertakings in South India” has listed the various State Transport undertakings functioning in South India and analysed their profitability with the help of various statistical tools namely ratio analysis, chi-square test and ranking techniques. She has suggested that the State Transport Undertaking should strive hard to enhance their profitability.
Y. Tyrinopoulos and C. Antoniou\textsuperscript{55} (2008) in their study on “Public Transit User Satisfaction: Variability and Policy Implications” have shown that service frequency, bus cleanliness and service coverage area are the important aspects for customer satisfaction followed by waiting conditions and neatness, particularly in buses.

K.Vijayakumar\textsuperscript{56} (2008) in his dissertation entitled, “Operational Efficiency of Public Sector Road Passengers Units in Tamil Nadu” has studied the various types of services rendered by public sector transport undertakings, various modes of transport used by passengers and analysed the operational efficiency of public sector road passengers units in Tamil Nadu. He has suggested that the operational efficiency of various public sector undertakings should be compared periodically and remedial measures should be implemented then and there.

S.S.M. Afsana Akhtra, Sadul Huda and Segusta Dishad\textsuperscript{57} (2009) in their study entitled, “Critical Service Encounters: Employee’s viewpoint a study on Transport Services in Dhaka City”, has evaluated the service encounter or the critical moment of truth and the customer behaviour in the case of bus services in Dhaka city, Bangladesh. The results were analysed to examine employee’s perspective of critical service encounters of bus service. It can be concluded that both the behaviour of the problematic customers as well as employee response to customer needs and requests are the primary challenges for the transport industry and these issues need to be addressed carefully.

K.R. Ambak and Atiq, R. Ismai\textsuperscript{58} (2009) in their article titled, “Intelligent Transport System for Motorcycle Safety and Issues” have found out that safety issue as a constraint for people to choose public transport as travel mode of choice. Pick
pocketing, overcharging facilitates, overcrowding and lack of supervision are the most related safety issues.

R. Balasubramani\textsuperscript{59} (2009) in his dissertation titled, "Managerial Effectiveness and Efficiency in TNSTC Madurai Ltd" has studied the formation of TNSTC Madurai Division, Fleet strength, labour welfare, effectiveness of HRM, incentives, industrial relations level of workers’ satisfaction, training and development, e-ticket booking and information centres. He suggests that issues represented by union must be considered on merit basis, by proper maintenance of buses fuller utilization can be ensured and accident-free driving should be motivated.

K.N. Kalaivani\textsuperscript{60} (2009) in her dissertation entitled, “Productivity Analysis – A Study of State Transport Undertakings in South India” has analysed the role of State Transport Undertakings, problems of passengers, productivity and she has suggested that the State Transport Undertakings should improve their productivity to a maximum extent to satisfy all the stakeholders.

S.K. Kayathri Devi\textsuperscript{61} (2009) in her dissertation titled, “Impact of Staff Welfare Measures of TNSTC, Madurai Division II” has studied the various welfare measures provided to the staff members of Tamil Nadu Transport Corporation and the impact of staff welfare measures on the productivity. She has suggested that staff welfare measures should be implemented effectively without inordinate delay to make the TNSTC staff satisfied.

Kostakis and Pandelis\textsuperscript{62} (2009) in their study on “Measuring Customer Satisfaction in Public Transportation: An Empirical Study Based in Urban Buses in the City of Larissa” have revealed that ‘safety’, ‘service of personnel’, and ‘service inside the bus’, ‘time’, ‘availability’, ‘route precise’, and ‘route frequency’ are as...
important service elements or attributes that determine the customer satisfaction in transport with regard to urban transport in Greece.

R.K. Rahaman and Md.A. Rahaman\textsuperscript{63}(2009) in their study on “Service Quality Attributes Affecting the Satisfaction of Passengers of a Selective Route in South Western Bangladesh” have focused on the railway transportation sector to develop a model, defining the relationship between overall satisfaction and twenty service-quality attributes. Using PCA, they have found that overall satisfaction depended on eight service quality attributes.

K. Sundar\textsuperscript{64} (2009) has done a research study on “Job Satisfaction of Drivers and Conductors in Tamil Nadu State Transport Corporation”. He has analysed the job satisfaction of drivers and conductors attached to the Villupuram Region in Tamil Nadu; India has brought to light both positive aspects and dark spots. While there is high level of satisfaction on certain determinants of job satisfaction such as job commitment, security of job and so on there is cent per cent negative response on some other factors connected with satisfaction determinants. Hence, the management of TNSTC should have a periodical satisfaction survey so that any unpleasant situation can be removed and job satisfaction can be secured successfully.

A.N. Ali\textsuperscript{65}(2010) in his study on “An Assessment of the Quality of Intra-urban Bus Services in the City of Enugu, Enugu State, Nigeria” has explained that the transport is important for the survival of the modern society. An effective and efficient system of transport can significantly contribute to human development in a wider perspective.

R.K. Agarwal and Promod Bhargava\textsuperscript{66}(2010) in their study titled, “Profitability Analysis of State Road Transport Undertakings – A Case Study of Two
Major Undertakings” have analysed Rajasthan State Road Transport Corporation and Uttar Pradesh State Road Transport Corporation. Various aspects and dimensions of the profitability have been analysed and the mean and co-efficient of variation are presented.

E. Bhaskara Tejaswi and Ashish Verma(2010) in their paper focused on a large number of people in Guwahati City using the public transport system every day to get to work and so on. This paper aims at studying the characteristics of the existing public transport system in Guwahati city and at identifying the problems and issues in the system. The road users are segmented into various socio-economic groups based on their income and the like. Also, the existing services and infrastructure characteristics of public transport in Guwahati are studied.

L. Dell’Olio, A. Ibeas and P. Cecn(2010) in their article titled, “Modelling User Perception of Bus Transit Quality” have discussed an important characteristic of modern society. It is pre-occupation with promoting sustainable modes of transport to replace the excessive use of the private car in most urban areas.

Fellesson and Friman(2010) in their article entitled, “Perceive Satisfaction with Public Transport Service in Nine European Cities” have studied the passengers satisfaction relating to transportation in many countries. For instance, Friman (2010) examined affective reactions to passenger waiting times relating to public transport and their impact on overall satisfaction with the service in Sweden. Using Analysis of Variance (ANOVA) technique, the study found that overall satisfaction with public transport corresponded with the quantum of the waiting time scenario.

S. Fonseca, S. Pinto, and C. Brito(2010) in their paper titled, “Service Quality and Customer Satisfaction in Public Transports” have expressed their views
using interviews and focus groups as well as documents of transport company, non-consumers’ and consumers’ attempt to identify the determinants of service quality as well as its impacts on the satisfaction of public transport commuters taking into consideration both internal and external perspectives. The results revealed that reliability, security, speed, comfort and punctuality are the quality dimensions of greater importance for public transport services. In spite of the existence of a distinction between the constructs of quality and satisfaction, the transport company, non-consumers and customers clearly do not make such a distinction.

M. Friman (2010) in his study on “Effective Dimensions of the Waiting Experience” has explained that the passengers satisfaction relating to transportation has been studied in many countries. For instance, he has examined the affective reactions to passenger waiting times relating to public transport and their impact on overall satisfaction with the service in Sweden. Using Analysis of Variance (ANOVA) technique, the study found that overall satisfaction with public transport corresponded with the nature of the waiting time scenario.

M. Morfoulaki, Y. Tyrinopoulos and G. Aifadopoulou (2010) in their research article entitled, “Estimation of Satisfied Customers in Public Transport Systems: A New Methodological Approach” have said that in the context of public transport, satisfaction is defined as a customer’s overall experience with a service compared to his or her pre-defined expectations and loyalty as a customer’s intention to use the service in the future is based on previous experiences.

K. Rama Mohana Rao and V.V. Adinarayana Rao (2010) in their paper entitled, “Quality Management in Passenger Transport Services” have studied the serious challenges of service companies world over. Consumer assessment of services
revolves round the quality perspectives both in design and functionality. In order to satisfy the consumers and to achieve a competitive edge, a special focus on the management issues related to service quality is of vital significance. The study aims at analyzing consumer opinion on the services provided by APSRTC by adopting SERVQUAL Model and also identifying gaps in the service quality and to initiate measures to fill such quality gaps.

S. Shanthini\textsuperscript{74} (2010) in her dissertation entitled, “A Study on Profitability of Nationalised Transport Corporation” has revealed the role of a nationalised transport corporation and analysed the profitability of nationalised transport corporation. She has suggested that the cost of transport operation should be minimised in order to maximise the profitability of nationalised transport Corporation.

V.P. Sharmi\textsuperscript{75} (2010) in her dissertation entitled, “Material Management Practices in TNSTC, Madurai Division III Ranithottam, Nagercoil” has emphasised the management aspects especially material management practices in Tamil Nadu State Transport Corporation, Madurai Division III. She has suggested various measures to be taken by TNSTC with regard to materials management.

M. Tjeendra, T.B., Joewono and D.U. Ningtyas\textsuperscript{76} (2010) in their study on “Perceptions and Experiences Regarding Service Quality in Indonesian Public Transport” have found out that a study in the difference regarding perception and experience of male and female as a user of public transport from 499 copies of questionnaire distributed by simple random sampling method in three cities in Indonesia. The analysis through heterogeneous customer satisfaction index (HCSI) reveals that female tends to be more satisfied than male in experiencing the services. The index also shows that it is location-specific which explains the uniqueness of
each city. Analysis also revealed that each of the 15 attributes has different contribution to the overall satisfaction in each city. The contribution of each attribute is also different when male and female are compared.

F. Alireza, K. Ali, and F. Aram\textsuperscript{77} (2011) in their research article with the caption, “How Quality, Value, Image, and Satisfaction Create Loyalty at an Iran Telecom” have indicated that the high quality of service is correlated with relatively high customer satisfaction. This research investigated the extent of customer satisfaction for users of public transport services in Amman. Public transport users have needs and preferences, including reliability, convenience, safety, comfort, accessibility, and affordability, that affect their satisfaction with the services provided.

A. Awasthi, S.S. Chauhan, H. Omrani and A. Panahi\textsuperscript{78} (2011) in their article titled, “A Hybrid Approach Based on SERVQUAL and Fuzzy TOPSIS for Evaluating Transportation Service Quality” have explained that the managing service quality is vital to retain customer satisfaction and augment revenues for any business organization. Also, understanding the behavioral intentions of public transport passengers is important, because, customer loyalty is seen as a prime determinant of long-term financial performance.

M.N. Borhan, R.A.A.O.K. Rahmat, A. Ismail and R. Ismail\textsuperscript{79}(2011) in their article entitled, “Prediction of Traveling Behaviour in Putrajaya” have discussed a relatively good public transportation network which needs to provide easy access and cheaper cost to the users. Operating cost and fixed cost are important and noticeable issues for Transit companies. Also, travelling with high level of facilities, convenience and quality are significant for passengers. A study on behavior of passengers towards the use of public transportation also is important.
C.F. Chen, and W.T. Lai\textsuperscript{80}(2011) in their article titled, “Behavioural Intentions of Public Transit Passengers – The Roles of Service Quality, Perceived Value, Satisfaction and Involvement” have explored the relationships between passenger’s behavioral intentions of public transit and the various factors that affect service quality, perceived value, satisfaction and involvement in Taiwan. By applying structural equation modeling, the study found that service attributes such as vehicle safety, facility cleanliness, and complaint handling have significant influences on passenger behavioral intentions.

J Dube, F.D. Rosier, M. Theriault and P. Dib\textsuperscript{81} (2011) in their study on “Economic Impact of a Supply Change in Mass Transit in Urban Areas” have said that the public transport plays a social role in the urban environment: it improves access to work places and service infrastructure and at the same time, reduces travel expenses.

T. Hutchinson\textsuperscript{82}(2011) in his study on “Classification of Reasons for Poor Customer Experiences in Service Industries: The Case of Public Transport” has explained the interactions with public transport personnel, such as the drivers who are often inevitable during passenger journeys. Drivers interact with passengers to sell tickets, greet boarding passengers or provide information. The knowledge, helpfulness and friendly attitude of staff in resolving issues is a priority for many businesses and it plays a major role in ensuring that the customers remain satisfied with their services. Therefore, it is important to know if public transport customer service meets passenger requirements.

M.Sekar\textsuperscript{83} (2011) in his dissertation titled, “A Study of Passengers Attitude towards the Mofussil Bus Services in Sivakasi” has studied the different types of
transport used by passengers in Sivakasi and has analysed the attitude of passengers towards mofussil bus services. He has suggested that the drivers should obey the traffic rules and the maintenance of mofussil buses are indispensable.

Tony Wilson\(^4\) (2011) in his study on “On the Challenges Facing Ghanaian bus Company” has discussed the financial constraint and the ineffective maintenance procedure as the most binding constraints. He has mentioned other external factors such as high fuel prices, control of fares by the government and high cost of parts. He has highlighted some problems of both the formal and informal sectors of the Ghanaian Transport industry. According to him, the industry is dominated by the informal sector.

L.T. Truong, and S.V. Somenahalli\(^5\) (2011) in their article titled, “Using GIS to Identify Pedestrian-Vehicle Crash Hot Spots and Unsafe Bus Stops” have found out that the passenger safety is a factor of concern for many passengers and has a major role in satisfaction. Safety includes road and traffic safety at stops or the behaviour of other passengers that could cause concern for personal safety, which may be abusive, frightening or intimidating.

R.Ashok\(^6\) (2012) in his article entitled, “Air Horns must be Removed from Mofussil and Minibuses” has studied the disturbances caused by air horns used in minibuses. He pointed out that Madurai District Collector has instructed transport authorities to closely monitor the rash and negligent drivers and punish them as per the Motor Vehicles Act. He has suggested that mofussil bus and minibus operators should be instructed to remove air horns immediately and drivers should be counselled to be more responsible on the road and not to talk over mobile phone while driving.
B. Barabino, E. Deiana and P. Tilocco (2012) in their study on “Measuring Service Quality in Urban Bus Transport: A modified SERVQUAL Approach” have found out that ‘On-board security’, ‘bus-reliability’, ‘cleanliness’, ‘frequency’ are very important in determining the service quality.

M. Diana (2012) in her article entitled, “Measuring the Satisfaction of Multi-modal Travelers for Local Transit Services in different Urban Contexts” has examined the degree of satisfaction of multimodal travelers with public transport services in Italy. Nine service aspects were measured. The author found that satisfaction and frequency of use of urban transit are not correlated. Public transport was of greatest use in the city centers, followed by towns of above 50 thousand inhabitants. Smaller towns and suburbs saw little use of transit. Besides, satisfaction levels tended to be the highest in smaller towns and the lowest in metropolitan areas.

R. Ismail, M.H. Hafezi, R.M. Nor and K. Ambak (2012) in their article entitled, “Passengers Preference and Satisfaction of Public Transport in Malaysia” have explained that the determinants of service levels in rural areas are not driven by factors such as income level and trips pattern compared to those of urban areas, because services in rural are more of social obligation in nature.

A. Kaliyaperumal and A. Gajendran (2012) in their study on “A Study on Bus Passenger Perception and level of Satisfaction-with special Reference to Bus Transport Industries in Tamilnadu” have conducted a study with a sample size of 75 passengers and the statistical tools used include percentage analysis and Chi-square. The main aim of the study was to apprise the level of changes in bus passenger satisfaction. The study concluded that it was not possible for bus transport industries to satisfy all the needs and expectation of the people. Further irrespective of the
service quality both public and private transport services should work with ethics and social responsibility to give better service to the general public.

R. Khurshid, H. Naeem, S. Ejaz, F. Muhtar and T. Batool (2012) in their research article with the caption, “Service Quality and Customer Satisfaction in Public Transport Sector of Pakistan: An Empirical Study” have said that Pakistan through purposive sampling of 120 questionnaires has sought to ascertain how service quality influences customer satisfaction. The multiple regression result reveals that there is a positive relationship between service quality and customer satisfaction in the public transport sector in Pakistan.

D. Le-Klahn (2012) in his study on “Measuring Tourists’ Satisfaction with Public Transport in Munich” has found out that the passengers were highly satisfied with ‘punctuality’, ‘reliability’, ‘network connection’, and service frequency’ in public transport while they were dissatisfied with ‘staff service’, ‘comfort at bus stops, and the ticket price.

T. Malathi (2012) in her article entitled, “Public Transport Services” has studied the various causes of transport problems namely limited network of roads, narrow and poorly maintained roads, rapidly increasing use of private cars and motorcycles, rapidly rising traffic fatalities, overcrowded uncomfortable, undependable, slow unco-ordinated, inefficient, dangerous public transport, noise and other environmental impacts in large cities. She has concluded that private financing seems to be appropriate for all new road construction and bus operations.

Y. Shiftan and N. Sharaby (2012) in their article entitled, “The Impact of Fare Integration on Travel Behavior and Transit Ridership” have assessed the impact of fare integration on travel behavior and transit ridership in the city of Haifa, Israel.
Using travel-behavior model, the study found that fare reduction was a significant factor in attracting transit users, encouraged travelers to shift from private cars to buses.

E.N. Aidoo, W., Agyemang, J.E. Monkah and F.K. Afukaar (2013) in their study on “Passenger’s Satisfaction with Public Bus Transport Services in Ghana: A Case Study of Kumasi–Accra Route” have studied routes in Ghana on Kumasi-Accra using binary logit model to assess 492 randomly administered questionnaires that affirm the passenger’s satisfaction with public transport service which is highly influenced by bus traffic safety record, comfort as well as fare and control of crime rate at the bus station. This is because these factors seem to affect the level of satisfaction of passengers on Accra-Kumasi route.

R.N.R. Ariffin and R.K. Zahari (2013) in their article titled, “Towards a Sustainable Urban Transport System in the Klang Valley, Malaysia - The Key Challenges. Procedia” have said that commonly, in many urban and rural area, public transportation system deals largely with issues and problems encountered with transportation services, operation, infrastructure and facilities.

I. Bodini, M. Lancini, S. Pasinetti and D. Vetturi (2013) in their study on “Techniques for On-board Vibrational Passenger Comfort Monitoring in Public Transport” have considered effects of road infrastructure (pedestrian crossing, culvert, roundabout etc.) on the comfort levels of standees in public transportation. Their study provides an easy comparison of vehicles’ comfort level and the ability to keep track of vehicles’ and roads’ maintenance.

Transportation Systems Using a Smart Phone” have investigated the effects of discomfort of standing passengers when the vehicle accelerates. They calculated discomfort index by logistic regression analysis, which is based on acceleration and deceleration of rail systems.

M.R. Hossain, B.D. Ayon, A.M. Haque and A.T. Roni (2013) in their article titled, “Evaluation of Facts Behind Low-quality Public Bus Services in a Developing Country: A Case Study of Dhaka City” have revealed that ‘waiting time’ and ‘comfort level’ are the main factors that shift passengers from public bus transport to private vehicles in Dhaka.

M.M. Rohani, D.C. Wijeyesekera and A.T.A. Karim (2013) in their study on “Bus Operation, Quality Service and the Role of Bus Provider and Driver” have discussed the geographical factors such as population, environment, economics and culture which are among the factors that influence the bus operation service provided. The types and features of urban bus services may differ from rural bus services where coverage routes, fare system and fleet depend on the local needs.


K.K. Govender (2014) in his study on “Public Transport Service Quality in South Africa: A Case Study of Bus and Mini-bus Services in Johannesburg” has revealed that improving the perceived service dimensions can increase the demand for public buses and thereby reduce the use of private motor cars.
V. Mounica\textsuperscript{103} (2014) in his article titled, “Customer Satisfaction Level in Public Bus Service in Tirupati, Andhra Pradesh” has evaluated the Customer Satisfaction Level in Public Bus Service in Tirupati, Chittor District of Andhra Pradesh. Primary data were collected from 102 respondents of different economic strata by adopting simple random sampling technique. Correlation analysis was performed on the data obtained and it shows that certain attributes show a strong correlation with the overall satisfaction with the bus service, while certain quality attributes do not display correlation with the overall satisfaction of the bus transport. She found that service quality attributes influence the overall customer satisfaction in using public bus transport. The service quality could be evaluated and improved not only by analyzing single attributes but also by analyzing factors based on several attributes.

A.D. Palma, M. Kilani and S. Proost\textsuperscript{104}(2014) in their article entitled, “Discomfort in Mass Transit and its Implication for Scheduling and Pricing” have formulated the crowdedness level function by using the sitting capacity of the vehicles and optimal trip schedules. Their study asserts the value of time in public transportation. They considered three different scenarios for crowdedness. The first scenario is for a situation where there is at least one available seat, the second scenario is when there is no available seat but the vehicle is not crowded, and last scenario is when there are so many standing passengers and the vehicle is overcrowded. The discomfort function was determined by considering the number of seats and maximum acceptable standing passengers in-vehicle and the general time cost function is constituted for passengers.

F. Qin\textsuperscript{105}(2014) in his study on “Investigating the In Vehicle Crowding Cost Functions for Public Transit Modes” has extended the structure of study of
Palma et al. (2013) by bringing new perspective to crowdedness-cost function over a cost function of crowdedness in-vehicle. They measured the crowdedness level by a load factor and the number of standing passengers per square meter. Once the threshold value is exceeded, cost function takes an exponential form to represent the discomfort resulting from over capacitation.

R.I. Sabir, S. Javed, W. Ahmed, N. Noor and H.M. Munir (2014) in their research article with the caption, “Assessing Customer Satisfaction Level of Transport Services by Using SERVQUAL: A Case of Daewoo Express, Pakistan” have expressed the view that of the developing countries also have evidence to a certain extent with regard to the identification of service elements where limited resources are allocated on a priority basis. Investigating the quality of transport in Pakistan reveals that the ‘empathy’ of staff on customers shows the strongest correlation with customer satisfaction.

Ali Alphonsus Nwachukwu (2015) in his article titled, “Assessment of Passenger Satisfaction with Intra-City Public Bus Transport Services in Abuja, Nigeria” has recorded the findings of studies conducted to examine passenger satisfaction with the service quality attributes in public bus transport services in Abuja, Nigeria. To achieve this, a survey was conducted in 10 sample bus stop areas selected for this study, 300 public bus transport users were randomly selected to elicit their overall satisfaction and factors that influenced their satisfaction in the use of public bus transport services in Abuja using a self-rated questionnaire. Data obtained were analyzed using descriptive statistics, correlation, and principal component and regression analyses. He found that providing a direction for public bus transport administration in the city for improving services may yield passenger satisfaction.
Gajendran and Kaliyaperuma\textsuperscript{108}(2015) in their research article with the caption, “A Study on Bus Passenger Perception and Level of Satisfaction - with Special Reference to Bus Transport Industries in Tamil Nadu” have examined the comfort level of passengers in bus transport. Both primary and secondary data have been collected. Primary data were collected from 75 passengers through a structured survey questionnaire. Such collected data were analyzed with various statistical tools like Chi-square and non-parametric test developed by Karl Pearson. They found a clear view about the different attitudes of bus passengers and the quality of service as ensured

Felix Charbatzadeh, Udechukwu Ojiako, Maxwell Chipulu and Alasdair Marshall\textsuperscript{109} (2016) in their article entitled, “Determinants of Satisfaction with Campus Transportation Services: Implications for Service Quality” have conducted a study to examine the determinants of satisfaction with campus bus transportation. Both primary and secondary data were used. Primary data were collected with a well structured questionnaire. They found that if providers of campus bus transportation services are to meet their service delivery challenges and also maintain or improve upon their market positions, they must conceptualize their services in a manner that takes into consideration the two-way interrelationship between risk of financial loss and service quality.

Manoj Kumar, Vikas Anand and Anup Srivastava\textsuperscript{110}(2016) in their research article titled, “Public Transport Service Quality and Passenger Satisfaction: A Case of UPSRTC, Agra, India” have made a study to measure the level of customer satisfaction with the quality of services offered by Uttar Pradesh State Public Transport Corporation (UPSRTC), Uttar Pradesh State in India. Both primary and secondary data were used. Primary data were collected with a well structured
questionnaire. Collected primary data were analyzed with various statistical tools like Cronbach's Alpha, Kaiser-Meyer-Olkin (KMO) test, Bartlett's test and Factor Analysis. They found that for highly dissatisfied customer of UPSRTC there were many scopes of improvements in the services being offered by UPSRTC.

X. Shen, S. Feng, Z. Li, and B. Hu (2016) in their study on “Analysis of Bus Passenger Comfort Perception Based on Passenger Load Factor and In-vehicle Time” have explained that the passenger comfort may refer to a variety of factors that affect the enjoyment of using public transport, including the interior temperature of the vehicle, the amount of vibration, the amount of noise from the vehicle or nearby sources, and the comfort and availability of seating. Comfort has an influence on model choice. If it does not meet the passenger’s expectations, the passengers are likely to be dissatisfied and can seek an alternative travel option where possible, especially if a vehicle is crowded.

Singh Sanjay (2016) in his article entitled, “Assessment of Passenger Satisfaction with Public Bus Transport Services: A Case Study of Lucknow City” has examined the service quality attributes that influence the passenger satisfaction. The study is based on a survey of objective as well as subjective questions conducted between May and July 2014. Five major bus stops of Lucknow were selected for the survey. Totally 148 respondents were randomly selected to elicit their overall satisfaction and factors that influence their satisfaction in the use of public bus transport services in Lucknow using a self-rated questionnaire. The collected sample of responses is subjected to principal component analysis, a statistical technique for dimensionality reduction of the dataset, and descriptive analysis. The study thus provides a direction for public bus transport administration in the city to understand the gaps that exist and try to fill them to improve its services so that passenger
satisfaction can be enhanced and consequently more people can be attracted towards public bus transport.

G. Nagasubramaniyan and B. Agadeesh (2017) in their research article with the caption, “Assessment of Service Quality of Public Bus Transport System (TNSTC) Tiruchirappalli” have evaluated the passengers’ perception towards the existing public transport system. Primary data was collected from 120 respondents of different economic strata by adopting stratified random sampling technique. They found that the service quality attributes influence the overall customer satisfaction in using public bus transport.

2.3 RESEARCH GAP

From the above review of literature, it can be concluded that there are many studies conducted on different aspects of passengers’ satisfaction about the service provided by the TNSTC. However, No comprehensive study has been taken up so far with regard to the quality of service and the safety aspects provided by TNSTC Tirunelveli Division. It is of vital importance they offering quality service is essential to fulfill the expectation of the passengers especially in view of stiff competition from private bus operators. Hence, the present study empirically examines the vital issues relating to the various facilities available in the TNSTC buses and the quality of services provided by the TNSTC buses in Tirunelveli District and suggests measures to make them more effective, efficient and successful.
REFERENCES


