



# ECONOMIC BENEFITS AND SOCIAL IMPACTS OF METRO RAIL WITH SPECIAL REFERENCE TO CHENNAI AND BANGALORE

## Author Details:

Ms. RAGHAVI U P

II.M.COM(CS),

Department of Corporate Secretaryship,

PSG College of Arts & Science,

Coimbatore-641014.

## Co-Author Details:

Dr. S. JEYALAKSHMI,

Associate Professor and Head of the

Department of Corporate Secretaryship,

PSG College of Arts & Science,

Coimbatore-641014.

## Abstract:

This study investigates the economic benefits and social impacts of Metro Rail with special reference to Chennai and Bangalore city. Indian railway is the backbone of the country's economy and also fastest and largest mode of transport sector in India. As transportation and its service plays an important role in the development of the country. It is necessary to take imminent actions for the improvement of the present transport service system. Due to the fast growth in education, employment, health and accommodation it has become mandatory that the modern commuting system had to take a great turn up. The metro system is the most important transportation system in urban infrastructure. It plays a crucial role in urban social and economic development, specifically in reducing urban traffic congestion. The metro rail implementation has more benefits increase mobility, better accessibility, increase in business opportunities etc. So the study focused on awareness, benefits, impacts, challenges and problems of metro rail transportation in Chennai and Bangalore.

**Keywords:** Metro Rail, awareness, Chennai and Bangalore city, benefits, influencing factors, problems, passengers preference.

## INTRODUCTION

Transportation plays an important role in the development of a country and it is an indicator of social and cultural life of its citizens. Status of people in a state with respect to Education, Employment and Health gets affected by prevailing transportation system. So it is very important for any city to have an effective public transportation system and the same has to be managed to face upcoming, future challenges and to ensure effectiveness in their operations. Railways are definitely one of the largest and most convenient forms of transportation. Public transport (also known as public transportation, public transit, mass transit, or simply transit) is a system of transport for passengers by group travel systems available for use by the general public unlike private transport, typically managed on a schedule, operated on established routes, and that may charge a posted fee for each trip.

And metro rail is more than convenient, it is the lifeline of most of the metropolitan cities in India. The introduction of the Chennai and Bangalore Metro requires the identification of the changes brought out by it in the transport sector of the economy. Most importantly, Chennai and Bangalore metro contributes to the diversion of a very high proportion of current passenger traffic from road to Metro and serves part of the growing passenger traffic demand in Coimbatore. As a result, there will be a reduction in the number of buses, passenger cars and other vehicles carrying passengers on Chennai and Bangalore roads with the introduction of the Metro. The Metro also brings about a reduction in air pollution in Chennai and Bangalore because of the substitution of electricity for petrol and diesel and reduced congestion on the roads. The main aim of this research articles is to throw light on the experience journey of the commuters on metro train transportation system and also to study the ways and techniques followed by CMRL to retain existing passengers and also to attract new passengers in modern city.

## OBJECTIVES OF THE STUDY

- To study the awareness level of passengers in metro rail in Chennai and Bangalore.
- To analyse social and economic benefits of metro rail transportation in Chennai and Bangalore.
- To identify the various factors influencing passengers towards metro rail in Chennai and Bangalore.
- To find problems faced by peoples in metro rail transport.
- To investigate the passengers idea, opinions and preference towards metro rail services in Chennai and Bangalore.

## RESEARCH METHODOLOGY

### Area of the Study

Area of the study refers to Coimbatore city which is known for textiles, foundries, pumps and motor industries. The city has large amount of educational and health care institutions to serve the people.

### Source of data

Both Primary and Secondary data have been selected for the study. The Primary data have been obtained by administering a structured questionnaire to passengers in Chennai and Bangalore city. The Secondary data have been collected from Journals, Articles, Books, Newspaper and Magazines and Webpages.

### Sample Size

The Sample Size was prepared by adopting two steps. First, it was determined that number of metro rail connected cities in Tamil Nadu. Second, Chennai and Bangalore comes under top ten metro rail connectivity. So, Chennai and Bangalore City is selected collect the sample. In final it was decided that 60 samples from Chennai city and 70 samples from Bangalore city who travel through metro is obtained and total sample size came to 130 metro rail passengers.

### Sampling Method:

Convenience sampling method is used for this study.

### Tools for analysis

The following statistical tools have been used to analyse the primary data collected:

- Percentage analysis method
- Chi-square method
- Weighted average ranking method
- Garret ranking method
- ANNOVA (Analysis of Variance)

### ANALYSIS AND INTERETATION

#### Simple Percentage:

**TABLE 1: GENDER**

Gender	No. of. Respondents	Percentage
Male	63	49
Female	67	51
<b>Total</b>	<b>130</b>	<b>100</b>

### INTERPRETATION:

It infers that, 49% of Respondents are Male and 51% of the Respondents are Female.

**TABLE 2: PASSENGERS STANDING TIME PERIOD TICKET**

<b>TIME PERIOD</b>	<b>No. of. Respondents</b>	<b>Percentage</b>
Less than 5mins	41	32
5-10mins	46	36
10-20mins	27	20
Above 20mins	16	12
<b>Total</b>	<b>130</b>	<b>100</b>

**INTERPRETATION:**

It is concluded that, 36% of users buy tickets within 5-10 minutes in metro ticket counter, 32% of the users buy tickets less than 5 minutes in metro ticket counter, 20% of users buy tickets within 10-20 minutes in metro ticket counter and 12% of users buy tickets above 20 minutes in metro ticket counter.

**TABLE 3: PASSENGERS BENEFITS OF METRO RAIL TRANSPORT**

<b>Benefits</b>	<b>No. Of. Respondents</b>	<b>Percentage</b>
Time saving	46	36
Cost effective	19	15
Reduce pollution	24	18
Safety and Comfort	34	26
Reduce Traffic	7	5
<b>Total</b>	<b>130</b>	<b>100</b>

**INTERPRETATION:**

It was found that, 36% of the users travel in Metro Rail for the benefit of time saving, 26% of the users travel in Metro Rail for the benefit of safety and comfort, 18% of the users travel in Metro Rail for the benefit of reducing pollution, 15% of the users travel in Metro Rail for the benefit of cost effective and 5% of the users travel in Metro Rail for the benefit of reduce traffic.

**Chi-square Test:****TABLE 4: PERSONAL FACTOR VS FACTOR INFLUENCE TO USE UPI**

H0: There is no significant association between age group and city of residence

H1: There is a significant association between age group and city of residence

Factor	P-value	Df	Sig. val	S/NS
Age group	7.315	3	0.63	S
City of residence	7.553	3	0.56	S
Linear-by-Linear Association	0.003	1	0.960	NS

Note: S: Significant (p value  $\leq 0.05$ ), NS: Not Significant (p value  $> 0.05$ )

**INTERPRETATION:**

From the table, p value of chi square test is less than 0.05. So, we are rejecting the null hypothesis and accepting the alternative hypothesis and in one case p value of chi square test is greater than 0.05. So, we are accepting null hypothesis and rejecting alternative hypothesis

It is concluded that the age group, city of residence have significant association.

**ANNOVA:****TABLE 5: PURPOSE OF THE USAGE OF METRO RAIL TRANSPORT**

**Hypothesis:** There is no significant difference between the personal factors of the respondents on the purpose of metro rail transport.

The table 4.21 describes the results of ANOVA in terms of personal factors, sources of variation, sum of squares, degrees of freedom, mean sum of squares, F value, P value, and their significance on the respondents purpose of the usage of the metro rail transport.

Personal Factors	Source of variation	Sum of Squares	Degrees of freedom	Mean sum of squares	F values	P values	Significant/ Not significant
Gender	Between Groups	1.006	3	.335	1.344	.263	Not Significant
	Within Groups	31.463	126	.250			
	Total	32.469	129				
Age	Between Groups	9.972	3	3.324	5.648	.001	Significant

	Within Groups	74.151	126	.589			
	Total	84.123	129				
Educational qualification	Between Groups	14.533	3	4.844	4.752	.004	Significant
	Within Groups	128.459	126	1.020			
	Total	142.992	129				
Occupational Status	Between Groups	64.296	3	21.432	11.299	.000	Significant
	Within Groups	239.004	126	1.897			
	Total	303.300	129				
Annual Income	Between Groups	17.408	3	5.803	5.658	.001	Significant
	Within Groups	129.215	126	1.026			
	Total	146.623	129				
Number of Members in a family	Between Groups	6.087	3	2.029	2.819	.042	Significant
	Within Groups	90.690	126	.720			
	Total	96.777	129				
Number of Earning person in family	Between Groups	6.054	3	2.018	4.851	.003	Significant
	Within Groups	52.415	126	.416			
	Total	58.469	129				
Area of Residence	Between Groups	.448	3	.149	.592	.621	Not Significant
	Within Groups	31.775	126	.252			
	Total	32.223	129				
City of Residence	Between Groups	3.108	3	1.036	4.470	.005	Significant
	Within Groups	29.200	126	.232			
	Total	32.308	129				

Note S-significant (p value  $\leq 0.05$ ) NS- not significant (p value  $> 0.05$ )

#### INTERPRETATION:

It is found from the table 4.9 that the hypothesis is rejected (significant) in seven cases and the hypothesis is accepted (not significant) in two cases.

It is concluded that age, educational qualification, occupational status place of residence, education qualification, annual income, number of members in a family, Number of Earning person in family, City of Residence have significant influence on the purpose of usage of metro rail transport.

## **CONCLUSION:**

The transport plays an crucial role in everyone's life to reach their designation. Nowadays Chennai and Bangalore metro rail is very helpful for Chennai and Bangalore users, because there is more traffic in roadways so that users can reach the destination on time. CMRL and Namma metro is done well in Chennai and Bangalore city. Even they can do more for users like more lifting facilities, effective feeders service then they can get some loyal users in metro rail transport. City transportation is a necessity for ever growing population in Chennai, one of the busy cities in India. Chennai Metro and Bangalore metro should use this population dividend to its advantage by continuing to innovate and adapt latest technology. Extending Chennai and Bangalore Metro's service through the night, running an express service, recharging Smart cards online etc could be some important steps in that direction. People from different societal, financial, educational background, with different types of transportation needs, male and female users from different age groups travel by metro rail to satisfy their intra city travel needs. In spite of travelling being one of the basic needs, commuters have their expectations from such a service and service providers. The level, to which their expectations are met, indicates their satisfaction about the service and service provider. On the basis of this study some suggestions has been made. If the suggestive measurements have been considered by the Chennai Metro Rail limited and Bangalore metro rail limited, it is hope that the Indian Railways will shine and bring grandeur to our country in the near future.

