

Economic Benefits of Women Passenger Using the Zero-Ticket Bus Ticket Scheme: A Case Study from Rural and Urban Passenger of Coimbatore District

Dr. R. Manikandan¹, K. Sowmitha², Dr. N. Vidhya³

¹Assistant Professor, Department of Economics, Bharathiar University, Coimbatore, Tamil Nadu, India

²Ph.D. Research Scholar, Bharathiar University, Coimbatore, Tamil Nadu, India

³Assistant Professor, Department of Economics, NGM College of Arts and Science, Pollachi, Tamil Nadu, India

ABSTRACT

Public transit is critical in contemporary urban infrastructure, significantly impacting daily life. The Tamil Nadu State Transport Corporation Ltd (TNSTC) is a government-owned public transport bus operator in Tamil Nadu, India. The Zero-Ticket Bus Travel Scheme for women was launched in 2021. This is one of the social welfare schemes that encourage women to participate more actively in work and reduce their dependency on private mobility. In Tamil Nadu, Coimbatore city is a recently developing city and employment-generating hub, that provides various job opportunities and higher education platform. This study has investigated women passengers' socio-economic condition and economic benefits through the Zero Ticket Bus Travel Scheme. In Coimbatore District, rural and urban free bus users were selected, and the Snowball sampling techniques were used for selected sample passengers. This study used descriptive statistics, mean, and one-way ANOVA for the analysis. This study found that the ZTBTS scheme increases employment opportunities through women's mobility. More than 90 per cent of the passengers were working women. The women using this free bus regularly were saving almost Rs. 253 in a month and they spent that money on other purposes (i.e., Food, Cosmetics, travel). Women using this free bus have suggested improving the quality of the free bus, increasing the benefits for women's empowerment.

KEYWORDS: *Zero-Ticket Bus Travel Scheme, Women's Empowerment, Economic Benefits, Social Welfare, Higher Education Platform*

INTRODUCTION

Empowering women and involving them actively in national development initiatives are critical in growing countries like India. It is crucial to give women in public spaces a safe and secure atmosphere to guarantee their participation (Meena *et al.*, 2024). The Government of Tamil Nadu introduced the ZTBT Scheme on 7th May 2021, for women to reduce their private vehicle dependency and increase women's empowerment. This scheme provides various benefits to women and provides various SDGs such as goal 1.4 (access to basic services), goal 4.3 (equal access to tertiary education), and goal 8.5 (decent work) (The United Nations). In Tamil Nadu, Coimbatore District is a developing district that is considered the industrial hub and has a diversified population,

including a substantial percentage of women. However, the impact of the government schemes differs according to the geographical conditions, like rural and urban. So this study has decided to compare the economic benefits of women passengers in the rural and urban setting of Coimbatore district.

Review of literature

Philippa and Premkumar (2023) A study assessed the impact of free bus travel for women in public transportation on achieving Sustainable Development Goals. The study involved female students in Junior High Schools in the Yilo Krobo Municipality and the Lower Manya Krobo District. The Chi-square test is used to analyze and determine the association

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between students' characteristics traveling in the free buses and the economic and educational enhancement.

Mahabare and Sowmya (2022) This study examines commuting constraints for women in urban India, influenced by gender norms and home locations. Safety is a concern, especially for low-skilled women. Urban policymakers must consider these challenges in future mobility plans.

Sangapal Prakash (2016) displayed that most of the respondents agreed that MSRTC provided valuable services/facilities to the society and there were agreed that the MSRTC played a very vital role in the development of the district. Moreover, most of the respondents were satisfied with the services of MSRTC.

Objectives

- To understand the socio-economic characteristics of the sample women passengers.
- To investigate the usage of the Zero Ticket Bus Travel Scheme.
- To analyse the differences in frequency of transportation savings and between rural and urban women using the zero-ticket bus scheme.

Methodology

The Coimbatore district has been chosen for this study. The two different areas women passengers who travelled from village to city (Kanjapalli to Gandhipuram) and within the city (Maruthamalai to Gandhipuram) have been selected. The snowball sampling method has been chosen for the study. The women passengers who were availing of the Zero Ticket Bus Travel Scheme were the sample respondents. Totally 55 samples of women passengers have been selected for this study, 28 samples are from rural areas (Kanjapalli village) and 27 samples are from urban areas (Gandhipuram). The primary data were collected through a well-structured questionnaire, using statistical tools such as descriptive statistics, mean, and one-way ANOVA.

Data Analysis

The following analysis is to figure out whether there is any significant difference in economic benefit between rural and urban areas using a one-way ANOVA test is used to test the following hypothesis. **H₀**: There is no significant difference in economic benefits between rural and urban women passengers using the ZTBT Scheme.

H₁: There is a significant difference in economic benefits between rural and urban women passengers using the ZTBT Schemes.

Table 1: Socio-Economic Conditions of the Women Passenger Using Zero Ticket Bus Travel Scheme

Particulars	Rural	Urban	Total
Age			
below 25	5 (17.9)	4 (15.4)	9 (16.9)
26-35	6 (21.4)	10 (38.5)	16 (29.6)
36-45	12 (42.9)	6 (23.1)	18 (33.3)
above 46	5 (17.9)	6 (23.1)	11 (20.4)
Educational Qualification			
Illiterate	2 (7.1)	2 (7.7)	4 (7.4)
Primary	8 (28.6)	6 (23.1)	14 (25.9)
Higher Secondary	12 (42.9)	8 (30.8)	20 (37.0)
Graduate	6 (21.4)	7 (26.9)	13 (24.1)
Post Graduate	0 (0.0)	3 (11.5)	3 (5.6)
Marital Status			
Married	24 (85.7)	20 (76.9)	44 (81.5)
Unmarried	4 (14.3)	5 (19.2)	9 (16.7)
Divorce	0 (0.0)	1 (3.8)	1 (1.9)
Religion			
Hindu	26 (92.9)	13 (50.0)	39 (72.2)
Muslim	1 (3.6)	7 (26.9)	8 (14.8)
Christian	1 (3.6)	6 (23.1)	7 (13.0)
Community			
SC	0 (0.0)	9 (34.6)	9 (16.7)
BC	19 (67.9)	15 (57.7)	34 (63.0)
MBC	9 (32.1)	1 (3.8)	10 (18.5)
Others	0 (0.0)	1 (3.8)	1 (1.9)

Occupation			
Government	1 (3.6)	0 (0.0)	1 (1.9)
Private	2 (7.1)	7 (26.9)	9 (16.7)
Daily Wage	19 (67.6)	16 (61.5)	35 (64.8)
Business	6 (21.4)	0 (0.0)	6 (11.1)
Student	0 (0.0)	3 (11.5)	3 (5.6)
Family size	3.5	3.58	3.54
Female member	1.93	1.73	1.83
Family monthly income	56000	86807	70833
Respondent Income	12678.57	24653.85	18444.44

Source: Primary Data (2024)

() – Row wise parenthesis

Table 1 indicates the Socioeconomic condition of the women passengers using the Zero Ticket Bus Travel Scheme. In the rural area, the majority 42.9 per cent of the respondents belonged to the 36-45 Age category, 42.9 per cent of the respondents had completed higher education, 87.5 per cent of them were married, 92.9 per cent of them belonged to the Hindu religion, and 67.9 per cent of them belonged to Backward Cast community and 67.6 per cent of the respondents major occupation was daily wages and the average family size was 4 members among them almost 2 of them were female, the respondents average family income was Rs. 56000 and the respondent's monthly income is Rs. 12678.57. In the Urban area, the majority 38.5 per cent belonged to the 26-35 age category, the majority 30.8 per cent of the respondents were completed their higher education level, followed by 76.9 per cent of them were married, 50 per cent of respondents belonged to the Hindu religion and 57.7 per cent of the respondents were belong to Backward Cast community and majority 61.5 per cent of the respondents were working as daily wages. In the urban area, the respondent's family size was 4 members among them average of 2 members were female members, the respondent's family income was Rs. 86807 and the respondent's income was Rs. 24653.85. This table concludes that the majority 29.6 per cent of the respondents age group belonged to the 26-35 age group, 81.5 per cent of them were married, 37 per cent of the respondents have completed their higher education and 64.8 per cent were working as daily wages (i.e., construction workers, farm workers, production staff). 72.2 per cent of the respondent's religion was Hindu and 63 per cent belonged to the Backward Cast community. The average family income of the respondents was Rs. 70833 and the respondent's average monthly family was Rs. 18444.44.

Table 2: Savings Amount of the Respondents through the Zero Ticket Bus Travel Scheme

Study Area	Accessibility	statistics	Saving Per Day	Saving Per Month
Rural	Daily	Mean	15.60	468
		Sum	234	7020
		N	15	15
	Weekly twice	Mean	20.33	162.64
		Sum	122	976
		N	6	6
	Weakly once	Mean	16	64
		Sum	112	448
		N	7	7
Total	Mean	16.71	301.57	
	Sum	468	8444	
	N	28	28	
Urban	Daily	Mean	18.43	552.86
		Sum	129	3870
		N	7	7
	Weakly twice	Mean	22.50	180
		Sum	90	720
		N	4	4
	Weakly once	Mean	10.47	41.87
		Sum	157	628
		N	15	15

	Total	Mean	14.46	200.69
		Sum	376	5218
		N	26	26
Total	Daily	Mean	13.96	418.80
		Sum	363	10890
		N	22	22
	Weakly twice	Mean	21.20	169.60
		Sum	212	1696
		N	10	10
	Weakly once	Mean	12.23	48.91
		Sum	269	1076
		N	22	22
	Total	Mean	15.63	253
		Sum	844	13662
		N	54	54

Source: Primary data (2024)

Table 2 shows the Income and savings of the respondents. In the rural area, the daily users of the bus service on average saved Rs. 468 per month, followed by weekly twice using the free bus saving Rs. 162.64. and weekly once using the free bus users saving Rs. 64 in a month, in the rural area the respondents were saving Rs. 301.57/month. In urban areas the daily users of the free bus service saved Rs. 552.86 in a month followed by weekly twice using the free bus respondents saving Rs. 180 in a month and weakly once using the free bus user saving Rs. 41.87 in a month, this shows that in urban area respondents were saving Rs. 200.69 in a month. This table concludes that the majority of the respondents in rural areas were using Government Buses regularly, saving Rs. 301.57 in a month, and urban areas majority of the respondents were using Government buses weakly once and saving Rs. 200.69 in a month. This denoted that rural areas people were benefited more than the urban areas.

Table 3: Number of times using the free bus, Minutes spent to get the bus, Kilometres using the free bus, and Hours spent using travel

Study Area	Statistics	Number of times using Free Bus per month	Minutes spend to get the bus	km to go use this service	Minutes spend to use travel
Rural	Sum	526	375	256	332
	Mean	18.79	13.39	9.14	11.86
	N	28	28	28	28
Urban	Sum	302	297	190	346
	Mean	11.62	11.42	7.31	13.31
	N	26	26	26	26
Total	Sum	828	672	446	678
	Mean	15.33	12.44	8.26	12.56
	N	54	54	54	54

Source: Primary data (2024)

() parenthesis indicates row wise percent

[] parenthesis indicates column wise percent

Table 3 represents the number of times using a free bus in the month, the minutes spent to get the bus, the Number of KM using the free bus, and the minutes spent traveling in a free bus. In the rural area, the respondents on average used 19 times the free bus service in a month, and per travel they travelled almost 9.14 km and waited for almost 13 mins and they were traveling almost 12 mins to reach their destination. In the urban area, the respondents used the free bus service 12 times in a month, and per travel they travelled almost 7.31 km for that they were waiting for 12 mins and they were traveling 14 mins to reach the destination. This table concludes that through the Zero Ticket Bus Travel Scheme women passengers can travel for free of cost within 30 km, by using this scheme overall the respondents were traveling 8.26 km.

Table 4: Free bus service encourages to join the work

Study Area	Free bus service encourages you to Join the Work		Total
	Yes	No	
Rural	21	7	28
	(75.0)	(25.0)	(100.0)
	[46.7]	[77.8]	[51.9]
Urban	24	2	26
	(92.3)	(7.7)	(100.0)
	[53.3]	[22.2]	[48.1]
Total	45	9	54
	(83.3)	(16.7)	(100.0)
	[100.0]	[100.0]	[100.0]

Source: Primary data (2024)

() parenthesis indicates row wise percent

[] parenthesis indicates column wise percent

The Zero Ticket Bus Travel Scheme encourages women's empowerment as denoted in table 4. In the rural area, the majority 75 per cent of the respondents said that this ZTBT Scheme was motivating the women to work and increase their higher education. In the urban area, the majority 92.3 per cent of the respondents agreed that the ZTBT Scheme was encouraging women's participation in various sectors. This table concludes that the majority 83.3 per cent of the respondents agreed that the ZTBT Scheme was helping to increase women's empowerment.

Table 5: One-Way ANOVA - Income, Frequency of Bus Usage, and Monthly Savings among Women Passengers Using the Zero-Ticket Bus Scheme

		Sum of Squares	df	Mean Square	F	Sig.
Income of the Respondents	Between Groups	1933341575.092	1	1933341575.092	27.245	0.000**
	Within Groups	3689991758.242	52	70961379.966		
	Total	5623333333.333	53			
Frequency of using bus	Between Groups	332.975	1	332.975	5.423	0.024*
	Within Groups	3193.025	52	61.404		
	Total	3526.000	53			
Saving per month	Between Groups	1144342.949	1	1144342.949	9.487	0.003**
	Within Groups	6272239.885	52	120619.998		
	Total	7416582.833	53			

Source: Primary Data (2024)

The one-way ANOVA was conducted to determine if there are significant differences in the three economic variables (monthly income, frequency of bus usage in a month, and monthly savings) between the women passengers from rural and urban areas using the ZTBT Scheme. The income level of the women passengers shows less than a 1 per cent level of significance, in the above mention table 1 states that the urban areas respondents were earning more than the rural areas respondents. The frequency of using the free bus service shows that there is a 5 per cent level of significance, the significant value is 0.024, in the above mention table 3 shows that rural respondents were more frequently saving the government buses than the urban areas. There is a 1 per cent level of significance in the saving amount by using the free buses, in the above mention table 2 shows that rural people were saving more than the urban respondents. The null hypothesis is rejected and the alternative hypothesis is accepted. The ANOVA

results show significant differences in income, frequency of bus usage, and monthly savings between rural and urban women passengers using the zero-ticket bus scheme.

Conclusion

This study aims to investigate the economic benefits of the zero-ticket bus program for female passengers in Coimbatore District's rural and urban areas. This study found that the respondents in the rural area were using the government buses daily, but the urban area users were using the government buses once a week. The daily government bus-using passengers were saving Rs.418.80 per month and this scheme was very helpful for women's empowerment. This study also found that there is a significant mean difference between the areas and the economic benefit obtained through this scheme. Ultimately, this study suggests the Government of Tamil Nadu make improvements in the bus condition and increase the

number of buses, which will increase more benefit to society.

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