

## **Socio Economic Characteristics of Autorickshaw Operators in Silchar**

Laxman Singh Bisht<sup>1</sup>, Mokaddes Ali Ahmed<sup>2</sup>

<sup>1</sup> (M.Tech. Scholar Civil Engineering Department, NIT Silchar, India)

<sup>2</sup> (Professor, Civil Engineering Department, NIT Silchar, India)

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**Abstract :** *Mobility is the one of the major issue in urban areas. The growth of population and vehicles are choking our cities. The cities with inefficient or no public transport system have encouraged the growth of alternative mode of transportation such as paratransit system. Autorickshaw, one of the paratransit mode, provides the mobility to who cannot afford private vehicles due to various economical constraints and who does not have access to public transport. Autorickshaw is the major mode of urban passenger carrier satisfying the different demands of trip makers. Autorickshaw's ability to provide door-to-door service, flexible in route and schedule has popularized them among various transportation modes. In Silchar, autorickshaw is the one of the major mode of public transportation in the absence of efficient public transportation system. The narrow and unplanned road network of the city encourages the autorickshaw operation as large size transit vehicles cannot ply on such roads. The other modes operating in city are cyclickshaw, taxi and a few mini buses. The socio economic status of autorickshaw operators have been studied in this paper. The basic socio economic indicators are family size, house condition, literacy rate .Traffic volume survey, Autorickshaw operators questionnaire survey, Vehicle occupancy survey have been conducted at major locations of the city. The traffic volume survey and vehicle occupancy survey revealed the maximum usage of autorickshaws in Silchar.*

**Keywords:** *Autorickshaw, Door-to-door service, Modal share, Paratransit, Socio-economic status.*

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### **I. Introduction**

Silchar is situated between longitudes 92°24' E and 93°15' E and latitudes 24°22'N and 25°8'N East and 35 meters above mean sea level. It is the second largest city of Assam in term of population and municipal area. The population of Silchar is 178,865 as per 2011 census. The Silchar city is the gate way of three districts of Barak valley as well as Tripura, Mizoram and Manipur. The city has witnessed the increase in population as well as vehicles .Over the decade there is no improvement and augmentation of road infrastructure in the city which has ultimately caused congestion on roads.

Auto rickshaws, a paratransit mode of transport, are one of the most popular modes of public transport in Silchar and in India, mostly in urban areas. It is one of the forms of intermediate or informal public transport system. Moreover, autorickshaw belongs to the family of paratransit vehicles. These vehicles have the operation characteristics of flexible routes and schedules as well. [1] [2] They mostly provide two types of services: one involving trips along a more or less defined route with stops to pick up or alight passengers on request. The other is a demand-responsive transport which can offer a door-to-door service from any origin to any destination in a service area. Paratransit systems definition and role changes from developing country to developed country. Developed countries, paratransit is often used for demand responsive systems such as shared-ride taxis, dial-a-ride and subscription buses. Developing countries, the lower standard of living, high population density, availability of cheap labor force etc., have supported the growth and popularity of these modes and bridging the gap between public bus and private automobiles.

Autorickshaw stand matchless in providing door-to-door transportation and last-mile connectivity at an affordable cost to all passengers. They are considered as car of poor people who cannot afford car. It is popular mode of urban transportation because of its smaller, befitting size and unchartered ability to provide connectivity. They are becoming more and more popular in mid size Indian cities like Silchar. [3] Unplanned roads, narrow streets, lack of public transport system and different needs of people which cannot be fulfilled by public transport system, everywhere-to-everywhere movement pattern in Indian cities, higher shorter trips, lack of penetrability of public transport system in dense city area further increases the demand and significance of auto- rickshaws in the cities of India.

Further, unlike other paratransit mode autos have low carrying capacities and flexible routes. Flexible route satisfies the passengers demand and gives them comfort. They offer on-demand, door-to-door service for private service or contract service, provide any origin to any destination service within specified jurisdiction. This sector is unregulated and informal. They neither owned nor operated by government agencies and public

money is not spent in this sector. This is one of the reasons that government does not pay much attention to them.

Autorickshaw is the major public transportation mode in Silchar. Other paratransit modes operating in Silchar are Cycle rickshaw, Force cruiser and a few Mini bus. The autorickshaw sector is providing job opportunity to the people of Silchar particularly to the unemployed educated youth.

In this paper, the socio-economic characteristics of the autorickshaw drivers in Silchar have been studied and discussed. Silchar is selected for case study because there is no public transport system in the city. Paratransits mainly autos are major mode of urban passenger movement in the city.

## **II. Existing Scenario in Silchar**

### **1. Unregulated and unorganized autorickshaw sector**

The major transportation system for public transportation in Silchar is paratransit mode especially autorickshaw. During peak hours there is high congestion in main town area. The current transportation system of city is inefficient and ill managed and needs improvement in operation. Most of the autorickshaw operating in the city are highly unregulated and unorganized. Operators get the permit of running within the range of 16 km inside the city. Most of the autorickshaw operators are running under union. [4] [5] Many autorickshaw from outside area are also plying on the route of city which is causing unhappiness among original operators. Absence of planned routes for the auto rickshaws has lead to the self decision making of the auto rickshaw drivers regarding the routes. This has resulted in the over utilization and congestion on the routes connecting the important parts of the city like railway station, main market, educational areas, recreational area, regional bus stops etc. These autos do not have proper location for stopping and picking the passengers. Random stopping of autos causes hindrance to other vehicles.

### **2. Inadequate parking lots and facilities**

The city does not have sufficient parking space dedicated for auto rickshaws which leads to the parking of auto rickshaws on the road sides or on street and eventually causing congestion. These informal and inadequate parking when clubbed with encroachments has lead to overcrowding of stretches, reduction in width of pavement, hindrance in traffic flow and also affects the aesthetics of road. These parking stands do not have basic amenities for operators. Most of the parking stand charges rupees 10 per day for parking during working hours.

### **3. Congestion**

The present traffic on the roads of Silchar is highly heterogeneous. Major modes running are autorickshaw, motorized two-wheeler, and private car. The high growth rate of auto rickshaws and personalized modes mostly two wheelers and cars added further problems to the passengers. Apart from highly heterogeneous traffic all intersection of the city are manually controlled by traffic police from 7 am to 8 pm, after that these intersections are uncontrolled.

### **4. Pedestrian Safety**

Pedestrian's safety and amenities is totally neglected in the city. No intersection is having proper facility for pedestrians to cross the roads. At core city area pedestrians are using roadway as footpath which is unsafe for them. Near major activity centers like shopping mall, railway station, bus stop, hospitals no footpath is provided for pedestrians. Since, pedestrians are using roadway for walking and on street parking also exists, these conditions extremely reduce the capacity of roadway section.

## **III. Surveys and Data Collection Methods**

Energy Auto rickshaw is fulfilling a need that neither public transport mode nor personal vehicles are able to fulfill in city. Our main objective is to find out the socio economic characteristics of the auto rickshaw drivers. Socio economic status is a construct that reflects one's access to collectively desired resources, be they material goods, money, power, friendship networks, healthcare, leisure time, or educational opportunities. [6] The basic socio economic status indicators are literacy rate, average household size, housing status (kutcha, semi-pucca, pucca), household type. As here we are assessing the status of autorickshaw operators so the household type is restricted to self employed only in non-agriculture sector. [7] Various locations have been finalized which are spread all over the city for conducting survey. Based on the objective of study, these following surveys have been finalized to conduct:

### **1. Traffic Volume Survey**

Traffic volume count survey was conducted at various locations of the city. The purpose of this survey are firstly, to find out the volume of different vehicles at each location and secondly, to determine modal split at each intersection of the city. Survey was conducted in morning peak hour from 9am to 10 am and evening peak hour from 5pm to 6pm at all specified locations. Survey was conducted manually with help of assistants. A format has been prepared to conduct the survey in which location, date, start time and end time, direction and road name was recorded. Survey was conducted separately in both directions of road section. As per information received from DTO office 8790 number of autorickshaws is plying on road in Cachar district. To convert the present volume of auto rickshaw in PCU/hr an equivalent PCU factor of 2 has been taken as per IRC 106 -1990 Guidelines for capacity of urban roads in plain areas.

### **2. Autorickshaw Operators Questionnaire Survey**

To understand the socio-economic status of autorickshaw operators questionnaire survey has been conducted. This survey was conducted when autorickshaw operators were resting at parking stand or when they were waiting for passengers. The survey has been conducted at all specified auto stands of Silchar city. Random sampling technique has been selected to collect representative sample for the survey. The questionnaire was prepared to fulfill the objective of survey.

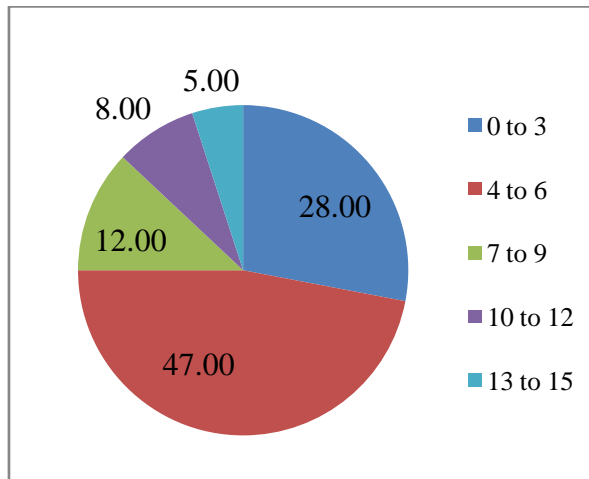
The questionnaire contained 20 questions. Question 1 to 5 are basic questions like age, gender, family size, earners and dependent in family, educational detail .Question 6 to 9 are about trips per day made by vehicle, working hours per day of operator, daily turnover in rupees, cost of maintenance of vehicle per month .Question 10 to 12 are about vehicular ownership, vehicle engine type whether 2 stroke or 4 stroke, mode of vehicle purchase by operator if owned by operator. Question 13 is about whether operator having valid driving license or not, trained by driving school or self learning. Question 14 is about the type of parking like on street or off street and about the facilities at parking lot like toilet facility, rest room facility, and dispensary facility. Question 15 and 16 are about the residential status of operators and house type of operator whether kutchha house or pucca house. Question 17 is about the operator's job type whether auto rickshaw driving is his permanent job or part time job. Question 18 is about the operation of the vehicle i.e. if it is under any union or independent. Question 19 is about whether his route whether fixed or flexible or both .Question 20 is about trips performed if it is shared or on-hired or both.

### **3. Vehicular Occupancy Survey**

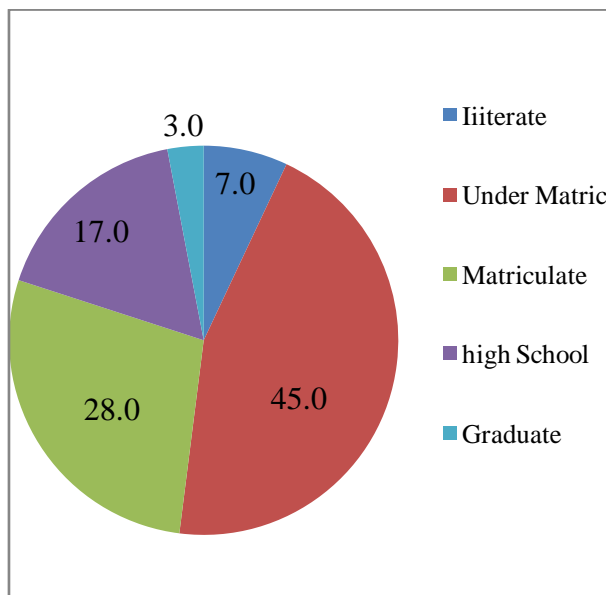
Vehicle occupancy survey was conducted to find out the passengers carried by the auto- rickshaw. Vehicle occupancy is used to describe how many persons are being transported by the particular mode counted or surveyed as traveling on different types of roadways, for different trip purposes or at different times of the day. The peak hours have been selected for the survey. All available modes have been surveyed. With the help of this survey the percentage share of urban passenger carried by autorickshaw had been determined. This survey was conducted for major roads of the city. Each mode was observed independently and average passengers carried at peak hours were recorded. This survey was conducted in morning peak hours and in evening peak hours. In case of public transport vehicles and cyclickshaw the driver is not consider as passenger but in case of private vehicle and two-wheeler driver is considered as passenger.

## **IV. Data Analysis and Interpretation**

Based on the survey many important facts were revealed. Most of the operators are from Silchar itself or nearby villages of the Silchar city. Most of the operators are from the age group of 21 to 30. Most of the operators are under matric as educational qualification .many operators have taken loan for vehicle purchase from private banks or under government scheme of "PRIME MINISTER'S ROZGAR YOJANA" (PMRY). Under this scheme financial assistance upto 1 lakh is provided for self employment. The educational qualification required is just 8<sup>th</sup> pass to get the benefit of this scheme. The house type of operators is not varying much as 41 percent having pucca house and 40 percent having kutchha house, rest are staying in rented house. Most of the operators having Assam house which is semi-pucca house. From the traffic volume survey it was found that 44 percent vehicle are auto rickshaw passing at major location of the city, followed by motorized two wheeler about 19 percent, followed by private car about 12 percent. From volume survey it has established that auto rickshaw is the major mode of urban passenger movement in Silchar.



**Fig 1:** Family size of operators in percentage.



**Fig 2:** Educational qualification of autorickshaw operators.

The vehicular ownership is 65 percent. The family size of the most of the operators is 4 persons to 6 persons. In most of the families operator is the sole breadwinner, other family members are dependent on him. Most of the operators running two stroke engine and petrol run autorickshaw. During survey it was found that most of the autos are not fit and causing pollution. The average working hours of the operators was found out to be 10 hours.

**Table 1: Socio-economic characteristics of autorickshaw operators**

Parameters	Range	In Percentage (%)
<b>Age Group</b>	15-20	10
	<b>21-30</b>	<b>36</b>
	31-40	33
	41-50	17
	51-60	3
	61-70	1
<b>Educational Qualification</b>	Illiterate	7

	<b>Under Matric</b>	<b>45</b>
	Matriculate	28
	high School	17
	Graduate	3
<b>Vehicular Ownership</b>	<b>Own</b>	<b>65</b>
	On Lease	35
	0 to 3	28
	<b>4 to 6</b>	<b>47</b>
	7 to 9	12
	10 to 12	8
	13 to 15	5
<b>Vehicle Engine Type</b>	<b>2 Stroke</b>	<b>74</b>
	4 Stroke	26
<b>Route Type</b>	<b>Fixed</b>	<b>56</b>
	Flexible	44
	Kutchaa house	40
	<b>Pucca House</b>	<b>41</b>
<b>Housing Status</b>	Rent	19
<b>Average monthly income</b>	<b>in Rupees</b>	<b>9737</b>

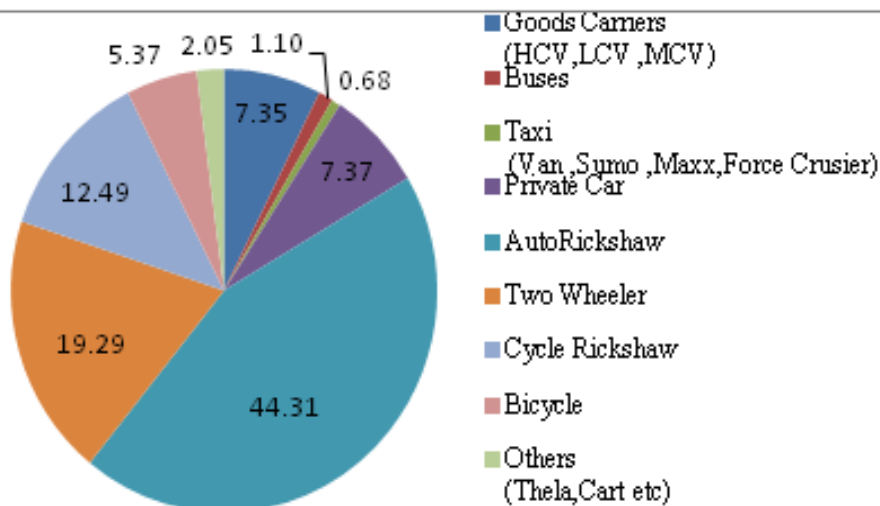


Fig 3: Composition of Peak Volume at major locations in percentage of total volume in PCU/hr

From vehicular occupancy survey the mode usage has been find out. The average occupancy of the particular mode multiplied by the volume of that mode will give us the average passenger carried by that mode.

## V. Conclusion

This study has established the role of autorickshaw in urban passenger movement in Silchar city. Most of the autorickshaw operators belong to low income group. They belong to the economically weaker section of society. Their main source of income is autorickshaw operation only. Maximum operators are sole income earner in his family. In addition to basic problems of livelihood of autorickshaw operators have other problems like non-availability of parking space at desired locations. All auto operators learned driving by themselves. Maximum autorickshaw are not in good condition and polluting the city air. Most of the operators are paying a good sum to their owner as lease amount and as repayment to loan provider. This sector is giving jobs to the unemployed educated youths. Government must take steps to make this sector regulated and organized. Government and NGO's may support autorickshaw operators financially as it generates employment to the unemployed youths of the society.

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