# Assessment of Infrastructure in Centre Zone of Surat City, Gujarat

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## Abstract

Urbanization has significant impact on socio-economical character, infrastructure requirement and transportation system in most of metropolitan cities in India. Geographical setting and land use patterns are also affected at the same time. Eventually these factors do influence on physical and social infrastructure in respect of purpose in spatial way as socio economic characteristics and settlement pattern differ from zone- zone. This paper focuses on these issues with reference to a fast growing metropolitan city of Surat in Gujarat. Spatial infrastructure characteristics and their assessment in various center zone of Surat city are discussed in length.
**Keyword- CBD area, AIMS, MIG**
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## I. INTRODUCTION

Urbanization has significant impact on urban activities and as well as on various infrastructure in cities and more so in metropolitan areas. Largely cities are experiencing the process of densification and spatial expansion. Urban infrastructure severely gets affected because of substantial gap between city growth and pace of provision of infrastructure facilities due to financial crunch and limited capacity of local governments. The assessment of infrastructure is carried out on the basis of survey in various zone of surat city. Here the assessment of infrastructure is representing in Centre zone of surat city.

Demographic profile of the city is quite impressive with very high decadal growth rate of 65 percent in last three consecutive decades. Nearly 45lakhs population is spread over 326sq. km. area.The decadal growth rate outside the CBD area is staggering 88 percent. Seven sector of the study area are shown in fig1.

## II. AIMS AND OBJECTIVES OF STUDY

This basic survey aims at studying the social and economic levels of households and the welfare of society. The household spending patterns and its income gives an accurate perception of the standard of living of the surveyed society. The Survey of Household Expenditure & Income has numerous objectives of which the most important are the following:
1) To define the relative distribution of infrastructure facility in canter zone of surat city.
2) To study the relationship between the household population, housing characteristics and its income as well as the relationship between the household expenditure and its income.
3) To analyse existing infrastructure facility in centre zone.
4) To identify social and economic viability of people of centre zone.

The type of the sampling which is taken by in this survey is mainly random sampling. The methodology of the survey is to randomly collect 30 samples per enumerator irrespective of the population of the zones. The net total samples in the zones are in variation as per the population of the zone. When we judge the survey by the city level scenario we get 600 samples. This report covers the zone level scenario of the Centre Zone of surat city.

## III. METHODOLOGY

The socio-economic survey is mainly done to assess the present state of the condition of the various infrastructure facilities that are provided by the administration to the people of the zone. The facilities provided may have some shortcomings due to the faulty maintenance or faulty usage or negligence. The negligence may be due to the general behaviour of the people or due to the surroundings or environmental factors.

The analysis parameters of the survey are segregated into the various infrastructure facilities available in the zone like water, drainage, fire-safety, education, health, recreation, etc. The survey questionnaire prepared by us contains pin-point questions to which can be responded by the common public and ultimate conclusion can be drawn out after the detail analysis.

The scope of the survey extends to the basic perception of the layman regarding the satisfaction level of the user to the various facilities. It is also aimed at the information to be collected to initiate the improvement the existing condition of the infrastructure.

Due to the collection of the various personal data of the household like the gender, marital status, age, literacy level; the information can be stored in a database and can be procured whenever the information is required for initiate a new scheme or a planning proposal.

The use of the software MS-Excel in the storage and analysis of data facilitates the easy access and utilities representation of the data.

The assessment and the final report of the zone-wise scenario of the existing infrastructure facilities will assist in the decision-making process of the administration. The formulation of the new-proposals in the zone may be made on the basis of the responses of the households to the critical questions.

The iota and quantum of the general live ability index of the population in the zone can be judged on the basis of the responses of the households as also the personal opinion of the enumerator. The enumerator must therefore be trained to frame the questions in such a way that he gets an unbiased response to the questions.

## IV. ANALYSIS OF THE INFRASTRUCTURE

On the basis of collection of data by survey and then the analysis of various characteristics is done and represent here in the form of chart

A. *General Information of the Household*
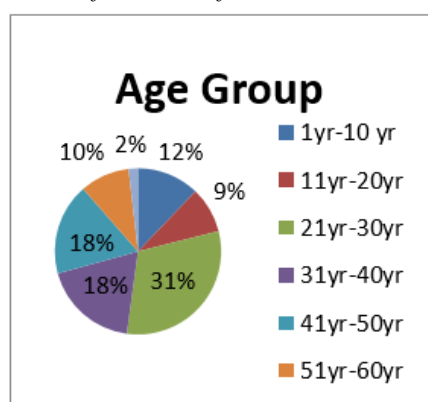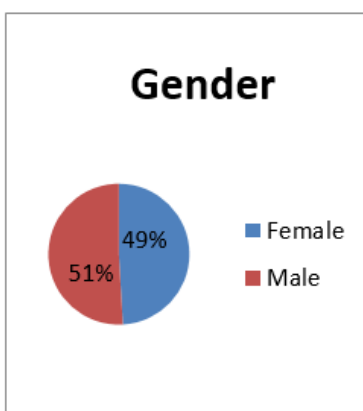


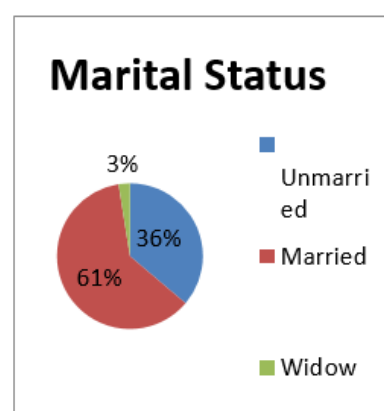Fig. 1: Age Group      Fig. 2: Gender      Fig. 3: Marital status

Fig1 represent the Age of the people in centre zone of surat city which shown that the all the age of people is exist in this zone i.e. from younger to older age group. From the chart it is clearly shown that the centre zone consists maximum Teen ager group (21yr-30yr) i.e 31%.

Fig2 represent the Gender of people in the centre zone of city which shown that this zone consists Male gender more than the Female gender i.e 51% male and 49%female.

Fig3 represent the Marital status of people live in this zone which indicate that maximum people are married in this zone i.e.61% people are married and only 3% people are widow.

Fig4 represent the Employment status of this zone which indicate that the 60%people are salaried i.e. they are depend on industry, commercial or any other activity for them earning. 30%people are self-employed that means they have their own source for earning. 1%people are economically inactive that means they are either old age or retire persons. 9%people are unemployed.
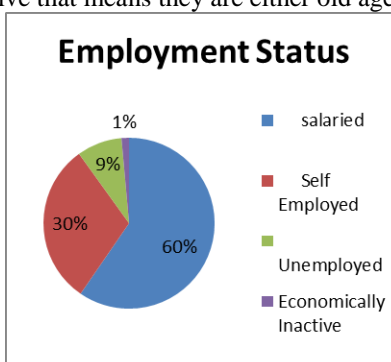


Fig. 4: Employment status
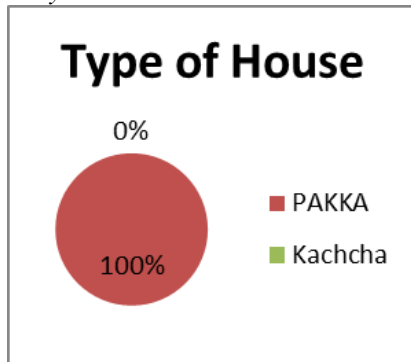
*B. Housing Facility Assessment*
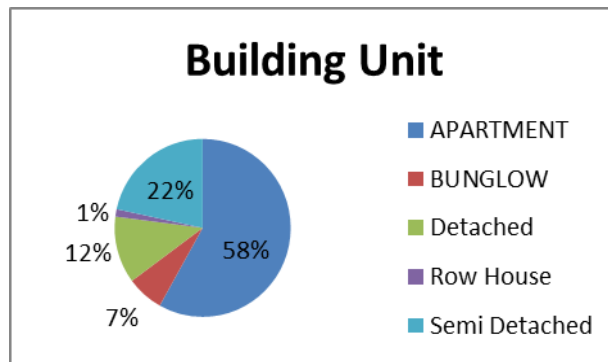


Fig. 5: Type of house



Fig. 6: Building units

Fig 5 represent the type of the houses exist in the centre zone of the city which is shown that in this zone of city all houses are in the form of pakka i.e. RCC houses are exist in this zone.

Fig 6 represent the pakka houses exist in different category of building unit in the centre zone. It is shown that most of people are living in the apartment (58%) which represent the people are more attach socially. apart from this the people of this zone are salaried so they all are the MIG people hence they are able to afford them settlement in the apartment type of house.
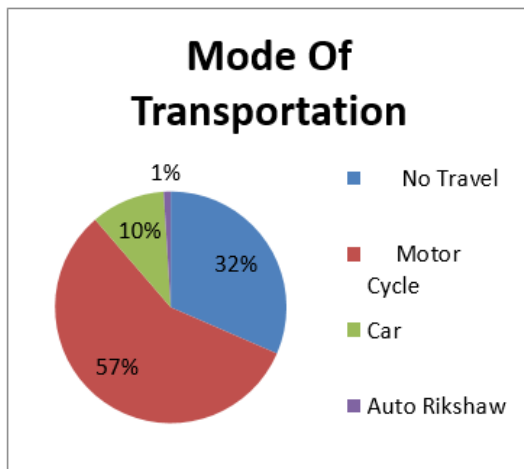
*C. Transportation Assessment*
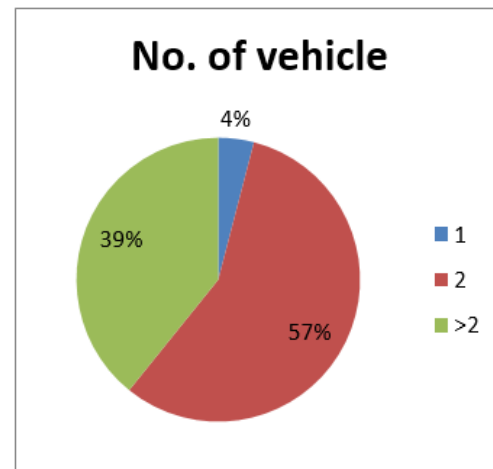


Fig. 7: Mode of transportation



Fig. 8: No. of Vehicle

Hence most of people of this zone are salaried and teenager they are originate them trip from this zone to various zone of the surat city for them purpose such as work, education, recreation etc.

Fig 7 represent the mode of transportation for them trip which is clearly shown that the most of people are use their own vehicle for them trip instead of mass transportation. The people of this zone mostly use motorcycle (57%) for transportation. Fig 8 represent that the 57% people of this zone having minimum 2vehicle/house. And 39%people having >2vehicle/house.
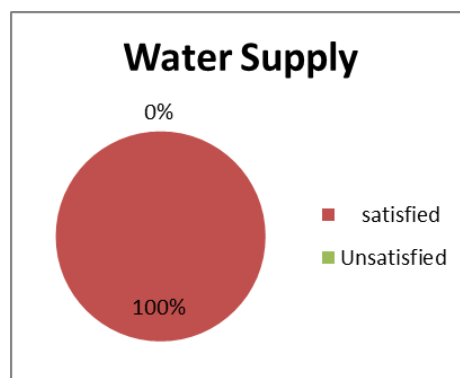
*D. Water Supply Assessment*



Fig. 9: Water supply Satisfaction level

As the Surat Municipal Corporation (SMC) having a 4water treatment plant to distribute water in the entire city along the periphery of tapi river and the centre zone is the original culture of surat city. Thus SMC supply water 99% in this zone and people are satisfied with supply of water by Surat Municipal Corporation.
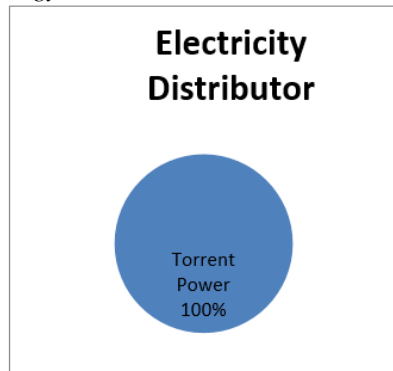
### E. *Electricity & Energy Assessment*
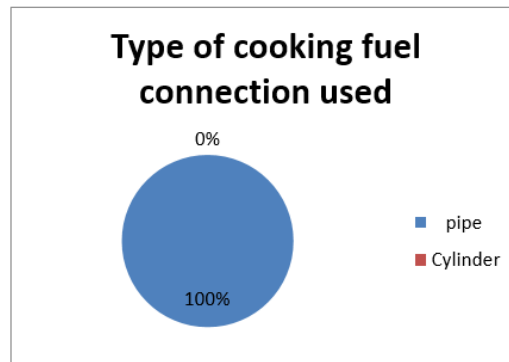


Fig. 10: Electricity distributor



Fig. 11: Cooking Fuel connection

In surat city the electricity is distributed by DGVCL (Dakshin Gujarat Vij Company Limited) and Torrent Power. As shown in Fig 10 the centre zone of city is completely covered by Torrent Power for electricity distribution.

In surat city the cooking fuel is supply by GGCL (Gujarat Gas Company Limited) in the form of pipe line and many others gas company such as: HP, Indian, Reliance etc. Supply in the form of Cylinder. As shown in Fig 11 the people of centre zone are 100% depend on pipe connection cooking fuel supply system.

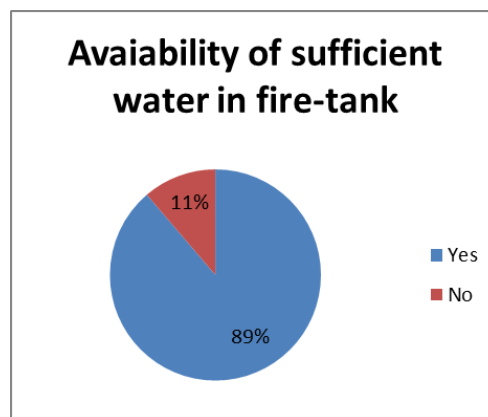### F. *Fire-Fighting Facility Assessment*



Fig. 12: Availability of water for Fire

As Fire is most dangerous hazard for any city now a day in most of buildings the separate fire tank is constructed for fire safety. Fig 12 represent that the in centre zone only 11% building having a no fire tank for firefighting. That means the zone is able to resist against the fire.

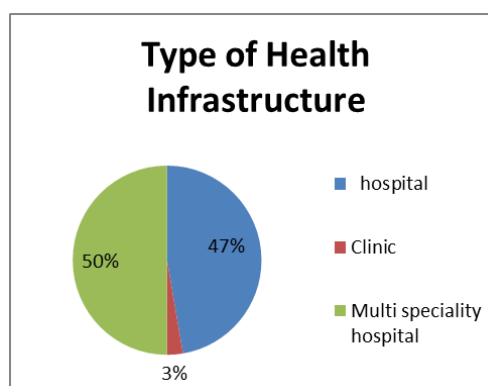### G. *Health Facility Assessment*



Fig. 13: Type of Health Infrastructure

Health Infrastructure is considered as a type of Social Infrastructure. In the centre zone various type of health infrastructure exist such as Hospitals, Clinics, Multi-speciality hospitals. But this zone consists 50% Multi speciality hospitals.
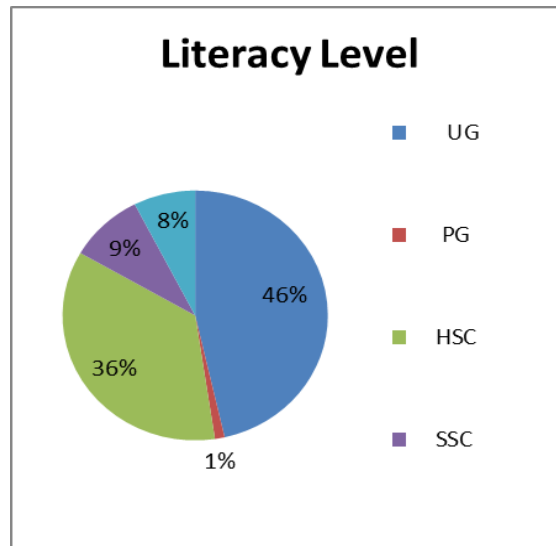
*H.   Education Assessment*



Fig. 14: Literacy level

As the people of this zone are mostly younger and teenager the literacy level of this zone is higher. Fig 14 represent that this zone has 46% people who are Under Graduate in different stream and 36% people have an education up to HSC level.

## V.   CONCLUSION

On the basis of the survey conducted for the central zone of Surat City, we can conclude that this zone consists of major proposition of population of age group 21 years-30 years (31%). It is observed that maximum section of people residing i.e 60 % of population is salaried with only 9% unemployment. 100% pakka houses are there in this zone.

Though the public facilities are good in this zone but people still prefer to use their private vehicles as 57% of population has motor cycle, 10% car ownership and only 1% of population prefer to travel by auto rickshaw.

Now, if we talk about infrastructures like energy and fuel then in this zone we have 100% Torrent power connections and piped gas connections in all the houses. 89% of the houses in this zone are equipped with fire water tanks for safety in case of breakdown of fire.

This zone consists of many multi-speciality hospitals (50%) which marks the great health facilities provided. Literacy level of this zone is also high with 92% literacy rate.

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