

“LAND USE PLANNING PROPOSAL ALONG CORRIDOR-1 OF SURAT METRO: A CASE STUDY OF AREA BETWEEN TWO METRO STATIONS, WOMAN ITI AND DREAM CITY”

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Abstract - Urbanization has prompted horizontal development of the urban communities accordingly making issues of increment of outing lengths and higher use of private vehicles of urban sprawl. This results into higher trip distance and more usage of private motorized vehicle, due to which problems like pollution and increment in demand of infrastructural facilities have generated. To address these issues, numerous urban areas have reinforced their public vehicle by creating mass transit systems (MRTS, for example, metro rails and Bus Rapid Transit Systems (BRTS). It is now, imperative to effectively utilize these systems by incorporating the land use with the transport infrastructure to make the urban areas livable, healthy and smart.

This study selected area enclosed between two metro transit stations along the surat metro line as the research objects which are Women ITI and Dream City

Key Words: (Land use planning, Transit Oriented development, MRTS, etc)...

1. INTRODUCTION

Transit Oriented Development makes pedestrian friendly areas and provides different, attractive communities with a strong sense of livability. It supports travel use and gives various alternatives of transportation choices. It empowers mixed land use. Reinforces and direct improvement towards existing networks and makes a scope of housing opportunities and choices.

There are numerous ways by which TOD advances sustainable development. Most importantly, TOD diminishes auto use by giving a transportation elective. Furthermore, land use planning and metropolitan plan improvisations

Concentrating jobs and other activities around transit improves the accessibility of the economically weaker section, i.e. the poor, as well as the disabled etc. Thirdly, centralization of exercises alongside urban area and land use planning likewise helps in reducing air pollution.

Convergence of activities and land use planning help in making a good conveyance of activities inside an area; however to be effective, the zone should be approachable and attractive to users.

An equilibrium is required between accomplishing the most efficient system and perceiving community objectives. Land use planning is the key system in accomplishing this equilibrium.

Unlike in India, the US and other such created nations have broadly utilized TOD as a planning methodology. In Indian urban areas, which are dense and urban, walking, cycling and transit turns into a transcendent travel alternative. In today's context, with the government investing in metro rail systems and bus rapid transit systems in many cities, TOD can be a suitable alternative for these urban communities

1.1 Aim

- This study focuses on the land use along the metro corridor, the aim is to propose an integrated and mixed land use in the study area enclosed between two metro stations of surat metro Woman ITI and Dream City along the corridor-1 of surat metro which would have great influx of population in future.

1.2 Objective

- To study the existing land use scenario of the study area
- To plan a mixed land use pattern according to the upcoming and ongoing projects in the study area
- To increase the liveability and living standards of the study area

1.3 Problem Definition

- The study area selected for this have major potential factors which would increase the influx of the population which are namely dream city project, woman ITI and a Diamond institute, and the metro corridor would act as a catalyst in the whole development process.
- The population influx would create a need for a properly planned mixed land use fulfilling the demands of various necessities such as housing, commercial hubs and amenities .

2. STUDY AREA PROFILE

Surat is a city located on the western part of India in the state of Gujarat. The city is located 284 Kms south of Gandhi Nagar, 265Kms of Ahmedabad and 289 Kms of Mumbai. The economy of the entire city is based mainly on two industries, the textile industries of manmade fibers/fabrics and the diamond cutting and polishing industry. It is one of the most dynamic cities of India with one of the fastest growth rate due to immigration from various parts of Gujarat and other states of India. Surat is one of the oldest inhabited cities in the world and densely populated with an average 13680 persons/sq.km accommodating about 44.67 lakhs people as per Census 2011.

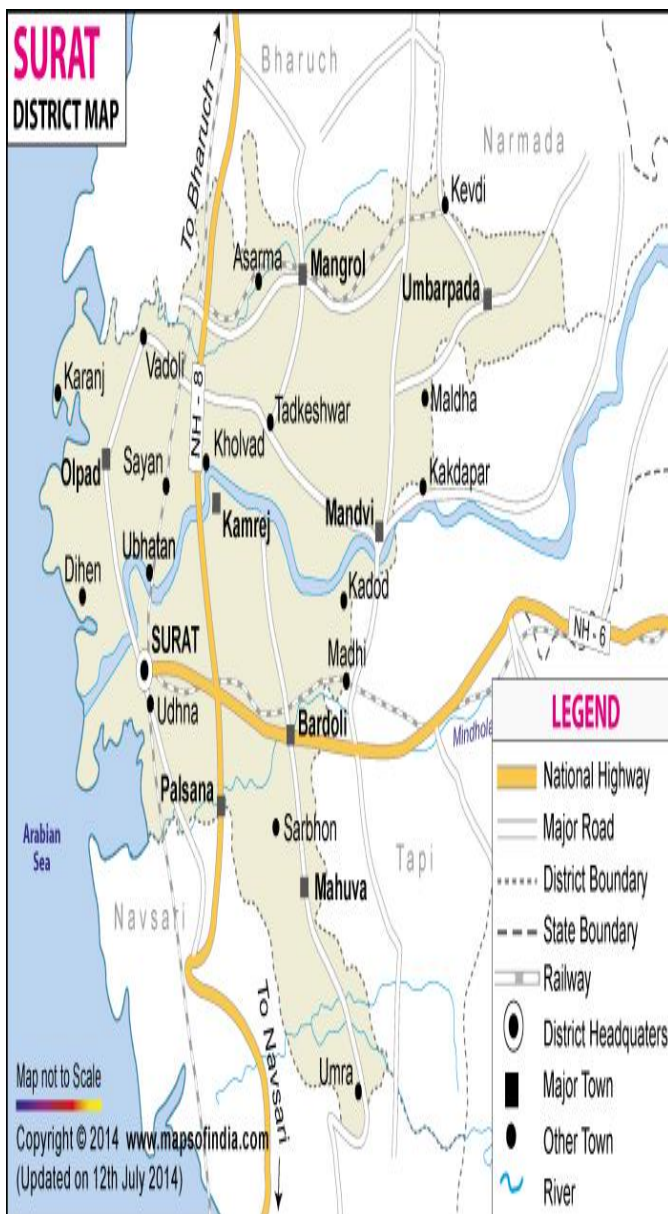


Figure 1 Surat district Map

Source: Mapsofindia

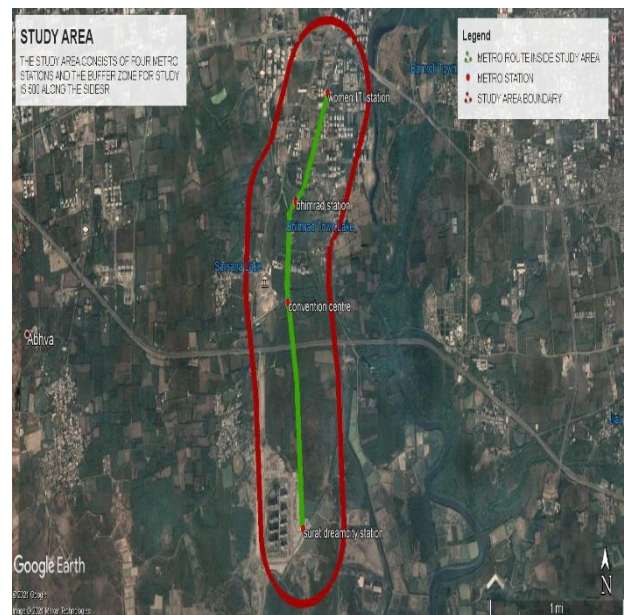


Figure 2: Study area with 500 meter buffer

S.NO.	CENSUS	POPULATION	GROWTH RATE (%)
01	1971	4,92,700	71.1% *
02	1981	9,12,600	85.20%
03	1991	15,19,000	66.40%
04	2001	28,11,614	85.10%
05	2011	45,91,246	63.30%

Table 1 Population growth of Surat

Surat's high population growth rate coupled with high economic growth rate has resulted in an ever increasing demand for transport creating excessive pressure on the existent transport system. With high growth in transport demand over the years, congestion on roads has been increasing due to phenomenal rise in private transport. Absence of an efficient full-fledged public transport system coupled with rapid growth in the use of personalized vehicle has led to high consumption of fossil fuel and increase in environment pollution. The existing network of public transport systems including dedicated BRTS needs to be strengthened further in order to cope-up with rising demand of transport system. The inter-city traffic volumes in Surat necessitated a full-fledged integrated multi model mass rapid

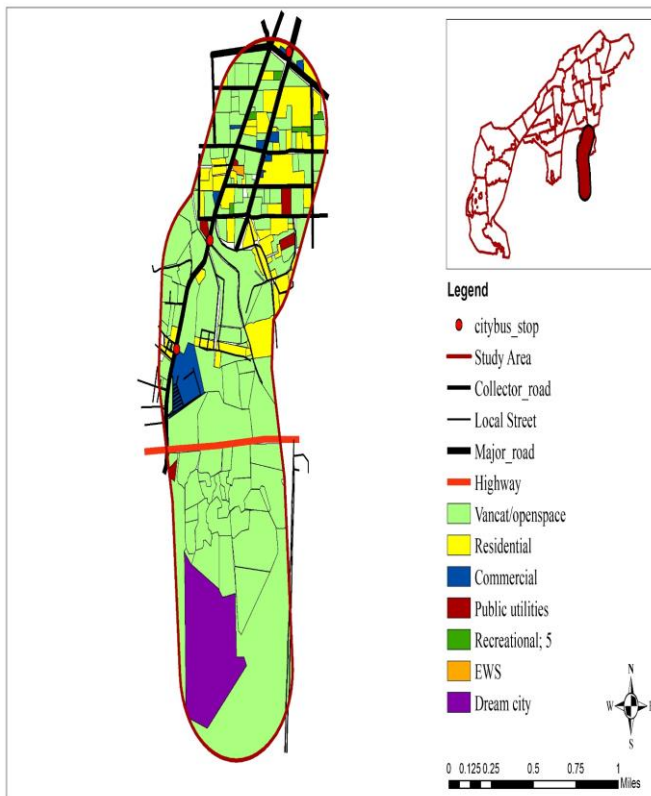


Figure 3: Existing Land use Land Cover map Of Area

Table 2 Existing Land use Distribution

Landuse	Area (HC)
Vacant/Openspace	260.25
Residential	45.78
Commercial	9.68
Public Utilities	3.28
Recreational	1.78
EWS	0.45
Dream City	33.42
Roads	36.36
Total	391

desires to build the Metro Rail System by adopting adequate environmental standards to provide for the protection of the people and the environment. It is proposed that the Metro project will be taken up in Phases. Under Phase I, the length of the alignment considered is 40.35 Km and there would be 38 stations. There are two corridors-Corridor-I is from Sarthana to Dream city and Corridor-II is from Bhesan to Saroli

3. Scope of Work

- This study will be limited to area enclosed between two metro stations namely Woman ITI and Dream City along corridor-1 of surat metro
- This study will be focusing on the Transit influence area which would be 500 meter radius of the two stations selected
- This study will be proposing a mixed land use in the TIA (Transit Influence Area)

4. Future Scope of Work

- The proposal would focus on planning an integrated land use which would be a rich mix of residential, commercial as well as recreational spaces which would fulfill the user needs and would enhance the transit influence area in context of mobility and more connectivity

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