

# "New Town in Town": An approach for Development of Fringe Village in Vadodara-Savli Corridor

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**Abstract**—The present concern of urban planners is related to recovering the challenges posed by the accelerated growth of metropolitan cities. It is realized that there is a very thin line between urbanization and sustainability. The level of urbanization and sustainability can be measured by many parameters like quality of life, physical environment, economic stability, and socio – cultural value of citizens. It is in this context that the future of housing needs to be defined on the basis of development principals, which articulate economic growth with social equity and quality of life. Presently, Vadodara is witnessing a tremendous growth of urbanization and its impact on the present settlement has been such that the development effort and the growth cannot be balanced. The local authorities have tried to prepare and implement development plans and various town planning schemes. Yet the rate of urbanization is so fast for the planning efforts to cope with. It is therefore desired that a new direction be created for controlling the growth and relieving the pressure on Vadodara-savli corridor. The aim of this study is to discuss concentration of urban population in large city, which requires huge housing demand. Sustain present and future housing growth by “New Town-in-Town”, a sustainable proposal for Vadodara city to make Vadodara a dynamic, beautiful, self-reliant and sustainable city.

**Keywords:** Fringe village, New Town, Housing, Sustainable Development, Urbanization, Vadodara-savli corridor

## 1. INTRODUCTION

India has experienced a high rate of urbanization since independence due to the industrial and economic growth-oriented policies. The concentration of urban population has been there in large cities. The potential of employment due to intense industrial and commercial activities in major cities have drawn migrants from rural area where no planning benefits have reached. Other than economic advantages, over-

urbanization has deteriorated the urban quality of life in general, created housing shortage with lack of adequate infrastructure and amenities.

Most of the developing countries like India are passing through a phase of rapid urbanization. From the last century, the magnitude of urban population in India is second highest in the world, first being China. As a consequence, there has been a rapid increase in pressure for creating habitat, housing and infrastructural facilities. This corresponds to a noticeable increase in the number of urban settlements in the country.

Vadodara is the third largest city in the Indian State of Gujarat, after Ahmedabad and Surat. Vadodara district has an area of 7512 km<sup>2</sup> and a population of 41.7 lakh.

## 2. OVERVIEW OF VADODARA

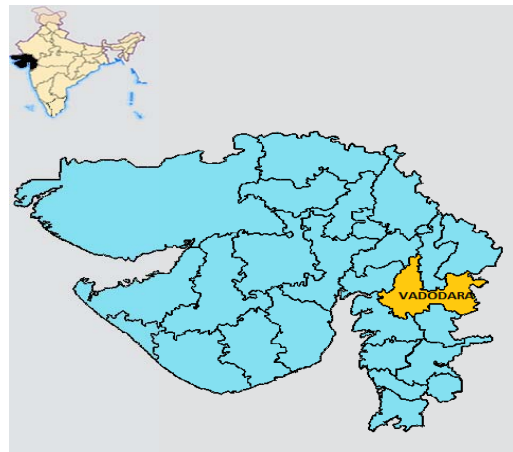


Figure 1 Map of Gujarat

### 3. WHAT IS A FRINGE VILLAGE?

Village or a settlement located on the immediate administrative boundary and ahead of a city.

#### The Characteristics of Fringe Villages are:

- Under the Pressure of development
- Urban Sprawl.
- Land Conversion and Subdivision
- Real Estate Development
- Population Growth Relatively High
- Occupational Changes
- Unauthorized Development

#### And Causes of Fringe Villages are:

- Availability of Land
- Low Land Prices
- Easy to Get Land Conversion and Construction Activity Permission
- Lack of Monitoring System
- Lack of Regulatory Authority
- Development Charges Relatively Low
- Locational Advantages
- Commutable Distance
- Corridor Development
- Industrial Development
- Existing Institutions
- Better Environment

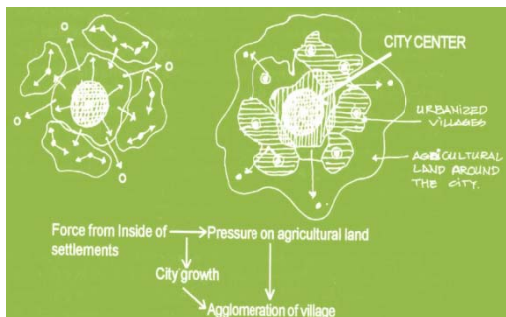


Figure 2: Fringe Villages

Cities are the engines for economic and social development of a country.

This is where the issue of development of fringe area and to sustain future housing demand come about, which is the key focus of this study.

It is very significant to study the appropriate method of planning and management to solve the problems and can lead these villages to have better quality of life.

### 4. HOUSING SHORTAGE IN INDIA

By 2050, 900 million people will be added to Indian cities. The rapid pace of urbanization owing to the rural-urban migration is putting a strain on the urban infrastructure in the

cities. As urban development takes place, a growing concern for India’s urban planners is the massive urban housing shortage plaguing the country. The shortage, prominent within the EWS (economically weaker sections) and LIG (lower income groups), is estimated at 18.78 million households in 2012.

India will need 25 million more affordable housing units by 2030. Fringe villages need to be developed so the pressure on the cities is relieved. This study is conducted for emphasizing this need.

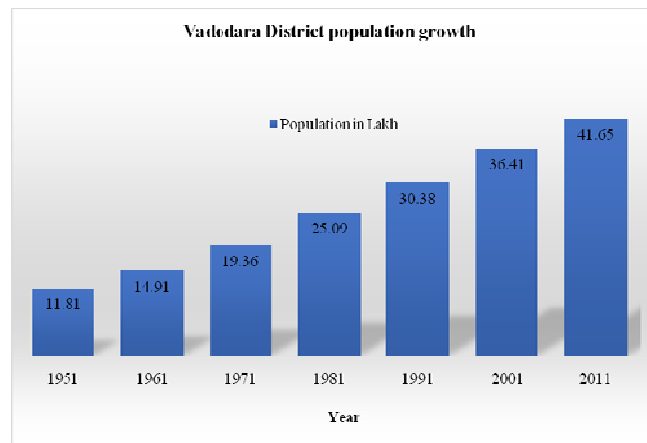
### 5. OBJECTIVES OF THE STUDY

To study Vadodara city profile along with fringe villages and to suggest planning proposal for new town in town for reducing urbanization effects.

### 6. STUDY AREA

Proposed site for “New Town-in-Town” is located in the extreme northeast corner of Vadodara district. Vadodara is located midway between Mumbai and Ahmedabad, in Gujarat, on the busy rail and road corridors and is one of the fastest growing cities in Asia.

Vadodara district has an area of 7512 km<sup>2</sup>. This Area is covered and divided into number of town planning (TP) schemes to reduce the load on the city.



### Why Vadodara?

The industrial clusters include Chemicals & fertilizers, Pharmaceuticals, Biotechnology, Cotton Textiles, Machine Tools, Glass, Engineering, Tobacco, Fisheries and Dairy. There are over 18,000 small scale industrial units in Vadodara, in which repairs & services units are maximum in numbers accounting nearly 5,713 units, 1,923 textiles, 1,615 metal works, 1,357 chemicals, 1,316 equipment’s machinery, 1,145 rubber & its products, 1,047 food products and 3,840 are misc. units. Other key small-scale industries include textiles, metal works, chemicals, equipment’s, rubber products and food products etc. 885 glass, ceramics & cement, 829 equipment’s related to electricity, 753 papers & its products, 601

nonferrous metals, 543 leather, 173 tobacco and 56 are misc. units.

The Delhi-Mumbai Industrial Corridor passes through Vadodara resulted in a key destination for attracting industrial investments.

Vadodara is the exclusive producer of Dolomite and Fluorspar in Gujarat offering scope for tremendous growth in the processing industries.



Figure 3: Delhi Mumbai Industrial Corridors

#### Support Infrastructure Facilities:

Vadodara is well connected to all major locations such as Delhi (1,028 km), and Mumbai (448 km) through Delhi-Mumbai Industrial Corridor (DMIC) and on National Highway No.8. NH 8 also connects Vadodara with Ahmedabad (111 km), Rajkot (294 km), Ankleshwar (84 km), and Surat (167 km), the major industrial centers of Gujarat. State Highway No. 6 also connects the district with Ahmedabad, Surat and Rajkot among other districts. India's first National Expressway is passes through Vadodara connects it with Ahmedabad (93 km).

Vadodara is also well connected to all major locations such as Delhi, Mumbai and Ahmedabad as well as with other districts of the State from where Broad gauge railway line passes through. Vadodara has its own domestic airport at Harni, which is well connected with four metro cities in India such as Delhi, Mumbai, Chennai, Bangalore and Ahmedabad.

Due to increase in industrial and economic growth and having many favorable conditions the concentration of urban population increases exponentially, this will lead to shortage in habitat, housing and infrastructural facilities in the urban area.

Sustain present and future housing growth by concept of New Town-in-Town, with a sustainable propose for Vadodara city to make Vadodara dynamic, beautiful, self-reliant and sustainable city.

## 7. PLANNING PROPOSAL

### (a) Site Selection

- Connectivity with Vadodara and the surrounding plays an important role for functioning of "New Town-in-Town".
- Site location is near to Tundav village, Vadodara.

- Distance from Vadodara railway station to tundav is 22.7 kms - about 35 mins.
- Distance from N.H .8 to tundav village, is about 15.7 kms.



Tundav (South-East)



Area = 29.53 Ha

Figure 4 Study area and Figure 5 Study Location

### (b) Land Use Guideline

For the Planning proposal Neighbourhood Norms has been use and also referred URDPFI guideline so each and every amenities should be in excisable to all stockholder.

#### • Planning, Designing And Detailing of Neighborhood

1. To create social contacts and physical unity between families of community.
2. To evolve a compact layout.
3. To provide a better environment with respect to beauty; health and convenience.
4. To provide the basic day – to – day requirements of our lives.
5. To enable a family unit to combine.
6. To make the provision for life without friction and to enhance the feelings of neighborliness among the residents.

#### The attributes for planning:

- a) Better service efficiency, good amenities
- b) Creating strong social community
- c) Helping to control growth of urban center
- d) Increasing future flexibility
- e) Exploiting resources of new areas
- f) Providing space for wanted uses
- g) Maintaining existing form
- h) Reducing migration
- i) Reducing pollution
- j) Improving equity

**Character of New Town-in-Town**

1. Concept of planning with reference to existing characteristics of Vadodara.
2. Social cultural impact on planning.
3. Urban form: changing urban pattern with reference to time scale.
4. Relief to old city: to permit reconstruction on new scale.
5. Physical planning based on above all aspects.

**(c) Land Use Plan**

Classification of land use plan shown in table and also propose land use pattern and their distribution are shown in table

**Table No 1 Simplified land use classifications**

Sr.No	Land Use	Classification.
a)	Residential	Primary residential
		Mixed residential
		Unplanned/informal residential
b)	Commercial	Residential shopping
		General business & commercial district centers
		Regulated markets
c)	Industrial	Service & light industry
d)	Public & semi public	Educational and research
		Medical and health
		Social cultural and religious
		Utilities and services, Cremation and burial – grounds.
e)	Recreational	Playgrounds/stadium/sports complex
		Parks & gardens-public open spaces
		Special recreational zone – restricted open spaces.
		Multi – open space
f)	Transportation & communication	Roads

**Table No 2 proposed land use pattern.**

Sr. no	Type of Zone	Requirements	Proposed	Proposed Area
		TCPO	%	(Hector)
a)	Residential	60-65%	47.07	13.61
b)	Road	13-15%	22.85	6.75

c)	Public & semipublic (school)	10-12%	13.21	3.9
d)	Organized open spaces	10-12%	13.07	4.16
e)	Shopping & Community building	01-03%	3.8	1.12
Total			100	29.54

**Table No 3 Proposed Land Distribution**

Sr. No.	BLDG & Form Type	Built-Up area Per dwelling unit.(sq.mt)	Plot Area (sq.mt)	F. S. I. Consumed
A. LIG				
1	Appt. Type: A	60.87	136.6	0.45
	Appt. Type: B			
2	Appt. Type: C	44.81	104.1	0.43
	Appt. Type: D			
B. EWS				
1	Appt. Type: E	43.64	109.9	0.40
	Appt. Type: F			
2	Appt. Type: G	44.24	87.55	0.51
	Appt. Type: H			
3	Appt. Type: I	31.2	66.86	0.47
	Appt. Type: J			

**8. CONCLUSION**

For channeling urban growth and avoiding continues pressure on the Vadodara city a New Town-in-Town is a one of the ideal solution with following consideration.

➤ **Location considerations**

The proposed site for new town-in-town “Tundav” is located at extreme South-East corner of the Vadodara. It is located near NH-8. It is about 15.7 km away from Tundav Village.

➤ **Land consideration:**

The development plan is a policy instrument and deals with land use zoning, structural road network and development control regulations.

There are large tracts of government owned land all over the VUDA area.

Land most suitable for residential township is kept reserved by VUDA for Housing.

Land suitability has been done in a qualitative manner (constraining and positive parameters)

### ➤ Physical infrastructure consideration

- **Water supply:** Augmentation of water supply from “canal water by creating underground tank and establish a zoned distribution network for efficiency.
- **Sewerage & waste water:** Provide collection network in phases as per requirement. For the longer term plan setup by local Governments.
- **Storm water drainage:** the impact of surrounding level of development, its climate and hydrological consideration, the discharge calculated that guides the requirement for provision.
- **Solid waste management:** Cleaning of the waste in appropriate and hygienic way to improve the quality of urban life, proper infrastructure for collection transportation and disposal of waste with suitable method.
- **Social infrastructure consideration:** Social infrastructure plays an important role in socioeconomic structure of the town deals with types of facilities which are educational, health, public and recreational.

### Salient Features of New Town-in-Town.

- Land parcel for town : 29.54 Hector
- Total population: 16,250
- Design density (town level): 550 populations per hector
- Categories: LIG & EWS
- Building form: low-rise Aptt.: Type:-A, B, C, D & E
- Road width: 24mt, 18mt, 12mt and 9mt
- Street width: 7 mt, 6.0mt.

### ➤ Consideration at the New Town-in-Town level.

- Provisions of standard neighborhood level primary and nursery schools for children within a radius of 1 km.
- Providing space for adequate number of daily house hold convenient shopping in the neighborhood.
- Adequate provision of parking for inmates and guests in proximate areas.
- Providing for milk booths, posts, clinics within 500m to 1 km radius.
- Locating future neighborhood near bus stops within 500m and 1 km respectively.
- Creating hierarchical systems of open spaces.
- Provision be made for amenities and facilities in public parks.
- Total segregation of vehicular and pedestrian tracks within a neighborhood.
- Minimize dust and noise population with proper foliage.

### ➤ Cluster level considerations

There appears to be great need for the residents to socialize among themselves. This is all the more applicable in India where the cultural and social value systems and the climate are such the people are generally not confined to their four walls. The cluster planning in a housing complex should enhance closer interaction among the residents. This could be in formal

community centers at one level on one hand, and at very intimate and informal scales at the other.

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