

# A Review Study on City Development Planning & Strategies for Vadodara

*Mayank Paliwal<sup>1</sup>, Prof. Jagruti Shah<sup>2</sup>, Noel Parmar<sup>3</sup>, Jenil Jani<sup>4</sup>*

<sup>1</sup>PG scholar, Infrastructure Engineering & Technology B.V.M Eng. College Vallabh Vidyanagar, Gujarat, India.

<sup>2</sup>Assistant Professor, B.V.M Engineering College Vallabh Vidyanagar, Gujarat, India.

<sup>3</sup>PG scholar, Infrastructure Engineering & Technology B.V.M Eng. College Vallabh Vidyanagar, Gujarat, India.

<sup>4</sup>PG scholar, Infrastructure Engineering & Technology B.V.M Eng. College Vallabh Vidyanagar, Gujarat, India.

---

## *Abstract*

This paper critically reviews the entire city plan-making process adopted in the city of Vadodara, Gujarat, India. The main aim is to perform a review of the process to establish its various strengths as well as weaknesses. It has also been shown that the Vadodara Development Plan does not show much analytical rigour along with transparency and also there is deficit of clarity on how the final plan was finally adopted. This lack of connection between objectives and the ways to attain it is also shown. It is believed that such a critical review would be of great interest to the planners in India as well as in other developing countries. Apart from that, it is also aimed to promote and formulate a more analytical and scientific approach to planning.

**Keywords:** City development plan, Urbanization, Development

## **INTRODUCTION**

The paper reviews the methods adopted with the particular attention to estimating population and land requirements. The paper refers to the development plans for horizon years 2011. The next urban development plan would be for 2011 and its preparation will commence by the end of 2001.

### **Components which are Important for CDP**

- Water Supply System
- Sewerage System
- Storm Water Drainage System
- Solid Waste Management System
- Roads and Street Lighting
- City Beautification Garden Department and Tree Authority
- Slums and Urban Poor's in City
- Land Use and Growth Management
- Urban Transport

### **Objectives**

- To review existing CDP of any city of Gujarat
- To recommend strategies for enhancing of effective CDP

### Need of development plan

- Development of industries in a systematic way
- Discourage the unscientific way growth
- Serves an overall picture and program for the future development
- To offset the evils which have come up due to overcrowding of population such as acute shortage of houses, traffic congestion, inadequate open spaces and insufficiency in public amenities, etc.

### Urban scenario related to urban growth

- Population in urban area
  - 2001-28.53% of census
  - 2011-31.16% of census
  - 2050-50% of census approx.
- Total \$640.2 billion are needed for urban infra until 2031, According to the Government of India's High-Powered Expert Committee (HPEC) for investment in urban infrastructure and services if India is to maintain and accelerate economic growth.
- But The funding gap is estimated at \$80–110 billion.

### Background of Vadodara City

Vadodara city, the third largest city in the state of Gujarat, with an area of 149 sq kms and a population of 13.06 lakh residents as per 2001 census. At the time of country's independence Vadodara had attained the status of an education and cultural centre of Western India. Post independence, the city witnessed quantum industrial and demographic growth with the city infrastructure supporting this growth. However, macro economic developments and growth of neighbouring urban centres like Surat and Ahmedabad has resulted in an economic slowdown of Vadodara city in the last two decades.

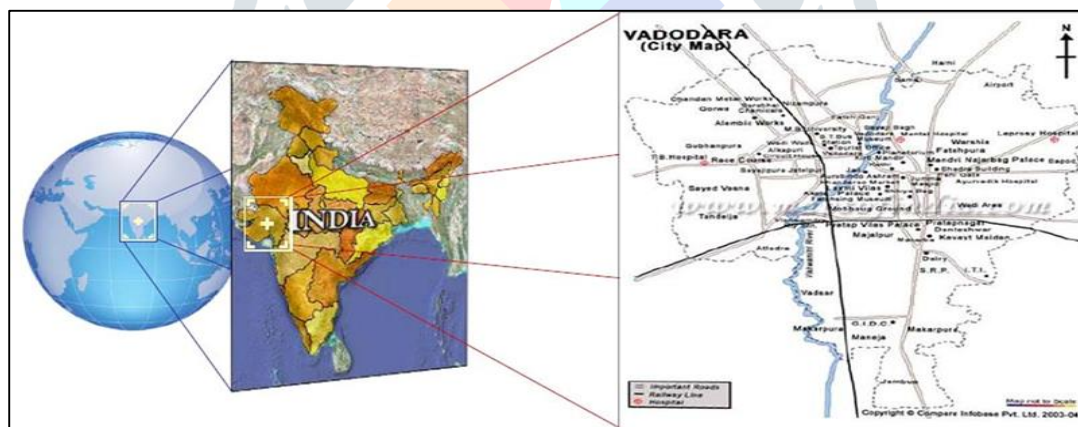


Figure 1 Location of Study Profile

### There are various reasons for the slowdown in the economy of Vadodara.

- City has not been able to extend its municipal limits to urbanise the nearby areas, the city limits also excludes mega industrial set-ups of IPCL, Gujarat Fertilisers, refinery etc.
- City has not seen any investments in setting up administrative centres within the city.
- About 40% of industrial undertakings in industrial areas have are closed partially due to economic reasons, ageing workforce, lack of skilled manpower and lack of entrepreneurship in reinventing themselves in the wake of globalisation of Indian economy.
- Poor transport system and its management.

## SWAT ANALYSIS

### STRENGTH

- Historical famous as an Educational centre
- Financial stability
- Strong connectivity
- Diverse industrial base

### WEAKNESSES

- Geographical location
- Absence of mass transit system
- Degrading quality of education

### OPPORTUNITY

- Knowledge centre
- Canters of excellence
- Education
- Heritage tourism

### THREATS

- Bound by growing economies of Ahmedabad and Surat
- Closure of Industries
- Declining people base

## SERVICE DELIVERY BY THE VMC

**Water Supply:** The city gets water from radial wells in River Mahi, tube wells in River Mahi, from Ajwa Lake and also from tube wells scattered in the city. At present the water supply of the city is 270 MLD. The surface water sources supplies almost 30 % of the water supply. The city has two treatment plants, which treats water only from the Sayaji Reservoir (Ajwa). Water from underground sources is not treated but the supplies are chlorinated before supplying. The city has a water distribution network of 700 kms, which covers 75% of the total area.

**Sewerage:** The sewerage system consists of an underground piped network, five sewage-pumping stations, 35 auxiliary pumping stations five treatment plants and disposal facilities for the treated sewage. The city is divided into three zones with a total length of 535 km of sewerage network and the total sewerage generated is about 215 MLD. The present area of Vadodara is 149 sq. kms. of which only 82 sq. kms. (55 %) is covered by the sewerage system. This serves around 65% of the total population.

**Solid Waste Management:** Of the 550 tons of waste generated every day, around 484 tons per day is handled. Door to door collection has been started in 45% of area spread over all the wards. Of the total waste generated in the area, around 60% is generated from the residential areas while 22.5% is from offices, markets, hotels and commercial places. Rest of the waste is construction and industrial waste.

**Storm Water Drainage:** Most of the storm water is drained into the river either through natural drains or through storm water drains provided by VMC. The city has five major natural kaans (rivulets) and 19 lakes in and around the city limits. The storm water drains in the city cover about 45 % of the total area (49 sq kms) and about 48 % of the total population. The city has a total of 199 km of storm water drains of which 97 km is underground piped drainage.

**Slum development:** The city of Vadodara has 336 slum pockets with a population of around 2.57 lakh which is approximately 20% the total population. The slums lack facilities of proper drainage, roads and sanitation. Most of the slums, although may have water supply do not have the proper drainage facility. The sewage generated is discharged out into open lowland or into the nearby natural drain that ultimately pollutes the river.

**Roads, Public Transport System and Parking:** The city has three flyovers and railways under bridges each. The river Vishwamitri has 11 bridges interconnecting the city areas. The road network within the city is well developed in almost 70% of the area and caters to around 80% of the city's total population. More than 80% of the roads are surfaced of which most of them are black topped while 19% of the roads are earthen. Also, the increased vehicular population has resulted in increased vehicular traffic on the roads. The major roads and intersections experience traffic congestion during peak hours. The present vehicle population of one million is expected to grow to 1.5 million by the year 2011. The high growth projected is due to the fact that the mass transportation system is inadequate and inefficient. Increase in vehicular population will further create problems of pollution and parking. Currently basements of buildings are used for parking resulting in traffic. Also, absence of pedestrian facilities results in traffic congestion and inconvenience to public.

## SUGGESTION

**As per shown the given facility by the VMC followings are the suggestions**

- VMC can Implement the new techniques for the Solid Waste Management for proper waste management.
- Optimum use of land for compact urban development of the city.
- VMC can use transit oriented development for better development of roads and for less congestion and for less parking problems.
- They can implement the different government missions and yojana for slum related development.
- They can use software's like SEWER GEMS-STORM CAD for drainage of storm water.

## CONCLUSION

By this we can conclude that, for better city development VMC have to implement this kind of suggestions. But before applying that, VMC have to check the feasibility about all of the project and do better analysis for accurate work, and that implementation must should be sustainable.

## REFERENCES

- City Development Plan – Greater Visakhapatnam
- City Development Plan – Udaipur
- City Development Plan – Chandigarh
- City Development Plan – Patna
- Jawaharlal Nehru National Urban Renewal Mission, city development plan, pimprichinchvad
- The Future of Urban Development & Services: Urban Development Recommendations for the Government of India- World Economic Forum
- The Ahmedabad urban Development Plan making process: a critical review
- Vadodara Municipal Corporation

### Websites

- [www.proptiger.com](http://www.proptiger.com)
- [https://vmc.gov.in/development\\_plant.aspx](https://vmc.gov.in/development_plant.aspx)