

# Impact of GIFT City & Brief Study of it's Infrastructure

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## Abstract

Gujarat International Finance Tec-City (GIFT) is an International Financial Service Center (IFSC) which is currently under-construction. It is a central business district located between Ahmedabad and Gandhinagar, along the river Sabarmati, in the state of Gujarat. It will be India's first global financial and IT hub of its kind. The master plan of this Green Field Development incorporates its planning along River Sabarmati. It features to ensure that all the services in relation with the connectivity, technology, communication, quality of life and the business environment are established and sustained. All these concepts can be replicated in Smart Cities across India

**Keywords:** Gift City, Smart City;

## INTRODUCTION

GIFT City at its core, along with an International Financial Service Center is also a Smart City. The core features of a Smart City as shown in the figure are: Sustainable buildings, energy efficient, easy availability of basic utilities, efficient transportation system and planning, telecommunication facilities and overall safety. GIFT City comprises of all of these features along with its status of a Central Business District.

## OBJECTIVES

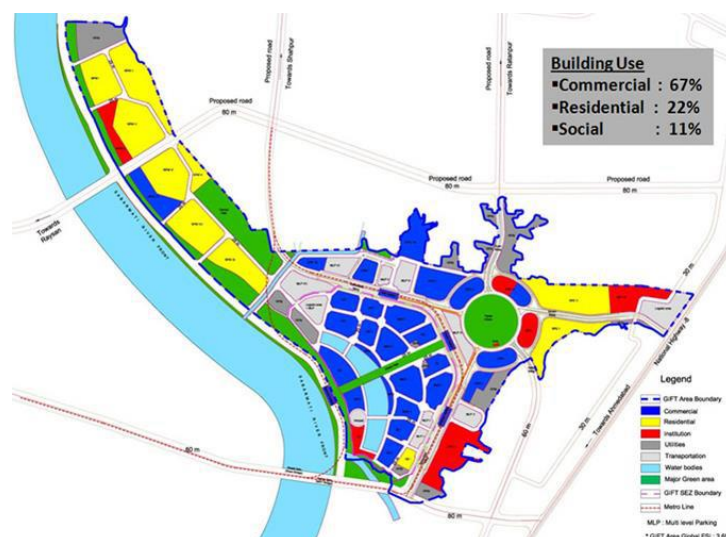
- To study the impact of GIFT City and its key physical Infrastructure.
- To understand the various Infrastructure facilities which could be further incorporated into the many Smart City projects of India.

## STUDY AREA PROFILE

GIFT is planned as a financial Central Business District (CBD) between Ahmedabad and Gandhinagar. It is designed as a hub for the global financial services sector. More particularly, state-of-the-art connectivity, infrastructure and transportation access have been integrated into the design of the city. [2] The following figures show the location and the land use distribution of GIFT City.



**Fig. 1: Location of GIFT City**



**Fig. 2: GIFT City Land Use Pattern<sup>[6]</sup>**

**Table 1: GIFT City basic parameters <sup>[2][6]</sup>**

Parameter	Quantity
Total land area	3.58 sq. km.
FSI	3.65
Greenbelt	1183 thousand sq. m
Height of tallest building	400m

## NEED & IMPACT OF GIFT CITY

The need of setting up the GIFT City is to develop a world class smart city that becomes a global financial hub with the development of an International Financial Services Centre (IFSC). As a result, GIFT is attracting domestic and international financial services and IT/ITES sectors. <sup>[3]</sup> The rate of migration from rural to urban areas is increasing across the world day by day. By 2050, around 70% of the people will be living in cities and India is no exception in this regard. This calls for a need of Smart Cities. GIFT City, being the first Smart City of India, can act as a guide for further development.

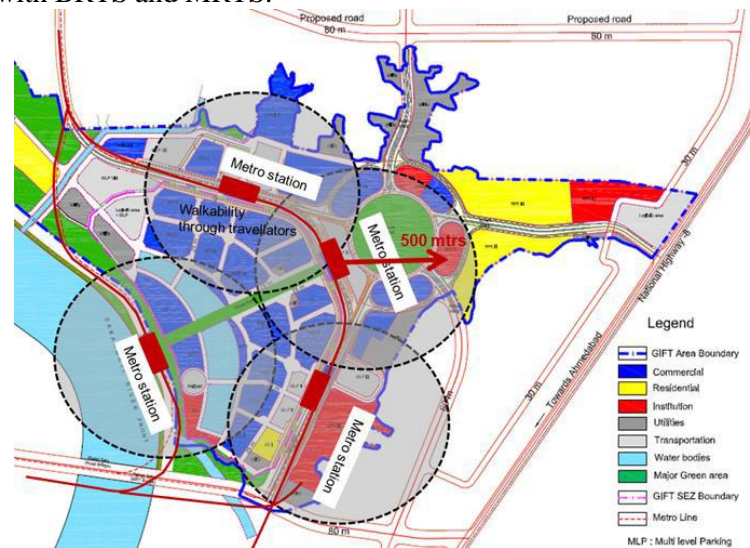
In terms of scale and sheer physical scope, GIFT is being designed to be at or above par with presently acknowledged globally benchmarked financial centers such as Shinjuku (Tokyo), Lujiazui (Shanghai), LaDefense (Paris), Dockyards (London). GIFT City has two main features (1) a Smart City and (2) a Global Financial Hub. The city is likely to see two financial zones, one domestic and the other international. The Central Business hub expects to generate 5 lakh direct and 5 lakh indirect jobs within its enormous infrastructure. Planners behind GIFT initially reckoned that 30,000 – 40,000 people would be residing in this Smart City by the end of 2015; which will reach to 60,000 – 80,000 by the end of 2024. The World Trade Centre, State Bank of India and Tata Communications will be setting up units at GIFT City.

## GIFT CITY INFRASTRUCTURE

### Transportation Infrastructure

GIFT City aims at achieving zero percent accident rates. For this, along with proper geometric design of roads, there also exists segregation of the vehicular traffic from the pedestrians. Transit oriented development is adopted here, which is a type of community development that includes a mixture of housing, office, retail and/or other amenities integrated into a walkable neighbourhood and located within a half-mile of quality public transportation, along with providing 4 multilevel parking. Also a modal split of 10:90 is targeted which means that 90 out of 10 people would use

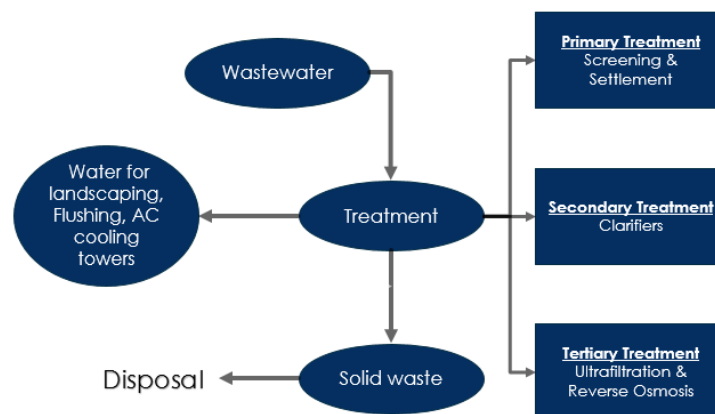
means of public transportation, reducing the overall carbon emission. Further, the city would be well connected with BRTS and MRTS.



**Fig. 3: Transit oriented development<sup>[6]</sup>**

## Water Infrastructure

The aim of GIFT City is to provide 24x7 drinking water to all. The total quantity of water required is estimated as 20 MGD. Main sources of water in GIFT City are the Narmada main canal along with utilizing water stored from various rain water harvesting techniques. Samruddhi sarovar, an artificial water body to be constructed of 1.2 km in length can also be used as a 15 day water storage for the city in case of shortage during any time. <sup>[4][5]</sup> The resulting wastewater which would be generated shall all be collected and treated on the principle of Zero Liquid Discharge. The wastewater shall be treated in three steps: Primary, secondary & reverse osmosis. The treated water then can be utilized into toilet flushing & landscaping works.



**Fig. 4: Wastewater disposal flow diagram**

## Power

A 10 MW solar plant has been installed within the city on pilot study <sup>[2]</sup>. As the development of city continues, further plants of similar capacities will be installed. Total demand has been estimated as 740 MW for which underground cabling will be provided for power distribution. Total power plant capacity to be setup is equal to 1000 MW and 200 MW of emergency gas based energy which will be fully automated through a central control system. This will provide 99% reliable and efficient energy which is equivalent to 5.3 mins/annum of power cuts. <sup>[1]</sup>

### District Cooling System

District cooling delivers chilled water to buildings like offices and factories needing cooling. In winter, the source for the cooling can often be sea water, so it is a cheaper resource than using electricity to run compressors for cooling. Alternatively, District Cooling can be provided by a Heat Sharing Network which enables each building on the circuit to use a heat pump to reject heat to an ambient ground temperature circuit. <sup>[5]</sup> A district cooling system of 3.25 lakh Ton will be installed at GIFT City. <sup>[6]</sup> Benefits offered by it over traditional air conditioning are: Reduces vibrations, maintenance cost, energy consumption, noise generation and is hence more eco-friendly.

### Waste Management

The projected waste quantity of GIFT is 488 TPD. It aims at minimizing the impact on environment, human intervention, space requirement, and less impact on health hazard. The GIFT city has automatic collection and transportation system. In this computer controlled system, the waste is being thrown into the disposal chute, and the waste is sucked through pipes at speed of 90 km/hr. The Plasma Gasification Technology is used for the waste treatment. <sup>[2]</sup>

### CURRENT STATUS AS OF MARCH 2018

*Table 2: Current Status of GIFT City*

Infrastructure	Current status
Building	GIFT One & GIFT Two - 28 storeys each: Completed Signature - 16 Storey: Completed Towers of Brigade - 12/17 floors completed World Trade Center - 13/28 floors completed Tower A - 6 floor slab completed Tower B - 23 floor slab completed Tower C - Work not started Tower D - 6 floor slab completed
Road	Up gradation of access road and the construction of 5 km of sub-arterial road is completed. Request for Proposal (RFP) for construction of arterial road is under process.
Water	WTP has been commissioned STP under construction
Direct cooling system	Work assigned to ETA Engineers Pvt. Ltd.
Automated waste collection system	Work assigned to Envac
Samruddhi Sarovar	RFP is under preparation
Multilevel parking	Tenders are prepared, selection of contractor is in progress
Hospital	Sterling Addlife India Limited, design & architectural specification are under finalization
School	ICSE School, constructed
Hotel	Two 4 star hotels are currently being planned
Fuel Station	Total two fuel stations are planned. One developed by Indian Oil Corporation Ltd. (IOCL) is operational

## FINDINGS

GIFT City after its completion has immense potential in boosting the nation's economy. In this report we have seen the various facilities to be provided at GIFT City and these state-of-the-art Infrastructure facilities sets a benchmark for the rest of Smart City projects to achieve along with being a prototype for development of other smart cities.

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