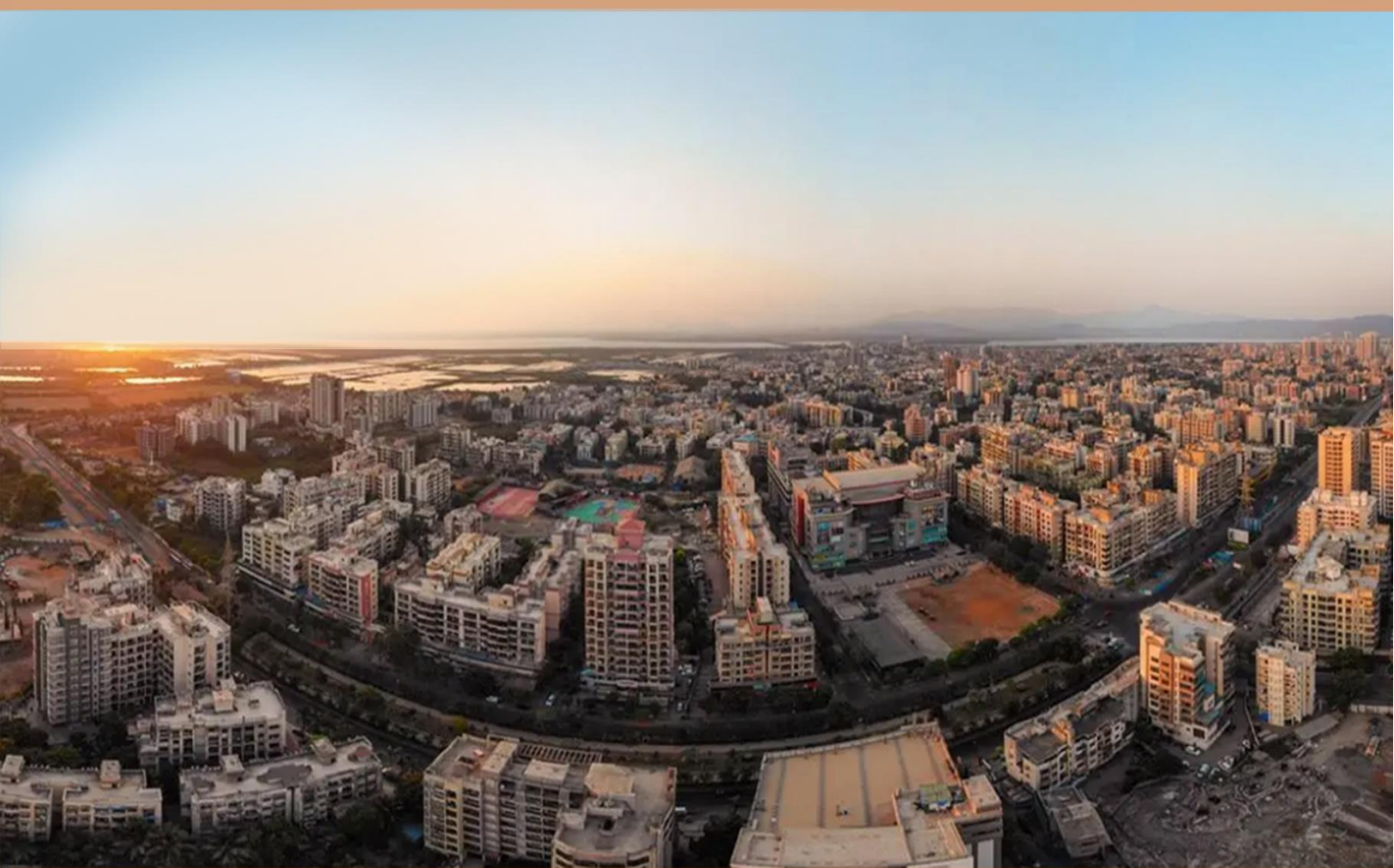


DRAFT REVISED DEVELOPMENT PLAN

MIRA BHAYANDAR

2017-2037





MIRA BHAYANDAR MUNICIPAL CORPORATION

**DRAFT REVISED
DEVELOPMENT PLAN
OF
MIRA BHAYANDAR**

Published U/S 26 (1) of the MR & TP Act, 1966

Officer Appointed U/s 21(4A)

Draft Revised Development Plan of Mira Bhayandar

&

Assistant Director of Town Planning, Thane

Prepared by



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LIST OF ABBREVIATIONS

MBMC	Mira Bhayandar Municipal Corporation
MMR	Mumbai Metropolitan Region
MMRDA	Mumbai Metropolitan Regional Development Authority
MCGM	Municipal Corporation of Greater Mumbai
TMC	Thane Municipal Corporation
KDMC	Kalyan Dombivali Municipal Corporation
BNMC	Bhiwandi Nizampur Municipal Corporation
NMMC	Navi Mumbai Municipal Corporation
CIDCO	City and Industrial Development Corporation
DP	Development Plan
NH	National Highway
SH	State Highway
WEW	Western Express Way
MBMT	Mira Bhayandar Municipal Transport
MRTS	Mass Rapid Transport System
IWT	Inland water Transport
MR&TP	Maharashtra Regional and Town Planning Act
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
SPA	Special Planning Authority
DP	Development Plan
AMSL	Average Mean Sea Level
HH	Household
SC	Schedule Cast
ST	Schedule Tribe
CRZ	Coastal Regulation Zone
ELU	Existing Land Use
DGPS	Differential Global Positioning System
TILR	Taluka Inspector of Land Records
GIS	Geo-information System
GCP	Ground Control Point
OD	Origin Destination

IRC	Indian Road Congress
OC	Outer Cordon
ECP	Equivalent Car Space
PCU	Passenger Car Unit
PTA	Public Transport Accessibility
MSRTC	Maharashtra State Road Transport Corporation
ESR	Elevated Storage Reservoir
STP	Sewage Treatment Plant
MRF	Material Recovery Facility
PO	Post Office
MIDC	Maharashtra Industrial Development Corporation
SGNP	Sanjay Gandhi National Park
AQI	Air Quality Index
RSPM	Respirable Suspended Particulate Matter

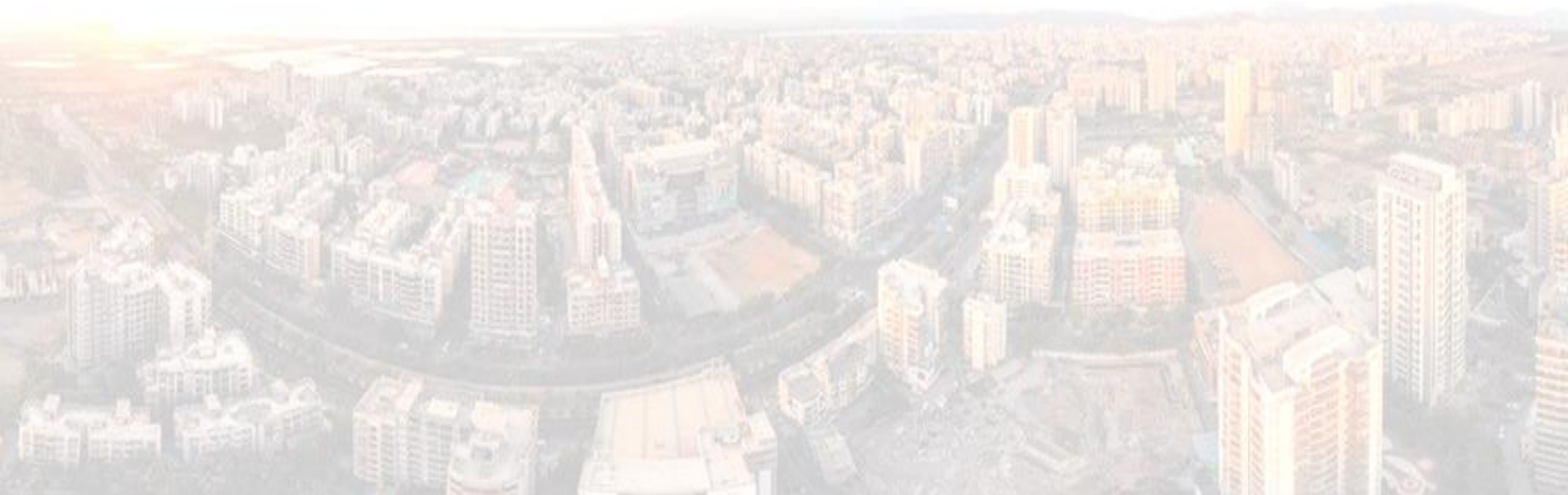


PART 1

EXISTING SITUATION

CHAPTER 1

PLANNING AREA AND REVISION PROCESS



1 PLANNING AREA AND REVISION PROCESS

It is Planning Authority's statutory obligation to prepare a Development Plan. Section 38, MR&TP Act 1966 leads the Planning Authority, to '*revise the Development Plan, either wholly, or the parts separately after carrying out, if necessary, a fresh survey and preparing an existing land use map of the area within its jurisdiction*'. The act also specifies that any Development Plan must be following the provision of a Regional Plan. This suggests that the Regional Plan is ideal, and its broad assumptions and prescriptions will direct the cities within that region.

Urban Planning is a local responsibility as per the Constitution (seventy-fourth) Amendment Act. The Twelfth Schedule of the Indian Constitution, inserted along with the passage of the Constitution (seventy-fourth) Amendment Act lists *urban planning including town planning*' as the very first function of Urban Local Bodies (ULB). In addition, two other functions regarding the regulation of land-use and construction of buildings and planning for economic and social development are listed at numbers two and three, both linked to the Development Plan.

In the case of Mira Bhayandar, the Government sanctioned part Development Plan in the year 1997, and the remaining part was subsequently sanctioned in 2002.

1.1 Planning Area

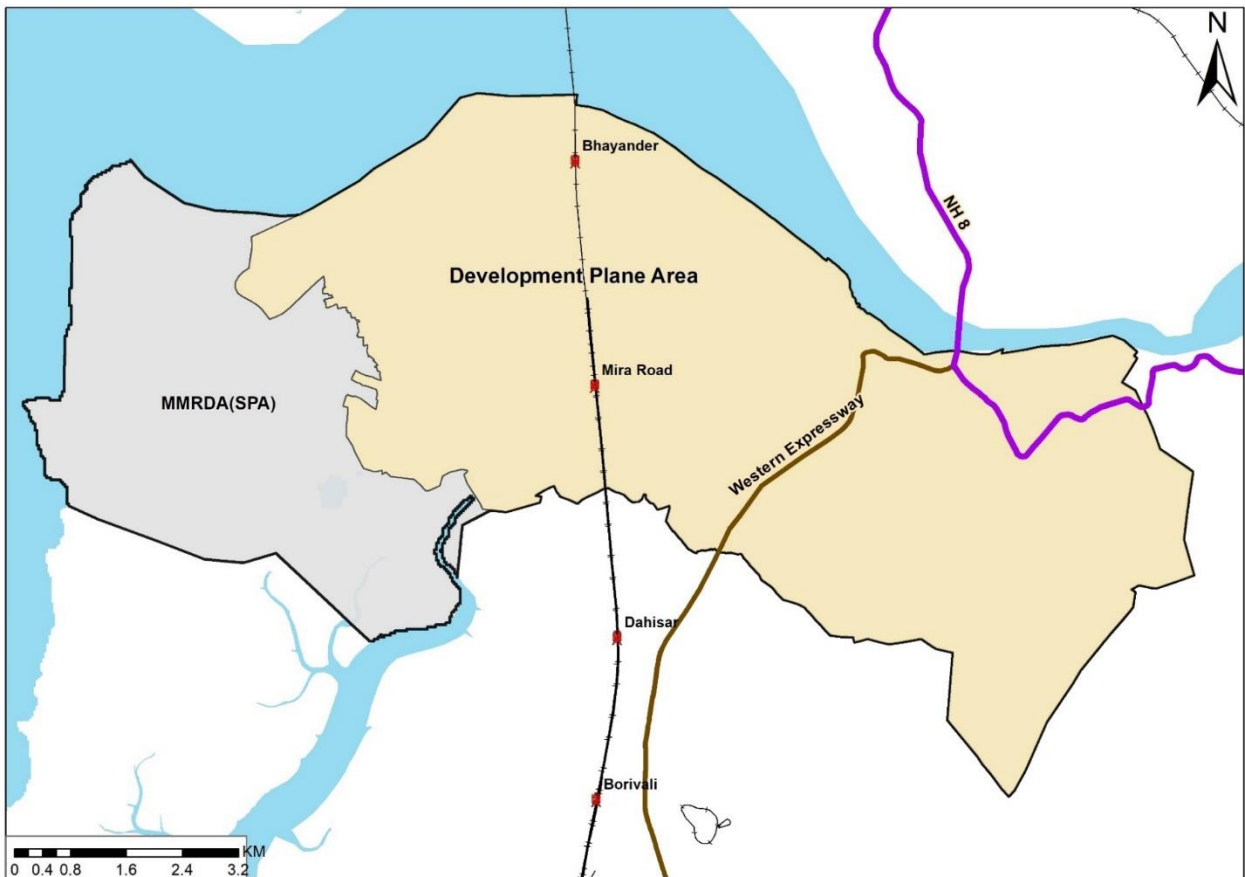
The total area of Mira Bhayandar Municipal Corporation is 79.40 sq. km. Some part of the Corporation area is notified by the State Government as areas under Special Planning Authorities under Section 40 of the MR&TP Act, 1966. The area under SPA is 14.9 sq. km. accounting for about 18.73% of the total area. Therefore, the total area of Mira Bhayandar under the purview of the Development Plan is 64.5 sq. km. making the planning area for the DP.

Table 1-1-1 Notified Area and SPAs

Sr. No.	Notified Area	Special Planning Authority
1	Morva	MMRDA
2	Tarodi	MMRDA
3	Chowk	MMRDA
4	Pali	MMRDA

5	Dongri	MMRDA
6	Uttan	MMRDA

As provided in the MR&TP Act, 1966, the local authority ceases to be the Planning Authority in the notified areas. Thus, Development Plan covers the jurisdiction of the Mira Bhayandar Municipal Corporation excluding the areas under the Special Planning Authority i.e., MMRDA. It has however taken cognizance of the respective plans and requirements of these areas in terms of the connectivity and tertiary level infrastructure.



Map 1-1 Planning Area

1.2 Planning Process

Section 38 of the Maharashtra Regional and Town Planning Act 1966 stipulates the Revision of Development Plan at least once in twenty years. The Development Plan 1997 was approved in parts. The last part of the Development Plan currently in force was sanctioned in 2002. Therefore, the Revised Development Plan is required to be submitted. The procedure for preparation and sanctioning of the Development Plan is given in Sections 23 to 31 of chapter II of MR & TP Act, 1966.

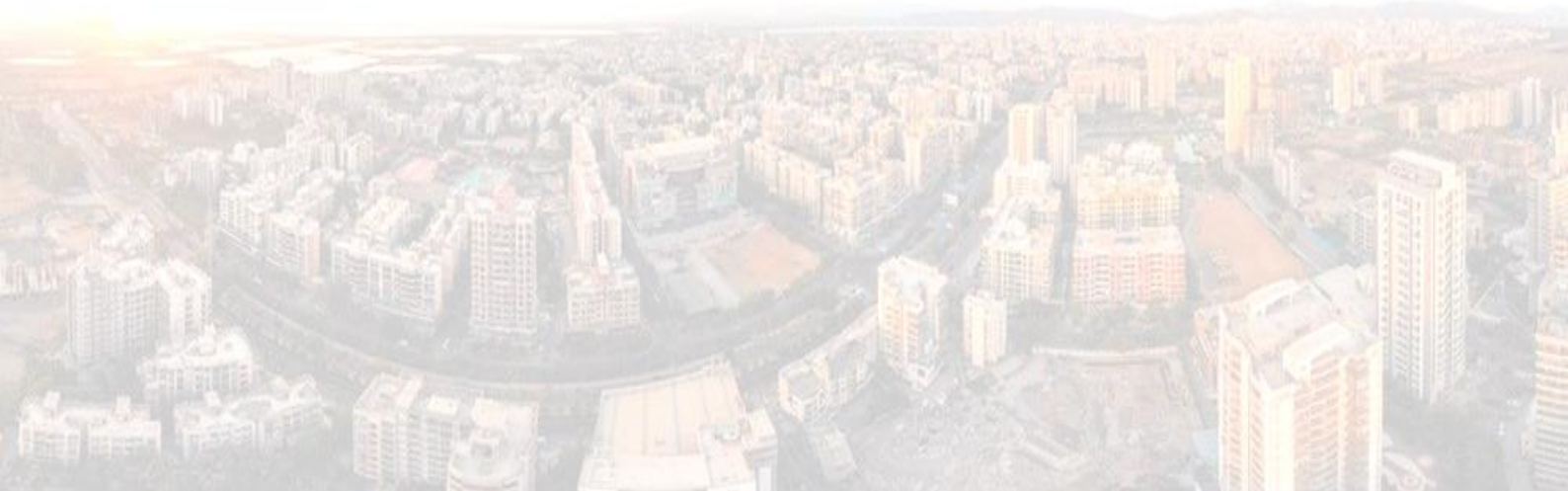
MRTP Act,1966	Mandate
Section 23	Declaration of intention to prepare a Development Plan The planning authority before carrying out a survey and preparing an Existing Land Use map, by a resolution, makes a declaration of its intention, to prepare the Development Plan and sends it to the state government along with a copy of the plan showing only the boundary of the entire area proposed to be included in the Development Plan, which will be published in the official gazette and also in one or more local newspapers inviting suggestions and objections from the public within a period of not less than 60 days from the publication of the notice in the official gazette.
Section 24	Appointment of Town Planning Officer At the time of the declaration of intention to prepare a Development Plan, the planning authority resolves to appoint the Town Planning Officer for carrying out a survey, prepare an ELU map thereof, and formulate proposals of the DP of that area for submission to the planning Authority.
Section 25	Provision for survey and preparation of existing-land use map The planning authority or the said officer shall survey the lands and prepare an ELU within 6 months from the date of declaration of intention or not later than such further time as the state government may from time to time extend. Provided that, the period so extended shall not, in any case, exceed one year in the aggregate.
Section 26	Preparation and publication of notice of Draft Development Plan The Planning Authority shall prepare a Draft Development Plan within 2 years from the date of a notice published under section 23. Also, publish a notice in the Official Gazette stating that the Development Plan has been prepared and invite objections and suggestions within a period of 60 days from the date of notice in the Official Gazette. The period so extended shall not exceed 12 months in aggregate.
Section 27	Provision of Regional Plan to be considered Where any area within the jurisdiction of a Planning Authority is included in a Region, the Planning Authority or the said Officer shall consider the proposals made in any Draft Regional Plan or any final regional plan while preparing the Draft Development Plan.

Section 30	Submission of the Draft Development Plan The planning authority shall submit the Draft Development Plan along with the list of modifications or changes made in the Draft Development Plan to the state government for sanction within a period of 6 months from the date of publication of notice regarding its preparation.
Section 31	Sanction to the Draft Development Plan Within 6 months from the date of receipt of the Draft Development Plan from the planning authority, the state government, after consulting with the Director of Town Planning, may sanction the Draft DP or return it to the planning authority for modification as it may direct or refuse to accord sanction and direct to prepare a fresh DP.
Section 38	Revision of Development Plan At least once in twenty years from the date on which a Development Plan has come into operation Planning Authority shall at any time when so directed by the State Government revise the Development Plan either wholly, or the parts separately after carrying out, if necessary, fresh survey and preparing an existing-land-use map of the area within its jurisdiction.
Section 42	Implementation of plans On the coming into operation of any plan or plans, it shall be the duty of every Planning Authority to take such steps as may be necessary to carry out the provisions of such plan or plans.

Source: MR&TP ACT, 1966

CHAPTER 2

THE REGIONAL CONTEXT



2 THE REGIONAL CONTEXT

2.1 Introduction

Mira Bhayandar city is located in the district of Thane at the northern threshold of Greater Mumbai and has been identified as one of the prominent cities in the Mumbai Metropolitan Region (MMR). The city is situated on the southern part of the Vasai creek with Sanjay Gandhi National Park on the east and the Arabian Sea on the west. It is located at the mean sea level in the northern part of the Konkan region. The city occupies a unique position in the region, due to its proximity to Greater Mumbai and lower cost of living. It has been identified as one of the growth centres around Mumbai. The city is connected with Greater Mumbai by the western railway stations of Mira and Bhayandar. It is also connected with the Dahisar area of Greater Mumbai by Western Expressway from Mumbai to Ahmedabad (Mira Bhayandar Development Plan Report, 1997).

Mira Bhayandar covers an area of 79.4 sq. km with a population of 8.09 lakhs as per the census 2011. Bhayandar is divided into two parts which are East and West by the Mumbai suburban rail line. The West was traditionally recognized as a residential area while the East was predominantly an industrial area. Being a neighboring city to Greater Mumbai, the city still managed to keep its originality like small-scale industries, farming, fishing, and sand and salt cultivation as its major business. The city is known as a hub for small-scale industries. The business came into existence in 2004 and since then has been known in the field. It is ranked third in the whole of Asia. The machine manufacturing and machine spare part industries are major industries in the area. These industries are located at Saraswati, Manasarovar Complex, Kashmirira, and Bhayandar east area (Consultant's Enumeration).

2.2 City History

Mira Bhayandar city has its historic value. As the city is situated on the eastern bank of the Arabian Sea, it was an important port for business in the past. The city has seen most of the important historic legends right from Alexander to Peshwas and some great kings who have traveled through this port. The city was ruled by the Portuguese for a long time. From 1800 to India's independence in 1947, Mira Bhayandar remained under British rule. The British existence can be evidenced by the constructed railway bridges on Vasai Creek. In 1809, Denver Estate including Devnar, Borla, Kirol, Chene, and Varsave Borbhat was given on perpetual lease to Mr. Dhakji Dadaji. Again during 1870, a large estate of 3688 acres of land in the village

of Ghodbunder, Bhayandar, and Mira was given on lease to Ramchandra Laxmanji of Bombay for 999 years (Gazetteer of The Bombay Presidency, Volume XIII, Part II, and Chapter VIII).

2.3 City Administration

Earlier Bhayandar was administrated by the Gram Panchayat System of Local Government. According to the recommendation of MMRDA, Mira Bhayandar Municipal Council was established on 12th June 1985 by merging five Gram Panchayats naming Bhayandar, Kashi, Mira, Navghar, Ghodbunder, Khari, Goddev, Mahajanwadi, and Penkarpada. The entire jurisdiction of the Municipal Council limit was 32 sq. km as per the 1981 census. After that adjoining villages within the limits of the Municipal Council started showing a trend of urbanization. Therefore, under the government's notification No. MUB 7085/2209/CR 281-A/UD-16 dated 10-01-1990 extended the limits of the Mira Bhayandar Municipal Council by including 10 Gram Panchayat namely, Chene, Varsave, Rai-murdhe, Murdhe, Morva, Uttan, Dongri, Tarodi, Pali, and Chowk. The total area of these added Gram panchayats was 47.40 sq. km. Thus, the total area of the newly formed Municipal limit comes to 79.40 sq. km. Later on, in 2002 Mira Bhayandar Council declared a Municipal Corporation based on population.

The town is further divided into 50 electoral wards. The administration of which under the Municipal Corporation is done by 50 members respectively out of which 8 seats in total are reserved for women. Among the same members, a President is elected for the Council. MBMC provides basic infrastructure like water supply drainages, sewerage, roads, and services such as solid waste management, firefighting, street lights, education, and primary health. MBMC co-ordinates with other units for the functioning of the city. Maharashtra Industrial Development Corporation controls the functioning of industries in the area. (Mira Bhayandar Municipal Corporation, History; Environment Status Report 2018-19).

2.4 Geographic Settings

2.4.1 Location and Regional Setting

Mira Bhayandar city is situated at the northern threshold of the Greater Mumbai between 18°42'N – 20°20'N latitude and 0° 25'E – 73° 44'E longitude. Mira road is situated on Salsette Island on the northern extremity of Greater Mumbai. The city is a member of MMR. Being the first urban centre on the periphery of the Greater Mumbai, it occupies a unique position in the region. The boundaries of Greater Mumbai and Mira Bhayandar are contiguous. The area around Mira Road and Bhayandar station comprises the 'Old Town' whereas the city was nested and expanded around newly developed transport corridors.

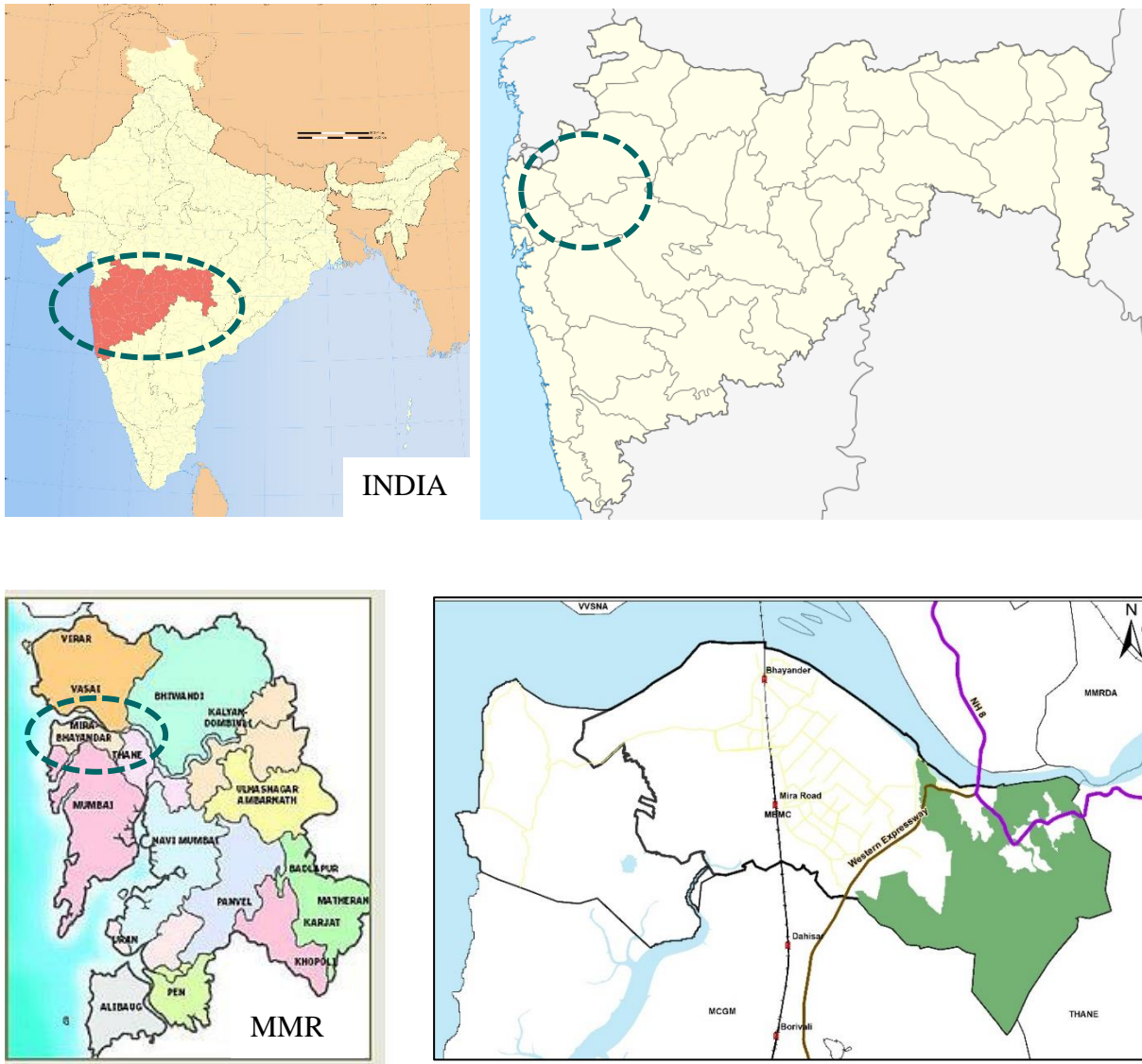


Figure 2-1 Mira Bhayandar Location Map

Mira Bhayandar is a major city in the state of Maharashtra in western India. It is the 12th most populated city in Maharashtra. The city covers an area of 79.40 sq. km. and had a population of 8.09 lakhs in 2011. The Municipal Corporation is one of the 6 Municipal Corporations in the Thane district. It is also approachable by road through Western Expressway. The neighbouring urban local body which is Borivali falls within a distance of 10 km from the city. It is 26 km away from Thane District Head Quarters and connected with it through Ghodbunder road. The major city in the MMR i.e., Greater Mumbai is 25 km away from Mira Bhayandar city. The city is well connected via highways and suburban railway and metro (Consultant's Enumeration).

2.4.2 Statutory Position in MMR

MBMC is surrounded by different Planning Authorities and therefore, has no scope for expansion on its south, west, and East side. Mira Bhayandar Municipal corporation is surrounded by adjoining authorities like Thane Municipal Corporation, Vasai-Virar City Municipal Corporation, MCGM, and Navi Mumbai Municipal Corporation. It is a member of MMR & one of 17 Urban centres, peripheral to Greater Mumbai (MMRDA

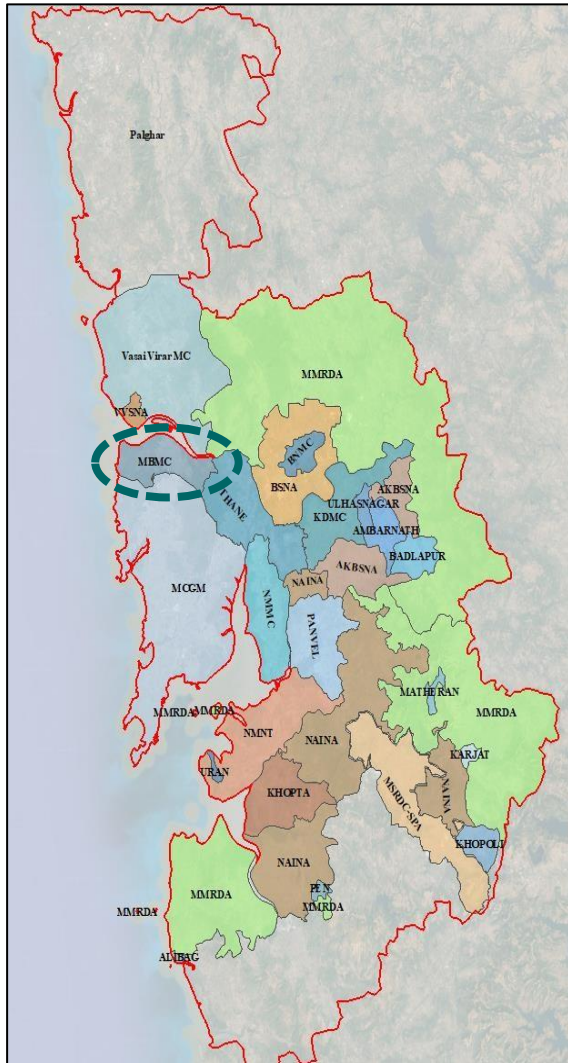


Figure 2-2 Planning Authorities in MMR

Table 2-1 Planning Authorities in MMR

Sr. No.	ULB Name	Area (Sq.km.)
1	MCGM	467.19
2	TMC	128.23
3	KDMC	116.09
4	Vasai Virar MC	294.50
5	Navi Mumbai MC	108.98
6	MBMC	79.5
7	BNMC	27.37
8	Ulhasnagar MC	13.2
9	Panvel MC	110
10	Ambernath MC	36.63
11	Kulgaon Badlapur MC	35.65
12	Khopoli	30.06
13	Pen	5.54
14	Uran	2.43
15	Karjat	7.35
16	Alibagh	2.54
17	Matheran	7.49

2.4.3 Adjoining Authorities

Adjoining authorities to Mira Bhayandar Municipal Corporation are as follows:

1. Municipal Corporation of Greater Mumbai
2. Thane Municipal Corporation

3. Vasai Virar City Municipal Corporation
4. Navi Mumbai Municipal Corporation

2.4.3.1 Municipal Corporation of Greater Mumbai (MCGM)

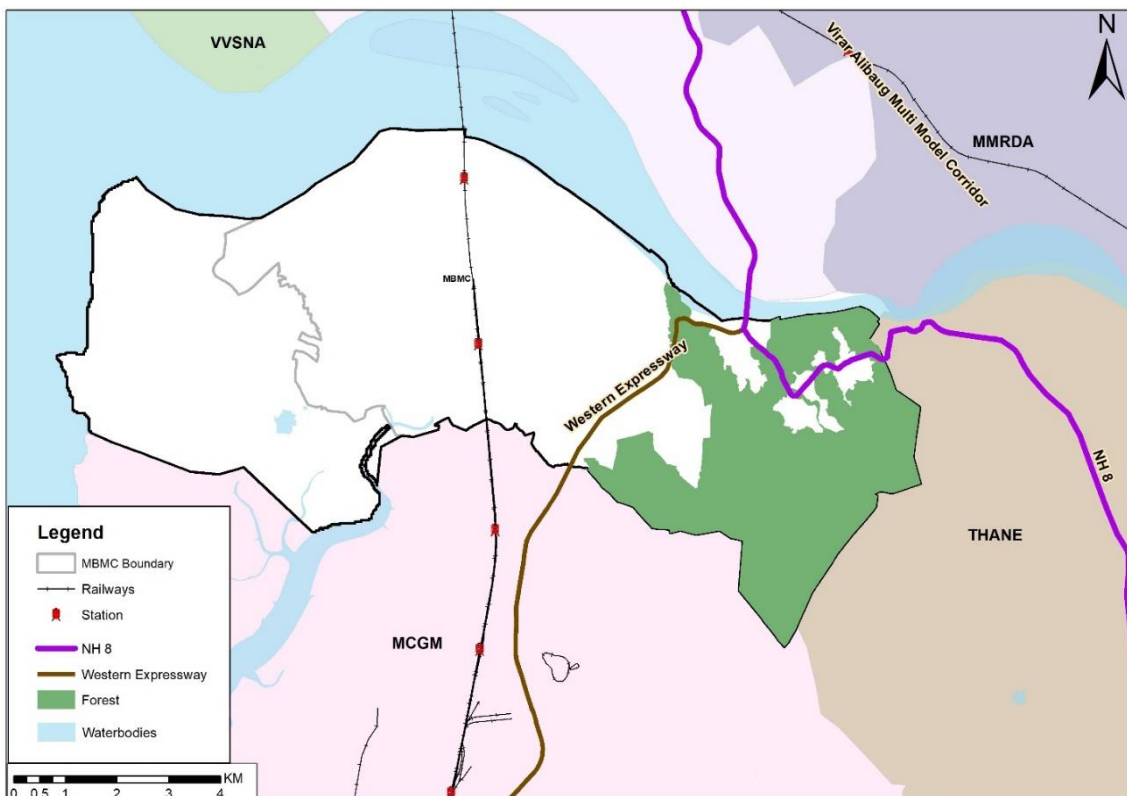
The Municipal Corporation of Greater Mumbai formerly known as the Bombay Municipal Corporation is the governing civic body of Mumbai, the capital city of Maharashtra. It was established under the Bombay Municipal Corporation Act 1888. The city is an important corporation in the MMR. Due to its proximity to Greater Mumbai, Mira Bhayandar city has emerged as a dormitory town in the region.

2.4.3.2 Thane Municipal Corporation

Thane Municipal Corporation is the governing body of thane city, Maharashtra. It is one of the fastest-growing areas of the Mumbai Metropolitan Region. It has been identified as a growth centre in the Bombay Regional Plan and has had a positive impact on the development of Mira Bhayandar city.

2.4.3.3 Municipal Corporation of Vasai-Virar city (VVCMC)

It is a governing body of the Vasai Virar city of Maharashtra. It is the only Metropolitan City that has a population of more than 10 lakhs in the Palghar district. It is located in North Mumbai. The city has significant growth potential due to its proximity to Greater Mumbai.



Map 2-1 Adjoining Planning Authority

2.5 Regional Connectivity

2.5.1 Road Network Connectivity

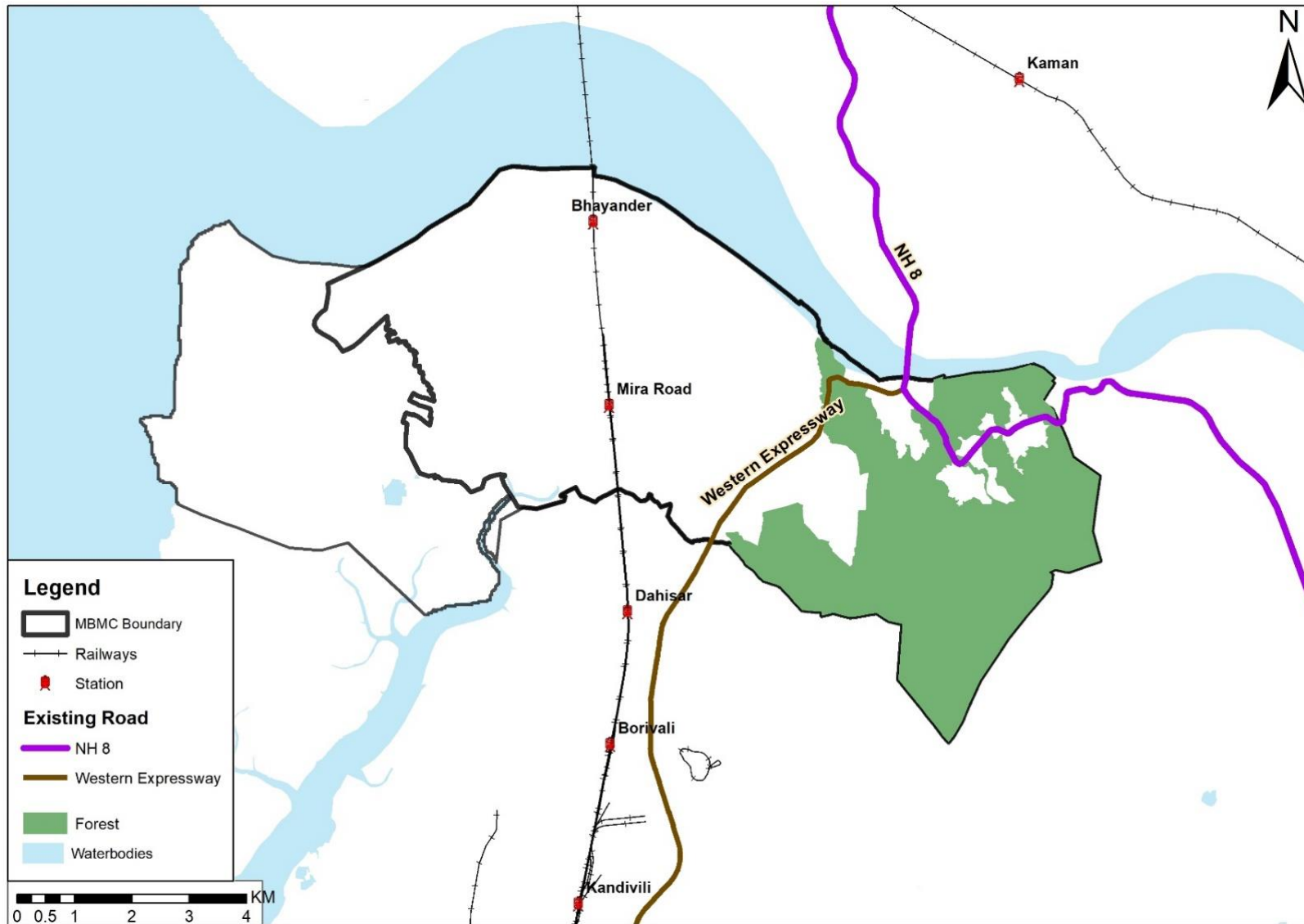
Mira Bhayandar is well connected with other parts of the region by an extensive network of Railways and Roadways. Ghodbunder Road (SH 42) which passes through the city is an important link between Mumbai-Agra National Highway (NH-3) and Mumbai-Ahmedabad National Highway (NH-48). The Western Express Highway (WEH), is a 25.33 km city express highway serving the cities of Mumbai and the MMR region. It is one of the busiest and most important roads in the Mumbai Metropolitan Area and links the city with National Highway 48. It is a north-south artery of Mumbai that connects the city with its western suburbs. Maharashtra State Transport Corporation offers intercity bus transport across various districts, namely Thane, Palghar, Mumbai suburbs, Raigad, Ratnagiri, Sindhudurg, etc. The city has its internal public transportation named Mira Bhayandar Municipal Transport (MBMT). It is a bus-based municipal transportation system operated by the private company Kestrel Infrastructure Pt. Ltd. Since Mira Bhayandar is a dormitory town for Mumbai, MBMT buses usually act as feeder service to regional sub-urban rail transportation mode, i.e., for local trains. However, MBMT had emerged as the main mode of public transit for intra-city mobility.

2.5.2 Railway Connectivity

The city is located on the Western Railway and includes Mira Road and Bhayandar railway stations which are at a distance of 40 km and 44 km from the Churchgate Railway Station respectively. All the local trains from Mumbai to Virar and some of the through trains on the Western railway halt at the Bhayandar Railway station. Mira Road station is a passenger station situated between the Borivali and Bhayandar stations on the western line of the Mumbai suburban railway. It has 4 platforms and the train serves the station 12 hours a day. Bhayandar station is also on the western line of the Mumbai suburban railway. It has 6 platforms and the train serves the station 20 hours a day.

2.5.3 Airport

The city does not have air connectivity. The nearest Mumbai airport is located at a distance of 22 km from the city. It operates flight services to different parts of the country and the world.



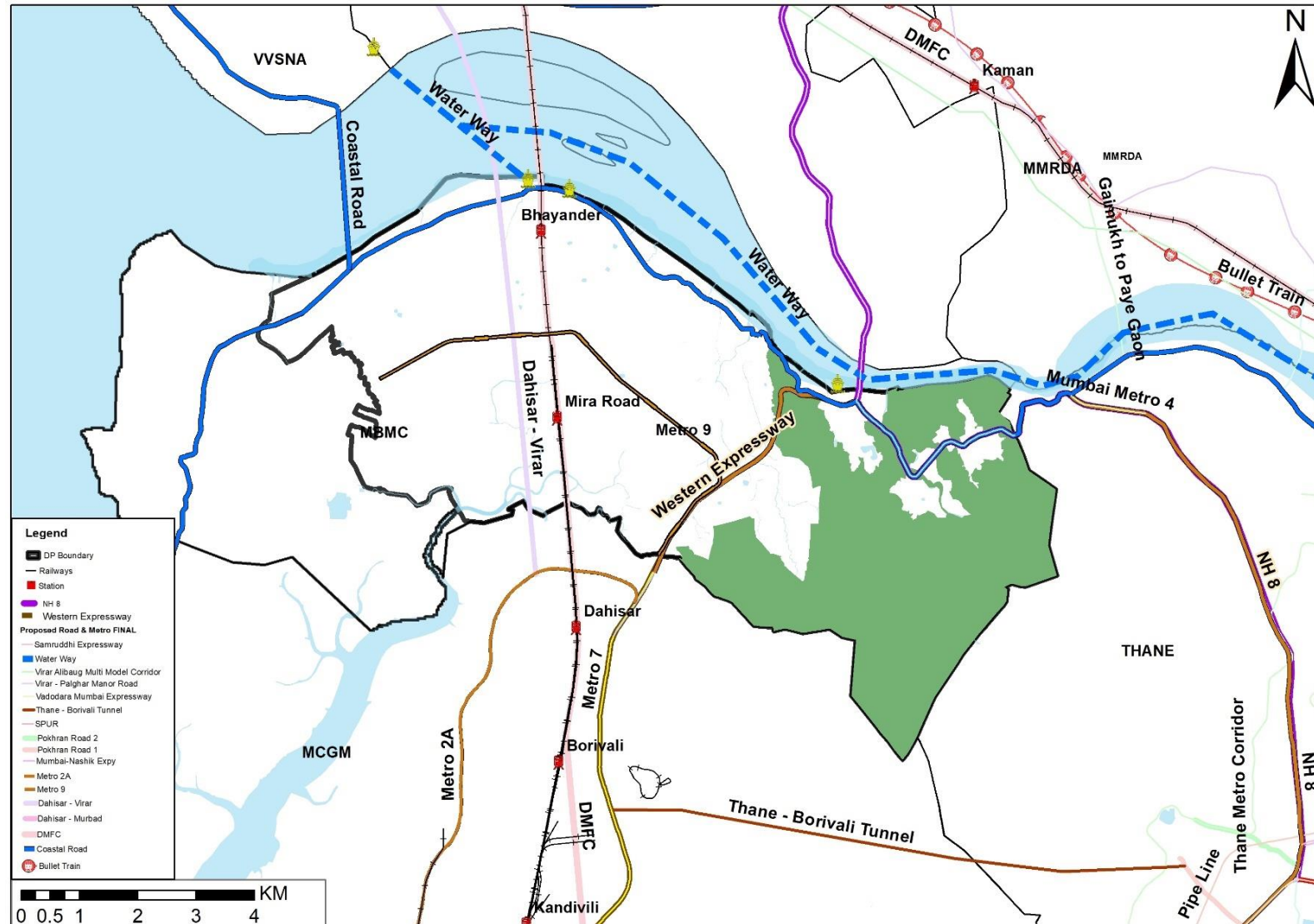
Map 2-2 Regional Road Connectivity

2.5.4 Mass Rapid Transit System

Mumbai Metro with 10 lines is an urban Mass Rapid Transit System (MRTS) being built to serve Mumbai, Maharashtra's capital and largest city. Mumbai Metropolitan and Regional Development Authority have proposed a Metro Rail system for Mira Bhayandar city. Metro Line 9 which is an extension of Metro Line 7 will connect Andheri to CSIA and Dahisar to Mira Bhayandar. The total length of the route is 13.581 km long (11.386 km elevated and 2.195 km underground) with 10 stations. It will provide interconnectivity among the existing Western Express Highway, Western Railway, ongoing Metro Line 2A (Dahisar to D N Nagar), and Metro Line 7 (Andheri (E) to Dahisar (E)). It will also provide rail-based access to the commercial area, government departments, and geographical landmarks in Mumbai. A maintenance Depot has been proposed at Mira-Bhayandar (main depot for entire line-7). The total land area proposed for maintenance facilities is 20.0 Ha. It will reduce the current travel time by anything between 50% and 75% depending on road conditions.

2.5.5 Waterway Connectivity

The Maritime board has planned to develop a water transport project which would help the city to connect Vasai, Borivali, Thane, and Mumbai. This would help to provide easy connectivity to this area, reduce travel time and encourage an environment-friendly commute. The waterways are proposed from Bhayandar to Vasai, Mumbai to Morva, and Gorai to Borivali. These proposed projects will reduce travel time and fuel consumption in the area.



Map 2-3 Proposed Road Network, Metro Line, Waterways

2.6 Topography and Climatology

2.6.1 Geographic Structure

The city of Mira Bhayandar is situated in the northern part of the Konkan Division in the west of Maharashtra. It is located between 18°42'N – 20°20'N latitude and 0° 25'E – 73° 44'E longitude. Its total geographical area is 79.64 sq. Km. The AMSL of Mira Bhayandar city is 3 meters. The city is bounded by Sanjay Gandhi National Park to the east, to the north is Vasai-Virar city, to the south is Mumbai city and the Arabian sea on the west. The population of Mira Bhayandar city as per the 2011 Census is 8.09 lakhs.

2.6.2 Topography

Mira Bhayandar is geographically located in the northern part of the Konkan region to the west of the Sahyadri hill ranges. The whole city is on plain-level land. The Vasai creek surrounds the city from east to north followed by the Arabian Sea at the west. The city is bounded by Sanjay Gandhi national park in the south, in the southeast by thane city, and Mumbai city in the southwest. Geographically the city falls in the Deccan lava terrain. Uttan, Ghodbunder, and the Eastern part of the city form hilly regions. The plain terrain formed a wide area of water-logged and marshy land on the west of Mira Road.

2.7 Climatology

The climate of the city is equable with no large seasonal variations. The region experiences hot, humid summer and mild winter. The climate in the month of October to November is wet and hot followed by cool and pleasant weather from December to February and dry and hot weather from March to June. The climate of Mira-Bhayandar is typically coastal sultry and not hot.

2.7.1 Temperature

The mean maximum temperature in the city varies from 26°C to 37°C during the whole year. The temperature is maximum during the months of March to May. The maximum average temperature observed during summer is 37°C and the minimum temperature observed is 22°C while the maximum temperature during winter is 33°C and the minimum is 16°C. During the year, average temperatures vary by 6.8°C. The temperature has been increasing over the years and summers have been getting hotter and more severe.

The following diagram shows the Maximum temperature (Degree) observed from the month of January to December. The 'mean daily maximum' (solid red line) shows the maximum temperature of an average day for every month for Mira Bhayandar. Likewise, 'mean daily

minimum' (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years (meteoblue).

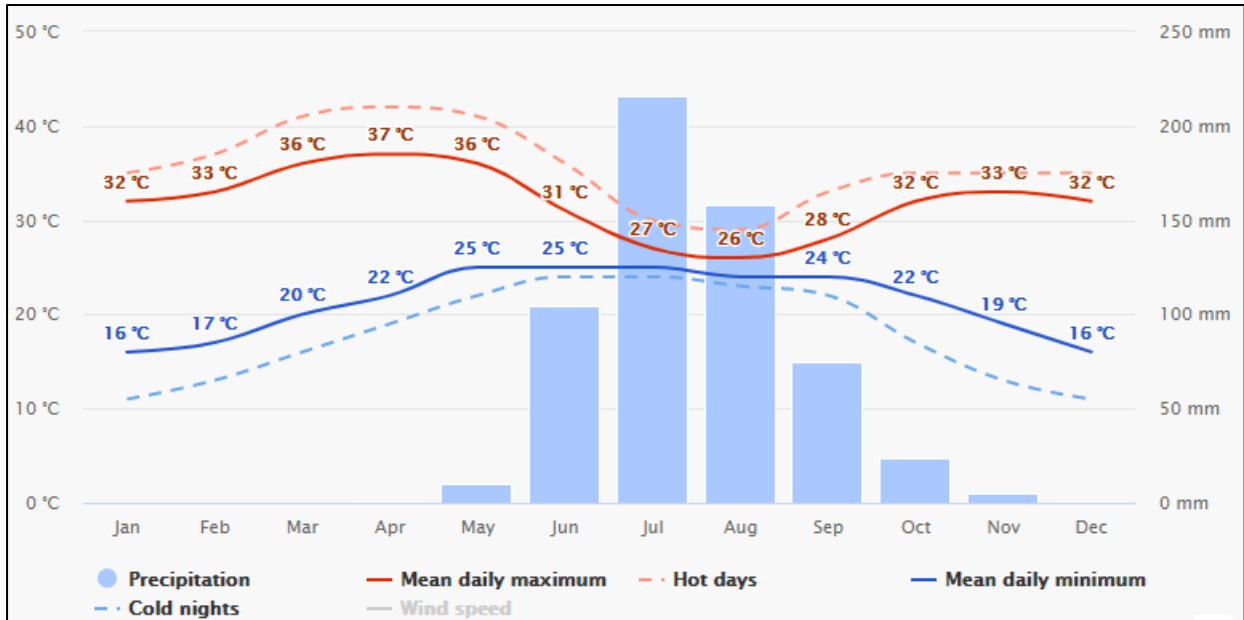


Figure 2-3 Month-wise Average Temperature

Figure 2-3 shows how many days per month reach a certain temperature. The month of March to May mostly experiences bright sunny days with temperatures between 35°C to 40°C. The temperature in the month of July to September is between 20°C to 25°C. The city experiences 25°C to 30°C temperatures in the month of October to January (meteoblue).

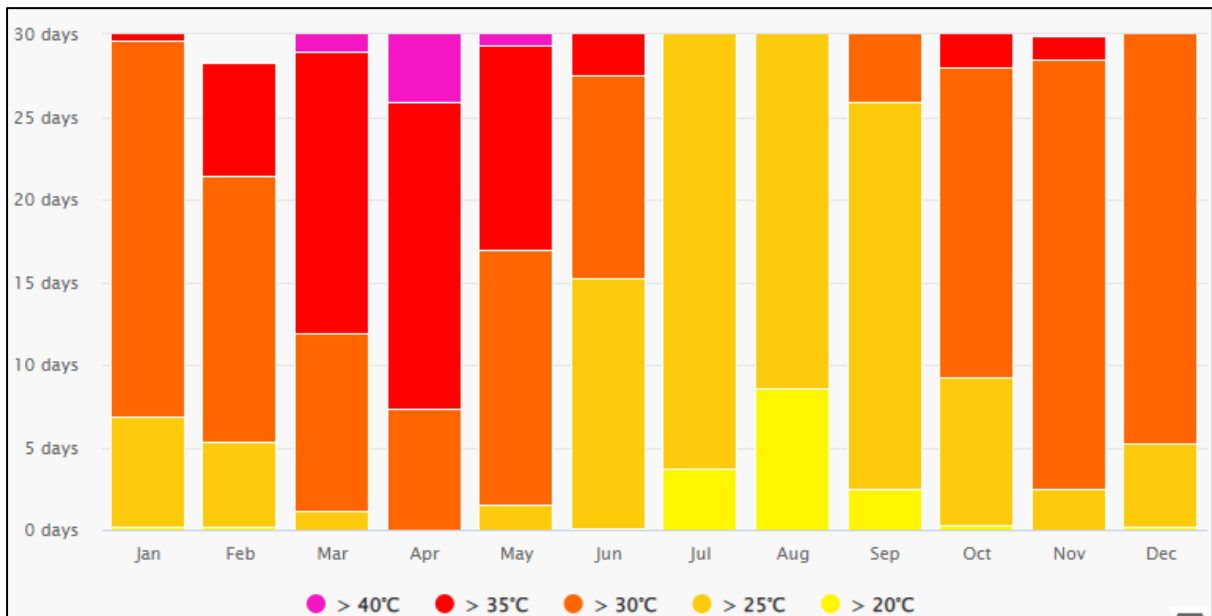


Figure 2-4 Month-wise Temperature

Table 2-2 Monthly Temperature and Rainfall of Mira Bhayandar City

Sr. No.	Month	Total Rainfall (mm)	Temperature °C			Mean Relative Humidity
			Max	Min	Mean	%
1	January	10	32	16	24	54
2	February	10	33	17	25	54
3	March	10	36	20	28	53
4	April	10	37	22	29	63
5	May	25	36	25	30	68
6	June	575	31	25	28	82
7	July	800	27	25	26	89
8	August	575	26	24	25	89
9	September	350	28	24	25	87
10	October	50	32	22	27	73
11	November	20	33	19	26	57
12	December	10	32	16	24	55

2.7.2 Rainfall

Being on the western coast, the rainfall usually starts at beginning of June to ends in the last week of September. Annual total rainfall in the vicinity of the city is 3670.4 mm with a maximum of 800 mm in the month of July. Most of the rainfall received in the region is a result of the southwest monsoon, though occasionally some rainfall has been reported in the winter months (from the northeast monsoon) or late summer (pre-monsoon showers). The precipitation diagram for Mira Bhayandar shows how many days per month received certain amounts of precipitation. The month of November to April is mostly dry and sunny months and the month of May receives a light shower. In the month of June to September, the city receives heavy rainfall between 20-50 mm. Again, in the month of October city experiences a light shower (meteoblue).

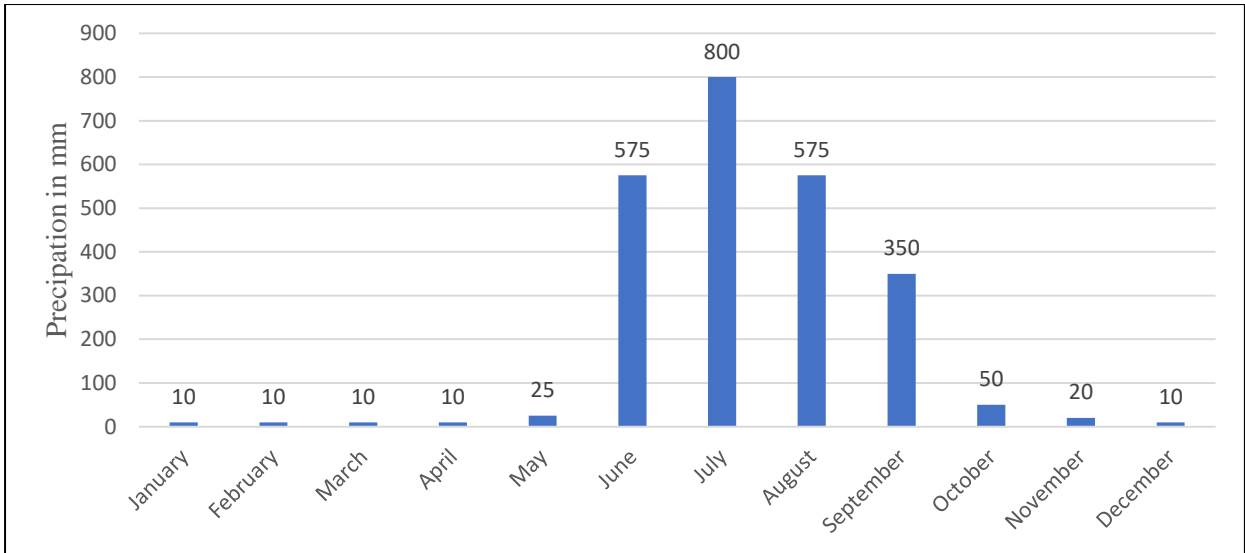


Figure 2-5 Rainfall Pattern

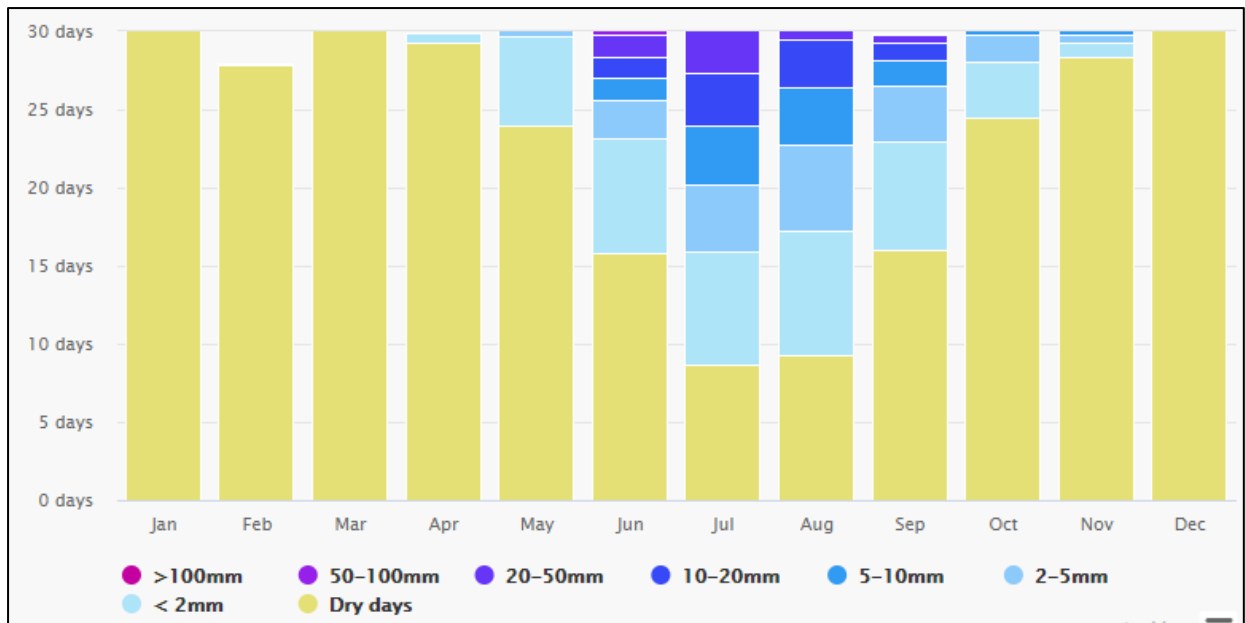


Figure 2-6 Rainfall Diagram

2.7.3 Cloudy, Sunny, and Precipitation Days

The graph shows the monthly number of sunny, partly cloudy, overcast, and precipitation days. Days with less than 20% cloud cover are considered sunny, with 20-80% cloud cover as partly cloudy and with more than 80% as overcast (meteoblue). The region mostly experiences sunny days in the month of October to March. Overcast weather is mostly observed in the month of June to September. During this month city mainly receives rainfall. The days of the month of April and May are partly cloudy.

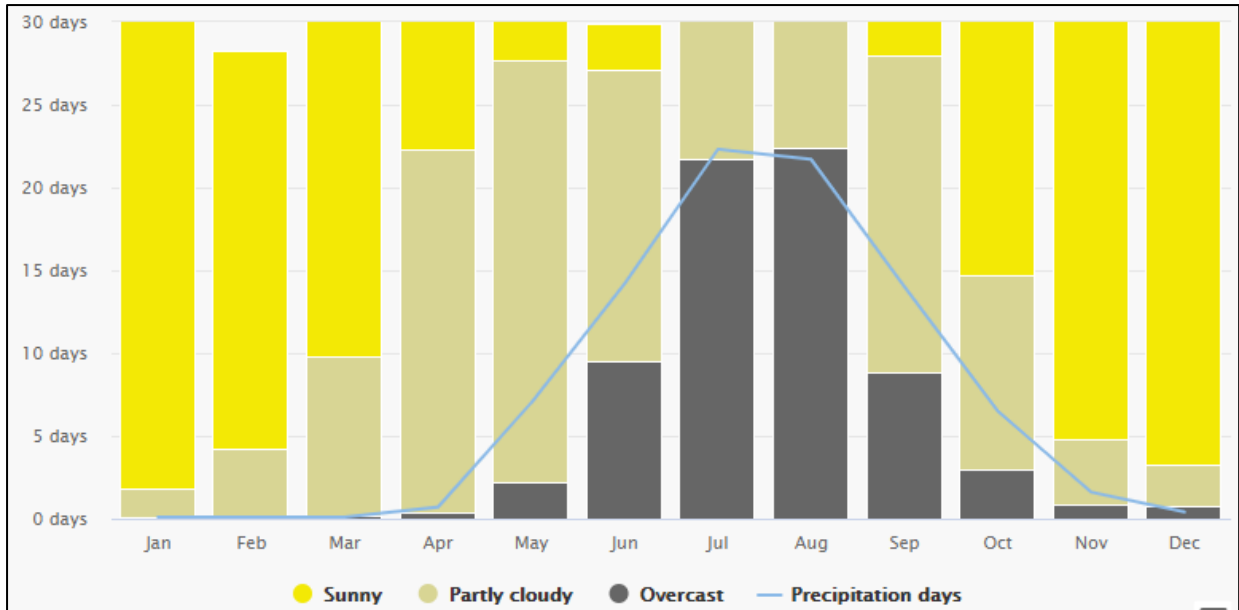


Figure 2-7 Month-wise Climate

2.7.4 Humidity

The humidity in Mira Bhayandar ranges from 47% to 89%. Maximum humidity is recorded in the month of July. The overall humidity throughout the year in the city is on the higher side due to the coastal area (meteoblu).

2.7.5 Wind Speed

The wind direction is generally from North West and West for a major period of the year. The annual mean wind velocity is 15.48 km per hour. During the hot season, however, velocity gradually increases reaching its peak in the month of July with the directions from the South West and West.

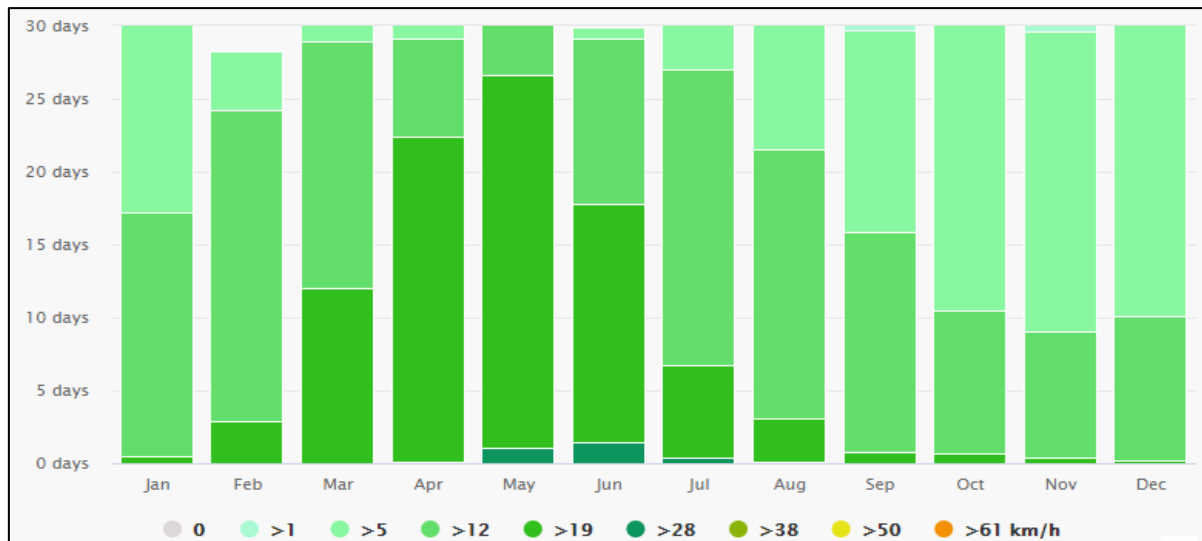


Figure 2-8 Wind Speed Diagram

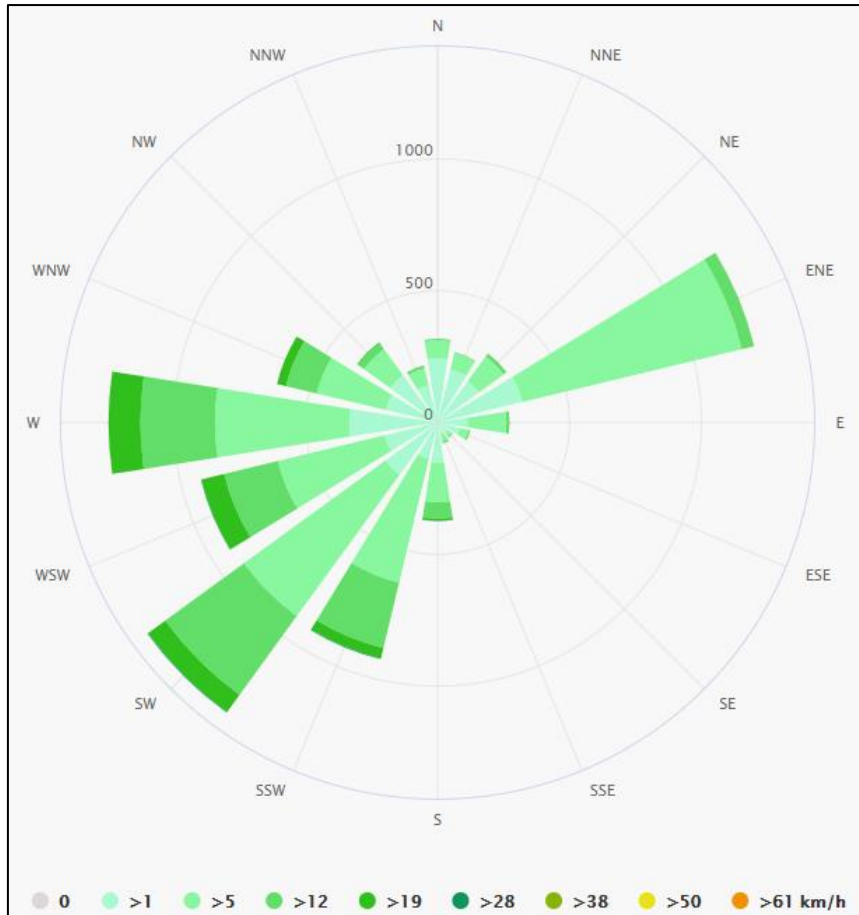


Figure 2-9 Wind Rose Diagram

Figure 2-8 shows the days of the month, during which the wind reaches a certain speed. The wind rose diagram in Figure 2-9 for Mira Bhayandar shows how many hours per year the wind blows from the indicated direction (meteobline).

2.7.6 Geomorphology and Soil Type

The Mira Bhayandar city forms part of the western slope of the Sahayadri hill range. This hill range passes through the eastern part of the Thane district. A major part of the district constitutes rugged and uneven topography, characterized by high hills and steep valleys. Physiographically, the district can be divided into two broad divisions-Undulating Hilly Tract and Coastal Plain in the western part. Most of the soils in the district can be considered as being derived from trap (Basaltic) rocks.

2.8 Growth Drivers

Growth drivers can be nearby transport corridors, and influential corridors located in the vicinity of the planning area which shall act as an important focal point, and catalyst for the development of the planning area. Mira Bhayandar is well connected to other regions with an extensive network of roadways and railways. This will act as an important factor in the growth

of the city and strengthening such factors will help in stimulating the economic and social development of the city.

2.8.1 Western Expressway

Western Expressway serves the city of Mumbai and Mira Bhayandar. It is an important road in the MMR and a part of National Highway 48. It is a north-south artery of Mumbai, stretching from Bandra to Ghodbunder. For most of its course, it is 8-10 lanes wide with several flyovers. It stretches up to 25.33 km in Mumbai. The road carries heavy goods traffic and serves as an important link between Mumbai and Mira Bhayandar (Western Expressway).

2.8.2 National Highway

National Highway 48 is a major link road connecting the Mumbai-Ahmadabad Road (NH-8) part of the Golden Quadrilateral near Ghodbunder to Mumbai-Agra Road (NH-3) near Kapurbawadi. This link passes through the Municipal Limits of the Mira Bhayandar Municipal Corporation area. The traffic entering MMR from Palghar and Nashik direction has two alternatives to reach the rest of the region, via Kaman-Anjur Phata Road on the north of Vasai creek or the Ghodbunder road on the south of Vasai creek. It mainly carries heavy commercial traffic between NH-3 and NH-8. So, it is a strategically important location in the MMR. This road faces massive traffic congestion at various spots during peak traffic times. Congestion of traffic causes undesired burning of automobile fuel, which is a national loss in addition to the contribution of pollution, which would be a contributing factor to air quality in the adjacent Sanjay Gandhi National Park (Maharashtra State Highway 48).

2.8.3 Mumbai Suburban Western Rail line

Western Railway line passes through the corporation area and divides the city into 2 parts east and west. It connects Mira Bhayandar to other parts of the MMR. Commercial and other economic activities started booming around the railway station area. The rail line was established as an important communication route in the region.

2.8.4 Mumbai Metro Line 9

A Metro line is proposed for the city and is the extension of Line 7 from Andheri to CSIA and Dahisar to Mira Bhayandar. It shall provide interconnectivity among the existing Western Express Highway, Western Railway, ongoing Metro Line 2A (Dahisar to D N Nagar), and Metro Line 7(Andheri (E) to Dahisar (E)). A maintenance Depot has been proposed at Mira-Bhayandar (main depot for entire line-7). The area surrounded by the rail line and station will be developed as a commercial or economic base for the city.

2.8.5 Dormitory Town

Mira Bhayandar is the nearest urban centre on the periphery of Greater Mumbai. Greater Mumbai has achieved a saturation level in terms of population. Being the nearest urban centre and relatively lower cost of living, made Mira Bhayandar gradually developed into an important residential locality. Thus, it presently serves as a growing dormitory town in Greater Mumbai city (Environment Status Report, 2018-19).

2.8.6 Industrial Hub

In 1954, the Barve Committee has decided to decongest industrial activity in the Mumbai Island area. The land is an important factor in the development of any industry. Mira Bhayandar had a lot of vacant parcels for such development. Due to the availability of land and proximity to Mumbai, most of the industries shifted to Mira Bhayandar. The industrial growth, however, is concentrated in the eastern part of the Bhayandar as transportation facility was available near that area. The city has now emerged as a hub for machine manufacturing and machine spare part industries. It ranked the fourth position in Asia for small-scale industrial development.

2.9 Planning Efforts in The Past

Mira Bhayandar Municipal Council was established in the year 1985 by merging 9 villages into the area. The Mumbai Metropolitan Regional Plan holds into account a part of the Mira Municipal Corporation for development. So, the zonal plan for the area surrounded by Mira and Bhayandar station was prepared by Town Planning and Valuation Department and sanctioned by the government, vide notification no. RBP/1173/1136/PC dated 2nd June 1973. But an increase in residential and industrial activity was recorded at the same time which called for a revision of the plan to include additional zones like industrial, and residential and to allocate a considerable amount of open space, a town centre, and a road network. Modifications for all the above concerns were made under the provisions of the MRTP Act 1966 and the same was sanctioned by the Urban Development Department, the revisions of which were made by the Mumbai Metropolitan Regional Development Authority. In the process of revision and preparing the zone plan the concept of flowing space was introduced. It was soon realized that a concept like so would be not only difficult to manage by a local authority but also leaving vast stretches of land unattended could cause further obstacles.

Under the provision of the Maharashtra Regional and Town Planning Act, 1966, the Planning Authority must prepare a Draft Development Plan for the area for which there is no Development Plan within a specified period from the date of constitution of the planning

authority in our case it is Mira Bhayandar Municipal Council. The city declared its intention to the preparation of first Development Plan in 1991 and the plan was sanctioned (excluding the EP) in 1997 by the State government. The main objective of the Development Plan is to evolve an appropriate and well-integrated land use pattern of development for the entire council area as a whole for a time horizon of 2011 for better management of the city development activities.

During the '90s city observed growth in population and demographic composition. Based on that, Mira Bhayandar Municipal Council declared a Municipal Corporation in 2002. Also, in 2002 excluded part of the Development Plan was sanctioned by the State government (Mira Bhayandar Development Plan Report, 1997).

2.9.1 Regional Plan

Mira Bhayandar Municipal corporation area is included in Mumbai Metropolitan Region for which Regional Plan has been prepared. The Mumbai Metropolitan Region lies to the west of the Sahyadri hill range and is part of the North Konkan region. MMRDA was established under the MMRDA Act 1974 & the first regional plan was prepared by Regional Planning Board and sanctioned in 1973 under the provisions of the MR&TP Act, 1966. The area of MMR increased from 3965 sq. km. in 1967 to 4355 sq. km with the inclusion of two parts from tehsils of Alibag and Pen of Raigad district in the South and also the deletion of 9.04 sq. km from Vasai tehsil so that the boundary was co-terminus with the Tansa River.

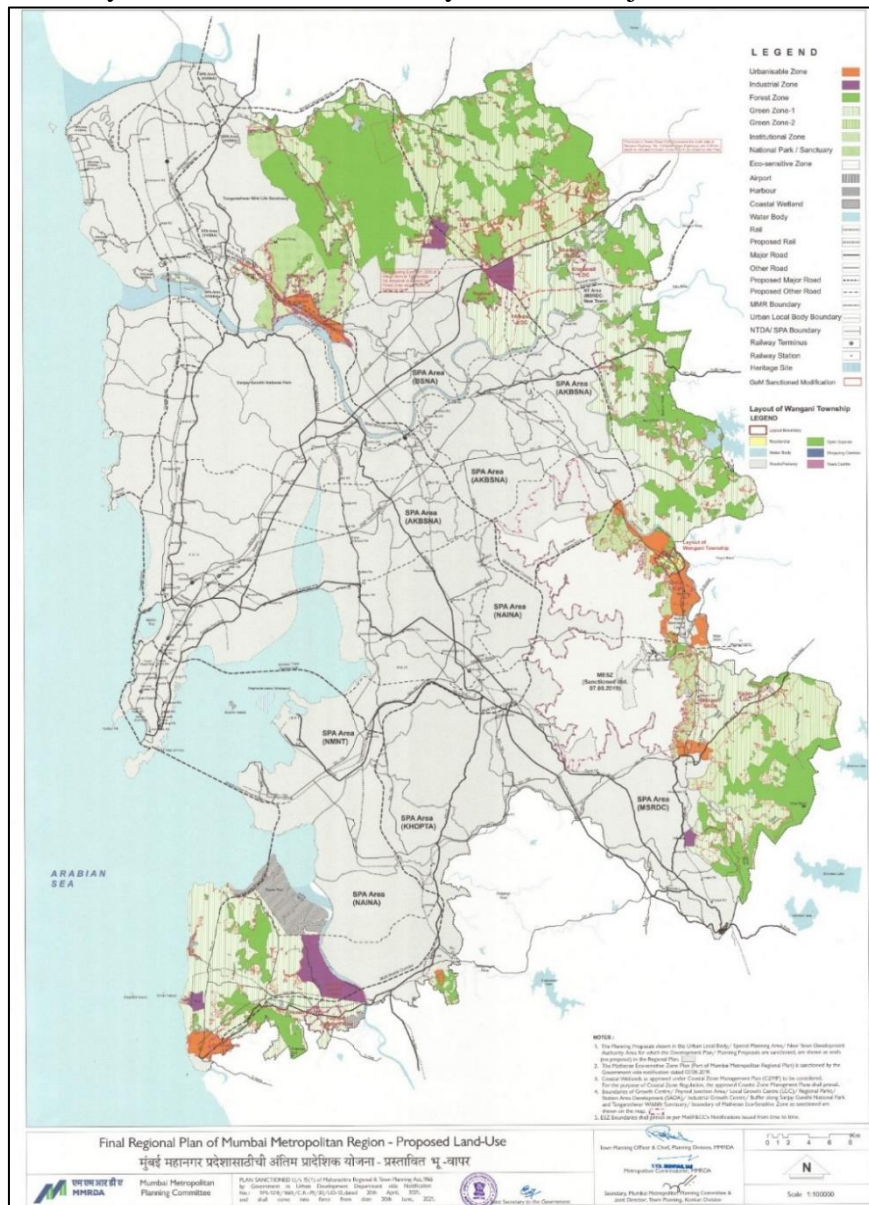
The 'Mumbai Metropolitan Area' was declared following the constitution of the Mumbai Metropolitan Planning Committee (under the Maharashtra Metropolitan Planning Committee (constitution & Function) Ordinance 1999) for the preparation of the Draft Development Plan. Accordingly, the Mumbai Metropolitan Region was constituted vide Government Notification No. MPC-2010/CR129/2011/UD-30 dated 23rd April 2012.

In the constitution of the MMR to draft the Regional Plan in 2012, a new district, Palghar has been carved out from the existing Thane district. A part of MMR falls within this new district. Thus, the Mumbai Metropolitan Region includes two full districts of Mumbai City, Mumbai Suburban, and three-part districts of Thane, Raigad, and the newly created Palghar.

Starting with 1 Municipal Corporation (Greater Mumbai), 13 Municipal Councils, 24 Census Towns, and 1166 villages in 1981, the number grew to three corporations (i.e., Greater Mumbai, Thane, and Kalyan), 12 Councils, 12 census towns, and 1013 Villages in 1991. By census 2001, there were 6 Corporations in MMR (including three new corporations of Mira Bhayandar, Ulhasnagar, and Navi Mumbai corporations), 14 Municipal councils, 17 Census

Towns, and 1023 Villages. By census 2011 two more corporations of Bhiwandi and Vasai Virar were added. MMR today has a total of 8 municipal corporations, 9 municipal councils, 35 census

MMR Regional Plan, a proposed new metro network from Mira Bhayandar- Kharbav- Nashik Road has been proposed which will increase connectivity across the region. The new creek bridge is also proposed from Thane to Kharbav across Ulhas creek which will connect Thane and Mira Bhayandar to the north of Ulhas Creek, particularly to the proposed northern Bhiwandi bypass. A coastal road is proposed to connect Mira Bhayandar to Vasai across Vasai Creek. According to the current proposal 218 MLD of water is allocated to MBMC from Surya Dam to meet the future water demand of Mira Bhayandar city. Also, 442 MLD water is allocated to Mira Bhayandar and Vasai Virar city from the Pinjal dam.



Map 2-4 Proposed Land use, Regional Plan of Mumbai Metropolitan Region, 2021

2.9.2 Development Plan

The Mira Bhayandar Municipal Corporation declared its intention to prepare Draft Development Plan for the area under its jurisdiction on 24th January 1986. The Draft Development Plan for the area was published in 1997.

2.9.2.1 Overview of Earlier Sanctioned Development Plan of Mira Bhayandar

- The Mira Bhayandar Municipal Council was established on 12th June 1985 after merging 9 adjacent villages in its jurisdiction. Under the provision of section 24 of MR&TP Act, 1966 Mira Bhayandar Municipal Corporation has appointed the Assistant Director of Town Planning, Thane as a Town Planning Officer for carrying out the ELU survey, preparation of the ELU map, and formulation of proposals.
- To provide a guiding framework to the Assistant Director of Town Planning, Thane, Government under Resolution No. TPS- 1289/1962- UD-12 dated 4.12.1989 has constituted an advisory committee under the Chairmanship of the Director of Town Planning, Maharashtra State, Pune.
- The advisory committee held meetings in which broad planning issues and giving guidelines for framing proposals of the Development Plan prepared by the Town Planning Officer were kept before the committee.
- Mira Bhayandar Municipal Council published the Draft Development Plan for the entire area under its jurisdiction for eliciting objections/suggestions from the public by General Body Resolution dated 18th December 1992.
- Mira Bhayandar Municipal Council 5-member Planning Committee under section 28 of the MR&TP Act 1966, under its Resolution No. 116 dated 18th December 1992.
- Planning Committee was responsible to heard suggestions/objections from the public and submitting its report to the Planning Authority.
- But Planning Committee failed to submit its report to the Planning Authority. Thus, Planning Authority failed to submit Development Plan under section 30 of the MR&TP Act 1966, to the State Government for sanctioning within the stipulated period i.e., up to 31st December 1993.
- Thereafter State Government appointed the Dy. Director of Town Planning, Konkan Division as the Town Planning Officer under section 162 of the MR&TP Act 1966, to perform the duties of the Planning Authority.

- The objections to proposed modifications were scrutinised and after taking decisions the Development Plan was modified and submitted under section 30 of the MR&TP Act 1966, to the State Government for Sanctioning.
- The Government sanctioned the part Development Plan in the year 1997 and the remaining part was subsequently sanctioned in 2002.
- The Plan has adopted traditional methods to conduct surveys for the preparation of the Base map, Existing land use, and Proposed land use.

2.9.2.2 Land Use Composition of Previous Development Plan

In the given sanctioned Development Plan, the land uses have been broadly classified into residential, commercial, industrial, public purpose, recreational, transportation, and agriculture allied activities.

To study the past and present character and trends of Development, the ELU survey was carried out with the following objectives

1. Determining the predominant uses of localities
2. Determining existing amenities available in the localities and deficiencies thereof
3. Determining the extent of marshy lands and creek lands
4. Selecting sites for reservations for public purposes by locating generally vacant lands
5. Studying the intensity of Developments locality wise
6. Studying the extent of imbalanced structures in land uses categories with other metropolitan towns

Table 2-3 Land Use in Mira Bhayandar Corporation Area

Sr. No.	Existing Land Use	Area (Ha)	% to the Total Municipal Area	% to the Developed Area
1	Residential	282.85	3.56	47.12
2	Commercial	5.33	0.07	0.89
3	Public & Semi-Public	12.00	0.15	2.00
4	Industrial	126.51	1.59	21.08
5	Transport & Communication	156.90	1.98	26.14
6	Public Utilities	1.10	0.01	0.18
7	Organized Open Spaces	13.52	0.17	2.25

8	Cremation Ground	2.03	0.03	0.34
Total Developed Area		600.24	7.56	100.00
Non-Developed Area				
9	Agriculture	144.29	1.82	
10	Horticulture	9.00	0.11	
11	Urban Vacant Land	4440.97	55.93	
12	Marshy land & Saltpans	1394.33	17.56	
13	Forest & Hilly land	1294.41	16.30	
14	Water Bodies	57.32	0.72	
Total Undeveloped Area		7340.32	92.44	
Total Municipal Area		7940.56	100.00	

Source: Draft Development Plan, Mira Bhayandar 1997

As per the Existing Land Use Map, out of the total area of Mira Bhayandar Municipal Corporation, 7.56% area is developed which included residential, commercial, public & semi-public, industrial, transport, etc. whereas 92.44% of the area is non-developed which includes agriculture, horticulture, vacant land, marshy land, saltpans, forest and water bodies, etc.

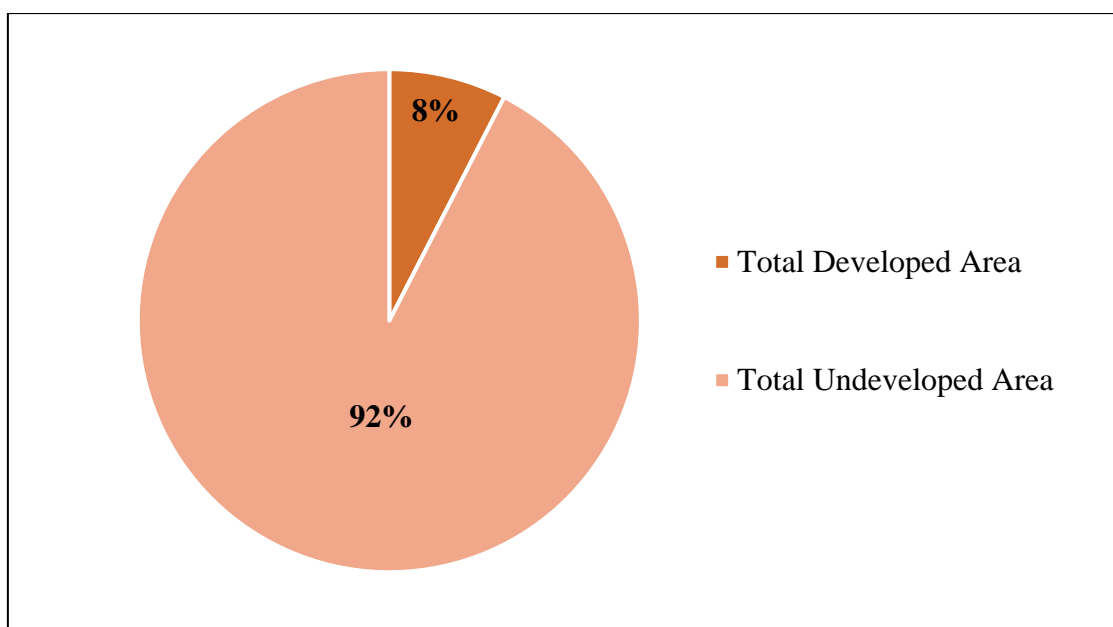


Figure 2-10 Land Use Distribution

The analysis of the existing land use survey state that, the maximum area to the extent of 47.12% of the total developable area is under residential use. It is followed by the area under

transport and communication used to the extent of 26.14%. The area under the industrial zone is 126.51 Ha which is 21.08% of the total developable area. The total area under public & semi-public use is 12 Ha i.e., 2% of the developable area. The area that accounts for commercial use is 5.33 Ha which is to an extent of 0.89% of the developable area. The share of recreational use is 2.25% of the total developable area.

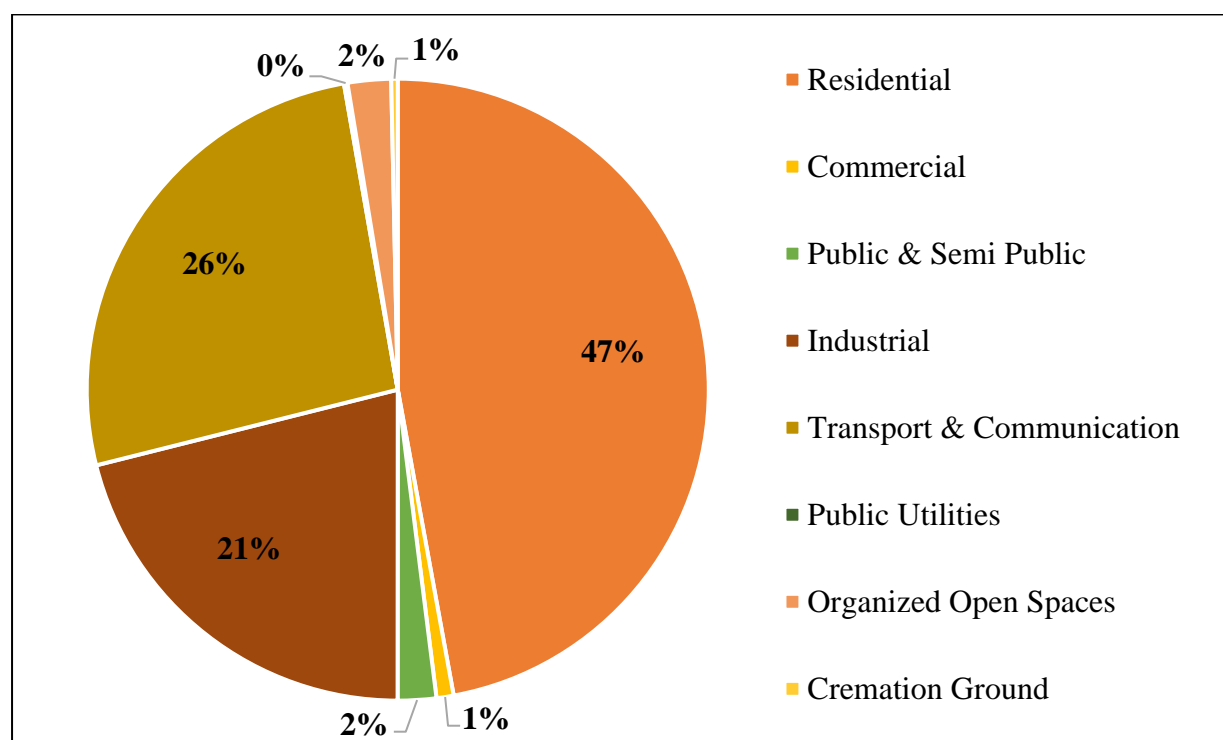


Figure 2-11 Composition of Developed Area SSS

According to an existing land use survey and analysis, nearly 92.44% of the total area of the town is undeveloped while 7.56% of the area is developed. The area under residential use is 3.56% and 1.98% is under transportation. The industry occupies 1.59% of the total area, 0.01% denotes organized gardens, open spaces, playgrounds, etc. and 0.151% is under public and semi-public use, and the area under public utilities is 0.01%.

Development Plan 1997 has estimated less population growth than what the trend suggested. The previous Development Plan used reservations as a primary tool for garnering lands for public purposes. Accommodation Reservations and Transfer Development Rights were used as a tool to provide an incentive to private owners for providing land for the designated purpose or public use. The exchange of FSI instead of land surrendered by the owner free of compensation for road widening and construction of new DP roads has been adopted to

minimize the financial burden on the urban local body (Mira Bhayandar Development Plan Report, 1997).

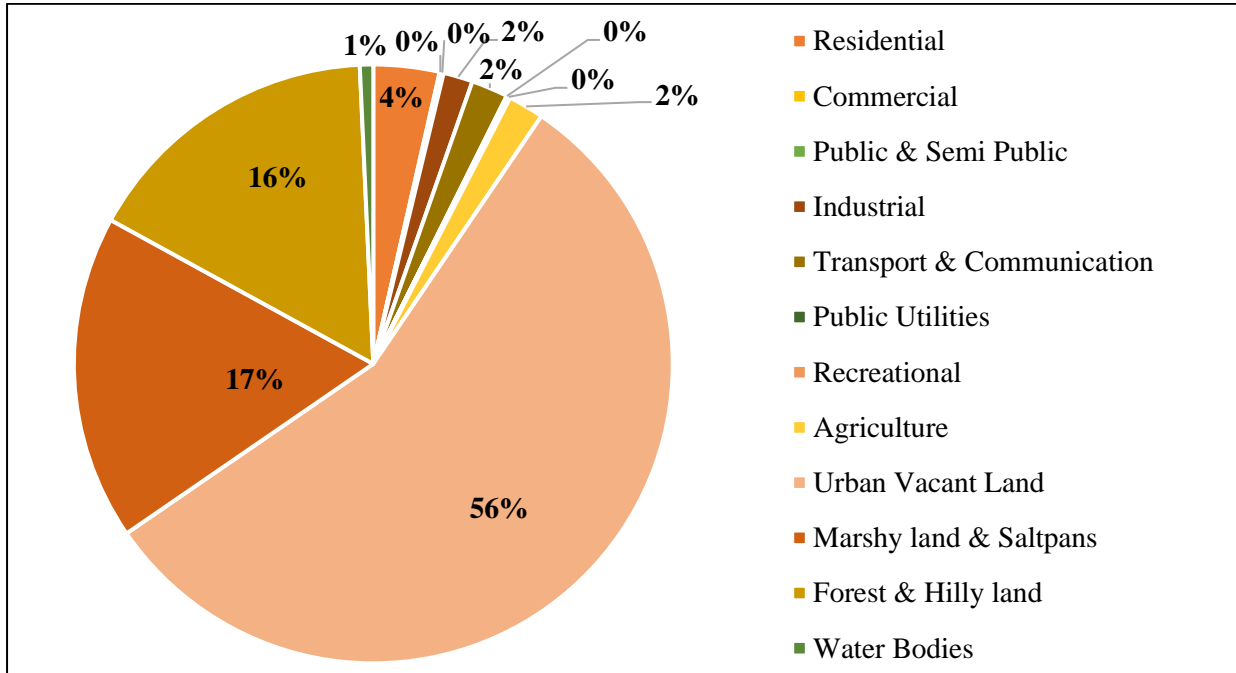
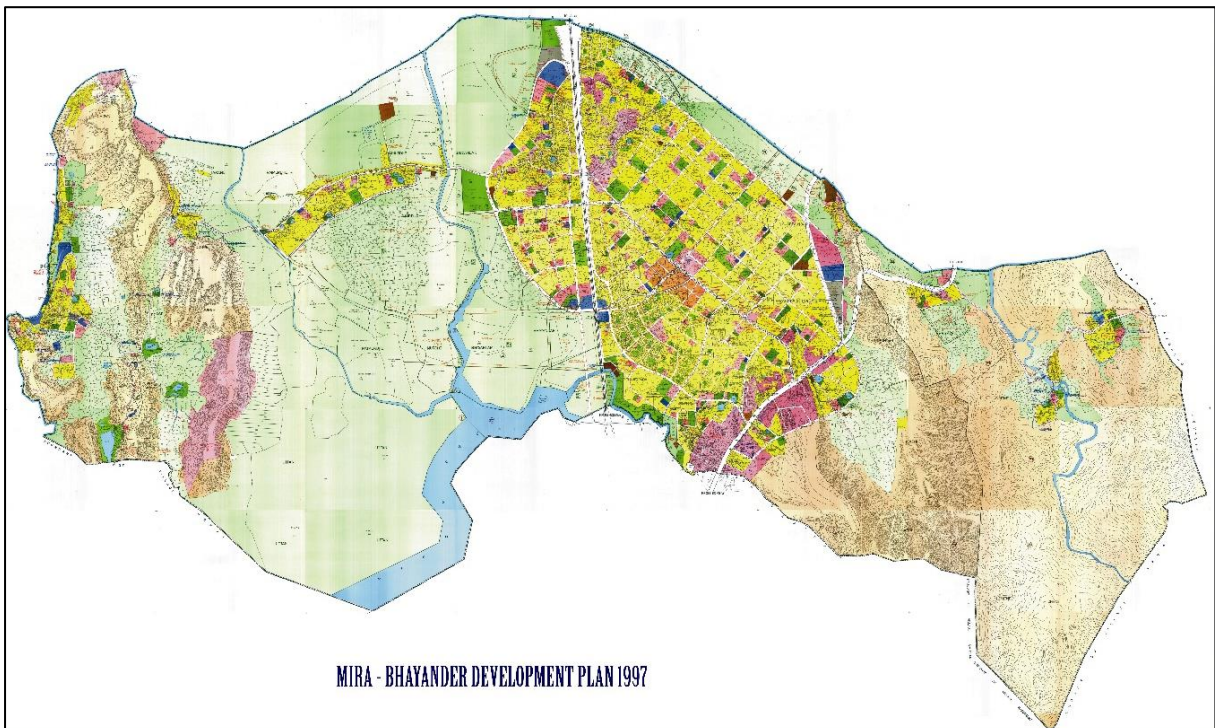


Figure 2-12 Land Use Composition



Map 2-5 Development Plan, Mira Bhayandar, 1997

CHAPTER 3

EXISTING LAND USE



3 EXISTING LAND USE

3.1 Introduction

The data gathered through an extensive Existing Land use survey to capture existing land use details of each parcel at block level was used to create an Existing Land Use map on a GIS platform. Examination of the existing land uses and their distribution over the area helps to understand the town and its activities. The Existing Land Use provided information regarding the various uses the land is being put to and the extent of development that has taken place since the previous Development Plan. Urban lands are subjected to diverse land uses which form an intricate and complicated mixture in the city. The procedure for the preparation of the ELU map is mentioned in Section 25 of the MR&TP Act, 1966.

3.2 Existing Land Use Classification

Various land use categories have been considered to map the existing land use patterns of the city. Since the Earlier Sanctioned Development Plan, there are significant changes made in both categories as well as classification. In the previous Sanctioned Development Plan only main land use categories were considered, but in GIS-based DP, a detailed classification has been considered like Eco-sensitive area, Specific land uses, wetland and wasteland, etc. in addition to the main land use categories.

To capture the existing land use, the total area has been broadly classified based on development as Developed area, Developable area, and non-Developable area. The developed area consists of the Land use categories like Residential, commercial, Mixed, Industrial, Public-Semi Public, Recreational, Public Utilities, and Transportation. The Developable area has land use categories as Vacant land and Agricultural Land. The Non-developable area includes Wetlands, Wastelands, Specific land use, Eco-sensitive area, Water body, Forest and Defense, etc. The main classes are further subdivided into 479 sub-classes covering the existing land use in detail for the Mira Bhayandar Municipal Corporation area.

3.3 Land use Distribution

The total planning area under Mira Bhayandar Development Plan is 6479 Ha. Table 3-1 shows the various land uses to which the land is presently put. The Existing Land Use survey reveals that only 26.80% (1736 Ha) of the planning area is developed, 13.84% (896 Ha) is developable and 59.35% (3845 Ha) is a non-developable area.

Out of the total planning area, 10 % (647.62 Ha) comes under Residential uses, 1.05% (67.99 Ha) under Commercial uses, 1.85% (120.02 Ha) under Industrial use, and 4.79% (310.07 Ha) under Mixed use. The total area coming under Public-semi-public use consisting of land uses like Educational, Health services, Central and State Government properties, etc. is 2.02% (130.85 Ha). The area coming under Recreational land use consisting of categories like Garden, park, playground, and swimming Pool is 0.98% (63.78 Ha). Transport and communication facilities consisting of the area under transportation, traffic-related land use, and communication constitute around 0.99% (63.83 Ha). The area coming under roads is 4.69% (304.17 Ha) of the total Mira Bhayandar Municipal Corporation area. The total Developable area is 13.84% (896.82 Ha) which consists of Agricultural Land 3.51% (227.68) and 10.33% (669.14 Ha) Vacant land of total area. The total area coming under non-developable area is 59.35% (3845.59 Ha) of the total area which consists of Wetlands 6.12% (396.82 Ha), Eco-sensitive area 39.65% (2568.66 Ha) which includes the area under mangrove and Sanjay Gandhi National Park. **The area under the forest is 0.005% (0.311 Ha).** The detailed land use classification is given in Table 3-1.

Table 3-1 Existing Land Use Distribution

Sr. No.	Land Use	Area (Ha)	% of Developed Area	% of Total Area
A)	Developed Area			
1	Residential	642.255	36.88	9.91
2	Commercial	66.282	3.81	1.02
3	Mixed	311.285	17.87	4.80
4	Industrial	119.089	6.84	1.84
5	PSP	134.847	7.74	2.08
6	Recreational	70.770	4.06	1.09
7	Public Utilities	22.171	1.27	0.34
8	Transportation & Communication	63.958	3.67	0.99
9	Roads	304.763	17.50	4.70
10	Other	6.188	0.36	0.10
Total		1741.60		26.88
		8		

B)		Developable Area		
1	Agriculture Land	169.984	20.45	2.62
2	Vacant Land	661.285	79.55	10.21
Total		831.269		12.83
C)		Non-Developable Area		
1	Wetlands	317.915	8.14	4.91
2	Eco-sensitive area	2566.71 2	65.71	39.62
3	Social Forest	0.409	0.01	0.01
4	Water Body	159.991	4.10	2.47
5	Other	860.856	22.04	13.29
Total		3905.88 3	100.00	60.29
Total		6479		100

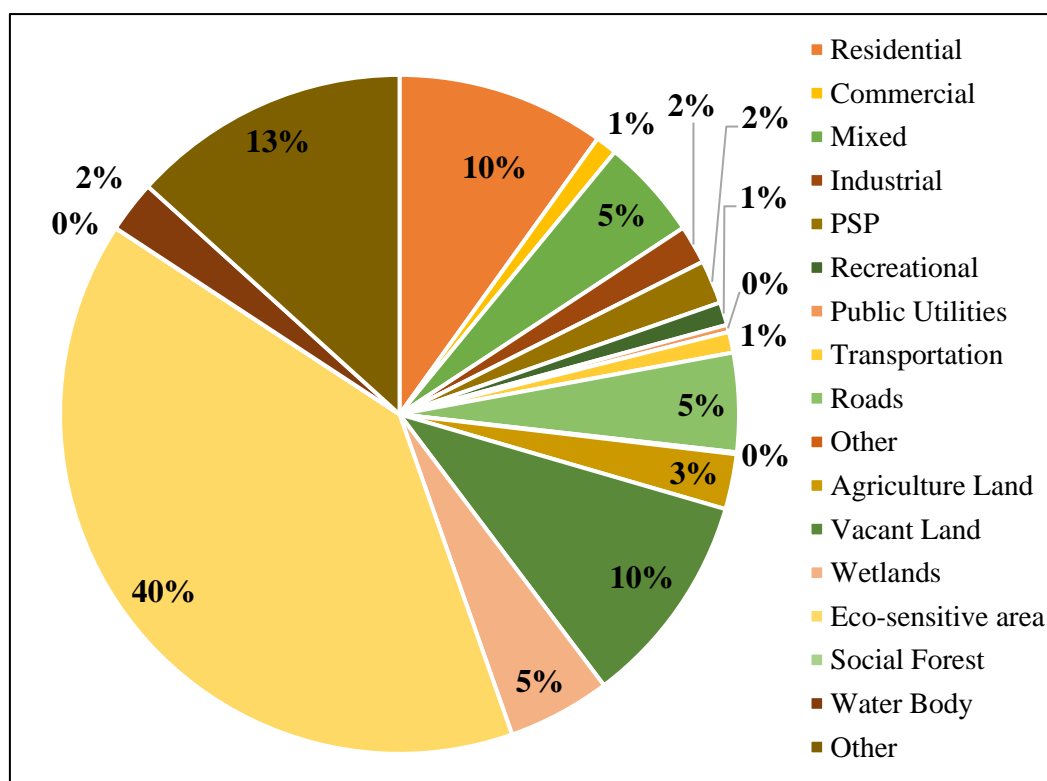


Figure 3-1 Existing Land Use Distribution

The category-wise distribution of Existing Land Use of the Mira Bhayandar Municipal Corporation is given in Table 3-2.

Table 3-2 Existing Land Use Distribution- Category wise

Sr. No.	Category	Area (Ha)	% of total area
1	Developed Area	1742	26.88
2	Developable Area	831	12.83
3	Non-Developable Area	3906	60.28
Total		6479	100

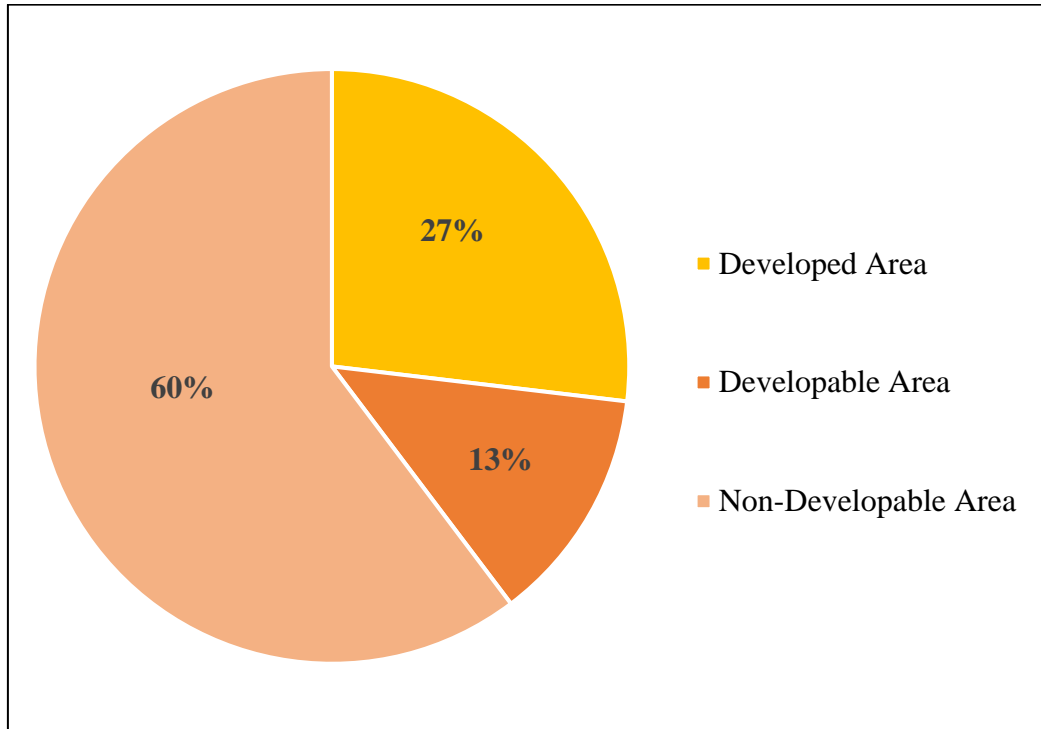


Figure 3-2 Existing Land Use Distribution- Category wise

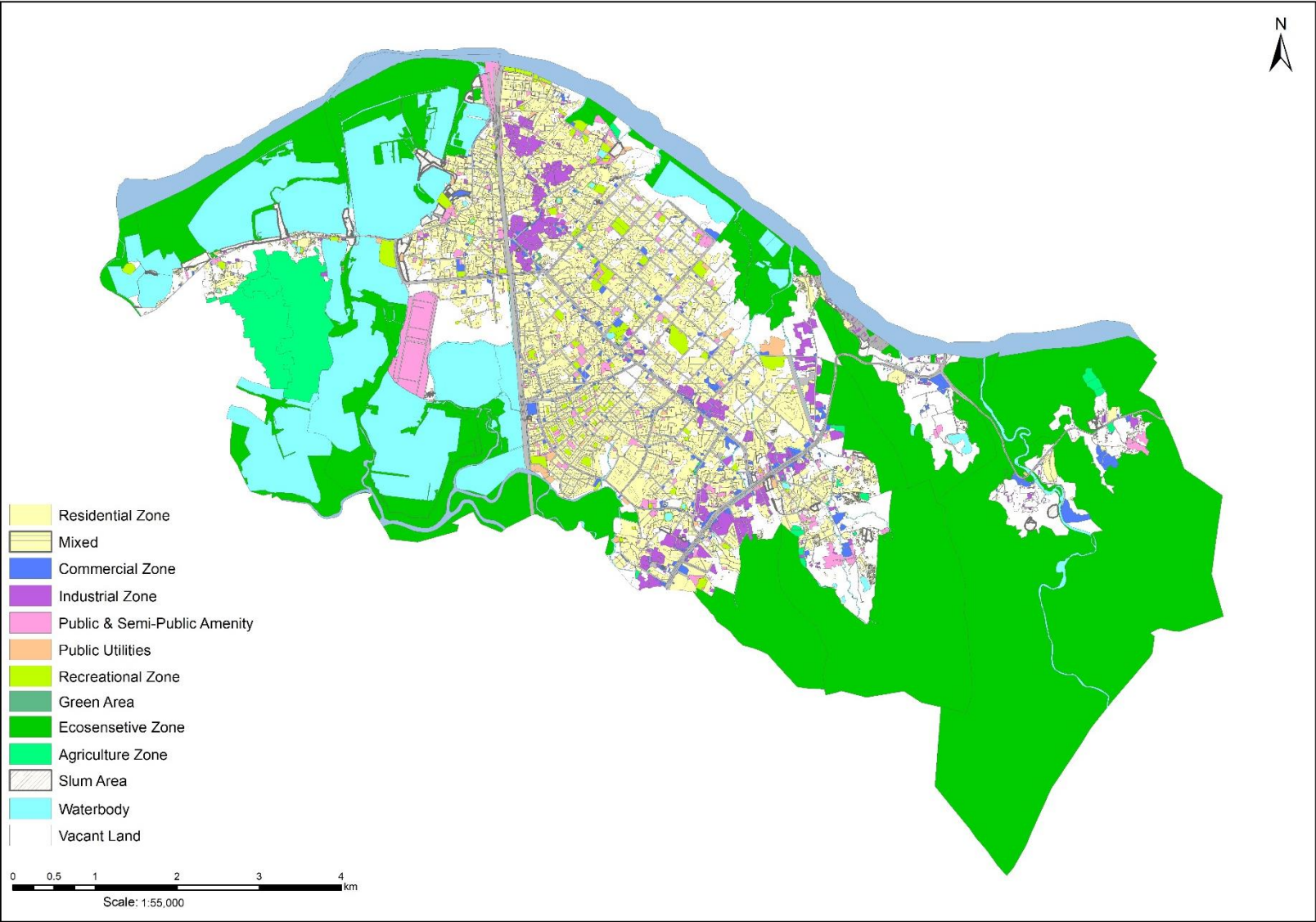


Figure 3-3 Existing Land Use Map

CHAPTER 4

POPULATION



4 POPULATION

4.1 Introduction

Fundamental facts of population growth and demographic are considered an important basis for rational, realistic, and long-term comprehensive planning. Demography is the statistical study of the human population, its size, composition, and distribution across space, and the process through which populations change. Births, deaths, and migration are the ‘big three’ of demography, jointly producing population stability or change. This section gives an overall review of the demographic profile of the planning area about the census data.

4.2 Existing Population

The existing population details of the project area have been derived from Primary Census Abstract- 2011 for Mira Bhayandar City. The total population recorded for Mira Bhayandar in the year 2011 was 8,09,378 out of which the male population is 4,29,260 and the female population is 3,80,118.

Table 4-1 Existing Demography of the city

Mira Bhayandar City	Total	Male	Female
Population	809378	429260	380118
Children (0 - 6 years)	88015	46375	41640
SC	30243	15761	14482
ST	12596	6471	6125
Literates	656293	356434	299859
Total Workers	316363	248227	68136
Sex Ratio	886		
Child Sex Ratio	898		

Source: Census of India, 2011

The census ward-wise total population, SC/ST population, working population, and population of literates and illiterates are given in detail in Annexure 1.

4.3 Growth of Population

As mentioned above the population of the entire area of Mira Bhayandar was 8.09 lakhs as against 5.20 lakhs in 2001. There has been a significant increase in the population of the city

since the year 1971. Each year has seen a consistent increase by more or less three times the population before. Census data show that the decadal growth rates of 1971-81, 1981-91, and 1991-2001 are 103%, 161%, and 196% respectively. The decadal growth rate of the city was at its peak in the decade 1991-2001. In the year 2011, the population increased in absolute number; however, percentage decadal growth shows a steep decline from 196.34% to 55.53%. The population growth rate pattern of the project area is graphically illustrated in Figure 4-2.

Table 4-2 Decadal Population Variation

Census Year	Population	Growth Rate
1961	25560	-
1971	33022	29.19
1981	67192	103.48
1991	175605	161.35
2001	520388	196.34
2011	809378	55.53

Source: Census of India, 2011

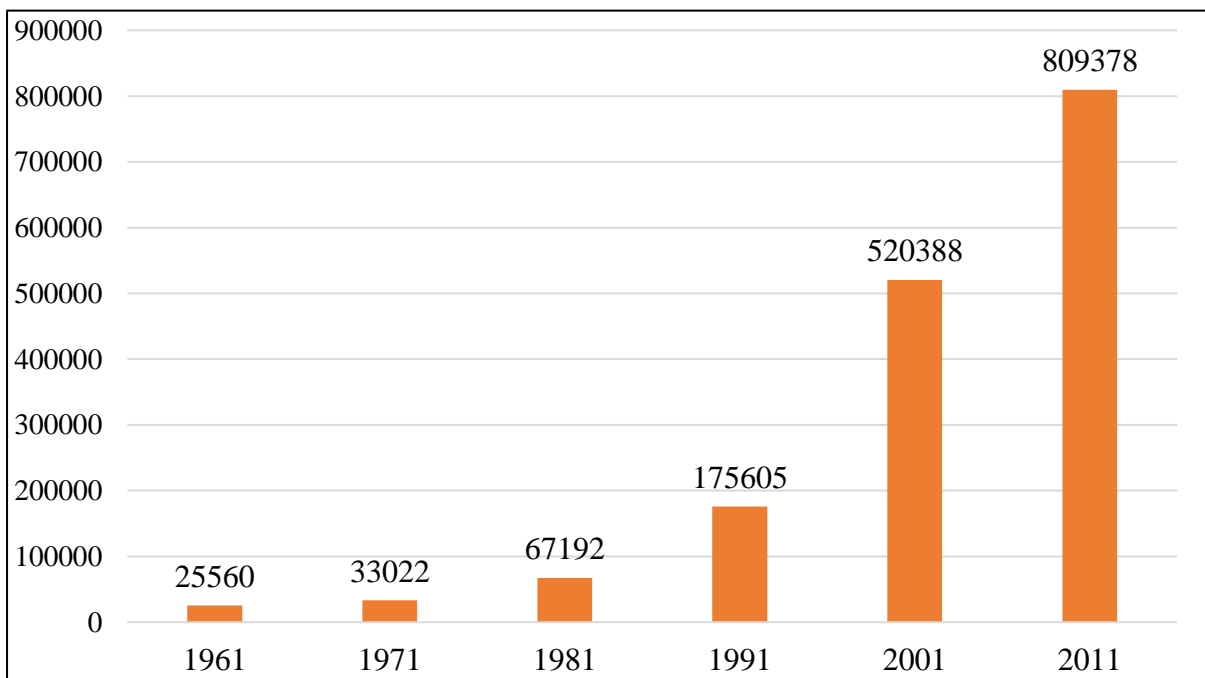


Figure 4-1 Decadal Population from 1961 to 2011

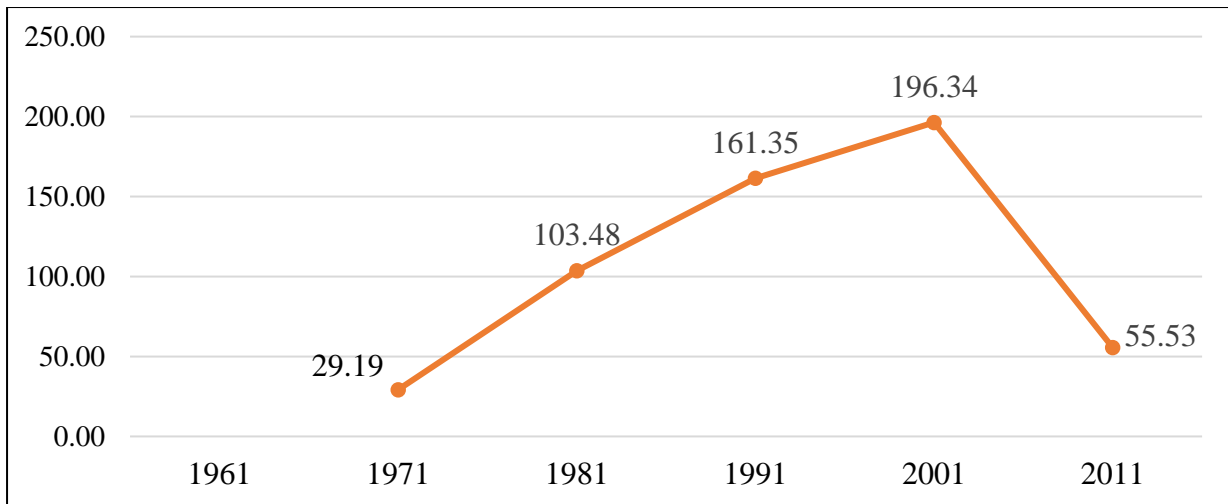


Figure 4-2 Decadal Growth Rate

4.4 Structure of Population

4.4.1 Sex Ratio

The Mira Bhayandar city recorded a population of 809378 in 2011 out of which 429260 are male whereas 380118 are female. The overall sex ratio of Mira Bhayandar city is 885, which is lower than that of the State average (925) and National average (940) as per the Census 2011. The sex ratio for the population below 6 years of age, during the same period for the city, is 898, which is slightly higher than the State average (883) and lower than the National average (914). The overall sex ratio has witnessed positive growth while the same for the population below 6 years of age between 2001 and 2011 has mostly witnessed a negative growth rate. The total sex ratio of Mira Bhayandar increased from 817 to 886 whereas the sex ratio for the population below 6 years marginally reduced from 900 to 898 from 2001 to 2011.

Table 4-3 Sex Ratio

Census Year	Overall Sex Ratio	Sex Ratio below 6 years
1961	846	-
1971	899	-
1981	854	-
1991	857	950
2001	817	900
2011	886	898

Source: Census of India, 2011

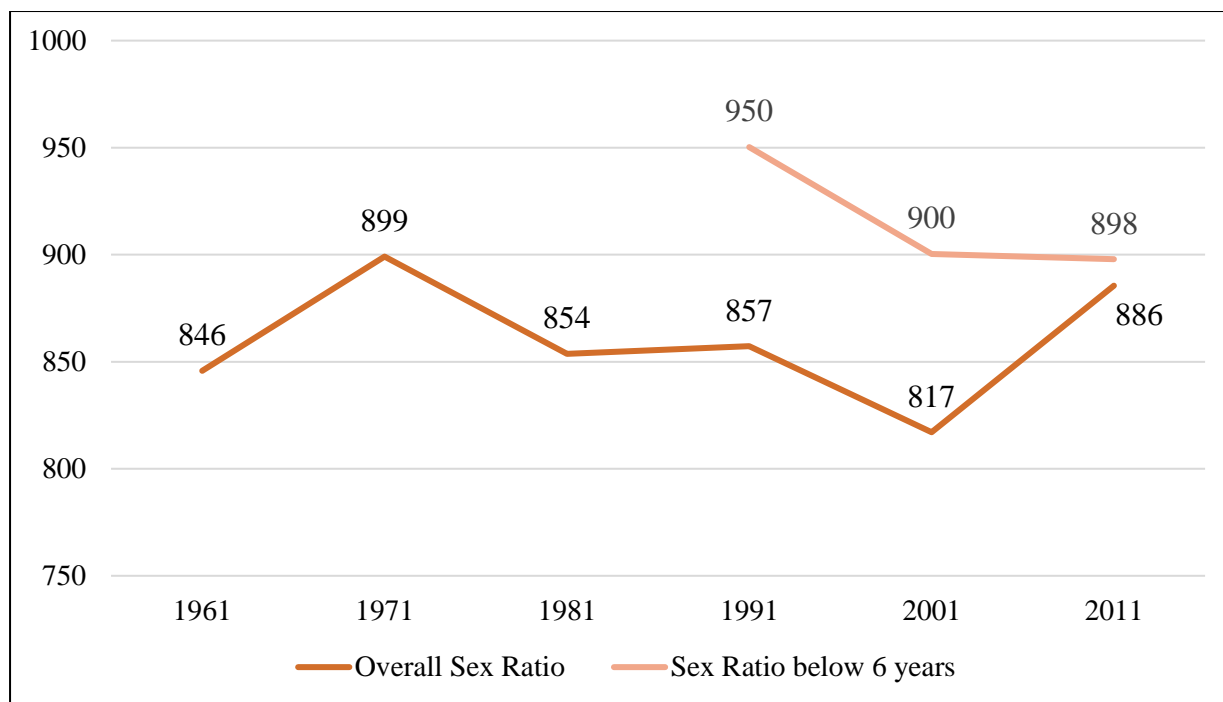


Figure 4-3 Sex Ratio

4.4.2 Literacy Rate

As per Census 2011, the literacy rate of Mira Bhayandar is 81.01%, which is closer to the State average (82.34%) and higher than the National average (74%). The literacy rate among males is 54.31% whereas the literacy rate among females is 45.69%. In both cases, the literacy rate is lower than the State average and National average. Table 4-4 shows that the literacy rate for males is reduced from 57.45% to 54.31% while for females it slightly increased from 42.55% to 45.69% from 2001 to 2011. Figure 4-4 indicate that the female literacy rate increased from 1961 to 2011.

Table 4-4 Literate Population from 1961 to 2011

Census Year	Total-Literate	M-Literate	F-Literate	Total (%)	Male (%)	Female (%)
1961	8591	6401	2190	33.61	74.51	25.49
1971	16135	10461	5674	48.86	64.83	35.17
1981	42247	25726	16521	62.88	60.89	39.11
1991	120899	69839	51060	68.85	57.77	42.23
2001	402490	231236	171254	77.34	57.45	42.55
2011	656293	356434	299859	81.09	54.31	45.69

Source: Census of India, 2011



Figure 4-4 Literacy Rate

4.4.3 Scheduled Caste and Scheduled Tribe

The Scheduled Caste (SC) population constitutes Mira Bhayandar is 3.74% of the total population while the Scheduled Tribe (ST) constitutes 1.56%. This percentage seems to be comparatively much lower than the State rates which are 9.35% and 11.81% for Scheduled Caste and Scheduled Tribe respectively. Table 4-5 shows the details and percentages of the same.

Table 4-5 Population Composition

Census Year	Total SC	% Total SC	Total ST	% Total ST
1961	480	1.88	2883	11.28
1971	118	0.36	4111	12.45
1981	929	1.38	6995	10.41
1991	3767	2.15	5407	3.08
2001	5935	1.14	6629	1.27
2011	30243	3.74	12596	1.56

Source: Census of India, 2011

4.4.4 Household Size

The average household size in Mira Bhayandar is 4.3 as per Census 2011. It has been observed that the average household size in the city decreased during the period from 1971 to 2011. The HH size has reduced from 5.7 to 4.3 during the same period.

Table 4-6 Number of households

Census Year	Population	Households	HH Size
1961	25560	4818	5.3
1971	33022	5819	5.7
1981	67192	13450	5.0
1991	175605	38361	4.6
2001	520388	117276	4.4
2011	809378	187059	4.3

Source: Census of India, 2011

4.4.5 Religion Wise Population

As per the census of 2011, Hinduism is the majority religion in Mira Bhayandar city with 68.96 % followers. Islam is the second most popular religion with approximately 16.28 % following it. In Mira Bhayandar city, Christianity is followed by 6.01 %, Jainism by 5.67 %, Sikhism by 0.53 %, and Buddhism by 1.86 %. Around 0.14 % stated 'Other Religion', approximately 0.54% stated No Particular Religion.

Table 4-7 Religion Wise Population

Sr. No.	Religion	Total	Share
1	Hindu	558176	68.96
2	Muslim	131781	16.28
3	Christian	48682	6.01
4	Sikh	4283	0.53
5	Buddhist	15033	1.86
6	Jain	45905	5.67
7	Others	1161	0.14
8	Not Stated	4357	0.54

Source: Census of India, 2011

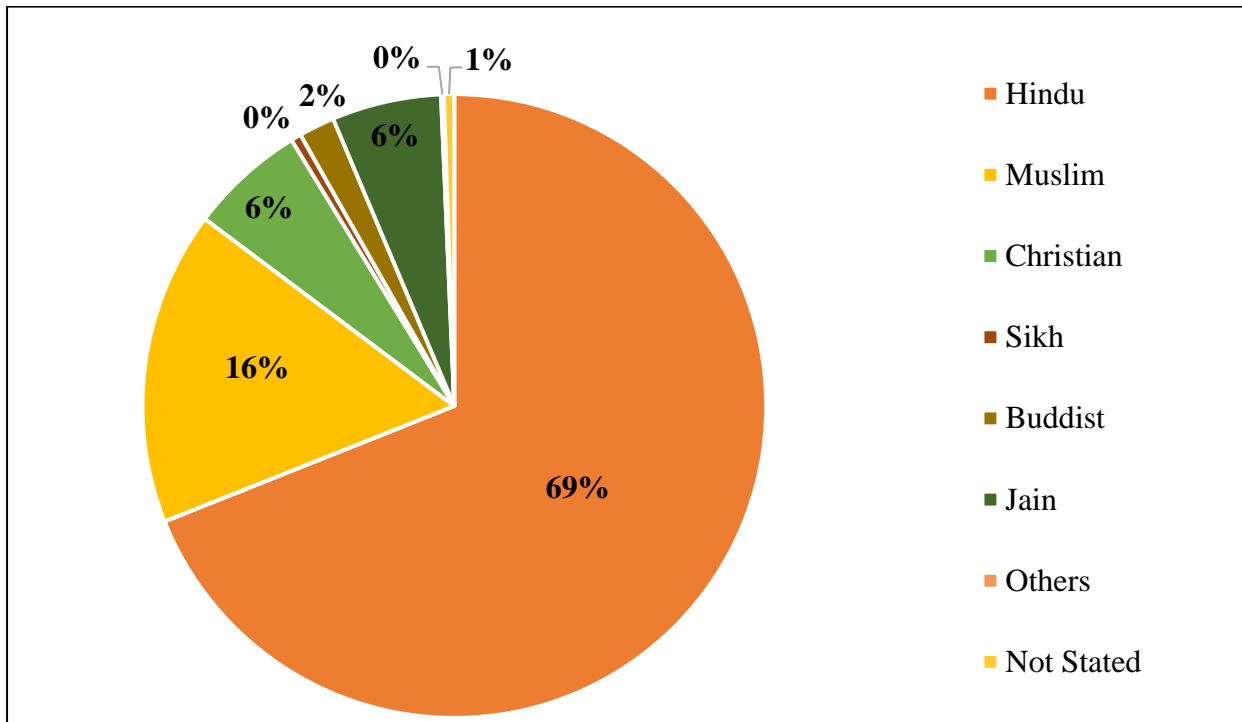


Figure 4-5 Religion-wise Population

4.5 Population Distribution

4.5.1 Ward-wise Population Distribution

The Mira Bhayandar city covers an area of 79.40 sq. km. and has been divided into 24 Municipal wards. The gross density of each ward has been indicated in Table 4-8. Population shares of ward number 10 and 11 are the highest in the city. It has been seen that the population is mainly distributed in Goddev, Navghar, Bhayandar, and Mira villages. The development of Mira Bhayandar is mainly clustered around railway stations of Bhayandar and Mira Road, due to the availability of transport facilities. The area to the west of Bhayandar station and around Bhayandar Gaothan has developed and give a gross density of 1131 persons per hectare. The area around Khari Gaothan and east of the Bhayandar station has been developed into a residential area and shows a gross density of 1129 persons per hectare. Further, the major development observed around the east of Mira Road railway station gives an average gross density of 600 persons per hectare. The villages along the west side of the coastal line and around the forest show the lowest gross density.

Table 4-8 Existing Gross Population Density

Ward Number	Population	Area (Ha)	Population Density (pph)
1	32377	343	94
2	31643	53	597
3	35483	42	845
4	34662	34	1019
5	36141	32	1129
6	31671	28	1131
7	31971	33	969
8	33455	66	507
9	32600	58	562
10	38439	83	463
11	37410	103	363
12	31106	121	257
13	33537	498	67
14	35655	2215	16
15	33872	109	311
16	32286	156	207
17	35838	60	597
18	35471	146	243
19	31467	67	470
20	33146	49	676
21	35245	78	452
22	37138	50	743
23	31460	1614	19
24	27305	2050	13

Source: Election Department, MBMC

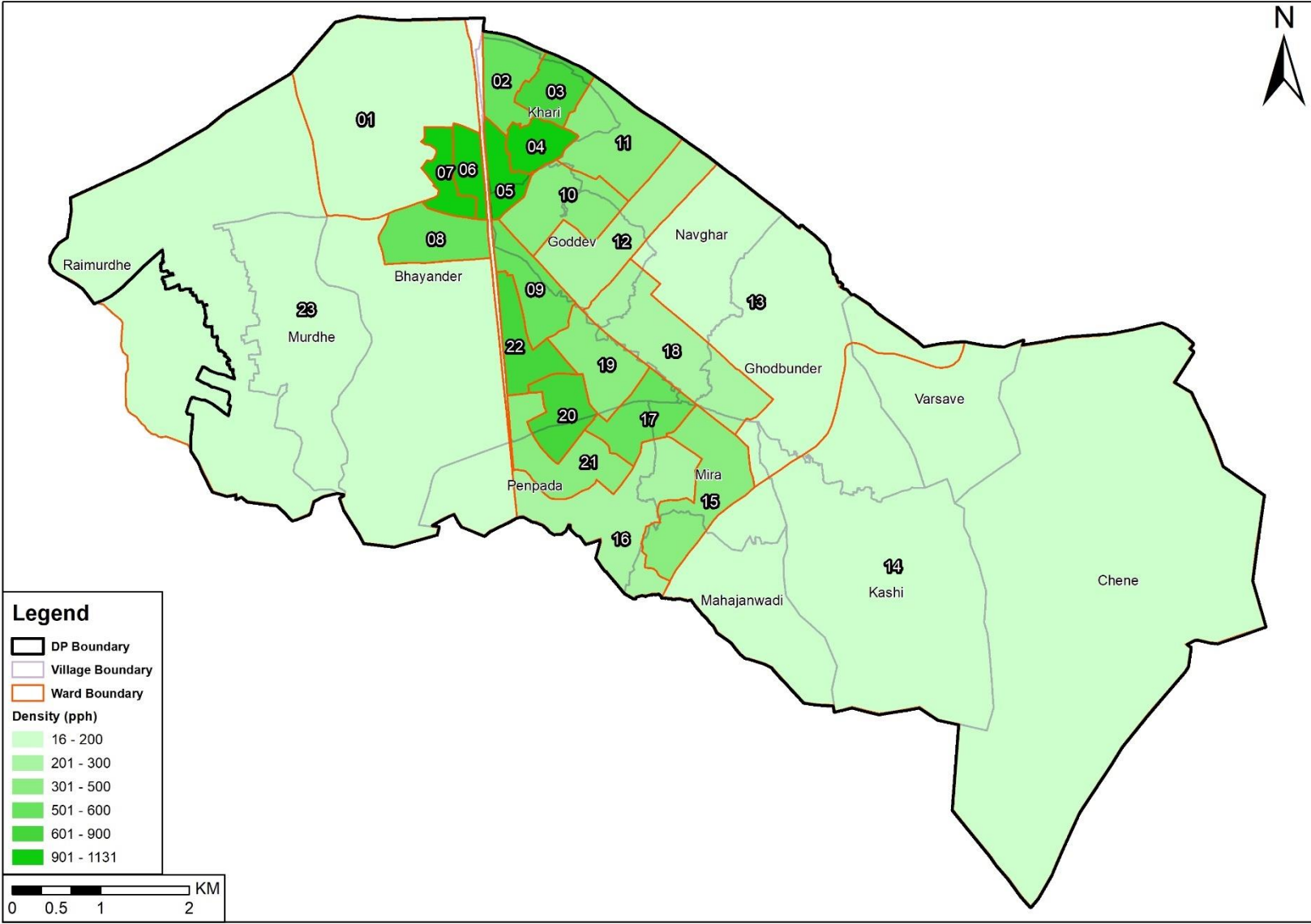


Figure 4-6 Population Density

4.5.2 Slum Population

The slum population in the city has been growing in the last decades and constituted 7.2% of the total population in 2011. There are 33,269 households residing in slums. Table 4-9 indicate that most of the slums are located on privately owned land. Slums are not uniformly distributed throughout the city. Slum pockets are generally found along the railway track, on the periphery of the forest, on water courses/creeks, and in low-lying areas prone to flooding. The majority of the slums are observed in Bhayandar and Mira villages. The slums and their location are listed in Annexure 2.

Table 4-9 Details of Slum

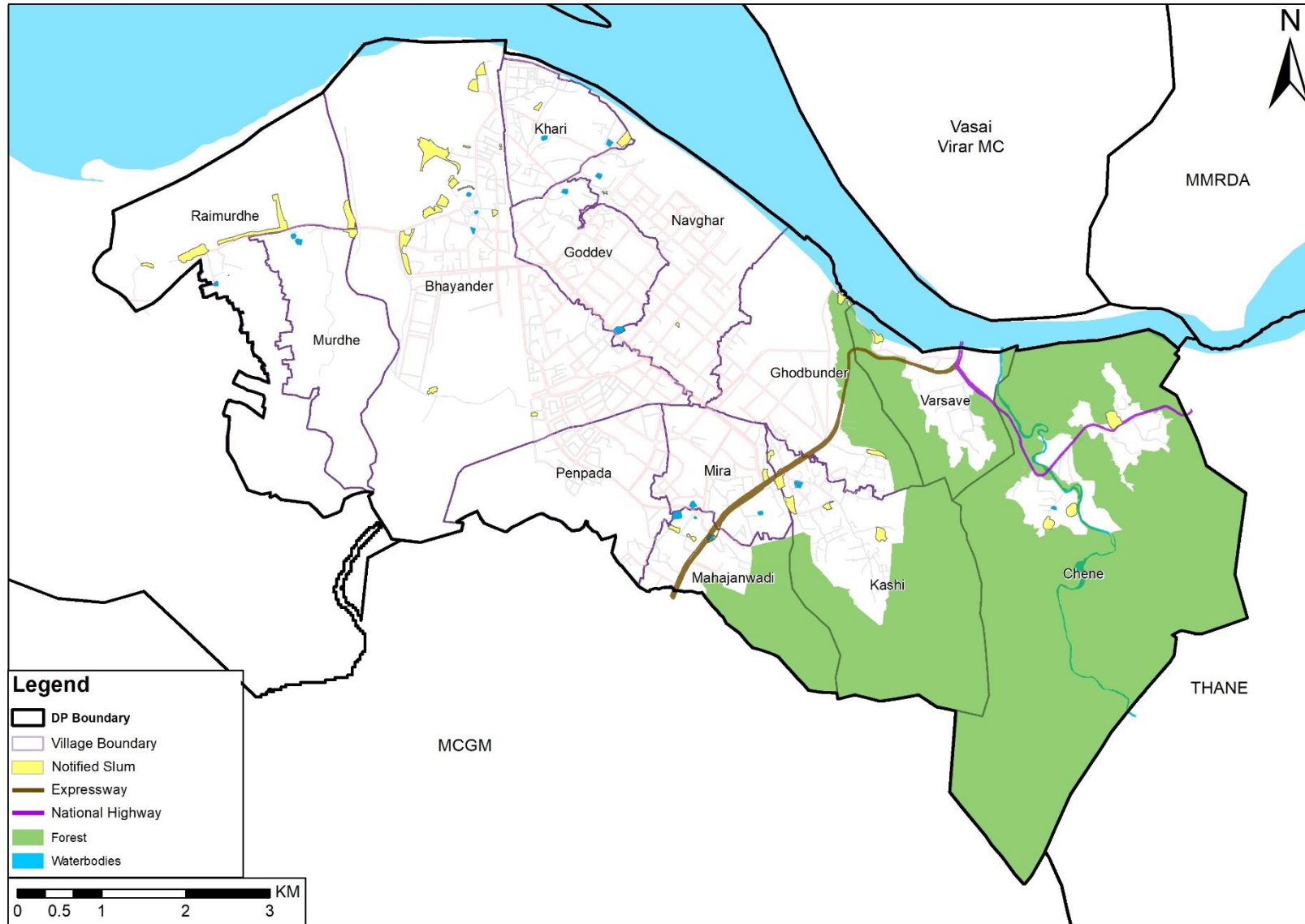
Total Number of Slums	36	
Total Households (HH)	33269	
Total Population	58349	
Land Ownership	Government	15
	Private	21

Source: Slum Rehabilitation Authority (SRA), 2011

Table 4-10 Slum Population

Year	Population	Slum Population	% to Total Population
2001	520388	37240	7.16
2011	809378	58349	7.21

Source: MMR Slum Report, 2001 and Slum Rehabilitation Authority (SRA), 2011



4.6 Registered Birth and Deaths (2014 to 2020)

The details of registered births and deaths from 2014 to 2020 for the Mira Bhayandar Municipal Corporation area as follows.

Table 4-11 Population from 2014 to 2020

Year	Birth	Death	Total Increase	Total Population
2014	9640	3801	5839	820839
2015	9421	3931	5490	826329
2016	9648	4052	5596	831925
2017	9679	4053	5626	837551
2018	9492	4318	5174	842725
2019	10260	4760	5500	848225
2020	8559	6649	1910	850135

Source: Birth and Death Department, MBMC

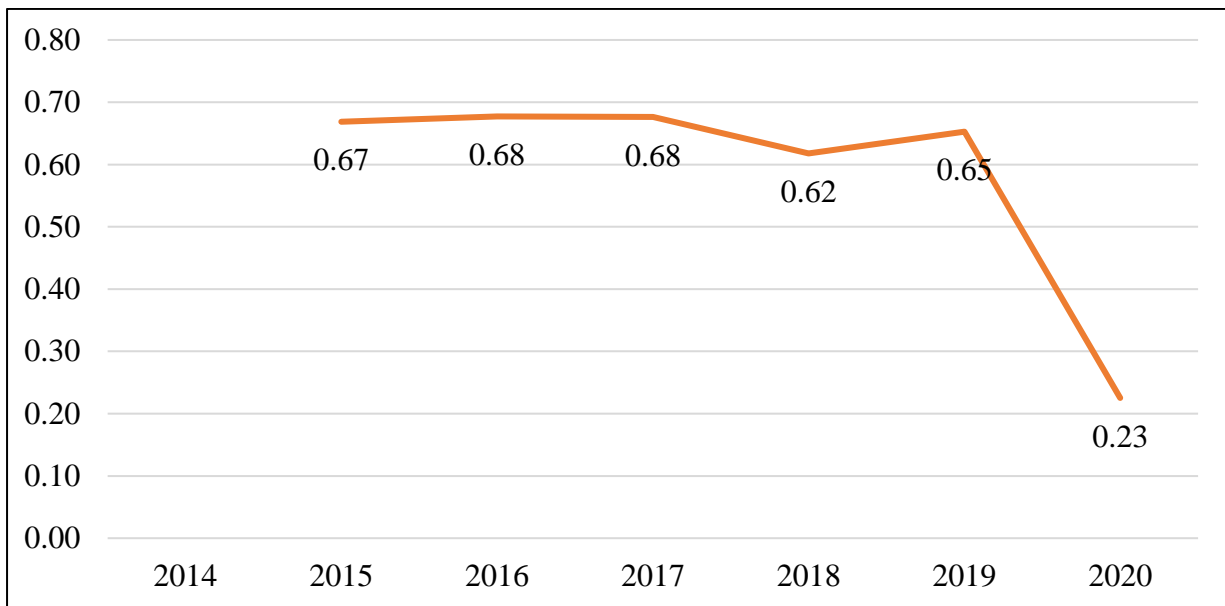


Figure 4-8 Natural Growth Rate

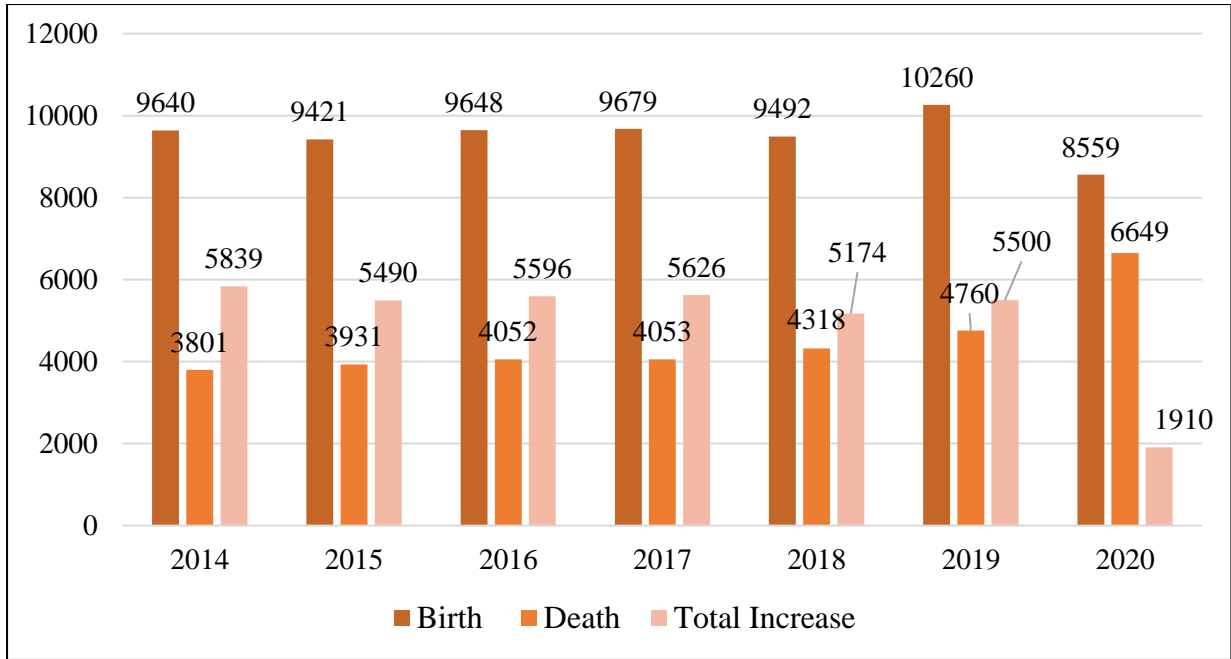


Figure 4-9 Birth and Death, MBMC, 2014-2020

CHAPTER 5

ECONOMY



5 ECONOMY

5.1 Introduction

Analysis of the economic activities of the city is necessary to understand the process of growth and dynamics of the city. Employment pattern is one of the important parameters of economic growth of the city. The structure of employment in and around Mira Bhayandar city can be studied in various ways.

5.2 Occupational Structure

According to 2011 Census data, there are 3,16,363 workers i.e., 39.09% of the total population while the remaining 4,93,015 are classified as non-workers. Figure 5-1 indicates that the percentage of the total working population increased from 1981 to 2011. The above workers are further classified into main and marginal workers. Main workers are those who have worked for the major part of the reference period i.e., 6 months or more. While marginal workers are those who have not worked for the major part of the year. Table 5-1 shows that 89.04% of the total workers are main workers while 10.96% are marginal workers as per the 2011 Census. Thus, the numbers indicate that most of the people of Mira Bhayandar city have long-term employment. But, the share of the main workers is reduced from 96.26% to 89.04% in the last decade i.e., from 2001 to 2011. This implies that jobs in long-term employment are reduced.

Table 5-1 Economic Profile of Mira Bhayandar

Census Year	Total Workers	% of Total Workers	Non-Workers	% of Non-Workers	Main Workers	Marginal Workers
1961	12187	47.68	13372	52.32	-	-
1971	10686	32.36	22529	68.22	-	-
1981	20228	30.10	36429	54.22	18737	1491
1991	59690	33.99	113884	64.85	57659	2031
2001	193158	37.12	327230	62.88	185934	7224
2011	316363	39.09	493015	60.91	281675	34688

Source: Census of India, 2011

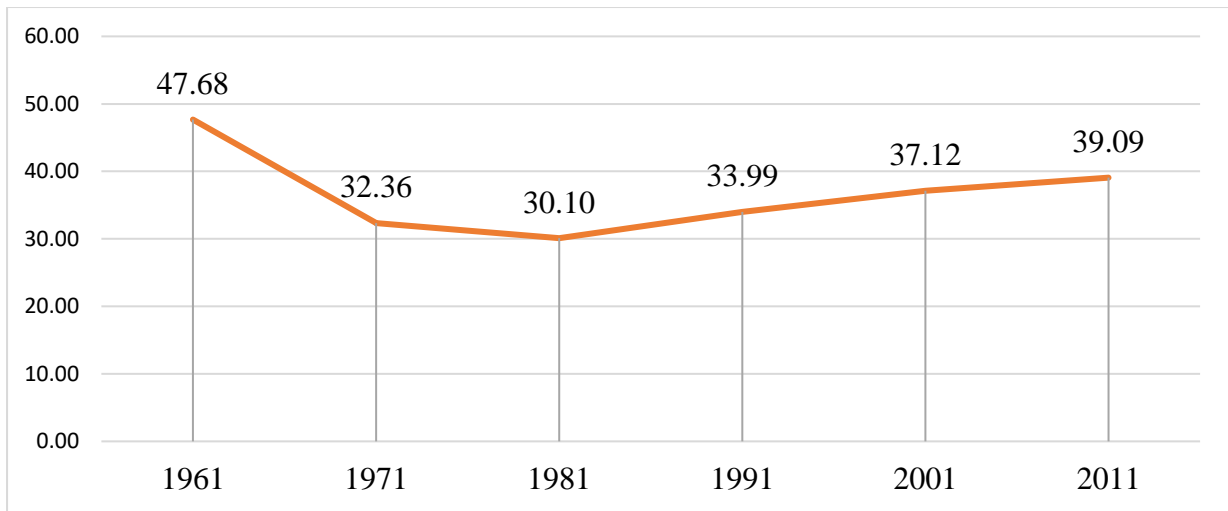


Figure 5-1 Working Population

5.2.1 Employment Pattern

The relative importance of various employment sectors of the economy in the town is identified by the employment absorption capacity of that sector in the local employment of the town. The local employment in the urban town is mainly provided by the following sectors

- Small- and large-scale industries
- Newly upcoming industries
- Shops and commercial establishments
- Educational and health institutions
- State and Central Government offices

Census has classified workers into cultivators, agriculture labours, HH industry workers, and other than HH workers. Out of the total workers of Mira Bhayandar city, 0.68% are engaged in cultivation, 0.67% are working as agricultural labour, 3.05% are household labour and 95.60% are engaged in other than household industry.

Table 5-2 Occupational Structure

Census Year	Cultivators	Agriculture Labours	HH Industry Workers	Other than HH
1991	1.78	1.54	0.80	95.88
2001	0.16	0.41	1.87	97.56
2011	0.68	0.67	3.05	95.60

Source: Census of India, 2011

5.3 Functional Classification

Again, the total workers are classified into three main categories based on the nature of employment. Out of the total workers, 4276 workers i.e., 1.35% are engaged in the primary sector. Workers engaged in secondary and tertiary sectors are 3.05% and 95.60% of total workers respectively. If any of these individual components have more than 40% of the total workers, the area is classified as Mono-functional. If it is not so and if the total of the percentages of the first two important categories is more than 60% of the area, it is said to be bi-functional. Table 5-3 shows that percentage of workers engaged in the primary and secondary sectors is not more than 40%. Thus, Mira Bhayandar city is termed a mono-functional city. Also, we can say that the functional classification of the city is tertiary.

Table 5-3 Economic Sectors

Census Year	Primary	Secondary	Tertiary	% of Primary	% of Secondary	% of Tertiary
1991	1982	479	57229	3.32	0.80	95.88
2001	1101	3608	188449	0.57	1.87	97.56
2011	4276	9654	302433	1.35	3.05	95.60

Source: Census of India, 2011

5.4 History of Industrial Development

The peculiar sprawling growth of Mumbai influenced its surroundings. As per the recommendations of the Barve Committee, industrial activities from the heavily congested areas of Mumbai were dispersed around the city. This allowed the establishment of an industrial area in and around Mira Bhayandar city. As a result, one industrial estate in Mira was established by MIDC.

As per the Industrial, Location Policy spelled out by Government, in its notification No. ILP/1082/1480/IND-2 dated 3rd February 1984, the Mira Bhayandar Municipal Corporation area falls under Zone II. According to that industrial units including small-scale industries curbed and restricted in the area. As a result, a large number of small-scale service-type industries had come up in an unauthorised manner in the area mainly to the east of the Bhayandar railway station. These industries mainly occupied the ground floor of the structure and not followed any particular plan. Thus, the entire area has been developed haphazardly into an industrial

slum. All these industrial units are small-scale ancillary industries catering to the industries in Greater Mumbai.

5.5 Paradigm Shift in Economic Base

Earlier the primary sector i.e., agriculture played a predominant role in the economy of Mira Bhayandar city. After 1984, with the setting up of several manufacturing industries in Mira Bhayandar, the major pillar of the city's economic base shifted from the agriculture sector to the secondary sector. Later, due to the industrial location policy, many industries in Mira Bhayandar shut down and the economic base shifted towards the tertiary sector.

5.6 Employment Characteristics

The employment pattern in Mira Bhayandar has witnessed significant restructuring, especially since 1990. There has been a rise in manufacturing and service sector employment and a decline in primary sector employment. The structure of production continues to show a deceleration in industrial activity with around 95% being contributed by the service sector. The share of agriculture in Mira Bhayandar GDP has been falling over the years. Also, the share of the manufacturing sector has seen declination in these years. Total employment in the primary sector including agriculture and agriculture labor activity fell from 35% to 1.35% between 1961 to 2011. Total service employment has increased from 70% to 95% in the same period. The contribution of the tertiary sector on the other hand has been on the rise. Figure 5-2 confirms that agriculture and manufacturing employment has been falling over the years while that in services is increasing.

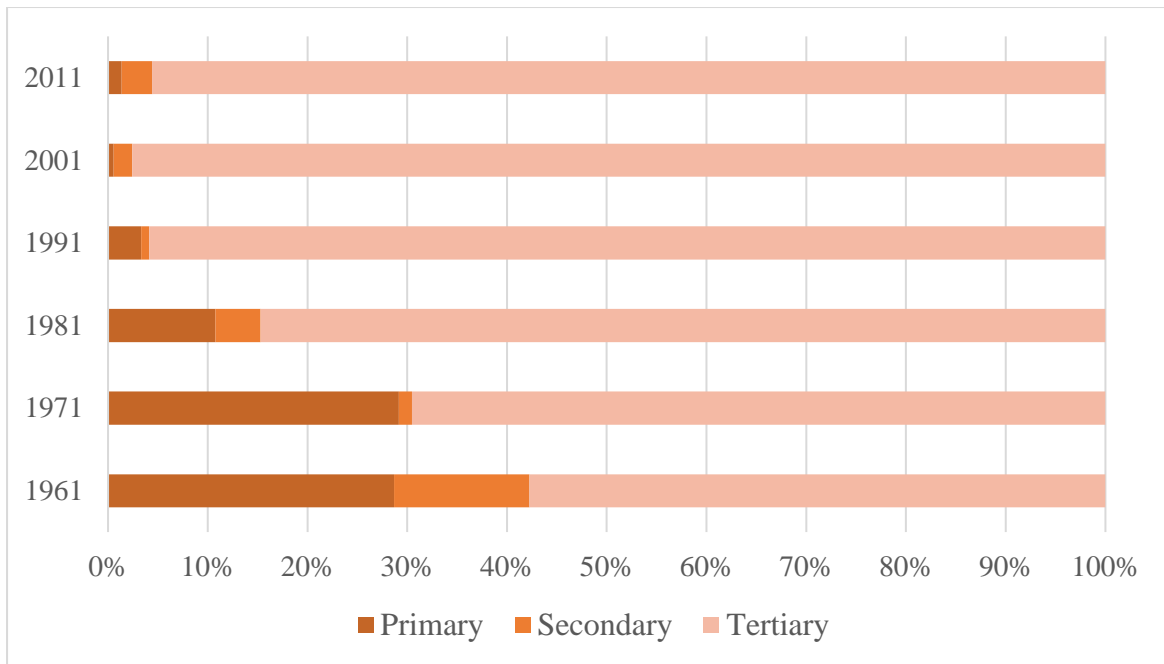


Figure 5-2 Distribution of Residential workers by industrial activity

5.7 Industrial Estate

As per the recommendations of the Barve Committee, industrial activities from the heavily congested areas of Mumbai were dispersed around the city. There is one industrial estate in survey number 2 of Mira developed by the M.I.D.C. The area of this industrial estate admeasures 6 Ha. The plotting has been done by M.I.D.C. and allocated to the different industrial activities. Map 5-1 shows the industrial estate layout.

5.8 Small scale Industries

The city is known as a hub for small-scale industries. The business came into existence in 2004 and since then has been known in the field. It is ranked third in the whole of Asia. The machine manufacturing and machine spare part industries are major industries in the area. These industries are located at Saraswati, Manasarovar Complex, Kashmirira, and Bhayandar east area. These industries are mostly located on the ground floor of the structure. The Government in Industries and Labour Department has appointed a committee in 1986 under the chairmanship of the Divisional Commissioner of Konkan Division to improve and ameliorate the present situation of these industrial units. The committee has given some recommendations to change the existing condition as follows:

1. To change the industrial location policy partly for the Bhayandar area.
2. Modify the zonal plan of Bhayandar and put new reservations.
3. To demolish the structures falling in the reservations of roads.

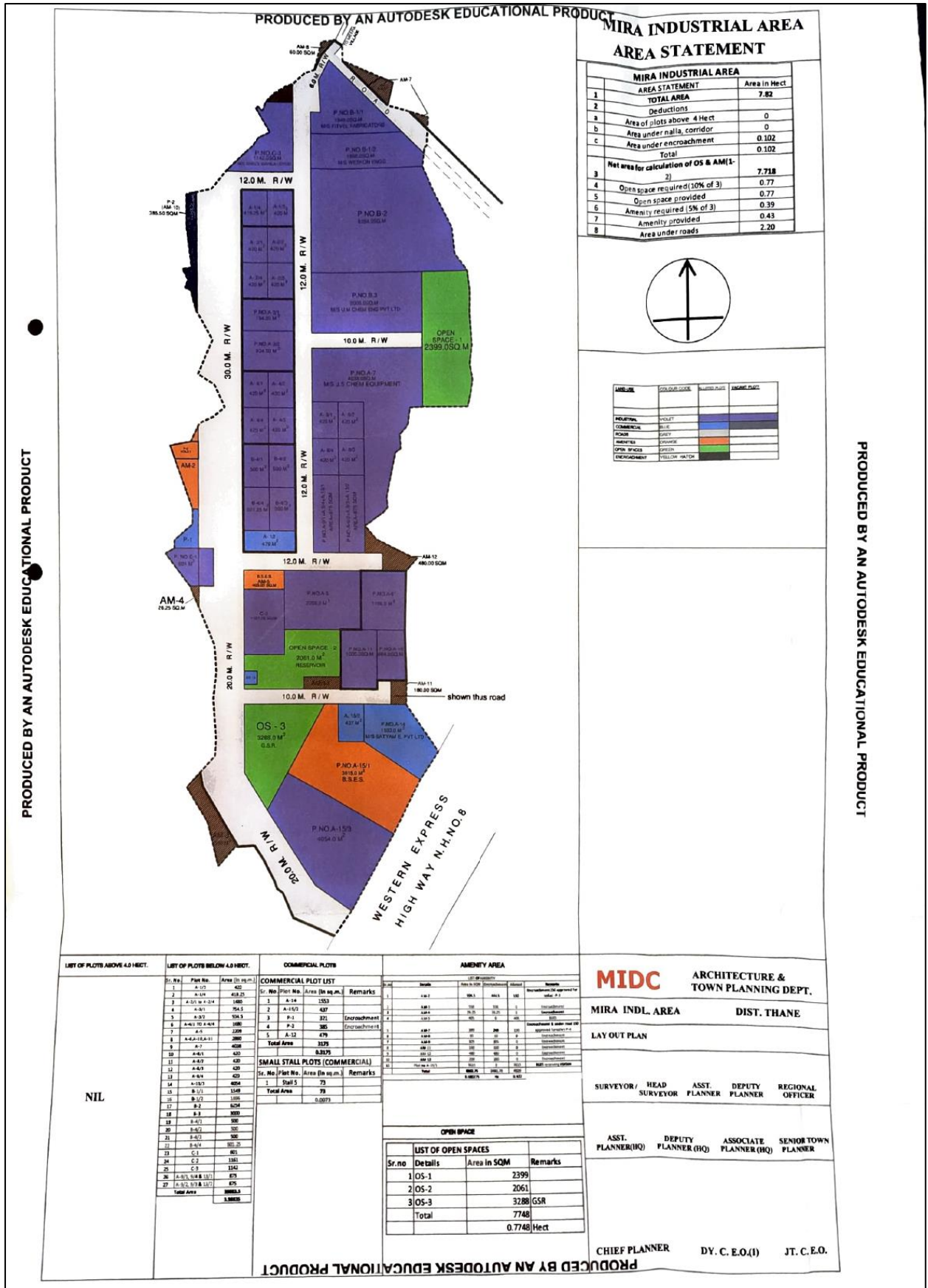
4. To take action under the tenancy Act for evicting the purchases of land without permission.
5. To take action vesting of land in Government under the Urban Land Ceiling Act.
6. To grant lands to the occupants on a leasehold basis.
7. To assess the unauthorized industrial structure for NA with appropriate fines and compensation.
8. To regularise the service units in Gaothan.
9. To rehabilitate the affected unit. Some of the industries are hazardous and polluting and need to be shifted away from the residential area.

5.9 Shops and Commercial Establishments

The local authority maintains a record of the number of shops, commercial establishments, and theatres registered for a year. According to a recent record available with Mira Bhayandar Municipal Corporation, it is observed that there are 52, 809 shops and commercial establishments, 172 hotels and restaurants, and 3 malls.

5.10 Conclusion

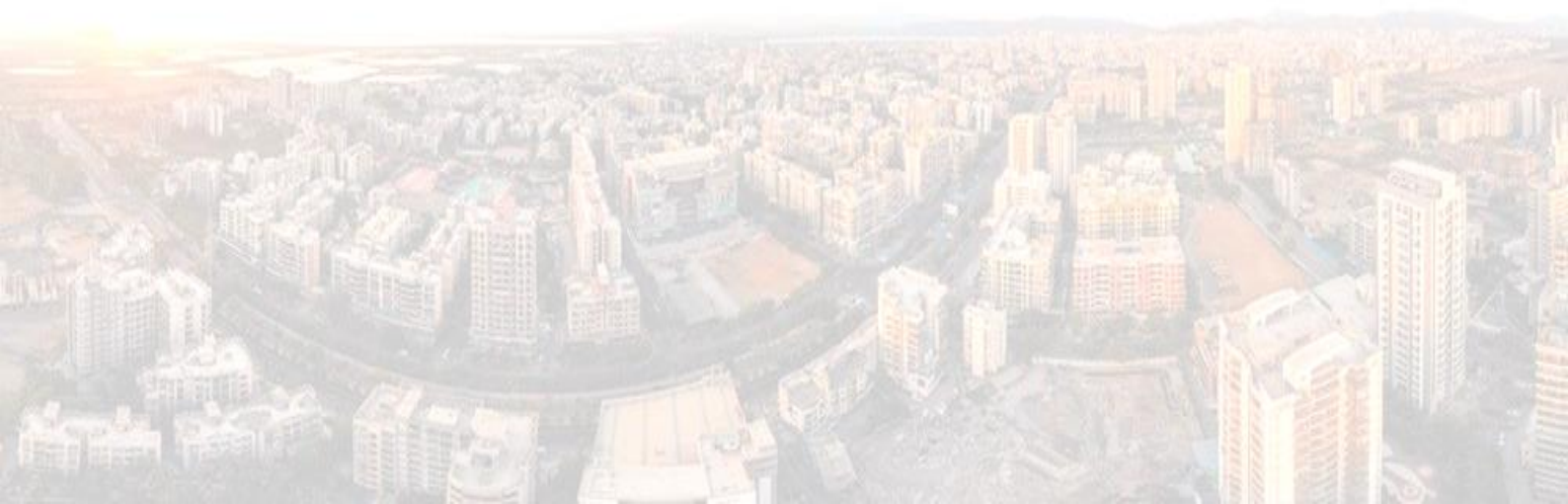
- The city's economy has transformed agriculture and allied activities into tertiary activity
- The pattern of employment shows deceleration in industrial activities with around 95% being contributed by the service sector



Map 5-1 Industrial Estate Layout

CHAPTER 6

TRANSPORT



6 TRANSPORT

6.1 Introduction

An effective and efficient transport system plays an important role in the development of the area. They connect people with employment, public services, shopping and social networks, and businesses to labour, consumer, buyer, and supplier markets. This chapter primarily emphasizes the transportation scenario of the city. The chapter starts with a briefing on the existing transport network and traffic situation in the area. The succeeding sections will give an overall outline of the traffic and transportation condition of the city.

6.2 Existing Transport Network

The Kashimira-Bhayandar road is a major district road taking off from the Western Express Highway near Kashimira junction leading to village Uttan via level-crossing at Bhayandar rail line can be considered as the main axis of the city. Also, National Highway 48 known as a Ghodbunder road connects the city to all parts of India and Maharashtra. Bhayandar and Mira Road railway stations are located on the Mumbai Ahmedabad route of the Western Railway and are at a distance of 44 km and 40 km respectively from Churchgate railway station. All local trains from Mumbai to Virar and some of the trains on the Western Railway halt at the Bhayandar Railway Station. Local trains from Mumbai to Virar halts at Mira Road Station. Because of this mature rail and road network, Mira Bhayandar city is well connected to Greater Mumbai, Kalyan, Dombivli, and Ambernath. The domestic, as well as international airports, are at a distance of about 25-30 km from Mira Bhayandar.

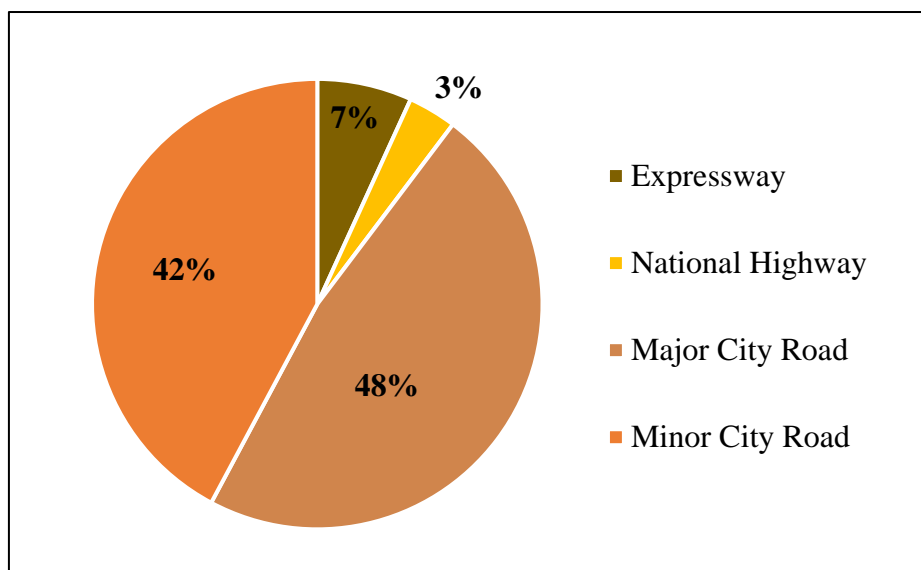
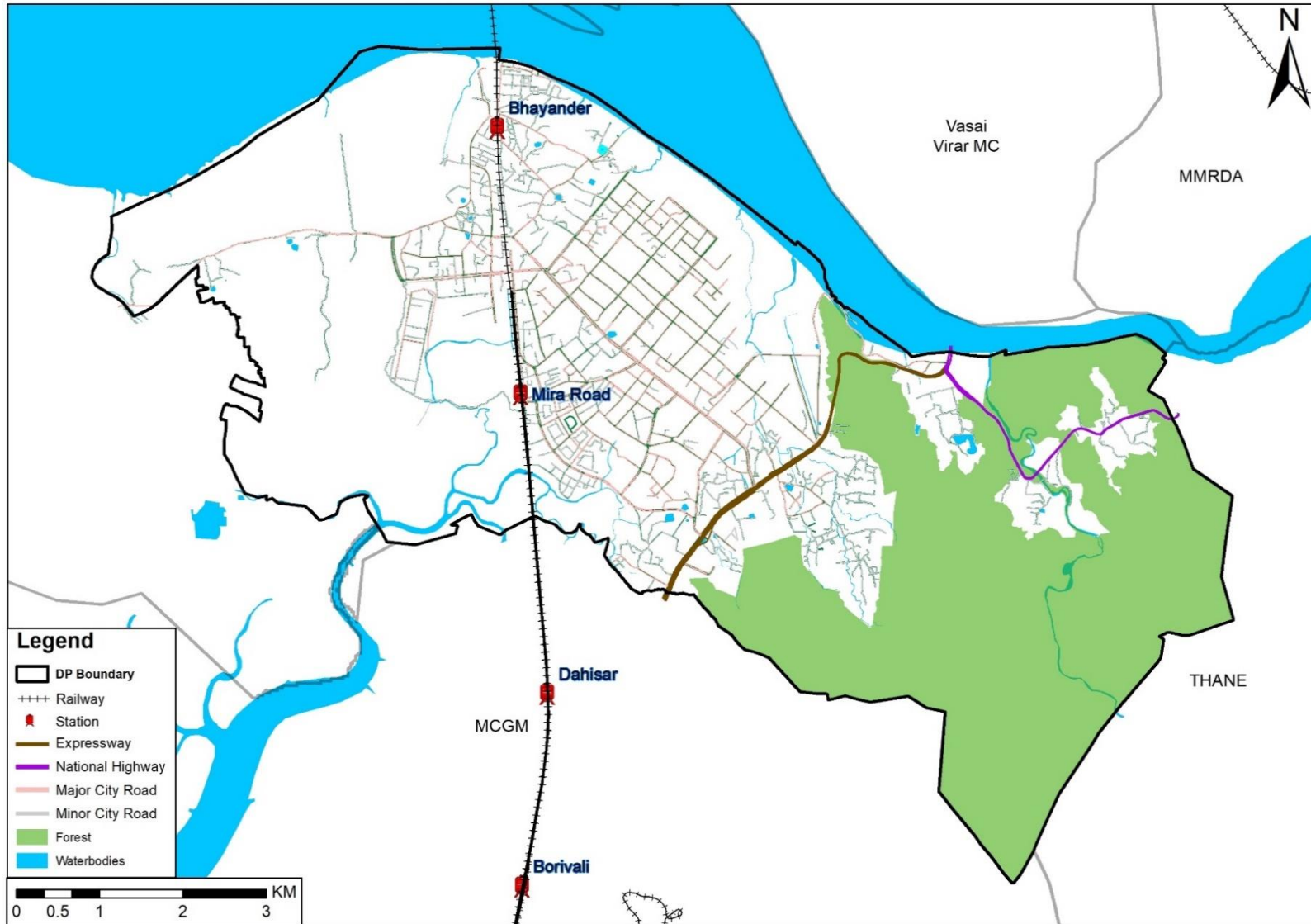


Figure 6-1 Type of roads and its road length in the city



Map 6-1 Existing Transport Network

It is observed that the Western Expressway and National Highway in Mira Bhayandar are about 16 km and 8 km long, while other major roads include 112 km of the road network, which forms the major arterial and sub-arterial road network of the city.

6.2.1 Public Transport

Mira Bhayandar Municipal Corporation started its public transport service in 2006, known as Mira Bhayandar Municipal Transport (MBMT). It provides services in the city and Mumbai suburbs like Thane, Borivali, Uttan, and Andheri. Mira Bhayandar Municipal Transport (MBMT) operates a bus-based public transport system operating across 20 routes. MBMT buses are mainly catering as a feeder system to people who have their destination in Mumbai or for the people who come to Mira Bhayandar city. The city has one MBMT bus terminal located at Mira Road. A map 6-2 shows the location of the MBMT bus depot.

There are two bus depots namely S. T. depot Bhayandar, and bus depot Mira Road in Mira Bhayandar Municipal Corporation. Both bus terminals are located near the railway station in the city. Map 6-3 is showing the location of the MSRTC bus depot in the city.

6.3 Mode Share

A modal share (also called mode split, mode-share, or modal split) is the percentage of travelers using a particular type of transportation or the number of trips using said type. From the above figure 6-2 it is inferred that the two-wheeler comprises of maximum trips (38%) in the city followed by Auto Rickshaw (34%). Thus, there is a special need to provide infrastructure facilities for auto rickshaws. The above chart also shows a very low number of trips of buses in the city and bicycle trips, thus there is a need to provide more public transport facilities and NMT infrastructure.

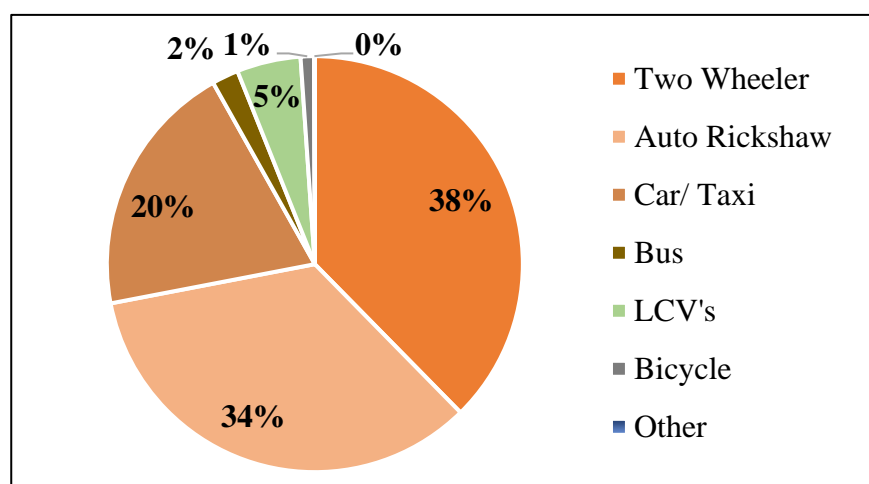
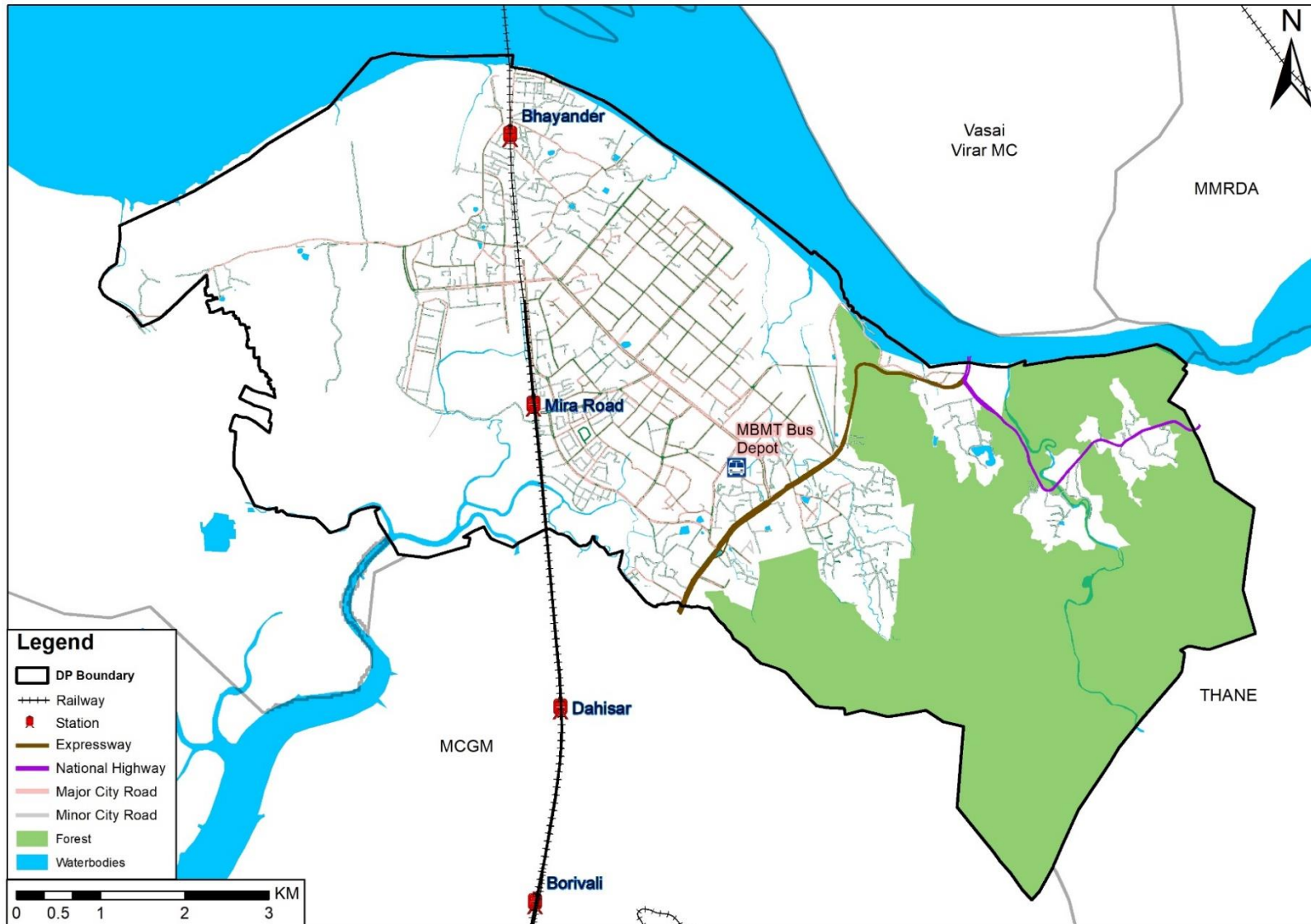
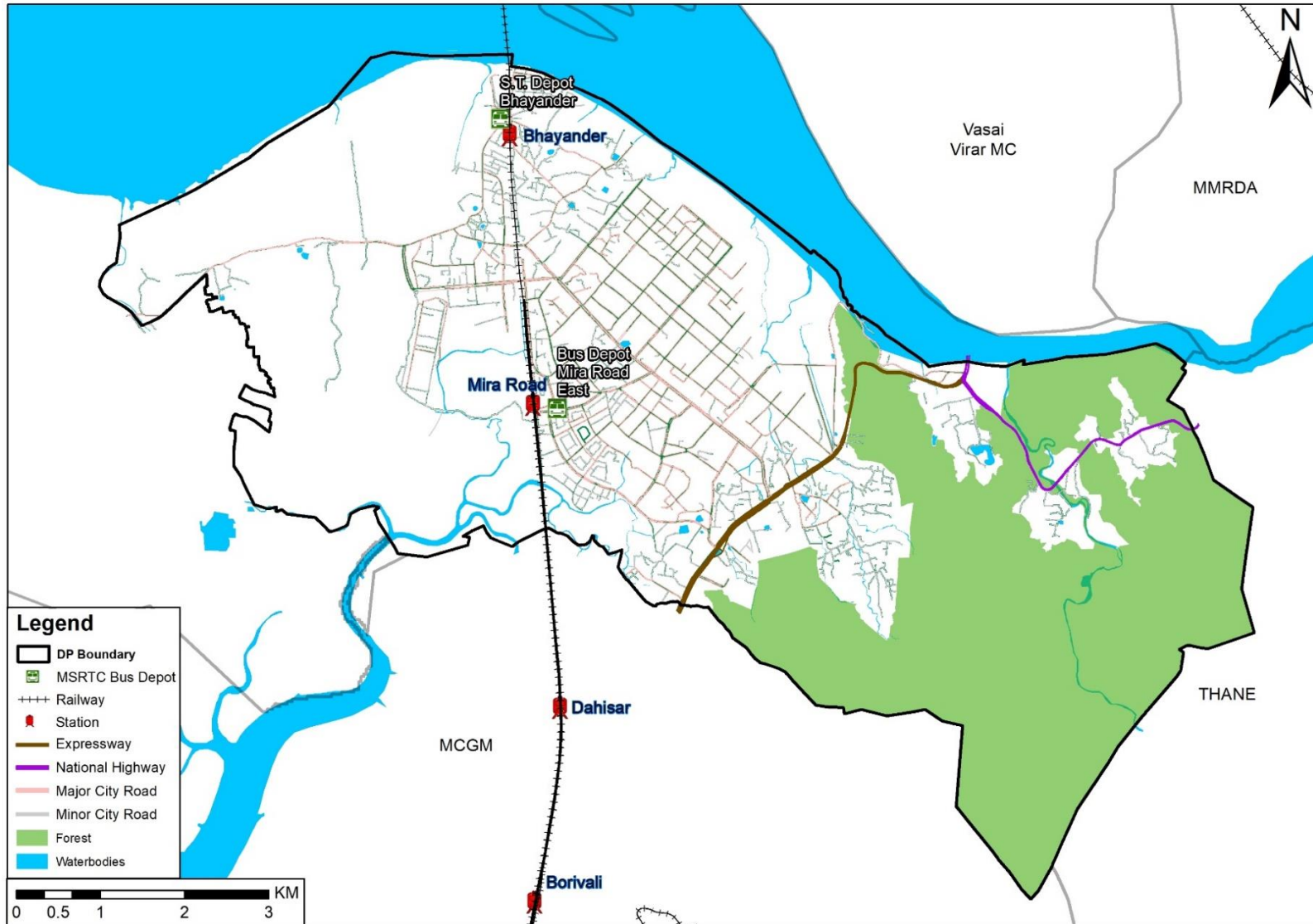


Figure 6-2 Mode Share



Map 6-2 MBMT Bus Depot



Map 6-3 MSRTC Bus Depot

6.4 Registered Vehicles

Category wise new motor vehicle registration in Mira Bhayandar has been compiled from the Regional Traffic Office (RTO) for the period 2015-2021 and has been presented in figure 6-3.

Vehicles	2015-2016	2016-17	2017-18	2018-19	2019-20	2020-21
2 wheelers	73439	78162	82999	80632	73354	50822
Cars/ Taxi	19288	26005	21566	17573	15439	14196
Auto	10460	4120	14795	11932	6622	1476
Buses	1213	1925	789	596	710	63
Trucks/ Tankers	4046	4574	6324	6197	4375	739
Others	3852	5412	2943	4314	4924	3401
Total	112298	119657	129187	120464	105285	70589

Source: RTO, Thane

It is observed from the above data that more than 60% of vehicles being registered in the city are 2-wheelers followed by cars. The number of new registrations of auto rickshaws has significantly decreased over time. It is observed that the total number of new vehicle registrations has decreased from 1.12 lakhs in 2015-16 to 0.71 lakhs in 2020-21. Two-wheelers account for the highest share with 65%-72% of the registered vehicles followed by cars and auto/taxis. The growth of total motor vehicles and private vehicles is presented in figure 6-3.

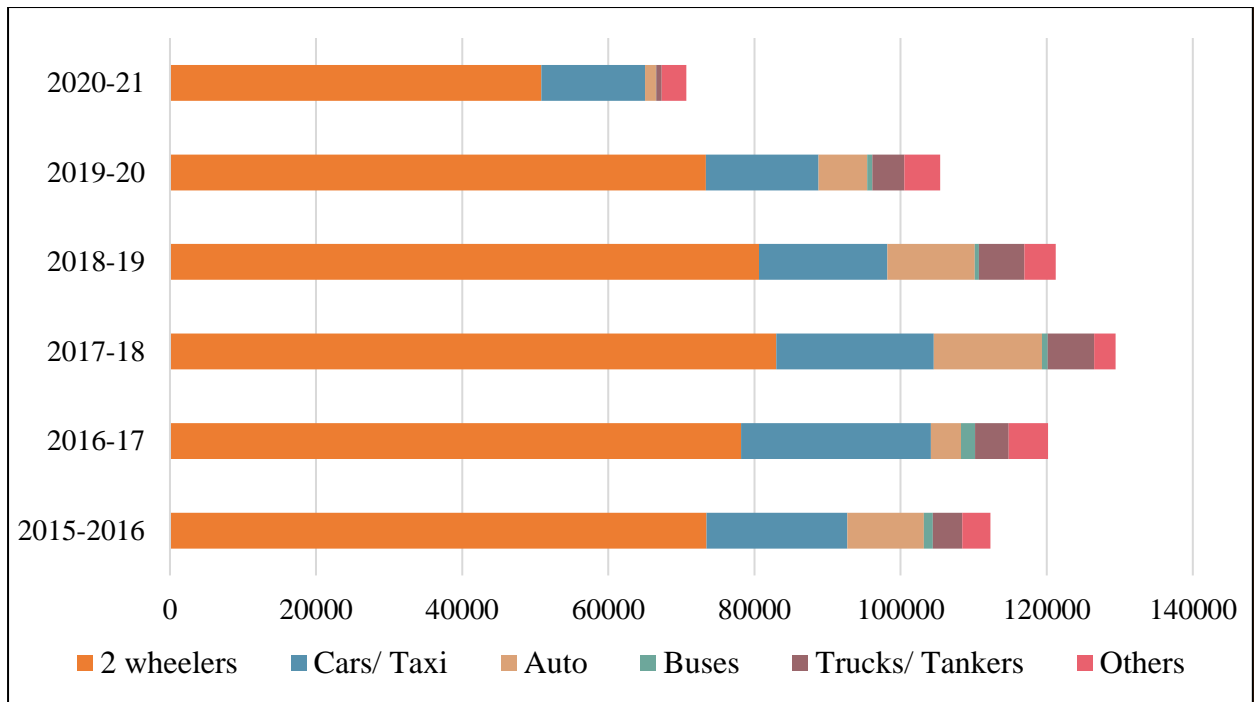


Figure 6-3 Registered Vehicles

6.5 Accident Data

The accident data received from DCP, Traffic for the year 2020-2021 is given in Table 6-1.

Table 6-1 Accident Data (2020-2021)

Year	Fatal Accidents	Major Injuries/ Serious Accidents	Accidents with Minor Injuries
January-December 2020	41	96	7
January-December 2021	21	58	7

Source: DCP Traffic, Mira Bhayandar

The rate of accidents is high in the city. It is observed that most of the accidents in the city involve major fatal accidents. This could be happened due to the high design speed and conflicting points at the intersection.

6.6 Analysis of the Existing Traffic Situation

A traffic survey is undertaken to determine the volume and/or nature of traffic utilizing a particular route. To analyze the existing situation, surveys are conducted to understand the

capacities of the road network, and the characteristics of the corridors. The following surveys are conducted as a part of the study.

1. Origin Destination survey
2. Speed and delay survey
3. Mid-block volume count survey
4. Intersection Volume Count Survey

6.6.1 Origin and Destination Survey

6.6.1.1 Purpose of the Survey

Origin-destination (O-D) surveys provide a detailed picture of the trip patterns and travel choices of the city's residents. These surveys collect valuable data related to households, individuals, and trips. This is performed to obtain information on the travel pattern of passenger and goods vehicles in the city along with the trip desire in terms of destination and origin from and through trips to the study area. This information allows stakeholders to understand travel patterns and characteristics; measure trends; provide input to the development of the travel demand model, forecasting and plan for city-wide transportation infrastructure needs and services; monitor progress in implementing transportation policies.

The Survey results were further used as a calculation of the existing demand for the network at various locations for the proposals.

6.6.1.2 Objective

Origin-destination (O-D) data is used to analyse the effect of proposals for change (for example, a new traffic management scheme, or a new road) in travel through a study area. The O-D data is kept constant, but routes and journey times can be changed; the impact of the proposal on individual trips and cumulative volumes, travel times, and costs can be assessed. O-D data is usually presented as a matrix of trip volumes between each origin and destination. The origin and destination points are the start and end zones of a trip, but can also be the entry and exit points on the study area cordon.

6.6.1.3 Survey Methodology

The interview method is generally used for recording the information for the origin and destination surveys and the survey was conducted for at least 16 hours on a normal working day. The following components are enquired/recorded in the survey through a questionnaire.

1. Vehicle Type

2. Occupancy
3. Origin (Place and District)
4. Destination (Place and District)
5. Trip Details (Distance, Time, and Purpose
6. Commodity Details (weight) – Only for Freight Transport

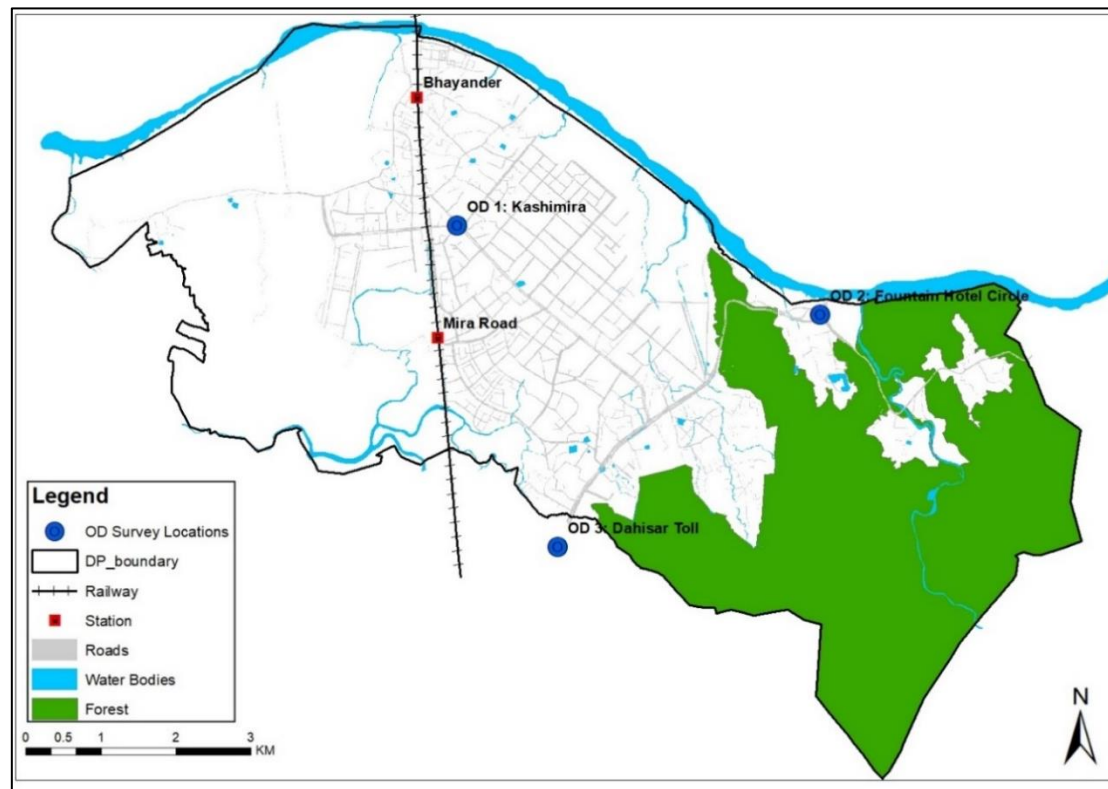
The survey format for the Origin Destination survey is shown below,

ORIGIN DESTINATION SURVEY										
CORDON POINT:								SHEET NO.: _____		
LOCATION :								WEATHER:		
DIRECTION FROM:				TO:				DAY & DATE:		
								NAME OF SURVEYOR:		
Sr. No.	TIME	VEHICLE TYPE	OCCUP-ANCY	ORIGIN		DESTINATION		TRIP DETAILS		
				PLACE	CITY	PLACE	CITY	DIST. (KM)	TIME (Min.)	PURPOSE

Coding: Cycle - 1 3 Wheeler - 2 2 Wheeler - 3 Car - 4 Bus- 5 Auto/Tempo - 6 Taxi – 7 Trucks – 8 Others – 9

6.6.1.4 Survey Locations

The first step in the Origin Destination survey is to choose locations for conducting the survey. The locations are selected such that it covers intercity and intra-city passenger and freight movement. It is important to cover the outer cordon, screen line, and inner cordon locations. The outer cordon is an imaginary line circumscribing the boundary of the study area and is termed a cordon point, if the location lies on the outer boundary of the study area is termed an outer cordon point. The total number of outer cordons identified for the O/D survey is three. Map 6-4 is showing locations identified for the Origin and Destination survey.



Map 6-4 Origin and Destination Survey Locations

6.6.1.5 Survey Data Quality Control

Survey data collected in the field was then analyzed and processed by going through the following procedures:

a) On-field checks

Random checks between stops were carried out to determine the consistency and accuracy of the survey being carried out. TMT staff were contacted for their comments and feedback and was incorporated for the successful completion of the program.

b) Logic checks

The collected data were processed for any logical errors that might have occurred in the field. For Example, typo errors might have occurred while data collection.

c) Survey Analysis Summary

As a part of the survey, data collected was to estimate the total boarding/alighting at every station for the weekday. This helped us to identify and understand required growth, existing routing and scheduling, and shortfalls between passenger demand and available infrastructure. This analysis would also surrogate in enhancing the future scheduling, routing, and better serving the bus passenger needs and demand.



Figure 6-4 Survey Photos

6.6.1.6 Survey Data Analysis

The Origin and Destination survey is carried out at the following locations,

1. Dahisar Toll Plaza
2. Fountain
3. Kashmirira

a. Traffic Moving from Mira Bhayandar

The result obtained from the survey is summarized below in map 6-5.

Table 6-2 O-D Survey Matrix for Traffic Volume from Mira Bhayandar

Destination	Dahisar Toll Plaza	Fountain	Kashmira	Total Trips	% of Total Trips
Kalyan	41	0	0	41	3%
Mumbai	238	0	101	339	25%
Navi Mumbai	7	14	1	22	2%
Palghar	121	149	0	270	20%
Thane	246	32	128	406	31%
Vasai -Virar	153	98	0	251	19%

It is inferred that 31% of the traffic observed originated at Mira Bhayandar and moved towards Thane followed by 25% towards Mumbai while Kalyan and Navi Mumbai's movement is minimal.

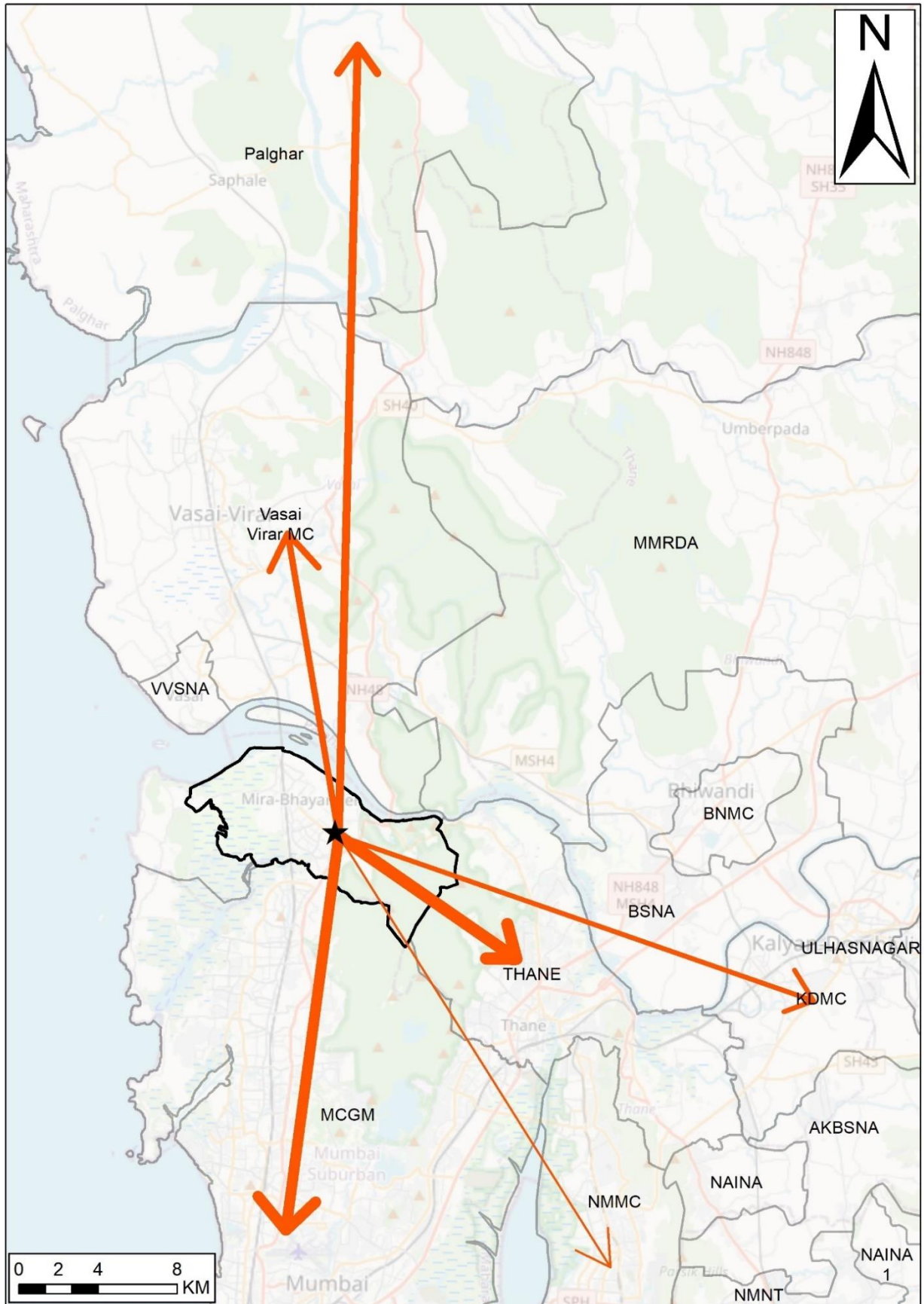
b. Traffic Coming to Mira Bhayandar

The result obtained from the survey is summarized below in map 6-6.

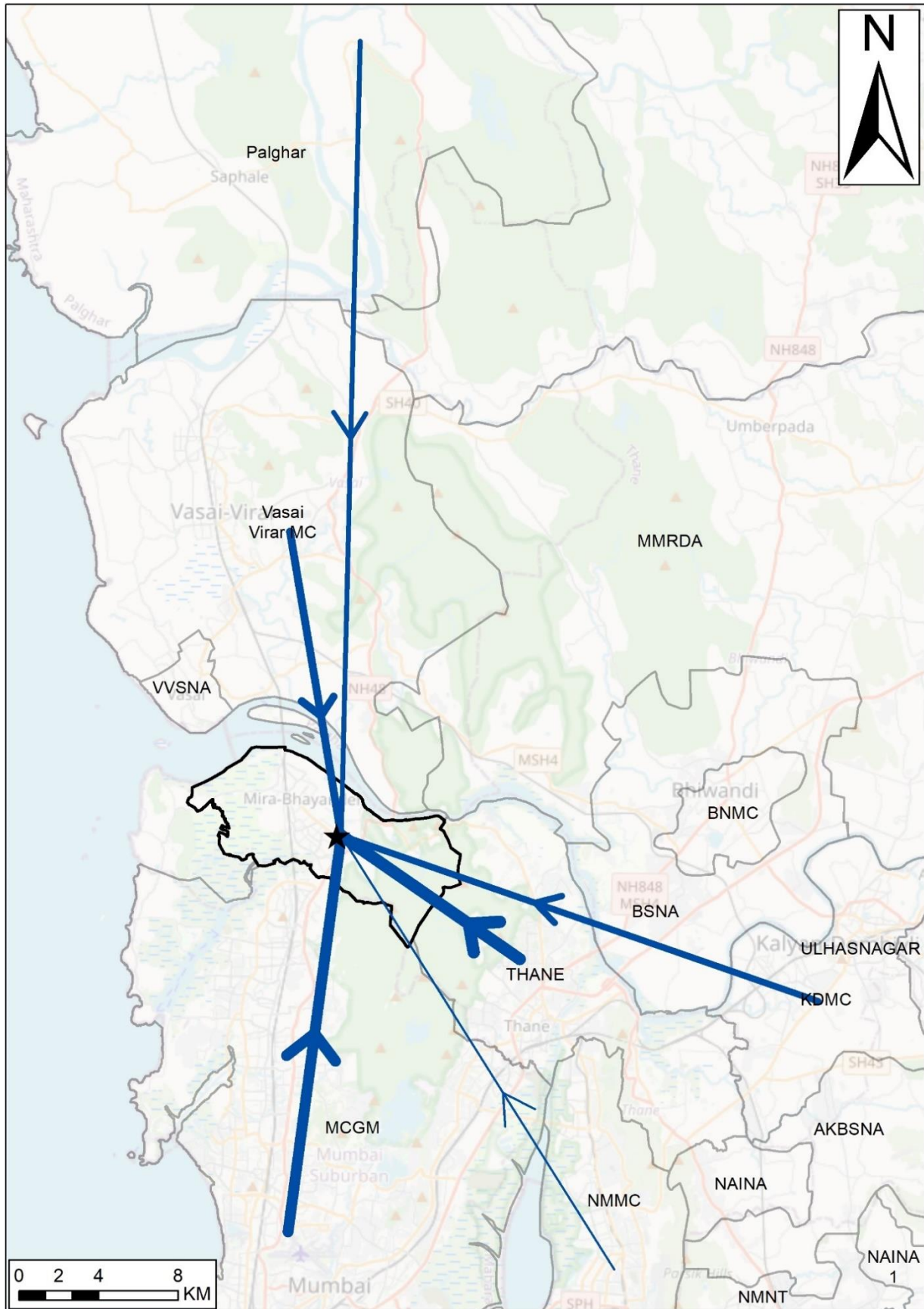
Table 6-3 O-D Survey Matrix for Traffic Volume destined at Mira Bhayandar

Origin	Dahisar Toll Plaza	Fountain	Kashimira	Total Trips	% of Total Trips
Kalyan	63	12	3	78	6%
Mumbai	233	84	108	425	30%
Navi Mumbai	45	10	2	57	4%
Palghar	28	43	0	71	5%
Thane	328	66	208	602	42%
Vasai -Virar	61	111	8	180	13%

It is inferred that 42% of the traffic observed destined at Mira Bhayandar is coming from Thane followed by 30% from Mumbai while Kalyan and Navi Mumbai's movement is minimal.



Map 6-5 Trips from Mira Bhayandar



Map 6-6 O-D Trips Destined at Mira Bhayandar

6.6.2 Speed and Delay Survey

The speed and delay survey is the most important survey and has a prominent role in traffic and transportation studies. The survey is conducted to obtain variations in speed over the stretch of road. Usually, a stretch of length more than 500 meters is considered under the scope. Speed and travel times are the most commonly used indicators of performance for traffic facilities and networks. Delays are often used to measure the performance of traffic flow at intersections. Travel time studies provide necessary data to determine the average travel time, combined with the length of the corridor under study, this data is used to produce the average travel speed. Since vehicle speed is directly related to travel time and delay, it is also an appropriate measure of performance to evaluate traffic systems.

This study was conducted to determine the amount of time required to traverse a specific route section of a road. The data obtained were travelled time and travel speed information with details like a reason for delay etc.

6.6.2.1 Purpose of the Survey

1. The purpose of a travel time and delay study is to evaluate the quality of traffic movement along a route and determine the locations, types, and extent of traffic delays by using a moving test vehicle.
2. The study output is generally used to compare operational conditions before and after roadway or intersection, improvements. It can also be used as a tool to assist in prioritizing projects by comparing the magnitude of the operational deficiencies (such as delays and stops) for each project under consideration.
3. The methodology presented herein provides engineers with quantitative information with which they can develop recommendations for improvements such as traffic signal retiming, safety improvements, turn lane additions, and channelization enhancements.

6.6.2.2 Applications

1. The travel time and delay data enable traffic and transportation planners to define problem locations where design or operation movements may be essential to increase operational efficiency and safety.
2. Travel time and delay data will also enable the traffic analyst to monitor the roadway's level of service for local government comprehensive plans.

6.6.2.3 Study Procedure

1. To conduct the travel time and delay study, the study area is defined as Mira Bhayandar

Municipal Area limits by selecting all control points before beginning the study.

2. For the nomenclature of control points, node numbers are used. The study has been carried out during the A.M. and P.M. peak hours as well as Off-peak hours in the direction of heaviest traffic movements.
3. These studies were carried out during reasonably good weather so that unusual conditions do not influence the study. Also, since crashes or other unusual delays produces erroneous results, any runs made during such occurrences were terminated and additional runs were conducted. These studies were conducted during typical weekday traffic conditions.

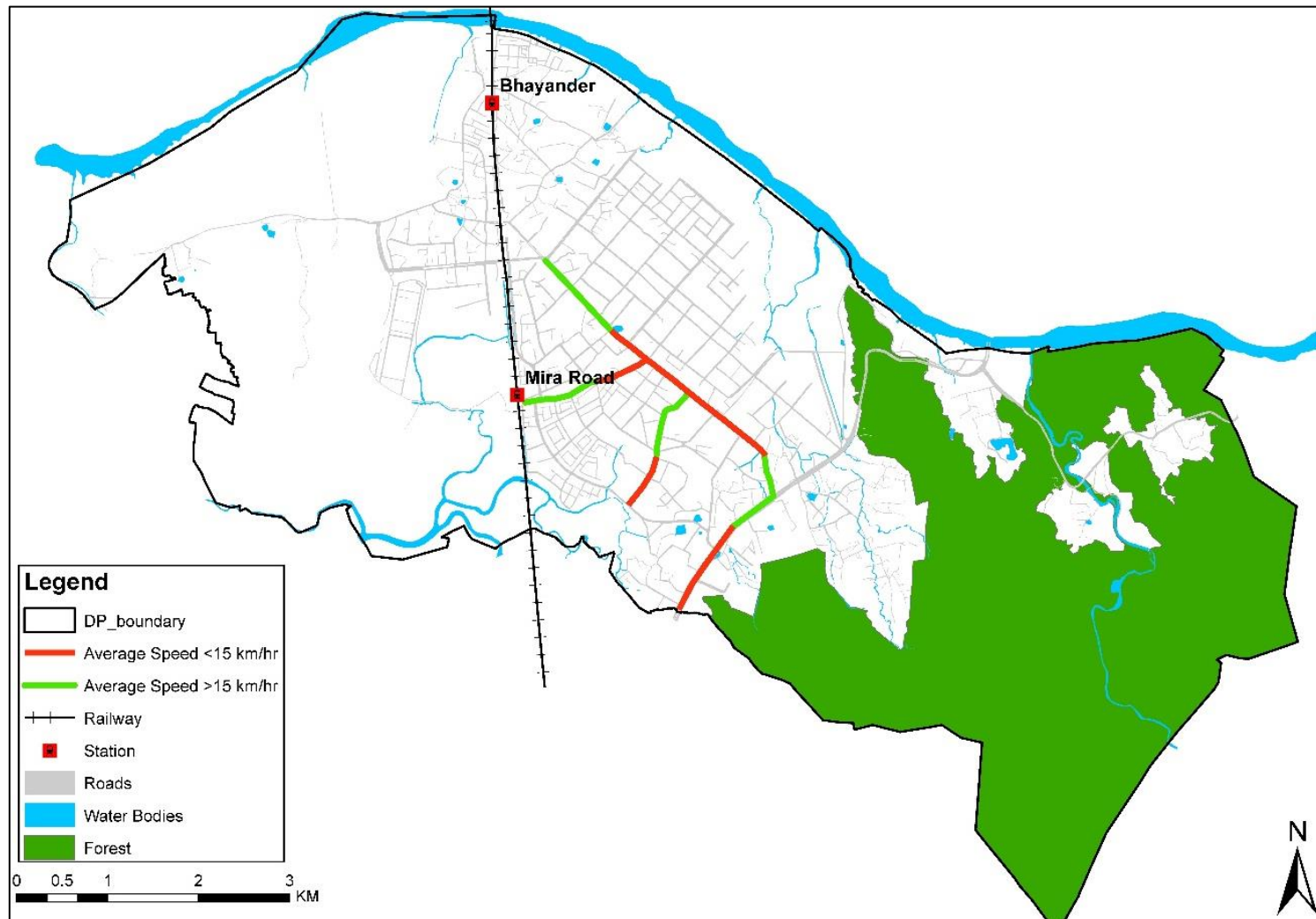
For conducting the travel time and delay study, the floating car technique was used. In the technique, the driver floats with the traffic by passing as many vehicles as pass the test car. To determine the number of runs required for statistical significance, the following has been set in the method: The number of runs – 4 (Morning Peak and off-peak hour, Evening Peak and off-peak hour).

6.6.2.4 Survey Data Analysis

Analysis of speed and delay survey involves a calculation of control point to control point averages, average travel time, average travel speed, average delay, average running speed, average running time, and calculated route average. Once this data was collected, the results were analysed to evaluate the road sections. The detail of each area is provided in the section below: The speed data is analyzed for morning peak and evening peak.

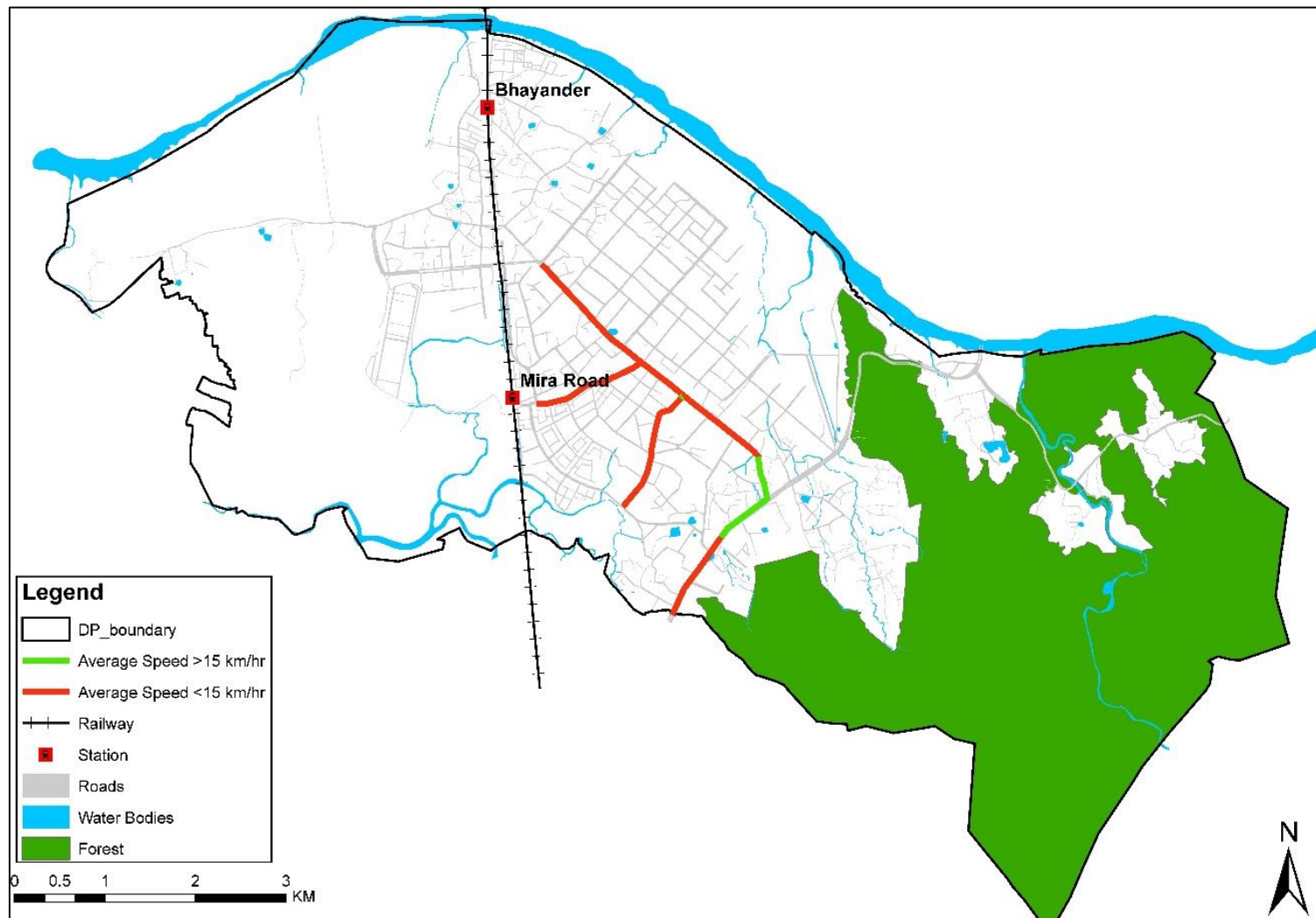
It is noticed that speed depends on the time of the day due to the travel pattern of the commuters. It is observed that most of the traffic is concentrated at Mira Road in the morning peak hour with 14 kmph and lower in the inbound direction with 12.8 kmph in the evening. This is due to the larger number of commuters traveling from Mira Bhayandar to Mumbai/ Thane in the morning and vice versa in the evening.

The graphical representation of the data collected for morning peak hour 10AM-11AM shown in the map below,



Map 6-7 Speed and Delay Survey result (10-11 AM)

The graphical representation of the data collected for morning peak hour 7 PM-8 PM shown in the map below,



Map 6-8 Speed and Delay Survey result (7-8 PM)

6.6.2.5 Major Inferences

The average journey speed in the city differs from 11 kmph to 18 kmph during peak hours, whereas the average journey speed in the city ranges from 15 kmph to 25 kmph during the off-peak hour. The analysis shows that the travel speeds in the evening peak hour are generally higher than the travel speed during the morning peak hour. The survey records the lowest average journey speed on Mira Road during peak hours and the highest average journey speed during peak hours with 22 kmph in Mira Bhayandar North. The general reasons for delay are higher traffic volume, lower road capacity, pedestrian crossing, road geometry, un-optimized signal, and road pavement.

6.6.3 Traffic Volume Count Survey Using Videography

TVC surveys were conducted to appreciate the traffic characteristics in terms of average daily traffic, traffic composition, peak hour traffic, directional split, and vehicle classification at individual intersections and major roads. The survey was conducted for a duration of 16 hours on normal working days, detailed objective and methodology of this survey are explained as under.

6.6.3.1 Survey Methodology

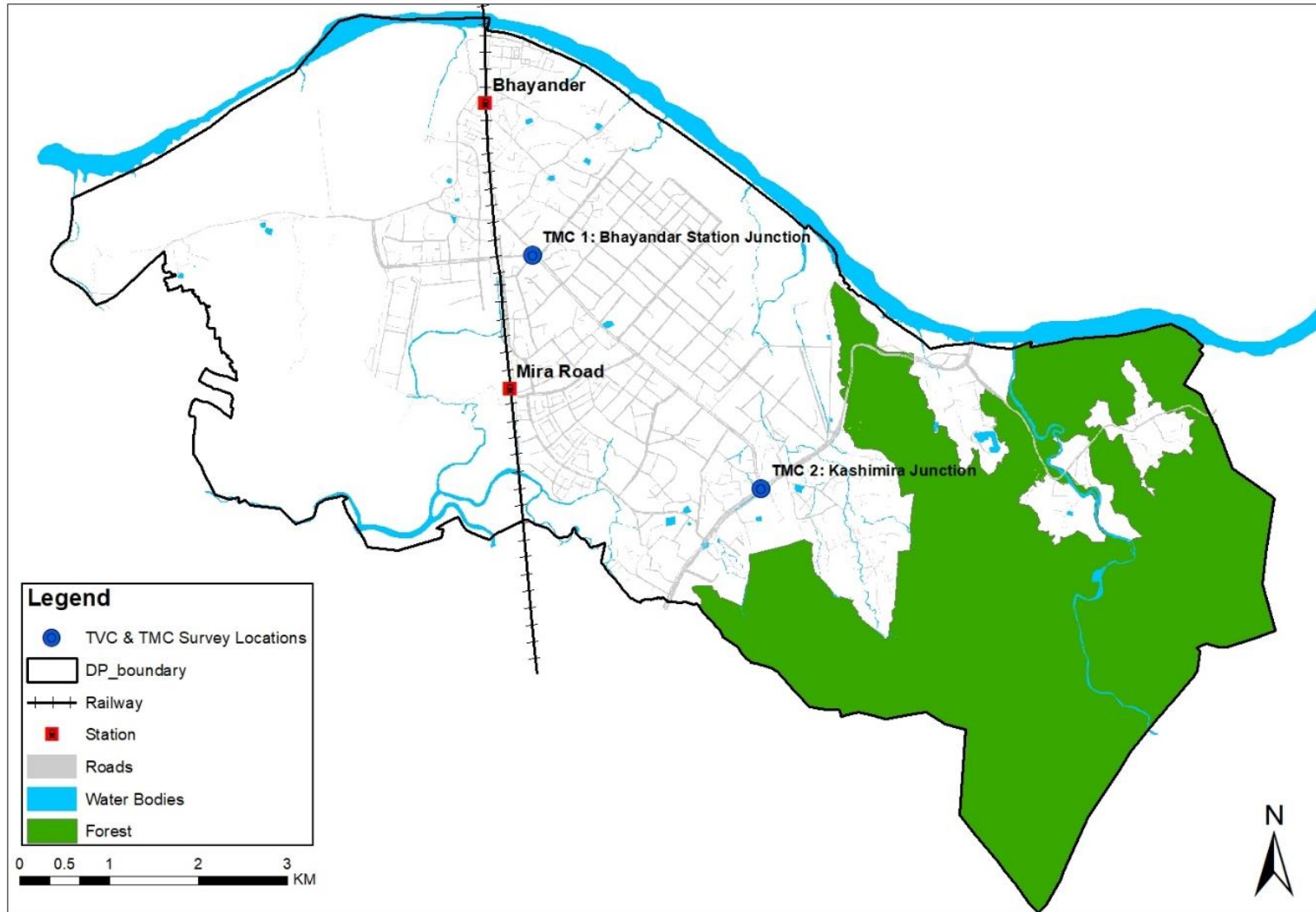
The purpose of these surveys is to collect data on the number and types of vehicles that are making specified movements at the location at different times of the day. The volume of traffic is expressed as a rate of flow, usually either as vehicles per hour (vehicles/hr), in particular, the peak hour demand on the road, or vehicles per day (vehicles/day). This information plays a very crucial role in capturing the dynamic nature of how traffic demand in the city is being met and helps bridge the gap between theoretical strategic models and the ground situation.

A total of 4 major locations are selected to perform a videography survey and collect data on the traffic characteristics of each arm. The detail of the location selected and survey carried out along with a day count and locations selected for the videography survey are shown on the map below,

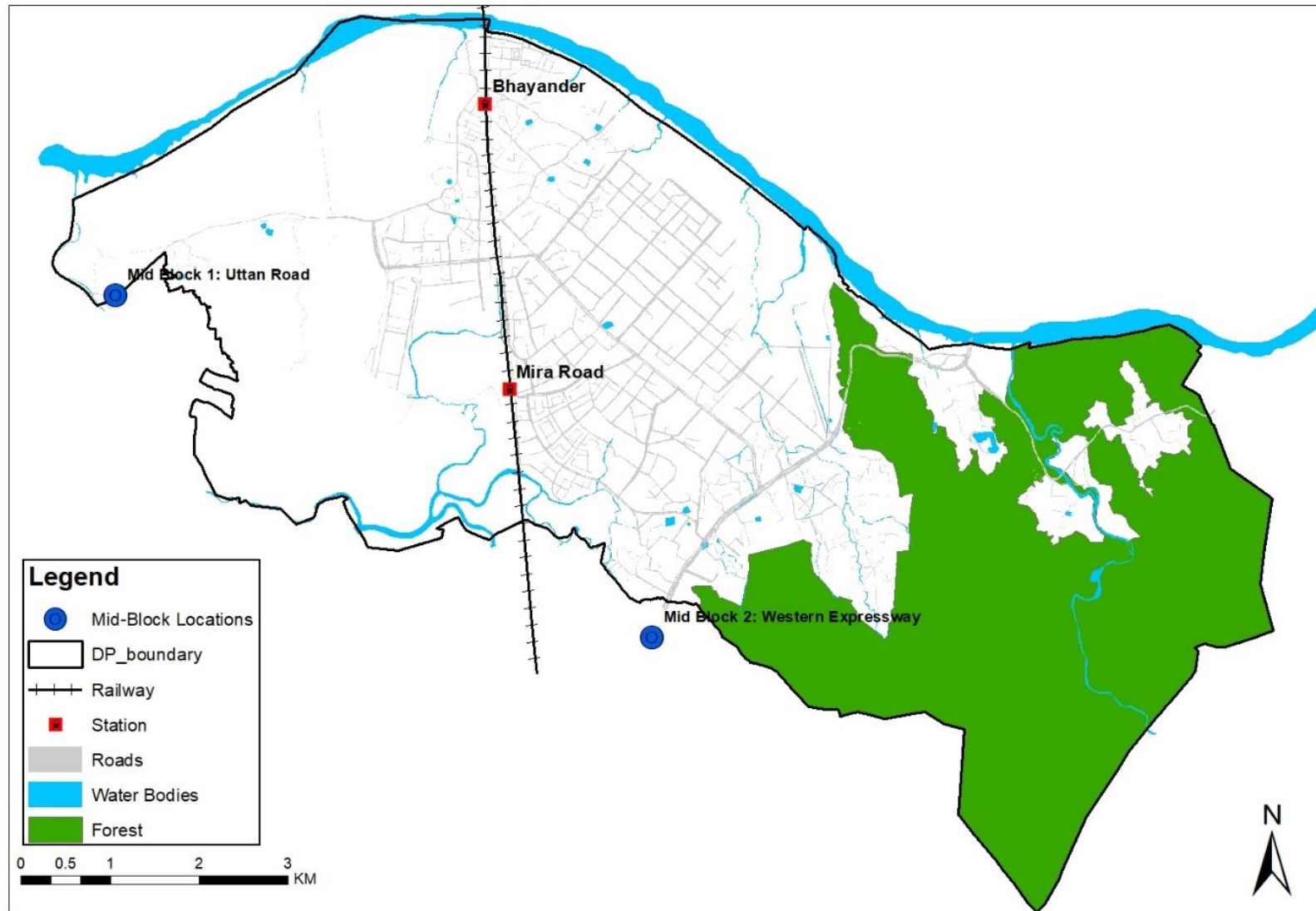
- i. At Major Intersections- 2 Locations (Bhayandar Station Junction, Kashimira Junction)
- ii. Mid-Block locations at Major Roads- 2 Locations (Uttan Road, Western Expressway)

The data collection was carried out by dividing locations following the nature of the intersection and its impact on overall traffic demand in the city. This makes it easy to refer to the conditions at any point in the future, which will also be serving audit purposes. Manual counting ensures higher accuracy, due to the highly heterogeneous nature of traffic in the city.

The video data is then tabulated in the form of turning movement counts by a manual counting process and then compiled into a computer database by a dedicated videography team and data analysis team.



Map 6-9 TVC and TMC Survey Locations



Map 6-10 Mid-Block Count Survey Locations

6.6.3.2 Classified Traffic Volume Count

The data collection exercise for traffic volume at intersections is conducted using the videography technique for a duration of 16 hours on a normal working day. The traffic data are recorded at 15 min of intervals on each arm for each vehicle group. Different vehicle types, sizes, and characteristics are converted into equivalent passenger units. The Passenger Car Units (PCU) for classification of vehicles for conducting traffic volume count are adopted as recommended by Indian Road Congress in “Guidelines for Capacity of Urban Roads” (IRC: 106- 1990) as presented in the given Table.

Table 6-4 Recommended PCU Factor for different Vehicle Types

Vehicle Types	Equivalent PCU Factor
Car (White Plate)	1
Taxi (Yellow Plate)	1
2-Wheeler	0.5
3-Wheeler	1.2
Mini Bus	1.4
School Bus	2.2
Bus (Govt)	2.2
Bus (Pvt)	2.2
3 WH	1.2
Goods Pick-Up	1.4
LCV	1.4
2-Axle Truck	2.2
3-Axle Truck	2.2
MAV	2.2
Tractor	2.2
Tractor with Trailer	4
Cycle	0.4
Cycle Rickshaw	1.5
Animal Cart	2

A classified traffic volume count survey is performed at identified heavily overcrowded intersections where a huge upsurge of traffic movement is observed during peak periods. The classified traffic volume count survey recorded these location traffic activities' traffic characteristics such as vehicle composition, daily variation in traffic, hourly variation in traffic, morning and evening peak hours as well as off-peak hours, and Directional distribution.

6.6.3.3 Analysis

Various vehicle types, sizes, and characteristics are converted into equivalent passenger units. The Passenger Car Units (PCU) for classification of vehicles for conducting traffic volume count are adopted as recommended by Indian Road Congress in “Guidelines for Capacity of Urban Roads” (IRC: 106- 1990).

1. Bhayandar Station Junction

a. Uttan Road

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 11:00 AM and 12:00 Noon and the evening peak was between 7:00 PM and 8:00 PM at almost all the locations.

The schematic representation of the hourly variation at Uttan Road is shown below:

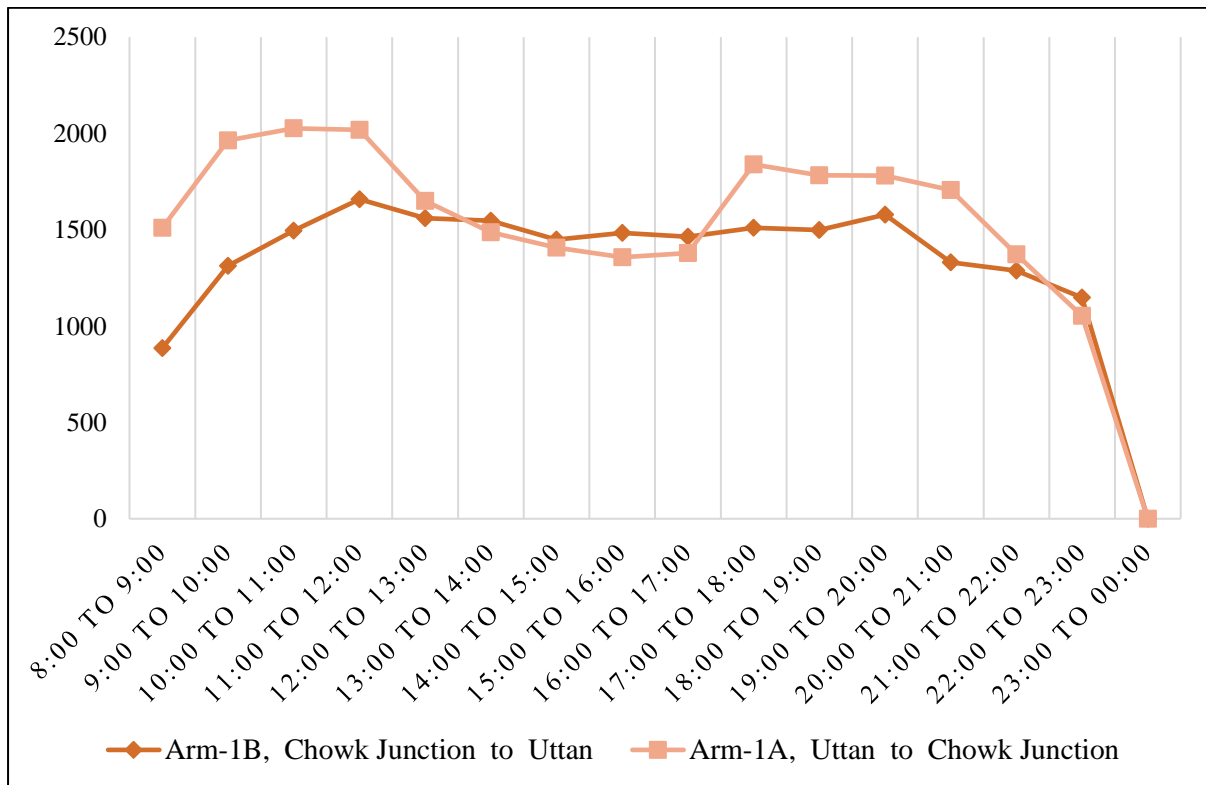


Figure 6-5 PCU-Hourly variation Uttan Road

a. Bhayandar Station Road

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 11:00 AM and 12:00 Noon and the evening peak was between 5:00 PM and 6:00 PM at almost all the locations.

The schematic representation of the hourly traffic variation at Bhayandar Station Road is shown below

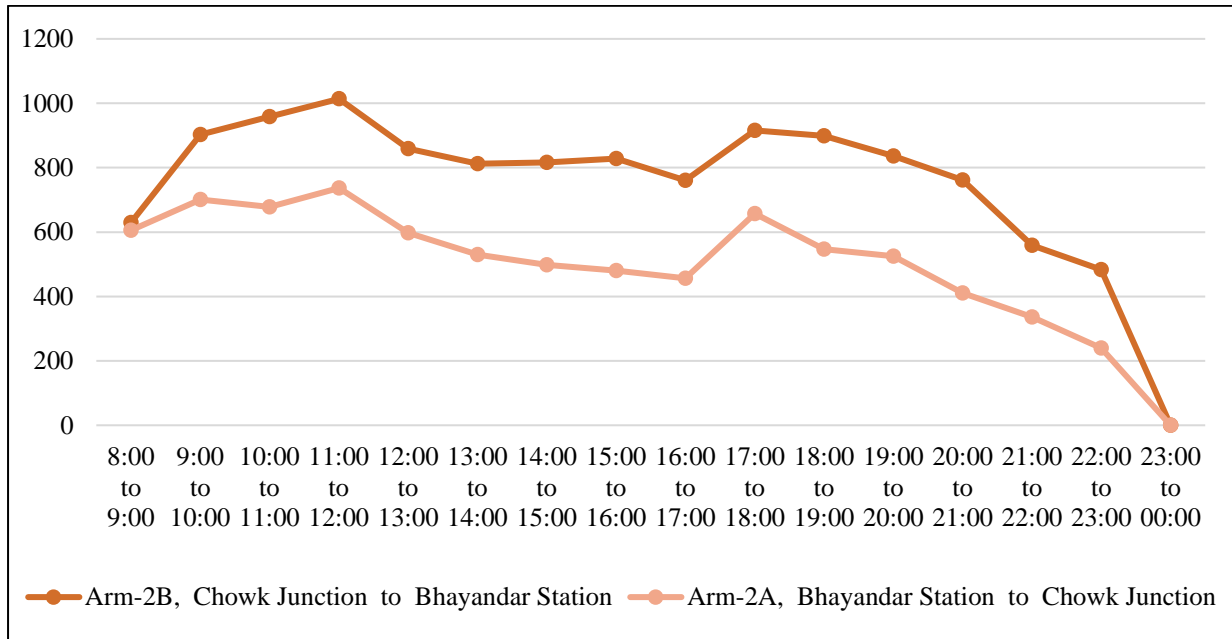


Figure 6-6 PCU-Hourly variation Bhayandar Railway Station Road

a. Indralok Road

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 11:00 AM and 12:00 Noon and the evening peak was between 5:00 PM and 6:00 PM at almost all the locations.

The schematic representation of the hourly traffic variation at Indralok Road is shown below.

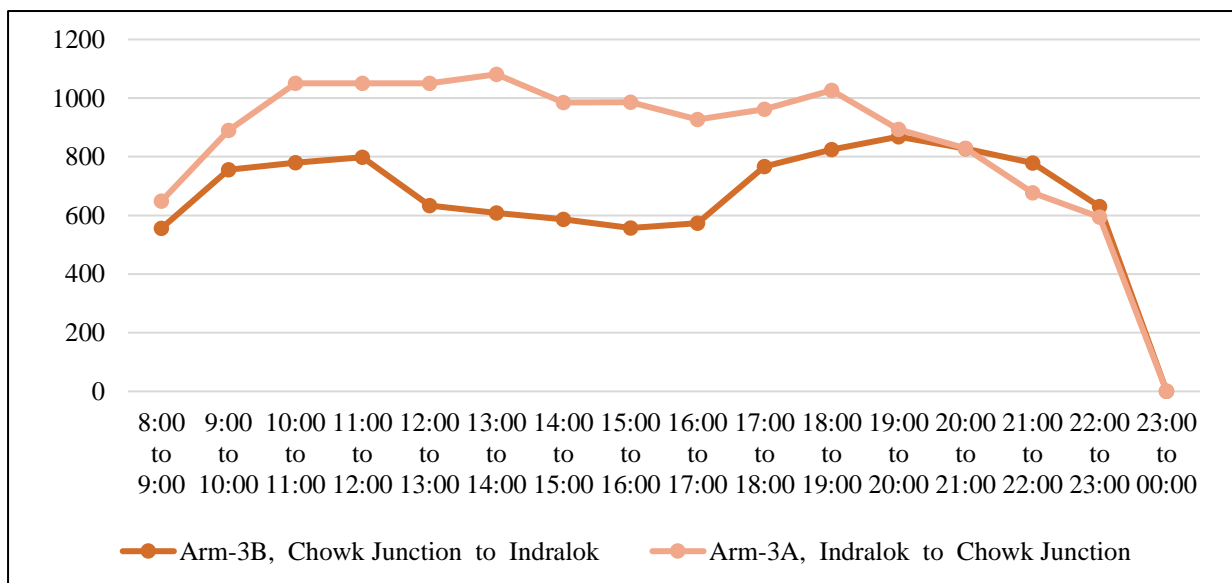


Figure 6-7 PCU-Hourly variation Indralok Road

b. Kashmirira

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 10:00 AM and 11:00 AM and the evening peak was between 5:00 PM and 6:00 PM at almost all the locations.

The schematic representation of the hourly traffic variation at Kashmirira is shown below.

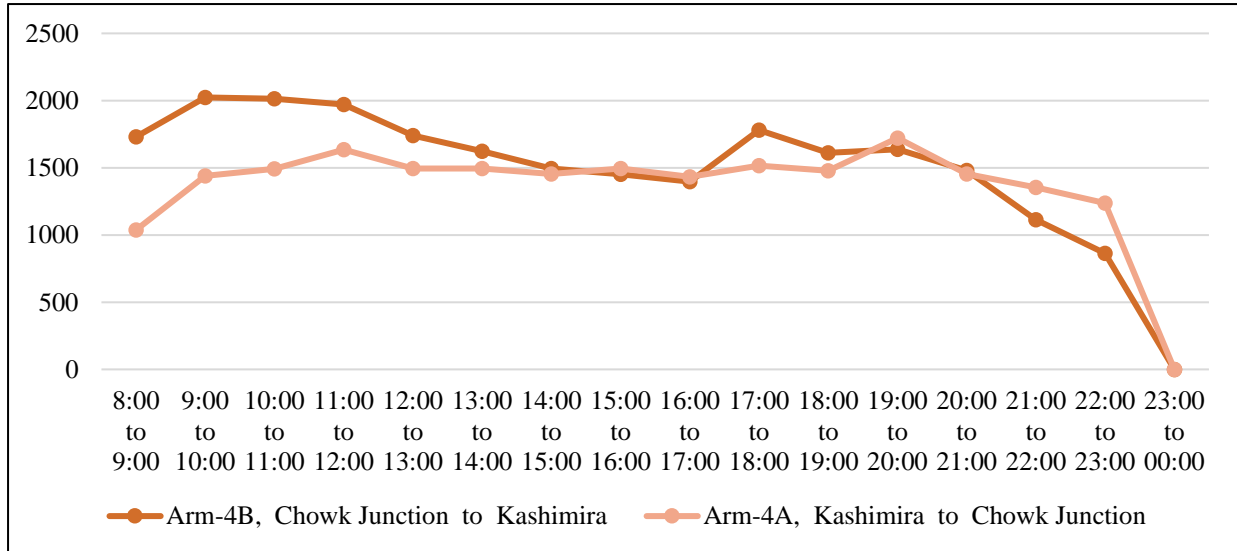


Figure 6-8 PCU-Hourly variation Kashmirira Road

2. Kashmirira Junction

a. Ghodbunder (Western Expressway)

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 12:00 Noon and 1:00 PM and the evening peak between 7:00 PM to 8:00 PM at almost all the locations.

The schematic representation of the hourly variation of the Western Expressway towards Ghodbunder is shown below:

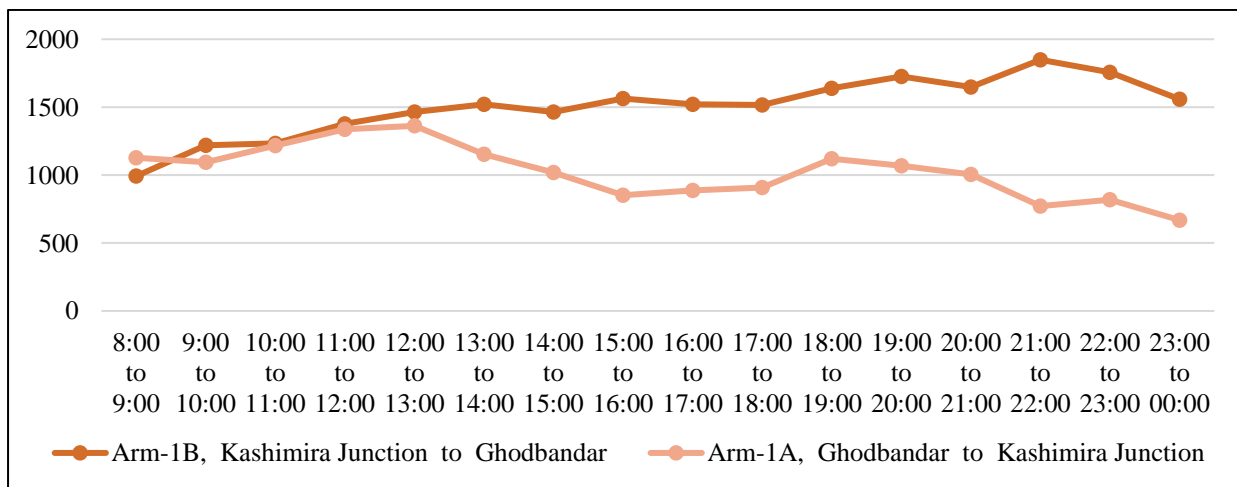


Figure 6-9 PCU-Hourly variation Ghodbunder

a. Boriwali (Western Expressway)

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 11:00 AM and 12:00 Noon and the evening peak was between 6:00 PM and 8:00 PM at almost all the locations.

The schematic representation of the hourly traffic variation at Western Expressway towards Boriwali is shown below.

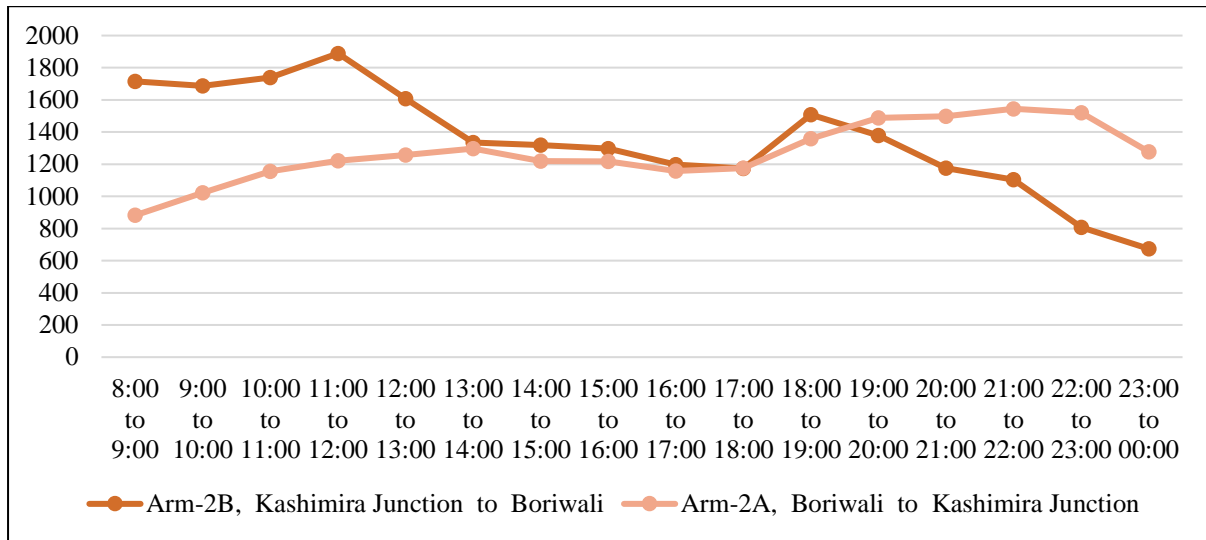


Figure 6-10 PCU-Hourly variation Borivali Road

b. Kashimira

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 11:00 AM and 12:00 Noon and the evening peak was between 6:00 PM and 8:00 PM at almost all the locations.

The schematic representation of the hourly traffic variation towards Kashimira is shown below:

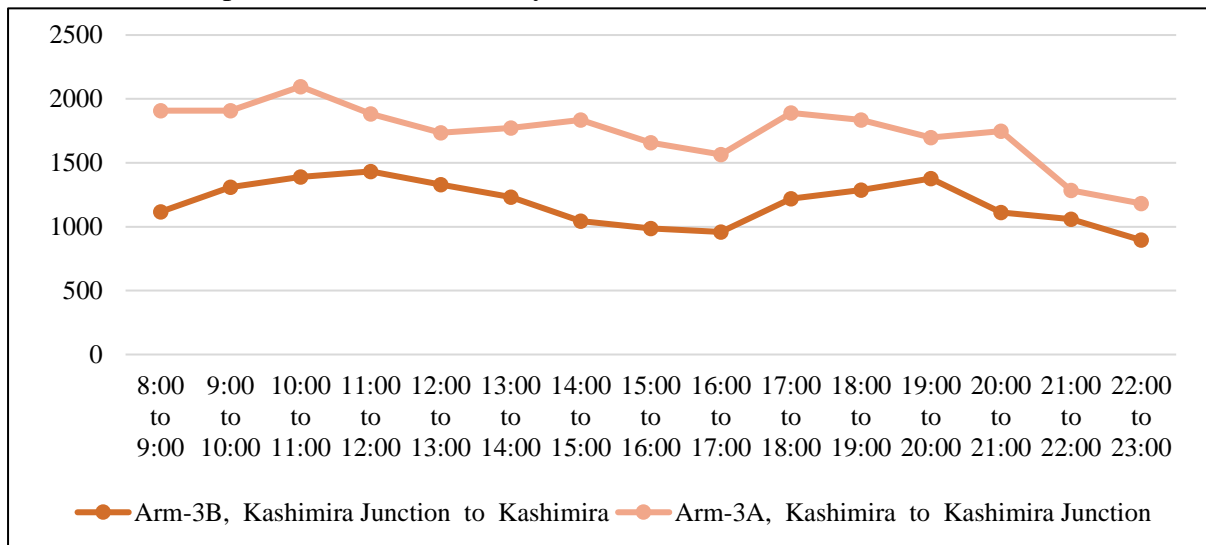


Figure 6-11 PCU-Hourly variation Kashimira Road

6.6.3.4 Summary

The surveys infer that the morning peak hour is 11:00 AM – 12:00 Noon and the evening peak hour is 6:00 PM to 8:00 PM. The V/C ratio of all locations is close to or greater than 1, indicating there is a requirement for MRTS systems for regional connectivity.

6.6.3.5 Mid-Block Count Survey

1. Uttan Road

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 11:00 AM and 1:00 PM and the evening peak between 5:00 PM and 6:00 PM at almost all the locations.

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 11:00 AM and 1:00 PM and the evening peak between 5:00 PM and 6:00 PM at almost all the locations.

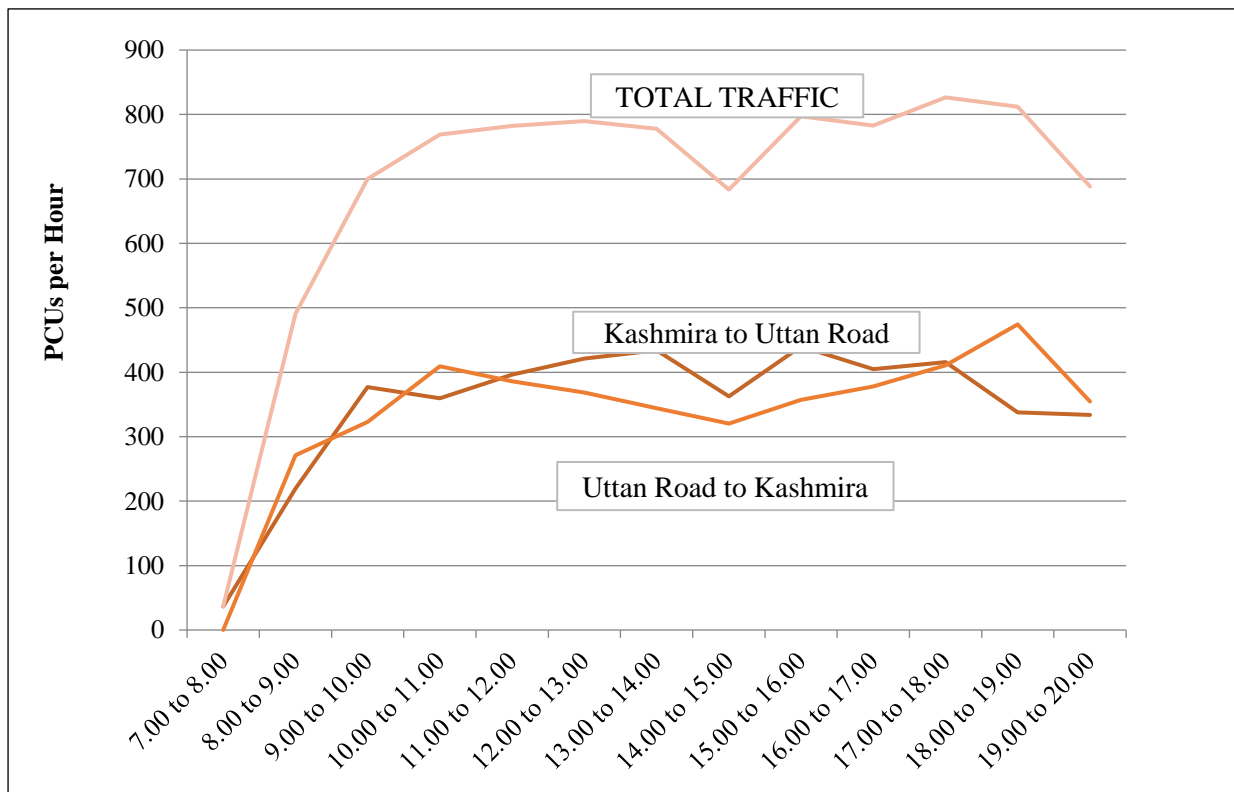


Figure 6-12 PCU-Hourly variation Uttan Road

2. Kashmirira Western Expressway

Analysis has been carried out to study the hourly variation and peak-hour traffic characteristics. The morning peak was observed to occur between 10:00 AM and 11:00 AM and the evening peak was between 9:00 PM and 10:00 PM at almost all the locations.

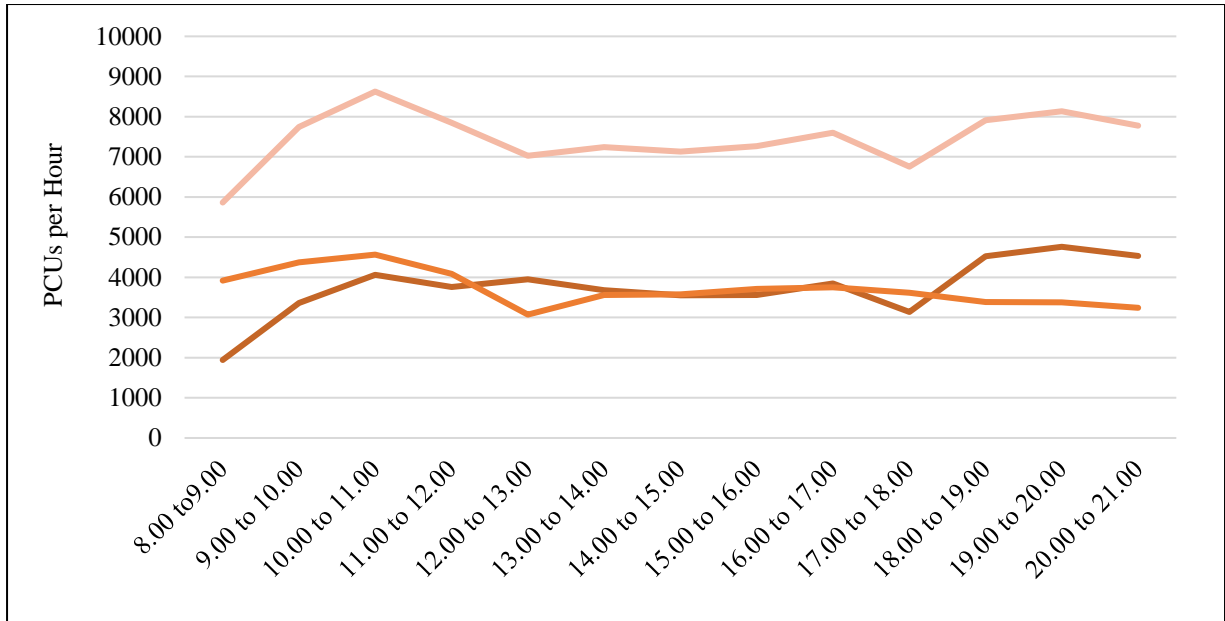


Figure 6-13 PCU-Hourly variation Kashmirira Expressway

6.6.4 Intersection Analysis

Intersection Volume analysis helps us understand the capacity of the road on the near side, far side, and the capacity of the intersection. The intersection traffic volume analysis is performed in the following locations,

1. Golden Nest Circle
2. Kashmirira Junction

6.6.4.1 Golden Nest Circle

Golden Nest Circle intersection analysis summary is shown below,

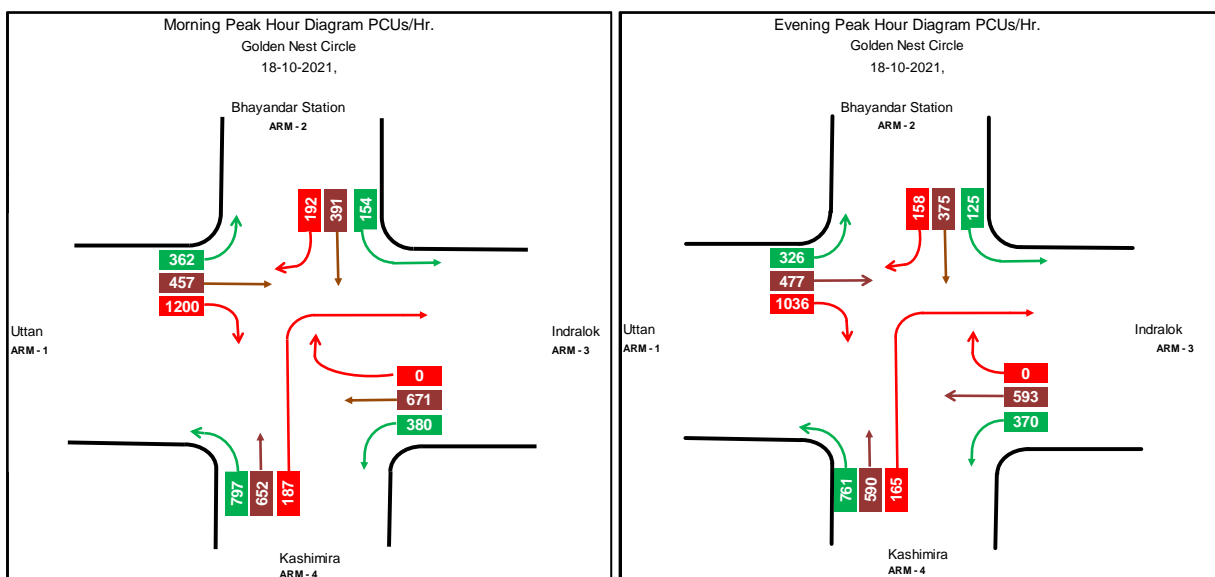


Figure 6-14 Morning and Evening Peak Hour Diagram- Golden Nest Circle

The volume capacity analysis of the near-side and far side of the intersection is shown in the Table below,

Table 6-5 Capacity Analysis – Golden Nest Circle

Time Interval	Uttan Road	Bhayandar Station	Inderlok	Kashimira
V/C Morning	2.04	0.97	1.03	1.34
V/C Evening	1.86	0.87	0.96	1.22

It is inferred that the Uttan Road has a higher V/C ratio, and the road is saturated. The Uttan Road and Kashimira Road require public transport routes or there is a need to increase the width of the road to enhance its capacity of the road.

6.6.4.2 Kashimira Junction

Kashimira Junction analysis summary is shown below,

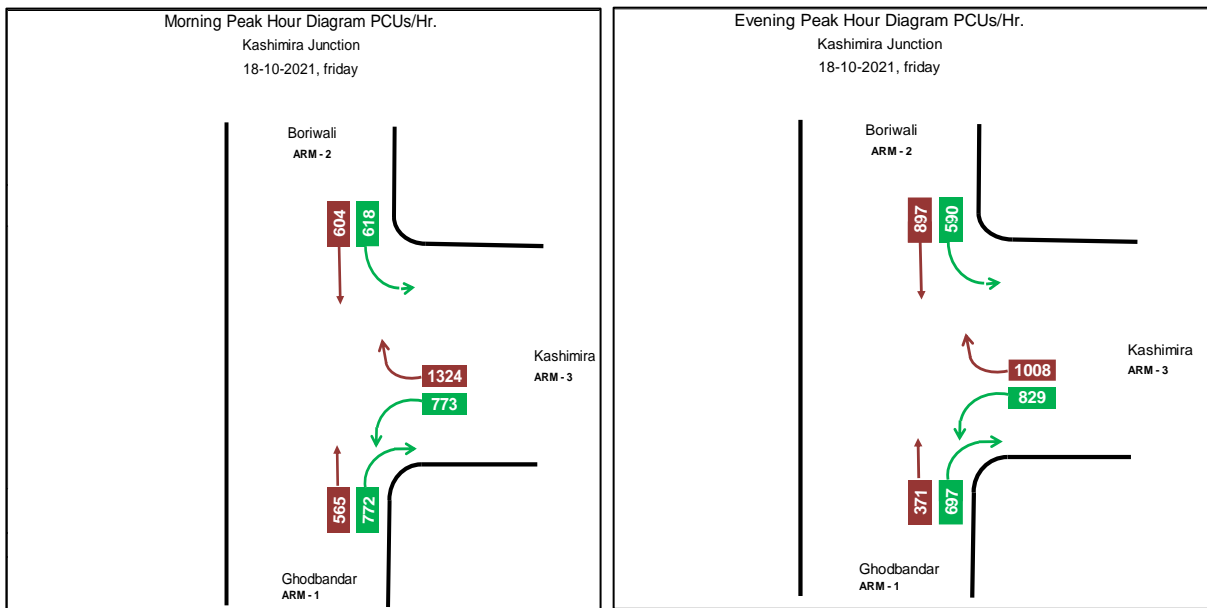


Figure 6-15 Morning and Evening Peak Hour Diagram- Kashimira Junction

The volume capacity analysis of the near-side and far side of the intersection is shown in the Table below,

Table 6-6 Capacity Analysis – Kashimira Junction

Time Interval	Mira Bhayandar	Ghodbunder	Kashi
V/C Morning	1.01	1.15	1.29
V/C Evening	1.04	1.06	1.16

All the roads approaching the junction are highly congested, thus there is a need to introduce public transport routes or there is a need to increase the width of the road to enhance the capacity of the road.

6.6.4.3 Summary and Inferences

1. The analysis shows 99% of the share of motorized vehicles whereas the non-motorized share comprises only 1% of the total composition of traffic.
2. Golden Nest Circle intersection along Uttan Road is the most congested location in the city and recorded a maximum number of PCUs number which notify to take major steps to decongest the junction.
3. Two-wheelers account for a high proportion of the total traffic.
4. Auto Rickshaw comes out to be the preferred intra-city transit option as it covers caters to almost 1/3rd of total trips of the city.
5. Significant goods vehicle movement was observed on arterial roads and outer cordon points of the city.
6. Significant intercity vehicle movement was observed on arterial roads and outer cordon points of the city with most of the intercity movement towards Thane & Mumbai.
7. High Traffic volumes are along the major Mira Bhayandar Road of the city which is the major road of the city and along roads connecting Mumbai & Thane. Thus, there is an immediate need to purpose mobility improvement measures along this corridor.
8. Bicycle shares only 1% of the total composition of vehicles which points toward an urgent need to take steps toward providing NMT infrastructure in the city and comprehensive promotion of soft mobility options.

6.6.5 Public Transport Accessibility Analysis (PTA)

Public Transport Accessibility in the city is essential to understand the public transport service, under-serviced and no-service areas in the city. PTA is essential to plan Transit Oriented Development, Public Transport route rationalization, population densification, and rationalizing parking norms in the city.

6.6.5.1 Methodology

In this sub-section, the PTAL methodology and assumptions for mapping PTAL across Mira Bhayandar for the study are detailed in the following steps:

1. Mapping Public Transport Routes – Public transport access points (stops and stations) will be mapped for the following modes for existing and proposed scenarios –

- a. Buses
 - b. Railways
2. There is a proposal for an upcoming metro network of Red and Violet lines as an extension of the Mumbai Metro. The city is currently served by 20 bus routes of MBMT, the details of which are given below:

Table 6-7 Public Bus Route

Sr. No	Route No	Route Name	Turn Out	Total Trip Run
1	1	Bhayandar st. (W) to Chowk	5	40
2	2	Bhayandar st. (W) to Uttan Naka	5	55
3	6	Uttan Naka to Manori Tar	2	22
4	7	Maxus Mall to Andheri stn.	1	4
5	7AC	Maxus Mall to Andheri stn.	1	4
6	10	Bhayandar st. (W) to Thane st. (E) Kopari via W.E.H Majiwada	7	28
7	10AC	Bhayandar st. (W) to Thane st. (E) Kopari via W.E.H Majiwada	1	4
8	12	Bhayandar st.(E) to Western Hotel via Indra lok Mangal Nagar	2	24
9	14	Bhayandar st. (E) to Magathane Depo via Kashimira borivali st. (E)	10	60
10	15	Mira Road st. (E) To Rasmi Comp. via s. k. stone Bevaly park cine max	3	60
11	16	Mira Road st. (E) To Tiwari College via s. k. stone Bevaly park cine max	3	60
12	17	Mira Road st.(E) to J. P. Garden City Om Money Tower	1	18
13	18	Western Park to Jogeshwari West	1	4
14	21	Mira Road Station (E) to K. D. Emp. Via Rasaz Theatre Bharati Park Shivar Garden	2	40
15	22	Mira Road Station (E) To Shanti Vidhya Nagari Via Jain Mandir Vijay Park Shivar Garden	1	16
16	24	Mira Road Station (E) To Western Park	6	84
17	28	Mira Road stn.to Andheri stn.	1	4
18	28AC	Mira Road stn.to Andheri stn.	1	4
19	29	Mira Road Station (E) to Thane Kopari (E)	5	20
20	29AC	Mira Road Station (E) to Thane Kopari (E)	2	8
		TOTAL	60	559

Other than the MBMT buses city is also connected via MSRTC buses for intercity movement across the region.

This main arterial road is laden with heavy traffic. The existing carriageway width is inadequate for traffic capacity and safety considerations. There is frequent S.T. Bus Service from District Head Quarters Thane to Bhayandar and Mira via. Ghodbunder. The thane-Borivali local BEST Bus route passes skirting the city at Kashi village on Western Express Highway Coastal villages like Uttan and Chowk are connected with frequent S.T. Bus service from Bhayandar railway station (west). Bhayandar railway station (East) is also connected with BEST Buses from Kandivali and Borivali railway station (East).

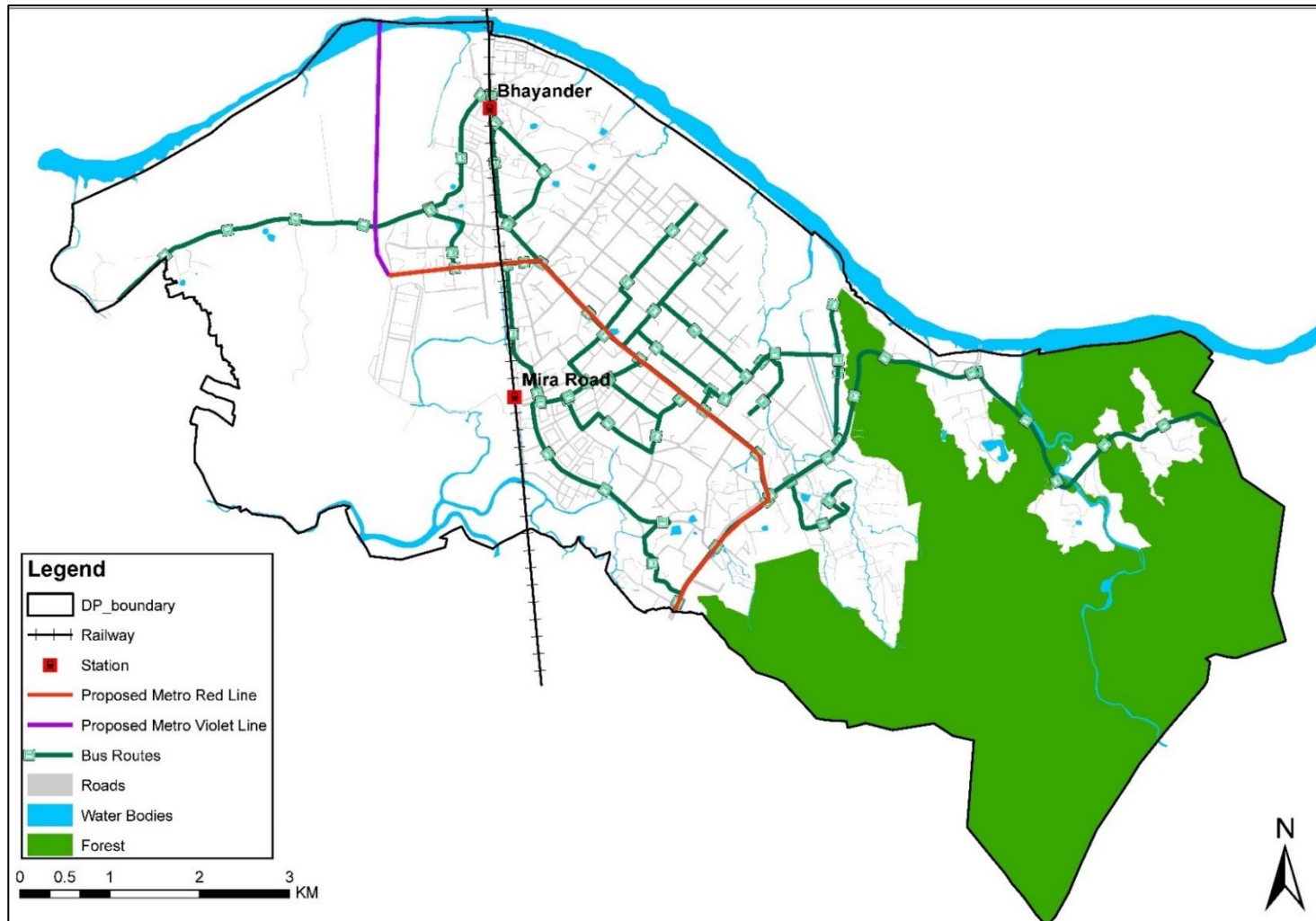
3. Analyzing the service radius of public transport - For estimating PTAL for each route the procedure below will be followed for each point of interest.

Identification of Access Points – As a first step, for each POI, various service access points will be identified which can be accessed from a particular grid. For bus access points within a distance of 500m from the network, centroid will be considered to be accessed by walk. For Local Rail access points, a distance of 2000m will be considered while for metro rail 1000m service distance is considered.

Table 6-8 Service area of Public Transport

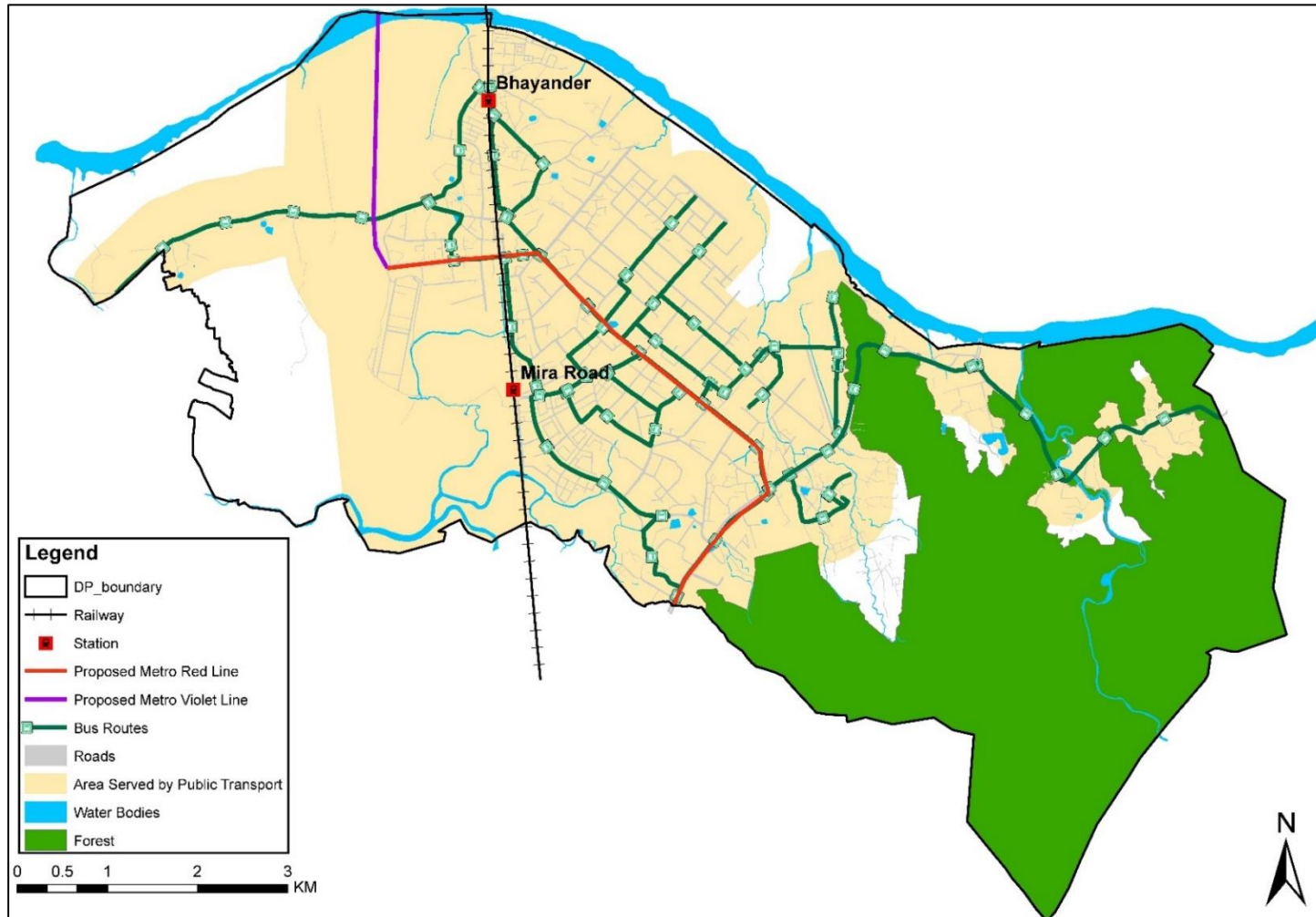
Sr. No.	Area Served by Public Transport	Area
1	Area Served by Bus Network	28 sq.km
2	Area Served by Local Rail Network	23 sq.km
3	Area served by Proposed Metro Rail Network	20 sq.km
4	Total Area Served by Existing Public Transport	37 sq.km
5	Area Not Served by Any Public Transport (Including forest Area, proposed metro network)	23 sq.km
6	Area Not Served by Any Public Transport (excluding forest Area)	8.5 sq.km

Map 6-11 shows the Local Train Network, Bus Public Transport Routes that are operational in Mira Bhayandar, proposed metro routes of Red Line & Violet Line



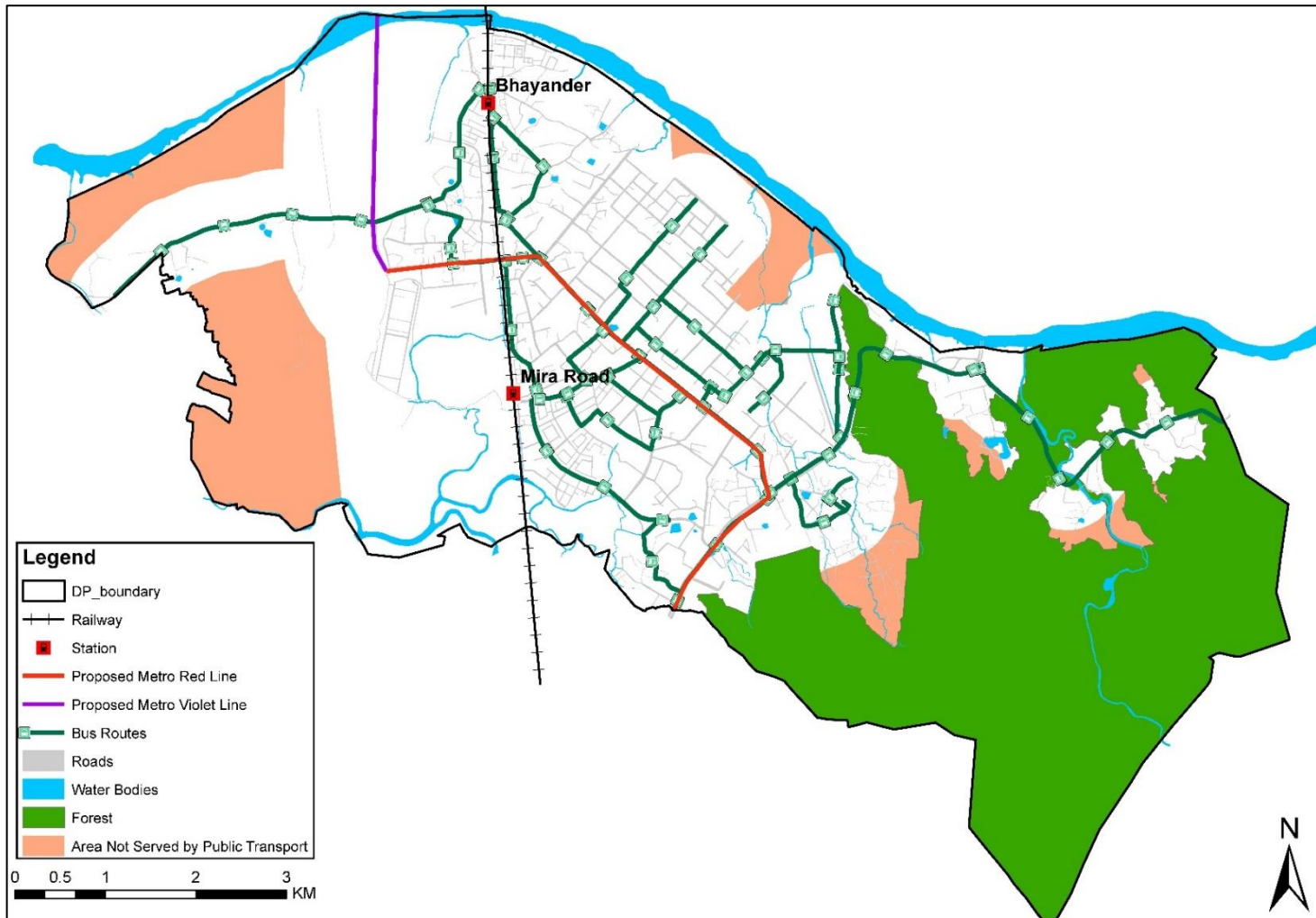
Map 6-11 Public Transport Routes of Mira Bhayandar

Map 6-12 shows the area served by Public Transport across the city. The service radius of local train is assumed to be 2 km, while of metro rail 1km and that of bus network 500m.



Map 6-12 Area Served by Public Transport Service of Mira Bhayandar

Map 6-13 shows the area which is not served by any public transport mode. Some areas of ward number 13, 14, and 23 are not served by Public Transport. Only 12% of the area of the town needs to be served by covered by future public transport networks. The upcoming masters will try to serve these areas.



Map 6-13 Area not Served by Public Transport

CHAPTER 7

PHYSICAL INFRASTRUCTURE



7 PHYSICAL INFRASTRUCTURE

7.1 Introduction

Provision and equitable access to basic physical infrastructure in terms of water supply, sewerage, and solid waste management are essential to achieve a better quality of life for citizens. The increasing population inevitably places these services under pressure, leading to disparities in terms of insufficiencies and access. This chapter focuses on the existing situation of water supply, sewerage, and solid waste management and issues arising for these services in fulfilling the growing demand.

7.2 Water Supply

Water supply is one of the primary needs of any community irrespective of the classification being urban or rural. Out of all municipal services, the provision of potable water is perhaps the most vital. In all cases, the water supply system must fulfill both quality and quantity requirements. The water supply system comprises infrastructure for the collection, transmission, treatment & storage, and distribution of water for homes, commercial establishments, industry, and irrigation, as well as for such public needs as firefighting and street flushing. This section analysis the existing water supply system, issues in the present context, and existing and proposed water supply projects.

7.2.1 Source of Water Supply

Mira Bhayandar city receives water supply from two sources viz. STEM and MIDC. MBMC receives 86 MLD of treated water from Shahad Temghar Water Authority (STEM) which is a combined water supply scheme for Thane, Bhivandi-Nizampur City, Mira-Bhayandar Municipal Corporations, and 34 villages in the vicinity. STEM is managed by Executive Committee constituted by three Municipal Corporations. The main source of water for this scheme is the river Ulhas. Mira Bhayandar receives another 125 MLD treated water from MIDC and the source of water for that is also the Ulhas River. The total water supplied to MBMC in the present context is about 211 MLD.

Table 7-1 Source of water for Mira Bhayandar Municipal Corporation

Authority	Water Supplied (MLD)
STEM	86
MIDC	125
Total	211

Source: Water Supply Department, MBMC

7.2.2 Treatment and Storage

The raw water drawn from the Ulhas River is treated at the Temghar water treatment plant by STEM and the Jambhul water treatment plant by MIDC. The treatment plant has four clarifiers of 310 MLD each with a pure water sump of 21.6 ML. The plant also has eight 900 HP induction motor vertical pumps (four working and four standby) operating at 79 meters. The utilization of this WTP is limited to 200 MLD (71% of the installed capacity). The treated water is pumped through the rising mains from Temghar and transmitted through a pipeline laid along the Thane-Bhiwandi bypass (NH-3) to the master balancing reservoir (MBR) of 15 ML capacity at Mankoli which is 3.6 km away from the treatment plant. The outer diameter of the pure water rising mains is 1530 mm.

The treated water is transmitted through the 25.5 km long gravity main to Saket Junction where STEM and MIDC water pipelines crossed each other. Again, the treated water is transmitted to the Chene MBR through 17.5 km long gravity main pipes. From here the treated water is further distributed into 33 elevated service reservoirs (ESR) spread over the city. From these reservoirs, water is supplied to the residents in different water supply zones for a duration of 4 hours. The total storage capacity of existing storage reservoirs is 45.78 MLD. MBMC has proposed 31 new storage reservoirs with a capacity of 107.5 MLD which will enhance the storage capacity to 153.28 MLD. The location and capacity of different storage reservoirs are listed in Table 7-3 and 7-4.

Table 7-2 Details of Water Treatment Plant

Water Treatment Plant	Design Capacity (MLD)	Peak Operational Flow (MLD)
Temghar (STEM)	310	200
Jambhul (MIDC)	200	175

Source: STEM and MIDC

Table 7-3 List of Existing ESR in MBMC

Sr. No.	Location of ESR	Number	Capacity (MLD)
1	Chowk	1	0.30
2	Light House	1	0.20
3	Uttan Old	1	1.00
4	Dongri MBR	1	0.76
5	Subhash Chandra Bose Old	1	2.00

6	Subhash Chandra Bose New	1	1.00
7	Kamala Park	1	1.75
8	Sudama Nagar	1	0.80
9	Morva	1	2.50
10	Uttan New	1	1.50
11	Geeta Nagar	1	2.00
12	Navghar Old	1	2.50
13	Navghar New	1	2.00
14	Indralok	1	2.00
15	Goddev	1	1.25
16	Kanakiya	1	1.25
17	15 no. bus stop	1	1.50
18	Ghodbunder	1	0.70
19	Kashi	1	2.00
20	Aakruti	1	2.00
21	Chena	1	0.30
22	Varsave	1	0.40
23	Silver Park Old	1	2.00
24	Shanti Nagar (Sec. 7)	1	1.10
25	Shanti Nagar (Sec. 2)	1	1.00
26	MIDC (HL)	1	0.60
27	Mahajanwadi	1	2.00
28	Mira	1	1.00
29	MIDC (LL)	1	2.00
30	Asmita (Old)	1	2.00
31	Asmita (New)	1	1.00
32	Shanti Nagar (Sec. 11)	1	0.87
33	Silver Park New	1	2.50
Total			45.78

Source: Water Supply Department, MBMC

Table 7-4 List of Proposed ESR in MBMC

Sr. No.	Zone Name	Number	Storage (ML)
1	Chene Kajupada	1	0.5
2	Ghodbunder Pro	1	2.5
3	Vinay Nagar	1	2
4	Silver Sarita	1	1
5	JP Builder Pro	1	2.25
6	Mandavi Pada	1	2
7	Mahajanwadi Pro	1	2
8	Penkarpada	1	2
9	Pleasant Park	1	2
10	RNA Courtiyad	1	1.75
11	Sector 7 Pro	1	1.5
12	Shantinagar S. 11	1	2
13	Asmita Park Pro	1	3
14	Kanakiya near the bus depot	1	2.5
15	NR RBK School	1	2.5
16	Kanakiya 3	1	1.75
17	NR STP-7	1	2.5
18	Indralok Pro	1	2.75
19	Jeshal Park STP	1	3
20	Navghar Pro	1	2
21	Near Sport Complex	1	2
22	Goddev Pro	1	2
23	Narmada Nagar	1	2
24	Pro near STP 1	1	2.5
25	Proposed at STP 1	1	2.25
26	Near New Fire Station	1	2.5
27	Geeta Nagar	1	2
28	Rai	1	1
29	Rai 1	1	1

30	Dongari MBR	1	0.75
31	Chene MBR	1	48
Total			107.5

Source: Water Supply Department, MBMC

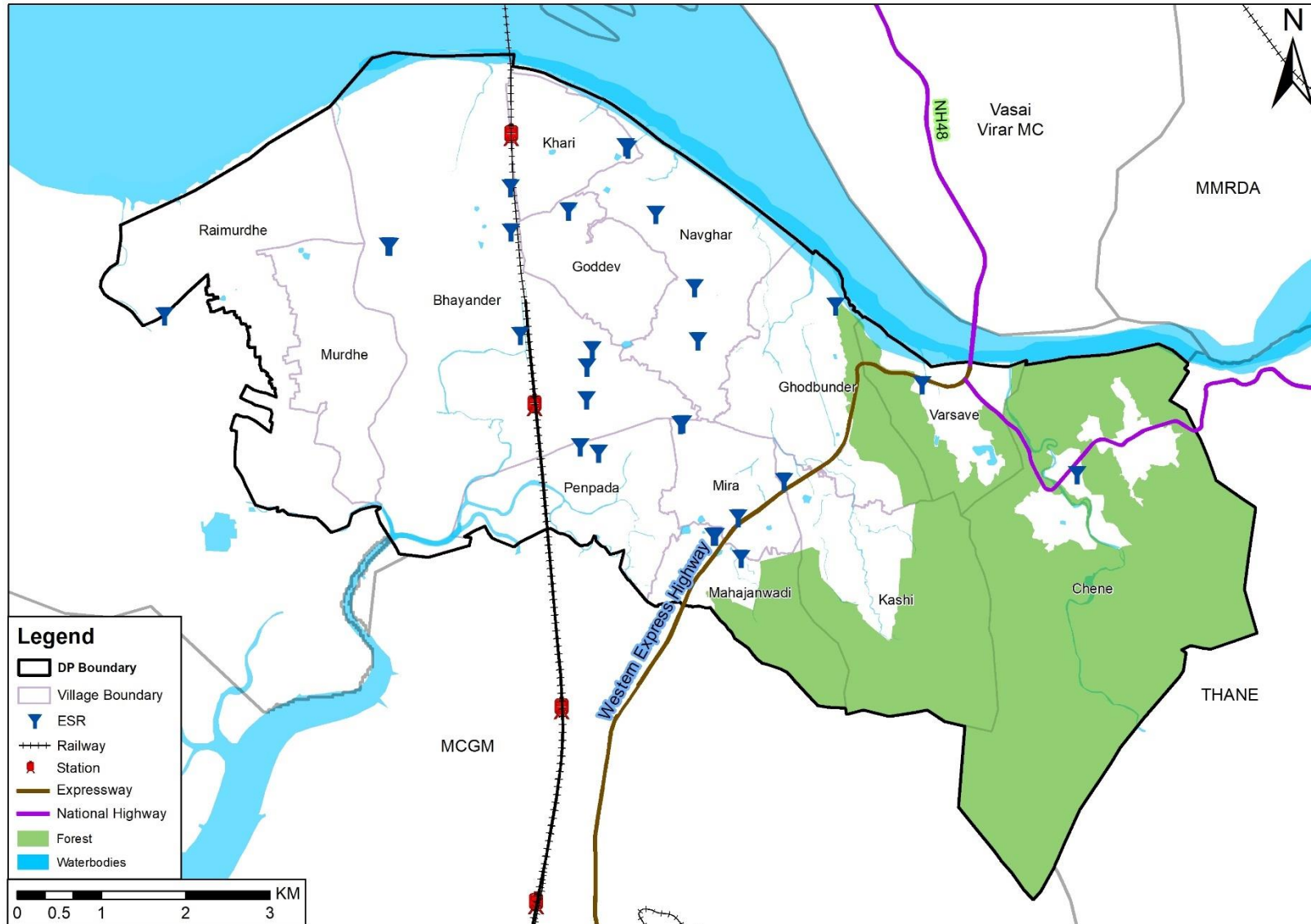
Sr. No.	Name of pumping Station	Capacity in Lakh liters
1	Kasha Janata Nagar GSR & Pumping Station	2.50
2	Dongari Sump & Pumping	1.20
3	Asmita Park Sump & Pumping	10.00
4	MIDC Sump & Pumping	20.00
5	Shanti Nagar Sec 7 Sump & Pumping	11.00
6	Shanti Nagar Sec 11 Sump & Pumping	10.70
7	Light House Sump & Pumping Station	0.80
8	Kapurbawadi Pumping Station	30.00
Total		86.20

Source: Water Supply Department, MBMC

7.2.3 Distribution Network and Transmission

The treated water is pumped from Temghar and Jambhul water treatment plants and then stored at MBR of the respective authority. The water from STEM and MIDC MBR is transmitted to the Saket junction which is 25.5 km and 27.8 km away from the respective MBR. A sluice valve is installed at Saket junction to control the gravity flow of water. Again, the treated water is transmitted through a 17.5 km long gravity main with a diameter of 1500 mm to Chene MBR. Further, treated water is distributed to other ESRs and residents.

As per the water energy audit conducted in the year 2019-20, estimated transmission losses were approximately 18%. The water supply department has taken various initiatives to reduce leakages such as closing all public stand posts, increasing the usage of DI pipelines instead of cement, repaired sluice valves.



7.2.4 Coverage of Water Supply Connection

Mira Bhayandar city has approximately 90% water supply coverage. Most of the areas in the city are served through gravity while in hilly areas pumping system is provided. The city has 40,302 domestic and 3,291 non-domestic connections. Domestic connections serve around 1,68,353 households in the city. It indicates that a single connection on average serves almost three to four households. The public taps, stand posts, and hand pumps are not operational in the city.

7.2.5 Per Capita Water Supply

The per capita supply of water to the residents is 112 LPCD in Mira Bhayandar which is below the standard prescribed by CPHEEO.

7.2.6 The extent of Metering of Water Connections

There is a total of 43,593 water supply connections in Mira Bhayandar city out of which 40,302 are domestic and 3,291 non-domestic connections. The domestic connections include connections to individual households, slums, and connections to apartments (multi-households). Flow meters are available to quantify the amount of water drawn from different sources. Currently, all water connections are metered. MBMC charges Rs. 13 per thousand liters for domestic connection and Rs. 50 per thousand litres for non-domestic connection.

7.2.7 The extent of Non-Revenue Water

Over the last few years, the daily average production has been 211 MLD. All the connections are metered, so it is easy to determine billed consumption. A per water audit conducted in 2019 shows the extent of non-revenue water is around 18% in Mira Bhayandar.

7.2.8 Quality of Water Supply

The quality of water supplied is measured as the percentage of water samples that meet or exceed the specified potable water standards, as defined by the Central Public Health and Environmental

Engineering Organisation (CPHEEO). STEM and MIDC conduct a test at the treatment plant while the water supply department of MBMC conducts tests at ESRs daily. These samples are tested at the Public Health Laboratory, Konkan Bhavan.

7.2.9 Service Level Indicators

Table 7-5 Service level benchmarks for water supply service

Sr. No.	Parameter	Benchmark	Service Level in FY 2019-2020
1	Coverage of water supply connections (%)	100	90
2	Per capita supply of water at the consumer end (LPCD)	135	120
3	The extent of metering of water connections (%)	100	100
4	The extent of non-revenue water (%)	20	18
5	Continuity of water supply (hrs per day)	24	4

7.2.10 Proposed Water Source Planning Projects

The present source of water for Mira Bhayandar city is STEM and MIDC. The city needs to find another source of water to cater to the growing water demand in the coming year. The State government has approved a 403 MLD water supply scheme for Mira Bhayandar and Vasai Virar Municipal Corporation. Under the scheme, the city will receive 218 MLD of water from MMRDA. The water will be pumped from the Surya dam and transmitted through a 98 km long gravity main with a diameter of 1750 mm. The water will be stored at Chene MBR having a capacity of 48 MLD and then transmitted to the other ESR. The water supply department of the city has proposed another 30 more ESR to meet future demand.

7.3 Sewerage

A sewerage system, or wastewater collection system, is a network of pipes, pumping stations, and appurtenances that convey sewage from its points of origin to a point of treatment and disposal. The main function of a sanitary sewer system is to protect water quality and public health. Mira Bhayandar which is one of the fastest urban conglomerations in Maharashtra has taken further steps to have a better operated and maintained sewage system. Being a satellite city to Mumbai, it has been identified as the upcoming growth centre with an additional need to allocate the sewage and waste generated by the rising population. The details of the sewerage management system of the corporation are mentioned in this section.

7.3.1 Existing sewerage system

The provision of sanitation and wastewater disposal facilities to the citizens is an obligatory function of the municipal corporation. Mira Bhayandar Municipal Corporation had made it compulsory for the provisions of septic tanks, furthermore, septic tank latrines were also used

for any new constructions. The main roads running along the city are equipped with drains which mainly collect and carry the sullage water from all the households. The total length of the drainage system is 528 km. Out of that, 18.5 km are pucca drains while 10.5 km are open drains. The whole corporation area is divided into 8 zones. The underground sewerage system scheme includes a network of 115 km. To date, only 15% of the sewage is connected to underground sewerage drains while 85% of the raw sewage is directly laid out in the open drains. Geographically, the sewage network is spread across 57% of the city. At present, 168.8 MLD sewage is generated in Mira Bhayandar city.

Table 7-6 Details of Existing Sewerage System

Sr. No.	Particulars	Details
1	Length of Sewer Lines	115 km
2	No. of Sewage Pumping Station	10
3	No. of Waste Water Treatment Zones	10
4	No. of Manholes	13988
5	No. of Inspection chambers	426
6	Total estimated sewage generated	168.8 MLD
7	Total treatment capacity	115 MLD

Source: Drainage and Sewerage Department, MBMC

7.3.2 Sewage Treatment

The treatment is a process that includes removing the pollutants chemically, physically, or biologically to produce environmentally safe sewage water. This is carried out in various ways, either close to where the waste is produced, or the collected sewage can be transported via a network of pipes and pump stations to a central location or a Municipal Plant. There is a total of 10 STP located in the different zones of the city to treat sewage and sullage collected through the sewerage network. The total treatment capacity of STPs is 115 MLD. The total sewage generation is 168.8 MLD, of which only 115 MLD is collected and treated. Thus, the collection efficiency of the sewage network is 68%. MBMR treatment technology will be used at the STPs to reuse the treated sewage for construction and gardening purposes. The treated sewage is discharged into the Arabian Sea and Vasai Creek.

Table 7-7 Existing Sewage Treatment Plant

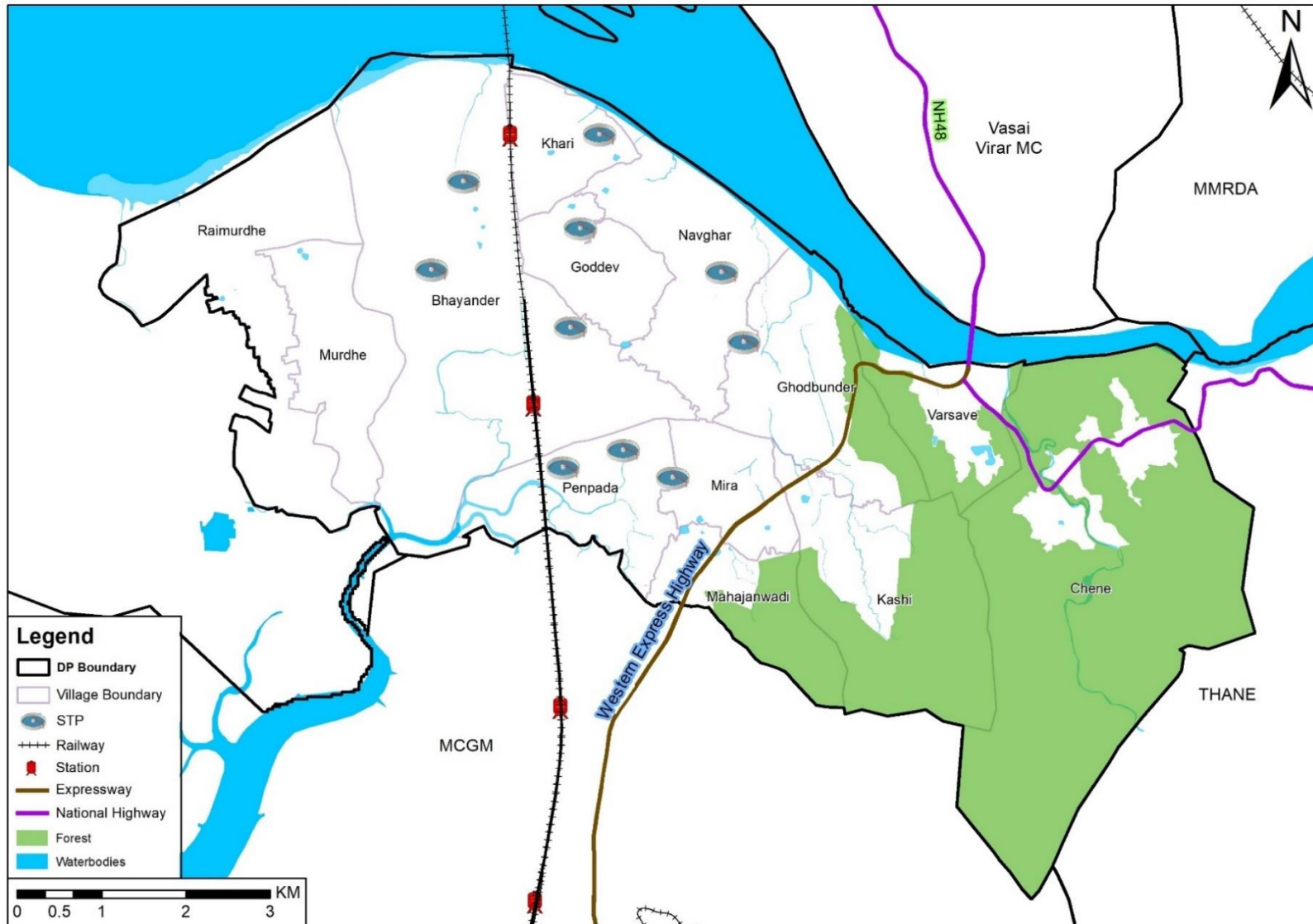
Sr. No.	Location	Location Address	Plant Capacity (MLD)	Operational Status
1	Zone - 1	Near Nazareth High School Bhayandar (W)	8	Work in Process
2	Zone - 2	Near Kasturi Garden Bhayandar (W)	8	In Operation
3	Zone - 3	Kharigaon, Bhayandar (E)	13	Work in Process
4	Zone - 4	Golden Nest Road Bhayandar (E)	12	In Operation
5	Zone - 5	Kanakia Mira Road (E)	17	In Operation
6	Zone - 6A	Shantipark, Sangavinagar, Mira Road (E)	13	In Operation
7	Zone - 6B	Mhada Colony Mira Road (E)	7	In Operation
8	Zone - 6C	Shantinagar, Mira Road (E) near Ayyappa mandir	11	In Operation
9	Zone - 7	Kanugo, near ahmad raza ground	12	Work in Process
10	Zone - 8	Hatkesh near 15 no bus stop, Grounder	14	In Operation
Total			115	

Source: Drainage and Sewerage Department, MBMC

7.3.3 Service Level Indicators

Table 7-8 Service level benchmarks for sewerage service

Sr. No.	Parameter	Benchmark	Service Level in FY 2019-2020
1	Coverage of sewerage service (%)	100	57
2	Collection efficiency of sewerage (%)	100	68



Map 7-1 Existing Sewage Treatment Plant

7.3.4 Storm Water Drainage

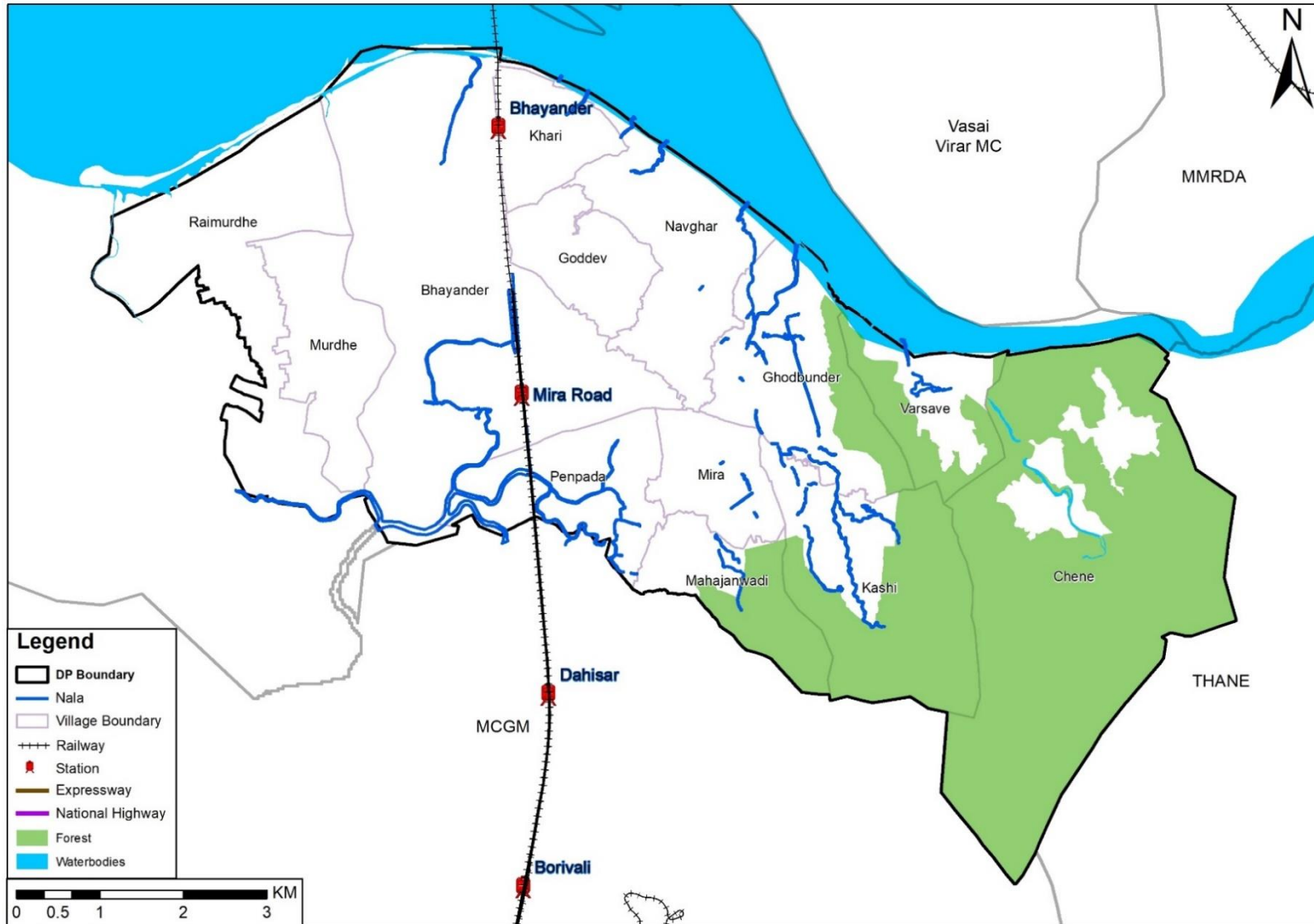
The original geography of the area is interrupted by a network of creeks, rivers, and a system of drains that play a major role in stormwater drainage in Mira Bhayandar. There is no comprehensive stormwater drainage system provided by the corporation in the MBMC area. It can be stated that MBMC has provided roadside open gutters for collecting the local run-off from roads and abutting areas. Mira Bhayandar has 27 major and 7 minor nallas that start from Sanjay Gandhi National Park at Yeoor Hills at a height of 415 m. The total length of the nallas is 21.6 km. These nallas discharge stormwater into the Arabian Sea and Vasai Creek.

Table 7-9 Summary of Storm Water Drainage

Type of Drains	Numbers	Total length (km)
Major Nallas (width > 1.5m)	27	17.3
Minor Nallas (width < 1.5m)	7	4.3
Total	34	21.6

Source: Nalla Department, MBMC

Mira Bhayandar faces certain natural disadvantages which increase the probability of flooding post heavy showers. Firstly, it receives a significant amount of rainfall, about 3670 mm on average every year. Secondly, large catchments of water are formed within a short time because of the storm runoff from the hills around the city. Lastly, the discharge point of the drains is a creek and hence high tides affect the disposal of stormwater. Other reasons such as a rise in the quantum of storm runoff due to an increase in impervious areas which is a result of the development and concretization of land or a decrease in the cross-section of natural and manmade streams because of encroachment results in the accumulation of stormwater in the city. The Storm Water Drainage Department, a branch of Mira Bhayandar Municipal Corporation Public Works Department is responsible for implementing the Integrated Storm Water Drainage Project in the city. To overcome the problem of stormwater, the department has taken the initiative of lining up nalla.



Map 7-2 Existing Natural Storm Water Drainage System

7.4 Solid Waste Management

Integrated Municipal Solid Waste Management typically involves a timely collection of waste; transportation; its treatment to reduce volume and ultimately safe disposal of waste in ways that most effectively protect human health and the environment. The Municipal Solid Waste (MSW) of Mira Bhayandar is handled by the Mira Bhayandar Municipal Corporation as per the Solid Waste Management Rules (2016), notified by the Ministry of Environment & Forests (MoEF), Govt. of India. The Corporation manages the collection, transportation, and disposal of solid waste generated in the city. As per prescriptions of the Solid Waste Management Rules (2016), the Corporation is working on implementing source segregation; bulk waste generators, and a decentralized waste management process in all the wards.

7.4.1 Solid Waste Generation

Municipal solid waste in a city in India is mixed in nature, consisting of maximum residential waste. Other waste generation sources are commercial units, markets, hotels and restaurants, institutions including schools, colleges, offices, street sweepings, drain silt, and green areas including a park, and gardens. The Mira Bhayandar Municipal Corporation is collecting about 484 MT of municipal solid waste per day. Table 7-10 shows the sources of waste generation in addition to the quantum of waste generated by each source. The sources of waste generation are

- Residential area
- Commercial establishments
- Hotels/ restaurants
- Markets/ Mandis
- Street sweeping
- Institutions

Figure 7-1 illustrates that 42% of the total waste is generated from the residential area, 28% from hotels and restaurants, 9% from commercial establishments and markets, 6% from institutional waste, and 5% from street sweeping. It reveals that waste generation per person per day is 569 grams per capita per day (GPCD).

Table 7-10 Details of Solid Waste Generation

Source of Waste Generation	Volume (TPD)
Households	202.5
Commercial Establishments	45
Hotels and Restaurants	135
Markets	45
Street Sweeping	22.5
Hospitals	0.94
Institutional	30
Other Sources (Debris)	3
Total	483.94

Source: Solid Waste Management Department, MBMC

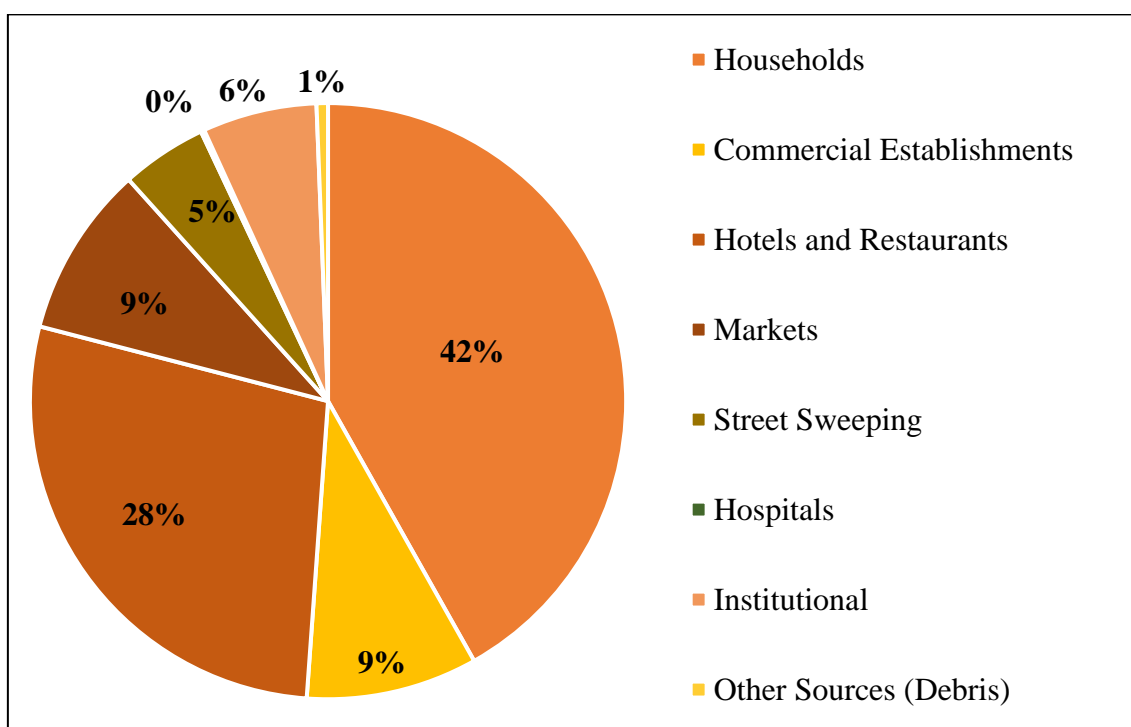


Figure 7-1 Details of Solid Waste Generation

7.4.2 Characterization of Solid Waste

Waste characterization means finding out how much dry waste, wet waste, and other types of waste are discarded in your waste stream. This information helps in planning how to reduce waste, set up recycling programs, and conserve money and resources. Figure 7-2 reveals the

share of wet waste is highest i.e., 68% followed by dry waste which is 25%. The share of street sweeping is 1.5% and drain silt is 4.1%. The share of domestic hazardous waste, sanitary waste, C&D waste, and green waste is around 1%.

Table 7-11 Characterization of Solid Waste

Waste	Quantity (TPD)	Share (%)
Wet Waste	330	68.19
Dry Waste	120	24.80
Domestic Hazardous Waste	0.56	0.12
Sanitary Waste	0.78	0.16
Street Sweeping Waste	7.595	1.57
C & D waste	3	0.62
Green Waste Generation	2	0.41
Drain Silt Generation	20	4.13
Total	483.94	100

Source: Solid Waste Management Department, MBMC

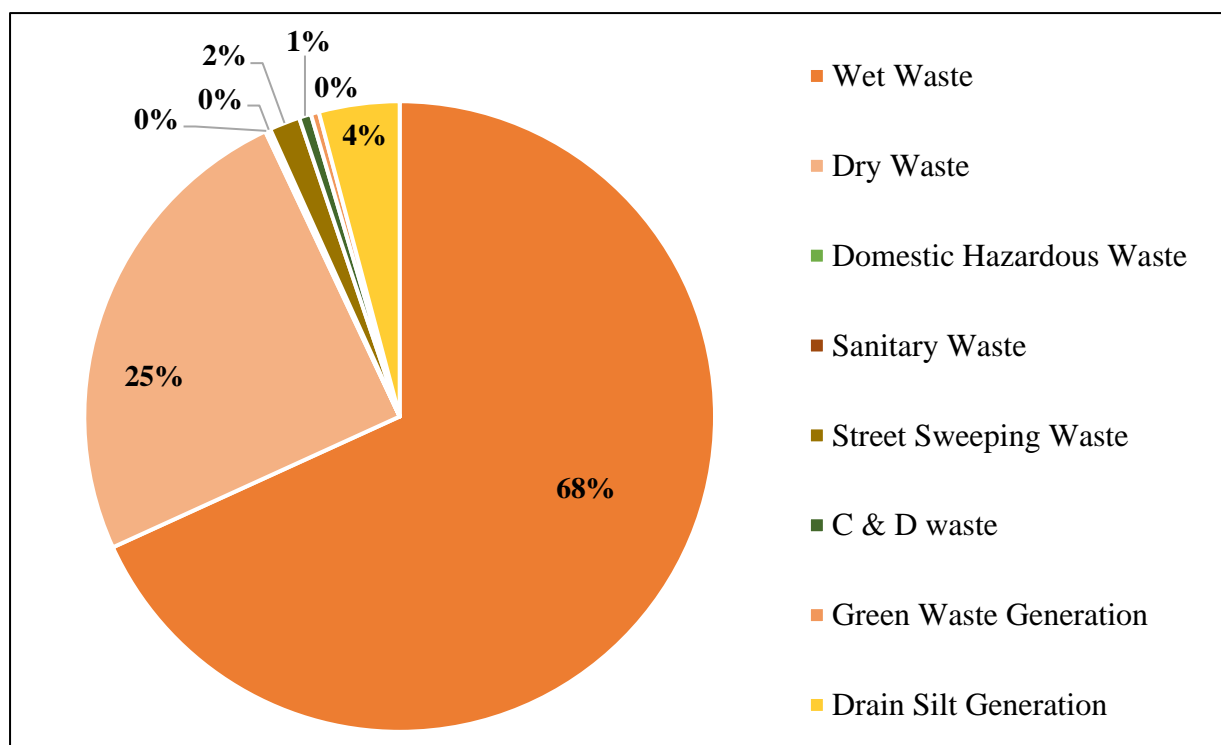


Figure 7-2 Characterization of Solid Waste

7.4.3 Waste Collection and Transportation System

Mira Bhayandar Municipal Corporation has abolished the waste bin system and introduced a door-to-door collection of waste through 'Ghanta Gadis'. The city corporation collects garbage from households, hotels, restaurants, commercial establishments, hospitals, markets, etc. Details about the collection of waste in MBMC have been depicted in Table 7-12. The municipal waste is collected every day by the Ghanta gadis.

Table 7-12 Collection of Waste from Source

Source	Covered by Door-to-Door Collection
Households	281816
Commercial Establishments	40506
Hotels and Restaurants	155
Markets/ Mandies	14
Hospitals	199
Institutional	158

Source: Solid Waste Management Department, MBMC

MBMC provided 100% door-to-door collection of waste within its jurisdiction. Waste is collected by using a closed vehicle called 'Ghanta Gadis'. These vehicles have been hired by private contractors. There is no transfer station in the city. All the waste from different parts of the city is collected and transported to the Material Recovery Facility (MRF) at Uttan. Mira Bhayandar Municipal Corporation uses a compactor, tipper, and mini tipper to transport solid waste collected by Ghanta gadis to the MRF. The details of the vehicles and their capacity are given in table 7-13.

Table 7-13 Details of Waste Transportation Vehicles

Vehicle Type	Number of Vehicles	Capacity (TPD)
Compactor	42	294
Tipper	92	276
Mini-Tipper	13	19.5
Total	147	589.5

Source: Solid Waste Management Department, MBMC

7.4.4 Street Sweeping

“A city with clean, well-kept streets is invariably a city with a clean government and responsible citizenry.” The roads/streets are also a big source of waste generators. So, street sweeping becomes an important function of the solid waste management department. It is essential, not only to help keep streets clean by clearing debris such as plastic, metals, leaves, dust, etc. but also to improve the cleanliness and appearance of the city as a whole. It is carried out on main roads, sub roads, streets, by lanes, and footpaths. There are 1507 street sweepers hired by the corporation. Sanitary workers sweep the streets manually in the early morning. The waste collected by them is transported to storage points using wheelbarrows and baskets. Mira Bhayandar has a total road network of 236 km. Through 100% coverage, 22.5 TPD waste is collected from the streets. Mainly waste from the streets is generated by the following sources:

- Natural waste: dust, fallen leaves, decaying vegetables, etc.
- Road traffic waste: oil, rubber, accidental spillage of load, construction, etc.
- Behavioural waste: litter, excrement of domestic pets, etc.
- Storm Water Drains/Sewer Cleaning wastes

7.4.5 Processing and Disposal System

7.4.5.1 Segregation

Presently, 95% of waste is segregated at the source level. Ghanta Gadis collect waste in two different compartments i.e., dry waste and wet waste. The remaining 5% of waste is segregated at MRF into wet and dry waste. The MRF further segregates dry waste into plastic, paper, glass, and metal waste. A material Recovery Facility (MRF) is usually located near a waste disposal site. In Mira Bhayandar Case it is also located near a waste dumping site which is at Uttan.

7.4.5.2 Waste Treatment

Presently, the city has adopted two types of waste treatment facilities which are waste to compost using windrow composting technology and waste to RDF. Both facilities are located at Uttan near the waste disposal site. The capacity of each facility is 500 TPD which is sufficient for the present situation.

7.4.5.2.1 Windrow Composting

Windrow composting involves the production of compost by piling organic matter in long rows i.e., windrow. It produces a large volume of compost and requires oxygen for decomposition.

The process takes 3-9 weeks to prepare compost depending on the environmental condition. Currently, there is only one windrow composting plant with a capacity of 500 Ton at Uttan.

7.4.5.2.2 Waste to Energy

It is a waste treatment process that involves the combustion of non-organic matter contained in waste material. This method is used to treat waste from industrial or commercial sites. The waste is shredded, dried, baled, and then finally burnt to produce electricity. The product obtained at last is called Refuse Derived Fuel (RDF). Currently, there is one RDF plant in the city with a capacity of 500 Ton and located at Uttan.

Table 7-14 Details of Waste Treatment Facility

Type	Location	Area	Capacity
Waste to Compost	Uttan	13 acres	500 TPD
Waste to RDF	Uttan	13 acres	500 TPD

Source: Solid Waste Management Department, MBMC

The Corporation has proposed a bio-methanization treatment process to meet the future requirement. The capacity of the treatment facility in total is 100 Ton. The details of the proposed treatment facilities are given in Table 7-15.

Table 7-15 Proposed Waste Treatment Facilities

Type	Capacity (Ton)	Location	Work Status
Bio-methanization cum power generation plant	10	Reservation 140	70% completed
Bio-methanization cum power generation plant	20	Reservation 122 D	80% completed
Bio-methanization cum power generation plant	10	Reservation 122 D	80% completed
Bio-methanization cum power generation plant	10	Reservation 271, 272, 273	70% completed

Bio-methanization cum power generation plant	20	Reservation 368	Initial Stage
Bio-methanization cum power generation plant	20	Reservation 353	Initial Stage
Bio-methanization cum power generation plant	10	CTS 1442 to 1446 and 1723 to 1726, Mira	Initial Stage

Source: Solid Waste Management Department, MBMC

7.4.5.3 Waste Disposal

At present all the waste generated and collected from primary and secondary waste sources is directly dumped at the dumping site. Waste is being dumped on this site since 2005. Currently, the waste disposal site is located at Uttan which is 6km from the city. A sanitary landfill site has been proposed by MBMC at Uttan. It is still under construction and will be available for use in March 2023.

Table 7-16 Details of Waste Disposal Sites

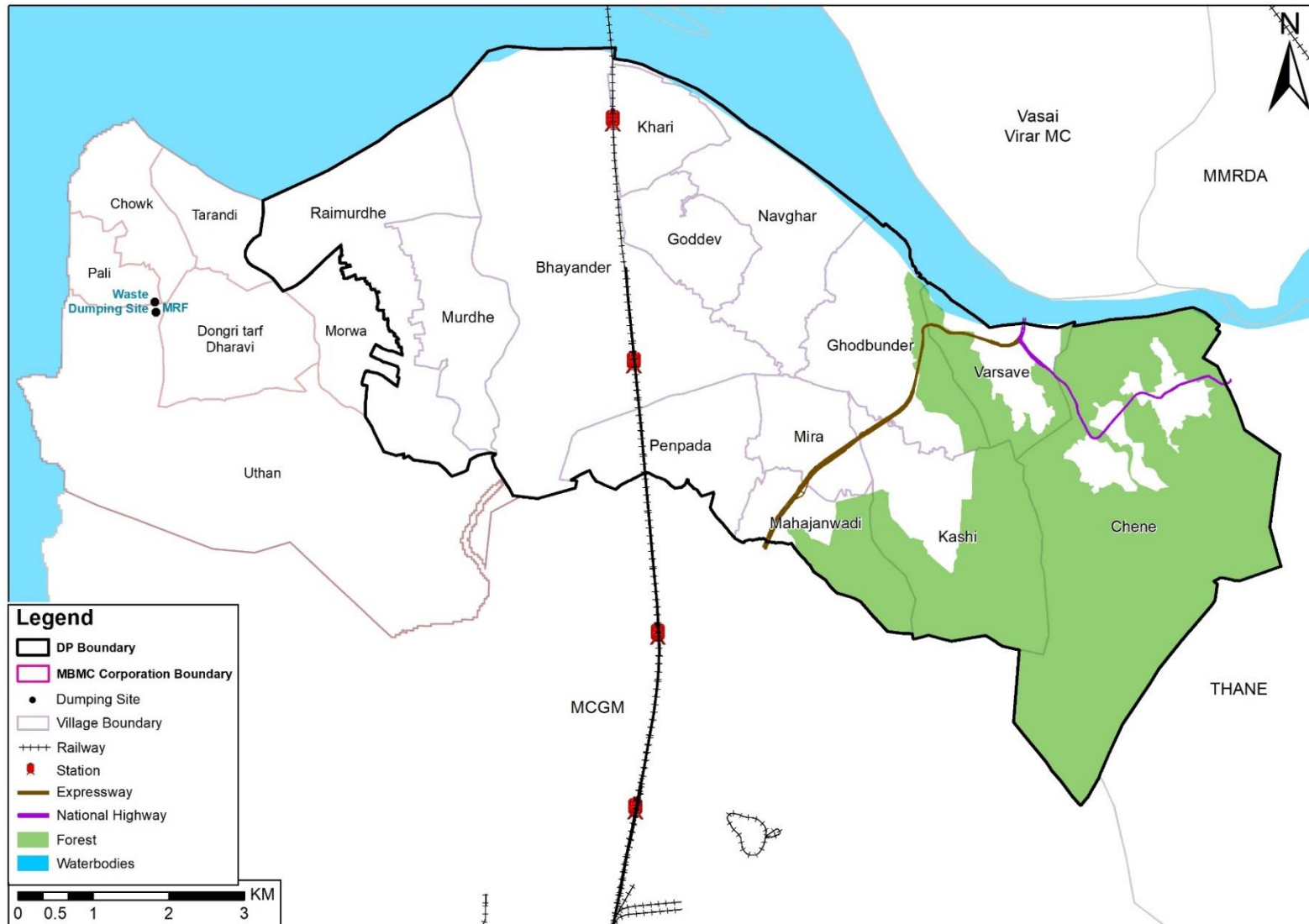
Type	Location	Area	Capacity
Open Dump Landfill Site	Uttan	30 ha	37000 cu.m.
Proposed Sanitary Landfill Facility	Uttan	NA	NA

Source: Solid Waste Management Department, MBMC

7.4.6 Service Level Indicators

Table 7-17 Service Level Benchmark for SWM service

Sr. No.	Parameter	Benchmark	Service Level in FY 2019-2020
1	HH level coverage of SWM (%)	100	100
2	Efficiency of collection of MSW (%)	100	100
3	Extent of segregation of MSW (%)	100	95
4	Extent of scientific disposal of MSW (%)	100	NA



Map 7-3 Solid Waste Dumping Site and MRF

7.5 Public Utilities

Public utilities are essential services that play a vital role in economic and social development. Quality utilities are a prerequisite for effective poverty eradication. It involves the provision of basic utility services such as electricity, water, sewerage, gas supply, transportation, firefighting, telecommunication, post office, police station, socio-cultural facilities, and miscellaneous services. Traffic and transportation facilities have been discussed in detail in Chapter 6. Similarly, public utility services such as water supply, sewerage, and solid waste have been discussed earlier in chapter 7. This section focuses on other public utilities like gas supply, firefighting service, post office, power supply, and miscellaneous services.

7.5.1 Fire Station

There is a total of 5 fire stations in the Mira Bhayandar Municipal Corporation area which is mentioned in Table 7-18.

Table 7-18 List of Fire Stations

Sr. No.	Name	Location
1	Late. Kalpana Chawala Fire Station	Bhayandar (W)
2	Silver Park Fire Station	Silver Park Mira Road (E)
3	Kankia Fire Station	Kankia Mira Road (E)
4	Uttan Fire Station	Uttan Village Bhayandar (W)
5	Navghar Fire Station	Navghar Bhayandar (E)

Source: Fire Department, MBMC

The existing infrastructure available with the fire department is summarized in Table 7-19.

Table 7-19 List of Fire infrastructure

Sr. No.	Type of vehicle	Number
1	T. T. L	1
2	Water Tender	8
3	Mini Water Tender	2
4	Rescue Tender	1
5	Tanker	2
6	Pick Up	2

7	Bolero Jeep	2
8	Ambulance	1

Source: Fire Department, MBMC

The incidents of fire from the year 2015 to 2020 are summarized in Table 7-20. The incidents of death and injuries are minimal in the corporation area.

Table 7-20 List of Fire Incidents

Sr. No.	Year	Fire Call	Death	Injured
1	2015	153	0	3
2	2016	175	4	1
3	2017	145	0	0
4	2018	164	1	0
5	2019	181	0	0
6	2020	184	1	0

Source: Fire Department, MBMC

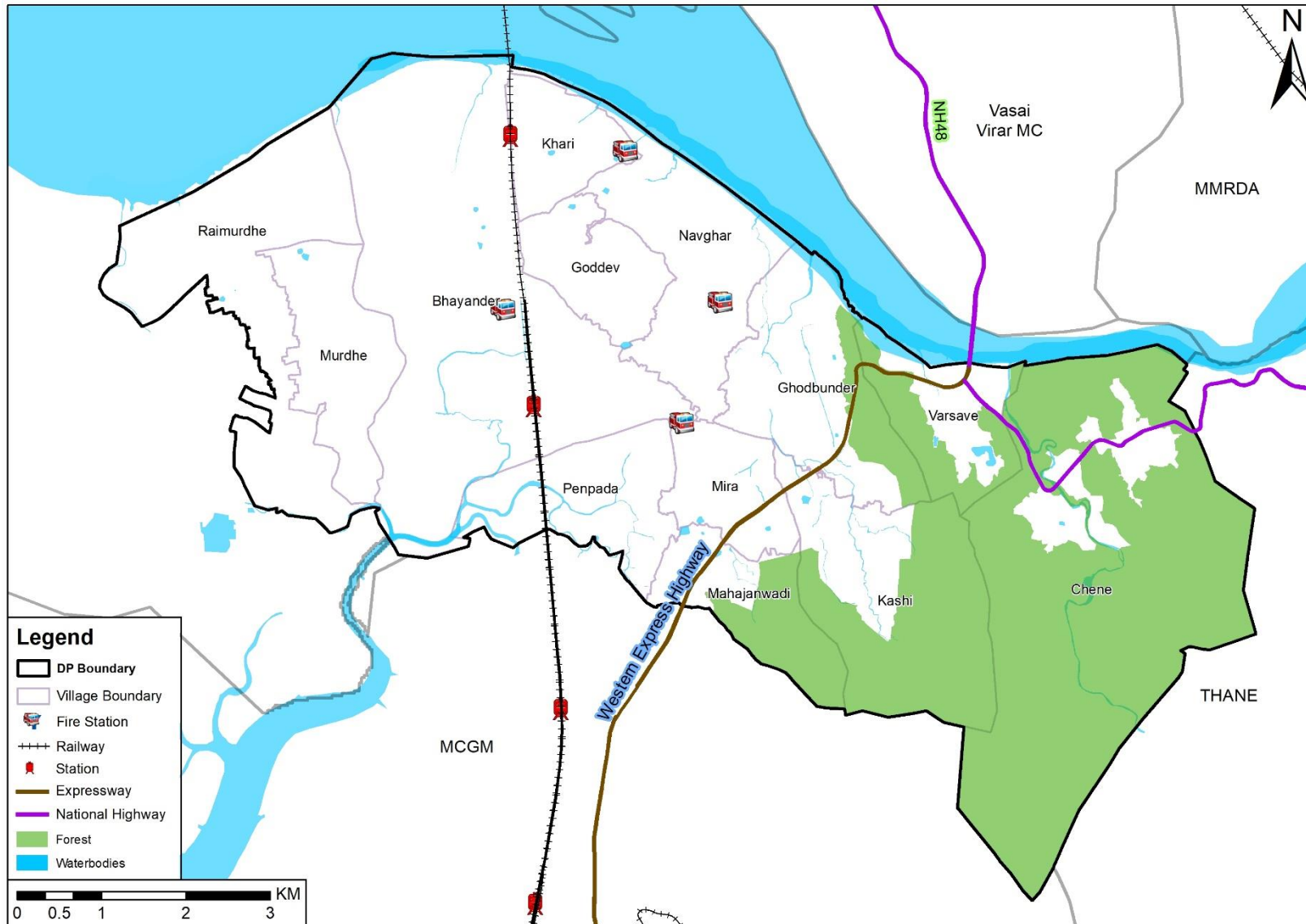
7.5.2 Post Office Service

A good postal system is an essential component of the development of a city, operating in various forms. Not just physical delivery of posts, it has evolved to even electronic and financial delivery of services. There are five post offices in the Mira Bhayandar Corporation area. The details like location and area covered by the office are summarized in the following Table 7-21.

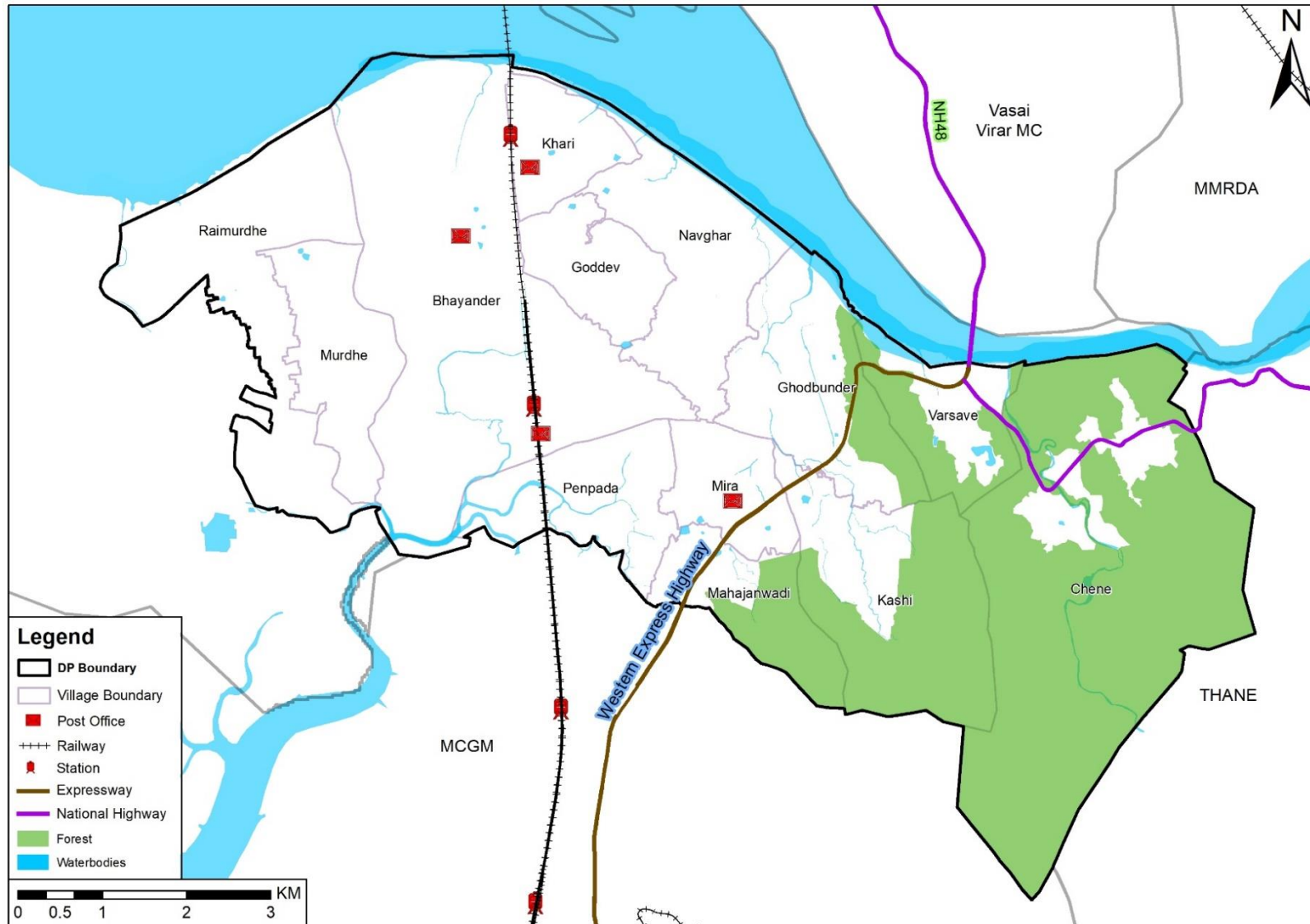
Table 7-21 List of Post office

Sr. No.	Location	Type	Area covered
1	Mira Road- Non-delivery SO, at 05 Radha Niwas Kashi Mira	Sub office	Non-delivery post office
2	Opp. Mira Road Railway Station, Mira Road East	Sub office	Mira Road East area up to Ghodbunder
3	Shop no. 7,8 Shreeji Park building RNP Park Jesalpark Bhayandar East	Sub office	Bhayandar east area
4	Kamala Park 1, Falak road near police chowki, Bhayandar West	Sub office	Bhayandar east area upto Rai Gaon
5	Kaka Baptista Sadan Uttan	Sub office	Uttan area to Murdha Gaon

Source: Post Office, Mira Bhayandar



Map 7-4 Location of Fire Stations



Map 7-5 Location of Post Office

7.5.3 Power Supply

Electricity infrastructures include many components: generation, transmission, and distribution of electricity. Electricity infrastructure provides a substrate for modern life through the network of wires, towers, dams, and turbines that powers our economic and social practices. This chapter provides a technical overview of the key elements of an electricity system: demand, generation, transmission, and distribution for the Mira Bhayandar Municipal Corporation Area.

Adani Power Limited and TATA Power distribute electricity from the endpoint of transmission to the endpoint of the consumer in the entire Mira Bhayandar Corporation area.

7.5.4 Gas Supply

Mahanagar Gas Limited has its local Natural Gas distribution network in Mira Bhayandar city. The existing network of the MGL Gas pipeline is shown in the below map.

Table 7-22 Details of Gas Supply Network

Sr. No.	Details	
1	MP Network (km)	148
2	Steel Network (km)	20
3	Total Service Regulators	2243
4	MRS	532
5	DRS	5
6	Total no of CNG Filling stations in Mira Bhayandar City	9

Source: Mahanagar Gas Limited, Mira Bhayandar

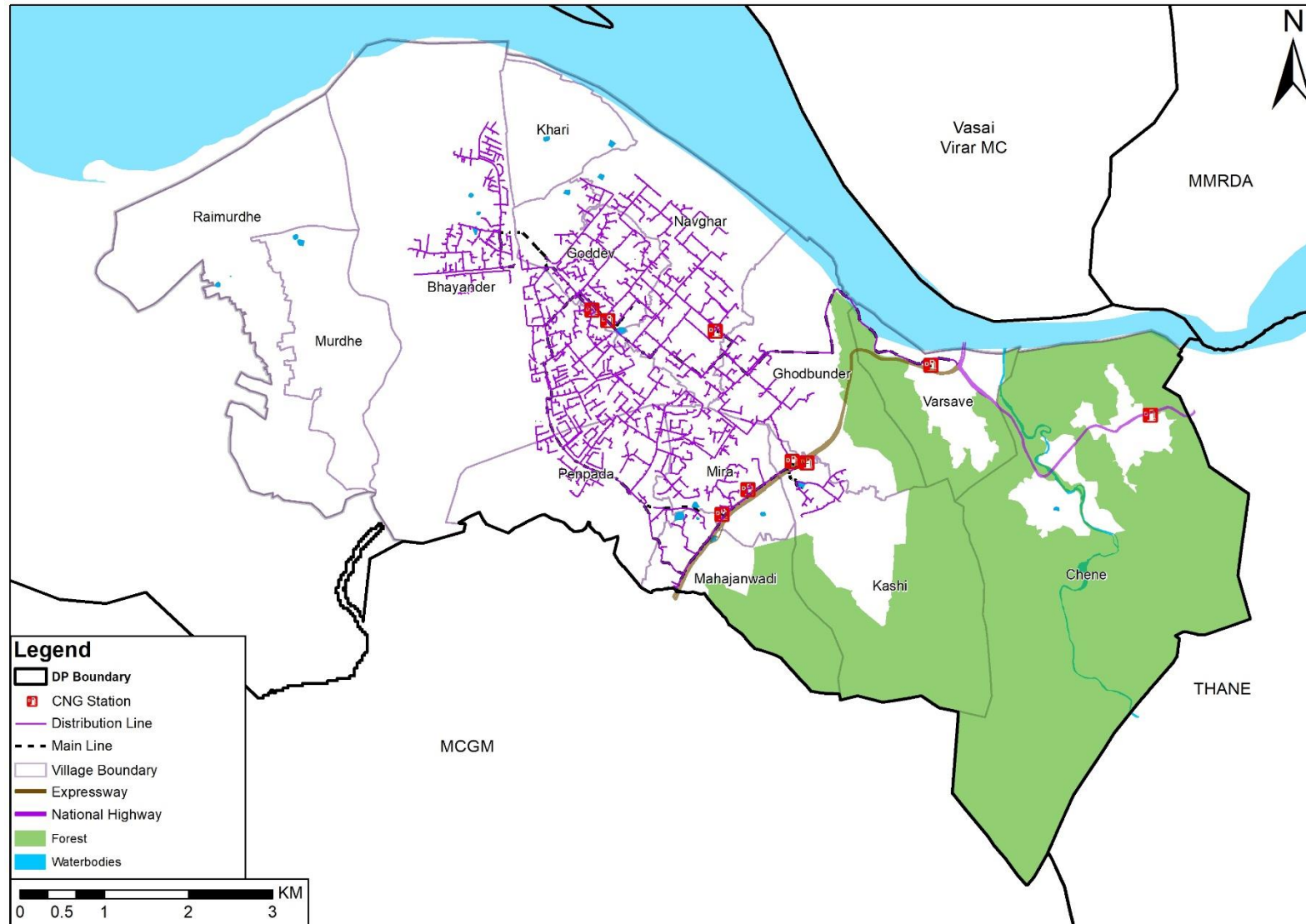
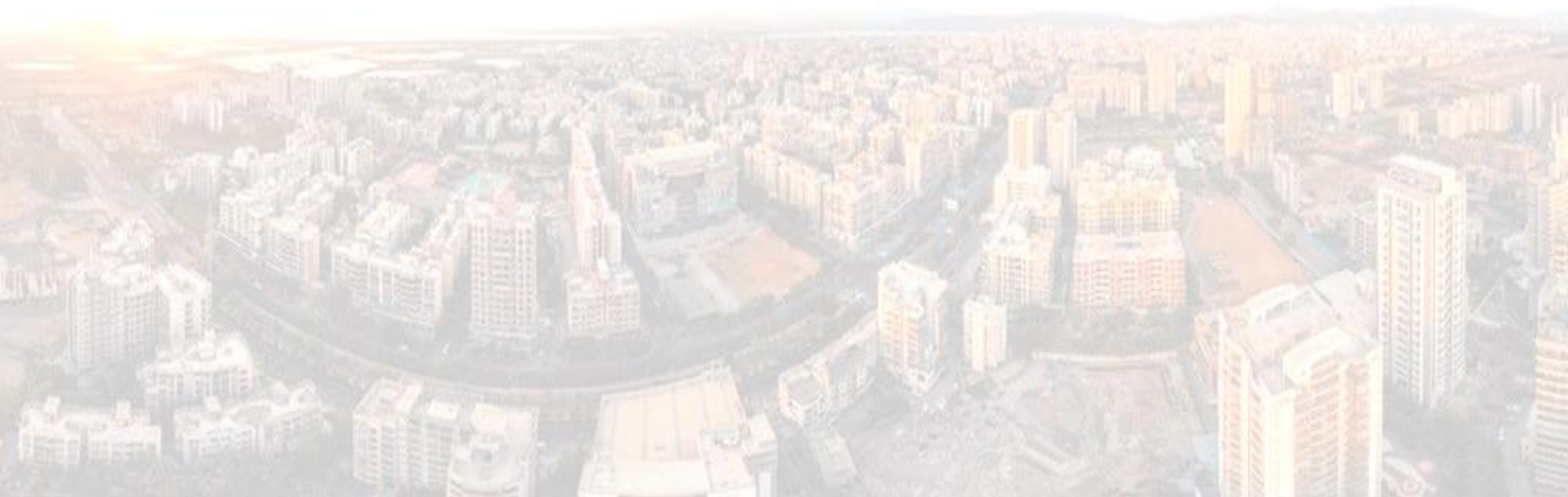


Figure 7-3 Existing Gas Pipeline Network

CHAPTER 8

SOCIAL INFRASTRUCTURE



8 SOCIAL INFRASTRUCTURE

8.1 Introduction

The term 'social infrastructure' covers a wide range of facilities and services that are provided by the government to support and sustain the well-being of communities. A Development Plan aims at creating an environment to enable the residents to enjoy the desired standard of living conditions in addition to ensuring orderly development of a city by prescribing the land use zoning and transportation network along with provisions of proper development control. Therefore, it is necessary to study the existing level of social infrastructure. High-quality social infrastructure provides good quality of life. But the development of physical infrastructure cannot usher in overall development at the desired level if the social infrastructure is not simultaneously developed. This chapter reviews the provision of social infrastructure facilities in the project area which include educational facilities like pre-primary, primary, secondary, higher education, special institutes (if any), health facilities like public hospitals and health centres, recreational facilities, etc.

8.2 Educational Facilities

Education is one of the main factors in the development of a city by investing it in human capital. It decides the development pattern of an area. It exhibits the pace of development of an area through literacy level and exposure to different educational facilities. Education in Mira Bhayandar is provided by MBMC along with private institutions.

8.2.1 Existing Situation

Table 8-1 gives detailed information about existing educational facilities. There are 216 primary schools, 30 secondary schools, 125 higher secondary schools, and 10 colleges in the corporation area. The detailed list with the name of the school, number of students enrolled, type of management, and availability of the playground facility is given in Annexure 3.

Table 8-1 Category of Educational Facilities

Sr. No.	Type of Institution	Number
1	Primary School	216
2	Secondary School	30
3	Higher Secondary	125
4	College	10

Source: Education Department, MBMC

Schools in Mira Bhayandar Municipal Corporation are further classified based on the types of school management. The schools in MBMC are mainly run by Municipal Corporation and Private management. It appears from the numbers that about 83% of the burden of primary education is taken over by private institutions. This is going to increase day by day since people are more inclined to admit their children to private institutions. The municipal corporation provides only primary education facilities and does not have higher education facilities. There are 155 High schools in the corporation area. All of these institutions are managed by private management. These institutions functioned in the developed part of the Mira Bhayandar.

Table 8-2 Category of Educational Facilities based on Management

Sr. No.	Management	Type of Institution			
		Primary School	Secondary School	Higher Secondary	College
1	Municipal Corporation	37	0	0	0
2	Private	179	30	125	10
Total		216	30	125	10

Source: Education Department, MBMC

There are 91,755 students enrolled in primary school; 56,793 are enrolled in high school and 6,575 are enrolled in college. The details are given in Table 8-3.

Table 8-3 Details of Students Enrolled

Type of Institution	Students Enrolled		
	Male	Female	Total
Primary School	48591	43164	91755
Secondary School	21351	18426	39777
Higher Secondary	9436	7580	17016
College	3033	3542	6575
Total	82411	72712	155123

Source: Education Department, MBMC

An area of 28.405 ha is under all educational amenities in Mira Bhayandar. The average per capita space availability for all levels of educational amenities is 0.35sq.m. in the city.

School playgrounds are a promising setting to promote children's physical activity for sustained health outcomes. Physical activity during playtime helps children to relax. School playground equipment helps to provide a holistic approach to educating young children. Young children need to have their minds and bodies programmed with learning and thinking strategies so that they can become efficient learners. In the Mira Bhayandar Municipal Corporation area, 69% of Primary schools have playground facilities, 72% of High schools have playgrounds and 90% of colleges have playground facilities.

Table 8-4 Educational Facilities with Playground

Sr. No.	Type of Institution	With Playground	Without Playground
1	Primary School	150	66
2	Secondary School	23	7
3	Higher Secondary	88	37
4	College	9	1

Source: Education Department, MBMC

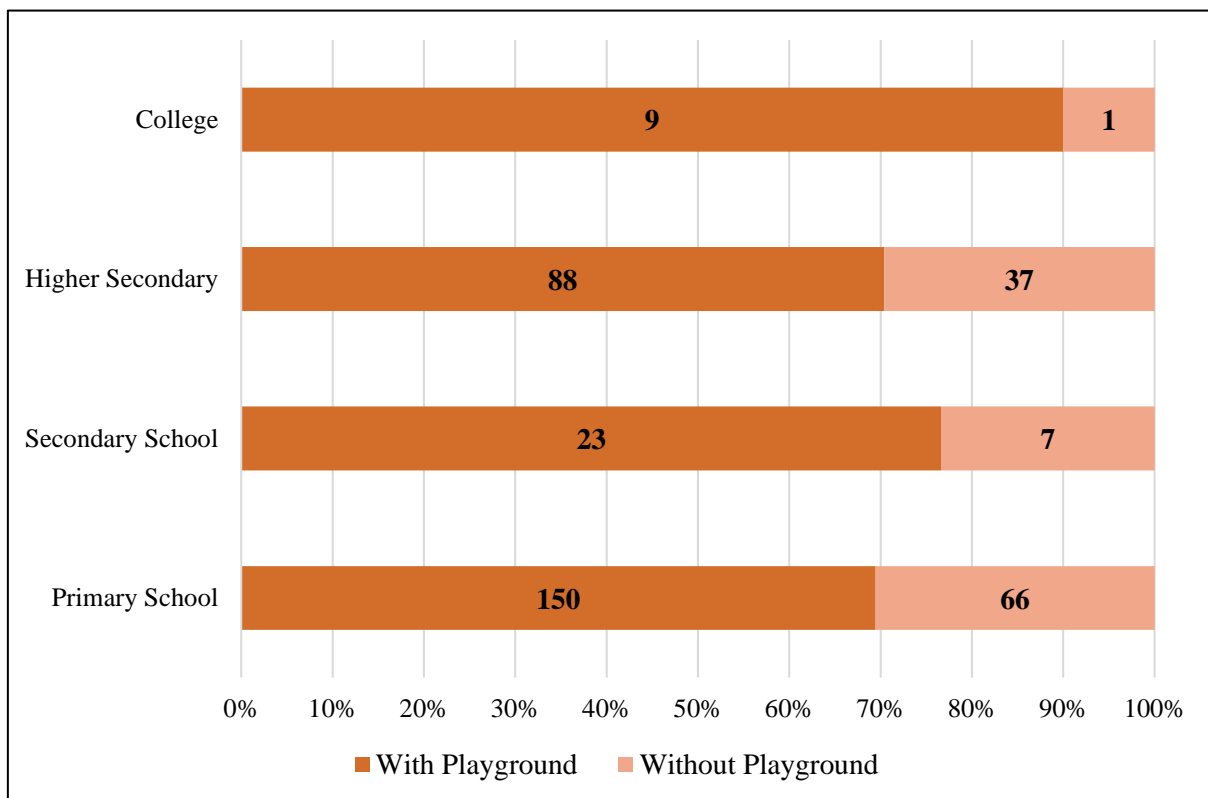


Figure 8-1 Education Facilities with Playground

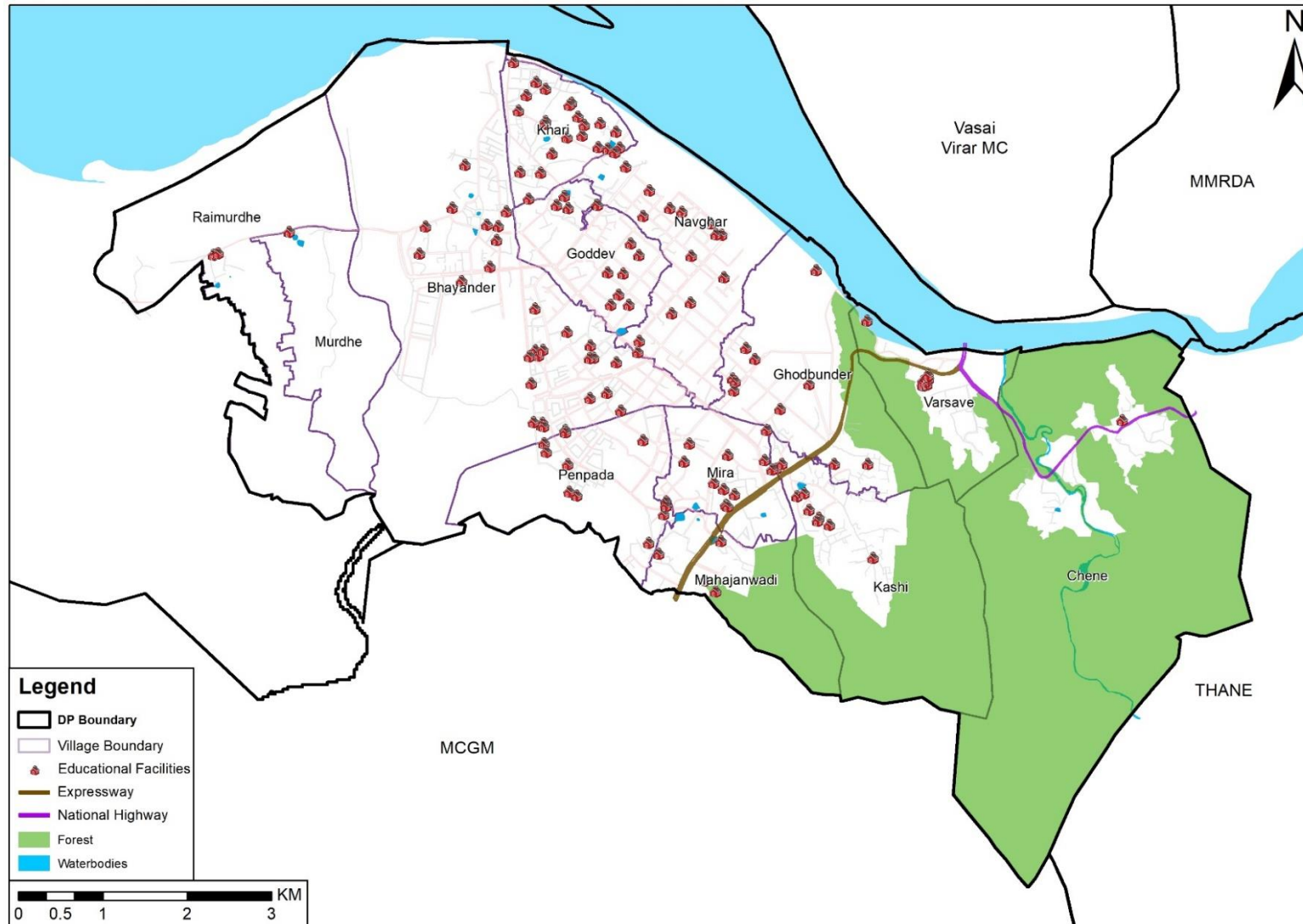
8.2.2 Library and Study Centre

At present, there are 9 libraries and study centres in the city. The total capacity of the libraries is 730. Table 8-5 shows the location and capacity of each library.

Table 8-5 Details of Library

Sr. No.	Library	Capacity		
		Male	Female	Total
1	Nagar Library	99	51	150
2	Mahatma Gandhi Library	126	84	210
3	Prabhag Samiti 3 office Library	85	54	139
4	Hanuman Nagar Library	NA	NA	35
5	Library at Reservation no. 100	48	24	72
6	Library near Jarimari Lake	NA	NA	22
7	Library at Reservation no. 318	NA	NA	-
8	Savitribai Phule Library	NA	NA	-
9	Amenity open space Library	86	16	102

Source: Library Department, MBMC



Map 8-1 Existing Educational Facilities

8.3 Health and Medical Facilities

8.3.1 Existing Situation

There is 1 hospital that is operated by the Government with a total capacity of 100 beds. Mira Bhayandar Municipal Corporation has its own 1 hospital with a total capacity of 50 beds. There are 175 private hospitals with a total 3216 beds capacity. Out of that 21 are maternity homes with 282 beds capacity. A detailed list with the name of the hospital, type of management, area, and number of beds is given in Annexure 4.

Over the years, private provision of health care has steadily increased. Table 8-6 reveals that most of the burden of providing health facilities is taken over by the private sector in the Mira Bhayandar Municipal Corporation area.

Table 8-6 Details of Medical Facilities

Type of Medical Facility	Number	Capacity (Beds)
Government Hospital	1	100
Municipal Hospital	1	50
Private Hospital	154	2934
Maternity Home	21	282
Total	177	3366

Source: Public Health Department, MBMC

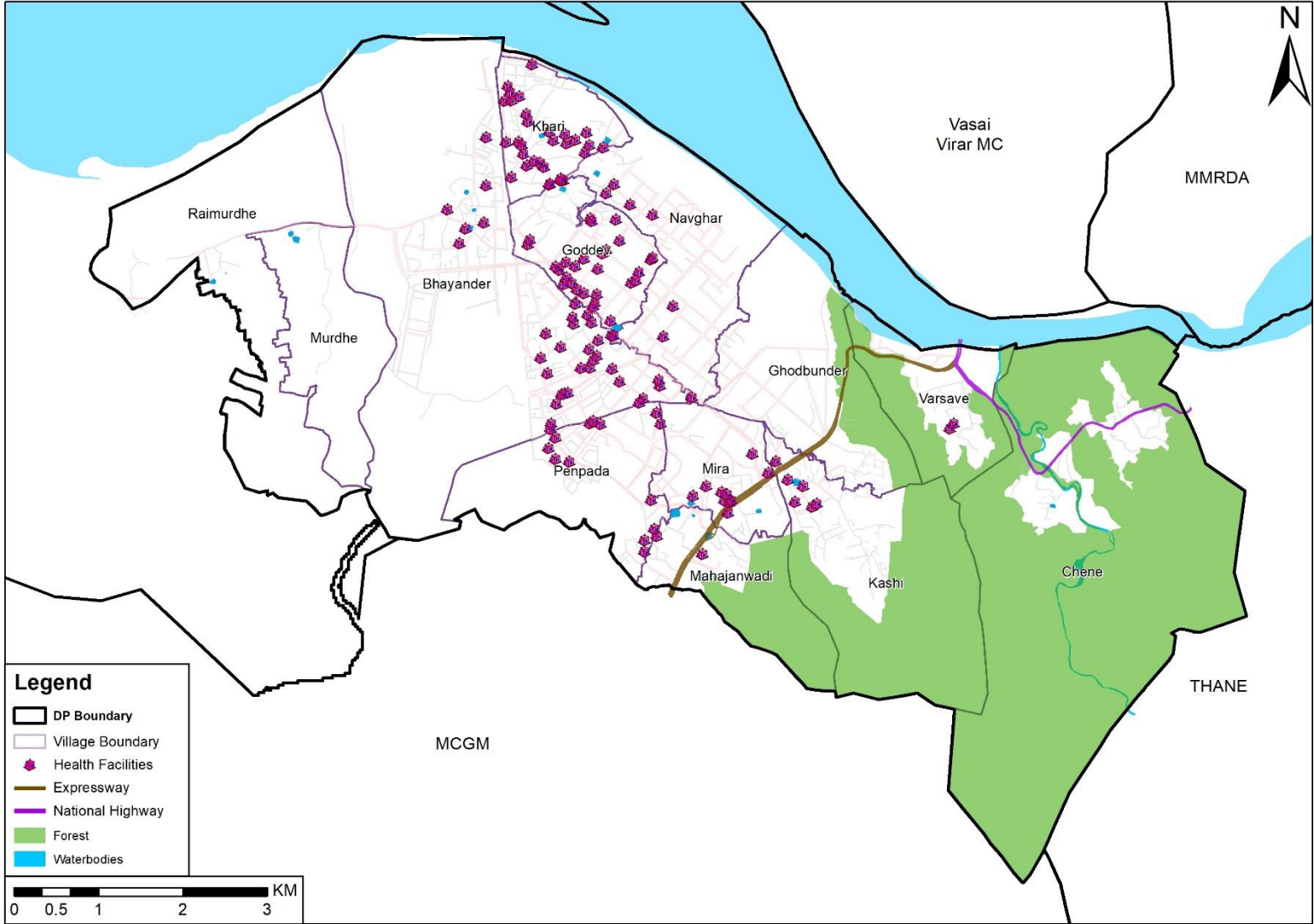
As per the data received from Mira Bhayandar Municipal Corporation Health Department, there are large numbers of general practitioners, private nursing homes, hospitals, and super speciality hospitals available that take care of the gap in the public health care system. According to Existing Land Use 2022, the area under all medical facilities is 4.8 ha.

The following Table 8-7 provides an overview of all the schemes and programs taken up to better the health care facilities that are provided.

Table 8-7 Health Schemes

Sr. No.	Program/ Scheme	Description
1	Free Vaccination	For pregnant women and children aged (0-6 years)
2	Mata Bal Sangovan Program	Provides free treatment for women's disease
3	Jananai Suraksha Yojana	An initiative is being implemented to reduce maternal and neonatal mortality by promoting institutional delivery among poor pregnant women.
4	Savitribai Phule Kanya Kalyan Paritoshik Program	For couples below the poverty line who have undergone family planning surgery on only one or two girls.
5	Health Check-up	Municipal school students are given free health check-ups twice a year.
6	National Bacterial and Waterborne Disease Control Program	Under this initiative, a rapid fever test is done and medication is given to the patients along with blood samples which are further given for examination.
7	National Tuberculosis Program	Patients having TB are given DOTS treatment for free
8	National Leprosy Elimination Program	Suspected patients are identified and if diagnosed with leprosy are given MDR treatment
9	Global AID's Control Program	Normal patients and pregnant women are examined in ICTC. If a pregnant woman is found HIV positive, she is sent to the ART centre.
10	Janani Shishu Suraksha Program	Under this scheme, all the tests and treatments related to childbirth are provided free of cost from the time a woman becomes pregnant till she gives birth.

Source: Health Department, MBMC



Map 8-2 Existing Health Facilities

8.4 Commercial Facilities

The Commercial Facilities include a diverse range of sites that draw large crowds of people for shopping, business, entertainment, etc. Commercial facilities include retail, wholesale or general businesses, hotels, shopping centres, marriage halls, resorts, banks, markets, etc. Mira Bhayandar Municipal Corporation area has some big commercial establishments.

- There are 3 shopping malls in the MBMC area namely Maxus Mall in Bhayandar, Rasaj mall, and Thakur mall in Mira which have a wide range of entertainment facilities for the public.
- For entertainment purposes, there are 4 cinema halls in the MBMC area.
- For weddings, functions, and other social events, there are around 11 Marriage Gardens, and Function halls in the city.

The details of all commercial facilities in the Mira Bhayandar Municipal Corporation area are summarized in the following Table.

Table 8-8 Existing Commercial Facilities

Sr. No.	Commercial Facilities	Villages					
		Mira	Bhayanda r	Navghar	Goddev	Rai-murdhe & Murdhe	Khari
1	General Business	20	26	37	28	2	2
2	Hotel	12	11	7	6	NA	1
3	Shopping Mall	NA	1	NA	NA	NA	NA
4	Shopping Centre	3	7	3	NA	NA	NA
5	Cinema	NA	NA	NA	NA	NA	NA
6	Marriage Garden	NA	2	2	4	NA	5
7	Function Hall	1	7	1	3	NA	NA
8	Petrol Pump	2	1	2	2	1	NA
9	Banks	2	3	NA	NA	NA	1

Sr. No.	Commercial Facilities	Villages				
		Penkarpada	Mahajanwadi	Ghodbunder	Kashi	Chene-Versave
1	General Business	2	12	17	34	24
2	Hotel	2	14	23	2	30
3	Shopping Mall	NA	NA	NA	NA	NA
4	Shopping Centre	NA	1	NA	1	NA
5	Cinema	NA	NA	NA	NA	NA
6	Marriage Garden	1	NA	NA	NA	1
7	Function Hall	1	2	NA	NA	NA
8	Petrol Pump	NA	NA	NA	2	2
9	Banks	2	NA	NA	NA	NA

Source: Primary Data Collection

8.5 Recreational Facilities

Recreational facilities are spaces created, reserved, and developed by urban local bodies to promote an active lifestyle for the welfare of residents of a city. They play an important role in improving the quality of life as well as the sustainability of the city. Such spaces can reduce the sense of disaffection faced by residents of a global city by encouraging them to interact with one another and create a sense of belongingness. Sports are an important component of recreational facilities as they contribute to the physical and mental well-being of citizens. Recreational facilities include both passive and active recreation viz. open spaces, playgrounds, parks, sports complexes, swimming pools, and stadiums.

There is a total of 79 parks and 12 playgrounds in the Mira Bhayandar Municipal Corporation area. The detailed list of parks and playgrounds with names and locations is attached in Annexure 5.

Table 8-9 Ward Committee-wise Parks and Playground

Sr. No.	Ward Committee Number	Parks	Playground
1	1	22	3
2	2	6	0
3	3	9	4
4	4	12	1

5	5	19	4
6	6	11	0
Total		79	12

Source: Garden Department, MBMC

The existing recreational facilities in the town are limited to small playgrounds and gardens. Thus, their area and effectiveness in terms of serving the population are inadequate. Social and cultural facilities like a community centre, drama theatre, museum, town hall, and memorial of historical importance are not available.

Mira Bhayandar is bounded by natural water tanks scattered in various parts of the town. They add grand pristine beauty to the city. The municipal corporation has developed three lakes enriched with proper landscaping viz. MBMC main office lake, Goddev lake, and Shivar Lake wherein boating activities are also available for citizens. Also, there are additional 5 lakes in the city viz. Rao Lake, Mandali Lake, Khari Lake, Old Navghar Lake, and New Navghar Lake. The list of all lakes in the city with the area is given below.

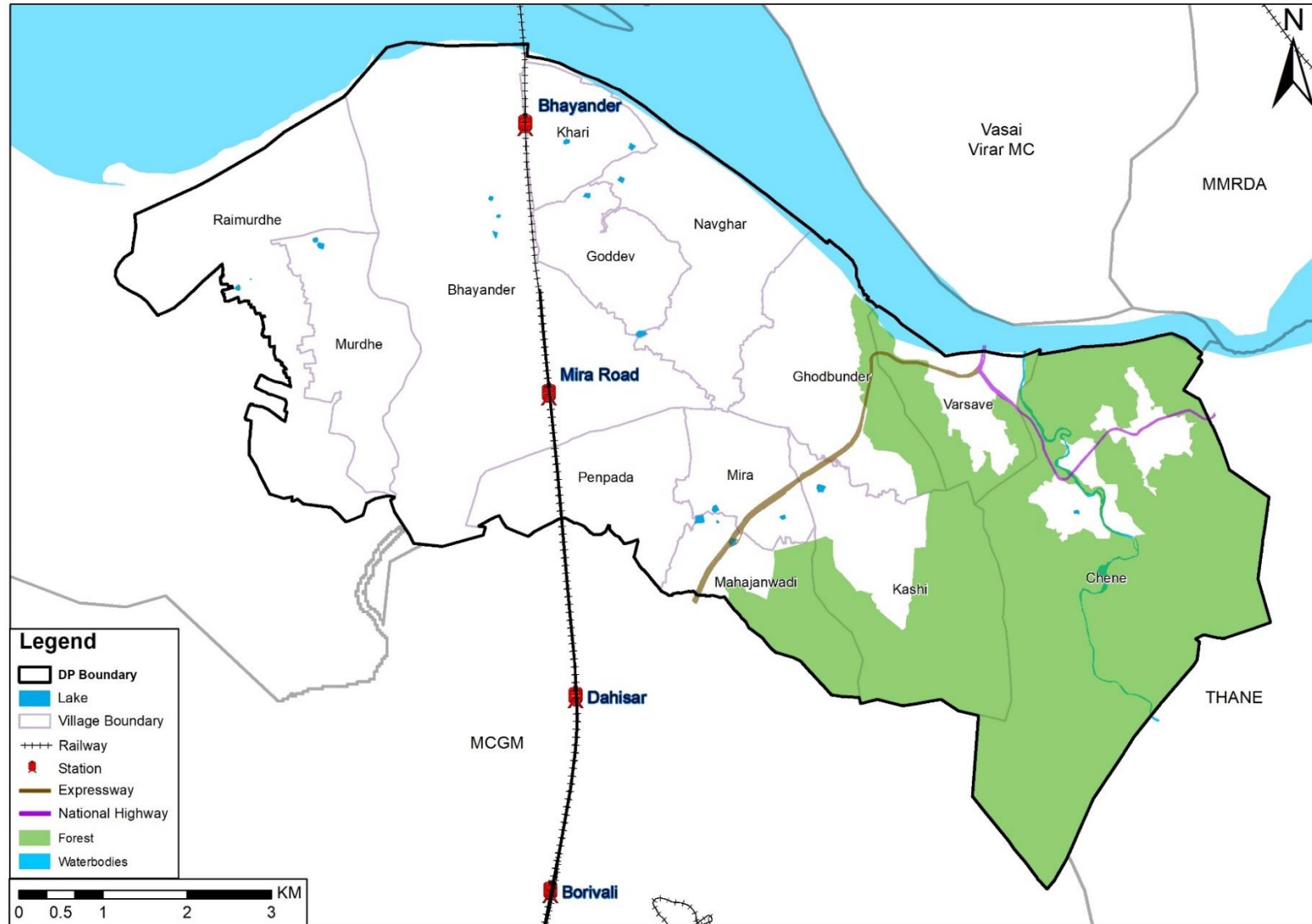
8.6 Cremation and Burial Ground

The existing cremation and burial grounds are located along water bodies. There is a total of 9 sites at different locations in the city. The site covers an area of 5.72 Ha of land. The list of cremation sites is given in Table 8-10.

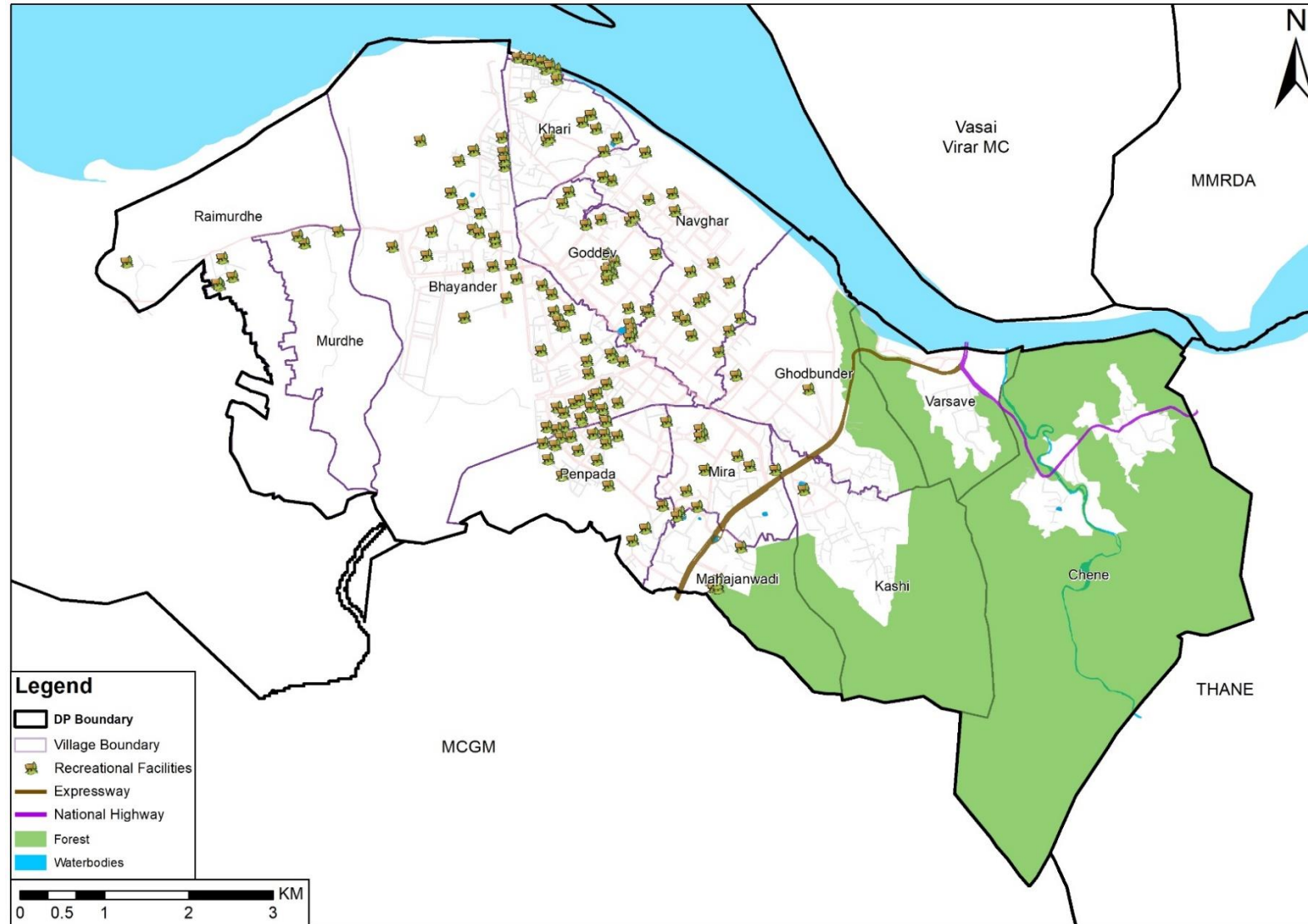
Table 8-10 List of Cremation Grounds

Sr. No.	Cremation Ground Name	Address
1	Uttan Cremation Ground	Uttan Mothagaon, Bhayandar (W)
2	Morvagaon Cremation Ground	Morvo Gaon, Uttan Road Bhayandar (W)
3	Raigaon Cremation Ground	Raigaon, Uttan Road, Bhayandar (W)
4	Murdhagaon Cremation Ground	Murdhagaon, Uttan Road, Bhayandar (W)
5	Vaikunthadham Cremation Ground	Bhayandar (W) Annanagar
6	Kharegaon Cremation Ground	Bandrvadi Bhayandar (E)
7	Navghar Cremation Ground	Navghar Gaon Machhimarket Road, Bhayandar
8	Pantekdi Cremation Ground	Vimal Dairy Road, Goddev, Bhayandar (E)
9	Mira Road Cremation Ground	Poonamsagar Road, Miraroad (E)

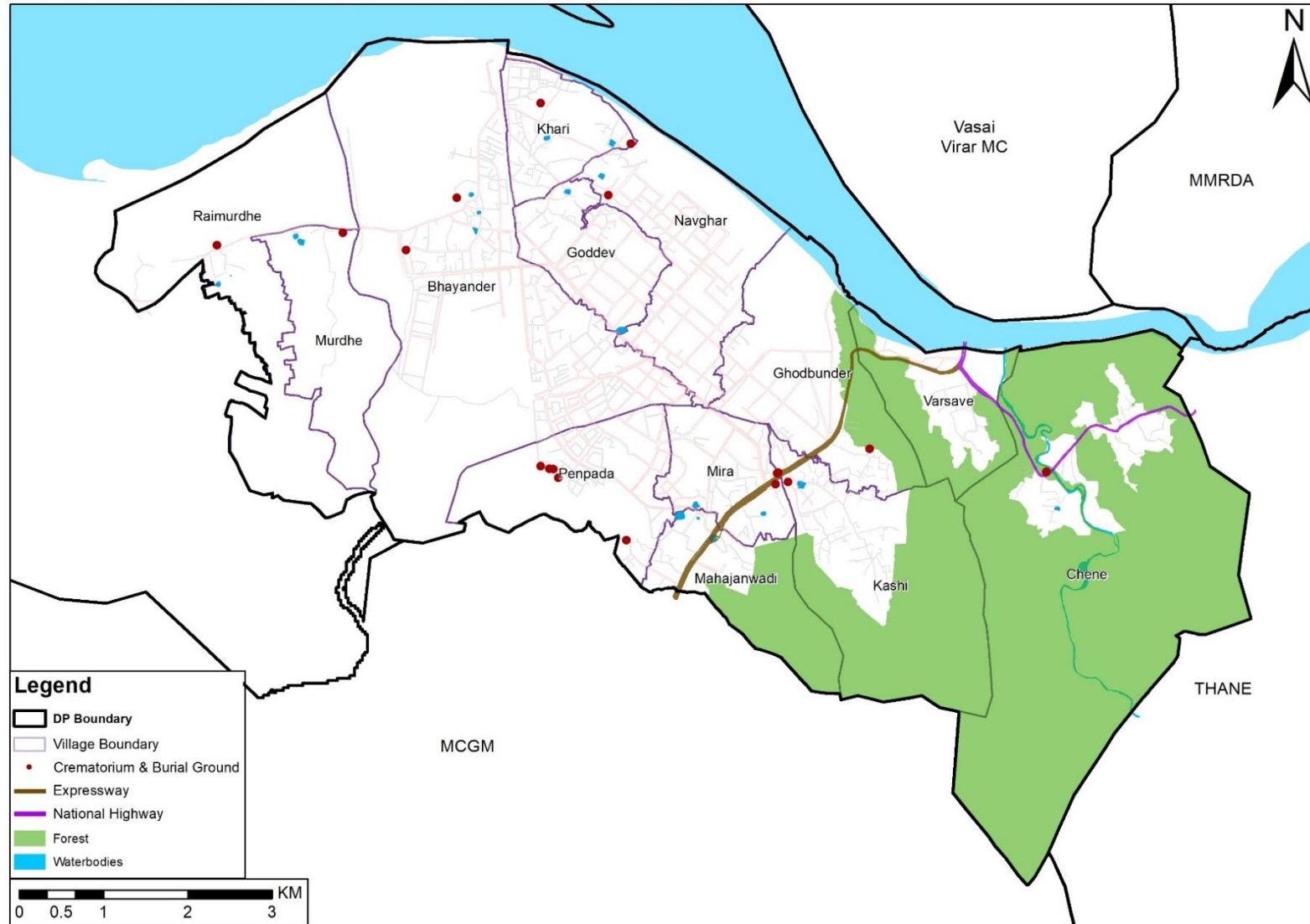
Source: Garden Department, MBMC



Map 8-3 Location of Lakes



Map 8-4 Existing Recreational Facilities



Map 8-5 Existing Crematorium Locations

CHAPTER 9

ENVIRONMENT



9 ENVIRONMENT

9.1 Introduction

The environment, in general, can be defined as a total of all the living and non-living elements and their effects that influence human life where all living or biotic elements are animals, plants, forests, fisheries, birds, etc. and the non-living or abiotic elements include water, land, sunlight, rocks, and air, etc. The city has Yeoor hills on one side and the Arabian sea on the other side. Mira Bhayandar city is blessed with natural ecosystems like hills and bays, a coastal ecosystem, a natural drainage system including rivers, streams, forest areas that are rich in biodiversity, and mangrove forest which is adding a distinct feature to it. The city has 5.92 km of coastline along its western edge. The earlier sanctioned Development Plan of 1997, covers several factors which directly impact the environment like solid waste management, sewerage management, water management, etc. but the issues related to the environment, ecology, biodiversity, and sustainability were not considered while planning for the city. This Draft Development Plan is aiming at incorporating environmental aspects to the greatest extent to achieve sustainable development. The following chapter begins with a brief discussion of the major water bodies in the Mira Bhayandar area. This is followed by a detailed overview of the existing environmental status, the eco-sensitive areas, and biodiversity followed by information about forests, flora, and fauna will also be discussed in the sections further.

9.2 Water Bodies

Laxmi river is flowing through the Mira Bhayandar Municipal Corporation area near Chena Village. In addition, there are eight lakes in the city located in Khari, Navghar, Rai-murdhe, and Murdhe areas. Vasai Creek and Manori Creek are major parts of the natural drainage system of the city. Nala and water streams are also considered a part of the drainage system.

9.3 Forest

Out of total area of Mira Bhayandar Municipal Corporation, 18.16 sq. km. area falls under forest. The whole forest area comes under Sanjay Gandhi National Park (SGNP). The details of the villages coming under the department of the forest of Sanjay Gandhi National Park are given in Table 9-1.

Table 9-1 List of Survey Number falls under Forest

Sr. No.	Village Name	Survey No.	Area (Ha)	Type
1	Kashi	106	341.069	Reserved Forest

2	Mire	260	137.502	Reserved Forest
3	Ghodbunder	192 (part of)	0.03	Reserved Forest
4	Ghodbunder	243 (Part of)	61.462	Reserved Forest
5	Ghodbunder	217(Part Of)	8.519	Protected Forest
6	Chene	28	5.279	unclassified Forest
7	Chene	37	36.533	unclassified Forest
8	Chene	89(part of)	376.438	unclassified Forest
9	Chene	101(Part of)	608.767	unclassified Forest
10	Chene	7	3.308	Acquired Forest
11	Chene	8	7.487	Acquired Forest
12	Chene	9(part of)	5.666	Acquired Forest
13	Chene	10	84.043	Acquired Forest
14	Chene	27	0.268	Acquired Forest
15	Chene	99	29.451	Acquired Forest
16	Chene	101(part of)	8.251	Acquired Forest
17	Versave	3 (part of)	60.797	Acquired Forest
18	Versave	34(Part of)	22.197	Acquired Forest
19	Versave	31	5.443	-
20	Versave	32(part of)	9.86	Acquired Forest
21	Versave	33(Part of)	3.787	Acquired Forest
Total			1816	

Source: Forest Department of Sanjay Gandhi National Park

Sanjay Gandhi National Park is home to several endangered species of flora and fauna and harbours approximately 1300 species of flowering plants, 45 species of mammals, 43 species of reptiles, including 38 species of snakes, 12 species of amphibians, 300 species of birds, and 150 species of butterflies.

The vegetation of the area ranges from littoral forest to western sub-tropical hill forest. For conservation and protection of the area and to prohibit industries or class of industries and their operations and processes, Central Government has notified an area to the extent of 100 m to four kilometers from the boundary of Sanjay Gandhi National Park as the Sanjay Gandhi Eco-sensitive zone.

The Eco-sensitive zone is spread over an area of 59.456 Sq.km to an extent of 100 meters to four kilometers from the boundary of Sanjay Gandhi National Park. Some survey numbers of the villages in Mira Bhayandar come under Eco-Sensitive Zone. The name of the villages coming under the Eco-sensitive zone are Kashi, Mira, Chene, Ghodbunder, and Versave.

9.4 Coastal Zone Management Plan

The Ministry of Environment, Forest & Climate Change, New Delhi vide G.S.R. 37 (E) dated 18th January 2019 published a new CRZ Notification in supersession of the earlier CRZ Notification, 2011. The Central Government, intends to conserve and protect the unique environment of coastal stretches and marine areas, besides livelihood security to the fisher communities and other local communities in the coastal areas, and to promote sustainable development based on scientific principles taking into account the dangers of natural hazards, sea level rise due to global warming, do hereby, declares the coastal stretches of the country and the water area up to its territorial water limit, excluding the islands of Andaman and Nicobar and Lakshadweep and the marine areas surrounding these islands, as Coastal Regulation Zone.

To conserve and protect the coastal areas and marine waters, the CRZ area is classified as follows:

CRZ IA: It includes Ecologically sensitive areas like mangroves, coral and coral reefs, dunes, National parks, marine parks, sanctuaries, reserve forests, Areas or structures of archaeological importance, and heritage sites where no construction is allowed except for activities for atomic power plants, defense.

CRZ IB: It includes the area between the high tide line (HTL) and low tide line (LTL)

CRZ II: It constitutes the developed land areas up to or close to the shoreline, within the existing municipal limits, or in other existing legally designated urban areas, which are substantially built-up with a ratio of built-up plots to that of total plots being more than 50 percent and have been provided with drainage and approach roads and other infrastructural facilities, such as water supply, sewerage mains, etc.

CRZ III: Land areas that are relatively undisturbed viz. rural areas and those which do not fall under CRZ-II

CRZ III A: The area where the population density is more than 2161 per square kilometer as per the 2011 census base is designated as CRZ–III-A. The area up to 50 meters from the HTL on the landward side is earmarked as the ‘No Development Zone (NDZ)’.

CRZ III B: All other CRZ-III areas with a population density of less than 2161 per square kilometer, as per the 2011 census base are designated as CRZ-III B. The area up to 200 meters from the HTL on the landward side is earmarked as the ‘No Development Zone (NDZ)’.

No new construction of buildings is allowed in this zone except for repairing the existing ones. However, construction of dwelling units in the plot area lying between 200-500 m of the high tide line is allowed.

CRZ IV: Includes the water area covered between the Low Tide Line and 12 nautical miles seaward. Except for fishing and related activities, all actions impugning the sea and tidal water will be regulated in this zone.

The coastal zone management plan for Mira Bhayandar city covers its western coast along the Arabian sea for a length of 5.92 km and northern bank for a length of 17.6 km along Vasai creek. Along the western coast, it covers the boundary of villages Uttan, Pali, and Chowk. Along the northern bank, it covers the boundary of villages Tarodi, Pali, Murdhe, Bhayandar, Khari, Navghar, Ghodbunder, Versave, and Chene. Along Manori creek's southern side of Mira Bhayandar city, it covers a length of 4.16 km. According to the Ministry of Environment & Forest Department of Government of India’s Notification No. G.S.R. 37 (E) dated 18th January 2019, A Coastal Zone Management Plan for this area is prepared.

The entire bank of Vasai creek right from Chowk village in the west to the Versave village in the east is proposed to be included in CRZ-I except for existing development. All such areas are proposed to be included in CRZ-II. Along the sea coast, all villages along the coast line are proposed to be included in CRZ-II.

9.5 Pollution Indicators

The overall status of the environment is analysed in terms of standard indicators that measure air quality, water quality, and noise level.

9.5.1 Air Quality

Air pollution is the presence of one or more contaminants in the atmosphere in such quantity for such duration as is injurious or tends to be injurious to the human health or welfare. Central Pollution Control Board (CPCB) has specified standard Limits for various pollutants. Mira

Bhayandar Municipal Corporation monitors the air quality in the city through its Pollution Control Cell. This Cell has divided the city into 4 zones viz. solid waste disposal site, residential, commercial and industrial for air quality measurement for the year August 2020 to June 2021.

Air quality in Mira Bhayandar is measured at 12 locations

Table 9-2 Air Quality Monitoring Locations

Sr. No.	Location
1	Kashimira Chowk, Near Chhatrapati Shivaji Maharaj Statue
2	Near Bhayandar Police Station
3	Mira Road Railway station
4	Bhayandar west, Railway Station
5	S.K. stone Chowk
6	Near Pali, St. Andrew Chowk
7	Bhayandar East, Cabin Road
8	Bhayandar East B.P. Road
9	Bhayandar St. East Navghar Road
10	Uttan naka Bus Stop chowk
11	Kanakia Police station Mira Road
12	Mira-Bhayandar corporation ghankachra vyavasthapan

Source: Pollution Control Cell, MBMC

Table 9-3 Annual Average Analysis Result of Ambient Air

Parameters	1	2	3	4	5	6	7	8	9	10	11	12
RSPM 10 ($\mu\text{g}/\text{m}^3$)	56. 53	61. 10	57. 76	55. 53	56. 52	60. 93	56. 81	59. 42	59. 96	58. 04	57. 93	57. 49
SO ₂ ($\mu\text{g}/\text{m}^3$)	10. 39	12. 51	12. 22	11. 42	10. 69	12. 42	12. 20	10. 58	11. 12	12. 62	12. 11	12. 31
Nox ($\mu\text{g}/\text{m}^3$)	20. 81	23. 08	22. 68	22. 93	20. 58	24. 88	21. 96	23. 54	24. 07	21. 81	22. 05	23. 17

Source: Pollution Control Cell, MBMC

The air quality index (AQI) gives day-to-day air quality concerning human health and the environment. Generally, AQI between 0 to 100 is considered satisfactory. AQI of more than 100 indicates, unhealthy air quality.

Hence, it is observed from the above Table 9-3 that AQI in the project area is in the ‘moderate’ category during 2020-2021. Vehicular emission is one of the reasons why the level of air quality in Mira Bhayandar is leaning towards pollution. Air quality has come under strain in the city due to ongoing development works like Metro work, development of infrastructure, and increasing load of vehicle pollution.

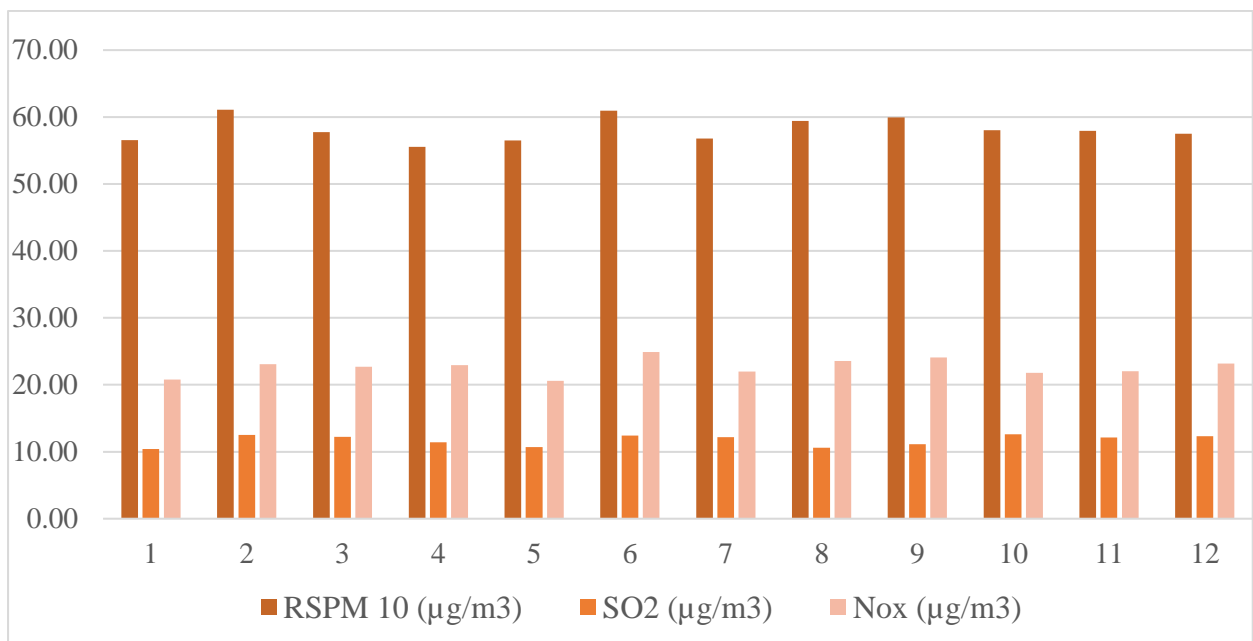


Figure 9-1 Air Quality

9.5.2 Water Quality

The Pollution Control Cell regularly checks water samples to check the water quality of the lake, creek and drains. To assess the water quality in the corporation area following types of water are considered:

- Drinking Water
- Drainage water
- Industrial water

9.5.2.1 Drinking Water

Drinking water samples are collected at 100 different locations in the Mira Bhayandar Corporation area. The result of the water quality monitoring is summarized in Table 9-4.

Table 9-4 Drinking Water Quality

Sr. No.	Parameters	Units	Limits	Result
1	pH	-	8.5	7.5
2	Total dissolved solids	mg/L	1000	206.7
3	Total Solids	mg/L	1500	211
4	Total suspended solids	mg/L	100	5
5	Hardness (total)	mg/L	250	95.7
6	Alkalinity	mg/L	250	91.5
7	Ammoniacal Nitrogen		-	0.2
8	Chromium	mg/L	0.05	0.01
9	Nitrate	mg/L	-	0.2
10	Phosphate (total)	mg/L	-	0.3
11	Biochemical Oxygen Demand (BOD) 3 Days @ 27°C	mg/L	30	4.9
12	Metal-Cadmium	mg/L	0.01	0.001
13	Metal-Copper	mg/L	0.05	0.01
14	Metal-Lead	mg/L	0.1	0.01
15	Zinc	mg/L	5	0.1
16	Inorganic Phosphate	mg/L	-	0.2
17	E-Coli	-	Ab	Ab

Source: Pollution Control Cell, MBMC

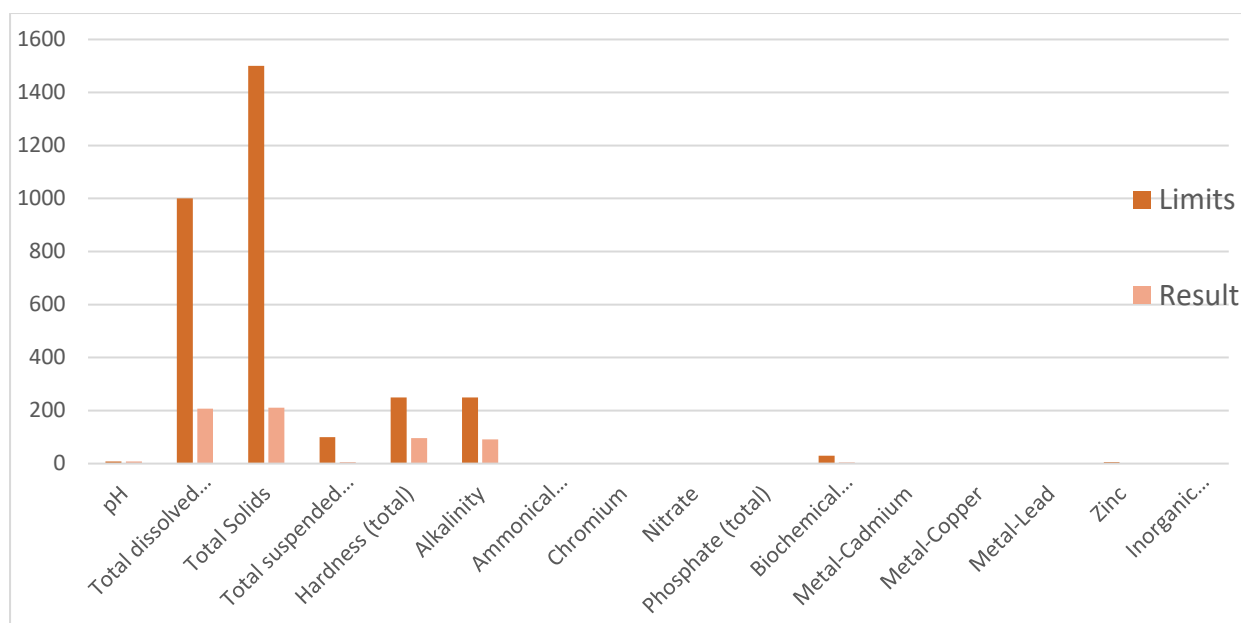


Figure 9-2 Drinking Water Quality

Municipal water is used for drinking purposes so samples were compared to IS: 2296-1982 standards. Water pH was found 7.4 which are neutral and useful for drinking purpose. Heavy metal concentration was very less and found less than standard limits. In some samples microbiological concentration was recorded it may be due to unhygienic handling and storage of water. Lower levels of BOD and heavy metals showed an absence of industrial pollution.

9.5.2.2 Waste Water Quality

The Pollution Control Cell of Municipal Corporation collects a sample from 20 different locations mentioned below in Table 9-5

Table 9-5 Location of Waste Water Sample Collection

Sr. No.	Waste Water Sampling Location
1	Bhayandar west Village
2	Cabin Road
3	Morvagaon
4	B.P. Road
5	Rai Village
6	Murdha Nala
7	Pali Beach Resort Nala
8	Pali Rd Nala

9	Nr.Phatak Road
10	Nr.Thakur Mall
11	Goddev gaon
12	Rawal Nagar
13	Nr.Jesal Park Creek
14	Nr.Pali beach
15	Nr.Uttan Petrol Pump Creek
16	Morva Creek
17	Murdha Creek
18	Uttangaon
19	Dongri Village
20	Naya Nagar

Source: Pollution Control Cell, MBMC

Table 9-6 Waste Water Quality

Parameters	1	2	3	4	5	6	7	8	9	10
pH	7.52	7.58	7.43	7.64	7.44	7.62	7.51	7.46	7.26	7.36
Total suspended solids	73.55	76.45	80.36	73.73	73.36	75.82	70.55	76.18	104.1	91.27
Total dissolved solids	1188.64	1092.18	1194	998.45	1105	1160.73	1178	1126.73	1378	1120.82
Total Solids	1368.82	1283.64	1422.36	1200.73	1309	1206.18	1224	1405	1559	1580.18
Chemical Oxygen Demand (COD)	170.82	149.36	194.91	211.64	208	223.82	171.4	208.18	248.6	222.09
BOD	61.73	57.91	66.55	75.27	70.36	79.45	53.45	74.91	92.64	76.64
Alkalinity	163.09	140.45	153.82	159.73	159.2	173.45	163.6	185.18	212.7	211.73
Hardness (total)	208.55	226.45	218.45	222.64	462.4	239.45	245.8	333.82	408	333.82

MPN	150. 91	228. 36	233. 73	244. 9	24 3.9	452. 4	19 6.8	193. 91	18 1.7	208. 82
Faecal Coliform	34.2	40.6	32.2	38.5	38. 2	43.5	29	30.7	31. 1	33.5

Source: Pollution Control Cell, MBMC

Parameters	11	12	13	14	15	16	17	18	19	20
pH	7.6 2	7.71	7.9	7.64	7.51	7.74	7.63	7.53	7.38	7.69
Total suspended solids	108 .6	124. 27	102. 82	117. 82	108. 82	124. 91	123. 55	112. 55	99.0 9	97.3 6
Total dissolved solids	129 7	1377 .55	1290 .09	1432 .18	1195 .09	1205 .64	1264 .09	1242 .27	1124 .91	1152 .18

Total Solids	15 43	1588 .91	1390 .91	1676 .09	1464 .09	1581 .55	1653 .09	1462 .73	1398 .36	146 5
Chemical Oxygen Demand (COD)	29 4.1	288. 09	278. 36	281. 45	294	314. 55	393. 82	204. 91	256. 64	292 .91
BOD	89. 64	96.6 4	91.2 7	91.7 3	112. 82	101. 73	136	63.8 2	96.9 1	108 .73
Alkalinity	25 2.6	197. 27	263. 73	273	231. 18	263. 64	300. 45	190. 09	199. 45	201 .45
Hardness (total)	38 6.1	419. 09	418. 82	425. 82	347	382. 18	432. 82	317. 45	296	313 .36
MPN	21 4.6	281. 73	143. 45	220. 18	267. 18	208. 82	335. 36	172. 09	237. 55	191 .27
Faecal Coliform	34. 1	31.5	36.8	34.3	31.1	28.6	29.4	35.6	36.6	36. 7

Source: Pollution Control Cell, MBMC

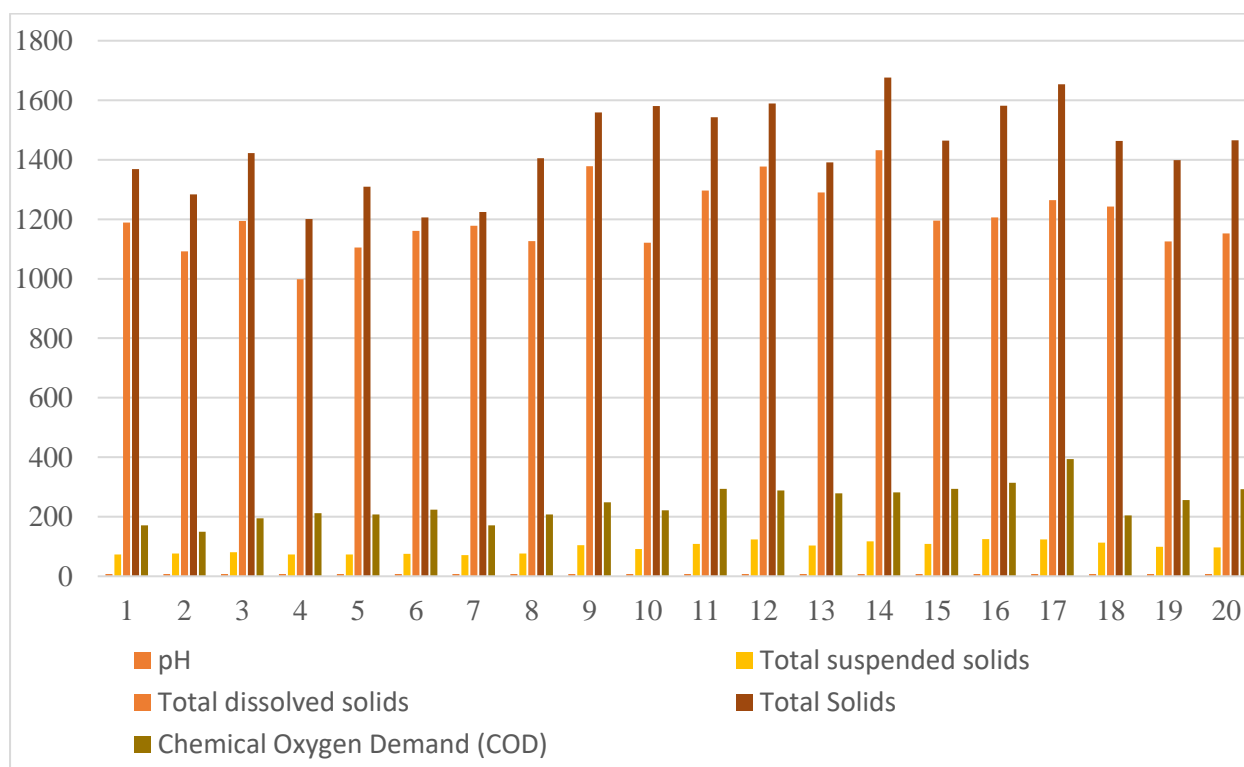


Figure 9-3 Waste Water Quality

9.5.2.3 Industrial Water Quality

Industrialization is a major source of water pollution. It produces pollutants that are extremely harmful to people and the environment. This wastewater usually contains a specific and readily identifiable chemical compound. A total of twenty industrial wastewater samples are collected by the Pollution Control Cell mentioned below in Table 9-7.

Table 9-7 Location of Industrial Waste Collection Sample

Sr. No.	Industrial Waste Water Sampling Location
1	Press Vatak Industrial Area Penkar Pada
2	R. K. Eng. Work, Udyog Nagar
3	Weskon Eng. Ind.
4	Thakar Mall Ind.
5	Om Sia Ram Ind.
6	Vikam Steel ball Ind. Kashmira chowk
7	PenkarPada Ind.

8	Raju Ind. Estate
9	Sudama Ind. Estate
10	United Rubber Ind. Phatak Road
11	Kamal Modi Paints
12	Shirdinagar Niko Steel Ind.
13	Carbo Ind.
14	Ankit Paints
15	Laxmi Motors Ltd
16	Panchal Ind. Ltd
17	U.P. Mayekar Print
18	Sangam Paints
19	Doshi Ind. Premises
20	Miragaon Ind. Estate

Source: Pollution Control Cell, MBMC

Table 9-8 Industrial Waste Water Quality

Parameters	1	2	3	4	5	6	7	8	9	10
pH	7.23	7.64	7.27	7.32	7.49	6.93	7.79	7.35	7.55	7.5
Total suspended solids	64	87.45	69	70.82	80	71.91	75.55	68.18	79.82	81
Total dissolved solids	1745.09	1270.27	1745.18	1471.73	1428	1887.45	2032	1677.18	1450	1636.36
Total Solids	1718.64	1323.36	1865.91	1517.82	1531	2068.36	2114	1733.64	1588	1703.64
Chemical Oxygen Demand (COD)	67.73	69.09	76.36	55.45	60.91	66.64	61.91	70.64	61.91	69.91

Biochemical Oxygen Demand (BOD) 3 Days @ 27°C	18.45	23.18	26.82	24.91	17.55	29.36	23.82	19.82	24.18	26
Alkalinity	156.09	139.82	174.73	150.36	148	150.45	165.4	178	167.3	145.55
Hardness (total)	269.18	250.64	247.73	331.55	299.6	249.73	250.4	308.27	255.6	245.09
MPN	72.55	51.36	52.09	40.73	38.45	42.82	43.64	49.91	48.09	41

Parameters	11	12	13	14	15	16	17	18	19	20
pH	7.43	7.3	7.51	7.24	7.41	7.52	7.68	7.24	8.26	7.56
Total suspended solids	70	74	66.64	67.82	82.45	72.82	117	81.55	82.64	86.82
Total dissolved solids	1643	1290.82	1564.09	1253.3	1485.91	1669.73	1761.09	1547.09	1078.45	1620.91
Total Solids	1627	1299.09	1588.09	1338.73	1511.09	1714.09	1827.91	1582.82	1182.55	1662.09
Chemical Oxygen Demand (COD)	109.9	79.18	88.27	68.36	66.09	72.73	55.82	65.64	75.36	72.18

Biochemical Oxygen Demand (BOD) 3 Days @ 27°C	33.55	30.45	34.73	27.91	30.55	26.82	24.91	22.91	24.55	26.55
Alkalinity	152.7	163.36	173.82	208.45	164	159.36	145.09	214.09	178.73	154.55
Hardness (total)	254.5	245.64	296.55	270.18	239.64	172.64	282.18	265.18	270.27	216.73
MPN	55.91	49	39.36	61.18	59.55	47.45	47.27	70.82	61.09	44.18

Source: Pollution Control Cell, MBMC

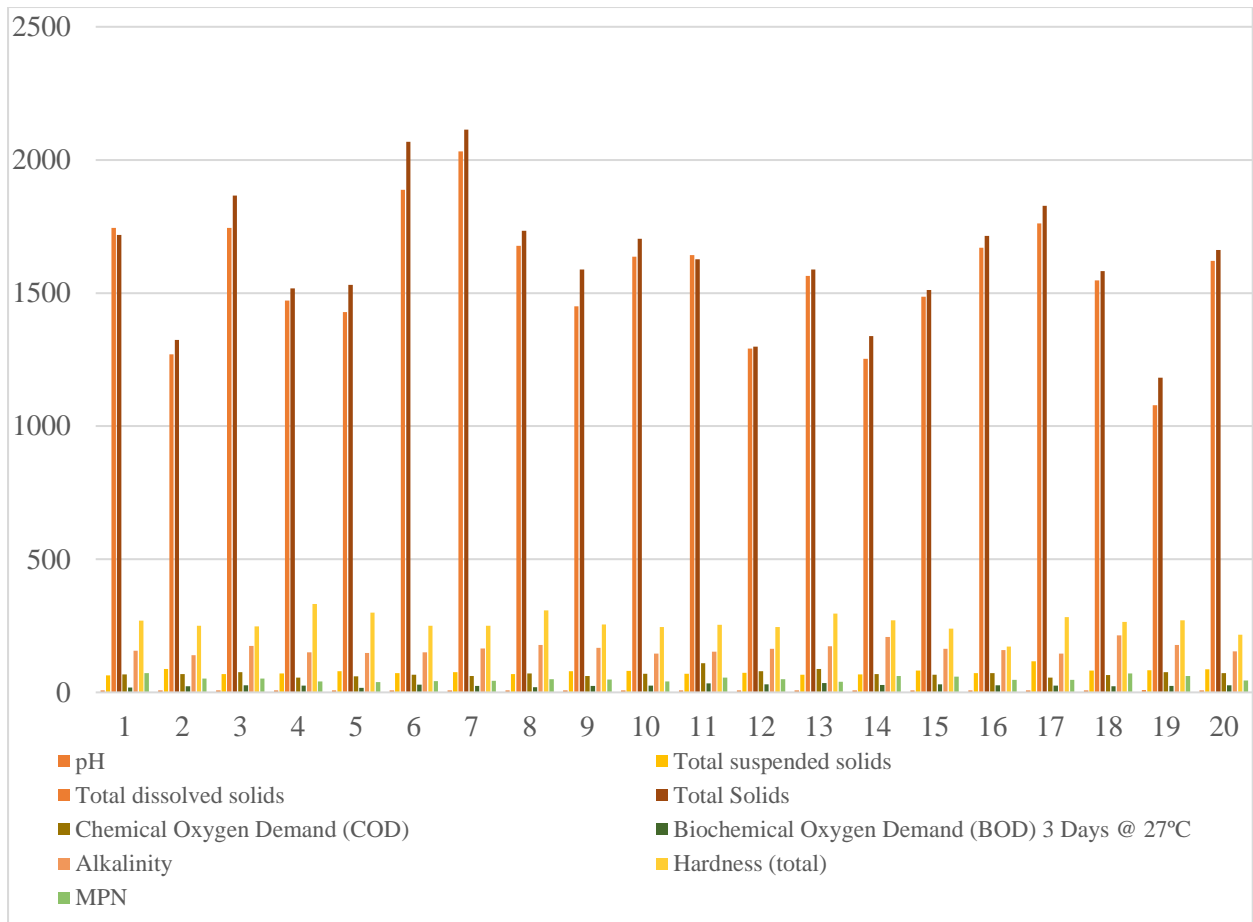


Figure 9-4 Industrial Waste Water Quality

Industrial water quality is observed to be within standard limits. However, a regular check is required to control water quality discharged in industries.

9.5.2.4 Lake Water Quality

Lakes are surface water bodies which is an important source for drinking, domestic, and irrigation purposes. It plays an important role in maintaining ecology and has a great significance on the environment. However, lakes being stagnant water bodies could be more prone to pollution than rivers or any running water. In collected samples we evaluated the water quality of various lakes in the Mira Bhayandar area, twenty prominent lakes are selected to study and evaluate the water quality for drinking and irrigation purposes. The water samples were collected and analysed for physiochemical parameters.

Table 9-9 Location of Lake water samples

Sr. No.	Lake Water Sample Location
1	Shivar Garden Talav
2	Khari Lake

3	Mandli Talav
4	Dongri Goake
5	Jari Mari Talav
6	Ghodbunder Lake
7	MIDC Talav
8	Uttan Moh Talav
9	Rao Lake
10	Sukal Lake
11	Dev Lake
12	Ghandhi Talav,
13	Morva Goan Talav (Old)
14	Mira Goanthane Lake
15	Murdha Goandevi Talav
16	Murdha Ram Mandir Talav
17	Ram Mandir Udhyan Talav
18	Navghar (Navin Lake)
19	Navghar (Old Lake)
20	Goddev Lake

Source: Pollution Control Cell, MBMC

Table 9-10 Lake Water Quality

Parameters	1	2	3	4	5	6	7	8	9	10
pH	7.5	7.8	7.7	7.4	7.6	7.4	7.4	7.5	7.5	7.4
Total dissolved solids	387.9	579.9	477.8	590.5	456.4	346.2	609.9	908.9	629.6	485.5
Total Solids	500.8	746.3	578.7	716.1	567	444.2	698.5	981.6	739.7	585.4
Total suspended solids	115.7	163.1	124.8	118.2	111.1	103.4	94.2	91.5	123.6	106.8
Hardness (total)	186.9	241.1	202.2	354.6	168.6	109.5	223.5	248	237.9	311.3

Alkalinity	170.7	130.7	219.4	120.4	152	115.7	179.5	200.1	163.8	181.9
Ammoniacal Nitrogen	0.2	1.5	0.7	0.2	0.4	0.5	0.6	0.8	0.2	1
Chromium	<0.01	3.1	5	6	5	7	5	<0.01	9	7
Nitrate	<0.01	<0.02	<0.01	0.2	0.1	0.1	0.2	0.3	<0.01	<0.01
Phosphate (total)	0.2	0.2	0.2	0.3	0.2	0.2	0.4	0.5	0.4	0.2
BOD	37.1	37.6	36.8	32.3	22.8	33.8	39.2	37.3	34.7	33.7
Metal Cadmium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Metal Copper	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Metal-Lead	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MPN	10.8	18.9	15.5	14.4	11	15	5.8	18.5	20.5	9.9
E-Coli	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
Faecal Coliform	5	7	8	6	6.5	5	6.5	9.5	10	8
Inorganic Phosphate	0.4	0.4	0.4	0.3	0.2	0.3	1	0.2	0.2	0.3

Parameters	11	12	13	14	15	16	17	18	19	20
pH	7.6	7.8	7.7	7.6	7.7	7.3	7.6	7.3	7.3	7.6
Total dissolved solids	515.1	513	480.3	470.9	558	378.8	348	328.3	395.9	438.6
Total Solids	653.3	645.2	624	616.9	702	491.2	488.9	432.1	521.4	512.6
Total suspended solids	134.9	134.7	121.9	145.1	148.1	110.5	135.7	100.4	122.2	130

Hardness (total)	212.3	203.7	204.5	166	200.5	170.3	164.9	133.2	165.2	155.4
Alkalinity	198.8	197.4	197.7	210.1	176.2	159.5	156.7	141.5	149.2	137.1
Ammonical Nitrogen	0.4	0.2	0.3	1.5	1.3	0.2	0.4	0.2	0.1	0.4
Chromium	2.2	1.8	2.1	1.7	2.1	0.2	4	5	<0.01	4
Nitrate	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phosphate (total)	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.1
BOD	43.6	22.6	22.5	35.6	36	30.3	31.5	33.4	39.8	33.9
Metal Cadmium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Metal Copper	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Metal-Lead	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MPN	15.5	12.4	15.4	10.7	13.3	12	10.9	11	15.2	10.2
E-Coli	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab

Faecal Coliform	4	4	6.7	6	5.5	6	6	8	8	4
Inorganic Phosphate	0.3	0.3	0.2	0.3	0.1	0.3	0.4	0.4	0.2	0.2

Source: Pollution Control Cell, MBMC

It is observed that the lake is getting polluted because of the mixing of polluted water or drainage or dumping of solid waste in the lake. The water quality of the lake has improved partly due to the establishment of a sewage treatment Plant (STP).

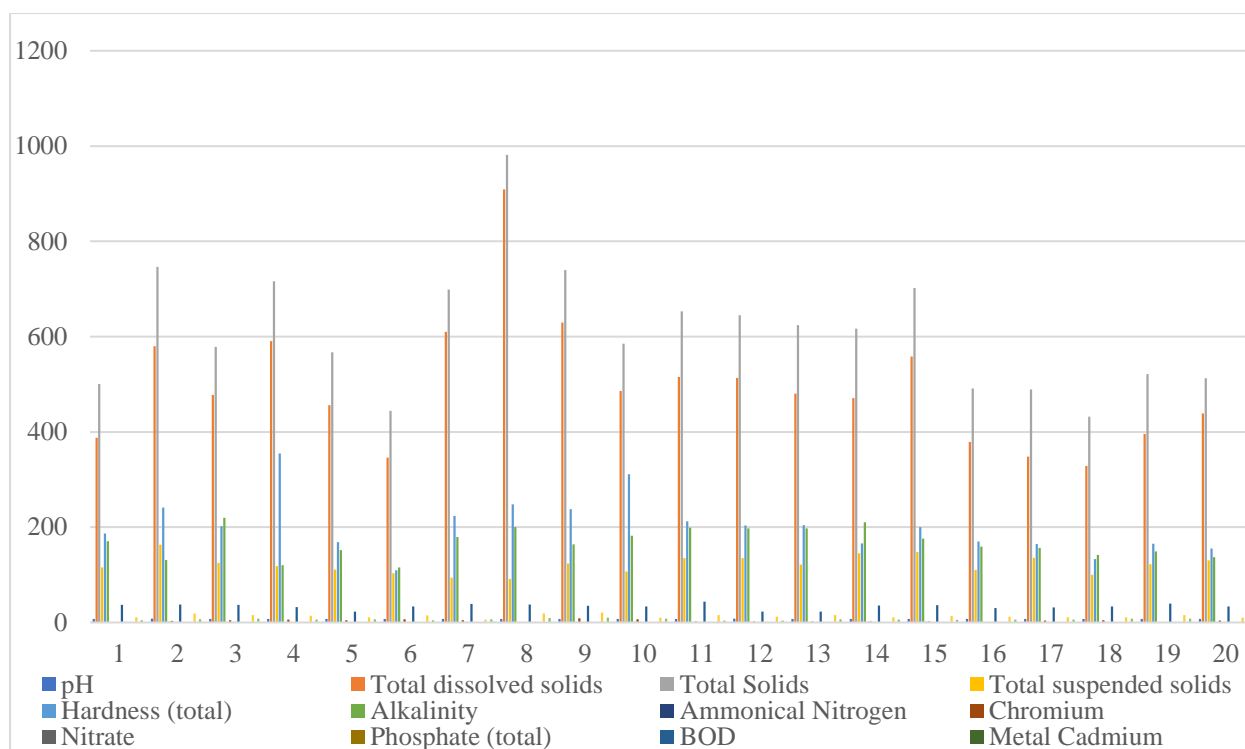


Figure 9-5 Lake Water Quality

9.5.3 Noise Pollution

Noise pollution, also known as environmental noise or sound pollution, is the propagation of noise with ranging impacts on the activity of human or animal life, most of them harmful to a degree. There are various reasons which predominantly cause noise pollution in project areas like a celebration of various public festivals, traffic noise, noise due to ongoing construction sites, etc. Mira Bhayandar Pollution Control Cell measures noise levels at 12 different locations during day time.

Table 9-11 Noise Level at different locations

Location	Avg. dB
Kashimira Chowk, Near Chatrapati Shivaji Maharaj Statue	61.77
Near Bhayandar Police Station	63.01
Mira Road Railway station	60.28
Bhayandar East, Cabin Road	64.93
Bhayandar East B.P. Road	64.98
Bhayandar St. East Navghar Road	60.65
Bhayandar west, Railway Station	65.53

S.K. stone Chowk	59
Near Pali, St. Andrew Chowk	61.43
Uttan naka Bus Stop chowk	63.03
Kanakia Police station Mira Road	65.17
Mira-Bhayandar corporation ghankachravayavasthapan	67.03

Source: Pollution Control Cell, MBMC

It is observed that the noise level is within a standard limit. Categorization of the area in Residential, commercial, and industrial is required to effectively control and check the noise levels in the areas. Silence Zones near hospitals and schools shall be strictly implemented.

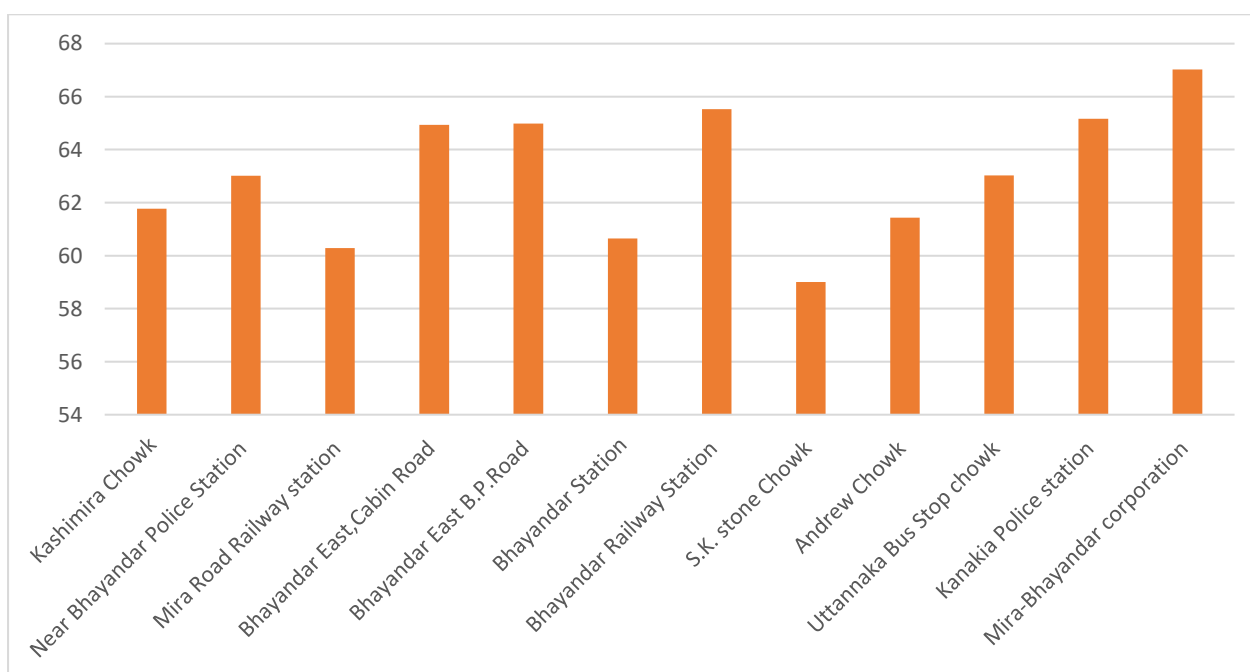


Figure 9-6 Noise Level

9.6 Environmental Vulnerability

Mira Bhayandar city is prone to the three potential natural hazards of flooding, landslide, and earthquake.

9.6.1 Flooding

There are 198 katcha and pakka nalas in the corporation area. The unusual geography and location of the Mira Bhayandar city render it vulnerable to environmental risks like flooding and landslides, caused due to heavy annual rainfall. This flooding is caused due to heavy rainfall, encroachment, unauthorized construction, urbanization, interruption in the natural flow of river and nala, etc. Corporation has identified 48 locations of water logging in the city

which are mentioned in Table 9-12. Heavy rainfall cause tree to collapse, and house and slap collapse in the city. It is observed that ward committee number 4 has more water logging locations while ward committee 1 has few water logging areas.

Table 9-12 Locations of Water Logging

Sr. No.	Area Name
Ward Committee 1	
1	Near Rai Shivneri Branch (Walchand Nagar)
2	In front of Jitendra Mahtre house Rai Gao
3	Near Bharat Patil Decoraters Shivneri Nagar
4	Near Rajendra Raut house Morva Near Rai
Ward Committee 2	
5	Burhani Nagar
6	Chintamani Apartment
7	Narona Compound (Seema Apartment)
8	Modi Patel Road Radha Sadan Apartment
9	Ajantata Apartment Bhayandar West
10	Shanti Nagar 1 Bhayandar West
11	Shanti Nagar 2 Bhayandar West
12	Sub-way Bhayandar West
13	Nakoda Hospital Colony
14	Bakery Colony
Ward Committee 3	
15	Gas Godown
16	Jagruti Apartment Station
17	Sarswati Highschool Kharigaon
18	Hanuman Nagar
19	Jesaldham Kharigaon
Ward Committee 4	
20	Pooja Garden
21	Pearl Diamond
22	Ramdev Park

23	Gaurav Sankalp Phase 1
24	Anand Apurva
25	Mira Apartment
26	Ramnagar Omsagar
27	Grishma Enclave
28	Gaurav Sankalp Manthan
29	Karan Complex Phase 4
30	Kankiya Laxmi Park
31	Mahesh Industries
32	Gaurav Sankalp
Ward Committee 5	
33	R. N. A. Broadway Gate No. 102
34	Cosmo Politan School
35	Shital Nagar Ganpati Temple
36	Shanti Nagar Sector 4
37	Shanti Nagar Sector 5
38	Shanti Nagar Sector 11
39	Shrinath Complex
40	Kanungo Estate Gita Nagar Phase 6
41	Mira Darshan
Ward Committee 6	
42	Shri Saswat Complex
43	Silver Park Shivneri Colony
44	Mira Krushan
45	Amish Park
46	Mira Dham
47	Vijay Park
48	Aatmaram Nagar Penkarpada

Source: Disaster Management Plan, 2020

From the safety point of view of citizens, the corporation has identified 10 dangerous buildings identified in the project area. These buildings are more susceptible to environmental disasters.

The details of the same are mentioned in below Table 9-13. It is observed that buildings in ward committee number 3 are more dangerous for livelihood. While buildings in ward committee number 2, and 5 are not at any risk.

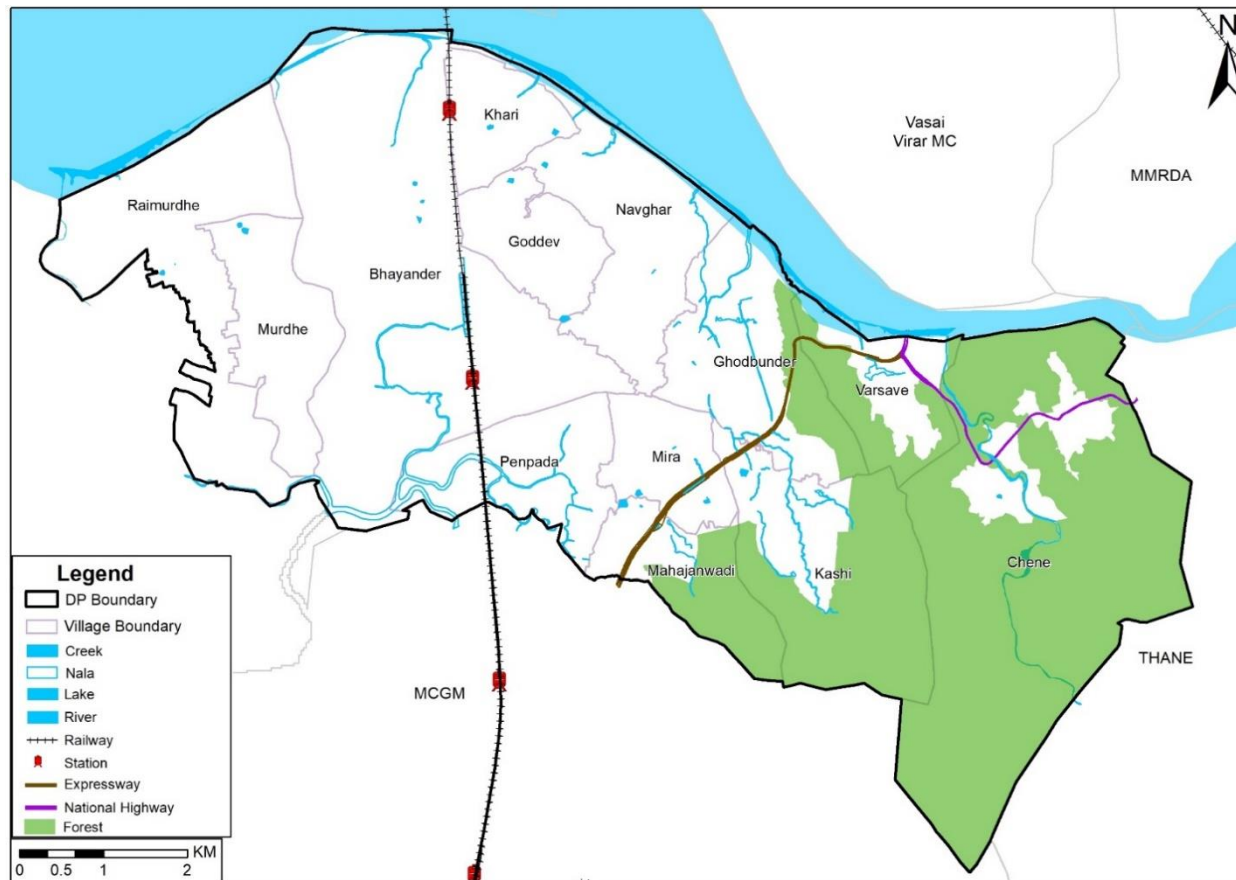
Table 9-13 Buildings vulnerable to disaster

Sr. No.	Building Name
Ward Committee 1	
1	Prince Apartment Pali Gaon Uttan
Ward Committee 3	
2	Vinu Bhavan Co. Housing Society Panchal Nagar near Kasturi estate Bhayandar east
3	Kamal Kunj Building, B. P. Road near post office Bhayandar east
4	Parihar Bhavan near Mangalmurti hospital, B. P. cross road Bhayandar east
5	Vasudev Co. Housing Society, Chaitnya Apartment Kharigaon Bhayandar east
6	Rameshwar Navghar gaon near Datta Mandir Bhayandar east
Ward Committee 4	
7	Krushna Complex Co. Housing Society, Hatkesh Mangal Nagar Mira Road east
8	Kristal A,B,C,D,E,F Co. Housing Society, in front of Sai petrol pump Mira Bhayandar road
Ward Committee 6	
9	Shital Plaza A,B,C,D Co. Housing Society, MTNL road Shital Nagar Mira Road East
10	Chandravihar B1 and B3 Co. Housing Society, Nupur phase no. 11 Shital Nagar Station Road Mira Road East

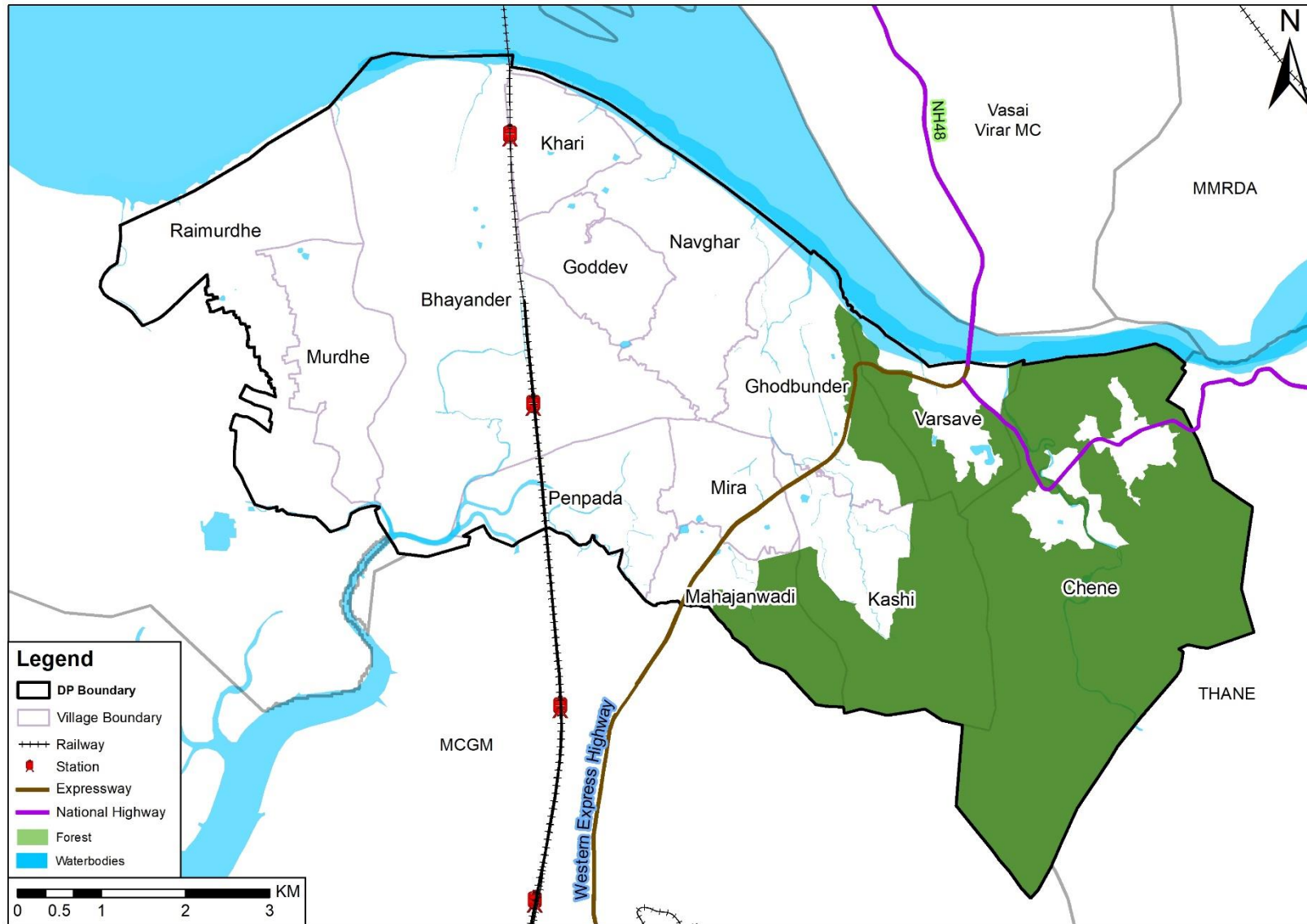
Source: Disaster Management Plan, 2020

9.6.2 Landslide

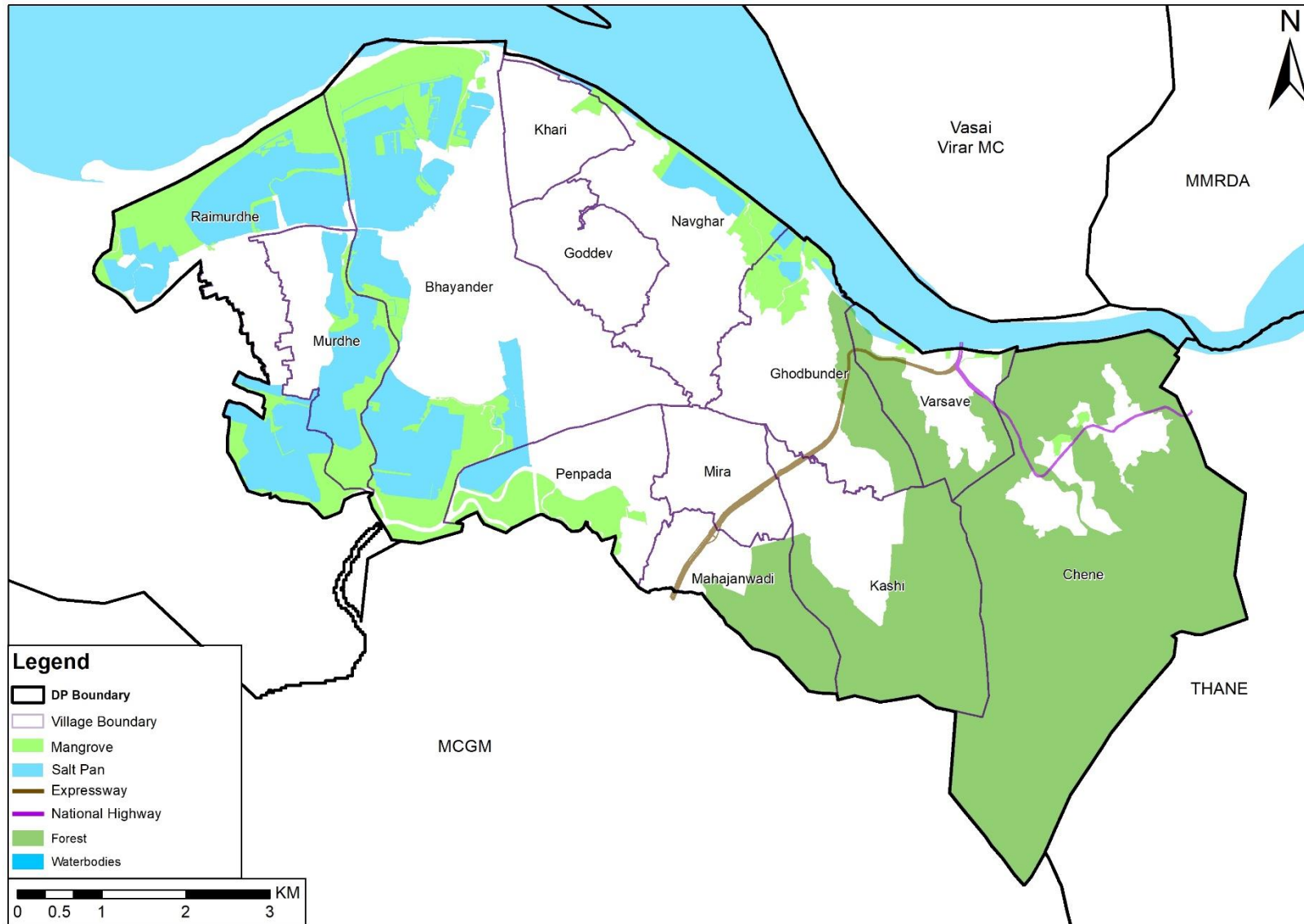
Several areas around the hill slope are prone to landslides in Mira Bhayandar city. The risk is more during monsoons and heavy rain. Areas around the hill slope in Kashigaon are prone to landslides resulting in increased exposure of slopes to erosion and water infiltration. People residing on these hill slopes are susceptible to disaster.



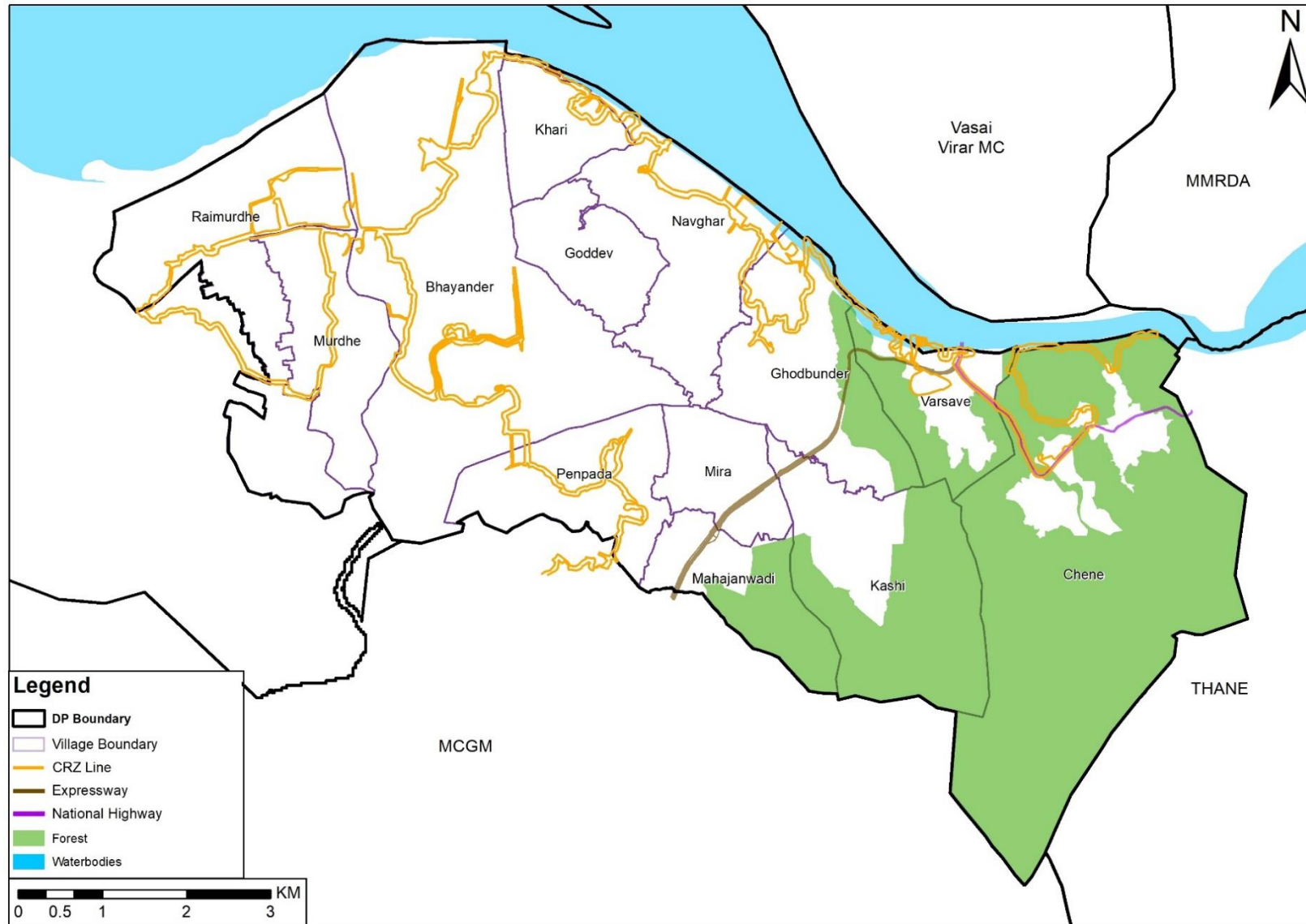
Map 9-1 River and Water Courses of Mira Bhayandar



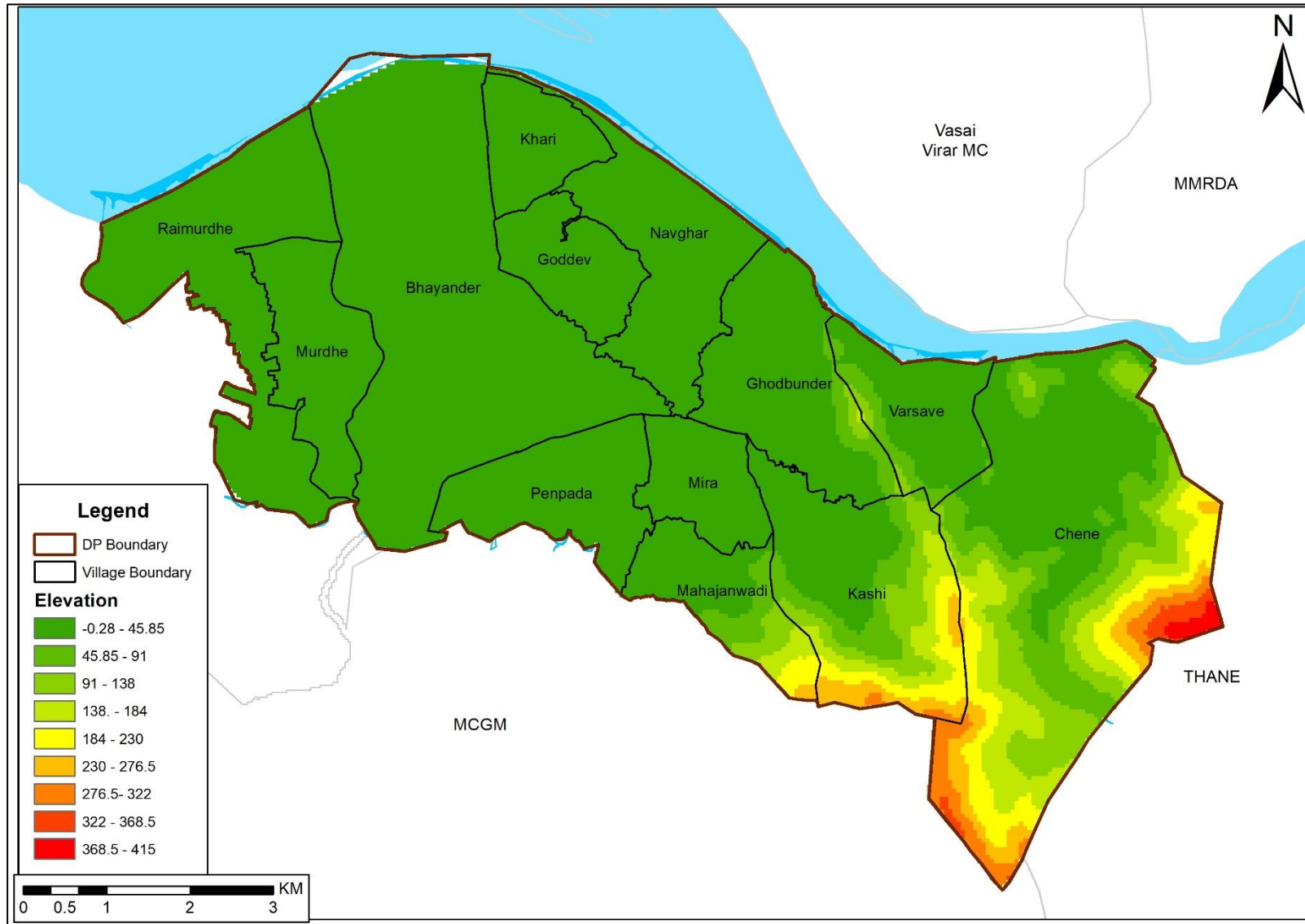
Map 9-2 Existing Forest Area



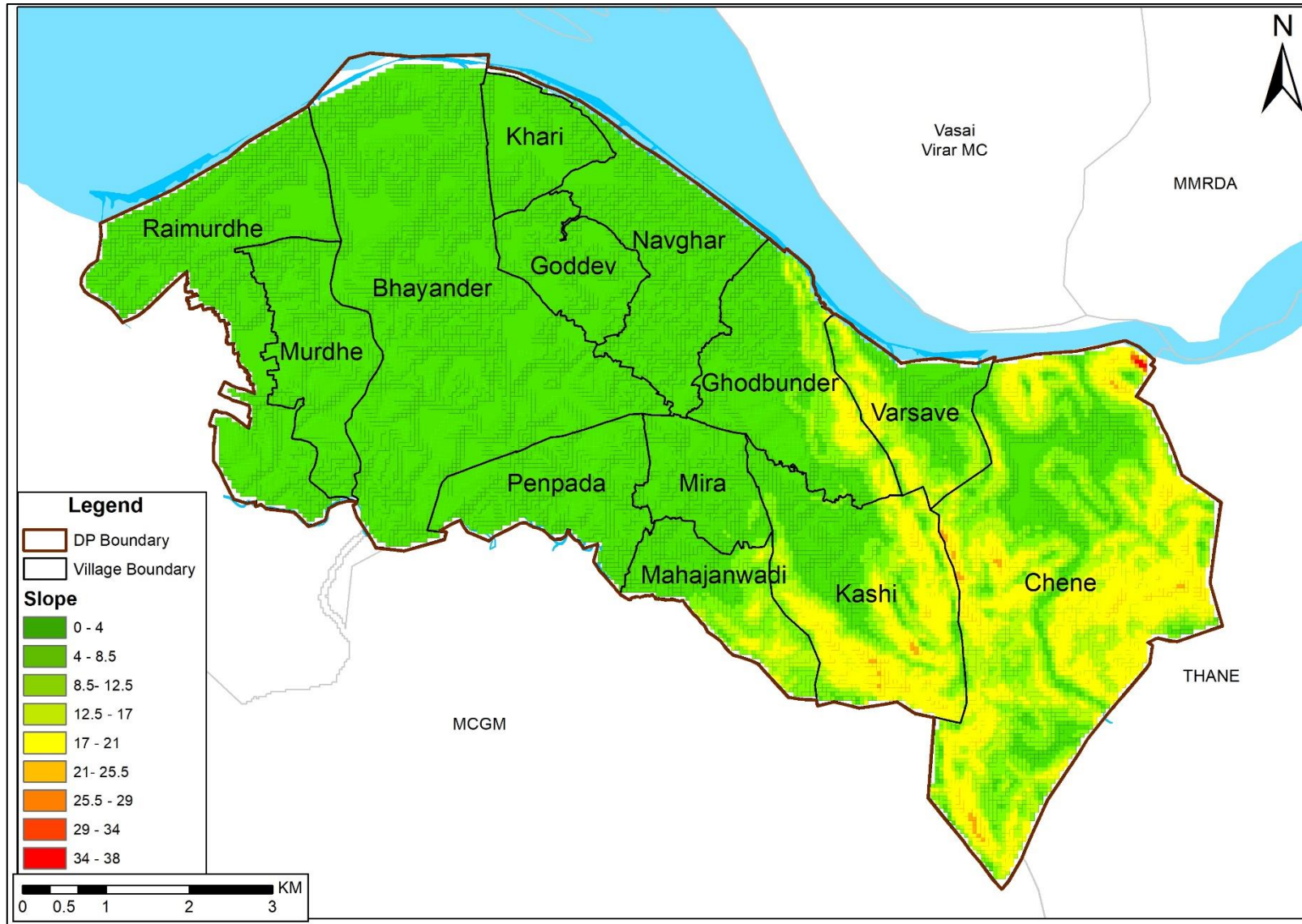
Map 9-3 Existing Mangroves and Salt Pans



Map 9-4 Existing CRZ Line



Map 9-5 Elevation Map of Mira Bhayandar



Map 9-6 Step Slope Area of Mira Bhayandar, indicative of hills & hill ridges

CHAPTER 10

HERITAGE & TOURISM



10 HERITAGE & TOURISM

10.1 Introduction

Heritage is the full range of our inherited traditions, monuments, objects, and culture. Most importantly, it is the wide range of coeval activities, meanings, and behaviour that we draw from them. Heritage is much more than preserving, excavating, displaying, or restoring a collection of old things. It is both tangible and intangible, in the sense that ideas and memories of, languages, dances, cultures, and many other elements of who we are and how we identify ourselves today.

The historical buildings and archaeological sites have not only given significance to the areas they belong to but also played a really important role in encouraging tourism. It has constantly acted as a platform and a means for presenting heritage to the public, conserving it, and guaranteeing its economic and social viability. Hence, tourism is in most cases a balancing mechanism that keeps and protects the heritage itself. This chapter gives a glimpse of the major heritage sites and tourist spots within and around the Mira Bhayandar Municipal Corporation area.

10.2 Heritage Sites

Heritage structures are defined as those antique architectural buildings which have stood the test of time, notwithstanding calamities and narrating the tale of that metropolis' architectural facts, histories, and wonderful past. The places of worship also come under the sub-category of heritage. A detailed list of the major religious structures including their structural and locational details is given in table 10-1

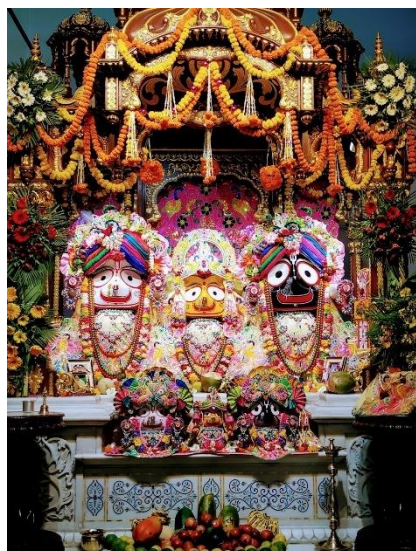
Table 10-1 Details of Major Religious Structures

Sr. No.	Location	Name of Religious Destination	Status
1	Mira Road	Hare Ramah Hare Krishna Temple (ISKCON)	Active
2		Shri Sai Baba Mandir	Active
3		Ganesh Mandir	Active
4		Sri Swaminarayan Mandir	Active
5		Haidry Jama Masjid	Active
6		Shama Mosque	Active
7		Aziziya Mosque	Active
8		Ahle Hadith Mosque	Active

9		Saint Joseph's Church	Active
10		Global Vipasana Pagoda	Active

Source: Thane District Tourism Master Plan

10.2.1 Hare Ram Hare Krishna Temple (ISKON Group)



The temple was established on Rama Navami in 1966. Since then, the temple has expanded considerably. This temple was renovated in 2015. The large number of devotees visiting this place which also includes devotees of foreign countries. This is a prominent landmark in the area and the temple also organizes many religious and cultural programs.

10.2.2 Saint Joseph's Church

It is the largest parish in the Archdiocese of Bombay with more than 22,000 Catholics. This beautiful church structure has been well planned and designed by the architect Mr. Girish Pradhan. It stands on a piling foundation designed to a depth of 9-10mtrs resting on a hard rock holding restraint and constraint for the seismic floor and other natural pressures like wind and water. It has been designed to provide good ventilation and plenty of natural light. The open ground can be merged with the church for important occasions like Christmas and Holy Week.

The church has a sitting capacity of 1,000 people in the central block and another 450 on the mezzanine floor. The 15 mysteries of the Holy Rosary are depicted on the railings of the mezzanine floor. There are the Stations of the Cross-on stain glasses above the windows. On the left side of the Church, there is the Blessed Sacrament Chapel wherein the sacrament is exposed for 24 hrs adoration. The Sanctuary is simple with a big cross in the background. Above the church, there is a multipurpose community hall and a terrace hall. There is a staircase, and along the staircase wall, leading to the mezzanine floor and hall, we have beautiful paintings depicting the life of Jesus Christ. On the right side of the church, there is an underground water storage tank raised 3 feet above the ground level for a stage for outdoor functions.

10.3 Tourism Spots

Some of the major tourist destinations in and around Mira Bhayandar within a radius of 30km from the city centre are mentioned below:

10.3.1 Forts

Ghodbunder Fort

The Ghodbunder Fort is situated in the Ghodbunder village, on the hill just south of the Ulhas River. Back then it was built by the Portuguese and was soon occupied by the Maratha Empire. It later became the headquarters for the East India Company. The place is called Ghodbunder as the Portuguese used to trade on Ghode (horses) hence the name bunder (fort). The place acts as a beautiful heritage site that speaks hugely of the colonial past. The best time to visit is during the cooler months post summer where tourists can expect to spend an hour to two wandering around the site. The site is soon set to be restored, after a year of delay Mira Bhayandar Municipal Corporation has acquired permission from the Archaeological Survey India to carry forward the restoration.



Figure 10-1 Ghodbunder Fort

Arnala Fort

Arnala is one of the best forts among coastal forts. It is located in Arnala village, of Vasai taluka. Being an island fort, it is also known as 'Jaldurg' or 'Janjire Arnala'. The Arnala was captured by many empires such as the Mughals, Marathas, Portuguese, and lastly Peshwas. Sultan Mahmud Begda originally constructed the fort in 1516. There is no source of food but water is available in the well on the fort. This fort is rectangular in shape and almost surrounded by water. There are many temples such as Tryambakeshwar, Bhavani Mata, Kalika Mata, and

also of Mahadev. There are three entrances out of which one entrance has two big bastions on both sides which are on the north side of the fort.



Figure 10-2 Arnal Fort

Vasai Fort

Vasai fort also called Bassein located in Vasai taluka. It was the headquarter of the Portuguese in the north, next in importance to Goa. The coastal land fort of Vasai was surrounded by sea on three sides and to the landside, it had a moat that was filled with seawater. Its 4.5 km long strong stone wall had 11 bastions. The fort had two gates – the westward land gate. There was also a small citadel in the fort well equipped with water tanks, storehouses, armory, etc. The fort also had fields for growing grains and vegetables. All the old structures inside the wall are now in ruins. Vasai was the main naval base and sort of ship-building centre of the Portuguese. It was here in 1802 AD, the Peshwa Bajirav II signed the infamous “Treaty of Bassein” which virtually dissolved the Maratha Confederacy. Finally, the fort and the city of Vasai were ceded to the British in 1817 AD.



Figure 10-3 Vasai Fort

10.3.2 Water Tourism

- **Vasai Creek**

The Vasai creek or also known as “Bhayandar ki Khadi” connects the Mumbai Suburb with the Thane District. They form 2 islands that stretch up to 2-4 km long, forming the lifeline for the local train commuters of Mumbai. The creek sometimes is also called the Bassein Creek as it connects the Bassein village fort and in the east, it goes through Thane District. Apart from 2 railway and road bridges each of the creeks showcases a beautiful sunset and spectacular views during monsoon. The islands of these creeks are inhabited by small fishing villages, the creek is crowded during the Ganesh Visarjan days.



Figure 10-4 Vasai Creek

- **Uttan Beach**

Uttan is known as the untouched coast of Mumbai, for its beach. Unlike any other beaches in Mumbai, the Uttan beach is absolutely clean, peaceful, and a serene place for one to visit while in Bhayandar. The beach is not the only attraction, here one can meet the local fishing community and understand their culture too. The beach is very easily accessible, 8kms from Bhayandar and further away from the main village. This beach is not only known scenically but also for its history and culture.

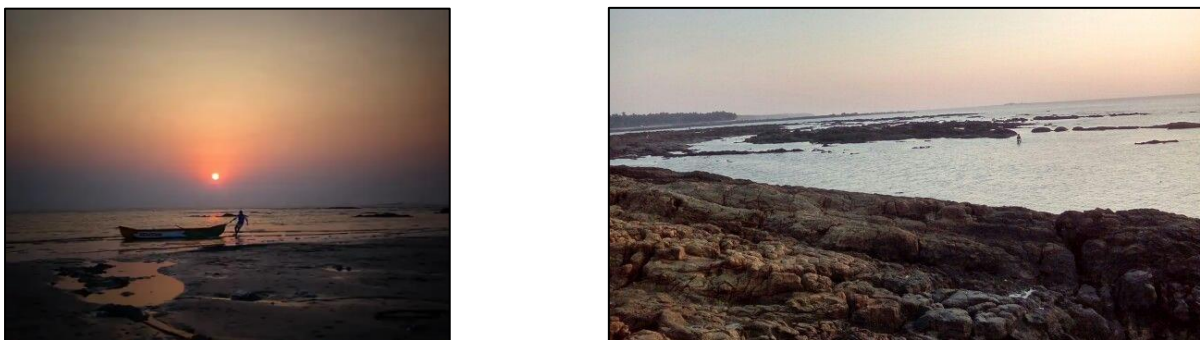


Figure 10-5 Uttan Beach

10.3.3 Entertainment Tourism

- **Vardhaman Fantasy Park**

Located in Shivar Gardens on Kashi Mira Road is extremely accessible. This amusement park is a relatively new park constructed in the area. The very highlight of this park is it's divided into several zones. Apart from this the park has a massive food court and is kids as well as adult-friendly.

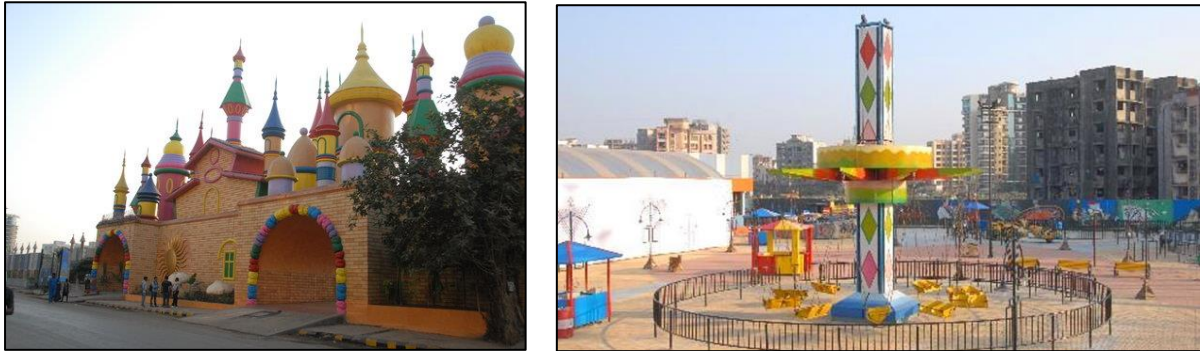


Figure 10-6 Vardhaman Amusement Park, Mira

- **Tikuji-Ni-Wadi**

Tikuji-Ni-Wadi is an amusement park, Water Park, and resort near Thane. The Water Park has pools and water slides. The amusement park includes go-karts, roller coasters, giant wheels, and a 7-story zip-line. Additionally, there are a Shiva temple and marriage halls as a part of the resort. During Shivratri, they make Shiva replicas out of ice. The park remains open during the rainy season. A recent addition is a realistic dinosaur park. After a humble beginning, two decades ago, Tikuji-Ni-Wadi has become renowned as a favoured retreat for a breath of fresh air and clean fun.



Figure 10-7 Tiku-ji-ni-wadi

- **Essel World**

It is not just a well-known park in the area but one of the largest amusement parks in India located on the outskirts of Mumbai on Gorai Island. Essel World offers you the typical amusement park attractions of roller coasters and water world, which is something tremendously enjoyable in Mumbai's high humidity. It is spread over 64 acres (260,000 m²) of land and attracts 10,000 visitors every day. It forms two parts Essel world and the Water Kingdom. It can be reached from the suburbs of Borivali or Malad. Essel world was started by Subhash Chandra of the Essel Group in 1986. The Water Kingdom section was added in 1998. Essel world was one of the first amusement parks in India. After starting in 1986, it took five years for it to break even but its annual turnover in 2001 was 35-40 crores rupees and is now called a "huge success". It is the best place to visit on a day off. Apart from just the regular amusement park rides it also consists of a bowling alley, an ice-skating rink, and a discotheque. It is especially known for its New Year's celebration.

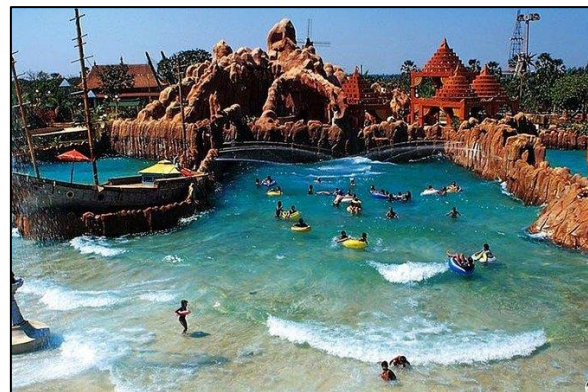


Figure 10-8 Essel World and Water Kingdom

- **Suraj Water Park**

Suraj Water Park is an excellent water recreation paradise that appeals to people belonging to all age groups. It is spread over 11 acres. It is also known as The Pride of Maharashtra after having bagged 6 Times winner in Limca Book of Records and winner of National & International awards. Suraj Water Park is Asia's largest cave extensively made of fiberglass. The Park stands adorned with beautiful 24 ft high and 40 ft long mermaids, which greet you as you step inside. As you go further, there will be a museum of fountains. At the entrance of the fiber cave, are beautiful images of Natraj and Lord Shiva. Going further you will see the largest man-made fiber cave measuring 103 ft. in length. At the entrance, you will see Lord Shiva (God of Life)

with his family and Natraj (God of Dance). This cave has been prepared with modern technology with the presence of Lord Shiva and Natraj adding a symbolic touch of tradition.

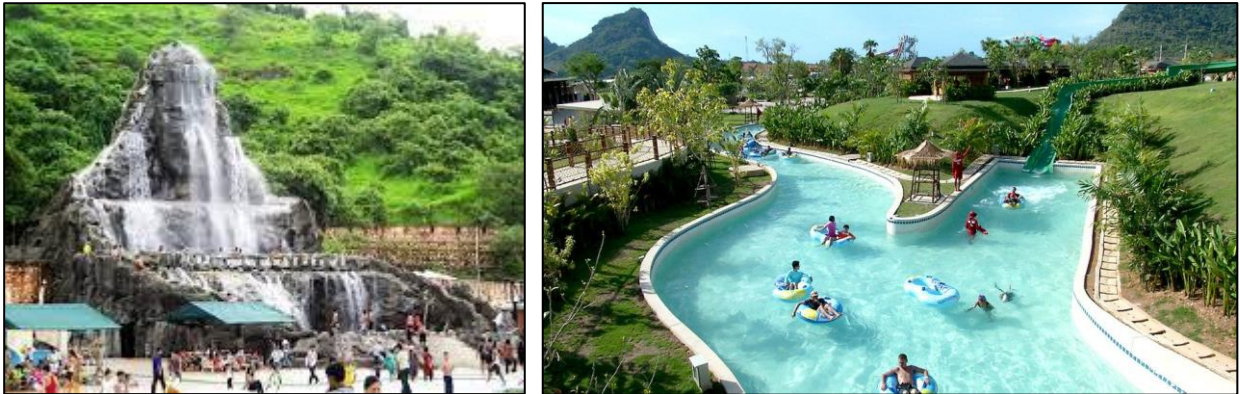


Figure 10-9 Suraj Water Park

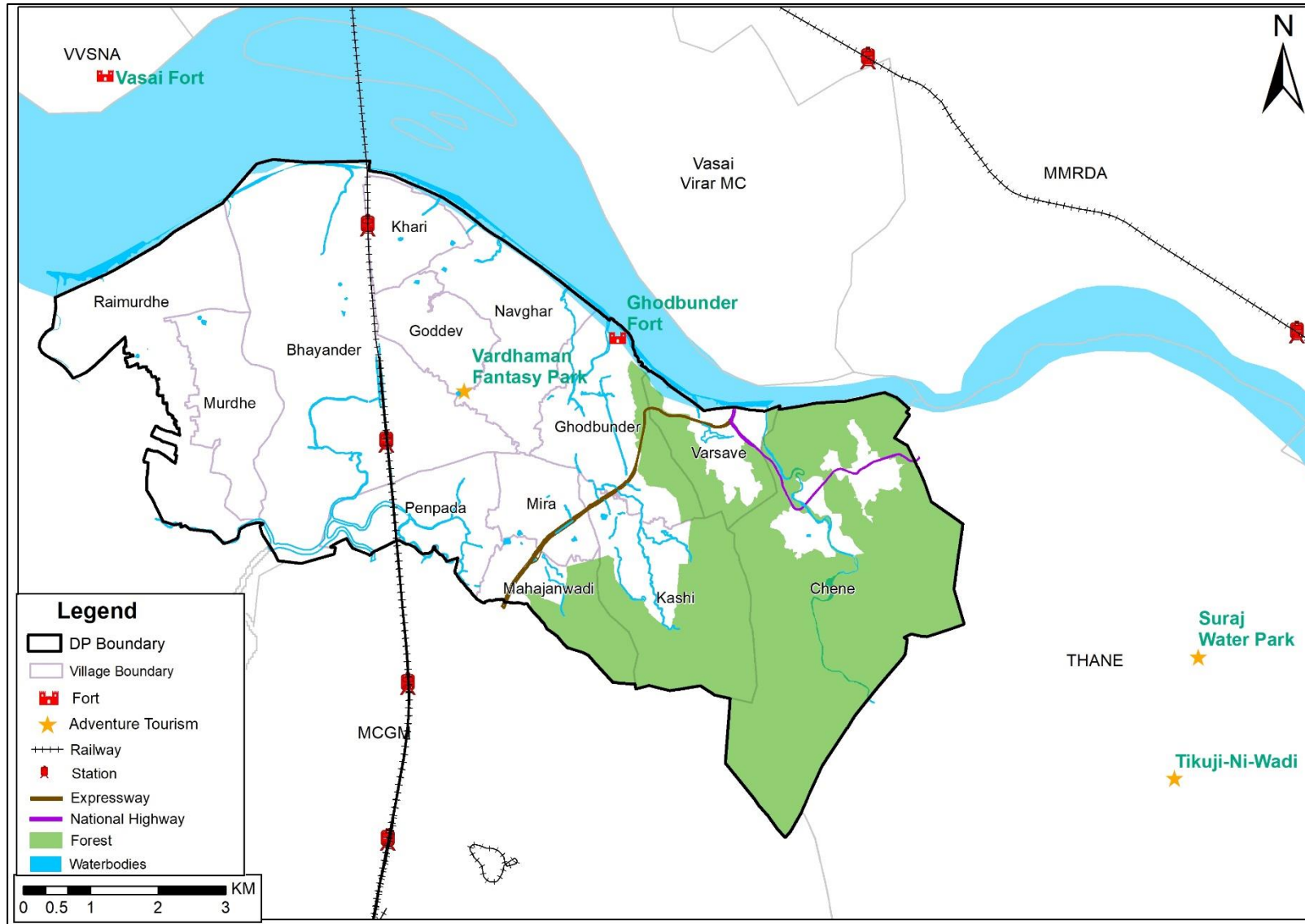


Figure 10-10 Tourist Destination in and around Mira Bhayandar

CHAPTER 11

OBSERVATIONS AND INFERENCES



11 OBSERVATIONS AND INFERENCES

11.1 Regional Connectivity

- The city is well connected with the other parts of the Maharashtra and Nation through State highway and expressway, rail network. The ongoing project of Metro line no. 9 will accelerate the overall development and growth of the city. It is observed that National Highway passing through the city create traffic chaos as city traffic mix with the through traffic.

11.2 Existing Land Use

- According to Existing Land Use of the city, out of the total developed area, maximum area extent of 10% falls under residential use followed by area under mixed use is 4.80%. The area between Western Railway line and Western Expressway comprised of villages Bhayandar, Mira, Khari, Goddev, Navghar, Mahajanwadi, Penkarpada are identified as fast-growing areas of the city
- Commercial Land use contributes to the extent of 1.02% of the developed area. Uses such as Shops, commercial establishments, restaurants, shopping complexes etc. are included under commercial use. Commercial activities are located mainly along Bhayandar railway station and along the adjoining roads
- Mixed use zone was not a part of the previous sanctioned DP. Currently, 4.80% of the total area comes under Mixed land use. It mainly includes residential use with other commercial activities. The land use is mainly concentrated along major roads
- The areas occupied by educational institutes, health services, religious places and government land and offices have been included in public and semi-public use. The total area covered under this use is 2.08%
- The area under recreational purposes like Gardens, lakes, parks, playgrounds etc. contribute to around 1.09% of the total developed area
- Nearly 39.62 % of the total area comes under Eco-sensitive area which covers the use of land under Mangroves and National Park (SGNP)
- The use of land under Saltpan contributes to about 13.29% of the total area
- Water bodies contribute to about 2.47% of the total area.

11.3 Population

- People are migrating from other parts of the Maharashtra to the city for better livelihood

- The sex ratio of the project area is higher than the nation and state's average sex ratio
- The literacy rate is high as compared to nation and state's average literacy rate
- Ward number 5 and 6 are densely populated while ward number 24 and 14 are less populated
- 7.2% out of the total population is residing in slum area and most of the slums are observed along railway track and water courses
- Most of the slums observed in Mira and Bhayandar
- Only 39% out of the total population is working, shows high unemployment rate
- The city is classified as a mono-functional city as most of the population is engaged in one sector of the employment.

11.4 Economy

- City's economy has undergone transformation from agriculture and allied activities to tertiary activity
- The pattern of employment shows deceleration in industrial activities with around 95% being contributed by service sector

11.5 Transport

- Traffic infrastructure in Mira Bhayandar is facing high demands due to population growth, growing population of vehicles and increasing number of journeys being undertaken by the population
- The mode share of the Public Transport is the lowest which indicates there is lack of public transport in the city
- Substantial growth trend in vehicle population has been noticed in Mira Bhayandar. This trend needs to be controlled by improving the public transport system in the city
- The rate of accidents found to be high near fountain junction and Ghodbunder road because of mixing of city traffic with through traffic
- It has been observed through the Origin and Destination survey that, 31% of the traffic is originated at Mira Bhayandar moves towards Thane followed by 25% towards Mumbai while Kalyan and Navi Mumbai movement is minimal
- It is observed that 42% of the traffic destined at Mira Bhayandar is coming from Thane followed by 30% from Mumbai while Kalyan and Navi Mumbai movement is minimal
- It is observed through the Speed and Delay Survey that the average journey speed in the city differs from 11 kmph to 18 kmph during peak hours whereas the average journey speed in

the city ranges from 15 kmph to 25 kmph during off-peak hour. The analysis shows that the travel speeds in the evening peak hour are generally higher than the travel speed during morning peak hour.

- The traffic volume count infers that morning peak hour is 11:00 AM – 12:00 Noon and evening peak hour is 7:00 PM to 8:00 PM.
- The V/C ratio of all locations except Uttan Road are close to or greater than 1, indicating requirement of MRTS systems for regional connectivity
- The intersection analysis shows 99% of share of motorized vehicles where as non-motorized share comprises of only 1% of the total composition of traffic
- Kashimira intersection is most congested location in the city and recorded a maximum number of PCUs number which clearly notify to take major steps to decongest the junction
- Two wheelers account for a high proportion of the total traffic. The share of MAV's is very low. Auto Rickshaw come out to be the preferred intra city transit option as it covers almost equal composition that of cars
- Traffic volumes are high near urban centres such as commercial market places, shopping malls, station area and on the links connecting to Mumbai suburbs

11.6 Physical Infrastructure

- Water supply in the city is insufficient as per the demand. There is water scarcity in the project area
- Only 90% of the households has water supply connections
- Per capita supply of water is less than the prescribed standards
- There is a lack of sewerage network up to the last mile
- 85% out of the total raw sewage is directly discharged into the open drains, adverse soil conditions and shallow water table aggravates the problem of safe sewage disposal
- Only 68% of the raw sewage is treated at STPs
- During the rainy season many septic tanks overflow due to rises in the groundwater table
- Rain water holding capacity of the natural drains have been visibly affected due to reduction in width of nalas and water courses because of unauthorize construction and dumping of solid waste along the drains
- Even though door to door collection of Municipal solid waste takes place, the infrastructure in place is not adequate, both in terms of quantity as well as design in order to collect the waste in segregated manner

- Lack of segregation of waste at source causes operational difficulties and eventually environmental damage at treatment sites
- The existing waste treatment facilities available in the corporation area are insufficient
- Waste is directly dumped on the landfill site without any scientific propose.

11.7 Social Infrastructure

- The major burden of the education facilities is taken over by public sector. However, there is a need to provide education facilities in the area by keeping in view the future population
- The high level and technical education facilities are inadequate
- Health facilities offer by government is reasonable but the number of beds in the existing hospital are inadequate to cope up with the demand
- Most of the health facilities are provided by private sector
- There is no organized space for hawkers
- The existing recreational facilities in the city are limited to the parks and playground and their area and effectiveness is inadequate
- The social and cultural facilities like community centre, drama theatre, museum, town hall, memorial of historical importance is missing in the city
- For increasing population, existing facilities of cremation and burial ground is not sufficient
- Existing fire brigade stations are less in number comparing the spread of the city.

11.8 Environment

- AQI in project area is in ‘moderate’ category during 2020-2021. Vehicular emission is one of the reasons why the level of air quality in Mira Bhayandar is leaning towards pollution. Air quality has come under strain in the city due to ongoing development works like Metro work, development of infrastructure, increasing load of vehicle pollution
- The existing air and water quality is within the standard limit but at the edge of it and need regular monitoring
- There are 48 water logging locations and existing drainage system is insufficient
- It is observed that the lake is getting polluted because of the mixing of polluted water or drainage or dumping waste in the lake.

11.9 Heritage and Tourism

- The existing tourism points are not well maintained and managed



PART 2

PROPOSALS

CHAPTER 12
PAST DEVELOPMENT PLAN
PERFORMANCE



12 PAST DEVELOPMENT PLAN PERFORMANCE

12.1 Introduction

The Mira Bhayandar Municipal Corporation declared its intention to prepare Draft Development Plan for the area under its jurisdiction on 24th January 1986. The Draft Development Plan for the area was published in 1997. The Government sanctioned the part Development Plan in the year 1997 and the remaining part was subsequently sanctioned in 2002.

12.2 Analysis of The Previous Development Plan

It is important to analyze the previous Development Plan to understand the success of the earlier proposals and implementation strategies, which will help to form the new proposals in the Draft DP 2.17 -2037 to accelerate the planned development in the city.

The Analysis of the previous DP is done considering the following main three aspects,

1. Proposed Reservation Sites,
2. Proposed Roads,
3. Proposed Zoning.

12.2.1 Proposed Reservation Sites

The total number of reservation sites proposed in the earlier DP was 335 in number. The total area under the reservation sites proposed was 432.49 Ha. The analysis of the current situation of those reservations is done based on their development status, land acquisition status, and encroachment on the reservation sites and sites affected by the CRZ.

12.2.1.1 Development Status of The Reservation Sites

The further categorization of the development status of the reservation sites is mentioned in Table 12-1. It shows that only around 10% area under reservations is completely developed whereas around 70.6% reservation area is not developed.

Table 12-1 Development Status of The Reservation Sites

DEVELOPMENT STATUS OF RESERVATION SITES			
Sr. No.	Category	Number	Area (Ha)
1	Developed	57	42.97
2	Not Developed	238	305.58
3	Partly Developed	40	84.25
Total Reservations		335	432.80

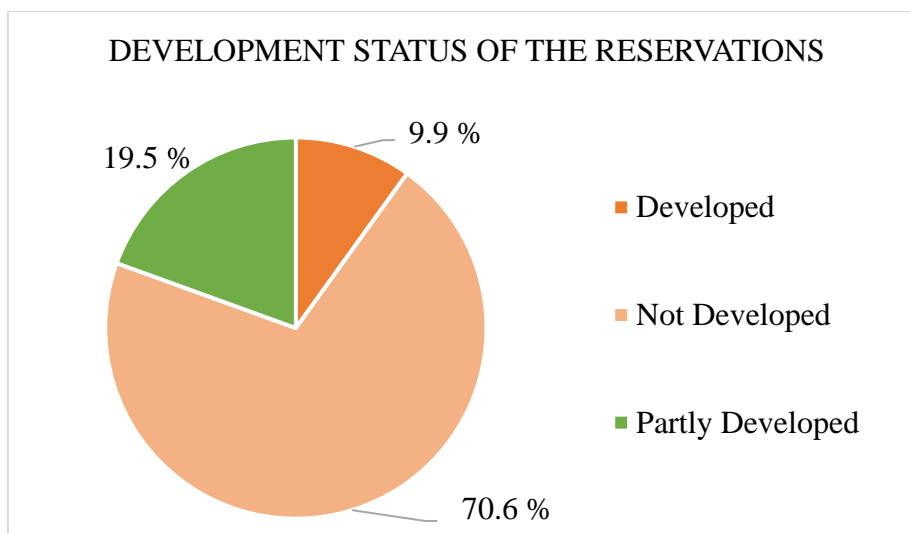


Figure 12-1 Development Status of Reservation Sites

12.2.1.2 Status of Land Acquired by MBMC

It is observed that a total of 127.61 Ha of the area is acquired by Mira Bhayandar Municipal Corporation out of which around 54% of the area is fully acquired and around 45% of the area is partly acquired by MBMC. The detail of the same is mentioned in Table 12-2.

Table 12-2 Land Acquisition Status

RESERVATION SITES ACQUIRED BY MBMC			
Sr. No.	Category	Number	Area (Ha)
1	Partly Acquired	108	58.51
2	Fully Acquired	42	69.09
Land Acquired by MBMC		150	127.61

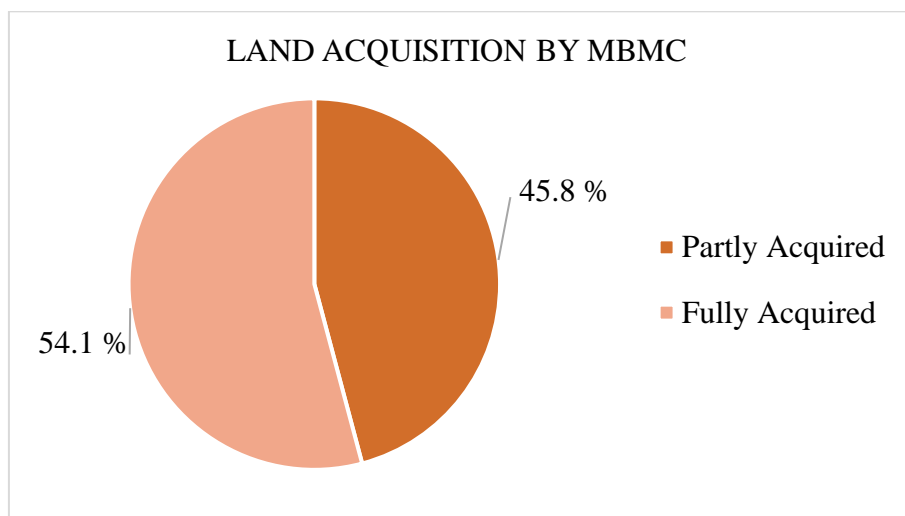


Figure 12-2 Land Acquisition by MBMC

12.2.1.3 Encroachment on Reservation Sites

At present total of 117 reservation sites have encroachment. Around 89% area partly encroaches while around 11% of the reservation area completely encroaches. The detail of the encroached reservation sites is given in Table 12-3. Whereas, out of a total of 117 encroached sites 19 sites are partly developed. The development status of encroached sites is given in Table 12-4.

Table 12-3 Encroachment on Reservation Sites

ENCROACHED RESERVATION SITES			
Sr. No.	Category	Number	Area (Ha)
1	Partly Encroached	100	70.64
2	Fully Encroached	17	8.41
Total		117	79.05

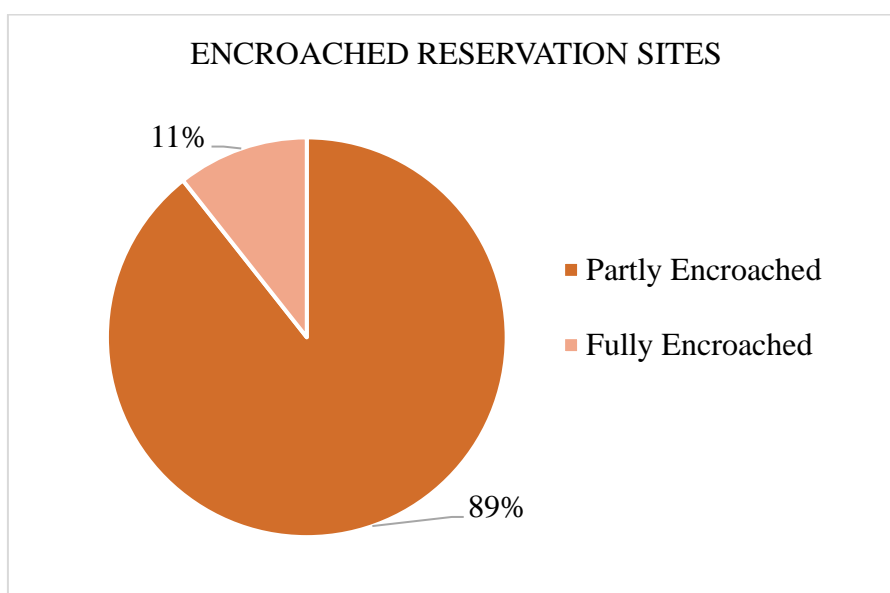
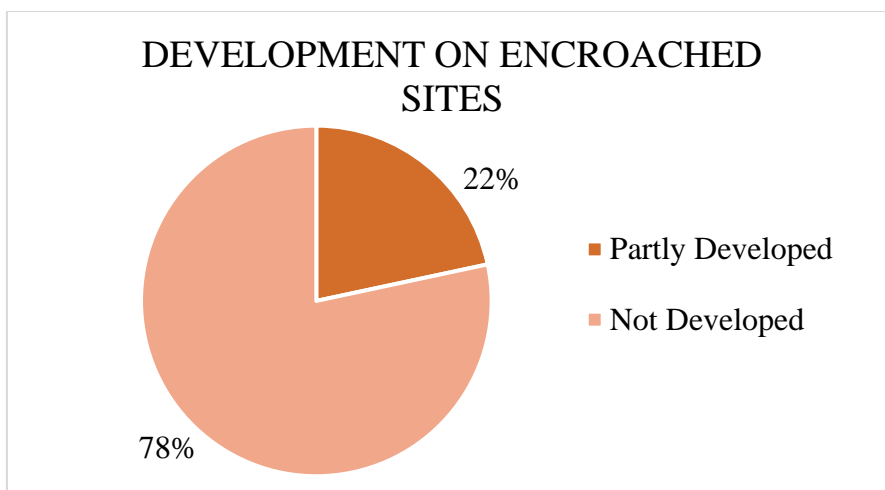


Figure 12-3 Encroachment on Reservation Sites

- **Development on Encroached Reservation Sites:**

Table 12-4 Development on Encroached Sites

ENCROACHED RESERVATION SITES			
Sr. No.	Category	Number	Area (Ha)
1	Partly Developed	19	17.12
2	Not Developed	98	61.93
Encroached		117	79.05



12.2.1.4 Reservations Affected by CRZ

A total of 86 reservation sites with an area of 200.39 Ha. are affected due to CRZ stipulations. The detail of the subcategorization of the CRZ areas and reservation sites affected by it is given in Table 12-5. It can be observed that from the total CRZ-affected reservation site area around 2% of the area is developed whereas 20% of the area is partly developed.

Table 12-5 Reservation Sites Affected by CRZ

RESERVATION SITES AFFECTED BY CRZ			
Sr. No.	Category	Number	Area (Ha)
1	CRZ I	23	47.96
2	CRZ II	30	9.44
3	CRZ I & II	33	142.99
Total CRZ Affected Sites		86	200.39

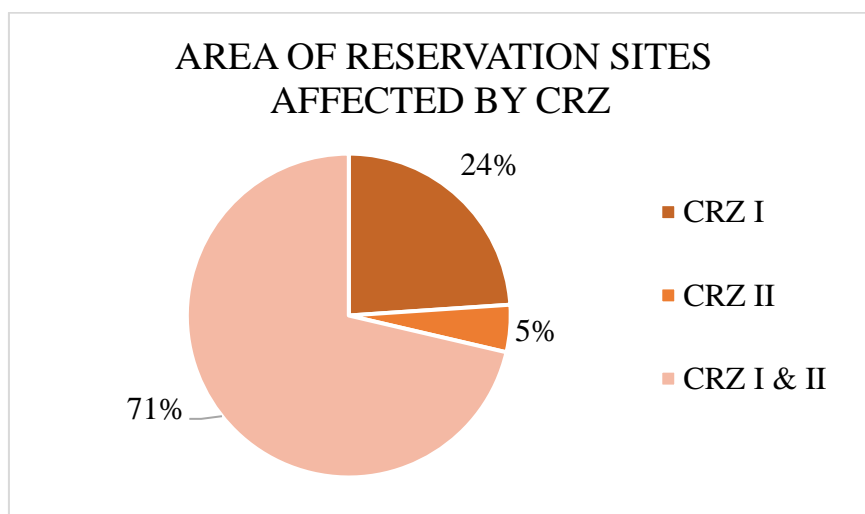


Figure 12-4 Area of Reservation Sites Affected by CRZ

Table 12-6 Development on Reservation Sites Affected by CRZ

RESERVATION SITES AFFECTED BY CRZ			
Sr. No.	Category	Number	Area (Ha)
1	Developed	4	4.73
2	Partly Developed	9	50.79
3	Not Developed	73	201.32
Total CRZ Affected Sites		86	256.85

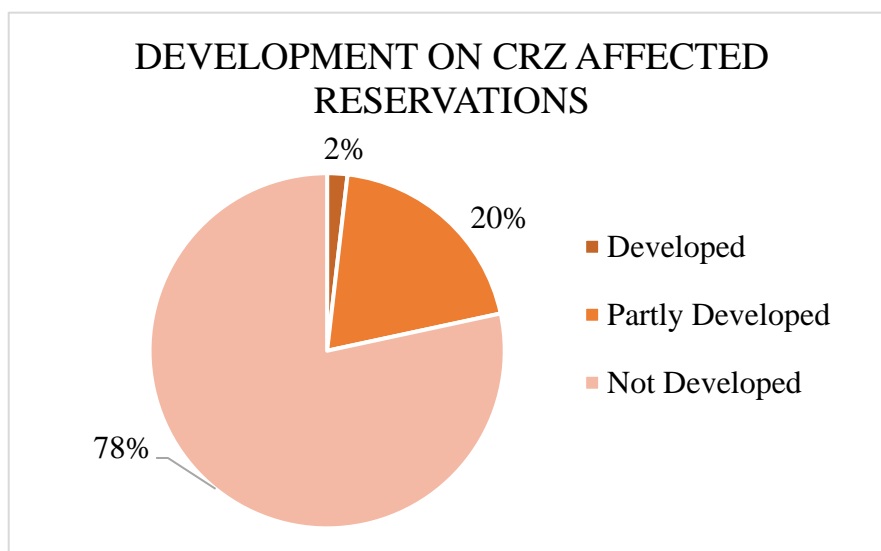


Figure 12-5 Area of Development on CRZ Affected Reservation Sites

12.2.2 Proposed Roads

The total area under DP roads is 412.92 Ha as per sanctioned DP. This figure is corrected to the extent of the excluded area of six revenue villages of SPA and the extent of section 37 modification sanctioned till the year 2022.

It is observed that around 39.3% of proposed roads as per the previous DP are completely developed whereas 24.9% of proposed roads are partly developed. The details of the same are mentioned in Table 12-7.

Table 12-7 Proposed Roads in Previous DP

DP Roads			
Sr. No.	Development Status	Area (Ha)	Implementation %
1	Developed	162.13	39.3
2	Not Developed	147.93	35.8
3	Partly Developed	102.86	24.9
Total		412.92	100

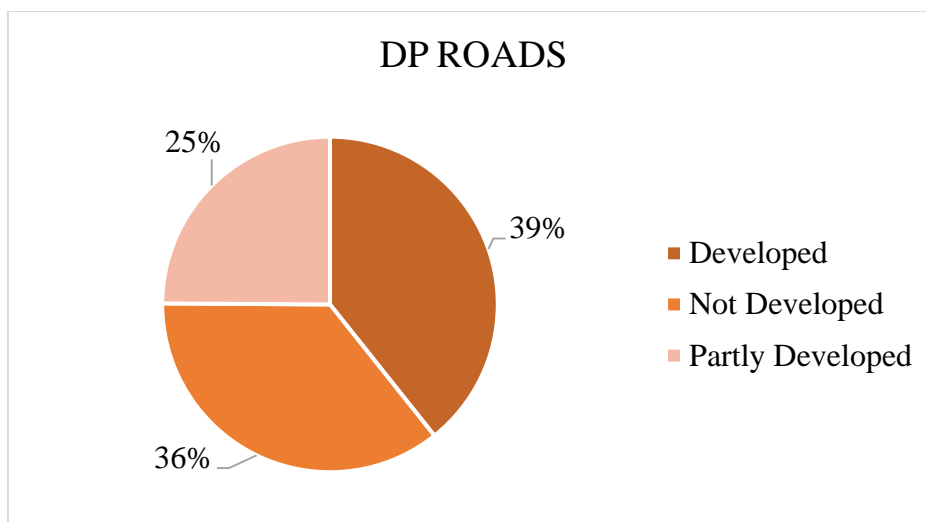


Figure 12-6 Area of Proposed Roads in Previous DP

12.2.3 Proposed Zoning

The implementation status of the proposed zoning as per the previous Development Plan is given in Table 12-8.

Table 12-8 Proposed Zoning Status in Previous DP

ZONING			
Sr. No.	Zone	Proposed Area (Ha)	Implemented Area %
1	Residential	1524	55
2	Commercial	53.91	14
3	Industrial	138.29	75
4	The area under Designated Sites	432.49	10
5	Transport and Communication	412.92	75
6	Non-Developable Area	3851	12
7	Water Body	72.54	100
Total		6479	30

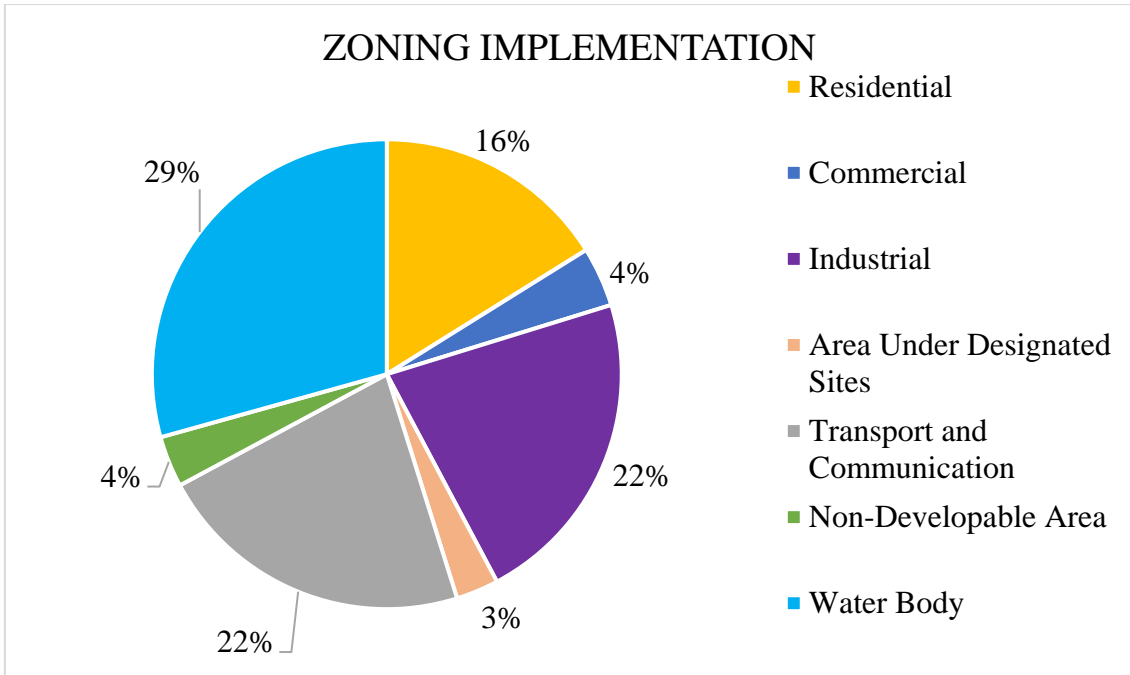


Figure 12-7 Implementation Status of Proposed Zoning

CHAPTER 13
RESTRUCTURING OF THE PAST
DEVELOPMENT PLAN



13 RESTRUCTURING OF THE PAST DEVELOPMENT PLAN

13.1 The Need for Restructuring

In the previous chapter, the performance implementation of past DP has been analysed. The parameters to analyse are,

1. The Development in each segment by 2022 (ELU Map),
2. The extent of encroachment in each segment,
3. The Extent of CRZ areas in each segment (aspect) and buffer to Sanjay Gandhi National Park.

13.1.1 The Proposed Restructuring

The cumulative effect of all three parameters as above, when considered in the restructuring of DP sites, DP Roads, and the zoning of the past plan is summarised in the following Tables.

13.2 The Restructuring of the Previous DP

13.2.1 The Balanced Reservation Sites in Previous DP

The 132 designated sites out of 335 total sites of previous DP are not affected either by CRZ or by encroachment. Out of these 132 sites, 53 are already developed and 78 are developable while 1 site out of a total of 132 reservation sites is proposed to be deleted.

Table 13-1 Restructuring of The Previous DP Reservations

CRITERIA	TOTAL	DEVELOPED	DELETED	RETAINED
CRZ Affected	86	4	16	66
Only Encroached	117	0	0	117
Balance	132	53	1	78
Total	335	57	16	261

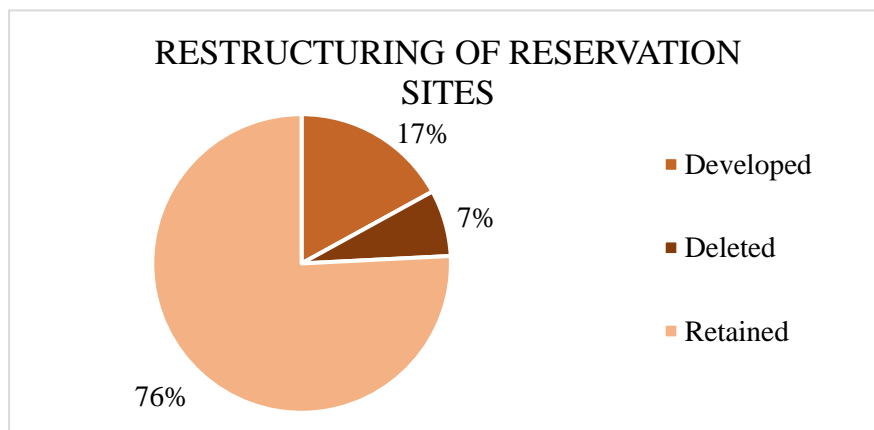


Figure 13-1 Restructuring of Reservation Sites

13.2.2 Restructuring of CRZ Affected Reserved Sites

CRZ regulations and CZMP were not in force when the previous DP was sanctioned by the Government. Subsequently, when CZMP came into force it shows a total of 86 designated sites are affected by CRZ stipulations, out of which 23 sites were completely affected by CRZ I, 30 sites were completely affected by CRZ II while 33 sites shown affected by both CRZ I and II.

Considering the CRZ stipulations and the analysis of the previous DP, restructuring of those reservations has been done. Accordingly, 4 reservations were already developed while 16 sites cannot be developed under the CRZ stipulations, therefore those sites are proposed to be deleted. While 66 sites are retained with appropriate change of designation and restructured to make them developable under the CRZ regulations. The summary of the same is given in the following Table 13-2.

Table 13-2 Restructuring of CRZ Affected Reservation Sites

CRZ Affected			
Sr. No.	Category	Number	Area (Ha)
1.	Developed	4	4.73
2.	Retained	66	197.69
3.	Deleted	16	53.76
Total		86	256.85

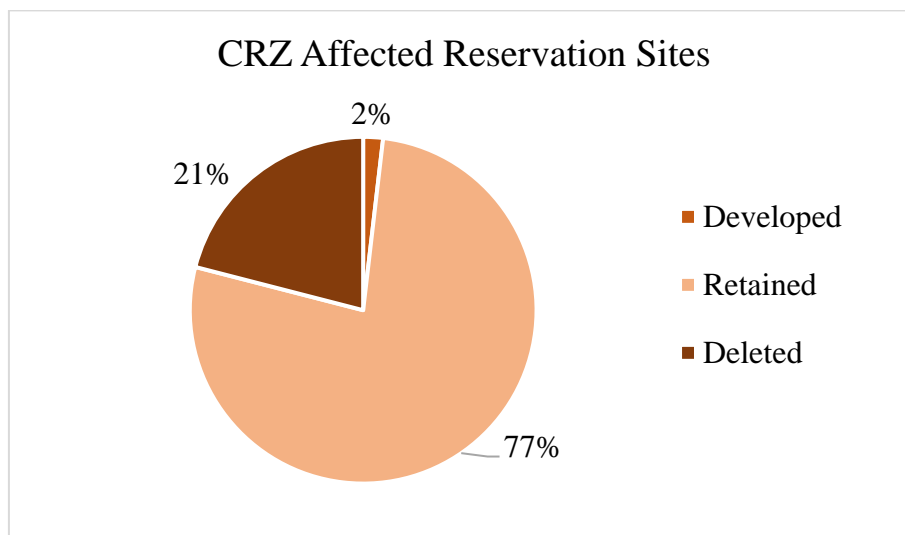


Figure 13-2 CRZ Affected Reservation Sites

13.2.4 Restructuring of Encroached Reserved Sites

The analysis of previous DP site encroachment shows that 117 sites encroached out of which 19 are partly developed. The suitability of the development of these encroached sites justifies retaining 117 sites with a slight change of designation and reshaping to make them developable. The summary of this is given in the following Table 13-3.

Table 13-3 Restructuring of Encroached Reserved Sites

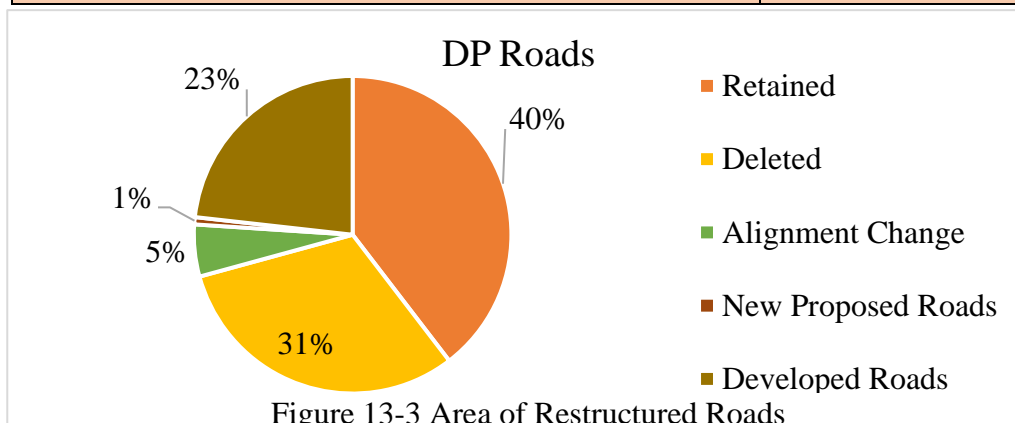
Encroached Reservation Sites			
Sr. No.	Category	Number	Area (Ha)
1.	Retained	117	79.05
2.	Deleted	0	0
Total		117	79.05

13.2.5 Restructuring of Roads

In the Draft DP 2017-2037 around 40% of roads proposed in the previous DP are retained whereas around 31% not developed roads are deleted. Around 76.65 Ha of new roads are proposed in this Draft Revised Development Plan. The details of the same is mentioned in the Table 13.4.

Table 13-4 Restructuring of Roads

DP Roads			
Sr. No.	Category	Area (Ha)	
1.	Retained	Not Developed	130.67
		Partly Developed	102.86
2.	Deleted	17.46	
3.	Alignment Change	2.42	
4.	New Proposed Roads	76.65	
5.	Developed Roads	162.13	
Total		474.73	



13.2.6 Restructuring of Zoning

The detailed zoning proposed in the Draft Revised Development Plan 2017-2037 is given in the Table 13-5.

Table 13-5 Proposed Zoning in Draft Revised Development Plan 2017-2037

Zone	Area (Ha)
Residential Zone	1467.68
Industrial Zone	108.67
Recreational Zone	128.27
PSP& PU	189.36
Commercial Utilities	18.91
Transportation	587.77
NDZ	3727.71
Waterbody	250.63
Total	6479

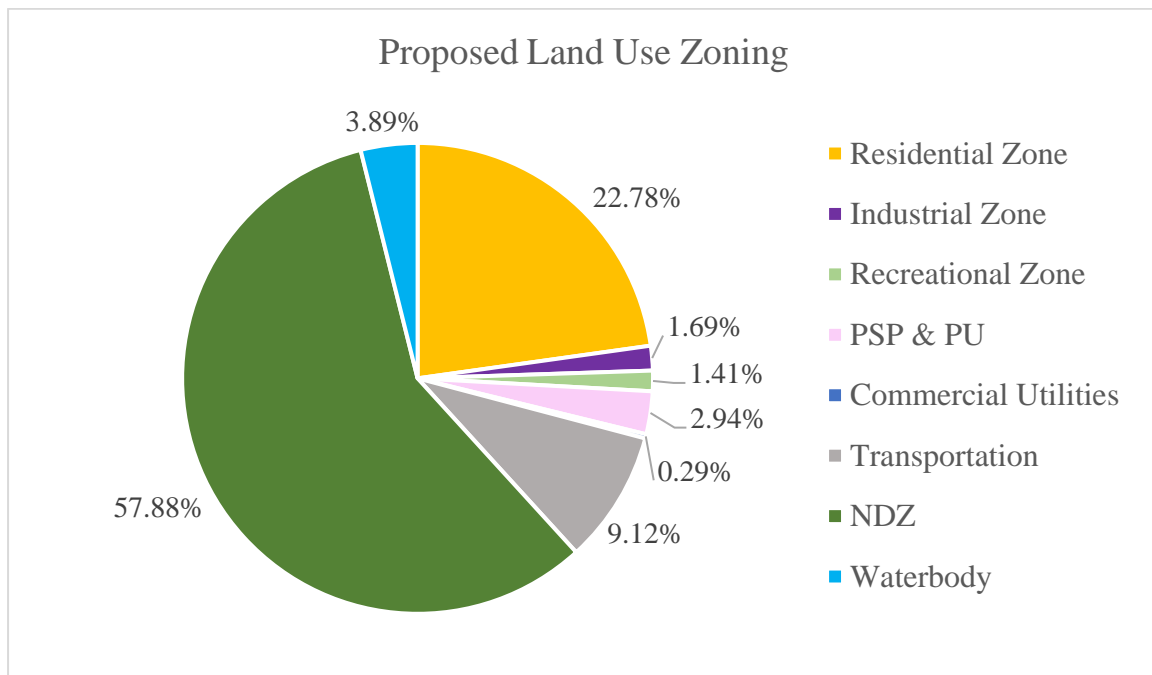
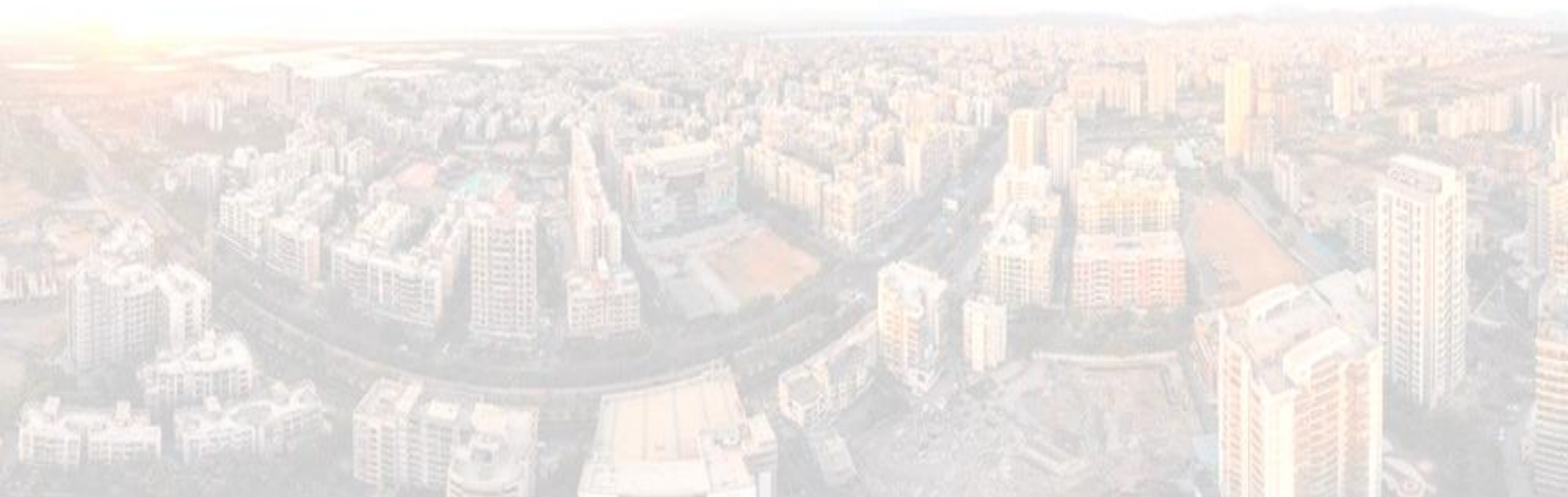


Figure 13-4 Proposed Land Use Zoning

CHAPTER 14

POPULATION PROJECTION



14 POPULATION PROJECTION

14.1 Introduction

Population projection is done to identify the growth trend of the population and to come up with an estimate for how many people we have to plan. It is estimated to provide an overview of the future population. The factors such as birth rate, death rate, and migration affect the population in the region. As per section 38 of the MR&TP Act, 1966 the horizon year of the Development Plan is 20 years. Accordingly, the population of the city is projected for the years 2031 and 2041. It helps to estimate future spatial demands such as housing, water supply, and sanitation for the Development Plan and has been explained in this chapter.

14.2 Population Trend

Mira Bhayandar Municipal Council was established in 1985. After that adjoining villages of the Municipal Council limits started showing a trend of urbanization. The judicial limits of the city were extended by merging 10 villages in the city limit. To calculate the population of the city for the years 1971 and 1981, the population of each village within the city limit is considered. The total population recorded for Mira Bhayandar city in the year 2011 was 8,09,378. The city has shown a significant increase in population since the year 1971. The decadal growth rate of the city is at its peak in the decade 1991-2001. In the year 2011, the population increased in absolute number; however, the percentage decadal growth shows a steep decline from 196.34% to 55.53%. The population trend of the last five decades in the MBMC area is mentioned in Table 14-1.

Table 14-1 Decadal Population Projection

Census Year	Population	Increment	Growth Rate (%)	Increment Increase
1971	34185	7604	-	-
1981	67195	33010	96.56	-
1991	175605	108410	161.34	75400
2001	520388	344783	196.34	236373
2011	809378	288990	55.53	-55793
Average		156559.4	107.68	70346.5

Source: Census of India

14.3 Population Projection

Population projection for Mira Bhayandar is carried out by considering the population of the 2011 census as a base population. The population for the years 2021, 2031, and 2041 for the MBMC area has been projected using various methods considering natural and induced growth. The methods used for the population projection are mentioned below

1. Arithmetic Increase Method
2. Geometric Increase Method
3. Incremental Increase Method
4. Simple Graphical Method
5. Linear Regression Method
6. Ratio Method

14.3.1 Arithmetic Increase Method

This method is suitable for large and old cities with considerable development. Application of this method in small, average, or comparatively new cities will yield lower results than the actual value. In this method, the average increase in population per decade is calculated from past census reports. This increase is added to the present population to find out the population for the next decade. Thus, it is assumed that the population is increasing at a constant rate. Hence, $dP/dt = C$ i.e., the rate of change of population concerning time is constant.

Therefore, the Population after the n^{th} decade will be $P_n = P + n C$

Where P_n is the population after 'n' decades and 'P' is the present population

14.3.2 Geometric Increase Method

In this method, the percentage increase in population from decade to decade is assumed to remain constant. The geometric mean increase is used to find out the future increment in population. Since this method gives higher values and hence should be applied to a new industrial town at the beginning of development for only a few decades. The population at the end of n^{th} decade ' P_n ' can be estimated as:

$$P_n = P (1 + I_G/100)^n$$

Where,

I_G : geometric mean (%)

P: Present population

N: no. of decades

14.3.3 Incremental Increase Method

This method is a modification of the arithmetical increase method and it is suitable for an average size town under normal conditions where the growth rate is found to be in increasing order. While adopting this method the increase in increment is considered for calculating future population. The incremental increase is determined for each decade from the past population and the average value is added to the present population along with the average rate of increase. Hence, the population after the n^{th} decade is

$$P_n = P + n X + \{n(n+1)/2\} Y$$

Where,

P_n : Population after the n^{th} decade

X : Average increase

Y : Incremental increase

14.3.4 Linear Regression Method

The linear model assumes that population growth is growing at absolute equal increments per year, decade, or other units of time. It also assumes that growth will follow a similar pattern in future years. This method is most suitable when the pattern of growth is similar to a straight line. This tool is especially useful when projecting areas experiencing slow growth. The linear regression equation is given by:

$$Y = a + b X$$

Where,

$$b = \frac{N \sum XY - (\sum X)(\sum Y)}{N \sum X^2 - (\sum X)^2} \quad a = \frac{\sum Y - b \sum X}{N}$$

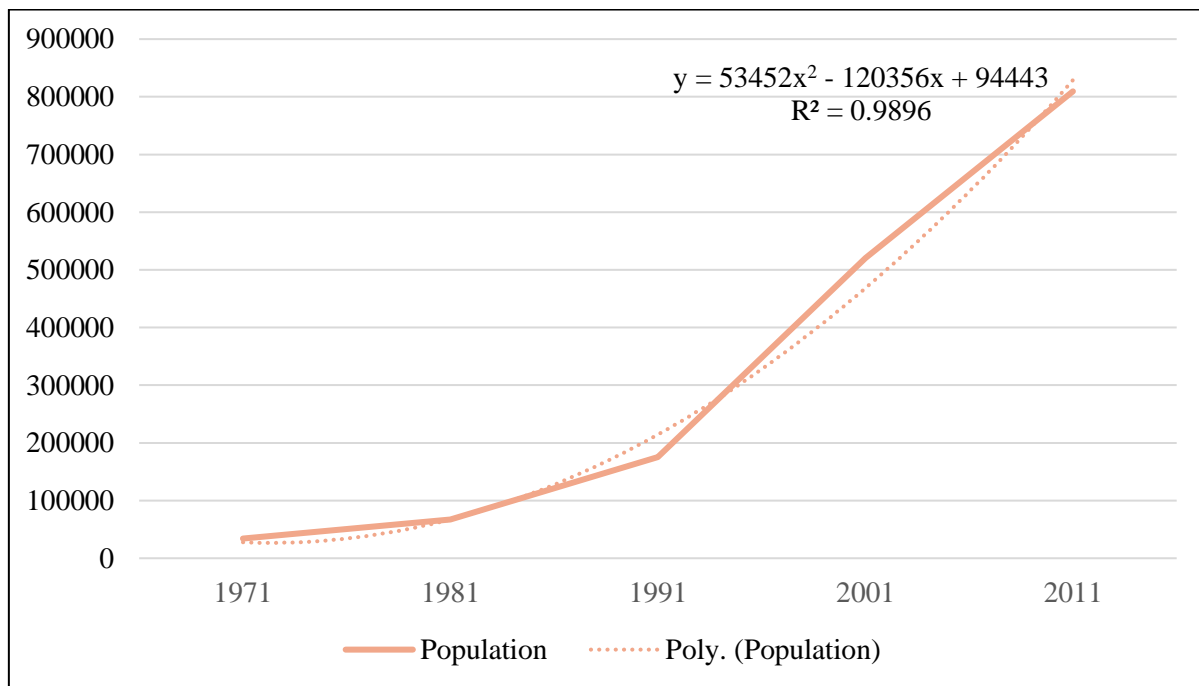
14.3.5 Simple Graphical Method

In this method, the populations of the last few decades are correctly plotted to a suitable scale on a graph. The population curve is smoothly extended for getting future populations. This extension should be done carefully and it requires proper experience and judgment. The best way of applying this method is to extend the curve by comparing it with the population curve of some other similar cities having similar growth conditions. The trendlines will provide different R^2 values for different logarithmic equations. The R^2 value closest to 1 is considered

for forecasting the population in this method. Here, the R^2 value of a polynomial expression is 0.9896 which is closest to 1. Hence, equation derived from this expression $y = 53452x^2 - 120356x + 94443$ is used for population projection.

Table 14-2 R2 values for different expressions

Expressions	R^2
Exponential	0.9522
Linear	0.8999
Logarithmic	0.8982
Polynomial	0.9896
Power	0.9785



14.3.6 Ratio Method

This method identifies that the population growth of a city is a reflection of the growing forces operating in the external area. In the ratio method the share of the city's population in a larger region, as observed in the past, can be taken as an indicator of the future. Here the population of MMR is considered to calculate the futuristic population.

14.5 Summary

The population projection obtained from different methods is mentioned in Table 14-3.

Table 14-3 Population Projection using various methods

Sr. No.	Forecasting Methods	2021	2031	2036	2041
1	Arithmetic Increase	10,03,176	11,96,975	12,93,874	13,90,773
2	Geometric Increase	17,33,391	37,12,288	54,32,682	79,50,361
3	Incremental Increase	10,54,372	13,50,563	15,17,856	16,97,949
4	Linear Regression	11,38,339	13,50,153	14,56,060	15,61,967
5	Simple Graphical	12,96,579	18,71,099	21,98,448	25,52,523
6	Ratio Method	12,61,700	17,13,009		22,86,565

Sr. No.	Forecasting Methods	Decadal Growth rate	
		2021-2031	2031-2041
1	Arithmetic Increase	19.32	16.19
2	Geometric Increase	114.16	114.16
3	Incremental Increase	28.09	25.72
4	Linear Regression	18.61	15.69
5	Simple Graphical	44.31	36.42
6	Ratio Method	35.77	33.48

The various methods are showing different population forecasts for the years 2021, 2031, and 2041. The Arithmetic Increase Method and Linear Regression Method is assuming the constant population growth rate and are more suitable for large cities. Therefore, these methods may not apply to Mira Bhayandar city which is witnessing considerable growth over the past decades. The geometric Increase Method is more appropriate for the new industrial towns which are at

the beginning of development. In the case of Mira Bhayandar city, this method is giving higher population estimate and may not give actual value. Hence, it may not be considered for the population projection.

Mira Bhayandar city is well connected with existing roads, and railways with other parts of the country, and proposed metro, rail, and road corridors would be the main reason for the future growth of the city. Also, the city act as a dormitory town to Greater Mumbai which attracts people to the city. Considering these factors, from all methods of population projection, the Incremental Increase Method and Simple Graphical Method may give fairly good results and would be more suitable for the Development Plan proposals. But the Simple Graphical Method is showing a high decadal growth rate for the city. Therefore, it may not be considered for the population projection. The incremental Increase Method which is showing a considerable growth rate could be considered for the Development Plan proposals. But section 27 of the MR&TP Act, 1966 states that “where any area within the jurisdiction of a Planning Authority is included in a Region, the Planning Authority or as the case may be, the said officer shall have regard to, and be guided by, the proposals made in any Draft Regional Plan, or any final Regional Plan, as the case may be, while preparing the Draft Revised Development Plan.” Hence, the Draft Revised Development Plan has adopted the population identified by Sanctioned MMR RP i.e., 22.86 million for calculating land requirements for the preparation of the Proposed Land Use Map (PLU).

14.6 Population Projection at Sector level

The projected population of the city is further divided into numerous sectors. Mira Bhayandar city area is divided into 3 sectors which include 23 electoral wards. The boundaries of these sectors are designated as per the physical boundaries of the electoral wards.

Table 14-4 Population Projection for Sectors

Sector No.	Ward No.	Census Population	Projected Population	
		2011	2031	2041
1	1	32377	71228	95077
	6	31671	69675	93003
	7	31971	70335	93884
	8	33455	73599	98242
	23	31460	61695	82353
Total		160934	346532	462559

2	2	31643	69613	92921
	3	35483	78061	104198
	4	34662	76255	101787
	5	36141	79509	106130
	9	32600	71718	95732
	10	38439	84564	112878
	11	37410	82300	109856
	12	31106	68432	91344
	13	33537	73780	98483
	15	33872	74517	99467
	16	32286	71028	94809
	17	35838	78842	105240
	18	35471	78035	104162
	19	31467	69226	92404
	20	33146	72920	97335
21	35245	77537	103499	
22	37138	81702	109058	
Total		585484	1288037	1719303
3	14	35655	78439	104703
Total		35655	78439	104703

Source: Projection based on Draft RP

Sr. No.	Sector	Projected Population 2041
1	Sector - 1	462559
2	Sector -2	1719303
3	Sector -3	104703
The population of MBMC at 2041		2286565

CHAPTER 15
PLANNING STANDARDS AND
NORMS



15 PLANNING STANDARDS AND NORMS

15.1 Introduction

It is stipulated under section 22 of the MR&TP Act, 1966 to provide land for public amenities. These amenities include education, health, social, and recreational facilities, and infrastructures like roads, water, sewerage, solid waste management, and cremation, etc. The spatial allocation of these facilities is important. Planning standards and norms is an instrument to calculate required amenities to a satisfactory level. The public services and facilities in the urban environment have a significant impact on the quality of life of the people residing in urban areas. Good quality physical and social infrastructure such as Education facilities, Health & Welfare facilities, civics, Distribution services, Transportation, Water supply, Sewerage, and Community facilities are essential elements for healthy and sustainable urban life.

15.2 Selection of Planning Standards

For assessing the requirement of social and physical infrastructure for the estimated population, the spatial norms have been laid down in various documents by different authorities. To adopt the most appropriate norms for MBMC Development Plan, planning norms, standards and guidelines are referred from URDPFI, Revised DP MCGM 2034 & Nashik Development Plan 2036.

Mira Bhayandar is an adjoining city to Greater Mumbai and one of the fastest growing cities in the MMR. Both cities have the same geographical and physiographical features. Mira Bhayandar acts as a dormitory town to Greater Mumbai and has a direct or indirect impact on cities population character. MCGM has detailed planning standards and norms for the city by considering its character, potential, and infrastructure needs. Also, Nashik and Mira Bhayandar have almost the same estimated population size. NMC also listed out planning standards for the city based on the city's character and requirements. The national level standards are mentioned in URDPFI guidelines. It has also enlisted various categories of facilities and infrastructure. While adopting planning standards for the Mira Bhayandar Development Plan, planning standards given by these cities are referred to and compared. A comparative statement of corresponding planning norms and standards is given in below Table 15-1.

Table 15-1 Comparison of Planning Standards and Norms

Sr. No.	Category	Subcategory	URDPFI 2015		Nashik Development Plan		MCGM Development Plan-2034	
			Min unit/s Required	Area Required	Min unit/s Required	Area Required	Min unit/s Required	Area Required
1	Education	Primary School	1/500 students, 1/5000 population	0.4 ha	-	-	1/10,000	0.552 sq.m. per person
		Secondary School	1/7500 population	1.8 ha	-	-	1/10,000	0.552 sq.m. per person
		Higher Secondary	1/1000-1500 students, 1/1.25 lakh population	5 ha	-	-	-	0.47 sq.m. per person
2	Health and Medical Facility	Dispensary	1/15000	0.08 ha-0.12 ha	-	-	1/10,000	0.014. sq.m. per person
		Nursing home & maternity center	1/ 45000-1 Lakh	0.2-0.3 ha (25-30 beds)	-	-	1/1,00,000	0.045 sq.m. per person
		General Hospital	Intermediate hospital: 1/ 1 lakh; 80 beds	Intermediate hospital:1 Ha	1 for the city	0.65 ha/ bed	1/5,00,000	0.360 sq.m. per person
			General Hospital: 1/2.5 lakh; 500 beds	General Hospital:6 Ha				

3	Socio-Culture	Community Hall	1/15000	0.2 ha	-	-	-	-
4	Civic	Cremation Ground	Electric Crematorium : 1 for a large town	Electric Crematorium: 2 ha for a large town	As per the requirement		1/5,00,000	0.03 sq.m. per person
		Burial Ground	Cremation Ground: 5 lakhs	Cremation Ground: 2.5 ha				
		Cemetery	Burial Ground: 5 lakhs	Burial Ground: 4 ha				
5	Distribution Services	Petrol/ Diesel filling and Service Centre	Only filing station: 30 m x 17 m	-	-	-	As per the requirement	
			Filling cum service station: 36 m x 30 m		-	-		
			Filling cum service station cum workshop: 45 m x 36m		-	-		
			Filling station only for two and three wheelers: 18m x 15m		-	-		
		Compressed Natural Gas	-	1080 sqm	-	-		

		(CNG)/ filling centre						
6	Police, Civil Defense, and Home Guards	Police Station	40,000 – 50,000	0.16 Ha	-	-	-	0.01 sq.m. per person
		Police Chowki	90,000	1.50 Ha	-	-	-	-
7	Safety Management	Fire Station	2 lakh population or 5-7 km radius	1 Ha	-	-	-	-
8	Commercial	Municipal Market	-	-	2 numbers in each sector	0.20 ha	-	0.19 sq.m. per person
9	Open Spaces	Park/ Garden	1/15000	1 ha	1/50,000 population	3 ha	-	1 sq.m. per person
		Playground/ Sport Complex	1/ 15000	1.5 ha	1/50,000 population	3 ha	-	
		Multipurpose ground	1/1 lakh	2 ha	1/50,000 population	3 ha	-	-
10	Water Supply	ESR		-	As per the requirement	As per the requirement		
		WTP (Water treatment plant)	5MLD- 0.10 Ha 500MLD-9.34Ha 200MLD-3.73Ha 100MLD- 1.87Ha	-				

			50MLD- 0.93 Ha 10MLD- 0.19Ha			
11	Sewerage Treatment	STP (Sewage Treatment Plant)	-	-	As per the requirement	As per the requirement
12	Solid Waste Management	Transfer Station	-	-	As per the requirement	As per the requirement
		Area for segregation of waste and parking of utility vehicles	-	-		
		Solid Waste Treatment	-	-		
		Material recovery facility				
		Bio methanation:	4 ha/500 TDP	-		
		Landfill sites	-	-		

13	Transportation Planning	Bus Terminus (Private + Government)	-	1/5000 passengers/day: Loading	As per the requirement	As per the requirement
				1/10000 passengers/day: Unloading		
				1 unit per 2 bus bays		
		Bus Depot	-	-		
		Truck Terminus	1 ha	300 tons of daily good inflow		
		Parking space for parking of buses, LMVs, IPTs, etc.	-	-		
		Water Terminus	-	-		
14	Power Supply	Electric Power Plant	-	-	As per the requirement	As per the requirement

15.3 Planning Sector

To determine the competence of the amenities, the city is divided into 3 sectors considering the character of the area and the physical boundary of the wards. The following Table 15-2 and Map 15-1 show the area covered in each sector.

Table 15-2 Details of Planning Sectors

Sector No.	Ward No.	Village Name	Area (km)
1	1	Bhayandar	3.5
	6	Bhayandar	0.28
	7	Bhayandar	0.327
	8	Bhayandar	0.664
	23	Rai Murdhe - Murdhe & Part of Penkarpada	16.18
2	2	Khari	0.529
	3	Khari	0.42
	4	Khari	0.33
	5	Khari	0.31
	9	Goddev	0.58
	10	Goddev, Part of Navghar	0.83
	11	Part of Khari, Part of Navghar	1.027
	12	Goddev, Part of Navghar	1.2
	13	Ghodbunder	4.98
	15	Mira, Part of Mahajanwadi	1.09
	16	Penkarpada	1.55
	17	Part of Bhayandar, Mira & Penkarpada	0.61
	18	Part of Goddev	1.46
	19	Bhayandar	0.66
	20	Part of Bhayandar & Part of Penkarpada	0.49
21	Penkarpada	0.77	
22	Bhayandar	0.5	
3	14	Part of Mahajanwadi, Chene, Part of Mira, Kashi, Varsave	24.17

15.4 Computation and Provision of Amenities

After comparing the planning standards and norms mentioned in Table 15-1, the following planning standards are adopted for the Mira Bhayandar Municipal Corporation Development Plan. Points to be considered while framing planning standards for the city are mentioned below:

- Land available with Municipal Corporation and Government would be used to provide certain build amenities to avoid land acquisition costs.
- Optimize the use of reserved land through the provision of compatible amenities together.
- Public amenities provided by private players are also taken into consideration while designating land for such amenities.
- Most of the Sanctioned DP reservations are retained however those affected by CRZ have been deleted.
- During the implementation of previous DP reservations, the Accommodation Reservation policy has been widely used. This means that total land areas provided under such reservations get reduced during implementation.

Table 15-3 Planning Standards and Norms adopted for MBMC DP

Sr. No.	Category	Subcategory	Adopted Norm	
			Min unit/s Required	Area Required (m ² pp)
1	Education	Primary School	1/10,000	0.552
		Secondary School	1/10,000	0.552
		Higher Secondary	–	0.47
2	Health and Medical Facility	Dispensary	1/10,000	0.014
		Nursing home & maternity center	1/1,00,000	0.045
		General Hospital	1/5,00,000	0.360
3	Socio-Culture	Community Hall		2000
4	Civic	Cremation Ground	1/5,00,000	0.03
		Burial Ground		
		Cemetery		
5	Distribution Services	Petrol/ Diesel filling and Service Centre	As per the requirement	

		Compressed Natural Gas (CNG)/ filling centre		
6	Police, Civil Defense and Home Guards	Police Station	1/500000	0.01 sq.m. per person
		Police Chowki	1/100000	0.01 sq.m. per person
7	Safety Management	Fire Brigade Station	1/500000	0.05 sq.m. per person
8	Commercial	Municipal Market	1/100000	0.01 sq.m. per person
		Shopping Centre		
9	Open Spaces	Park/ Garden	1/100000	1 sq.m. per person
		Playground/ Sport Complex	1/5,00,001	2 sq.m. per person
		Multipurpose ground		3 Ha
10	Water Supply	ESR	As per the requirement	
		WTP (Water treatment plant)		
11	Sewerage Treatment	STP (Sewage Treatment Plant)	As per the requirement	
12	Solid Waste Management	Transfer Station	As per the requirement	
		Area for segregation of waste and parking of utility vehicles	Existing Site at Uttan	
		Solid Waste Treatment Site		
		Material recovery facility		
		Bio methanation facility	As per the requirement	
		Landfill sites	Existing Site at Uttan	

13	Transportation Planning	Bus Terminus (Private + Government)	As per the requirement
		Bus Depot	
		Truck Terminus	
		Parking space for parking buses, LMVs, IPTs, etc.	
		Water Terminus	
14	Power Supply	Electric Power Plant	As per the requirements
		Electric Substation	

15.5 Total Land Demand for Amenities

Planning Standards adopted above have been used to estimate the total land requirement for amenities for Mira Bhayandar for a population of 22,86,565. Land demand is estimated for amenities such as education, health, socio-cultural, and open spaces. The provision of physical infrastructure viz., water supply, sewerage, solid waste management, and power supply has not been established. The land for these facilities is provided as per the demands received from the respective departments. The total land demand for amenities is stated in Table 15-4.

Table 15-4 Total Land Demand for Amenities in Mira Bhayandar

Category	Subcategory	Per Capita Standard (m2pp)	Total Demand (Ha)
Education	Primary School	0.552	18.93
	Secondary School	0.552	18.93
	Higher Education	0.47	16.12
Health & Medical Facility	Dispensary	0.014	3.20
	Maternity Home	0.045	10.29
	General Hospital	0.36	82.32
Civic	Cremation Ground	0.03	6.86
	Burial Ground		6.86
	Cemetery		6.86

Safety Management	Fire Station	0.05	11.43
Commercial	Municipal Market	0.01	2.29
Open Spaces	Park/ garden	1	228.66
	Playground/ Sports Complex	2	457.31

15.6 Sector-wise Land Area Demand for Amenities

Sector-wise land demand for amenities is estimated based on adopted planning standards and a summary of it is mentioned in Table 15-5.

Table 15-5 Sector Wise Land Demand for Amenities in Mira Bhayandar

Category	Subcategory	Total Land Demand (Ha)		
		Sector I	Sector II	Sector III
Education	Primary School	3.83	14.24	0.87
	Secondary School	3.83	14.24	0.87
	Higher Education	3.26	12.12	0.74
Health & Medical Facility	Dispensary	0.60	2.24	0.14
	Maternity Home	0.97	3.61	0.22
	General Hospital	16.24	60.35	3.68
Civic	Cremation Ground	1.39	5.16	0.31
	Burial Ground	1.39	5.16	0.31
	Cemetery	1.39	5.16	0.31
Safety Management	Fire Station	2.31	1.72	0.10
Commercial	Municipal Market	0.46	1.72	2.09
Open Spaces	Park/ garden	46.26	171.93	10.47
	Playground/ Sports Complex	92.51	343.86	20.94

15.7 Demand Gap Analysis

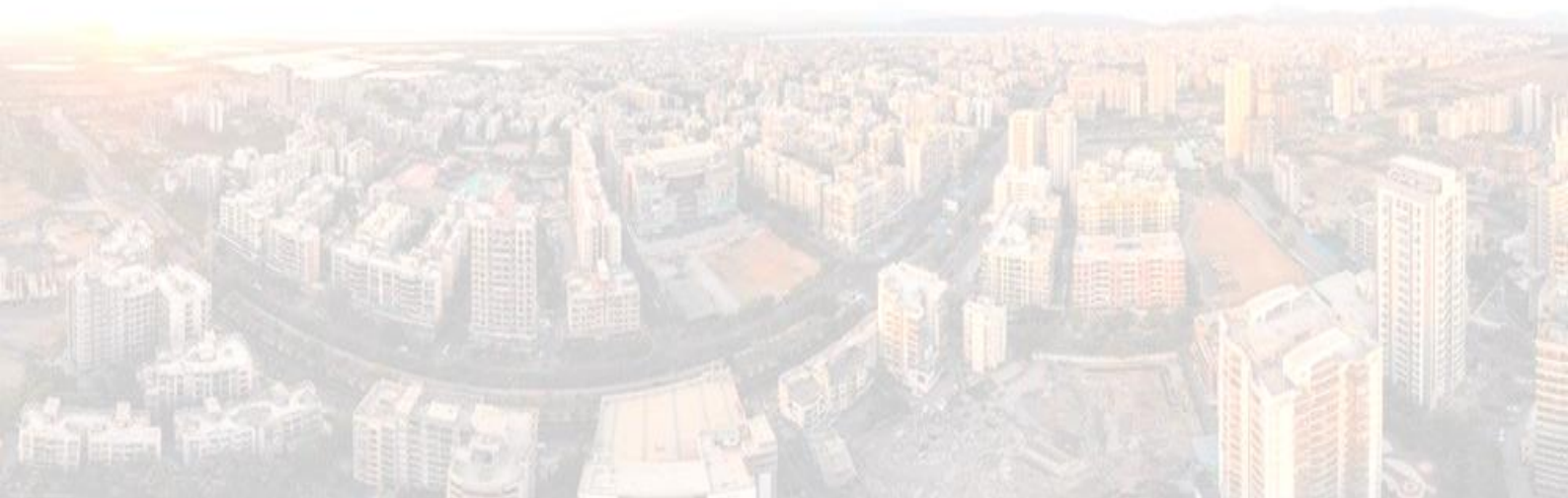
An assessment of the land requirement for amenities at the city level was conducted concerning land available with existing amenities. The amenity-wise land demand gap is mentioned in Table 15-6.

Table 15-6 Amenity-wise Demand Gap for Mira Bhayandar

Category	Subcategory	Total Land Demand (Ha)	Total Existing Amenity Land (Ha)	Land Demand Gap
Education	Primary School	18.93	4.07	14.86
	Secondary School	18.93	21.07	-2.14
	Higher Education	16.12	15.25	0.87
Health & Medical Facility	Dispensary	2.97	0.22	2.76
	Maternity Home	4.80	3.74	1.06
	General Hospital	80.26	1.33	78.93
Civic	Cremation Ground	6.86	0.28	6.58
	Burial Ground	6.86	2.15	4.71
	Cemetery	6.86	0.53	6.33
Safety Management	Fire Station	4.14	0.47	3.67
Commercial	Municipal Market	4.28	1.35	2.92
Open Spaces	Park/ garden	228.66	26.40	202.26
	Playground/ Sports			
	Complex	457.31	41.72	415.60

CHAPTER 16

VISION, GOALS, AND OBJECTIVES



16 VISION, GOALS, AND OBJECTIVES

16.1 Vision of the Development Plan

Envisaging the comprehensive development through conservation of the environment, provision of adequate infrastructure facilities, and boosting the economy through the tourism sector for sustainable development and better quality of life for the horizon year 2037.

16.2 Goals of the Development Plan

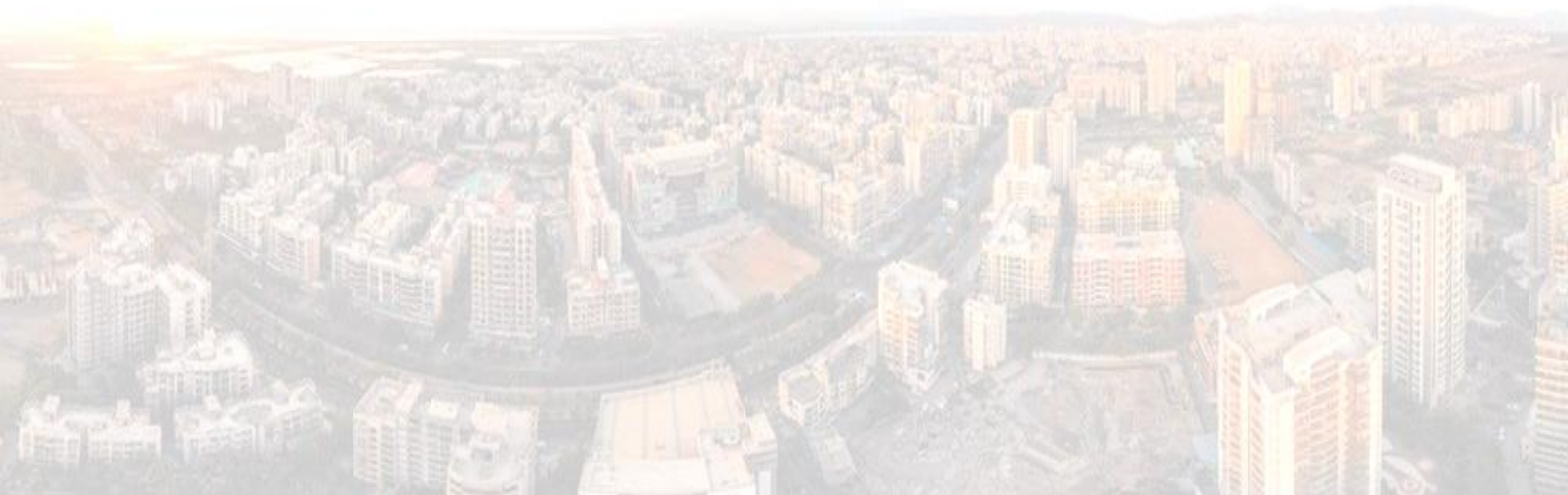
1. Attain equity through inclusiveness.
2. Improve the quality of life with an enhanced environment.
3. Enhance the intercity and intracity transportation network.
4. Generate economy through the tourism sector.
5. Implementation of DP using various tools.

16.3 Objectives of the Development Plan

1. To make provision for social and physical infrastructure by eliminating inequality.
2. To provide affordable housing for social inclusiveness.
3. To provide social amenities for specially-abled people to include them in the planning process.
4. To protect natural areas, mangroves, and salt pans.
5. To make significant additions to recreational spaces, and leisure parks.
6. To provide an efficient traffic-transportation network to improve connectivity.
7. To promote the use of Public Transport, NMT, and movements of pedestrians for sustainable development.
8. To make provision for the conservation of heritage structures.
9. To make the Development Plan implementation process more effective by using Accommodation Reservation, TDR, FSI, and PPP efficiently.

CHAPTER 17

LAND USE ZONING



17 LAND USE ZONING

Land use zoning is an urban planning tool to regulate the built environment and use of certain parcels of land. Zoning broke down land into multiple categories and allows certain uses in a specific zone. The Planning Area of Mira Bhayandar is considerably developed. Existing Land Use reveals 40.65% developed area. The land covered by natural areas, mangroves, and salt pans is 59.35%. Out of the total planning area, 10% comes under residential use, 1.05% under commercial use, 1.85% under industrial use, and 0.98% under recreational use.

The following mentioned zones are proposed in the Draft DP 2017-2037:

17.1 Residential Zone

The residential zone is generally proposed to accommodate the projected population for the horizon year 2037. The population density for the area is 927 persons per hectare. The horizontal expansion of Mira Bhayandar is not possible as it is land locked due to adjoining cities. Hence, Mira Bhayandar will expand in vertical direction and due to the proposed Metro line and Water terminal projects TOD will take place and it will be possible to achieve such density in the city. The urban area is always under pressure from development. If these lands are not allocated for development legally, it led to unauthorized development. The residential zone is predominately for residential use but other compatible commercial uses are also permissible in this zone. This encourages the mixed-use character of the city. In total 1512.42 Ha of land is reserved for residential purposes, which is 23.34% of the total area.

17.2 Commercial Zone

This zone will have predominant commercial use with offices, retail, and service areas. In the city where commercial activities are predominant, such areas have been shown as a commercial zone in this Draft DP. Other than this, sites reserved for Municipal Market and Shopping Centre are considered under the commercial zone. The total commercial area is 18.25 Ha which constitutes 0.28 % of the total area.

17.3 Industrial Zone

The predominant activity in this zone is the manufacturing industry. In the Draft DP, 108.67 Ha of land is shown as an industrial zone which includes M.I.D.C., and small-scale household industries.

17.4 Public Semi-Public Zone and Public Utilities

The lands which are predominately being used for public semi-public activities like education institutes, health facilities, government offices, community halls, and fire brigade stations are shown in a public semi-public zone. The sites reserved for the same in the Draft DP are also shown in a public semi-public zone. The total area under Public Semi-Public and Public Utilities is 117.39 Ha which is 1.81% of the total area.

17.5 Recreational Zone

The lands which are predominately used for recreation and leisure such as a park, playground, garden, stadium, and sports complex are shown in the recreational zone. The reservations for the same are also considered under this zone in the Draft DP. This zone constitutes 1.88 % of the total area which is 121.88 Ha.

17.6 No Development Zone

In this zone ecologically and environmentally sensitive areas such as land that comes under Sanjay Gandhi National Park, Mangroves, Salt Pan, CRZ I, and natural water courses like a river, nalla, and lake are considered. They are a major part of the city's ecology. These areas need to be protected from the built-in environment. The total area occupied by this zone is 3762.34 Ha which constitutes 58.07 % of the total area.

17.7 Transportation

The lands come under the existing and proposed road network, railway line, bus depot, truck terminal, and parking are included under this zone. The total area that falls under transportation is 587.48 Ha, which is 9.07 % of the total area.

Table 17-1 Proposed Land Use for Mira Bhayandar Municipal Corporation Area

Zone	Area (Ha)	% Of Total Area
Residential Zone	1512.42	23.34
Industrial Zone	108.67	1.68
Recreational Zone	121.88	1.88
PSP& PU	117.39	1.81
Commercial Utilities	18.25	0.28
Transportation	587.48	9.07
NDZ	3762.34	58.07
Waterbody	250.60	3.87
Total	6479	100

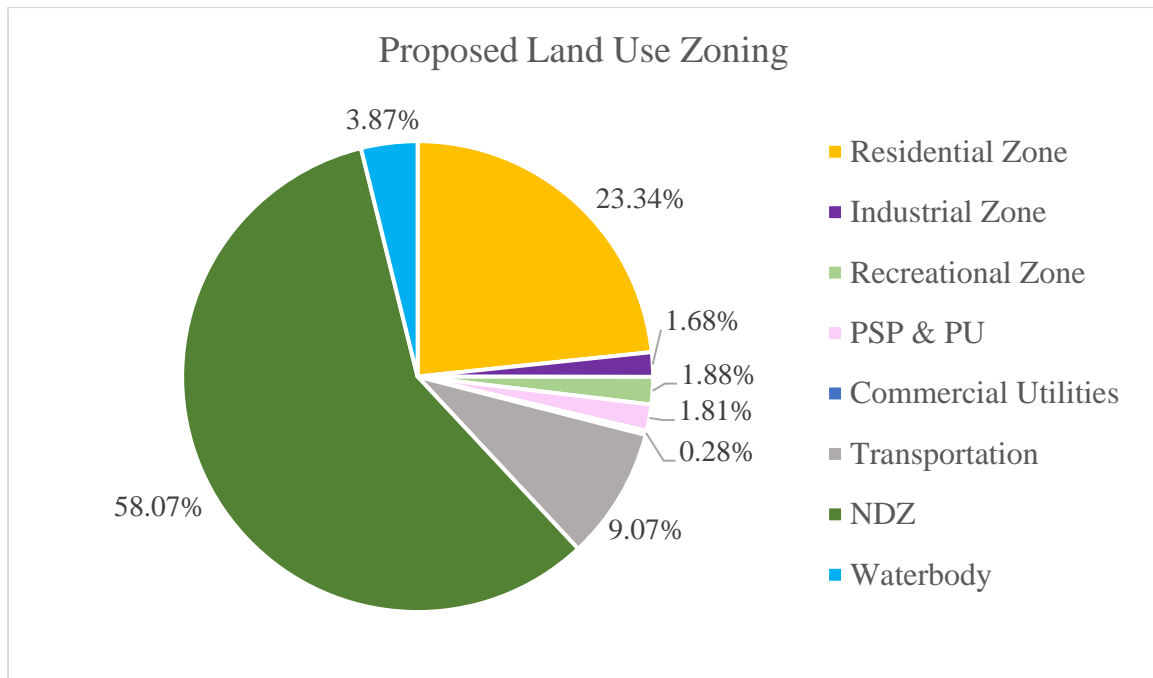
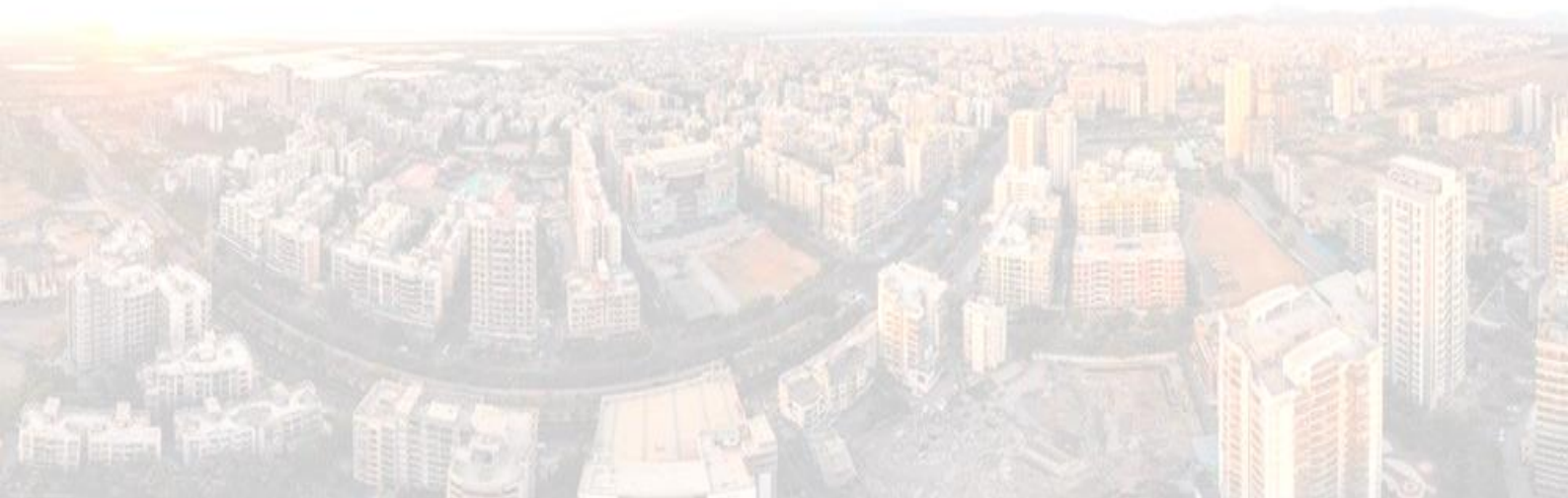


Figure 17-1 Proposed Land Use Zoning

CHAPTER 18

UTILITIES AND SERVICES



18 UTILITIES AND SERVICES

18.1 Water Supply

Ulhas river is the main source of water for Mira Bhayandar. Another 125 MLD treated water is received from MIDC and the source of water for the same is also the Ulhas River. A total of 211 MLD water is supplied to MBMC in the present context. In addition, the work of developing the Surya Regional Water Supply Scheme of 403 MLD capacity is undertaken to provide water supply to Mira-Bhayandar Municipal Corporation (MBMC) and Vasai Virar City Municipal Corporation (VVCMC).

- **Elevated Storage Reservoir (ESR):**

The elevated storage reservoir also known as the Overhead Tank is used if the topography of the city is not suitable for distribution of water supply by gravity. ESR is required in distribution areas that are not overseen and controlled by the gravity system of distribution. These can be circular, rectangular, or elliptical. Considering the future demand 18 new water works sites are proposed in this Draft Revised Development Plan having a total area of 2.63 Ha.

18.2 Disposal Of Urban Waste

At present, the waste disposal site is located 6 km away from the city at Uttan. All the waste generated and collected from primary and secondary waste sources is directly dumped at this dumping site since 2005. A sanitary landfill site has been proposed by MBMC at Uttan. It is still under construction and will be available for use in March 2023. The area of the open Dump Landfill Site is 30 Ha, and the capacity of the same is 37000 cu.m. No new site has been proposed in the Draft DP as this site is sufficient for the disposal of an urban waste considering the population of 2037.

CHAPTER 19
EDUCATION, HEALTH, AND
SOCIAL AMENITIES



19 EDUCATION, HEALTH, AND SOCIAL AMENITIES

19.1 Introduction

A Development Plan additionally targets developing surroundings to allow the citizens to experience the preferred standard of living conditions further to making sure the orderly improvement of a city through prescribing the land use zoning and transportation network in addition to the provision of appropriate development control. Hence, it is important to take note of the existing level of social infrastructure and to propose the required facilities as per the future population and growth of the city. A large number of amenities are listed in the MR&TP Act, of 1966 also the minimum essential standards for various social amenities are laid down by the Government in terms of the number or area of sites required for the probable population of the city that could be provided in the DP. They comprise education, health, open spaces, recreational facilities, culture, etc.

19.2 Education

The current land provision as per ELU for all levels of educational amenities in the City are 0.35 sq. m per person. The Draft DP proposes to recommend 0.552 m² pp for primary and secondary education each and 0.47 m² pp for higher education. This takes the total educational standard to 1.574 m² pp. There are, however, other compatible educational functions that are also required to be factored in.

Considering the population projection and the growth of the city, reservations are proposed for educational amenities in the Draft DP. The list of permissible educational amenities which can be developed on these reservations is listed in Table 19.1. The amenities can be decided as per the requirement in the particular neighbourhood.

The following is the list of reservations under Educational Amenities.

Table 19-1 Sub-categories Permissible Under Education Amenities Reservation

Sr. No.	Educational Amenities Reservations
1.	Municipal School
2.	Primary and Secondary School
3.	Special School
4.	Higher Education
5.	Other Education
6.	Urban Planning Institute
7.	Medical Institute

8.	Finance Institute
9.	Other Institute

Analysing the ELU and the census data, provision for 342985 students needs to be made. In the Development Plan, a total of 43 reservations are proposed for the educational amenities. Hence, the total land provision for the same is 27.55 Ha. The reservation details are given in the Annexure IX. If more sites are essential in the newly opened-up area for development, a requirement can be met through the regulation of amenity space.

19.2.1 Multiple Use of Educational Space

Other than primary and secondary education, other compatible educational functions are required to be factored in. Space has been a major constraint for these. It is possible, however, if the primary users are not functional then the primary, secondary, and higher secondary space can be shared. Education for vocational classes, differently abled children, training classes, teachers' training, information dissemination, and dance classes could all find a place so that the educational space is completely utilized and no educational function suffers from lack of space.

19.3 Health

The current land provision as per ELU 2022 for all levels of health amenities in the City is 4.8 Ha. The average per capita space across Mira Bhayandar is 0.06 m² per person, but the standard is not evenly achieved in all the parts of the city. Looking at the importance of health care, a space standard of 0.419 m² per person has been proposed in the Draft DP for all levels of health care needs.

Considering the gap between the required and the existing health amenities and the growth of the city, reservations are proposed for health amenities in the Draft DP. The list of permissible health amenities which can be developed on these reservations is listed in Table 19-2. As per the requirement in the particular neighbourhood amenity can be developed.

The following is the list of reservations for Health amenities.

Table 19-2 Sub-Categories Permissible Under Health Amenities

Sr. No.	Health Amenities Reservations
1.	Municipal Dispensary
2.	Hospital
3.	Municipal Maternity Home

4.	Rehabilitation Centre
5.	Veterinary Hospital

In the Development Plan, a total of 18 reservations are proposed considering the standard area requirements for the health amenities. Hence, the total land provision for the same is 7.15 Ha.

19.3.1 Multiple Use of Health Space

It is both a possibility and a necessity to have multiple uses of health space to optimize the use of such space. This is possible only when the primary user is not functional. The needs of the primary user shall not be displaced and other than the primary user would only come into play after the needs of the primary amenity are comprehensively satisfied.

19.4 Other Social Amenities

- 1) **Fire Brigade Station:** There are 5 existing fire stations in the city. Considering the future demand based on the proposed population and in consultation with the head of the concerned department of the corporation, a total of 7 sites having a total area of 1.21Ha, are proposed for fire brigade stations. Their reservations are listed in Annexure IX.
- 2) **Municipal Market:** The organized commercial place is necessary for the activities like a vegetable market, petty shop, shopping center, hawkers place, etc. Hence, 16 reservations of Municipal Market and 1 fish market, and 10 shopping centers are proposed including those retained from the sanctioned plan and are listed in Annexure IX. Hence, the total land provision for the same is 13.37 Ha.
- 3) **Cremation Ground / Burial Ground / Cemetery:** At present, 16 sites exist for cremation/burial ground/cemetery. Based on the necessity for the proposed population, a total of 14 sites are proposed in the Draft Revised Development Plan. As per the space standards, the total land provision for the same is 7.40Ha. These reservations are listed in Annexure IX.
- 4) **Slaughter House:** At present, there is no slaughterhouse present in the city. 1 site is proposed considering the demand. These reservations are listed in Annexure. Hence, the total land provision for the same is 1.68 Ha.

- 5) **Community Center:** At present, there are 24 community centers are present. Considering the future need, 8 sites are reserved for community centers. These reservations are listed in Annexure. A space standard of 0.419 m² per person has been proposed in the Draft DP. Hence, Hence, the total land provided for the community center is 3.79Ha.
- 6) **School for Specially-Abled People:** People who have different capabilities than the average person is known as ‘specially-abled’. Among the multiple sets of citizens, specially-abled people sometimes require to be taught differently with additional help and care. This group has been considered in the Development Plan and 1 reservation for the school for specially-abled people is proposed having an area of 0.45 Ha.

19.5 Shelter-Based Social Amenities

1) Working Women Hostel and Day Care Center:

Women require particular consideration among the multiple sets of citizens. For a city, providing equality of opportunity to women is not simply a matter of social justice. It is also a question of empowerment, national development, and the city’s economic salutary.

One reservation is proposed in the DP as a combined reservation for the working women's hostel and day-care center for children. This residential provision for working women will be on a rental basis comprising single and double rooms, dormitories, etc. It will also have a guest house for women who travel to the city for work. The day-care center for children is combined with this hostel for complete utilization of space as well as a safe place for the children. Hence, considering the standards and future requirements plot sizes of 1.55 Ha. have been proposed in the DP to be located in areas where commercial, office establishments, and/or institutions of higher learning exist or are proposed.

2) Old Age Home:

The Draft DP proposes Old Age Homes in Navghar, preferably near hospitals and gardens. 0.35 Ha area is reserved under this reservation.

3) Housing for Dishoused:

Reservation of housing for dishoused is provided for the persons affected by the projects of the Government. 6 number sites are proposed for this reservation. Hence, the total area reserved for housing for dishoused is 17 Ha.

4) Night Shelter:

Considering the future requirement 1-night shelter with a site area of 0.16 Ha is proposed in this Draft Revised Development Plan. These are dormitory-style accommodations for homeless people at night.

5) Shelter for Project Affected Person

One reservation site with an area of 2.02 Ha is proposed for the project-affected Persons.

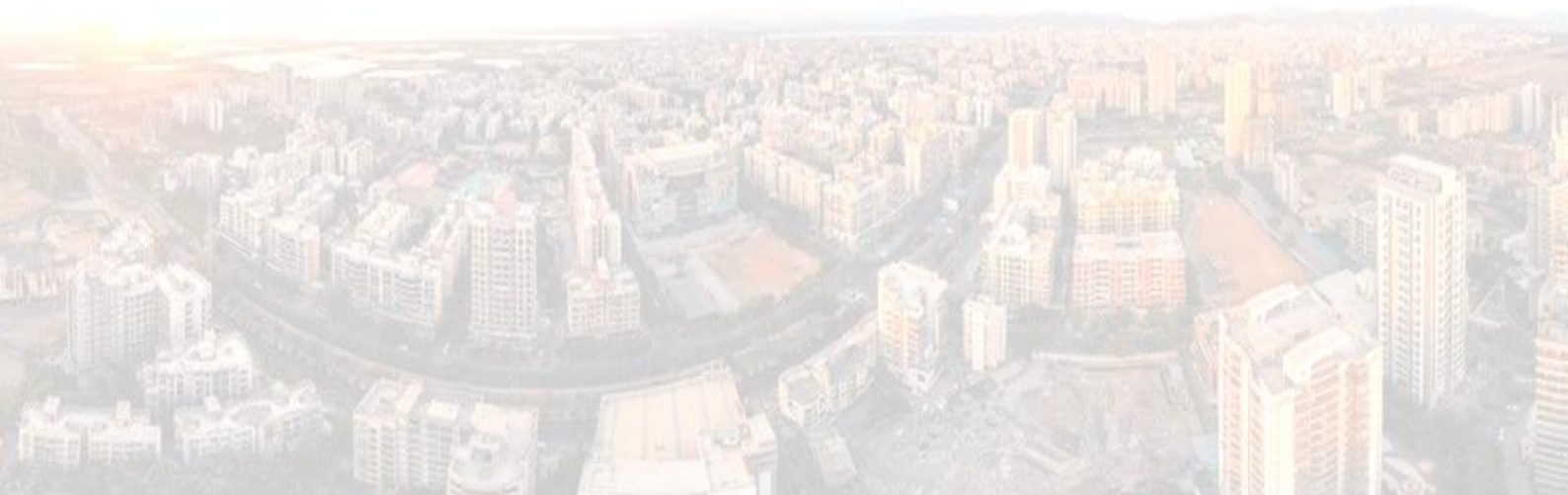
6) Housing for EWS/LIG

One reservation site with an area of 3.01 Ha is proposed for the housing for EWS/LIG.

7) Urban Renewal Scheme

6 reservation sites with an area of 18.71 Ha is proposed for URS.

CHAPTER 20
PUBLIC OPEN SPACES,
RECREATION & LEISURE
AMENITIES



20 PUBLIC OPEN SPACES, RECREATION & LEISURE AMENITIES

20.1 Introduction

POS plays important role in a city. They play a critical role by imposing the balance between built and open environment and serve the purpose of lungs in the city. They allow a decent quality of life for citizens. POS allows space and opportunities for interaction which helps to promote the growth of human qualities such as knowledge, friendship, and sharing joy and sorrow. These spaces are beneficial for public health as they provide safe play areas for children and safe walking for the elderly. They also allow public activities, such as awareness campaigns.

It is essential to offer sufficient opportunities for leisure and recreation so that friends, families, and groups of citizens can spend time together by taking time out from study and work that would provide time for bonding and enjoyment.

20.1.1 Open Spaces (OS) that are considered Public Open Spaces (POS)

Public Open Spaces (POS) can be described as open spaces (OS) which have universally applicable rights to access and restrictions if any. The local community spaces accessible to all members of the local community, such as residents of a housing society are also considered Public Open Spaces. So are swimming pools, and gymkhanas that are available free or on a membership basis. However, in the DP they are treated as Public Open Spaces as a sizable number of people enjoy such spaces.

20.1.2 Open Spaces (OS) that are not considered Public Open Spaces (POS)

All the lands zoned as Natural Areas counted in the realm of Open Spaces. Though, if these spaces are not accessible by a sizeable number of people, they are not considered POS. Also, open spaces that are exclusive to the family, such as private bungalows are known as private open spaces, and not POS.

20.2 Public Open Spaces, Recreational and Leisure Amenities

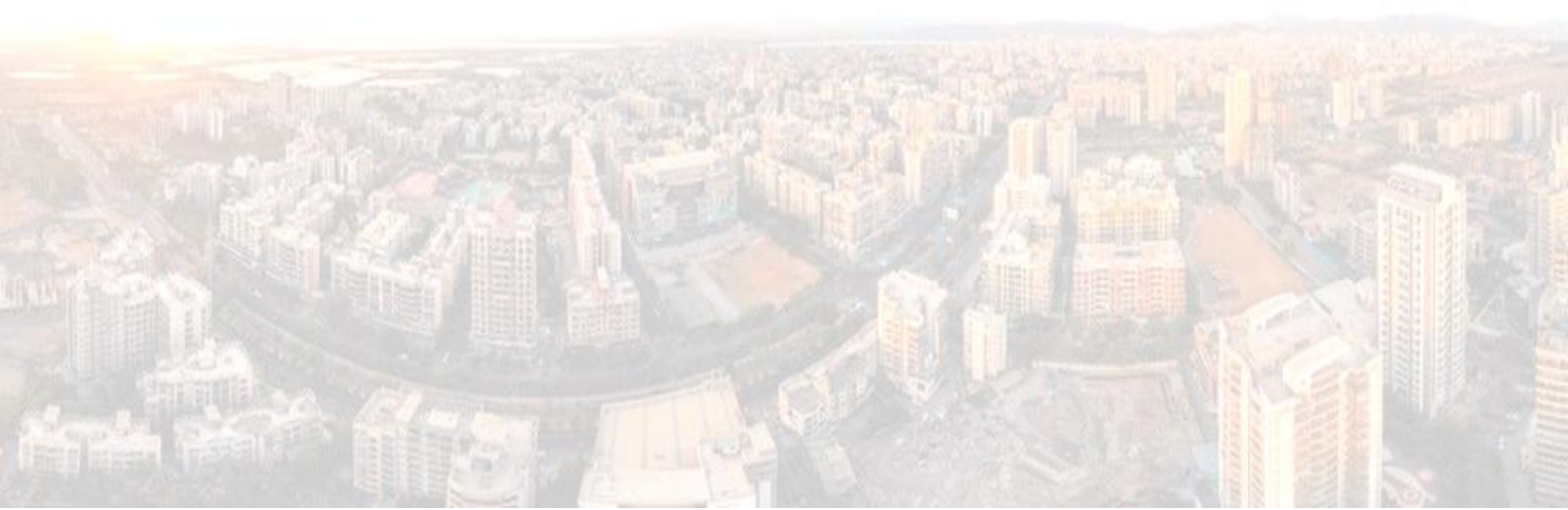
- 1) **Garden:** Considering the projected population for the year 2037 and the existing gardens, new 50 garden sites are proposed in the Development Plan. The total area under gardens is 41.32 Ha.

- 2) **Park:** For the population of 2037 total of 3 sites are proposed in the DP for parks with a total area of 19.46 Ha as per the requirement.
- 3) **Playground:** For physical as well as mental growth or to challenge the youthful energy in the rightful direction playgrounds are important. For the population projection of 2037, new 19 sites for playgrounds are proposed considering existing playgrounds in the city. The total area under playgrounds is 28.42Ha.
- 4) **Sports Complex:** As per the future population requirement, one sports complex is proposed in the city having an area of 11.16 Ha. It will provide the resources with the people need to exercise year-round.
- 5) **Stadium:** Stadiums are hubs where sports along with friendship are challenged. Stadiums can drive urban development, and adopt to the culture of each era. One stadium is proposed in the Draft DP considering the requirement in 2037. The total site area proposed for the stadium is 16.75 Ha.
- 6) **Auditorium:** At present, there is 1 Auditorium/ Natya Griha / Town hall present in the city. As per the future growth of the city, 2 new sites with a total area of 2.75 Ha are proposed for the auditorium.
- 7) **Exhibition Center:** Currently 1 place is there in the city which is used for exhibitions. However, suitable places are necessary for exhibitions or assemblies or fair-like activities as these activities are important. Hence, 1 site with a total area of 4.7 Ha is proposed considering the future population in the Draft DP.
- 8) **Spiritual Center:** One spiritual center of 3.05Ha area proposed in the Draft DP.
- 9) **Planetarium and Aquarium:** The planetarium impresses us with the infinity, majesty, regularity, and wonder of the universe and inspires us to explore many other areas of research. The planetarium and aquarium will relieve one from the stress of everyday life. One site is reserved for the planetarium as one of the recreational amenities having an area of 0.6 Ha.

- 10) **Mangrove Park:** Five mangrove parks are proposed having area of 110.60 Ha. The unique ecosystem of mangroves not only provides protection and food for many birds and marine life. This will act as a leisure space for people as well as it will help to protect the environment.
- 11) **Picnic Spot near Ghodbunder Fort:** Government has proposed the restoration project of Ghodbunder Fort named 'Shiv-Srushti'. This would contribute to the celebration of the heritage-built form and its architectural significance. Also, the historical significance and provision of cultural space will become a tourist destination and picnic spot in Mira Bhayandar. The area of the picnic spot proposed near the fort is 0.65 Ha.

CHAPTER 21

TRANSPORTATION



21 TRANSPORTATION

21.1 Introduction

Urban transportation means the movement of people and goods from one place to another within an urban area. It is necessary to provide better mobility and sustainability by focusing on people movement rather than vehicular movement. At present, there is a need to focus on the provision of adequate infrastructure for the mobility of people through means such as low-carbon non-motorized transport. In the case of Mira Bhayandar city, the modal share of a private vehicle is high as compared to public transport. Hence, transportation is among the city's topmost challenges. Therefore, several initiatives are proposed in the Draft DP concerning transportation.

21.2 Road Network

The spatial allocation of physical area for the transportation network is necessary to maximize the movement of people in the shortest time. This will indirectly increase economic efficiency and reduce the impact on the environment. The Revised Draft Revised Development Plan has proposed a road network to establish regional connectivity, intra-city connectivity, new roads, and not developed or partly developed roads from the earlier Development Plan.

21.2.1 Road for Regional and Intra State Connectivity

Two roads proposed in the Regional Plan of MMR are passing through Mira Bhayandar city. These roads will enhance the regional and intra-state connectivity of the city to the surrounding area.

- Coastal Road
- Mumbai-Vadodara Expressway

The external-to-external traffic originating from Gujrat and going towards Pune, Nashik, and Konkan has only one access point which is Ghodbunder Road, resulting in the issue of traffic jams. To reduce this traffic new coastal road is proposed in the Draft Revised Development Plan along the Vasai Creek which will connect to the coastal road connecting Mumbai to Vasai proposed in the Regional Plan of MMR. The traffic originating from Mumbai and Thane city, going towards Palghar and Gujrat will be diverted through the proposed coastal road in the Draft Revised Development Plan without hampering the internal traffic pattern of Mira Bhayandar city. This will improve intercity and inter-state connectivity.

The alignment of existing DP roads is followed by MMRDA for the proposed Mumbai – Vadodara Expressway. It will relieve vehicular traffic on the Western Expressway. The alignment of these roads has been marked on DP and it may change due to unseen facts coming into light during the operation period. It would accordingly amend the DP without any further process.

21.2.2 Proposed DP Road of Earlier Sanctioned DP

Some of the proposed DP roads of earlier sanctioned DP 1996 have not been developed to date. They are important in terms of providing continuous road connectivity in the city. Hence those roads have been shown as a proposed DP road. Earlier sanctioned DP roads which partly developed are shown as existing roads with widening as per the width of the previous DP road.

21.2.3 New DP Roads

New DP roads have been proposed in the Draft DP in the Rai-Murdhe and Kashi areas. The residential zone is allocated for the mentioned areas in the Draft DP hence new road network is proposed for better connectivity and integrated development. Table 21-1 is showing all roads that exist and are proposed in Mira Bhayandar city.

Table 21-1 Summary of DP Roads

Sr. No.	Road Network	Area (Ha)
1	Existing Road	269.32
2	Proposed Road	104.03
3	Proposed Road Widening	101.38
4	Total Proposed Road	205.41
Total Road		474.73

21.2.4 East West Connectivity across Railway Line

Currently, there is only one rail over the bridge connecting eastern Mira Bhayandar to the west. The Draft DP has proposed linkage across the railway line to connect east-west connectivity near Mira Road station. This will release the burden of traffic on the existing east-west link.

It is expected that the proposed road network will improve connectivity and reduce the traffic congestion problem of the city. These proposed roads should be equipped with cycle tracks and pedestrian footpath facilities for a sustainable transport network.

21.3 Public Transport

The construction of more roads, road widening, and extensive road networks only cause traffic congestion issues rather than eliminating them. Hence provision of effective and efficient public transportation is important for the sustainable growth of the city. Many types of public transportation options are emerged such as Mass Rapid Transport Systems and BRTS.

21.3.1 Metro Network

Mira Bhayandar shall be benefitted from the Metro lines proposed by MMRDA and railway connectivity to the surrounding area. A Metro network of about 33.3 km has been proposed for the horizon year 2031. The six metro stations are proposed on a 10.3 km long metro line. The Metro car shade for metro line 9 is proposed at Rai-Murdhe. Details of Metro rail routes are given in Table 21-2.

Table 21-2 Proposed Metro Rail Routes in Mira Bhayandar

Sr. No.	Metro Line	Route	Length (km)	Status
1	Line 9	Dahisar (E) - Mira Bhayandar	10.3	UC
2	Line 13	Shivaji Chowk (Mira Road) – Virar	23	DPR

21.3.2 Local Train Connectivity

The western railway line is passing through Mira Bhayandar city with two stations at Bhayandar and Mira Road. All the locals from Mumbai to Virar and some through trains on the Western railway line halt at Bhayandar railway station and Mira Road station. In the city, most people commute by local trains on daily basis. This releases a load of traffic on the existing road network.

21.3.3 Public Bus Transport

The City Corporation has its public bus transport named Mira Bhayandar Municipal Transport (MBMT). It provides service in the city and suburbs of the Mumbai region. MBMT act as a feeder system for people who have their destination in Mumbai or for the people who come to Mira Bhayandar city.

21.4 Parking

The vehicle population in large cities of India is continuously increasing, causing parking problems. These problems are not seemed to disappear in soon. Hence off-street parking has been proposed in the Draft DP. According to the requirements for the horizon year 2037, 23

sites are reserved in the Draft DP. These sites are mainly located along major roads, near marketplaces, and public spaces. The traffic of trucks and trailers are passing through Ghodbunder road, Western Expressway and in future will pass through the proposed Coastal Road, Mumbai-Vadodara Expressway. Hence interstate bus terminals (ISBT) and truck terminals are proposed along these roads. The locations of proposed parking sites are shown in DP sheets.

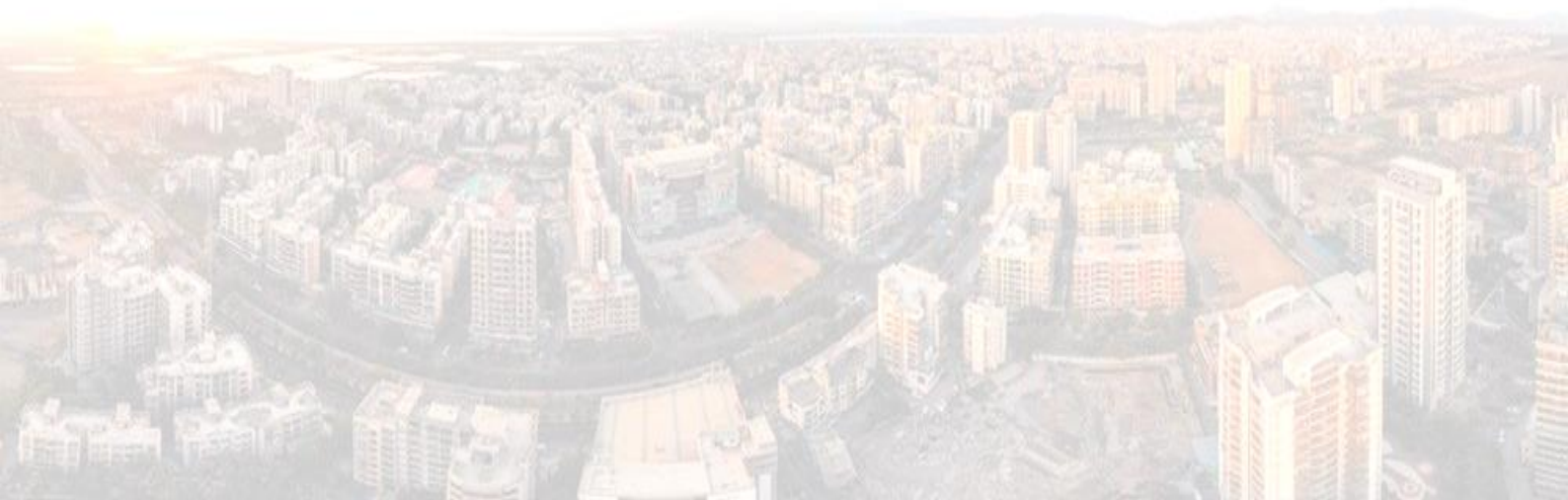
21.5 Waterway Transport

Water transport is the cheapest and the oldest mode of transport, which operates on a natural track and hence does not require huge capital investment in the construction and maintenance of its track except in the case of canals. The cost of operation of water transport is also very less. The Maharashtra Maritime Board (MMB), operates various ferry services all over the state. The waterway mode in the Mumbai region is developed fractionally compared to the potential. Considering the development potential of waterways in Mumbai Metropolitan Region (MMR) area, TMC has initiated to development of about a 50 km waterway between Vasai to Kalyan. Out of ten proposed water transport terminals on this route two terminals are proposed at Mira Bhayandar and Ghodbunder area. In the Draft Revised Development Plan the area of the Mira Bhayandar Terminal proposed is 0.7 Ha and 2 Ha of the area is proposed for the Ghodbunder terminal. It would help to reduce travel time and encourage an environment-friendly commute. These terminals will provide employment and boost the economy of the city.

21.6 Cycle Track

Cycle track is a way or a part of a roadway designed and constructed for the use of pedal bicycles and over which a right of way exists. The minimum width of an underpass for two lane cycle tracks would be 2.5m as per IRC: II-1962. For 30 m and above Development Plan Road MBMC should provide cycle track of 2,5m width. It would help to promote fit India movement which is aimed to popularize the culture of sports and fitness in the MBMC area. Thus, we promote pollution free road of transport, healthy and eco-friendly activity.

CHAPTER 22
STRATEGY FOR
IMPLEMENTATION



22 STRATEGY FOR IMPLEMENTATION

22.1 Background & Overview

The First-Generation Development Plan of Mira Bhayandar Municipal Corporation, in a true sense, is not the first greenfield plan as it incorporates Municipal Council area and surrounding villages. The said first-generation plan came into effect from 14/05/1997 vide Government Notification No. TPS.1296/847/CR-162/96/UD-12 dtd; 14th May 1997. While the intention to prepare this plan was declared on 24th January 1986. The process of mapping and DP preparation started on 19th December 1988. This first-generation DP of MBMC spread over the area of 79.40 Sq.km. by encompassing parts while the DP area of 32 sq. km. of the council with an addition of 47.40 sq. km. area of 10 adjoining villages.

Thereby the performance or success in the implementation of this first-generation DP shall be evaluated accordingly. The mapping on the GIS platform for second-generation DP excluding six villages of tourism SPA was started on 1st August 2021 and the base map prepared on the GIS platform which was used for preparing ELU Map ultimately submitted on 4th January 2022. Thus, the implementation success of the first-generation DP of MBMC analysed derived and computed by 11th March 2022 actually, spans 24 years and 10 months.

Accordingly, the success in the implementation of this first-generation DP has been given in Table 22-1.

Table 22-1 Implementation Status of First-Generation DP

Sr. No.	The Broad Area Zoning	The Area in Ha.	The Developed Area	Percentage of Development (Implementation)
[A]	Developable Area:			
1.	Development Plan Sites (Designated Sites)	432.49	43.97	10
2.	Development Plan Roads	412.92	162.13	39
3.	Residential Zone	1192	659	55
4.	Commercial Zone	15	2	14
5.	Industrial Zone	159	102	64
	TOTAL (A)	2214	969.1	44

[B]	Non-Developable Area			
1.	Water Bodies	282	282	100
2.	No Development Zone	3884	3411	88
	TOTAL [B]	4166	3693	89
	The total of DP [A] + [B]	6479	4662	72

22.2 The Assessment of Implementation

The implementation success has to be evaluated and assessed critically based on the facts and figures in the perspective of the dominating facts of that horizon of implementation. This horizon of 1997 to 2017, though was the legal horizon for validity, it has to be stretched backwards from 1986 to 1997 As the actual process of preparing the first generation, DP of MBMC started in the year 1991.

This horizon has been dominated by the following facts:

1. Last Decade of the 20th Century and the first two decades of the 21st Century.
2. Industrialization reached its peak with the almost extinction of the primary sector-bearing fishery.
3. The emergence of the tertiary sector started with spilling over industrial policy and phenomenon.
4. The strikes and major incidences in the labour movement were taken as an excuse for rapid industrialization.
5. The inexperienced local authorities are not backed up with pro-development policies and sufficient resources.
6. This lack of resources compiled with the vision will widen the gap between demand and supply.
7. The wide gap in the demand-supply field with the enormous rate of urbanization and unaffordability of living spaces in Mumbai has put tremendous pressure which ultimately gave rise to unauthorized development and encroachments.
8. The administrative and bureaucratic unaccountability coupled with the inclination towards taking up non-plan projects and initiatives (Not envisaged in the DP or VISION) pushed back or side tracked the much-needed planning proposals of DP.

9. The multiplicity of authorities such as local authority, forest, environment, revenue, railways, highways, Mary time Board, etc; resulted in non-action on violations compiled either with political pressure or vested interest.

These are some of the genuine facts which needed to be taken into account while doing the critical assessment of the implementation of the first-generation DP, which ultimately will help to devise an effective strategy for the implementation of this second-generation DP – 2037.

22.3 The strategy for Implementation:

The 21st-century city's Metro and towns need not solely depend on the conventional tools used for the implementation and the conventional practices followed for the same. The city mayors, administrators, democratically elected authorities, and appropriate statutory authorities should explore many more innovative and path-breaking tools with pro-poor, Pro Public, Pro-environment, and pro City reforms for effective and efficient implementation of DP in the most transparent manner. Therefore, the strategy for implementation can broadly be classified into the following three categories which can be undertaken either independently, simultaneously, or in combination.

22.3.1 The Conventional Approach

This conventional approach encourages acquisition the of land under DP sites, and DP roads by way of acquisition and by way of acquiring the said lands from government departments and in lieu of TDR/DR from the private land owners and developing such sites with own funds & grants from the government.

This is the conventional approach for which the powers under MMC Act; 1949 and MR&TP Act 1966 are vested with the Local and Planning Authority.

This is also a very effective approach if timely resources are made available and the targets with accountability are assigned to the various statutory Authorities of the Local Body.

22.3.2 The Pro-Development Approach

This pro-development approach needed to use all the means & tools given in the UDCPR-2022 which is very pro-development and reformative.

The various provision and regulations incorporated in the UDCPR-2022 encourage private participation in the implementation either by incentivizing the landowners in the form of FSI or in the form of sharing the land meant to be kept reserved for the public purpose.

In addition to reserved sites and DP roads other provisions like the layout scheme on land parcels more the 20 Ha. In the green and agricultural zone, various redevelopment schemes like SRA, MHADA, and Cluster are very reformative which not only gives the tool for the implementation of virgin / Greenfield areas but also allows redefining the city and achieving the major planning intervention by undertaking the Urban renewal and redevelopment projects on the large and integrated manner with active private participation.

This again will prove a very effective tool provided the pro-development committed approach of the authority compiled with the accountability measures.

22.3.3 The Reformative Approach

This is the need of the time to identify judiciously the Public Private Partnership (PPP) tools for utilizing it for effective implementation of the Development Plan proposals. This tool in its various forms, permutations, and combinations and by adopting the Viability Gap Funding (VGF) model not only can be used for developing social amenities in the sector of education, health, entertainment, sports, art & literature, and environment but also in the sectors of basic infrastructure & physical infrastructures like traffic & transports, water supply, sewerage, Solid waste, power and Non-Conventional Energy (NCE).

The significance of this model is not only restricted to developing the infrastructure but also the expertise of the resourceful time tested stakeholders can be brought in for the operational efficiency of the concession period or some other model for sustainable results.

The Government of India through the Department of Economic Affairs (DEA) has very meticulously evolved various PPP models, their suitability in various sectors, transaction advisory global impanelled agencies available for structuring the projects, and their successful financial closure. This is available for all local bodies (ULB) and the planning authorities.

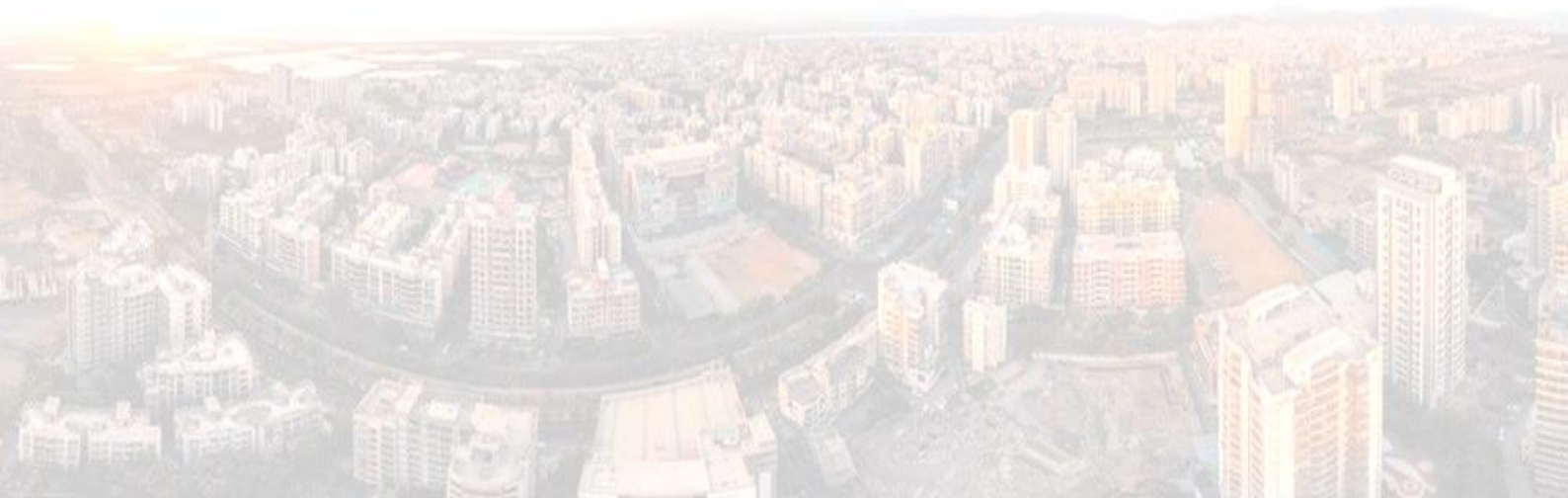
22.3.4 The Timeline Mandate

The major three approaches & models suggested for implementation of the Development Plan 2037 should be customized concerning the individual planning proposals so that a defined timeline can be prepared with the dynamism of flexibility to adjust the same against the time. This time-scale implementation plan with strategy should be adopted with the approval of the competent authority so that it will be legally binding on the statutory authority working in MBMC with the implementation time-scale mandate. This will be welcomed by the authority as it will eliminate discretion and will promote to implementation of pre-decided proposals

against the time skill which ultimately safeguards & incentives the personnel & authority by bringing transparency and accountability.

CHAPTER 23

FINANCE



23 FINANCE

The Draft Revised Development Plan is prepared for the horizon year containing land use zoning proposals for the projected population 22,86,565 for the said year. The plan period is 2017-2037.

The implementation of Development Plan proposals particularly reserved sites and proposed roads, has been the issue of more concern all local bodies, years together. It is seen that, most of the time, implementation of the Development Plan proposals had been beyond the capacity of the local bodies and is disproportionate to the income of the local bodies. Similar situation is in the case of Mira Bhayandar Municipal Corporation. This aspect is well taken care of in this Development Plan and proposals made for the same will lead to remarkable, satisfactory, and better implementation of the Development Plan. The analysis in this case is described in the following paragraphs.

The main three components which constitute implementation of Developments Plan.

1. Zoning
2. Road Network
3. Sites for Social Amenities and Public Utilities

Much of the land can be obtained through approval of layout in residential zone but the land under proposed roads is to be acquired. The main problem is for the acquisition of land under sites reserved for social amenities and public utilities. There are four ways for land acquisition.

1. Through Urban Renewal Scheme,
2. In lieu of Transferable Development Rights,
3. Development of reservation through Accommodation Reservation Principle,
4. Through Town Planning Scheme,
5. Acquisition through Monetary Compensation
6. Reservation Credit Certificate (RCC)

As there are limited financial resources, the tools at sr.no. 3 and 4 need to be more effective and profitable. The implementation success will mainly depend upon these two tools.

23.1 Cost of Development Plan Proposals

The cost required for the various proposals of Development Plan has been worked out in Annexure IX. The cost calculations are done on the basis of the rates given in the Annual Statement of Rates of Registration department. The approximate cost of land acquisition of all the sites for implementing the Development Plan works out to be Rs. 8146 crores. Whereas the cost required for the development / construction envisaged in these areas is Rs.5652 crores. Hence, approximately the total cost of acquisition and development of the sites, to the planning authority will be around Rs. 13798 Crores. The approximate land acquisition and construction cost of roads and other relate work will be around Rs. 781 crores. The total cost of the plan, will be around Rs. 14580 crores.

23.2 Implementation Through Urban Renewal Scheme

Government of Maharashtra introduced cluster development in the year 2009 and further incorporated in the 'Maharashtra UDCPR 2020' as 'Urban Renewal Scheme' for planning and collective development of large areas at least 10,000 sq. m. in non-congested area and 4,000 sq. m. in congested areas, instead of redeveloping single buildings on small plots. The main aim of the scheme to redress a complex urban problem such as unsanitary, deficient or obsolete housing, inadequate sanitation, inadequate transportation, other deficient services and facilities, traffic congestion and haphazard land use.

Most of the Mira Bhayandar's old and dilapidated buildings were built during the previous Gram Panchayat and Municipal council regimes and already have a FSI of over 4. Hence, redevelopment is not feasible in those areas under the existing development laws. Hence, this tool will be efficient for the redevelopment of unauthorized and dilapidated houses.

23.3 Implementation Through Transferable Development Rights

Transferable Development Rights (TDR) is a compensation in the form of Floor Space Index (FSI) Development Rights which shall entitle the owner for construction of built-up area subject to provisions in the regulation. TDR is a tool which can be used for acquisition and development of the reserved sites and roads. The TDR awarded for implementing the Development Plan varies according to the potential of the zone from where it is generated. Besides, highest award of TDR shall be awarded as per UDCPR regulations.

TDR can also be awarded for acquisition of old structures affected during acquisition of road land or reserved sites and for development / construction of amenity.

The total acquisition through this tool is expected 40%.

Reservation		
Cost of acquisition to be waived	40% of 8146 Crores	= Rs. 3258.40 Crores
Cost of development / construction to be waived	20% of 5652 Crores	= Rs. 1130.42 Crores
Roads		
Cost of acquisition to be waived	50% of 781 Crores	= Rs. 390.75 Crores
Total Cost to be waived by this tool		= Rs. 4779.58 Crores

23.4 Implementation Through Accommodation Reservation Concept

The accommodation reservation concept envisages development of certain percentage of the reserve and turning it over to the planning authority in lieu of the FSI, while the remaining land is reserved for the owner for permitted use in adjacent zones.

The cost of plan to be waived by this tool will be as below:

Cost of acquisition to be waived	25% of 8146 Crores	= Rs. 2036.50 Crores
Cost of development / construction to be waived	25% of 5652 Crores	= Rs. 1413.02 Crores
Total Cost to be waived by this tool		= Rs. 3449.53 Crores

23.5 Implementation Through Town Planning Schemes

In the M.R.& T.P. Act, 1966, the provisions of town planning schemes have been amended recently which will enable the execution of scheme smoothly and efficiently. The newly opened area in can be developed using this tool.

The cost of plan to be waived by this tool will be as below:

Reservation		
Cost of acquisition to be waived	10% of 8146 Crores	= Rs. 814.6 Crores
Cost of development/ Construction to be waived	-	-
Roads		
Cost of acquisition to be waived	10% of 781 Crores	=Rs. 78.15 Crores
Total Cost to be waived by this tool		=Rs. 892.75 Crores

23.6 Implementation Through Monetary Compensation

Under The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 the reserved land can be acquired by paying monetary compensation or by compulsory land acquisition. Under this tool 25 % land can be acquired under this tool.

Reservation		
Cost of acquisition to be waived	25% of 8146 Crores	= Rs. 2036.50 Crores
Cost of development/ Construction to be waived	55% of 5652 Crores	= Rs. 3108.66 Crores
Roads		
Cost of acquisition to be waived	40% of 781 Crores	= Rs. 312.6 Crores
Total Cost to be waived by this tool		= Rs. 5457.76 Crores

23.7 Programming

A phased program for implementation of reservations in the Development Plan for the various civic amenities is mentioned in Annexure XI. This program is prepared after taking into consideration necessity of various amenities and possible availability of funds to meet the

expenditure. The Municipal Commissioner shall be at liberty to vary this list as an when exigency arises.

23.8 Conclusion

Mira Bhayandar is one of the most important and fastest growing cities in Maharashtra. The development potential of Mira Bhayandar city is certainly very high. This Development Plan has many new provisions, which will give impetus to the development and steer the development in proper way. Not only the provisions but also the implementation of the plan is of utmost importance. This Development Plan gives ways and means to implement it in a realistic way.

ANNEXURE



Annexure I - Census Ward wise Demographic Characteristics

Ward Number	TOT_P	P_06	P_SC	P_ST	P_LIT	P_ILL	TOT_WORK_P	MAINWORK_P	MARGWORK_P
Ward No. 1	11317	1566	123	72	7583	3734	5999	5894	105
Ward No. 2	8958	966	207	26	6766	2192	4544	4182	362
Ward No. 3	6973	576	128	31	6014	959	2530	2437	93
Ward No. 4	7449	651	177	10	6322	1127	2710	2579	131
Ward No. 5	6161	619	443	33	5030	1131	2396	2199	197
Ward No. 6	8836	949	421	23	7128	1708	3771	3073	698
Ward No. 7	8810	967	649	68	7255	1555	3155	2903	252
Ward No. 8	7963	772	384	34	6753	1210	2896	2751	145
Ward No. 9	7187	742	299	14	5980	1207	2864	2548	316
Ward No. 10	5981	570	264	42	4991	990	2235	2055	180
Ward No. 11	11300	1283	828	98	9018	2282	4479	4242	237
Ward No. 12	10248	1075	762	48	8216	2032	4466	4208	258
Ward No. 13	11156	1152	786	186	9247	1909	4527	3966	561
Ward No. 14	5786	545	323	42	4743	1043	2147	1941	206
Ward No. 15	6845	630	203	44	5769	1076	2573	2383	190
Ward No. 16	6524	644	414	51	5413	1111	2336	2131	205

Ward No. 17	5510	568	212	30	4576	934	2051	1862	189
Ward No.18	4879	464	55	9	4009	870	2155	1968	187
Ward No. 19	5883	587	233	71	4912	971	2243	2042	201
Ward No. 20	7940	703	75	21	6786	1154	2984	2805	179
Ward No. 21	6520	580	56	0	5606	914	2326	2277	49
Ward No. 22	5953	540	20	20	5125	828	2029	1929	100
Ward No. 23	8222	676	52	12	7269	953	2925	2737	188
Ward No. 24	7109	604	19	4	6240	869	2408	2342	66
Ward No. 25	6930	633	237	26	5975	955	2426	2272	154
Ward No. 26	7372	858	548	161	5357	2015	2955	2713	242
Ward No. 27	10889	1460	517	93	7683	3206	4892	4397	495
Ward No. 28	10947	1350	624	44	8230	2717	4266	3914	352
Ward No. 29	7140	786	170	236	5290	1850	2647	2331	316
Ward No. 30	7373	826	126	133	5339	2034	3923	3218	705
Ward No. 31	5975	707	13	110	4593	1382	2743	2339	404
Ward No. 32	6817	710	64	124	5256	1561	3210	2637	573
Ward No. 33	6843	944	715	104	4439	2404	3237	2562	675
Ward No. 34	13782	1350	153	105	11753	2029	5187	4955	232

Ward No. 35	17804	1734	238	79	15462	2342	6455	5791	664
Ward No. 36	10759	913	1217	249	9365	1394	4175	3850	325
Ward No. 37	6940	631	147	74	5814	1126	2506	2048	458
Ward No. 38	6443	635	45	10	5491	952	2351	2287	64
Ward No. 39	6206	536	52	65	5400	806	2170	2004	166
Ward No. 40	7029	688	95	114	5621	1408	2620	2229	391
Ward No. 41	4956	461	160	55	4088	868	1979	1802	177
Ward No. 42	4542	453	106	26	3773	769	1843	1576	267
Ward No. 43	5328	529	232	39	4462	866	2005	1792	213
Ward No. 44	6035	578	613	168	4989	1046	2296	2069	227
Ward No. 45	11117	1185	1227	214	9141	1976	4174	3899	275
Ward No. 46	12993	1339	571	120	10619	2374	5213	4953	260
Ward No. 47	4983	491	130	34	4094	889	1835	1683	152
Ward No. 48	7347	672	205	68	6223	1124	2648	2229	419
Ward No. 49	7628	802	175	45	6196	1432	2843	2646	197
Ward No. 50	12456	1495	11	37	9795	2661	4528	3757	771
Ward No. 51	62828	7526	2865	824	51269	11559	24599	22028	2571
Ward No. 52	16794	2073	81	81	13548	3246	5944	4876	1068

Ward No. 53	10173	1289	1	0	8046	2127	3081	2724	357
Ward No. 54	18950	2406	187	481	15268	3682	6195	5496	699
Ward No. 55	11868	1197	292	175	9822	2046	4923	4205	718
Ward No. 56	7426	821	4	2	6154	1272	2613	2334	279
Ward No. 57	9695	1289	12	14	7801	1894	2885	2699	186
Ward No. 58	10667	1235	124	115	8877	1790	4076	3182	894
Ward No. 59	5760	466	249	169	5089	671	2545	1826	719
Ward No. 60	10858	1008	213	190	9186	1672	4024	3658	366
Ward No. 61	43677	5256	2175	932	34779	8898	18033	15759	2274
Ward No. 62	11839	1199	221	60	10008	1831	4745	3760	985
Ward No. 63	11143	1056	207	965	9191	1952	5022	4095	927
Ward No. 64	5856	561	176	61	5021	835	2542	2106	436
Ward No. 65	6523	606	107	23	5560	963	2224	2060	164
Ward No. 66	6643	587	183	184	5665	978	2966	2452	514
Ward No. 67	13863	1388	203	91	11706	2157	5772	4914	858
Ward No. 68	14849	1492	261	95	12479	2370	6062	5168	894
Ward No. 69	7215	603	33	15	6264	951	2875	2424	451
Ward No. 70	16987	1727	431	141	14517	2470	6798	6313	485

Ward No. 71	20430	2091	622	172	17132	3298	7755	7306	449
Ward No. 72	14585	1750	784	210	11573	3012	5076	4765	311
Ward No. 73	7042	880	143	143	5163	1879	2577	2165	412
Ward No. 74	7526	1081	1719	1935	5005	2521	2806	2276	530
Ward No. 75	16498	2199	621	1081	12308	4190	6514	5362	1152
Ward No. 76	8907	1297	1091	215	5741	3166	3333	3089	244
Ward No. 77	8827	1022	442	307	6978	1849	3468	2952	516
Ward No. 78	10494	1240	615	141	8324	2170	4295	3835	460
Ward No. 79	11311	1475	657	252	8620	2691	4739	4439	300
Total	809378	88015	30243	12596	656293	153085	316363	281675	34688

Annexure II - Details of Slum in Mira Bhayandar

Sr. No.	Name of the Slum	Final Plot	Surveyor No./CTS No./New/old	Land Ownership	Slum Number	Slum Population
1	Murdha Gulf Bhayandar (W)	23	New-123 (Old-278), Bhayandar	Government	1600	4800
2	Rewa Agar Bhayandar (W)	23	New-123 (Old-278), Bhayandar	Government	1500	4500
3	Rai Shivaneri Bhayandar (W)	23	New-111 (Old-36) Rai-Murdhe	Government	1200	3600
4	Indira Kothar, Bhayandar (W)	7	New-11 (Old-36) New-13 (Old-40), Bhayandar	Private	350	1050
5	Lal Bahadur Shastrinnagar (Uttan) Bhayandar (W)	23	New-25 (Uttan)	Government	750	2250
6	Ambedkar Nagar, Gandhinagar, Bholanagar Bhayandar (W)	23	New-223 (Old-778), New-230 (Old-757), New 232 (Old-776) Bhayandar	Government	3050	6100
7	Neharunagar, Lal Bhahadu Shastri nagar (W)	1	New-311 (Old-724) Bhayandar	Government	1950	5850
8	Motinagar, Bhayandar (W)	1	New-368 (Old-3) Bhayandar	Private	300	900
9	Ganeshnagar Deval Nagar, Bhayandar	1	New-342 (Old-722), New-378 (Old-764) Bhayandar	Government	3100	3300

10	Anna Nagar, Bhayandar (W)	1	New-371 (Old-2), New-370 (Old-722) Bhayandar	Government	134	264
11	Jay Ambenagar 1, Bhayandar (W)	1	New-378 (Old-784) Bhayandar	Government	800	100
12	Jay Ambenagar 2, Bhayandar (W)	1	New-338 (Old-754) Bhayandar	Government	800	100
13	Adarsh Indira Nagar Bhayandar (E)	12	New-81 (Old-200), New-50 (Old-194) Bhayandar	Private	1500	1700
14	Pantekdi Bhayandar (E)	12	New-198 (Old-215, New-197 (Old-217) Bhayandar	Private	95	295
15	Bandarwadi Bhayandar (E)	12	New-12 (Old-150), Bhayandar	Government	165	365
16	Gaondevi Nagar Bhayandar (E)	12	New-8 (Old-92), New-10 (Old-20) Bhayandar	Private	205	405
17	Azad Nagar (Golden Nest) Bhayandar (E)	10	New-97 (Old-52) New-96 (Old-348), New-15 (Old-344), New-16 (Old-343), New-92 (Old-346), New 93 (Old-347) Bhayandar	Private	1200	1400
18	Gaondevi Nagar No.1 Miraroad (E)	21	New-137 (Old-511)	Private	600	800
19	Pandurangwadi Miraroad (E)	15	New-49 (Old-127), New-74 (Old-238)	Private	500	700
20	Gujrati Chaal penkarpada Miraroad (E)	16	New-3 (Old-259)	Government / Private	1050	1250
21	Raykarwadi Miraroad (E)	15	New-3 (Old-259A), Old-112	Private	300	500

22	Mahajanwadi (Miragaonthan)	14	New-9 (Old-79), New-10 (Old-78) New-11 (Old-76)	Government	2500	2700
23	Munshi Compound Miraroad (E)	15	New-86 (Old-29), New-28 (Old-31), New-127 (Old-30), New-12 (Old-28)	Private	1400	1600
24	Kamlesh Nagar Miraroad (E)	14	New-85 (Old-29), New-84 (Old-66)	Private	300	500
25	Jaynagar Kashigaon Miraroad (E)	14	New-94 (Old-95)	Private	200	400
26	Jantanagar Kashigaon Miraroad (E)	14	New-94 (Old-95)	Government	1300	1500
27	Kashichurch Kashmiri Naka Miraroad (E)	13	New-78 (Old-92B), new-77	Government	500	700
28	Mandvi Pada Kashigaon Miraroad (E)	14	New-75, New-79, New-74, New-73	Private	1200	1400
29	Mashacha Pada Kashigaon Miraroad (E)	14	New-55,56,96,60	Private	1300	1500
30	Minakshinagar Padab Kashigaon Miraroad (E)	14	New-161, New-162, New-160	Private	1090	1290
31	Dachakulpada Kashigaon Miraroad (E)	14	New-215, New-199, New-185, New-180, New-178, New-177	Private	800	1000
32	Modern company (Ghodbunder Village Miraroad (E)	13	New-55, New-56, New-96, New-60	Private	850	1050

33	Sainath Seva Nagar (Ghodbunder Village Miraroad (E))	13	New-13, New-9	Private	300	500
34	Kajupada Miraroad (E)	14	New-40 Gaothan	Private	150	350
35	Chena Velankani Pada Miraroad (E)	14	New-104, New-105 Gaothan	Private	150	3350
36	Chena Pathil Pada Miraroad (E)	14	New-102 Gaothan	Private	80	280

Annexure III - Details of Existing Education Facilities

Sr. No.	Ward Number	Name of School	Year of Establishment	Management	Class From	Class To	School Type	No. of Students		No. of Students	Playground area
								Male	Female		
1	1	Adarsh V.M.P.S, Rai	1992	Private	1	4	Pri. School	107	111	218	Yes
2	1	Adarsh Vidyamadir Rai	1985	Private	5	10	Sec. School	286	309	595	Yes
3	1	Chowk Mar School No 11	1963	Government	1	7	Pri. School	20	18	38	Yes
4	1	D.P.P.S.No.12, Bhayandar	1947	Government	1	4	Pri. School	5	9	14	No
5	1	M.M.U.P.S.No.24, Bhayandar	1947	Government	1	7	Pri. School	87	81	168	Yes
6	1	M.K.G.P.S.No.23, Bhayandar	1988	Government	1	3	Pri. School	8	9	17	No
7	1	Murdha Mar Sch No 22.	1947	Government	1	7	Pri. School	86	108	194	Yes
8	1	R.J.U.P.S.No.26, Bhayandar	1980	Government	1	5	Pri. School	13	22	35	Yes
9	1	R.M.U.P.S.No.25, Bhayandar	1910	Government	1	7	Pri. School	59	62	121	No
10	1	Sant Josef Mar Pri Sch	1946	Private	1	4	Pri. School	130	118	248	Yes
11	1	St. Josef S.H.S., Uttan	1946	Private	5	12	Sec /H. School	597	587	1184	Yes

12	1	Uttan Mar School No 1	1871	Government	1	3	Pri. School	8	5	13	No
13	1	Uttan Urdru School No 2	1961	Government	1	7	Pri. School	43	42	85	No
14	1	Belan Muli. M.P.S., Dongari	1946	Private	1	4	Pri. School	9	8	17	Yes
15	1	Amach Ghar School	2000	Private	1	12	Sec /H. School	289	246	535	Yes
16	1	Royal Eng School Uttan	2000	Private	1	7	Pri. School	665	495	1160	Yes
17	1	Murdha Hindi No. 33	2008	Government	1	7	Pri. School	79	101	180	Yes
18	1	Roseneil High English School Bya West	2012	Private	8	10	Sec School	53	41	94	No
19	1	St Vincent De Paul High Eng Bya West	2004	Private	8	10	Sec School	69	38	107	No
20	1	The Don Bosco School, Shiv Sena G Bha (West)	2004	Private	1	7	Pri. School	231	164	395	Yes
21	1	Royal English School & Jr. College	2000	Private	8	12	Sec /H. School	337	266	603	Yes
22	1	Royal Eng Secondary Sch. Bhayandar(E)	1996	Private	8	10	Sec School	4	0	4	No
23	1	K S Mahetha College School	2005	Private	11	12	College	75	33	108	Yes

24	1	St. Andrew Pri. Eng S Uttan	2006	Private	1	10	Sec. School	189	190	379	Yes
25	1	Reena Mehta High Sch & College Bha West	2001	Private	8	12	Sec /H. School	391	180	571	Yes
26	1	Holy Cross High School Bhayandar West	2006	Private	8	10	Sec. School	151	103	254	Yes
27	1	Ram Ratna Vidyamandir	1997	Private	5	12	Sec /H. School	230	35	265	Yes
28	1	Ram Ratna International School	2011	Private	1	7	Pri. School	158	85	299	Yes
29	1	Ram Ratna International Sec. School	2011	Private	8	10	Sec. School	34	18	52	Yes
30	1	Adarsh Vidyamandir Rai English	2007	Private	1	7	Pri. School	104	103	207	Yes
31	1	New Royal English School	2012	Private	1	12	Sec /H. School	451	334	785	Yes
32	1	Global International Primary School	2009	Private	1	8	Pri. School	49	37	86	Yes
33	2	B.G.No.17U.P.S., Bhayandar	1929	Government	1	7	Pri. School	35	59	94	Yes
34	2	B.H.No.18U.P.S., Bhayandar	1957	Government	1	7	Pri. School	349	428	777	Yes
35	2	B.M.No.16U.P.S., Bhayandar	1868	Government	1	7	Pri. School	66	87	153	Yes

36	2	Bhayandar Secondary M.S. Sec., Bhayandar	1959	Private	5	10	Sec. School	924	939	1863	Yes
37	2	Bhayandar Secondary P.S., Bhayandar	1991	Private	1	4	Pri. School	321	305	863	Yes
38	2	Bishop U.P.E.S., Bhayandar West	1982	Private	1	7	Pri. School	544	460	1311	Yes
39	2	Bishop Sec. School	1982	Private	8	10	Sec. School	162	124	286	Yes
40	2	Carmalit Canvant U.P.E.S., Bhayandar	1995	Private	1	7	Pri. School	135	107	270	No
41	2	Disalva U.P.E.S., Bhayandar	1986	Private	1	7	Pri. School	215	176	391	No
42	2	Disalva S.E.S., Bhayandar	1992	Private	8	10	Sec School	101	94	195	No
43	2	J.H.P.P.E.S., Bhayandar	1990	Private	1	4	Pri. School	206	155	361	Yes
44	2	J.H. Potdar Sec School Eng	1993	Private	5	10	Sec. School	355	219	574	Yes
45	2	J.H.P.P.G.S., Bhayandar	1990	Private	1	4	Pri. School	0	0	0	No
46	2	J.H.P.S.G.S., Bhayandar	1983	Private	5	12	Sec. School	364	410	774	Yes
47	2	J.H.P.P.H.S., Bhayandar	1989	Private	1	4	Pri. School	16	26	42	Yes
48	2	Rosenile Pri. Eng School	2002	Private	1	7	Pri. School	128	101	255	No

49	2	Manjul Vidya Mandir U P Hindi	1990	Private	1	7	Pri. School	5	3	8	No
50	2	Myrtles. U.P.E.S., Bhayandar	1983	Private	1	7	Pri. School	175	126	301	Yes
51	2	Mount Marry. P.E.S., Bhayandar	1983	Private	1	7	Pri. School	141	171	312	Yes
52	2	Mount Merry Sec. School	1998	Private	8	10	Sec. School	66	37	103	Yes
53	2	Nirmala Niketan Pri. Eng School	1999	Private	1	7	Pri. School	288	237	525	Yes
54	2	Nirmala. N.U.P.E.S., Bhayandar	1998	Private	8	10	Sec. School	82	62	144	Yes
55	2	O.L.O.N.U.P.E.S., Bhayandar	1969	Private	1	7	Pri. School	1450	1176	2626	Yes
56	2	Hour Lady of Nazreth Sec Sch	1925	Private	8	12	Sec /H. School	599	583	1182	Yes
57	2	O.L.O.V.P.E.S., Bhayandar	1994	Private	1	4	Pri. School	358	247	605	Yes
58	2	Hour Lady of Velankani Sec Sch	1994	Private	5	12	Sec /H. School	349	220	569	Yes
59	2	Rubina Acad. P.E.S., Bhayandar	1990	Private	1	7	Pri. School	218	198	416	Yes
60	2	Carmelite Convent English School	1995	Private	8	10	Sec School	66	34	100	No
61	2	St. X.U.P.E.S., Bhayandar	1987	Private	1	7	Pri. School	330	232	562	No
62	2	St. Zeviyar Sec School	1987	Private	8	10	Sec School	231	150	381	No

63	2	St Vincent De Paul.U.P.E.S., Bhayandar	2004	Private	1	7	Pri. School	119	115	298	No
64	2	Subodh Vidyalay.U.P.M.S., Bhayandar	1997	Private	1	7	Pri. School	40	50	104	Yes
65	2	T.D.B.U.P.E.S., Bhayandar	1997	Private	1	7	Pri. School	339	297	636	Yes
66	2	The Bosko Sec School	2000	Private	8	10	Sec School	310	248	558	No
67	2	The Carneshan Eng School	1997	Private	1	7	Pri. School	46	41	101	Yes
68	2	Matrals Sec. High school	1983	Private	8	10	Sec. School	89	52	141	Yes
69	2	Manjul Vidya Mandir Sec Hindi	2003	Private	8	10	Sec. School	4	0	4	Yes
70	2	Bhayandar Hindi Sch No.30	2006	Government	1	7	Pri. School	264	317	581	Yes
71	2	Bhayandar Urdu Sch No.31	2006	Government	1	8	Pri. School	71	87	158	Yes
72	2	Holy Cross Pri. School Bha West	2004	Private	1	7	Pri. School	252	168	420	Yes
73	2	Gracious Eng Sch. Bya East	2004	Private	1	8	Pri. School	6	12	18	No
74	2	S.L. Porwal Pri. Sch	2006	Private	1	7	Pri. School	749	669	1633	Yes
75	2	S.L. Porwal Sec Sch	2006	Private	8	10	Sec. School	304	275	579	Yes

76	2	Holy Angels. E . Pri.	2002	Private	1	7	Pri. School	270	220	605	Yes
77	2	Holy Anngel E. Sec.	2002	Private	8	10	Sec. School	109	122	231	Yes
78	2	St. Josephs English High School, Uttan	2006	Private	1	10	Sec. School	770	656	1426	Yes
79	2	Subodh Vidyalay Sec Marathi Bhy West	1997	Private	8	10	Sec. School	41	35	76	Yes
80	2	Lalit Vidya Niketan Bha East	2000	Private	1	4	Pri. School	13	10	23	Yes
81	2	Sankar Narayan Juniar College Bha East	1999	Private	11	12	College	1358	1385	2743	Yes
82	2	St Aloysius English Pri. School Bhayandar East	2001	Private	1	7	Pri. School	874	787	1661	Yes
83	2	St Aloysius English Sec. School Bhayandar East	2002	Private	8	10	Sec. School	325	251	576	Yes
84	2	S B S Memorial High School (English)	2006	Private	8	10	Sec School	11	12	23	No
85	2	S B S Memorial High School (Hindi)	2006	Private	8	10	Sec School	11	12	23	No
86	2	Mother Teresa High School Primary	2002	Private	1	7	Pri. School	126	98	294	Yes
87	2	Narmada Memorial High School	2003	Private	1	7	Pri. School	78	64	142	Yes

88	2	Mother Marys Jr College	1998	Private	11	12	College	408	346	754	Yes
89	2	Narayana Etechno School Bha West	2016	Private	1	8	Pri. School	410	312	773	Yes
90	2	Grukul High School Bha West	2005	Private	1	8	Pri. School	207	165	372	Yes
91	2	Vidyasagar International Sec. School Bha East	2011	Private	8	10	Sec. School	54	65	119	Yes
92	2	Nine Planets Pre-Primary English School	2013	Private	1	8	Pri. School	20	17	37	Yes
93	2	M S Creative School	2018	Private	9	10	Sec. School	11	11	22	Yes
94	2	Almuminah School	2011	Private	1	7	Pri. School	0	147	147	Yes
95	2	Rbk International School	2016	Private	1	10	Sec. School	206	158	459	Yes
96	2	Borderr High School	2017	Private	1	5	Pri. School	16	13	29	No
97	2	Tapovan Vidyalay	2013	Private	9	10	Sec. School	30	29	59	Yes
98	3	A.V.M.P.E.S., Bhayandar	1978	Private	1	4	Pri. School	174	125	299	Yes
99	3	A.V.M.S.E.S., Bhayandar	1982	Private	5	10	Sec. School	404	256	660	Yes
100	3	A.V.M.P.G.S., Bhayandar	1987	Private	1	4	Pri. School	0	0	0	Yes

101	3	A.V.M.U.P.H.S., Bhayandar	1987	Private	1	7	Pri. School	215	243	458	Yes
102	3	Abhinav V Mandir Hindi Pri Sch	1991	Private	8	10	Sec. School	138	153	291	Yes
103	3	A.V.M.P.M.S., Bhayandar	1976	Private	1	4	Pri. School	57	63	120	Yes
104	3	A.V.M.S.M.S., Bhayandar	1972	Private	5	12	Sec /H. School	1693	1408	3101	Yes
105	3	Adarsh Vidiya Niketani.P.E.S., Bhayandar	2000	Private	1	7	Pri. School	53	38	91	No
106	3	A.J.V.M.U.P.E.S., Bhayandar	1983	Private	1	7	Pri. School	55	53	123	No
107	3	Amar Jyoti V Mandir Sec School	1983	Private	8	10	Sec School	34	23	57	No
108	3	A.J.V.M.U.P.H.S., Bhayandar	1983	Private	1	7	Pri. School	138	189	327	No
109	3	Amar Jyoti V Mandir Sec School	1983	Private	8	10		77	117	194	No
110	3	Bhartiy Vidya.U.P.H.S., Bhayandar	1989	Private	1	7	Pri. School	90	120	237	Yes
111	3	Bhartiy Vidya Sec Hindi School	1992	Private	8	10	Sec. School	47	62	109	Yes
112	3	Blossom.U.P.E.S., Bhayandar East	1998	Private	1	7	Pri. School	481	394	1154	No
113	3	B.M.U.P.S.No.15, Bhayandar	1969	Government	1	7	Pri. School	25	25	50	No

114	3	Mother Teresa High School	2005	Private	8	12	Sec /H. School	71	62	133	Yes
115	3	Dive Drop.U.P.E.S., Bhayandar	1992	Private	1	7	Pri. School	30	41	71	No
116	3	Dive Drop.U.P.H.S., Bhayandar	1993	Private	1	7	Pri. School	95	70	206	Yes
117	3	Divine Hymn English High School	1992	Private	8	10	Sec School	31	12	43	No
118	3	Divhain Him Guj Sec School	1996	Private	8	10	Sec School	10	8	18	No
119	3	Blosam Sec Eng School	1998	Private	8	12	Sec /H. School	275	206	481	No
120	3	Divain Him Eng School	1992	Private	1	7	Pri. School	59	36	95	No
121	3	Divaien. Him. U.P.H.S., Bhayandar	1986	Private	1	7	Pri. School	59	78	137	No
122	3	Divaien Him Hindi High School	1992	Private	8	12	Sec/H. School	44	71	115	No
123	3	Don Bosco Public.U.P.E.S., Bha East	2000	Private	1	7	Pri. School	268	218	486	Yes
124	3	Father. Josef. U.P.E.S., Bhayandar	2000	Private	1	7	Pri. School	784	634	1418	Yes
125	3	Father Joseph Sec Eng School	2000	Private	8	10	Sec. School	487	394	881	Yes
126	3	G.M.S.No.8 U.P.S., Bhayandar	1961	Government	1	7	Pri. School	91	81	267	Yes

127	3	Holy Cross Pri. Eng Sch	1985	Private	1	7	Pri. School	148	98	289	Yes
128	3	Holy Cross High School	1986	Private	8	10	Sec. School	50	34	84	Yes
129	3	I.J.U.P.E.S., Bhayandar	1997	Private	1	7	Pri. School	176	150	326	No
130	3	J.&M.U.P.E.S., Bhayandar	2001	Private	1	7	Pri. School	336	289	625	Yes
131	3	K.B.N.U.P.E.S., Bhayandar	1998	Private	1	7	Pri. School	27	21	48	No
132	3	K.G.U.P.S.No.7, Bhayandar	1977	Government	1	7	Pri. School	21	13	50	Yes
133	3	K.M.U.P.S.No.6, Bhayandar	1961	Government	1	7	Pri. School	40	56	96	Yes
134	3	Lokmanya. V.U.P.M.S., Bhayandar	1997	Private	1	7	Pri. School	133	163	296	No
135	3	Lokamanya Vidya Sec. School	1992	Private	8	12	Sec/H. School	249	262	511	No
136	3	Maa. B.U.P.H.S., Bhayandar	1984	Private	1	7	Pri. School	267	268	535	No
137	3	Maa Bharti V Mandir Sec School	1987	Private	8	12	Sec /H. School	170	177	347	No
138	3	Maykar Covent.U.P.E.S., Bhayandar	1999	Private	8	10	Sec School	11	5	16	No

139	3	Mother Marys.U.P.E.S., Bhay East	1992	Private	1	7	Pri. School	222	176	456	Yes
140	3	Mathor Merryj Sec. School	1992	Private	8	10	Sec. School	166	109	275	Yes
141	3	National U.P.E.S., Bhayandar	2000	Private	1	7	Pri. School	113	81	194	Yes
142	3	National U.P.H.S., Bhayandar	2000	Private	1	7	Pri. School	106	99	205	No
143	3	N.U.P.H.S.No.29, Bhayandar	1996	Government	1	7	Pri. School	139	139	278	Yes
144	3	N.U.P.M.S.No.13, Bhayandar	1928	Government	1	7	Pri. School	41	51	92	Yes
145	3	New Kebrij Pri. Eng Sch	1996	Private	1	7	Pri. School	120	73	297	Yes
146	3	New Cambrige Pri. Hindi School	1996	Private	1	7	Pri. School	40	44	106	Yes
147	3	New Modern P.E.S., Bhayandar	1999	Private	1	7	Pri. School	73	62	160	Yes
148	3	Om Swami Vivekanad U.P.E.S., Bhayandar	1999	Private	1	7	Pri. School	55	59	114	Yes
149	3	Om Swami Vivekanad U.P.H.S., Bhayandar	2000	Private	1	7	Pri. School	83	108	191	Yes
150	3	Om Sai Vivekanad Sec Hindi Sch	2000	Private	8	10	Sec. School	37	46	83	Yes

151	3	Pams U.P.E.S., Bhay East	1996	Private	1	7	Pri. School	91	68	235	No
152	3	Payas Buds.U.P.E.S., Bhayandar	1993	Private	1	7	Pri. School	124	116	240	No
153	3	Payas Badas Sec School	1990	Private	8	10	Sec. School	62	30	92	Yes
154	3	R.V.N.U.P.H.S., Bhayandar	2000	Private	1	7	Pri. School	72	96	168	Yes
155	3	Rahul V Niketan Sec Hindi School	1997	Private	8	10	Sec. School	65	62	127	Yes
156	3	Royal Pri. Eng Sch Bha East Lokmaniye	1997	Private	1	7	Pri. School	20	18	38	No
157	3	Shree Sai Baba. P.H.S., Bha East	2000	Private	1	7	Pri. School	110	139	249	Yes
158	3	Sarwati Pri. Eng School	1980	Private	1	4	Pri. School	494	381	875	No
159	3	New Cambridge High School Bha East	2002	Private	8	10	Sec. School	20	7	27	Yes
160	3	Sarwati Vidya Sec. Eng School	1980	Private	5	10	Sec School	891	709	1600	No
161	3	St.Agnes U.P.E.S., Bhayandar	2001	Private	1	7	Pri. School	708	553	1261	Yes
162	3	St Agnes Eng Sec School Bha	2005	Private	8	10	Sec. School	240	186	426	Yes
163	3	St. Francis U.P.E.S., Bhay Est	1989	Private	1	4	Pri. School	690	541	1429	Yes

164	3	St Francis S.E.S., Bhayandar	1989	Private	5	10	Sec. School	1367	1002	2369	Yes
165	3	St. Soldier U P Eng School Bha East	1993	Private	1	7	Pri. School	411	329	740	No
166	3	St Soldier Sec School	1998	Private	8	10	Sec School	141	119	260	No
167	3	Divaan Image Highschool	1994	Private	1	7	Pri. School	37	31	113	No
168	3	Devhain Emage Sec School	1994	Private	8	12	Sec/H. School	286	239	525	No
169	3	Don Bosco Public Sec S Bha East	2000	Private	8	10	Sec. School	89	57	146	Yes
170	3	R K Memorial Eng Pri. School	2001	Private	1	4	Pri. School	129	116	245	Yes
171	3	Rahul Eng School	1999	Private	1	7	Pri. School	123	99	222	Yes
172	3	Indian Kebrig Shool	2001	Private	1	7	Pri. School	18	28	46	No
173	3	Holy Trinita Pri. Sch	1998	Private	1	7	Pri. School	79	69	148	Yes
174	3	Madhusudhan Global School	2001	Private	1	7	Pri. School	298	264	562	Yes
175	3	Lalit V Niketan Sec School	1990	Private	5	10	Sec School	48	68	116	No
176	3	Holy Trinity Eng High School	2000	Private	8	10	Sec School	32	32	64	No

177	3	Adrasha Vidya Niketan Eng Sec	1999	Private	8	10	Sec School	10	5	15	No
178	3	Shree Sai Baba Hindi Sec Sch	2000	Private	8	10	Sec. School	67	86	153	Yes
179	3	Mayekar Convent School	1998	Private	1	7	Pri. School	20	17	39	No
180	3	Jijas & Merryj Sec. School	2001	Private	8	10	Sec. School	151	104	255	Yes
181	3	Oxford Eng Pri. School	2002	Private	1	7	Pri. School	33	26	59	No
182	3	S M Public Sec High School Khari	2005	Private	8	10	Sec. School	116	85	201	Yes
183	4	Anjuman Yatama Urdu Pri. School	1993	Private	1	7	Pri. School	212	271	516	Yes
184	4	Anjuman Yatama Urdu Sec. School	1991	Private	8	10	Sec. School	129	188	317	Yes
185	4	Banegar U.P.E.S., Mira Road (E)	1999	Private	1	7	Pri. School	900	691	2720	Yes
186	4	Banegar Eng Sec High School	1999	Private	8	10	Sec. School	400	331	731	Yes
187	4	Holly Cross Con Sch Mira Road E	1992	Private	1	4	Pri. School	675	679	1354	Yes
188	4	Holly Cross Con. E.S., Mira Road (E)	1992	Private	5	10	Sec. School	930	1062	1992	Yes
189	4	Holly Famaily Day Eng Pri. Mira R	1994	Private	1	7	Pri. School	13	10	31	Yes

190	4	Kajghi Pratmic Mrathi Mira Road	1971	Private	1	5	Pri. School	17	18	35	Yes
191	4	M.R.P.G. School No.21	1972	Government	1	5	Pri. School	15	15	30	Yes
192	4	N.H Academy Pri. Eng Sch	1992	Private	1	7	Pri. School	1032	956	1988	Yes
193	4	N.H. Academy Pri. English Highschool	1992	Private	8	10	Sec. School	472	451	923	Yes
194	4	Nl. Dalmiya. P.E.S., Mira Road (E)	1991	Private	1	4	Pri. School	538	448	1737	Yes
195	4	Nl Dalmiya. S.E.S., Mira Road(E)	1991	Private	5	10	Sec. School	683	567	1250	Yes
196	4	Queen Merry U.P.E.S., Mira Road (E)	2000	Private	1	7	Pri. School	724	701	1425	Yes
197	4	Queen Meris Eng High school Mira R	1998	Private	8	10	Sec. School	388	346	734	Yes
198	4	R.K.U.P.E.S., Mira Road (E)	2003	Private	1	7	Pri. School	30	29	59	Yes
199	4	Royal Girls Eng Pri. Sch Mira Road	1995	Private	1	7	Pri. School	0	537	537	Yes
200	4	The Raval International School Pri	1997	Private	1	7	Pri. School	45	32	92	Yes
201	4	L P Ravalsec & College Mira R	1987	Private	9	12	Sec /H. School	365	261	626	Yes

202	4	Sardar Valabhbai .P.P.E.S., Mira Road (E)	1996	Private	1	4	Pri. School	1185	935	2120	Yes
203	4	Symbiosis U.P.E.S., Mira Road (E)	1998	Private	1	7	Pri. School	9	4	13	No
204	4	Sinbayasis Sec. Eng School	1998	Private	8	10	Sec School	41	25	66	No
205	4	Shanti. N.U.P.E.S., Mira Road (E)	1987	Private	1	4	Pri. School	437	352	789	Yes
206	4	Shanti Nagar Sec School	1987	Private	5	10	Sec. School	833	713	1546	Yes
207	4	St. Andrews P.E.S., Mira Road(E)	1998	Private	1	7	Pri. School	272	221	623	No
208	4	St. Augastin. P.E.S., Mira Road (E)	2005	Private	1	7	Pri. School	34	35	69	No
209	4	St Harise Prim High School	1999	Private	1	7	Pri. School	386	359	745	Yes
210	4	St Joseph U.P.S., Mira Road (E)	1995	Private	1	7	Pri. School	450	306	756	No
211	4	St. Juds U.P.E.S., Mira Road(E)	1992	Private	1	7	Pri. School	563	463	1026	Yes
212	4	Oxford Eng High School	2002	Private	8	10	Sec School	35	25	60	No
213	4	St. Louis U.P.S., Mira Road (E)	1998	Private	1	7	Pri. School	69	55	124	No
214	4	St Poal Eng Pri. School	1998	Private	1	7	Pri. School	1101	928	2029	Yes

215	4	St Poal Sec. E.S., Mira Road (E)	1999	Private	8	10	Sec. School	387	341	728	Yes
216	4	St. Thams U.P.E.S., Mira Road (E)	1997	Private	1	7	Pri. School	335	333	668	Yes
217	4	St. X.U.P.E.S., Mira Road(E)	1999	Private	1	7	Pri. School	1766	1293	3059	Yes
218	4	St Xavier Secondary School Mira Road	1999	Private	8	10	Sec. School	959	756	1715	Yes
219	4	Cosmopolitan School, Mira Road	1999	Private	1	7	Pri. School	461	436	897	Yes
220	4	Sharada Vidyalaya Pri. School	1995	Private	1	7	Pri. School	25	17	42	No
221	4	St. M. Teresa Pri. School	2005	Private	1	7	Pri. School	32	30	62	Yes
222	4	G.S. Jangid Memorial	1999	Private	1	7	Pri. School	349	286	781	Yes
223	4	St. Haris High School Sec Sch	1999	Private	8	10	Sec. School	122	127	249	Yes
224	4	Sharada Vidyalaya Sec Mar Sch	1995	Private	8	12	Sec /H. School	48	44	92	No
225	4	St. Anthoni Eng High School	1998	Private	1	7	Pri. School	171	136	356	No
226	4	St Thomas High School	1998	Private	8	12	Sec /H. School	197	183	380	Yes
227	4	Cosmopolitan High School Mira Road	1999	Private	8	10	Sec. School	168	130	298	Yes

228	4	Gresiyas Sec Highschool	2002	Private	8	12	Sec /H. School	84	115	199	Yes
229	4	G.S. Jangid Momoriyal High Sch	1999	Private	8	10	Sec. School	145	117	262	Yes
230	4	St Tresa Highschool	2004	Private	1	8	Pri. School	147	153	300	Yes
231	4	Christ Pri. Eng School	1998	Private	1	7	Pri. School	93	111	285	Yes
232	4	Sarswati Sec School	1980	Private	8	10	Sec School	0	0	0	No
233	4	Vedant International High school	2004	Private	8	12	Sec /H. School	180	156	336	Yes
234	4	Gresiyas Pri. Eng School	2002	Private	1	7	Pri. School	105	145	250	Yes
235	4	P. G. Hora Eng Pri. School	2004	Private	1	7	Pri. School	250	216	626	Yes
236	4	Don Basko Highschool	2001	Private	1	7	Pri. School	296	213	509	No
237	4	Sardar Vallbhai Patel High school	1998	Private	5	10	Sec. School	2304	1624	3928	Yes
238	4	Holy Family Day School & Jr College	1994	Private	8	12	Sec /H. School	103	42	145	Yes
239	4	Jayant Datta Highschool	2001	Private	8	10	Sec. School	32	33	65	Yes
240	4	R K English Pri. School	2003	Private	8	10	Sec. School	26	22	48	Yes

241	4	Noorjahan Urdu Pri. School	2002	Private	1	7	Pri. School	78	215	293	Yes
242	4	St. Joseph Sec High School	1995	Private	8	10	Sec School	147	152	299	No
243	4	Ramaben Kankiya Sec Highschool	2003	Private	8	12	Sec /H. School	627	497	1124	Yes
244	4	S. K. English School	2004	Private	1	7	Pri. School	46	48	94	No
245	4	Relivent Pri Hindi School	2000	Private	1	7	Pri. School	232	195	427	Yes
246	4	Indiyan High School	1999	Private	1	7	Pri. School	38	45	111	Yes
247	4	Royal Girls Urdu High School	2001	Private	8	10	Sec. School	0	134	134	Yes
248	4	Rozari High School	2001	Private	1	7	Pri. School	72	49	140	No
249	4	Swami Dyanand Pri School	2002	Private	1	7	Pri. School	17	22	39	Yes
250	4	Vidya Sagar Sch	2009	Private	1	7	Pri. School	148	164	312	Yes
251	4	S. M. Public School	2008	Private	1	7	Pri. School	223	194	417	Yes
252	4	St. Peter School	2005	Private	1	7	Pri. School	30	34	64	No
253	4	Christ Eng High School Kashi	1998	Private	8	10	Sec. School	23	39	62	Yes

254	4	St Appollonias Con Eng Sec Sch B E	2000	Private	8	10	Sec. School	4	4	8	Yes
255	4	St Augustins Eng High Sec Sch Mira R	2005	Private	8	10	Sec School	34	22	56	No
256	4	P. G. Vora High School	2008	Private	8	10	Sec. School	110	59	169	Yes
257	4	St.Xeviers High School Kashigaon	2009	Private	8	10	Sec. School	256	160	416	Yes
258	4	Swami Dayanand Hindi High School Kashigaon	1998	Private	1	7	Pri. School	123	158	281	Yes
259	4	St. John'S High School Kashigaon	1998	Private	1	7	Pri. School	516	339	855	Yes
260	4	Momai Global School	2003	Private	1	7	Pri. School	116	103	219	Yes
261	4	Shardhaban Pranjeevan Bai Eng School	2006	Private	1	7	Pri. School	138	127	335	Yes
262	4	Bright International School	1997	Private	8	10	Sec School	73	55	128	No
263	4	Indian High School Secondary	2000	Private	8	10	Sec. School	72	71	143	Yes
264	5	B.M.S.U.P.S., Kashi	1976	Government	1	7	Pri. School	645	397	1361	Yes
265	5	B M S Sec Eng School	1976	Private	8	12	Sec /H. School	263	149	412	Yes
266	5	C.U.P.S.No.10, Kashi	1965	Government	1	8	Pri. School	130	99	229	Yes

267	5	G.M.U.P.S.No.9, Kashi	1938	Government	1	7	Pri. School	120	159	279	No
268	5	Gramin Vidaliye Mire.U.P.S., Kashi	1946	Private	1	7	Pri. School	107	99	206	Yes
269	5	K.P.P.S.No.03, Kashi	1972	Government	1	6	Pri. School	51	52	103	No
270	5	K.M.U.P.S.No.04, Kashi	1906	Government	1	8	Pri. School	475	549	1024	Yes
271	5	K.U.U.P.S.No.05, Kashi	1965	Government	1	8	Pri. School	153	202	355	Yes
272	5	M.P.P.S.No.19, Kashi	1963	Government	1	8	Pri. School	155	178	333	No
273	5	M.M.U.P.S.No.20, Kashi	1963	Government	1	7	Pri. School	89	107	196	No
274	5	Nitiyanand P.U.P.H.S., Kashi	1993	Private	1	7	Pri. School	0	0	0	Yes
275	5	Penkar Pada Mar Sch No 14	1969	Government	1	8	Pri. School	169	181	350	No
276	5	Raja Shivaji Vidalye Sec Kashi	1990	Private	5	10	Sec. School	267	266	533	Yes
277	5	R.B.P.S.No.27, Kashi	1988	Government	1	3	Pri. School	11	10	21	No
278	5	Raja Shivaji Pri Marathi Sch	1998	Private	1	4	Pri. School	96	97	287	Yes
279	5	St. Jerom. P. S., Kashi	2002	Private	1	7	Pri. School	592	571	1490	Yes

280	5	St. Marys. U. P. S., Kashi	1986	Private	1	7	Pri. School	522	351	873	Yes
281	5	Trinity Eng P. S., Kashi	1996	Private	1	7	Pri. School	526	405	931	No
282	5	V.P.S.No.28, Kashi	1980	Government	1	6	Pri. School	29	22	76	Yes
283	5	Prema Laxman Vidyalay Mar Pri.	1994	Private	1	7	Pri. School	109	127	236	Yes
284	5	Sai Vidya Niketan Sec Mar School	1993	Private	8	10	Sec. School	54	79	133	Yes
285	5	Aabid Patel Memo Pri Eng School	2003	Private	1	7	Pri. School	627	450	1333	Yes
286	5	Abid Patel Memorial School	2011	Private	11	12	College	321	237	558	Yes
287	5	St. Xevior School Pri.	1998	Private	1	7	Pri. School	611	388	999	Yes
288	5	Trinity Eng Sec School	1996	Private	8	10	Sec School	184	109	293	No
289	5	Ch. Shahoo Maharaj Sec. Sch	2003	Private	8	10	Sec School	47	56	103	No
290	5	Adarsh Vidya Niketan Sec. School	1997	Private	8	10	Sec. School	127	146	273	Yes
291	5	St Merryj Sec. School	1986	Private	8	10	Sec. School	216	124	340	Yes
292	5	Swami Dyanand High S. K.G.	1998	Private	8	10	Sec. School	113	152	265	Yes

293	5	Mbmc Urdu No. 32	2007	Government	1	8	Pri. School	92	129	221	No
294	5	Mbmc Urdu No. 34	2008	Government	1	8	Pri. School	169	112	281	No
295	5	St. Domnic Savio Pri	2004	Private	1	7	Pri. School	79	83	162	Yes
296	5	Seven Square Academy	2008	Private	1	7	Pri. School	1376	1014	2390	Yes
297	5	K.S. Mehta High School	2005	Private	1	7	Pri. School	72	67	139	Yes
298	5	Santhome Public School	2007	Private	1	7	Pri. School	412	413	825	Yes
299	5	Baright International Pri. School	1997	Private	1	7	Pri. School	159	147	403	No
300	5	Relevant Public H Sec.	2008	Private	8	10	Sec. School	72	94	166	Yes
301	5	Noor Jahan Urdu Sec. School	2002	Private	8	10	Sec. School	47	127	174	Yes
302	5	K S Mahta Sec Eng School Kashi	2005	Private	8	10	Sec. School	61	42	103	Yes
303	5	St Dominic Savio Sec Eng School Kashi	2004	Private	8	10	Sec. School	41	25	66	Yes
304	5	St Judes High Sch Sec Mira Road	1992	Private	8	10	Sec. School	144	144	288	Yes
305	5	R B K Global Eng Sch Mira E	2012	Private	1	8	Pri. School	1023	761	1784	Yes

306	5	Relevant Pri Eng Sch Mira Road	2003	Private	1	7	Pri. School	161	175	336	No
307	5	Relevant Sec Eng Sch Mira Road	2008	Private	8	10	Sec. School	41	41	82	Yes
308	5	Tapovan Vidhyalay Eng Sc Bha East	2013	Private	1	8	Pri. School	307	316	806	Yes
309	5	Royal College of Arts Mira Road Penkar Pada	1989	Private	11	12	College	414	947	1361	Yes
310	5	Jayant Dutta Pri. Eng High School M,Ira Road	2003	Private	1	7	Pri. School	54	56	110	Yes
311	5	Don Bosko High School Shanti Park (Eng)	2001	Private	8	10	Sec. School	105	63	168	Yes
312	5	St. John Eng. High School, Kashigaon	1998	Private	8	10	Sec. School	120	75	195	Yes
313	5	St. Treza Eng. High School, Miraroad	2004	Private	8	10	Sec. School	59	56	115	Yes
314	5	Aadarsh Vidyaniketan Eng (Pri), Kashmirira	1997	Private	1	7	Pri. School	318	243	561	Yes
315	5	Aadarsh Vidyaniketan Eng (Sec), Kashmirira	1997	Private	8	10	Sec. School	72	54	126	Yes
316	5	Royal Urdu Primary School	2001	Private	1	7	Pri. School	0	358	459	Yes

317	5	Royal English High School, Dalmiya	1995	Private	8	10	Sec. School	0	225	225	Yes
318	5	Santhom Public School, Miraroad	2007	Private	8	10	Sec. School	117	123	240	Yes
319	5	Western English School	2011	Private	1	8	Pri. School	285	297	784	Yes
320	5	St. Andruj English School	1998	Private	8	10	Sec School	135	113	248	No
321	5	St. Anthony High School	2004	Private	8	12	Sec /H. School	81	58	139	No
322	5	Sanjeevan Learning Centre	2003	Private	1	7	Pri. School	214	302	516	Yes
323	5	U. S. Ostwal Eng. Academy Pri.	2010	Private	1	7	Pri. School	490	420	1182	Yes
324	5	U. S. Ostwal Eng. Academy Sec.	2010	Private	8	10	Sec. School	98	79	177	Yes
325	5	Vedant International High School	2005	Private	1	7	Pri. School	243	235	478	Yes
326	5	A. P. International Sec. School	2003	Private	8	10	Sec. School	95	72	167	Yes
327	5	Rosary High School	2002	Private	8	10	Sec School	37	20	57	No
328	5	The Don Bosco High School, Mira Road East	2004	Private	1	10	Sec School	335	304	639	No
329	5	Seven Square academy Sec.	2008	Private	8	12	Sec /H. School	825	648	1473	Yes

330	5	Mount Carmel School Mira Road	2016	Private	1	8	Pri. School	573	511	1084	Yes
331	5	Patriot High School Mira R	2006	Private	1	7	Pri. School	160	126	286	No
332	5	Rassaz International School	2016	Private	1	8	Pri. School	185	170	516	Yes
333	5	Our Lady of Fatima School	2015	Private	1	8	Pri. School	17	27	44	Yes
334	5	Deepjyoti School, Miraroad East	2012	Private	1	8	Pri. School	139	99	350	Yes
335	5	Asmita College of Arts & Commerce	2016	Private	11	12	College	101	202	303	Yes
336	5	Momai Global School	2002	Private	8	10	Sec School	20	22	42	No
337	5	Raja Shivaji English Primary School, Ghodbunder	2011	Private	1	4	Pri. School	56	56	199	Yes
338	5	Falah English High School	2009	Private	9	10	Sec. School	32	79	111	Yes
339	5	Western English High School	2011	Private	9	10	Sec. School	15	19	34	Yes
340	5	Rahul International School CBSE	2018	Private	1	12	Sec. School	88	49	205	Yes
341	5	Rahul International School IGCSE	2018	Private	1	12	Sec /H. School	3	2	5	Yes
342	5	Trinity Public School	2018	Private	1	5	Pri. School	36	24	60	Yes

343	5	St Daniel School	2018	Private	1	5	Pri. School	16	21	37	No
344	5	Abhilasha High School	2018	Private	1	8	Pri. School	73	65	138	Yes
345	5	Sardar Vallabhbhai Patel College of Commerce and Science	2017	Private	11	12	College	145	136	281	Yes
346	6	Adarsh V Niketan Hindi Pri Sch	2000	Private	1	7	Pri. School	13	15	28	No
347	6	Divhain Him Pri Guj. School	1996	Private	1	7	Pri. School	3	1	4	No
348	6	R K Eng Pri School	2004	Private	1	7	Pri. School	24	37	61	Yes
349	6	K B Naravat Eng Sec School	2004	Private	8	10	Sec School	3	7	10	No
350	6	Jack & Jill Pri School	2000	Private	1	7	Pri. School	139	119	324	Yes
351	6	Rahul Eng Sec. School	1999	Private	8	10	Sec. School	76	50	126	Yes
352	6	New Modern Eng School	1994	Private	8	10	Sec. School	22	14	36	Yes
353	6	Narmada Memorial Sec Eng Sch	2003	Private	8	10	Sec. School	22	22	44	Yes
354	6	R K Memorial Sec Eng School	2001	Private	5	12	Sec /H. School	161	149	310	Yes
355	6	Indian Krabrij Hindi Sec Sch	2001	Private	8	10	Sec School	29	33	62	No

356	6	Infant Jijas Eng Sec School	2001	Private	8	10	Sec School	22	30	52	No
357	6	Mbmc Sch No. 35 Dachkulpada	2011	Government	1	3	Pri. School	46	71	117	No
358	6	Amarjyoti Jr. College	2013	Private	11	12	College	29	15	44	No
359	6	Prema Laxman V E P	2004	Private	1	7	Pri. School	246	192	542	Yes
360	6	Adarsh V N P Marathi Kashi	1999	Private	1	7	Pri. School	172	175	459	Yes
361	6	Shikhar International P E Mira R	2006	Private	1	7	Pri. School	56	43	150	Yes
362	6	Golden Nest P E	2002	Private	1	7	Pri. School	499	467	1162	Yes
363	6	Adarash V N Sec Hindi Bhayandar	2001	Private	8	10	Sec School	7	18	25	No
364	6	St. Jerome Convent H E Sch	2002	Private	8	10	Sec. School	246	197	443	Yes
365	6	Golden Nest English High School	2002	Private	8	12	Sec /H. School	151	122	273	Yes
366	6	Prema Laxman V Eng Sec Mira R	2004	Private	8	10	Sec. School	106	83	189	Yes
367	6	National High Sch Hindi Sec Bhayandar East	2000	Private	8	12	Sec /H. School	79	94	173	Yes
368	6	National High Sch Eng Sec Bhayandar East	2000	Private	8	10	Sec School	75	43	118	No

369	6	Banegar English School & Hafiza Jr College of Arts Sci & Com	1999	Private	11	12	College	110	191	301	Yes
370	6	Seven Eleven Scholastic School	2014	Private	1	10	Sec. School	308	250	558	Yes
371	6	Madhusudhan Global School	2008	Private	8	10	Sec. School	57	50	107	Yes
372	6	R.B.K Eng Sch Pri ICSE	2000	Private	1	7	Pri. School	1540	1253	2793	Yes
373	6	M S Creative School Mira Road	2018	Private	1	8	Pri. School	90	78	168	Yes
374	6	Prashik Special School	2009	Private	1	10	Sec School	22	11	33	No
375	6	Singapore International School	2007	Private	1	12	Sec /H. School	238	184	422	Yes
376	6	GCC International School	2016	Private	1	8	Pri. School	193	128	496	No
377	6	Mbmc School No 36 Hindi Medium	2017	Government	1	7	Pri. School	51	39	90	No
378	6	St. Johns High School	2003	Private	1	8	Pri. School	24	22	46	Yes
379	6	Iqra Islamic School and Maktab	2010	Private	1	8	Pri. School	43	36	117	No
380	6	Mount Carmel School	2016	Private	9	10	Sec. School	56	45	101	Yes
381	6	Shri L R Tiwari Junior College of Commerce and Science	2019	Private	11	12	College	72	50	122	Yes

Annexure IV - Details of Hospitals in Mira Bhayandar

Sr. No.	Name	Management	Area (sq.ft.)	Beds
1	Bharatratna Indira Gandhi Hospital Mira Bhayandar	Municipal Corporation	-	50
2	Bharatratna Pandit Bhimsen Joshi Hospital Mira Bhayandar	Government	-	100
3	Ashirwad Maternity & General Hospital Mira Bhayandar	Private	2500	20
4	Agarwal Nursing Home Mira Bhayandar	Private	3500	15
5	Agarwal Nursing Home Mira Bhayandar	Private	-	15
6	Shalom Medicare Pvt. Ltd. Mira Bhayandar	Private	7000	31
7	Shobhana Maternity & Surgical Home Mira Bhayandar	Private	2500	11
8	Jai Ambe Hospital Mira Bhayandar	Private	2200	15
9	R. L. Ent Hospital Mira Bhayandar	Private	3562	15
10	Dhanvantari Hospital Mira Bhayandar	Private	-	20
11	A-Care Orthopedic and General Hospital Mira Bhayandar	Private	-	11
12	Indra Bone & Joint (Indra Maternity & Surgical Nursing Home) Mira Bhayandar	Private	2750	15
13	Nakoda Hospital Mira Bhayandar	Private	2400	15
14	Balaji Hospital Mira Bhayandar	Private	3500	18
15	Siddhivinayak Hospital Mira Bhayandar	Private	1650	16
16	Stella Maris Hospital Mira Bhayandar	Private	-	20
17	Shree Siddhivinayak Hospital & Tanishka Polyclinic Mira Bhayandar	Private	2500	20

18	Tara Netralaya Mira Bhayandar	Private	2600	15
19	Gayatri Hospital Women & Child Care Mira Bhayandar	Private	1800	14
20	Gurukrupa Hospital & Polyclinic Mira Bhayandar	Private	-	21
21	Sai Aashirwad Maternity & Nursing Home Mira Bhayandar	Private	-	14
22	Seetabai Children Hospital & Dental Clinic Mira Bhayandar	Private	1200	10
23	Sai Baba Hospital & Polyclinic Mira Bhayandar	Private	-	15
24	Surana Hospital Mira Bhayandar	Private	1000	7
25	Sai Aashirwad Hospital Mira Bhayandar	Private	1800	18
26	Mantora Orthopedic Hospital Mira Bhayandar	Private	-	10
27	Rradha Maternity & Medical Nursing Home Mira Bhayandar	Private	-	11
28	Ashoka General Hospital Mira Bhayandar	Private	1500	15
29	Asha Maternity Hospital Mira Bhayandar	Private	2020	10
30	Sai Aashirwad Hospital Mira Bhayandar	Private	2950	20
31	Jiwarajka Hospital & Critical Mira Bhayandar	Private	1703	15
32	Sneha Hospital Mira Bhayandar	Private	1400	11
33	Shraddha Nursing Home Mira Bhayandar	Private	-	18
34	Aastha Maternity & Eye Hospital Mira Bhayandar	Private	-	6
35	Thunga Hospital Mira Bhayandar	Private	24000	77
36	Life Star Multi-Speciality Hospital Mira Bhayandar	Private	3700	30
37	Dr. S. K. Das Children Hospital Mira Bhayandar	Private	700	5
38	Hamzah Nursing Home Mira Bhayandar	Private	-	16

39	Wockhardt Hospitals: Unit - The Umrao Institute of Medical Sciences and Research Mira Bhayandar	Private	1200 Per floor	100
40	Indra Maternity & Surgical Nurising Home Mira Bhayandar	Private	3000	15
41	Riddhi Siddhi Hospital Mira Bhayandar	Private	5000	25
42	S.R. Health Care and General Hospital Mira Bhayandar	Private	1200	8
43	Yashoda Maternity and Nursing Home Mira Bhayandar	Private	2911	15
44	Orchid Multi-speciality Hospital Mira Bhayandar	Private	2400	24
45	Aryan Child Health Care Centre & Nursing Home Mira Bhayandar	Private	3000	15
46	Saxena Children and General Hospital Mira Bhayandar	Private	2400	15
47	Tirupati Nursing Home Mira Bhayandar	Private	1500	15
48	Hitankshi Nursing Home Mira Bhayandar	Private	-	12
49	Galaxy Hospital Mira Bhayandar	Private	5900	50
50	Jugura Hospital Mira Bhayandar	Private	-	15
51	Shri Krishna Hospital Mira Bhayandar	Private	1850	18
52	Orbit Super Speciality Hospital and Accident Centre Mira Bhayandar	Private	8000	35
53	Asha Orthopaedic Hospital Mira Bhayandar	Private	1300	7
54	Shiv Om Hospital Mira Bhayandar	Private	2000	18
55	Navjeevan Nursing Home Mira Bhayandar	Private	2700	12
56	Tanwar Hospital Mira Bhayandar	Private	5000	25
57	Gita Eye and Dental Super-speciality Hospital Mira Bhayandar	Private	-	1
58	Mangal Murti Hospital & Polyclinic Mira Bhayandar	Private	-	15

59	Saikripa Eye Hospital & Polyclinic Mira Bhayandar	Private	585	2
60	Priyanshi Hospital & Maternity Mira Bhayandar	Private	715	5
61	Ganesh Multi-speciality Hospital Mira Bhayandar	Private	141.415	20
62	Om Sai Hospital Mira Bhayandar	Private	-	18
63	Kasturi Medicare Pvt. Ltd. Mira Bhayandar	Private	10000	45
64	Sai Krupa Children'S Maternity & Surgical Hospital Mira Bhayandar	Private	3500	25
65	Neel Orthopaedic Superspecialist Hospital Mira Bhayandar	Private	-	10
66	Sanjeevani Children Hospital Mira Bhayandar	Private	-	13
67	Bhayandar Criti Care Hospital Mira Bhayandar	Private	-	20
68	Samartha Hospital Mira Bhayandar	Private	3000	20
69	Chirayu Superspecility Hospital Mira Bhayandar	Private	12500	44
70	Dr.Kulkarnis Orthopedic Nursing Home Mira Bhayandar	Private	900	7
71	Shree Siddhivinayak Orthopaedic Hospital Mira Bhayandar	Private	1750	5
72	Karuna Multi-speciality Hospital Mira Bhayandar	Private	2200	15
73	Jain Ent Hospital Mira Bhayandar	Private	1000	4
74	Possa Hospital & Polyclinic Mira Bhayandar	Private	144	15
75	New Life Hospital Mira Bhayandar	Private	-	15
76	Suvarna Hospital Mira Bhayandar	Private	-	17
77	Shah Lifeline Hospital & Heart Institute Pvt. Ltd. Mira Bhayandar	Private	12000	75
78	Manav Arogya Seva Kendra Mira Bhayandar	Private	1500	15
79	Geeta Eye Clinic & Surgical Center Mira Bhayandar	Private	-	3

80	Padmawati Maternity & Nursing Home Mira Bhayandar	Private	2000	20
81	Deepak Orthopaedic & General Hospital Mira Bhayandar	Private	2950	20
82	Navkar Orthopaedic Hospital Mira Bhayandar	Private	960	15
83	Sai Baba Hospital & Polyclinic Mira Bhayandar	Private	5500	25
84	Mira Bhayandar Institute for Reproductive Assistance Mira Bhayandar	Private	14000	25
85	Dr. Suri'S Maternity & Surgical Home Mira Bhayandar	Private	1200	10
86	Surya Niketan Hospital Mira Bhayandar	Private	-	9
87	Shree Krishanakripa Hospital. Maternity & Nursing Home Mira Bhayandar	Private	3000	14
88	Matoshree Hospital Mira Bhayandar	Private	300	8
89	Dr. Pooja'S Child Care Hospital Mira Bhayandar	Private	4000	20
90	Madhu Maternity & Nursing Home Mira Bhayandar	Private	1850	15
91	Lotuss Hospital Mira Bhayandar	Private	1754	17
92	Agarwal Nursing Home Mira Bhayandar	Private	2500	16
93	New Sai Ganga Hospital Mira Bhayandar	Private	-	21
94	Family Care Hospitals (Unit of Scandent Imaging Limited) Mira Bhayandar	Private	32000	100
95	Kamla Eye Clinic Mira Bhayandar	Private	2250	2
96	Sai Krupa Hospital Mira Bhayandar	Private	2055	20
97	Sai Vedant Multi Speciality Hospital Mira Bhayandar	Private	2200	24
98	Ravi Surgical Nursing Home Mira Bhayandar	Private	2300	16
99	Kamla Maternity Home Mira Bhayandar	Private	1430	14
100	St. Ann'S Hospital Mira Bhayandar	Private	225	25

101	Prana Criti Care Hospital Mira Bhayandar	Private	-	7
102	Sudha Hospital & Polyclinic Mira Bhayandar	Private	1595	7
103	Veda Fertility & Urology Care Mira Bhayandar	Private	2800	10
104	Sushrut Maternity & Surgical Nursing Home Mira Bhayandar	Private	3500	15
105	Vipassana Hospital Mira Bhayandar	Private	1485	10
106	Badri- Vishal Policlinic & Hospital Mira Bhayandar	Private	1600	15
107	Dr. Farid'S Hospital Mira Bhayandar	Private	2000	13
108	Shree Krishna Hospital Mira Bhayandar	Private	2500	20
109	Ansh Hospital Mira Bhayandar	Private	3948	20
110	Bhakti Vedant Hospital & Reserch Institute (A Project of Sri Chaitanya Seva Trust) Mira Bhayandar	Private	6158	200
111	Sanjeevani Hospital Mira Bhayandar	Private	2740	16
112	Roshni Maternity & Nursing Home Mira Bhayandar	Private	934	4
113	Sham Bharati Hospital Mira Bhayandar	Private	2000	20
114	New Health Care Nursing Home Mira Bhayandar	Private	1100	15
115	Dr. Dragos Life Line Health Hospital Mira Bhayandar	Private	755	5
116	Dr. Dragos Lifeline Health Hospital (General and Maternity) Mira Bhayandar	Private	-	14
117	Parmar Nursing Home Mira Bhayandar	Private	1759	7
118	Indralok General Hospital and Polyclinic Mira Bhayandar	Private	1530	16
119	Global Multi-speciality Hospital Mira Bhayandar	Private	4000	30
120	Sheth P V Doshi Hospital Conducted by Bhaktivedant Hospital Mira Bhayandar	Private	945 mtr	26

121	Padmaja Hospital & ICU Mira Bhayandar	Private	4200	30
122	Bhaktivedanta Healthcare Centre (A Unit of Bhaktivedanta Hospital & Research Institute) Mira Bhayandar	Private	3991	10
123	Shoaib Hospital Mira Bhayandar	Private	1000	9
124	Gurukrupa Hospital Mira Bhayandar	Private	4200	24
125	Shri K.V.O Jain Manv Seva Kendra Mira Bhayandar	Private	2000	10
126	Mehta Hospital and Fertility Centre Mira Bhayandar	Private	828	14
127	Fatima Maternity & General Hospital Mira Bhayandar	Private	1500	6
128	Apple Hospital & Medical Centre Mira Bhayandar	Private	132.64	16
129	Sanjeevani Eye Hospital Mira Bhayandar	Private	1652.84	3
130	Rathi Hospital Mira Bhayandar	Private	1150	7
131	Juana Mother & Child Care Hospital Mira Bhayandar	Private	3961	16
132	Om Hospital Mira Bhayandar	Private	3000	15
133	H.R.Hospital & Trauma Centre Mira Bhayandar	Private	2928	19
134	Aarush Ivf & Endoscopy Centre Mira Bhayandar	Private	1876	10
135	Manav Arogya Seva Kendra Mira Bhayandar	Private	800	15
136	Vighnagar Critical Care Hospital Mira Bhayandar	Private	900	9
137	Aryan Hospital Mira Bhayandar	Private	900	15
138	Shree Multi-speciality Hospital Mira Bhayandar	Private	1389.75	17
139	Aarav Eye Care + Reyina Centre Mira Bhayandar	Private	2100	1
140	Maxcare Hospital Mira Bhayandar	Private	2000	17

141	Evershine Maternity & Nursing Home Mira Bhayandar	Private	895	19
142	Ashish Hospital Multi-speciality Mira Bhayandar	Private	2700	20
143	Indra Surgical Nursing Home Mira Bhayandar	Private	2000	15
144	Shreeji Eye Clinic & Dental Care Centre Mira Bhayandar	Private	1250	2
145	Radhika Multi-speciality Hospital Mira Bhayandar	Private	3500	20
146	Aarogya Hospital Mira Bhayandar	Private	5000	20
147	Colors Children Hospital Mira Bhayandar	Private	1349	15
148	Mahavir Hospital Mira Bhayandar	Private	2000	15
149	Infigo Eye Care Hospital Mira Bhayandar	Private	5340	10
150	Olive Hospital Mira Bhayandar	Private	740	12
151	Devansh Maternity and General Hospital Mira Bhayandar	Private	1100	15
152	Hitankshi Hospital Mira Bhayandar	Private	1800	15
153	Vrindavan Hospital Mira Bhayandar	Private	1515	12
154	Dhanwantari Manav Kalyan Hospital Mira Bhayandar	Private	-	20
155	Neptune Hospital Mira Bhayandar	Private	3500	30
156	Padmakar Mhatre Hospital Mira Bhayandar	Private	2500	20
157	Vision Dialysis Centre and Polyclinic Mira Bhayandar	Private	1000	6
158	Meditech Hospital and Nursing Home Mira Bhayandar	Private	-	50
159	Swastik Health Care and Wellness Multi-speciality Hospital Mira Bhayandar	Private	1800	20
160	Ashish Hospital (Manavata Hospital) Mira Bhayandar	Private	3000	15
161	Tulip Hospital Mira Bhayandar	Private	-	6

162	Metro Life Care Hospital Mira Bhayandar	Private	2000	20
163	Care N Cure Hospital Mira Bhayandar	Private	1650	16
164	Ghazi Hospital Mira Bhayandar	Private	1200	10
165	Shree Paramhans Hospital Mira Bhayandar	Private	-	0
166	Sunrise Hospital Mira Bhayandar	Private	3000	25
167	Rai Piles and Health Clinic Mira Bhayandar	Private	1070	3
168	Prerna Eye Hospital Mira Bhayandar	Private	900	1
169	Shree Mahalaxmi Hospital Mira Bhayandar	Private	1985	16
170	Aditya Hospital Mira Bhayandar	Private	2000	17
171	Ssuk Health and Education Pvt. Ltd. Mira Bhayandar	Private	-	4
172	Bhairav Care & Cure Hospital Mira Bhayandar	Private	2200	20
173	Jupiter Multi-speciality Hospital Mira Bhayandar	Private	1870	25
174	Universal Hospital Mira Bhayandar	Private	2000	30
175	Indralok Multi-speciality Hospital Mira Bhayandar	Private	1750	19
176	Rainbow Hospital Mira Bhayandar	Private	1500	18
177	Evershine Multi-speciality Hospital Mira Bhayandar	Private	2560	18

Annexure V - Details of Parks/ Gardens in Mira Bhayandar

Sr. No.	Ward Committee Number	Garden Name	Address	Area (Sq.m.)
1	1	Chimaji Appa Garden	Uttan Chowk Bhayandar (W)	1903
2	1	Uttan Dev Talav Garden	Velnkani Church Road, Uttan Bhayandar (W)	1583
3	1	Uttan Moh Talav Garden	St. Joseph'S High School Javal Uttan, Bhayandar (W)	3365
4	1	Dharavi Devi Mandir Garden	Dongri Tarodi Road, Bhayandar (W)	3758
5	1	Swr. Gajanan Sonya Patil Talav Garden	Morvo Gaon, Uttan Road, Bhayandar (W)	1894
6	1	Rai Ram Mandir Garden	Rai Gaon, Uttan Road, Bhayandar, (W)	2813
7	1	Balyogi Sadand Maharaj Garden	Raigaon Aarogya Office javal, Uttan Road, Bhayandar (W)	706
8	1	Rai Gandhi Talav Garden	Raigaon, Uttan Road, Bhayandar (W)	1448
9	1	Murdha Ram Mandir Talav Garden	Murdha Gaon, Uttan Road, Bhayandar	3517
10	1	Murdha Bal Garden	Murdhasmshana Javal, Murdhagaon, Uttan Road, Bhayandar (W)	2988
11	1	Murdha Gaondevi Garden	Murdha Gaon, Uttan Road, Bhayandar	5290
12	1	Geetanagar Garden -1	Geetanagar,Fatak Road, Bhayandar(W)	342
13	1	Geetanagar Garden -2	Jay Bhairav Park,Geetanagar Fatak Road, Bhayandar (W)	582
14	1	Bhayandar (W) Fatak Garden	Fatak Road, Bhayandar (W)	185

15	1	Vrikshmitra -Swr. Raghunath Trumbak Urf Anna Damale Garden	Nagarbhavn Samoril Udyan, Bhayandar (W)	1125
16	1	Dr. Babasaheb Aambetkar Bhavan Garden	Bhayandar (W) Nagarbhavan Karyalay	5712
17	1	Vynkteshwr Garden	90 Feet Register Office Mage, Bhayandar (W)	3261
18	1	Mayara Medusa Garden (Joggers Park)	Maxes Mall Samor Bhayandar (W)	6596
19	1	Shree. Salasar Hanuman Garden (Aarkshan Krmank.100)	Over Bridgechya Bajula, Bhayandar (W)	3744
20	1	Aarkshan Krmank.93 Garden	Amrutvani Stsang Road, Bhayandar, (W)	845
21	2	Gurugirnar Garden	Shevshena Galli Bhayandar (W)	165
22	2	Ganesh Aanad Nagar Garden	Ganesh Aanad Nagar Udyan Bhayandar (W)	210
23	2	Rav Talao Garden	Rammandir Road, Hanuman Mandirajaval, Bhayandar (W)	3850
24	2	Mukhy Karyalay Garden	Station Road, Bhayandar, (W)	1860
25	2	Maharana Pratap Garden	Maharana Pratap Road, Bhayandar (W)	1083
26	2	Saibaba Garden	Modi Patel Road, Bhayandar (W)	809
27	2	Rani Lakshumibai Garden	Sudamanagar,Panyachya Takijaval, Bhayandar(W)	477
28	3	Stynarayn Udyan, (Venkatesh Garden)	Venkatesh Park, Satynarayn Mandirajaval, Kharigaon, Bhayandar (E)	445
29	3	R. N.P. Park Garden	R.N. P. Park Jaisalpark, Bhayandar (E)	748
30	3	Priyadarshini Joggers Park, Garden	Jesalpark, Bhayandar (E) Chowpatty	3237

31	3	Chacha Neharu Bal Garden	Jesalpark, Bhayandar (E) Chowpatty	1238
32	3	Kaka-Kaki Gulab Baag Garden	Jesalpark, Bhayandar (E) Chowpatty	5229
33	3	Yashvantrav Chawan Garden	Navghar Road, (Sarsvtinagar)Gurudwara Shejari, Bhayandar, (E)	5058
34	3	Swr. Amtaram Patil Garden	Datta Mandir, Navghar, Bhayandar (E)	7877
35	3	Swr.Shyamrav Patil Garden	(Navghar- Navin) S.N College Samor Bhayandar (E)	6894
36	3	Swr. Prmod Mahajan Garden	Chandan Park, Bhayandar(E)	3649.61
37	3	Kharigaon Talao Garden	Prabhag Karyalay 3 Office Bhayandar (E)	828
38	3	Ramlila Garden (Aarkshan Kramank. 111)	Latakunj Galli, Navghar Road, Bhayandar (E)	4169
39	4	Swr.Indira Gandhi Talav Garden	Goddev Gaon, Gaondevi Mandirajaval, Bhayandar (E)	3992
40	4	Ram Rahim Garden	Geetanagar Phase-10 Overbridge javal Miraroad (E)	765
41	4	Aarkshan Krmank.167 Garden	Kanungo Estate Mira Road (E)	2528
42	4	Uddanpul Khalil Garden	Rationing Karyalay Samor,Mira Road	177.64
43	4	Swr. Balasaheb Thakare Garden (Aarkshan Kramank 221)	Indrlok, Mira Road (E)	17082
44	4	Kai.Arvind Pendse Garden (Aarkshan Kramank 216)	Selvan Square Hospitalschya Mage, Mira Road (E)	4029.76
45	4	Aarkshan Kramank. 235 Garden	Ramdev Park Mira Road (E)	16200

46	5	Nana-Nani Park Garden	Sector No.3 Mira Road (E)	2561
47	5	Sector No. 2 Mira Road Garden	Sector No.2 Mira Road (E)	14110
48	5	Sector No.2, C/26 Chya Bajuche Garden	Sector No.2 Mira Road (E)	3118
49	5	Saibaba Garden	Saibaba Nagar Mira Road (E)	4500
50	5	Ahillyabai Holkar Garden (R. N. A.)	Srushti Junya Bridge javal Miraroad (E)	2516
51	5	Chacha Neharu Bal Garden	Sector 8 C 39/40 Samoril Miraroad (E)	1180
52	5	Sector 8 C 30 Chya Bajula Garden	Sector No.8 Mira Road (E)	251
53	5	Sector -11 B/31,32 Samoril Garden	Sector No.11 Mira Road (E)	696
54	5	Shitalnagar Garden	Shitalnagar, Mira Road (E)	3042
55	5	Sector -11 B/21 Samoril Garden	Sector- 11 Mira Road (E)	896
56	5	Mira Road Sector-4 Garden	Mira Road (E)	831
57	5	Mira Road Sector-5 Garden	Mira Road (E)	9000
58	5	Mira Road Sector-6 Garden	Mira Road (E)	3577
59	5	Mira Road Sector-7 Garden	Mira Road (E)	2019
60	5	Poonam Phase-3 Garden	Mira Road (E)	8574
61	5	Lokmanya Tilak Garden, Sector No.9	Sector No.9, Mira Road (E)	10841
62	5	Sardar Vallabhbhai Patel Garden	Sector No.10, Mira Road (E)	4096
63	5	Sector No.1, B/20,21,22 Bajuche Garden	Sector No.01, Mira Road (E)	1515
64	5	Sector No.1, B/16,17,50 Bajuche Garden	Sector No.01, Mira Road (E)	557

Annexure VI – Maps Showing Previous DP Status and Restructuring as Per Draft DP Of Reservation Sites.

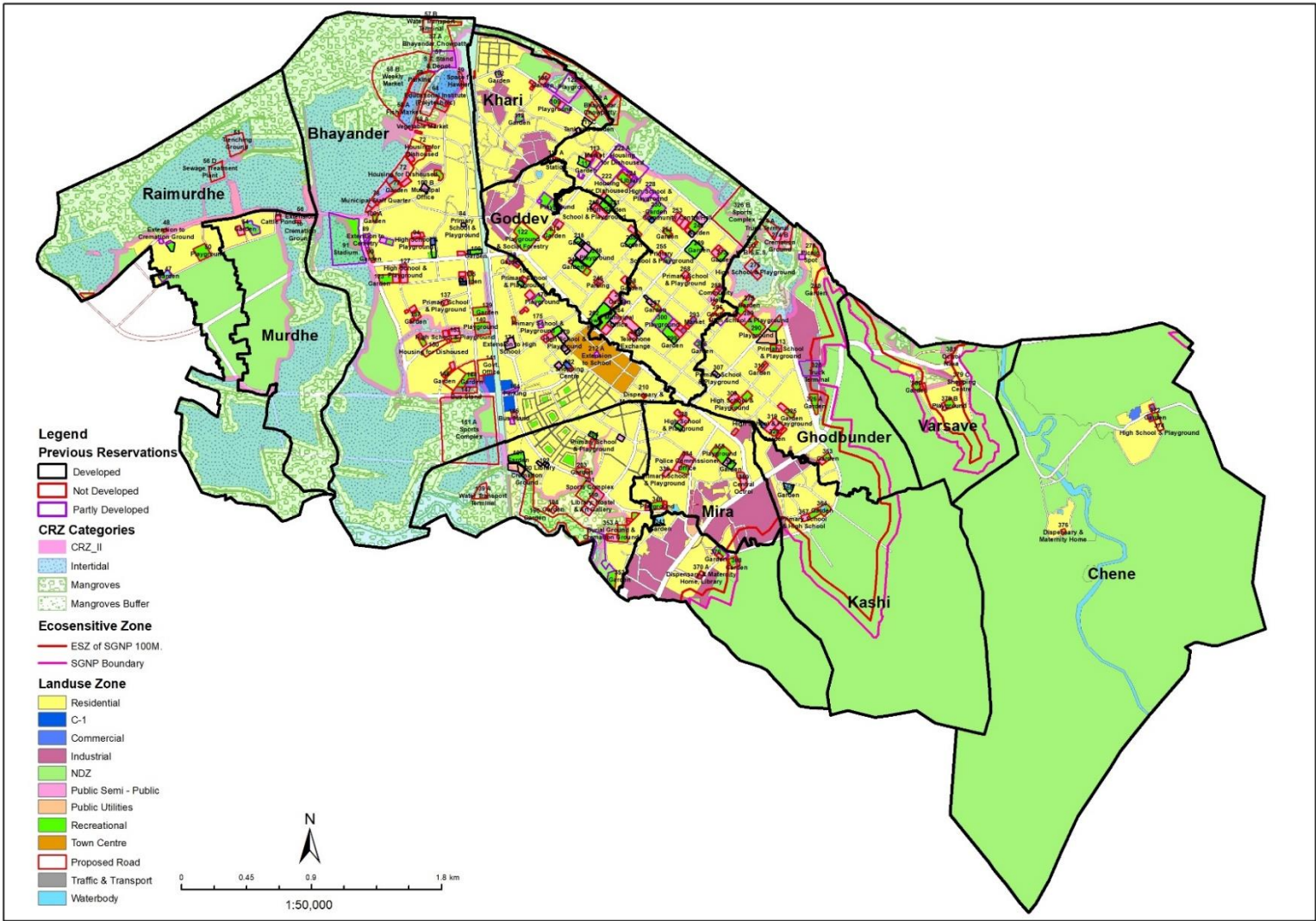


Figure 24-1 Development Status of Reservation Sites

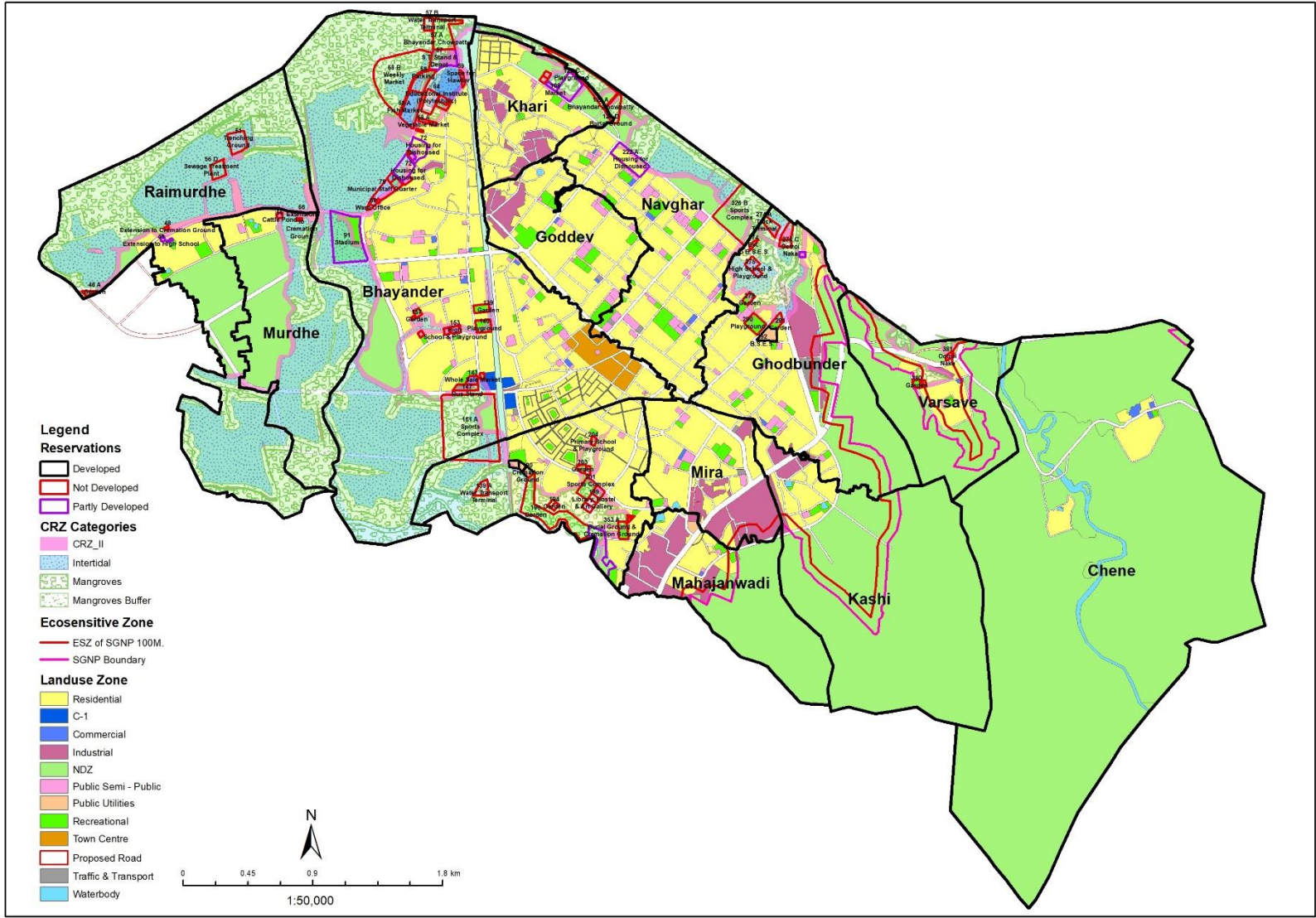


Figure 24-2 CRZ Affected Reservation Sites and Development Status

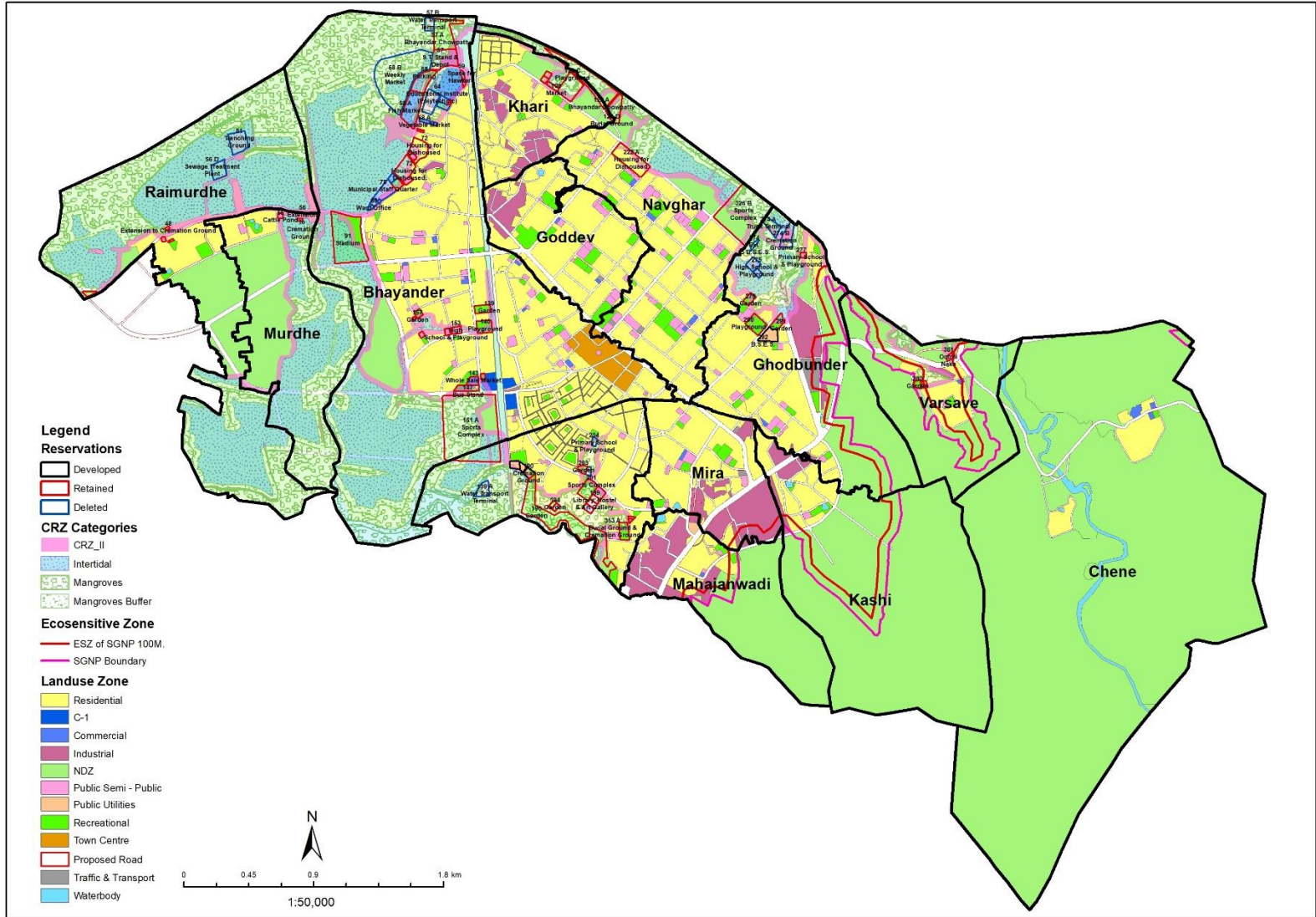


Figure 24-3 Restructuring of CRZ Affected Reservation Sites

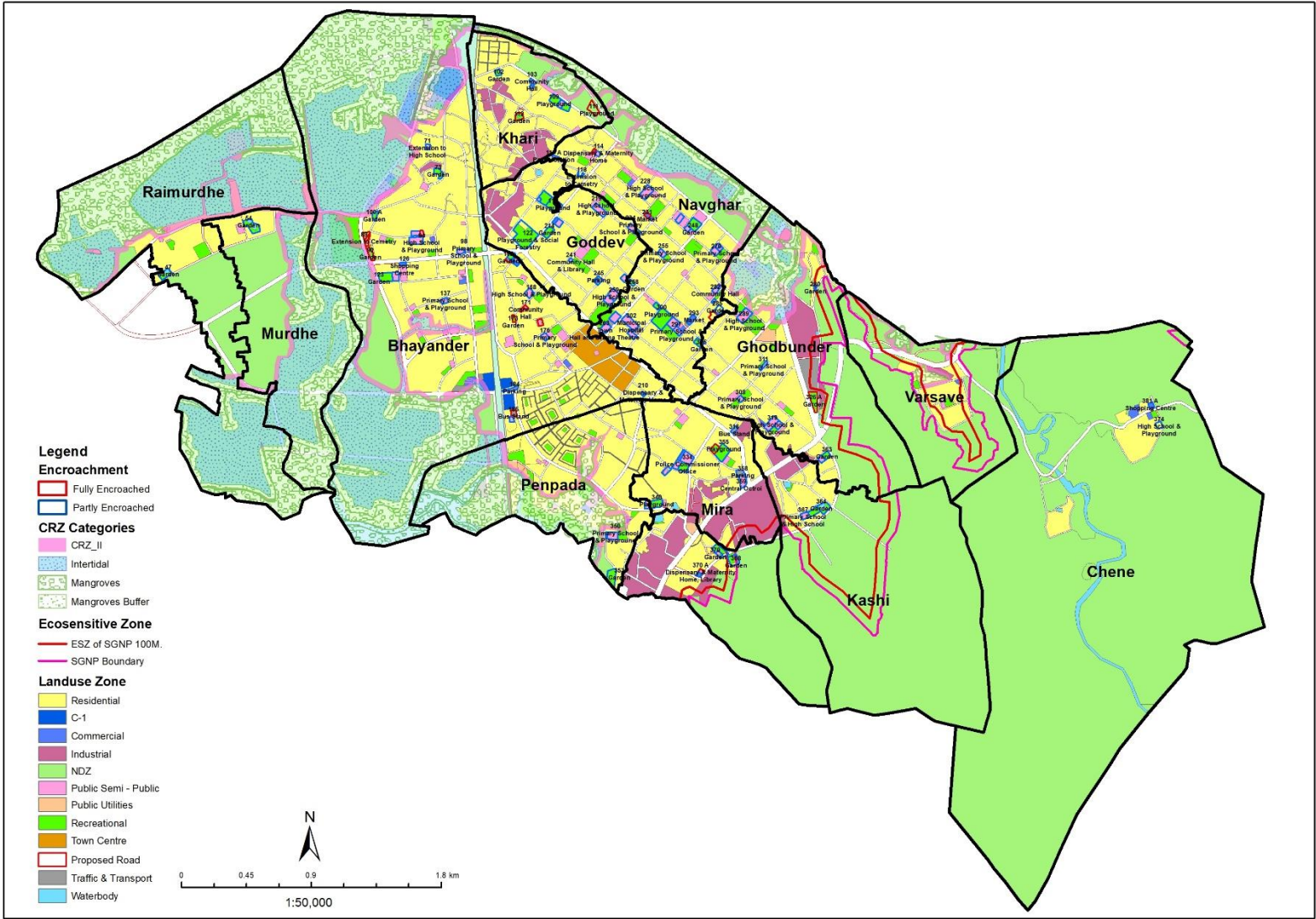


Figure 24-4 Encroachment on Reservation Sites

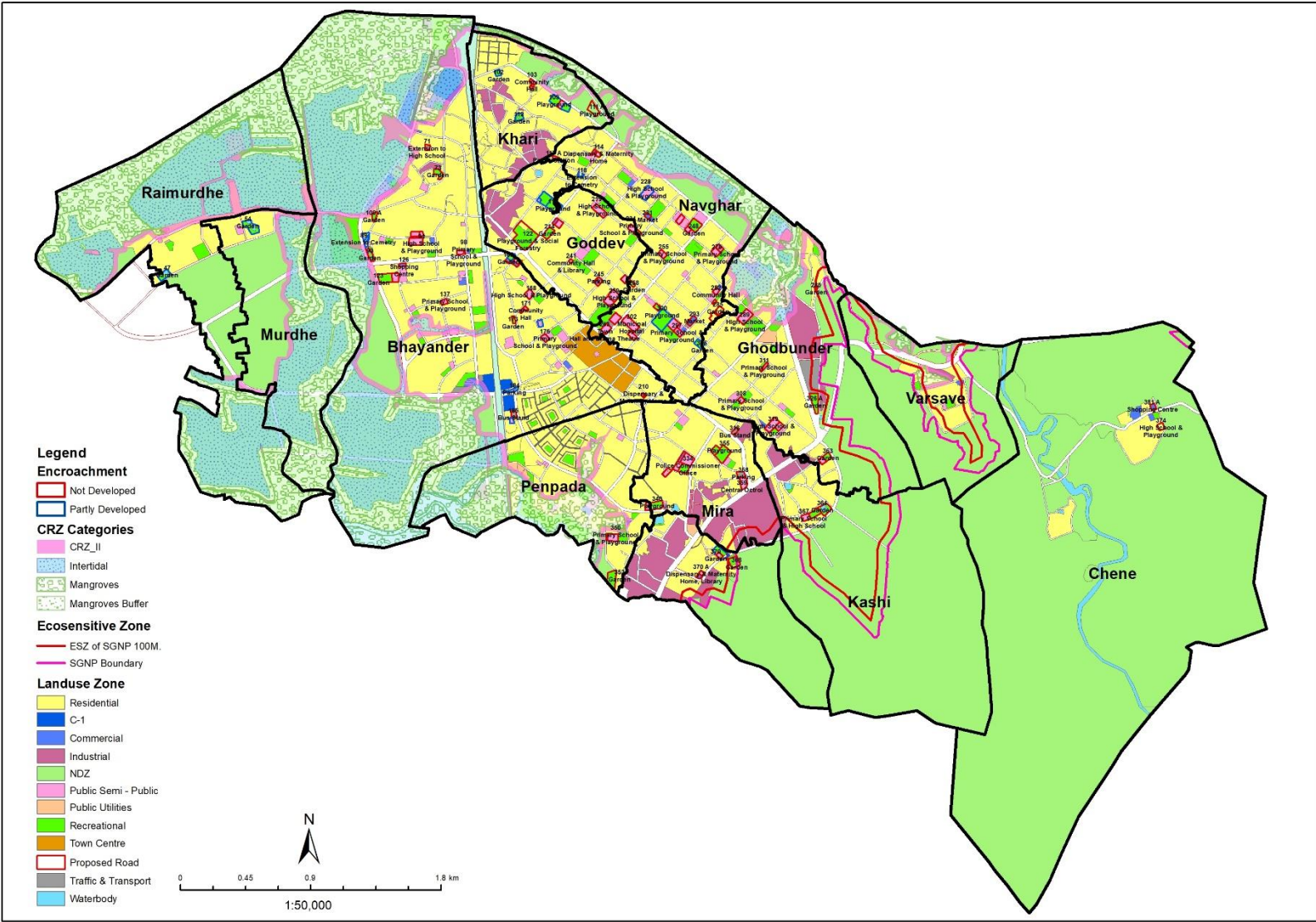


Figure 24-5 Development on Encroached Sites

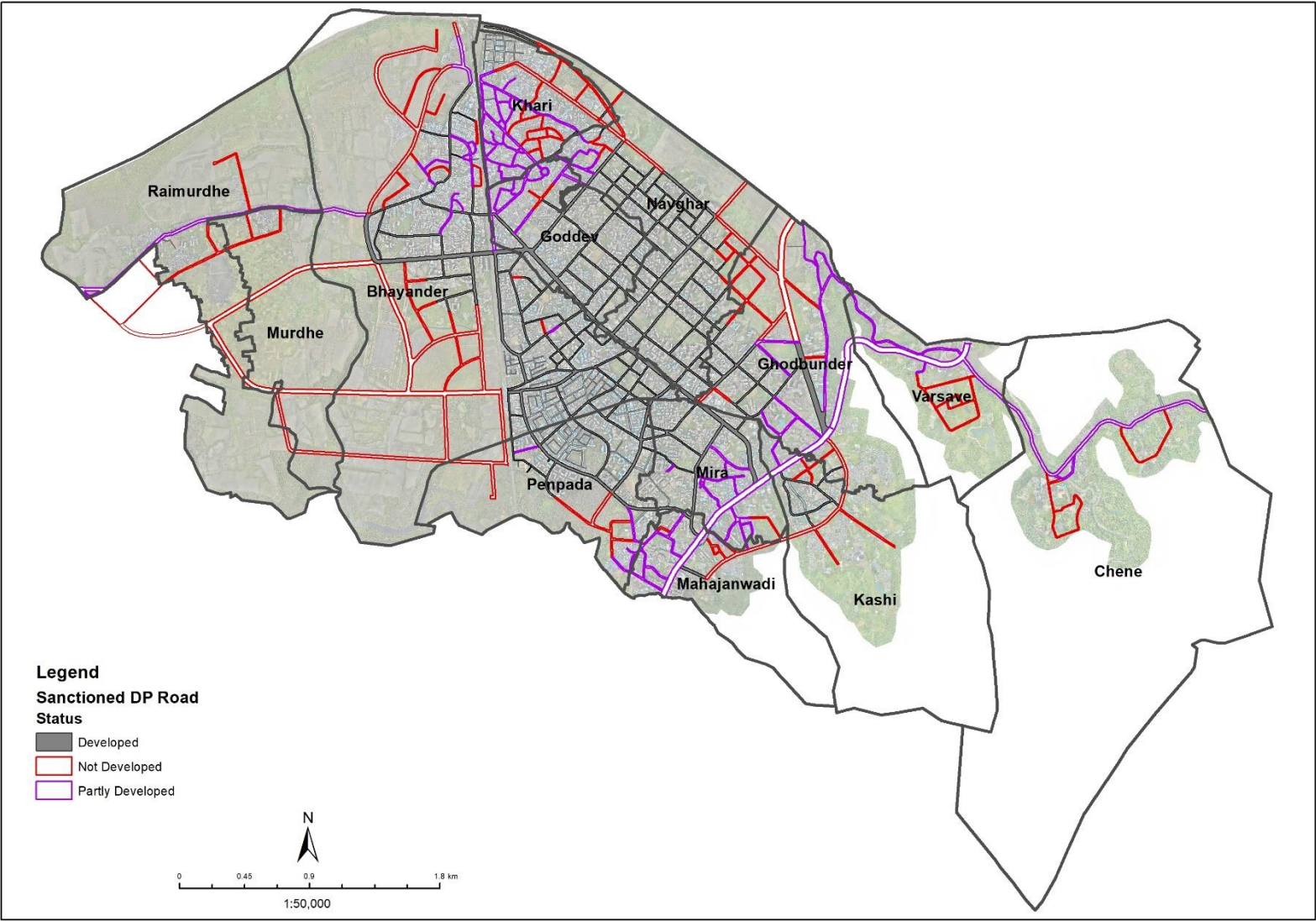


Figure 24-6 Development Status of Proposed DP Roads

Annexure VII – Road Details

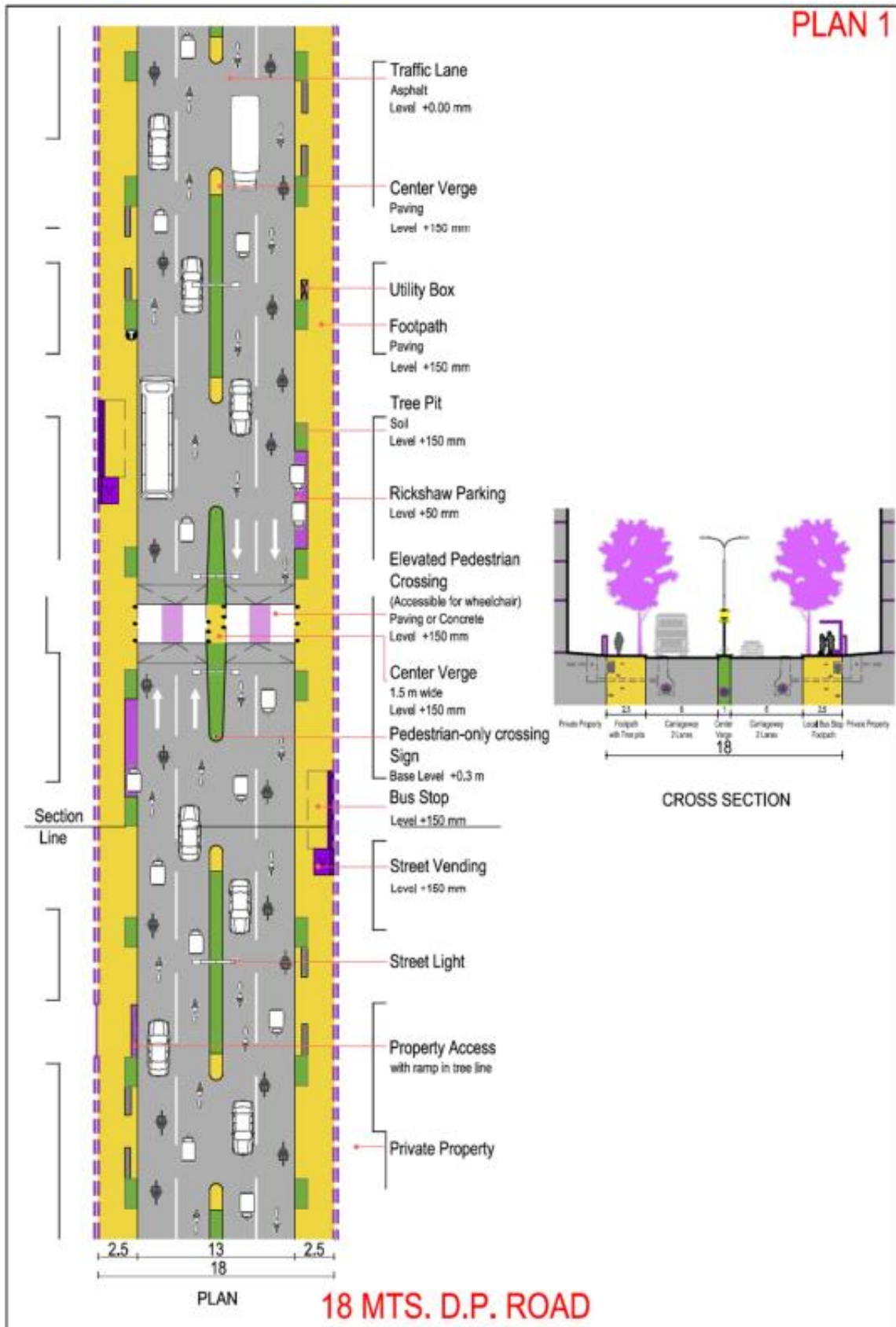


Figure 24-7 18 M wide Road Details

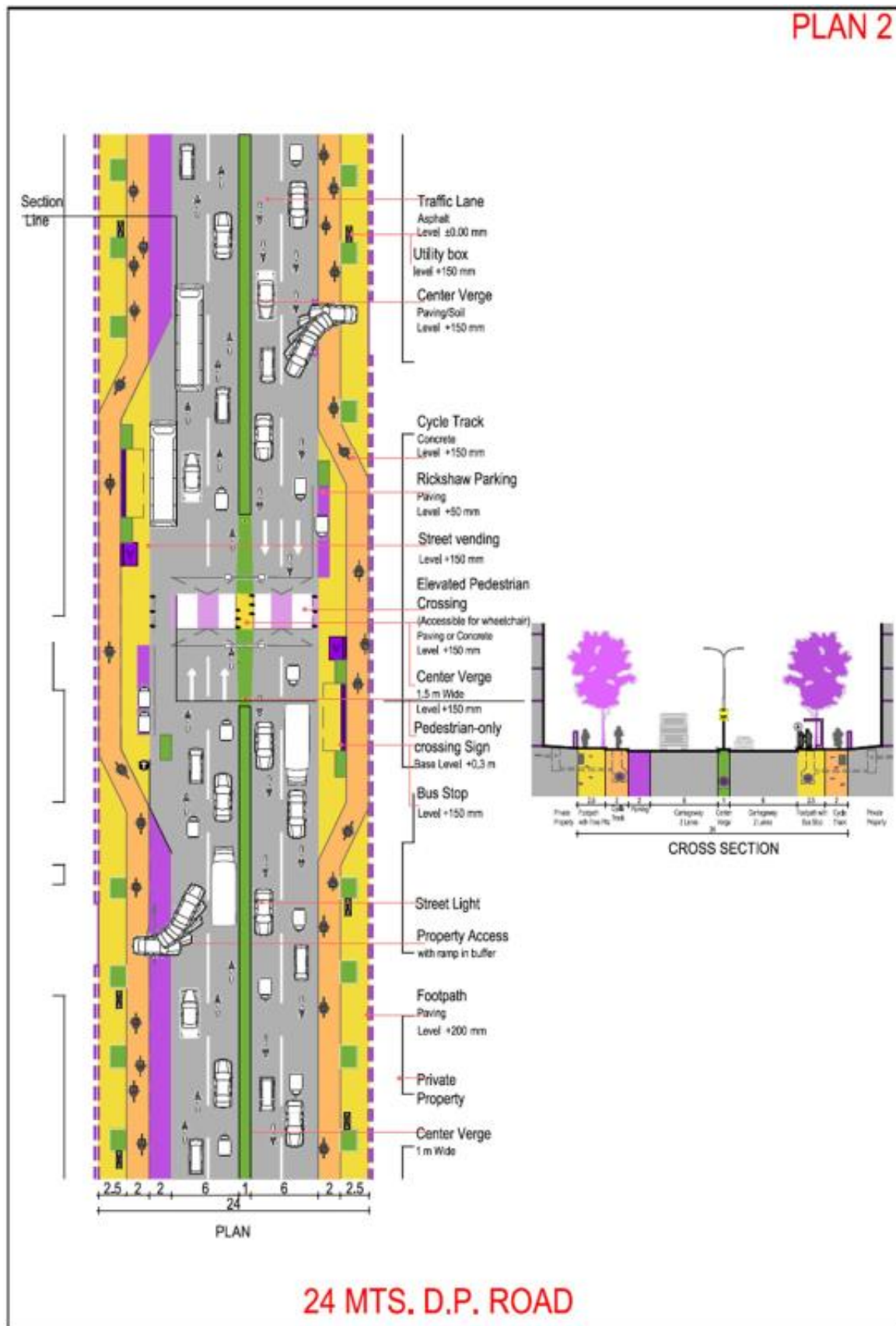


Figure 24-8 24 M Wide Road Details

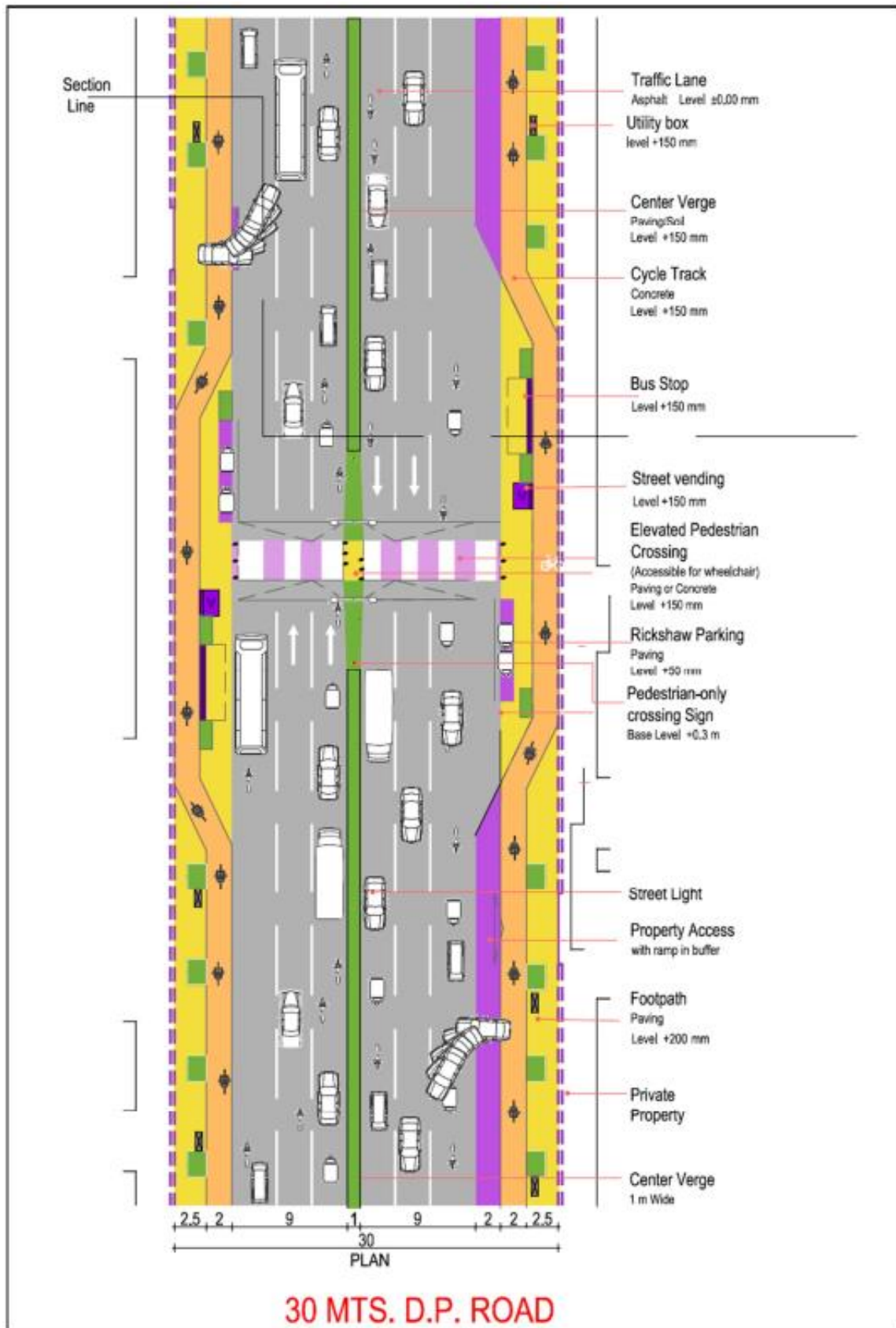


Figure 24-9 30 M Wide Road Details

Annexure VIII: Deviation Statement

Proposal of Sanctioned DP					Proposals of Draft Revised DP				
Sr. No.	Site No.	Purpose	Village Name	Area (Ha)	Site No.	Purpose	Area (Ha)	Remark	CRZ
1	46A	Garden	Rai Murdhe	0.53	1	Garden	0.53	Retain as Garden	Mangroves
2	47	Garden	Rai Murdhe	0.95	2	Garden	0.95	Retain as Garden	
3	48	Extension to Cremation Ground	Rai Murdhe	0.15	Developed				Mangroves
4	49	Extension to High School	Rai Murdhe	0.37	Resized and Developed				CRZ II
5	50	Playground	Rai Murdhe	2.22	4	Playground	2.22	Retain as Playground	
6	51	Trenching Ground	Rai Murdhe	4.12	Deleted			Deleted as affected by CRZ	Intertidal Zone
7	52	High School & Playground	Deleted as per EP						
8	53	Primary School, High School & Playground	Murdhe	0.71	5	Educational Amenity	0.72	Retain as Educational Amenity	
9	54	Garden	Murdhe	1.74	6	Garden	1.74	Retain as Garden	
10	55	Cattle Pound	Murdhe	0.38	7	Municipal Market	0.38	Retain as Municipal Market	CRZ II
11	56	Extension to Cremation Ground	Murdhe	0.16	Deleted			Deleted as affected by CRZ	CRZ II
12	56C	Playground	Rai Murdhe	0.65	Developed				
13	56D	Sewage Treatment Plant	Rai Murdhe	2.69	Deleted			Deleted as affected by CRZ	Intertidal Zone
14	57	S.T. Stand & Depot	Bhayandar	5.71	22	S.T. Stand & Depot	1.00	Area Modified as affected by CRZ and Retain as S.T. Stand & Depot	Mangroves, CRZ II
15	57A	Bhayandar Chowpatty	Bhayandar	8.81	21	Mangrove Park	8.81	Retain as Mangrove Park	Mangroves, CRZ II

16	57B	Water Transport Terminal	Bhayandar	1.42	Deleted			Deleted as affected by CRZ	Mangroves
17	58	Parking	Bhayandar	3.72	Deleted			Deleted as affected by CRZ	Intertidal Zone, CRZ II
18	58A	Market (Fish)	Bhayandar	6.20	Deleted			Deleted as affected by CRZ	Intertidal Zone, CRZ II
19	58B	Market (Weekly)	Bhayandar	25.77	Deleted			Deleted as affected by CRZ	Mangroves, Intertidal Zone
20	59	Space for Hawkers	Bhayandar	0.33	23	Parking	0.12	Area Modified and Retain as Parking	Intertidal Zone
21	60	Rickshaw Parking	Bhayandar	0.26	24	Rickshaw Parking	0.78	Area Modified and Retain as Rikshaw Parking	Intertidal Zone, CRZ II
22	61	Dispensary & Maternity Home	Bhayandar	0.09	26	Garden	0.69	Area Modified as affected by CRZ and Retain as Garden	CRZ II
23	62	Talathi Office	Bhayandar	0.08					CRZ II
24	65	Playground & Freedom Fighter Memorial	Bhayandar	0.82					Intertidal Zone, CRZ II
25	66	Primary School & Playground	Bhayandar	0.71					Intertidal Zone, CRZ II
26	63	Freedom Fighter Memorial	Site Deleted and area included in site no. 65						
27	64	Educational Institute (Polytechnic)	Bhayandar	3.32	Deleted			Deleted as affected by CRZ	Mangroves, Intertidal Zone
28	67	Garden	Deleted as per EP						
29	68	Market	Bhayandar	0.17	28	Municipal Market	0.17	Retain as Municipal Market	CRZ II
30	68A	Market (Vegetable)	Bhayandar	0.38	Deleted			Deleted as affected by CRZ	CRZ II

31	68B	School	Bhayandar	0.31	27	Municipal Market	0.20	Area Modified as affected by CRZ and Retain as Municipal Market	CRZ II
32	69	Garden	Bhayandar	0.15	32	Water Works	0.42	Area Modified and Retain as Water Works	Intertidal Zone
33	70	Primary School & Playground	Bhayandar	0.41	33	Fish Market	0.28	Area Modified as affected by CRZ and Retain as Fish Market	Intertidal Zone, CRZ II
34	71	Extension to High School	Bhayandar	0.27	30	Educational Amenity	0.27	Retain as Educational Amenity	
35	72	Housing for Dishoused	Bhayandar	6.96	31	Slaughter House	1.68	Area Modified as affected by CRZ and Retain as Housing for Dishoused, URS Purpose and STP	Intertidal Zone, CRZ II
		Housing for Dishoused			34	URS Purpose	1.58		
		STP		1.79	29	STP	1.79		
36	73	Garden	Bhayandar	0.71	36	Garden	0.71	Retain as Garden	
37	74	Primary School & Playground	Deleted as per EP						

38	75	Primary School & Playground	Bhayandar	0.57	35	Housing for Dishoused	0.57	Retain as Housing for Dishoused	CRZ II
39	76	Slaughter House	Bhayandar	0.62			0	Deleted as affected by CRZ	Intertidal Zone
40	77	Garden	Bhayandar	1.01	37	Garden	1.01	Retain as Garden	Intertidal Zone, CRZ II
41	78	Municipal Staff Quarter	Bhayandar	2.99	38	Hawkers Market	1.62	Area Modified as affected by CRZ and Retain as Hawkerc Market	Intertidal Zone, CRZ II
42	79	Library	Bhayandar	0.12					CRZ II
43	80	Ward Office	Bhayandar	0.54					Intertidal Zone, CRZ II
44	81	Veterinary Hospital	Bhayandar	0.32					Intertidal Zone
45	82	Extension to High School	Deleted as per EP						
46	83	Primary School and Playground	Deleted as per EP						
47	84	Primary School & Playground	Bhayandar	0.20				Developed	
48	85	Garden	Deleted as per EP						
49	86	Extension to Primary Health	Deleted as per EP						
50	87	Library	Bhayandar	0.21	42	Parking	0.21	Retain as Parking	
51	88	Primary School & Playground	Bhayandar	0.50	41	Educational Amenity	0.46	Area Modified as affected by road and Retain as Education Amenity	
52	89	Extension to Cemetery	Bhayandar	0.82	40	Extension to Crematorium	0.13	Area Modified as affected by road and Retain as Extension to Crematorium	
					45	Housing for Dishoused	0.81	Partly area retain as Housing for Dishoused	

53	90	Garden	Bhayandar	0.97	46	Night Shelter	0.16	Retain as Night Shelter		
					47	Parking	0.37	Retain as Parking		
54	91	Stadium	Bhayandar	17.84	19	Fire Brigade Station	0.20	Area Modified and Retain as Stadium, Fire Station	Intertidal Zone, CRZ II	
					20	Stadium	16.75			
55	92	Primary School & Playground	Bhayandar	0.43	Developed					
56	93	Sewage Treatment Plant	Bhayandar	0.46	44	STP	0.46	Retain as STP		
57	94	High School & Playground	Bhayandar	1.17	43	Community Hall	1.17	Retain as Community Hall		
58	95	Garden	Deleted as per EP							
59	96	Playground	Bhayandar	0.61	Developed					
60	97	Market	Bhayandar	0.37	Developed					
61	98	Primary School & Playground	Bhayandar	0.46	48	Educational Amenity	0.46	Area Modified as per reservation relocation and Retain as Education Amenity		
62	99	Shopping Centre	Bhayandar	0.16	Developed					
63	100	Garden	Bhayandar	0.66	Developed					
64	100A	Garden	Bhayandar	0.42	39	Garden	0.42	Retain as Garden		
65	100B	Municipal Office	Bhayandar	0.62	Developed					
66	101	Parking	Khari	0.09				Deleted as affected by road		
67	102	Garden	Khari	0.38	83	Garden	0.38	Retain as Garden		
68	103	Community Hall	Khari	0.24	84	Playground	0.24	Retain as Playground		

69	104	Library	Khari	0.08	85	Parking	0.08	Retain as Parking	
70	105	Dispensary & Maternity Home	Khari	0.10	86	Medical Amenity	0.10	Retain as Medical Amenity	
71	106	Garden	Khari	0.44	88	Garden	0.44	Retain as Garden	CRZ II
72	107	Primary School & Playground	Khari	0.43	87	Educational Amenity	0.43	Retain as Educational Amenity	CRZ II
73	108	Market	Khari	0.58	89	Municipal Market	0.58	Retain as Municipal Market	Intertidal Zone, Mangroves Buffer
74	109	Playground	Khari	0.95	94	Garden	0.95	Developed as garden and Retain as Garden	
75	110	Primary School & Playground	Khari	0.47	95	Multipurpose Parking	0.47	Retain as Parking	
76	111	Garden	Khari	0.63	96	Garden	0.63	Retain as Garden	
77	111 A	Playground	Khari	1.12	97	Public Utility	1.12	Retain as Public Utility	
78	111 B	Vegetable Market	Khari	0.60	98	Playground	0.60	Retain as Playground	
79	111 C	Tank and Garden	Khari	0.71	Developed				
80	112	Garden	Khari	0.61	102	Garden	0.61	Retain as Garden	
81	113	Market	Navghar	0.20	104	Municipal Market	0.20	Retain as Municipal Market	
82	114	Dispensary & Maternity Home	Navghar	0.26	105	Medical Amenity	0.26	Retain as Medical Amenity	
83	115	High School & Playground	Navghar	1.01	106	Parking	0.20	Retain as Parking and Playground	
					107	Playground	0.14		
84	116	Primary School & Playground	Navghar	0.45	108	School for Specially Abled	0.45	Retain as School for Specially Abled	
85	117	Garden	Navghar	1.00	Developed				
86	117A	Police Station	Goddev	0.21	103	Police Station	0.21	Retain as Police Station	

87	118	Extension to Cemetery	Navghar	0.25	109	Extension to Crematorium	0.25	Retain as Crematorium	
88	119	Playground	Navghar, Goddev	1.52	113	Playground	1.52	Retain as STP and Playground	
		STP		0.17	114	STP	0.17		
89	120	Garden	Goddev	0.82	112	Garden	0.82	Retain as STP and Garden	
		STP		0.56	110	STP	0.56		
90	121	Library	Goddev	0.15	111	Library	0.15	Retain as Library	
91	122	Playground & Social Forestry	Goddev	4.60	116	Playground	4.60	Retain as Playground and Community Hall	
		Agri Bhavan		0.65	115	Community Hall	0.65		
92	122A	Bhayandar Chowpatty	Navghar	15.00	92	Mangrove Park	9.46	Retain as Mangrove Park and Water Transport Terminal	Mangroves, Mangrove Buffer, CRZ II
					81	Water Transport Terminal	1.99		
93	122B	Primary School & Playground	Khari	0.27	Developed				
94	122C	Playground	Khari	5.80	90	Playground	1.14	Resized and Retain as Playground	Mangroves, CRZ II
					91	Mangrove Park	4.67		
95	122D	Burial Ground	Navghar, Khari	3.64	93	Parking	0.40	Resized and Retain as Parking, Burial Ground and Crematorium	Mangroves, CRZ II
					99	Burial Ground	1.31		
					100	Crematorium	0.23		
96	123	Garden	Bhayandar	1.49	50	Spiritual Center	3.06	Combined and Retain as Spiritual Center	

97	124	Primary School & Playground	Bhayandar	0.71						
98	127	High School & Playground	Bhayandar	1.29						
99	125	Garden	Deleted as per EP							
100	126	Shopping Centre	Bhayandar	0.24	49	Shopping Center & Parking	0.67	Retain as Shopping Center and Parking		
101	128	Garden	Deleted							
102	129	Primary School & Playground	Deleted							
103	130	High School & Playground	Deleted							
104	131	Primary School & Playground	Bhayandar	0.39	51	Educational Amenity	0.39	Retain as Educational Amenity		
105	132	Fire Station & M. C. Sub-Office	Bhayandar	0.13	Developed					
106	133	Space for Hawkers	Bhayandar	0.15	52	Water Works	0.15	Retain as Water Works		
107	134	Market	Bhayandar	0.28	54	Public Amenity	0.04	Resized and Retain as Public Amenity		
108	135	Garden	Bhayandar	0.66	53	Garden	0.66	Retain as Garden		
109	136	Garden	Deleted as per EP							
110	137	Primary School & Playground	Bhayandar	0.38	55	Community Hall	0.38	Retain as Community Hall		
111	138	Primary School & Playground	Bhayandar	0.38	56	Medical Amenity	0.38	Retain as Medical Amenity		
112	139	Garden	Bhayandar	0.83	63	Garden	0.83	Resized and Retain as STP and Garden	CRZ II	
		STP		0.51	64	STP	0.51			
113	139 A	Water Transport Terminal	Bhayandar	1.92	Deleted			Deleted as affected by CRZ	Mangrove	
114	140	Playground	Bhayandar	2.24	65	Playground	2.15			

					66	Water Works	0.10	Resized and Retain as Playground, Water Works	Intertidal Zone, CRZ II
115	141	Govt. Office	Bhayandar	2.98	76	Municipal Godown	2.98	Retain as Municipal Godown	
116	142	Parking	Bhayandar	0.32	77	Parking	0.32	Retain as Parking	CRZ II
117	143	Wholesale Market	Bhayandar	1.08	74	Garden	2.65	Combined and Retain as Garden	Intertidal Zone, Mangrove Buffer, CRZ II
118	144	Garden	Bhayandar	1.55					
119	145	Govt. Office	Bhayandar	1.82	73	Auditorium	1.82	Retain as Auditorium	
120	146	Institution for Higher Education	Bhayandar	3.19	72	Educational Amenity	3.19	Retain as Educational Amenity	
121	147	Bus Stand	Bhayandar	1.77	75	Bus Stand	1.77	Retain as Bus Stand	Mangrove, Mangrove Buffer, CRZ II
122	148	Garden	Bhayandar	0.53	71	Parking	0.53	Retain as Parking	
123	149	Primary School & Playground	Bhayandar	0.39	70	Educational Amenity	0.39	Retain as Educational Amenity	
124	150	Housing for Dishoused	Bhayandar	0.12	69	Project Affected People	0.12	Retain as Project Affected People	
125	151	Library	Bhayandar	0.38	68	Parking	0.38	Retain as Parking	
126	152	Garden	Bhayandar	2.02	67	Educational Amenity	2.02	Retain as Educational Amenity	
127	153	High School & Playground	Bhayandar	0.85	62	Garden	0.85	Retain as Garden	Intertidal Zone, CRZ II
128	154	Primary School & Playground	Bhayandar	0.43	61	Shopping Center	0.43	Retain as Shopping Center	Intertidal Zone, CRZ II

129	155	Garden	Bhayandar	0.47	60	Municipal Market and Parking	0.78	Combined and Retain as Municipal Market and Parking	CRZ II	
130	156	Primary School & Playground	Bhayandar	0.30						
131	157	Garden	Bhayandar	0.56	57	Garden	0.56	Retain as Garden	Intertidal Zone, CRZ II	
132	158	Shopping Center	Bhayandar	0.12	59	Water Works	0.12	Retain as Water Works	CRZ II	
133	159	Community Hall	Deleted as per EP							
134	160	Dispensary	Deleted as per EP							
135	161	Post & Telegraph	Bhayandar	0.12	58	Parking	0.12	Retain as Parking		
136	161A	Sports Complex	Bhayandar	44.73	78	Parking	1.22	Resized and Retain as Shopping Center, Parking and Mangrove Park	Mangrove, Mangrove Buffer, Intertidal Zone, CRZ II	
					79	Shopping Center	4.24			
					80	Mangrove Park	39.29			
137	162	Garden	Bhayandar, Goddev	0.45	129	Garden	0.45	Retain as Garden		
138	163	Post & Telegraph	Bhayandar	0.21	130	Parking	0.21	Retain as Parking		
139	164	Primary School & Playground	Bhayandar, Goddev	0.39	131	Municipal Hospital	0.39	Retain as Municipal Hospital		
140	165	Market	Bhayandar	0.27	132	Municipal Market	0.27	Retain as Municipal Market		
141	166	Primary School & Playground	Bhayandar	0.33	133	Educational Amenity	0.33	Retain as Educational Amenity		
142	167	Garden	Bhayandar	0.23	Developed					
143	168	High School & Playground	Bhayandar	0.69	134	Educational Amenity	0.69	Retain as Educational Amenity		
144	169	Primary School and Playground	Deleted as per EP							

145	170	Playground	Bhayandar	1.04	135	Extension to STP	0.16	Resized and Retain as Extension to STP	
146	171	Community Hall	Bhayandar	0.17	136	Community Hall	0.17	Retain as Community Hall	
147	172	Shopping Centre	Bhayandar	0.17	137	Shopping Centre	0.17	Retain as Shopping Centre	
148	173	Garden	Bhayandar	0.29	138	Garden	0.29	Retain as Garden	
149	174	Extension to High School	Bhayandar	1.18	140	Extension to High School	1.18	Retain as Extension to High School	
150	175	Primary School & Playground	Bhayandar	0.38	139	Educational Amenity	0.38	Retain as Educational Amenity	
151	176	Primary School & Playground	Bhayandar	0.47	153	Educational Amenity	0.47	Retain as Educational Amenity	
152	177	Post & Telegraph	Bhayandar	0.40	152	Medical Amenity	0.40	Retain as Medical Amenity	
153	178	Playground	Bhayandar	0.90	151	Water Works	0.13	Playground and Community Hall developed and remaining area retain as Water Works	
154	179	High School & Playground	Bhayandar	0.88	Developed				
155	180	Primary School & Playground	Bhayandar	0.52	Developed				
156	181	Library	Bhayandar	0.19	Developed				
157	182	Shopping Centre	Bhayandar	0.48	Developed				
158	183	Dispensary & Maternity Home	Bhayandar	0.33	Developed				
159	184	Parking	Bhayandar	0.50	174	Parking	0.50	Retain as Parking	
160	184A	Police Station	Bhayandar	0.16	173	Government Purpose	0.16	Retain as Government Purpose	

161	185	Bus Stand	Bhayandar	0.37	175	Bus Stand	0.34	Area Modified and Retain as Bus Stand	
162	186	Extension to Primary School	Penkarpada	0.25	176	Educational Amenity	0.25	Retain as Educational Amenity	
163	187	Garden	Penkarpada	1.90	Developed				
164	188	Burial Ground	Penkarpada	0.88	Developed				Mangroves Buffer, CRZ II
165	189	Cemetery	Penkarpada	0.97	Developed				Mangroves Buffer, CRZ II
166	190	Cremation Ground	Penkarpada	0.46	Developed				Mangroves Buffer, CRZ II
167	191	Primary School & Playground	Penkarpada	0.21	Developed				
168	192	Library	Penkarpada	0.10	Developed				
169	193	Dispensary & Maternity Home	Penkarpada	0.14	Developed				
170	194	Garden	Penkarpada	0.39	215	Mangrove Park	49.46	Combined and Retain as Mangrove Park	Mangroves
171	195	Primary School & Playground	Penkarpada	0.44					Mangroves
172	196	Garden	Penkarpada	14.16					Mangroves, CRZ II
173	197	Market	Penkarpada	0.74					Mangroves
174	198	Dispensary & Maternity Home	Penkarpada	0.71					Mangroves
175	199	Library Hostel & Art Gallery	Penkarpada	0.69					Mangroves
176	200	Higher Education Institution	Penkarpada	1.18					Mangroves, CRZ II
177	201	Sports Complex	Penkarpada	2.99					Mangroves, CRZ II

178	202	Primary School & Playground	Penkarpada	0.50	Deleted			Deleted as affected by CRZ	Mangroves
179	203	Garden	Penkarpada	0.70	212	Garden	0.70	Resized and Retained as Garden	Mangroves, Mangroves Buffer, CRZ II
180	204	Primary School & Playground	Penkarpada	0.50	Deleted			Deleted as affected by CRZ	Mangroves, Mangroves Buffer, CRZ II
181	205	Garden	Penkarpada	0.49	Developed				
182	206	High School and Playground	Deleted as per EP						
183	207	Primary School & Playground	Penkarpada	0.46	Developed				
184	208	Primary School & Playground	Deleted						
185	209	Garden	Deleted as per EP						
186	210	Dispensary & Maternity Home	Bhayandar	0.11	207	Medical Amenity	0.11	Retain as Medical Amenity	
187	211	Community Hall & Library	Bhayandar	0.08	209	Community Hall	0.08	Retain as Community Hall	
188	212	Library	Deleted						
189	212A	Extension to School	Bhayandar	0.24	172	Extension to School	0.24	Retain as Extension to School	
190	213	Shopping Centre	Goddev	0.24	127	Educational Amenity	0.77	Combined and Retain as Educational Amenity	
191	215	Primary School & Playground	Goddev	0.52					
192	214	Garden	Goddev	0.92	128	Garden	0.92	Resized and Retain as Garden	
193	216	Garden	Goddev	0.40	Developed				
194	217	Dispensary & Maternity Home	Goddev	0.21	Developed				

195	218	Community Hall	Goddev	0.26	Developed				
196	219	High School & Play Ground	Goddev	1.17	126	Government Purpose	1.17	Retain as Government Purpose	
197	220	Primary School & Playground	Navghar, Goddev	0.70	125	Extension to Playground	0.70	Retain as Playground	
198	221	Garden	Navghar, Goddev	1.99	Developed as Playground				
199	222	Housing for Dishoused	Navghar	5.26	118	Housing for Dishoused	5.26	Retain as Housing for Dishoused	
200	222A	Housing for Dishoused	Navghar	6.86	117	Housing for Dishoused	6.86	Retain as Housing for Dishoused	CRZ II
201	223	Primary School & Playground	Navghar	0.38	119	Public Amenity	0.38	Resized and Retain as Public Amenity	
202	224	Library	Navghar	0.14	120	Parking	0.14	Retain as Parking	
203	225	Dispensary & Maternity Home	Navghar	0.25	121	Medical Amenity	0.25	Retain as Medical Amenity	
204	226	Garden	Navghar	1.29	122	Garden	1.08	Resized and Retain as Garden and Water Works	
					123	Water Works	0.21		
205	227	Shopping Centre	Navghar	0.41	124	Shopping Center	0.41	Retain as Shopping Center	
206	228	High School & Playground	Navghar	1.30	141	Educational Amenity	1.30	Retain as Educational Amenity	
207	229	Primary School & Playground	Navghar	0.47	142	Educational Amenity	0.47	Retain as Educational Amenity	
208	230	Garden	Navghar	2.22	143	Garden	2.22	Resized and Retain as Garden	
209	231	Market	Navghar	0.31	Developed				

210	232	Shopping Centre	Navghar	0.23	Developed			
211	233	Gymnasium	Navghar, Goddev	0.43	144	Auditorium	0.92	Combined and Retain as Auditorium
212	234	Primary School & Playground	Goddev, Navghar	0.49				
213	235	Garden	Goddev	1.05	Developed			
214	236	Primary School & Playground	Goddev	0.66	145	Educational Amenity	0.66	Retain as Educational Amenity
215	237	Tech. High School & Playground	Goddev	1.27	Developed			
216	238	Shopping Centre	Deleted					
217	239	Market	Deleted					
218	240	Library	Deleted					
219	241	Community Hall & Library	Goddev	0.13	147	Community Hall	0.48	Resized and Retain as Community Hall
220	242	Garden	Goddev	1.19	Developed			
221	243	Swimming Pool	Goddev	0.44	148	Swimming Pool	0.44	Retain as Swimming Pool
222	244	Market	Goddev	0.24	150	Parking	0.22	Resized and Retain as Parking
223	245	Parking	Goddev	0.31	149	Shopping Center	0.28	Resized and Retain as Shopping Center
224	246	Playground	Goddev	1.96	146	Playground	1.96	Retain as Playground
225	247	High School & Playground	Navghar	1.26	Developed			
226	248	Garden	Goddev	1.30	157	Garden	1.18	Resized and Retain as Garden and Water Works
					158	Water Works	0.12	
227	249	Library	Navghar	0.31	Developed			

228	250	Dispensary & Maternity Home	Navghar	0.22	159	Medical Amenity	0.22	Retain as Medical Amenity	
229	251	Post & Telegraph	Navghar	0.72	156	Government Purpose	0.72	Retain as Government Purpose	
230	252	Primary School & Playground	Navghar	0.56	155	Medical Amenity	0.56	Retain as Medical Amenity	
231	253	Community Centre/Hall	Navghar	0.49	154	Community Hall	0.49	Retain as Community Hall	
232	254	Garden	Navghar	0.52	160	Garden	0.52	Retain as Garden	
233	255	Primary School & Playground	Navghar	0.53	161	Old Age Home	0.36	Resized and Retain as Old Age Home and Fire Brigade Station	
					162	Fire Brigade Station	0.17		
234	256	Garden	Navghar	0.40	163	Garden	0.40	Retain as Garden	
235	257	Primary School & Playground	Navghar, Goddev	0.48	164	Educational Amenity	0.48	Retain as Educational Amenity	
236	258	Garden	Navghar, Goddev	0.34	165	Working Women Hostel & Child Care Center	0.16	Resized and Retain as Garden and Working Women Hostel & Child Care Center	
					166	Garden	0.19		
237	259	High School & Play Ground	Navghar, Goddev	0.97	167	Administrative Building for Govt. Office	0.97	Retain as Administrative Building for Govt. Office	
238	260	Primary School & Playground	Goddev	0.78	169	Municipal Purpose	0.78	Retain as Municipal Purpose	
239	261	Garden	Navghar	0.43	168	Garden	0.43	Retain as Garden	
240	262	Town Park	Navghar, Goddev	4.67	Developed				

241	263	Town Hall and Drama Theatre	Navghar	0.79	171	Town Hall and Drama Theatre	0.79	Retain as Town Hall and Drama Theatre	
242	264	Municipal Office	Navghar	0.89	170	Municipal Office	0.89	Retain as Municipal Office	
243	264A	Parking	Navghar	0.39	Developed				
244	265	Library	Navghar	0.15	Developed				
245	266	Primary School & Playground	Navghar	0.53	Developed				
246	267	Garden	Navghar	0.36	182	Municipal Market	0.31	Retain as Municipal Market and Water Works	
					183	Water Works	0.05		
247	268	Primary School & Playground	Navghar	0.40	180	Educational Amenity	0.40	Retain as Educational Amenity	
248	269	Garden	Navghar	2.30	Developed				
249	270	Primary School & Playground	Navghar	0.58	179	Educational Amenity	0.58	Retain as Educational Amenity	
250	271	Dispensary & Maternity Home	Navghar	0.21	178	Municipal Purpose	0.44	Combined and Retain as Municipal Purpose	
251	272	Library	Navghar	0.23					
252	273	Garden	Navghar	0.80	Developed				
253	274	Ext. to B.S.E.S.	Ghodbunder	0.38	Deleted			Deleted as affected by CRZ	Mangroves
254	274A	Truck Terminal	Ghodbunder	2.17	186	Parking	0.80	Resized and Retain as Parking	Intertidal Zone, Mangrove Buffer, CRZ II
255	274B	Cremation Ground	Ghodbunder	1.78	187	Truck Terminal	1.82	Resized and Retain as Truck Terminal	Intertidal Zone, Mangrove Buffer, CRZ II

256	274C	Octroi Naka	Ghodbunder	1.03					Mangroves, CRZ II
257	275	High School & Play Ground	Ghodbunder	1.45	Deleted			Deleted as affected by CRZ	Intertidal Zone
258	276	Primary School & Playground	Ghodbunder	0.61	Deleted			Deleted as affected by CRZ	Intertidal Zone
259	277	Primary School & Playground	Ghodbunder	0.40	282	Educational Amenity	0.29	Resized and Retain as Educational Amenity	CRZ II
260	278	Picnic Spot	Ghodbunder	0.65	281	Picnic Spot	0.65	Retain as Picnic Spot	
261	279	Garden	Ghodbunder	1.02	202	Garden	1.02	Retain as Garden	Intertidal Zone, CRZ II
262	280	Garden	Ghodbunder	0.15	284	Garden	0.15	Retain as Garden	
263	281	Market	Navghar	0.23	188	Municipal Market	0.23	Retain as Municipal Market	
264	282	Community Hall	Navghar	0.37	189	Community Hall	0.37	Retain as Community Hall	
265	283	Primary School & Playground	Navghar	0.60	198	Planetarium & Aquarium	0.60	Relocate & Retain as Planetarium & Aquarium	
266	284	Dispensary & Maternity Home	Navghar	0.16	190	Medical Amenity	0.16	Retain as Medical Amenity	
267	285	Garden	Navghar, Ghodbunder	0.52	197	Garden	0.52	Relocate and Retain as Garden	
268	286	Post & Telegraph	Navghar	0.14	181	Municipal Market	0.14	Retain as Municipal Market	
269	287	Garden	Navghar, Goddev	0.76	203	Municipal Purpose	0.76	Retain as Municipal Purpose	
270	288	Primary School & Playground	Navghar, Goddev	0.51	204	Government Purpose	0.82	Resized and Retain as Government Purpose	
271	289	High School & Playground	Ghodbunder	1.56	205	Garden	1.56	Retain as Garden	

272	290	Playground	Ghodbunder	2.90	206	Playground	2.90	Retain as Playground	CRZ II
273	291	Garden	Ghodbunder	1.53	216	Garden	0.72	Resized and Retain as Garden	Intertidal Zone, CRZ II
274	292	B.S.E.S.	Ghodbunder	2.57	Developed				CRZ II
275	293	Market	Navghar	0.60	193	Municipal Market	0.60	Retain as Municipal Market	
276	294	Parking	Navghar	0.18	194	Parking	0.18	Retain as Parking	
277	295	Shopping Centre	Navghar	0.28	195	Housing for Dishoused	2.23	Combined and Retain as Housing for Dishoused	
278	296	Post & Telegraph	Navghar	0.26					
279	297	Primary School & Playground	Navghar	0.58					
280	298	High School & Playground	Navghar	1.10					
281	299	Garden	Navghar	1.75	Developed				
282	300	Playground	Navghar	3.11	196	Playground	3.11	Retain as Playground	
283	301	Parking	Navghar	0.47	Developed				
284	302	Municipal Hospital	Navghar	1.61	184	Municipal Hospital	1.61	Retain as Municipal Hospital	
285	303	Telephone Exchange	Navghar	0.53	185	Municipal Market	0.53	Retain as Municipal Market	
286	304	Garden							
287	305	Garden	Navghar	0.68	201	Garden	0.68	Retain as Garden	
288	306	Club			Deleted as per EP				
289	307	Primary School & Playground	Ghodbunder	0.34	Developed				
290	308	Primary School & Playground	Ghodbunder	0.33	223	Women Hostel	0.33	Retain as Women Hostel	

291	309	High School & Playground	Ghodbunder	0.78	220	Educational Amenity	0.78	Retain as Educational Amenity		
292	310	Garden	Ghodbunder	0.33	218	Garden	0.33	Retain as Garden		
293	311	Primary School & Playground	Ghodbunder	0.34	219	Educational Amenity	0.34	Retain as Educational Amenity		
294	312	Garden	Ghodbunder	0.46	217	Exhibition Center	4.68	Combined and Retain as Exhibition Center		
295	313	Primary School & Playground	Ghodbunder	0.47						
296	314	Playground	Ghodbunder	0.75	221	Playground	0.63	Resized and Retain as Playground, Water Works		
					222	Water Works	0.12			
297	315	Garden	Ghodbunder	0.64	224	Garden	0.64	Retain as Garden		
298	316	Bus Stand	Ghodbunder	0.34	233	Bus Stand	0.34	Retain as Bus Stand		
299	317	Garden	Deleted							
300	318	Market	Ghodbunder	0.38	Developed					
301	319	High School & Play Ground	Ghodbunder	1.23	227	Housing for Dishoused	1.78	Combined and Retain as Housing for Dishoused		
302	321	Primary School & Playground	Ghodbunder	0.55						
303	320	Garden	Ghodbunder	0.49	228	Police Station	0.26	Resized and Retain as Police Station, Fire Brigade Station and Water Works		
					229	Fire Brigade Station	0.09			
					230	Water Works	0.14			
304	322	Library	Ghodbunder	0.19	232	Library	0.19	Retain as Library		
305	323	Dispensary & Maternity Home	Ghodbunder	0.22	231	Medical Amenity	0.22	Retain as Medical Amenity		

306	324	Primary School & Playground	Ghodbunder	0.49	225	Educational Amenity	0.49	Retain as Educational Amenity		
307	325	Garden	Ghodbunder	0.63	226	Municipal Purpose	1.25	Relocate, Resized and Retain as Municipal Purpose		
308	326	Truck Terminal	Ghodbunder	3.52	287	Transport Hub	3.38	Resized and Retain as Transport Hub, Water Works		
					286	Water Works	0.14			
309	326A	Garden	Ghodbunder	1.52	288	Garden	1.52	Retain as Garden		
310	326B	Sports Complex	Navghar	23.50	177	Sports Complex	11.16	Resized and Retain as Sports Complex		
311	327	Primary School & Playground	Mira	0.44	208	Playground	0.44	Retain as Playground		
312	328	High School & Playground	Mira	0.95	210	Educational Amenity	0.95	Retain as Educational Amenity		
313	329	Garden	Mira	0.45	Developed					
314	330	Welfare Center	Deleted							
315	331	Primary School & Playground	Mira	0.69	241	Educational Amenity	0.69	Retain as Educational Amenity		
316	333	Market	Mira	0.51	239	Municipal Market	0.51	Retain as Municipal Market		
317	334	Police Commissioner Office	Mira	1.33	240	Police Commissioner Office	1.33	Retain as Police Commissioner Office		
318	335	Garden	Mira	0.99	242	Garden	0.99	Retain as Garden		
319	336	Primary School & Playground	Mira	0.56	243	Educational Amenity	0.57	Resized and Retain as Educational Amenity		

320	337		Deleted						
321	338	Dispensary & Maternity Home	Mira	0.14	244	Medical Amenity	0.14	Retain as Medical Amenity	
322	339	Library	Mira	0.23	245	Parking	0.23	Retain as Parking	
323	340	Playground	Mira	1.10	246	Playground	0.84	Resized and Retain as Playground	
324	341	Garden	Mahajanwadi	0.21	Developed				
325	342	Ext. to College	Penkarpada	0.48	247	Educational Amenity	0.66	Resized and Retain as Educational Amenity	
326	343	Playground	Penkarpada	0.40	248	Shopping Center	0.40	Retain as Shopping Center	
327	344		Deleted						
328	345	Community Hall	Penkarpada	0.19	249	Garden	0.35	Combined and Retain as Garden	Mangroves Buffer, CRZ II
329	346	Market	Penkarpada	0.15					Mangroves Buffer, CRZ II
330	347	Primary School and Playground	Deleted as per EP						
331	348	Garden	Deleted as per EP						
332	349	Playground	Penkarpada	1.96	250	Housing for EWS/LIG	3.01	Combined and Retain as Housing for EWS/LIG	Mangroves, CRZ II
333	350	Primary School & Playground	Penkarpada	0.93					
334	351	Garden	Penkarpada	0.12					
335	352	Primary School & Playground	Deleted						
336	353	Garden	Penkarpada	1.56	254	Garden	1.56	Retain as Garden	
337	353A	Burial Ground & Cremation Ground	Penkarpada	6.58	251	Water Works	0.17	Resized and Retain as Water Works, Fire	

					252	Fire Brigade Station	0.14	Brigade Station and Burial Ground	Mangroves, Mangroves Buffer, CRZ II	
					253	Burial Ground	2.98			
338	354	Gymnasium	Mira	0.58	234	Bus Terminal and Parking	0.58	Retain as Bus Terminal and Parking		
339	355	Playground	Mira	2.09	235	Water Works	0.11	Resized and Retain as Park, Water Works		
					236	Park	1.98			
340	356	Primary School & Playground	Mira	0.50	237	Educational Amenity	0.50	Retain as Educational Amenity		
341	357	Garden	Mira	0.52	238	Garden	0.52	Retain as Garden		
342	358	Parking	Mira	0.52	255	Parking	0.52	Retain as Parking		
343	359	Central Octroi	Mira	0.97	256	Municipal Purpose	0.97	Retain as Municipal Purpose		
344	360	Garden	Kashi	0.35	Developed					
345	361	Library	Ghodbunder	0.12	261	Municipal Market	0.12	Retain as Municipal Market		
346	362	Primary School & Playground	Ghodbunder	0.41	260	Educational Amenity	0.41	Retain as Educational Amenity		
347	363	Garden	Ghodbunder	0.55	259	Garden	0.55	Retain as Garden		
348	364	Garden	Kashi	0.73	263	Garden	0.73	Retain as Garden		
349	365	Playground	Kashi	0.81	264	Playground	0.81	Retain as Playground		
350	366	High School and Playground	Deleted as per EP							
351	367	Primary School & High School	Kashi	0.56	265	Educational Amenity	0.56	Retain as Educational Amenity		
352	368	Garden	Mahajanwadi	0.77	277	Garden	0.77	Resized and Retain as Garden		
353	369	Primary School & Playground	Mahajanwadi	0.28	276	Educational Amenity	0.28	Retain as Educational Amenity		
354	370	Garden	Mahajanwadi	0.89	275	Garden	0.89	Retain as Garden		

355	370A	Dispensary & Maternity Home, Library	Mahajanwadi	0.20	278	Medical Amenity	0.20	Retain as Medical Amenity	
356	370B	Shopping Centre	Mahajanwadi	0.21	279	Shopping Center	0.21	Retain as Shopping Center	
357	371	Library	Deleted as per EP						
358	372	Garden	Chene	0.45	302	Garden	0.45	Retain as Garden	
359	373	Primary School & Playground	Chene	0.37	303	Medical Amenity	0.37	Retain as Medical Amenity	
360	374	High School & Playground	Chene	0.45	304	Educational Amenity	0.45	Retain as Educational Amenity	
361	375	Garden	Deleted						
362	376	Dispensary & Maternity Home	Chene	0.22	299	Medical Amenity	0.22	Retain as Medical Amenity	
363	377	Primary School & Playground	Deleted						
364	378	Garden	Deleted						
365	379	Primary School & Playground	Versave	0.41	292	Educational Amenity	0.41	Retain as Educational Amenity	Mangroves, CRZ II
366	379A	High School & Playground	Versave	0.34	294	Educational Amenity	0.34	Retain as Educational Amenity	
367	379B	Playground	Versave	0.87	295	Playground	0.87	Retain as Playground	
368	379C	Shopping Centre	Versave	0.31	293	Shopping Center	0.31	Retain as Shopping Center	
369	380	Garden	Versave	0.64	291	Garden	0.64	Retain as Garden	Mangroves, CRZ II
370	381	Site for Octroi- Naka	Versave	0.50	290	Municipal Purpose	0.50	Retain as Municipal Purpose	CRZ II
371	381A	Shopping Centre	Chene	0.37	300	Shopping Centre	0.37	Retain as Shopping Center	
372	381B	Tribal House	Chene	0.43	301	Tribal House	0.43	Retain as Tribal House	

373	387	Sewage Treatment Plant	Ghodbunder	0.94	199	STP	0.94	Retain as STP	
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**Annexure IX: Statement Showing List of Reservations for Amenities and their Cost of Acquisition and Development
in Draft Revised Development Plan**

Draft DP Reservation									
Sr. No.	Reservation No.	Purpose of Reservation	Village Name	Survey No/CTS	Area (Ha)	Land Ownership	Cost of Acquisition	Cost of Development	Acquiring Authority
1	No.01	Garden	Raimurdhe	36pt., 259pt.	5308.27	Pvt.	5,58,96,049	1,06,16,533	M.C.
2	No.02	Garden	Raimurdhe	200pt., 177pt.	9527.63	Pvt.	10,03,25,897	1,90,55,251	M.C.
3	No.03	Ext to Crematorium	Raimurdhe	36	1293.06	Pvt.	1,36,15,964	3,87,91,919	M.C.
4	No.04	Playground	Raimurdhe	169pt,168pt,170pt,231pt,	22241.00	Pvt.	18,51,26,601	4,44,82,007	M.C.
5	No.05	Educational Amenity	Murdhe	165pt,164pt., 235pt,236pt.,	7168.43	Pvt.	5,03,22,386	21,50,52,932	M.C.
6	No.06	Garden	Murdhe	12pt., 164pt., 236pt., 238pt., CTS 478	17384.86	Pvt.	12,20,41,730	3,47,69,724	M.C.
7	No.07	Municipal Market	Murdhe	9/Apt., 241pt.	3757.72	Pvt.	2,63,79,191	11,27,31,587	M.C.
8	No.08	Water Works	Murdhe	165pt., 166pt.,	1916.88	Pvt.	1,34,56,495	38,33,759	M.C.
9	No.09	Fire Brigade Station	Murdhe	166pt., 163pt., 165pt.,	1186.36	Pvt.	83,28,229	3,55,90,721	M.C.
10	No.10	URS Purpose	Murdhe	13pt., 14pt., 18pt., 19pt., 20pt., 21pt., 22pt., 23pt., 24pt., 25pt., 26pt., 160pt., 161pt., 162pt., 163pt., 164pt., 165pt.,	66960.62	Pvt.	0	0	M.C.

11	No.11	Garden	Murdhe	14pt., 17pt., 18pt., 20pt., 21pt., 22pt., 25pt., 26pt., 27pt.,	29418.45	Pvt.	20,65,17,540	5,88,36,906	M.C.
12	No.12	Municipal Hospital	Raimurdhe	86pt., 93pt., 94pt., 149pt., 150pt., 159pt.	10129.57	Pvt.	10,66,64,380	30,38,87,121	M.C.
13	No.13	Playground	Murdhe, Raimurdhe	Murdhe: 68pt., Raimurdhe:83pt., 84pt., 85pt., 99pt., 100pt., 101pt.	31843.57	Pvt.	22,35,41,876	6,36,87,144	M.C.
14	No.14	Burial Ground	Raimurdhe	75pt.	2373.39	Pvt.	2,49,91,766	7,12,01,612	M.C.
15	No.15	Cemetery	Raimurdhe	75pt.	1994.41	Pvt.	2,10,01,186	5,98,32,439	M.C.
16	No.16	Municipal Market	Murdhe	60pt.	3584.06	Pvt.	2,51,60,085	10,75,21,730	M.C.
17	No.17	Municipal Purpose	Murdhe	47pt., 48pt., 49pt., 50pt., 61pt., 245pt.	34092.83	Pvt.	23,93,31,692	1,02,27,85,009	M.C.
18	No.18	Institute for Fisheries	Raimurdhe, Murdhe	Raimurdhe: 38pt., Murdhe:52pt., 54pt., 56pt.	30341.34	Pvt.	31,94,94,299	91,02,40,169	M.C.
19	No.19	Fire Brigade Station	Bhayandar	757pt., 778pt.	1979.99	Pvt.	0	5,93,99,821	M.C.
20	No.20	Stadium	Bhayandar	757pt.,758pt., 778pt.,	167500.15	Pvt.	0	5,02,50,04,475	M.C.
21	No.21	Mangrove Park	Bhayandar	722pt.,	88141.03	Pvt.	18,90,79,089	17,62,82,061	M.C.
22	No.22	S.T. Stand & Depot	Bhayandar	722pt.,	9975.05	Pvt.	0	29,92,51,598	M.C.
23	No.23	Parking	Bhayandar	753pt.,	2636.58	Pvt.	5,90,59,450	7,90,97,478	M.C.
24	No.24	Rikshaw Parking	Bhayandar	753pt.	2673.40	Pvt.	5,98,84,123	8,02,01,950	M.C.
25	No.25	Parking	Bhayandar	753pt.,	6431.19	Pvt.	14,40,58,742	19,29,35,815	M.C.

26	No.26	Garden	Bhayandar	753pt.,	6947.89	Pvt.	15,56,32,672	1,38,95,774	State Govt.
27	No.27	Municipal Market	Bhayandar	722pt., 753pt., CTS 1433	1962.51	Pvt.	0	5,88,75,184	M.C.
28	No.28	Municipal Market	Bhayandar	CTS 1433pt.,	1693.03	Pvt.	3,79,23,891	5,07,90,926	M.C.
29	No.29	STP	Bhayandar	722pt., 764pt., CTS 1369pt.,	17907.64	Pvt.	40,11,31,111	53,72,29,167	M.C.
30	No.30	Educational Amenity	Bhayandar	CTS 1368pt., 1369pt.	2767.94	Pvt.	6,20,01,771	8,30,38,087	M.C.
31	No.31	Slaughter House	Bhayandar	722pt., 764pt.,	16809.99	Pvt.	37,65,43,820	50,42,99,758	M.C.
32	No.32	Water Works	Bhayandar	764pt.,	4161.91	Pvt.	9,32,26,873	83,23,828	M.C.
33	No.33	Fish Market	Bhayandar	722pt., 764pt.,	2837.48	Pvt.	6,35,59,615	8,51,24,484	M.C.
34	No.34	URS Purpose	Bhayandar	722pt., 755pt., 764pt., CTS 1024pt., 1055pt.,	15806.39	Pvt.	0	0	M.C.
35	No.35	Housing for Dishoused	Bhayandar	755pt,	5697.32	Pvt.	12,76,19,894	17,09,19,501	M.C.
36	No.36	Garden	Bhayandar	CTS 1061pt., 1064pt., 1065pt., 1066pt., 1067pt., 1068pt., 1069pt., 1070pt., 1071pt., 1072pt., 1073pt., 1074pt., 1075pt., 1076pt., 1078pt., 1079pt., 1080pt., 1081pt., 1082pt., 1083pt., 1084pt., 1085pt., 1086pt., 1087pt,1088pt., 1089pt., 1090pt.,	7095.93	Govt.	15,89,48,777	1,41,91,855	M.C.

				1091pt., 1092pt., 1093pt., 1094pt., 1095pt., 1096pt., 1097pt., 1098pt., 1110pt., 11101pt.					
37	No.37	Garden	Bhayandar	755pt.,	10167.32	Pvt.	22,77,48,063	2,03,34,649	M.C.
38	No.38	Hawkers Market	Bhayandar	773pt., 755pt., CTS 935pt., 937pt., 938pt.,	16201.90	Pvt.	36,29,22,505	48,60,56,927	M.C.
39	No.39	Garden	Bhayandar	CTS 930pt., 931pt., 932pt.,	4206.89	Govt.	9,42,34,385	84,13,784	M.C.
40	No.40	Ext to Crematorium	Bhayandar	757pt., 778pt.	1305.32	Pvt.	2,92,39,121	3,91,59,537	M.C.
41	No.41	Educational Amenity	Bhayandar	671pt., 673pt., 674pt., 675pt.,	4578.60	Pvt.	10,25,60,554	13,73,57,885	M.C.
42	No.42	Parking	Bhayandar	675pt., CTS 759pt.,	2081.36	Pvt.	4,66,22,516	6,24,40,869	M.C.
43	No.43	Community Hall	Bhayandar	661pt., 670pt., 671pt., 675pt.,	11662.98	Pvt.	23,34,07,736	34,98,89,346	M.C.
44	No.44	STP	Bhayandar	666pt., 668pt., 669pt.,	4619.99	Pvt.	0	13,85,99,757	M.C.
45	No.45	Housing for Dishoused	Bhayandar	664pt., 758pt., 778pt.,	8117.24	Pvt.	18,18,26,136	24,35,17,146	M.C.
46	No.46	Night Shelter	Bhayandar	758pt., 778pt.,	1592.64	Pvt.	3,56,75,115	4,77,79,171	M.C.
47	No.47	Parking	Bhayandar	758pt.,	3732.99	Pvt.	8,36,19,087	11,19,89,849	M.C.
48	No.48	Educational Amenity	Bhayandar	681pt., 682pt.	4642.89	Pvt.	10,40,00,666	13,92,86,606	M.C.
49	No.49	Shopping Centre & Parking	Bhayandar	654pt., 658pt.,	6651.42	Pvt.	14,89,91,794	19,95,42,581	M.C.

50	No.50	Spiritual Center	Bhayandar	646pt., 647pt., 652pt., 653pt., 654pt., 655pt., 658pt.,	30574.76	Pvt.	68,48,74,602	91,72,42,770	M.C.
51	No.51	Educational Amenity	Bhayandar	570pt., 571pt., 572pt.,	3872.18	Pvt.	8,67,36,842	11,61,65,414	M.C.
52	No.52	Water Works	Bhayandar	570pt., 571pt.	1455.24	Pvt.	3,25,97,274	29,10,471	M.C.
53	No.53	Garden	Bhayandar	553pt., 554pt., 555pt., 571pt.,	6578.69	Pvt.	14,73,62,607	1,31,57,376	M.C.
54	No.54	Public Amenity	Bhayandar	568pt., 570pt.,	395.00	Pvt.	88,50,854	1,18,50,000	M.C.
55	No.55	Community Hall	Bhayandar	563pt., 565pt., 566pt.,	3841.66	Pvt.	8,60,53,109	11,52,49,700	M.C.
56	No.56	Medical Amenity	Bhayandar	579pt., 580pt., 644pt.	3788.42	Pvt.	8,27,53,515	11,36,52,700	M.C.
57	No.57	Garden	Bhayandar	580pt., 581pt.,	5689.06	Pvt.	9,66,18,889	1,13,78,127	M.C.
58	No.58	Parking	Bhayandar	644pt.,	1199.72	Pvt.	2,68,73,825	3,59,91,730	M.C.
59	No.59	Water works	Bhayandar	581pt., 643pt.,	1237.87	Pvt.	2,77,28,352	24,75,746	M.C.
60	No.60	Municipal Market & Parking	Bhayandar	587pt., 588pt., 632pt., 633pt.,	7819.86	Pvt.	17,51,64,940	23,45,95,902	M.C.
61	No.61	Shopping Center	Bhayandar	584pt., 589pt., 599pt., 600pt.,	4344.40	Pvt.	9,73,14,490	13,03,31,906	M.C.
62	No.62	Garden	Bhayandar	594pt., 599pt., 600pt.	8526.64	Pvt.	19,09,96,653	1,70,53,273	M.C.
63	No.63	Garden	Bhayandar	561pt., 602pt.,	2837.76	Pvt.	1,71,97,761	56,75,514	M.C.
64	No.64	STP	Bhayandar	603pt., 602pt., 561pt., 559pt., 560pt.,	10522.25	Pvt.	18,93,30,474	31,56,67,600	M.C.
65	No.65	Playground	Bhayandar	602pt., 604pt., 605pt.	21452.47	Pvt.	48,05,35,276	4,29,04,935	M.C.
66	No.66	Water Works	Bhayandar	604pt., 605pt.,	980.00	Pvt.	2,19,60,647	19,60,000	M.C.

67	No.67	Educational Amenity	Bhayandar	594pt., 599pt.,	3852.60	Pvt.	8,62,98,184	11,55,77,925	M.C.
68	No.68	Parking	Bhayandar	599pt.,	1270.88	Pvt.	2,84,67,746	3,81,26,446	M.C.
69	No.69	Project Affected Person	Bhayandar	588pt., 589pt., 590pt.632pt.	20233.65	Pvt.	45,32,33,856	60,70,09,628	M.C.
70	No.70	Educational Amenity	Bhayandar	592pt.,	3956.09	Pvt.	8,86,16,462	11,86,82,761	M.C.
71	No.71	Parking	Bhayandar	591pt., 592pt.	5332.80	Pvt.	11,94,54,729	15,99,84,013	M.C.
72	No.72	Educational Amenity	Bhayandar	619pt., 591pt., 592pt.593pt., 618pt., 608pt.,	31900.00	Pvt.	71,45,60,059	95,70,00,078	M.C.
73	No.73	Auditorium	Bhayandar	593pt., 611pt., 612pt., 608pt.609/Bpt.	18263.64	Pvt.	40,91,05,561	54,79,09,233	Govt.
74	No.74	Garden	Bhayandar	611pt., 610pt., 618pt., 608pt.,	26455.13	Pvt.	59,25,94,843	5,29,10,254	M.C.
75	No.75	Bus Stand	Bhayandar	612pt., 617pt., 619pt., 611pt., 618pt.,	17755.95	Pvt.	39,77,33,385	53,26,78,641	M.C.
76	No.76	Municipal Godown	Bhayandar	610pt., 609/Bpt.,	29845.61	Pvt.	66,85,41,706	89,53,68,357	Govt.
77	No.77	Parking	Bhayandar	610pt.,	3194.08	Pvt.	7,15,47,453	9,58,22,482	M.C.
78	No.78	Parking	Bhayandar	782pt.,	12157.59	Pvt.	27,23,30,031	36,47,27,720	M.C.
79	No.79	Shopping Center	Bhayandar	782pt.,	42387.69	Pvt.	94,94,84,367	1,27,16,30,849	M.C.
80	No.80	Mangrove Park	Bhayandar, Penkarpada	Bhayandar: 613pt., 612pt., 617pt., 763pt., 619pt., 618pt,782pt., Penkarpada: 192pt., 261pt., 262pt.	392931.00	Pvt.	8,80,16,54,431	78,58,62,003	M.C.

81	No.81	Water Terminal	Navghar	209pt.,	19897.50	Pvt.	0	0	Maritime Board
82	No.82	Water Works	Khari	164pt.,	1288.44	Pvt.	3,41,43,541	25,76,871	M.C.
83	No.83	Garden	Khari	152pt., 153pt., 154pt.,	3762.37	Pvt.	9,97,02,812	75,24,741	M.C.
84	No.84	Playground	Khari	171pt., 170pt., 172pt., 166pt.,	2438.20	Pvt.	6,46,12,432	48,76,410	M.C.
85	No.85	Parking	Khari	170pt., 171pt.,	780.00	Pvt.	2,08,52,544	2,34,00,000	M.C.
86	No.86	Medical Amenity	Khari	171pt.,	970.00	Pvt.	2,57,38,951	2,91,00,000	M.C.
87	No.87	Educational Amenity	Khari	185pt., 172pt., 184pt., 166pt., 187pt.781pt.	4347.77	Pvt.	11,52,15,982	13,04,33,187	M.C.
88	No.88	Garden	Khari	172pt.,	4409.17	Pvt.	10,22,58,676	88,18,336	M.C.
89	No.89	Municipal Market	Khari	173pt., 185pt., 172pt., 184pt., 183pt.,	5792.22	Pvt.	10,64,73,408	17,37,66,733	M.C.
90	No.90	Playground	Khari	182pt., 183pt., 191pt., 186pt.,	11373.68	Pvt.	30,14,02,431	2,27,47,353	M.C.
91	No.91	Mangrove Park	Khari, Navghar	Khari: 190pt., 182pt., 183pt., 186pt., 189pt., 187pt., 188pt., Navghar: 209pt.,	46742.49	Pvt.	79,38,21,061	9,34,84,983	M.C.
92	No.92	Mangrove Park	Navghar	209pt.,	94687.00	Govt.	0	18,93,74,000	M.C.
93	No.93	Parking	Navghar	209pt.,	3969.58	Pvt.	0	11,90,87,531	M.C.
94	No.94	Garden	Khari	180pt., 181pt., 182pt., 183pt.,	9521.01	Pvt.	32,65,775	1,90,42,014	M.C.
95	No.95	Multipurpose Parking	Khari	181pt., 182pt., 191pt.,	4764.96	Pvt.	7,48,61,458	14,29,48,821	M.C.
96	No.96	Garden	Khari	181pt., 191pt., 192pt., 196pt.	6272.86	Pvt.	11,27,13,738	1,25,45,717	M.C.

97	No.97	Public Utility	Khari	193pt., 194pt.,	11243.68	Pvt.	29,79,57,586	33,73,10,474	M.C.
98	No.98	Playground	Khari	193pt., 194pt., 195pt.,	6002.83	Pvt.	15,90,75,119	1,20,05,669	M.C.
99	No.99	Burial Ground	Khari, Navghar	Khari: 193pt., 194pt., Navghar:201pt., 206pt., 207pt., 209pt.,	13125.78	Pvt.	0	39,37,73,288	M.C.
100	No.100	Cremation Ground	Navghar	206pt., 207pt.,	2376.62	Pvt.	7,11,79,646	7,12,98,477	M.C.
101	No.101	Cemetery	Navghar	201pt., 206pt.,	5571.14	Pvt.	16,68,55,567	16,71,34,124	M.C.
102	No.102	Garden	Khari	102pt., 103pt., 141pt., 142pt.,	6057.49	Pvt.	16,05,23,410	1,21,14,974	M.C.
103	No.103	Police Station	Goddev,Navghar	Goddev:88pt., Navghar 95pt	2095.15	Pvt.	5,80,35,518	6,28,54,352	M.C.
104	No.104	Municipal Market	Navghar	212pt., 214pt.,	1984.27	Pvt.	5,43,82,229	5,95,28,017	M.C.
105	No.105	Medical Amenity	Navghar	212pt., 213pt., 214pt.	2574.74	Pvt.	7,71,13,418	7,72,42,155	M.C.
106	No.106	Parking	Navghar	212pt., 213pt., 214pt.	1974.09	Pvt.	5,91,24,106	5,92,22,810	M.C.
107	No.107	Playground	Navghar	212pt., 213pt.,	1408.96	Pvt.	4,21,98,422	28,17,925	M.C.
108	No.108	School for Specially Abled	Navghar	213pt., 214pt.	4524.11	Pvt.	0	13,57,23,165	M.C.
109	No.109	Ext to Crematorium	Navghar	215pt., 217pt., 218pt.	2541.04	Pvt.	4,05,51,140	7,62,31,238	M.C.
110	No.110	STP	Goddev	73pt.74pt., 75pt., 76pt.,	5622.14	Pvt.	70,21,087	16,86,64,165	M.C.
111	No.111	Library	Goddev	74pt.76pt.,	1542.21	Pvt.	2,47,14,170	4,62,66,249	M.C.
112	No.112	Garden	Goddev	74pt., 75pt., 76pt.	8220.22	Pvt.	7,89,87,906	1,64,40,438	M.C.

113	No.113	Playground	Goddev, Navghar	Goddev:340pt.55 pt., 327pt., 75pt.325pt., 76pt., 54pt., , Navghar:215pt.	15168.56	Pvt.	38,72,86,866	3,03,37,111	M.C.
114	No.114	STP	Goddev, Navghar	Goddev:327pt., 325pt., Navghar 215pt.,	1707.33	Pvt.	1,44,11,059	5,12,20,046	M.C.
115	No.115	Community Hall (Agri Bhavan)	Goddev	52pt., 53pt., 344pt.,	6538.15	Pvt.	18,11,06,661	19,61,44,398	M.C.
116	No.116	Playground	Goddev	346pt., 347pt., 345pt., 348pt., 344pt., 52pt.,	45973.35	Pvt.	29,89,03,815	9,19,46,703	M.C.
117	No.117	Housing for Dishoused	Navghar	242pt., 235pt., 243pt., 228pt., 234pt., 229pt., 233pt., 231pt., 232pt., 204pt., 212pt.,	68614.85	Pvt.	2,05,50,14,784	2,05,84,45,527	M.C.
118	No.118	Housing for Dishoused	Navghar	220pt., 218pt., 227pt., 219pt., 228pt., 229pt.,	52607.47	Pvt.	1,57,55,93,771	1,57,82,24,144	M.C.
119	No.119	Public Amenity	Navghar	235pt., 236pt., 228pt.,	890.00	Pvt.	2,67,02,549	2,67,00,000	M.C.
120	No.120	Parking	Navghar	235pt., 236pt.	1387.97	Pvt.	4,15,69,583	4,16,38,982	M.C.
121	No.121	Medical Amenity	Navghar	235pt., 236pt., 242pt.,	2545.72	Pvt.	7,62,44,403	7,63,71,689	M.C.
122	No.122	Garden	Navghar	227pt., 228pt., 236pt.,	10805.27	Pvt.	32,36,17,916	2,16,10,545	M.C.
123	No.123	Water Works	Navghar	236pt.,	2091.31	Pvt.	6,26,34,667	41,82,616	M.C.
124	No.124	Shopping Center	Navghar	236pt., 242pt.,	4064.36	Pvt.	12,17,27,449	12,19,30,667	M.C.

125	No.125	Ext to Playground	Goddev Navghar	Goddev:322pt., 323pt., Navghar:222pt., 223pt.,	6978.69	Pvt.	19,33,09,828	1,39,57,388	M.C.
126	No.126	Government Purpose	Goddev	317pt., 319pt., 320pt., 321pt., 322pt.,	11663.19	Pvt.	32,30,70,381	34,98,95,720	M.C.
127	No.127	Educational Amenity	Goddev	340pt., 341pt., 54pt.,	7653.17	Pvt.	21,19,92,706	22,95,94,989	M.C.
128	No.128	Garden	Goddev	343pt., 342pt., 341pt., 337pt.	9299.54	Pvt.	20,23,63,572	1,85,99,088	M.C.
129	No.129	Garden	Bhayandar, Goddev	Bhayandar:350pt. , Goddev:346pt., 347pt.	4468.51	Pvt.	8,40,85,256	89,37,012	M.C.
130	No.130	Parking	Bhayandar	35pt.,	2096.03	Pvt.	4,02,46,843	6,28,81,022	M.C.
131	No.131	Municipal Hospital	Bhayandar, Goddev	Bhayandar:350pt. , 548pt., 547pt., Goddev:346pt., 351pt.,	3947.48	Pvt.	8,84,23,488	11,84,24,314	M.C.
132	No.132	Municipal Market	Bhayandar	547pt., 548pt.,	2734.66	Pvt.	6,12,56,426	8,20,39,856	M.C.
133	No.133	Educational Amenity	Bhayandar	536pt., 549pt.,	3806.86	Pvt.	8,52,73,696	11,42,05,843	M.C.
134	No.134	Educational Amenity	Bhayandar	533pt., 534pt., 535pt., 536pt.,	6903.66	Pvt.	15,46,42,093	20,71,09,947	M.C.
135	No.135	Ext. to STP	Bhayandar	532pt., 534pt.,	1648.49	Pvt.	0	4,94,54,841	M.C.
136	No.136	Community Hall	Bhayandar	525pt., 527pt., 535pt.,	1715.03	Pvt.	3,84,16,572	5,14,50,765	M.C.
137	No.137	Shopping Center	Bhayandar	525pt.	1672.40	Pvt.	3,74,61,853	5,01,72,124	M.C.
138	No.138	Garden	Bhayandar	520pt., 526pt.,	2959.95	Pvt.	6,63,02,788	59,19,892	M.C.
139	No.139	Educational Amenity	Bhayandar	498pt., 529pt., 499pt.,	3762.33	Pvt.	8,42,76,258	11,28,69,989	M.C.

140	No.140	Ext to High School	Bhayandar	518pt.,	11870.32	Pvt.	26,58,95,169	35,61,09,601	M.C.
141	No.141	Educational Amenity	Navghar	237pt., 240pt., 241pt., 242pt.,	13001.76	Pvt.	38,94,02,728	39,00,52,816	M.C.
142	No.142	Educational Amenity	Navghar	240pt., 241pt., 248pt.,252pt.,	4729.79	Pvt.	14,16,57,103	14,18,93,592	M.C.
143	No.143	Garden	Navghar	248pt., 249pt., 250pt., 252pt.,	15667.74	Pvt.	46,92,48,761	3,13,35,477	M.C.
144	No.144	Auditorium	Goddev, Navghar	Goddev:305pt., 306pt., 314pt., 315pt., Navghar:248pt., 301pt., 302pt., 304pt	9216.13	Pvt.	25,52,86,826	27,64,83,927	M.C.
145	No.145	Educational Amenity	Goddev	333pt., 334pt., 336pt., 337pt., 375pt.,	6640.71	Pvt.	18,39,47,625	19,92,21,255	M.C.
146	No.146	Playground	Goddev	333pt., 375pt., 376pt.,	19758.07	Pvt.	54,72,98,590	3,95,16,144	M.C.
147	No.147	Community Hall	Goddev	373pt., 378pt., 375pt., 335pt., 334pt.,	4813.69	Pvt.	13,33,39,270	14,44,10,762	M.C.
148	No.148	Swimming Pool	Goddev	376pt., 377pt.,	4369.43	Pvt.	12,10,33,257	13,10,82,949	M.C.
149	No.149	Shopping Center	Goddev	369pt., 377pt., 378pt., 380pt.	2788.05	Pvt.	7,72,28,860	8,36,41,364	M.C.
150	No.150	Parking	Goddev	369pt., 376pt., 377pt.,	2227.67	Pvt.	0	6,68,30,132	M.C.
151	No.151	Water Works	Bhayandar	490pt., 491pt., 498pt.,	1339.56	Pvt.	2,91,20,000	26,79,126	M.C.
152	No.152	Medical Amenity	Bhayandar	498pt.504pt.,	4073.55	Pvt.	9,12,47,471	12,22,06,434	Govt.
153	No.153	Educational Amenity	Bhayandar	503pt., 504pt.,	4753.70	Pvt.	10,64,82,973	14,26,11,124	M.C.

154	No.154	Community Hall	Navghar	298pt., 299pt., 250pt., 251pt.,	4872.60	Pvt.	14,59,34,282	14,61,77,912	M.C.
155	No.155	Medical Amenity	Navghar	298pt., 268pt., 251pt.,	5620.86	Pvt.	13,98,29,598	16,86,25,736	M.C.
156	No.156	Government Purpose	Navghar	288pt., 269pt., 298pt., 268pt.,	7228.22	Pvt.	21,64,85,220	21,68,46,631	M.C.
157	No.157	Garden	Navghar	269pt., 287pt.,	11791.19	Pvt.	0	2,35,82,381	M.C.
158	No.158	Water Works	Navghar	269pt.,	1229.95	Pvt.	0	24,59,906	M.C.
159	No.159	Medical Amenity	Navghar	269pt., 288pt.,	2164.19	Pvt.	0	6,49,25,561	M.C.
160	No.160	Garden	Navghar	295pt., 297pt., 299pt.,	5172.62	Pvt.	15,49,19,832	1,03,45,231	M.C.
161	No.161	Old Age Home	Navghar	405pt., 294pt., 304pt.,	3581.05	Pvt.	10,72,52,498	10,74,31,551	M.C.
162	No.162	Fire Brigade Station	Navghar	405pt., 294pt.,	1695.03	Pvt.	5,07,66,285	5,08,51,037	M.C.
163	No.163	Garden	Navghar	405pt., 406pt., 294pt.,	3995.19	Pvt.	11,96,56,029	79,90,386	M.C.
164	No.164	Educational Amenity	Goddev, Navghar	Goddev:398pt., 399pt., 400pt., Navghar:409pt.,	4795.02	Pvt.	13,28,22,155	14,38,50,709	M.C.
165	No.165	Working Women Hostel & Child Care Center	Goddev, Navghar	Goddev:399pt., Navghar:409pt.,	1558.86	Pvt.	4,31,80,327	4,67,65,697	M.C.
166	No.166	Garden	Navghar	409pt., 410pt.,	1890.55	Pvt.	5,66,22,034	37,81,104	M.C.
167	No.167	Administrative Building for Govt. Office	Goddev, Navghar	Goddev:384pt., 383pt., 381pt., 398pt., Navghar:397pt.,	9712.78	Pvt.	26,90,44,064	29,13,83,463	M.C.
168	No.168	Garden	Goddev, Navghar	Goddev:384pt., Navghar 385pt., 397pt.,	4256.69	Pvt.	11,79,10,255	85,13,376	M.C.

169	No.169	Municipal Purpose	Goddev	382pt., 383pt., 384pt.,	7796.68	Pvt.	21,59,68,080	23,39,00,448	M.C.
170	No.170	Municipal Office	Navghar	388pt., 387pt., 385pt., 391pt.,	8891.35	Pvt.	26,62,95,896	26,67,40,464	M.C.
171	No.171	Town Hall and Drama Theatre	Navghar	388pt., 387pt., 486pt.,	7908.06	Pvt.	23,68,46,429	23,72,41,832	M.C.
172	No.172	Ext to School	Bhayandar	480pt.,	2440.09	Pvt.	5,46,58,070	7,32,02,773	M.C.
173	No.173	Government Purpose	Bhayandar	496pt.482pt.,	1573.80	Pvt.	3,52,53,011	4,72,13,854	M.C.
174	No.174	Parking	Bhayandar	747pt., 748pt.,	4974.98	Pvt.	11,14,39,458	14,92,49,274	M.C.
175	No.175	Bus Stand	Bhayandar	511pt., 744pt.,	3423.95	Pvt.	7,66,96,590	10,27,18,647	M.C.
176	No.176	Educational Amenity	Bhayandar	511pt.,	2464.11	Pvt.	5,51,96,079	7,39,23,320	M.C.
177	No.177	Sports Complex	Navghar	273pt., 272pt., 274pt., 275pt., 271pt., 278pt., 276pt., 277pt., 262pt., 263pt., 265pt., 752pt., 264pt., 261pt.,	111605.50	Pvt.	3,34,25,84,739	3,34,81,65,014	M.C.
178	No.178	Municipal Purpose	Navghar	282pt., 284p.,285pt.,	4430.36	Pvt.	13,26,89,389	13,29,10,907	M.C.
179	No.179	Educational Amenity	Navghar	282pt., 284p.,291pt.,	5800.49	Pvt.	17,37,24,612	17,40,14,636	M.C.
180	No.180	Educational Amenity	Navghar	424pt., 430pt., 428pt., 429pt.,	4025.58	Pvt.	12,05,66,090	12,07,67,369	M.C.
181	No.181	Municipal Market	Navghar	424pt.,	1352.91	Pvt.	4,05,19,636	4,05,87,282	M.C.
182	No.182	Municipal Market	Navghar	415pt., 414pt.,	3101.45	Pvt.	9,28,88,365	9,30,43,437	M.C.
183	No.183	Water Works	Navghar		510.00	Pvt.	1,52,82,396	10,20,000	M.C.

184	No.184	Municipal Hospital	Navghar	390pt., 452pt., 392pt., 393pt., 391pt.,	16171.70	Pvt.	0	48,51,51,039	M.C.
185	No.185	Municipal Market	Navghar	453pt., 479pt., 452pt.,	5280.50	Pvt.	15,81,50,945	15,84,14,970	M.C.
186	No.186	Parking	Ghodbunder	242pt.,	7986.76	Pvt.	0	23,96,02,842	M.C.
187	No.187	Truck Terminal	Ghodbunder	50pt., 229pt., 242pt.,	18208.54	Pvt.	6,11,76,527	54,62,56,167	M.C.
188	No.188	Municipal Market	Navghar	435pt., 433pt.	2331.22	Pvt.	6,98,20,163	6,99,36,724	M.C.
189	No.189	Community Hall	Navghar	435pt., 436pt., 433pt.,	3680.79	Pvt.	11,02,39,597	11,04,23,637	M.C.
190	No.190	Medical Amenity	Navghar	437pt., 440pt.,	1649.58	Pvt.	4,94,05,030	4,94,87,509	M.C.
191	No.191	Educational Amenity	Navghar	441pt.,	6650.98	Govt.	19,91,96,963	19,95,29,512	M.C.
192	No.192	Skill Development Center	Navghar	441pt.,	2174.43	Govt.	6,51,24,215	6,52,32,937	M.C.
193	No.193	Municipal Market	Navghar	446pt., 444pt., 443pt.,	5963.80	Pvt.	17,86,15,733	17,89,13,923	M.C.
194	No.194	Parking	Navghar	446pt., 447pt., 444pt.,	1823.09	Pvt.	5,46,01,543	5,46,92,698	M.C.
195	No.195	Housing for Dishoused	Navghar	455pt., 446pt., 447pt., 448pt., 417pt., 418pt.,	22322.10	Pvt.	66,85,46,755	66,96,62,859	M.C.
196	No.196	Playground	Navghar	449pt., 448pt., 450pt., 418pt., 417pt., 421pt., 451pt.,	31130.31	Pvt.	79,81,76,853	6,22,60,625	M.C.
197	No.197	Garden	Navghar	439pt., 438pt., 437pt.,	5244.39	Pvt.	15,70,69,450	1,04,88,778	M.C.
198	No.198	Planetarium & Aquarium	Navghar, Ghodbunder	Navghar:439pt., 438pt.,	5970.65	Pvt.	17,88,20,859	17,91,19,391	M.C.

199	No.199	STP	Ghodbunder	233pt.,	9424.07	Pvt.	26,10,46,861	28,27,22,232	M.C.
200	No.200	Educational Amenity	Ghodbunder	233pt.,	8025.17	Govt.	22,22,97,179	24,07,55,068	M.C.
201	No.201	Garden	Ghodbunder, Navghar	Navghar:456pt., 457pt.,	6783.46	Pvt.	18,79,01,968	1,35,66,929	M.C.
202	No.202	Garden	Ghodbunder	555pt., 63pt., 66pt., 68pt., 232pt.,	10253.35	Pvt.	28,40,17,800	2,05,06,700	M.C.
203	No.203	Municipal Purpose	Navghar, Ghodbunder	Navghar: 437pt.,	7600.30	Pvt.	22,76,28,997	22,80,09,012	M.C.
204	No.204	Government Purpose	Navghar, Ghodbunder	Navghar: 437pt.,	8167.95	Pvt.	9,48,80,112	24,50,38,509	M.C.
205	No.205	Garden	Ghodbunder	66pt., 67pt., 68pt., 71pt., 233pt.,	17172.90	Pvt.	47,56,89,228	3,43,45,793	M.C.
206	No.206	Playground	Ghodbunder	40pt., 41pt., 66pt., 67pt., 226pt.,	29019.41	Pvt.	80,38,37,569	5,80,38,814	M.C.
207	No.207	Medical Amenity	Bhayandar	475pt.,	1123.15	Pvt.	2,51,58,574	3,36,94,518	M.C.
208	No.208	Playground	Mira	165pt., 172pt., 174pt.,	4436.46	Pvt.	12,73,26,445	88,72,923	M.C.
209	No.209	Community Hall	Bhayandar	475pt.,	750.00	Pvt.	1,68,56,681	2,25,00,000	M.C.
210	No.210	Educational Amenity	Mira	164pt., 181pt., 180pt., 165pt., 174pt.,	9519.80	Pvt.	27,32,18,273	28,55,94,014	M.C.
211	No.211	STP	Penkarpada	197pt.198pt.,	2597.31	Pvt.	9,45,42,099	7,79,19,312	M.C.
212	No.212	Garden	Penkarpada	207pt., 206pt.,	6966.75	Pvt.	25,35,89,751	1,39,33,503	M.C.
213	No.213	Ext to Cemetery	Penkarpada	75pt.,	1800.65	Pvt.	6,55,43,507	5,40,19,374	M.C.
214	No.214	Cremation Ground	Penkarpada	202pt., 75pt.,	5890.56	Pvt.	21,44,16,461	17,67,16,864	M.C.

215	No.215	Mangrove Park	Penkarpada	246pt., 251pt., 244pt., 250pt., 253pt., 252pt., 247pt., 243pt., 249pt., 241pt., 248pt., 242pt., 192pt., 202pt., 234pt., 245pt., 240pt., 75pt.,	494629.48	Pvt.	17,19,65,78,831	98,92,58,969	M.C.
216	No.216	Garden	Ghodbunder	38pt., 43pt., 44pt., 45pt.,	7172.82	Pvt.	19,86,87,101	1,43,45,639	M.C.
217	No.217	Exhibition Centre	Ghodbunder	28pt., 32pt., 33pt., 34pt., 35pt., 39pt., 226pt.,	46797.85	Pvt.	1,29,63,00,487	1,40,39,35,545	M.C.
218	No.218	Garden	Ghodbunder	28pt., 86pt., 87pt., 224pt., 225pt., 226pt.,	3346.72	Pvt.	9,27,04,041	66,93,433	M.C.
219	No.219	Educational Amenity	Ghodbunder	28pt., 29pt., 87pt., 224pt.,	3424.48	Pvt.	9,48,58,029	10,27,34,327	M.C.
220	No.220	Educational Amenity	Ghodbunder	98pt., 100pt.,	7770.68	Pvt.	21,52,47,816	23,31,20,379	M.C.
221	No.221	Playground	Ghodbunder	103pt., 104pt., 224pt.,	6289.87	Pvt.	16,67,81,826	1,25,79,749	M.C.
222	No.222	Water Works	Ghodbunder	103pt., 224pt.,	1205.32	Pvt.	2,59,39,689	24,10,642	M.C.
223	No.223	Women Hostel	Ghodbunder	100pt., 103pt.,	3337.54	Pvt.	9,24,49,900	10,01,26,246	M.C.
224	No.224	Garden	Ghodbunder	101pt., 100pt.,	6381.62	Pvt.	17,67,70,740	1,27,63,230	M.C.
225	No.225	Educational Amenity	Ghodbunder	111pt., 119pt., 120pt.,	4891.65	Pvt.	13,54,98,803	14,67,49,606	M.C.
226	No.226	Municipal Purpose	Ghodbunder	131pt., 132pt., 135pt., 148pt.,	12489.62	Pvt.	34,59,62,478	37,46,88,604	M.C.

				130pt., 133pt., 129pt., 127pt., 134pt.,					
227	No.227	Housing for Dishoused	Ghodbunder	139pt., 138pt., 122pt., 108pt., 121pt.,	17770.16	Pvt.	49,22,33,427	53,31,04,795	M.C.
228	No.228	Police Station	Ghodbunder	121pt., 139pt., 140pt.,	2619.12	Pvt.	7,25,49,544	7,85,73,513	M.C.
229	No.229	Water Works	Ghodbunder	108pt., 121pt.,	880.00	Pvt.	2,45,65,167	17,60,000	M.C.
230	No.230	Fire Brigade Station	Ghodbunder	140pt., 108pt., 121pt.,	1362.03	Pvt.	3,77,28,285	4,08,60,959	M.C.
231	No.231	Medical Amenity	Ghodbunder	221pt., 139pt., 138pt.,	2236.39	Pvt.	6,19,48,003	6,70,91,700	M.C.
232	No.232	Library	Ghodbunder	141pt., 221pt., 140pt., 139pt.,	1923.06	Pvt.	5,32,68,639	5,76,91,667	M.C.
233	No.233	Bus Stand	Mira	7pt., 9pt., CTS 3pt.,	3444.14	Pvt.	9,88,46,753	10,33,24,132	M.C.
234	No.234	Bus Terminal & Parking	Mira	185pt.6pt., 178pt., 2pt.,	5819.10	Pvt.	16,70,08,104	17,45,72,931	M.C.
235	No.235	Water Works	Mira	2pt.,	1102.98	Pvt.	3,16,55,606	22,05,966	M.C.
236	No.236	Park	Mira	6pt.2pt., 5pt., CTS. 223pt., 252pt., 274pt., 179pt., 415pt., 414pt., 416pt., 418pt., 419pt.,	19843.35	Pvt.	56,95,04,236	3,96,86,706	M.C.
237	No.237	Educational Amenity	Mira	CTS 274pt., 311pt., 179pt., 415pt., 416pt., 420pt., 419pt.,	5041.22	Pvt.	14,46,82,888	15,12,36,468	M.C.

238	No.238	Garden	Mira	CTS 223pt., 312pt., 311pt., 179pt., 420pt., 490pt.	5187.95	Pvt.	14,88,94,051	1,03,75,892	M.C.
239	No.239	Municipal Market	Mira	155pt., 162pt.,	5097.58	Pvt.	14,63,00,577	15,29,27,432	M.C.
240	No.240	Police Commissioner Office	Mira	184pt., 162pt., 183pt., 144pt.,	13331.69	Pvt.	38,26,19,524	39,99,50,722	M.C.
241	No.241	Educational Amenity	Mira	155pt., 162pt., 144pt.,	6872.79	Pvt.	19,72,49,165	20,61,83,797	M.C.
242	No.242	Garden	Mira	162pt., 183pt., 145pt., 144pt CTS. 580pt.,	9886.92	Pvt.	28,37,54,611	1,97,73,840	M.C.
243	No.243	Educational Amenity	Mira	146pt.,155pt., 145pt.,	5650.53	Pvt.	16,21,70,167	16,95,15,854	M.C.
244	No.244	Medical Amenity	Mira	193pt., 130pt.,	1405.05	Pvt.	4,03,24,915	4,21,51,479	M.C.
245	No.245	Parking	Mira	130pt.	2324.65	Pvt.	6,67,17,322	6,97,39,361	M.C.
246	No.246	Playground	Mira	129pt., 193pt., 130pt.,	8388.81	Pvt.	17,30,95,376	1,67,77,616	M.C.
247	No.247	Educational Amenity	Mira	129pt., 193pt.,	6632.77	Pvt.	19,03,60,399	19,89,82,995	M.C.
248	No.248	Shopping Center	Penkarpada	236pt.,	3995.81	Pvt.	14,54,47,347	11,98,74,187	M.C.
249	No.249	Garden	Penkarpada, Mira	Penkarpada: 258pt.236pt., Mira: CTS 2099pt.	3467.41	Pvt.	12,62,13,880	69,34,829	M.C.
250	No.250	Housing for EWS/LIG	Penkarpada, Mira	Penkarpada:239pt , 255pt., 245pt., 240pt., 258pt., Mira:2510pt.,	30119.35	Pvt.	1,09,63,44,440	90,35,80,582	M.C.

				2432pt., 2433pt., 2099pt., 4412pt.					
251	No.251	Water Works	Mira	CTS 2310pt.	1703.46	Pvt.	4,88,89,366	34,06,924	M.C.
252	No.252	Fire Brigade Station	Mira	CTS 2310pt.	1370.79	Pvt.	3,93,41,807	4,11,23,840	M.C.
253	No.253	Burial Ground	Mira	CTS 2310pt., 2314pt., 4412pt.,	29823.71	Pvt.	85,59,40,505	89,47,11,330	M.C.
254	No.254	Garden	Mira	CTS 4412pt.,	15650.87	Pvt.	44,91,79,981	3,13,01,741	M.C.
255	No.255	Parking	Mira	CTS 491pt., 833pt., 1008pt.,	5168.34	Pvt.	14,83,31,451	15,50,50,298	M.C.
256	No.256	Municipal Purpose	Mira	CTS 491pt., 833pt., 1009pt., 832pt., 1008pt., 1196pt.	9723.63	Pvt.	27,90,68,263	29,17,08,986	M.C.
257	No.257	Burial Ground	Ghodbunder	182pt., 184pt., 183pt., 185pt.,	2681.90	Pvt.	7,42,88,605	8,04,56,973	M.C.
258	No.258	Cremation Ground	Ghodbunder	184pt., 183pt., 185pt.,	2414.31	Pvt.	6,68,76,497	7,24,29,419	M.C.
259	No.259	Garden	Ghodbunder	154pt., 155pt.,	5485.40	Pvt.	15,19,45,586	1,09,70,800	M.C.
260	No.260	Educational Amenity	Ghodbunder	154pt., 155pt.,	4097.34	Pvt.	11,34,96,215	12,29,20,089	M.C.
261	No.261	Municipal Market	Ghodbunder, Kashi	Ghodbunder : 153pt., 154pt., Kashi :16 pt.,	1178.26	Pvt.	3,26,37,833	3,53,47,834	M.C.
262	No.262	Water Works	Kashi	12pt., 7pt.,	1646.03	Pvt.	3,75,29,525	32,92,064	M.C.
263	No.263	Garden	Kashi	24pt., 86pt., 94pt.,	7274.50	Pvt.	16,58,58,675	1,45,49,007	M.C.
264	No.264	Playground	Kashi	86pt., 87pt., 94pt.,	8134.37	Pvt.	18,54,63,657	1,62,68,742	M.C.
265	No.265	Educational Amenity	Kashi	87pt.,	5647.96	Pvt.	12,87,73,580	16,94,38,921	M.C.

266	No.266	Fire Brigade Station	Kashi	41pt., 44pt.,	1439.62	Pvt.	3,28,23,283	4,31,88,531	M.C.
267	No.267	Water Works	Kashi	41pt., 44pt.,	1140.94	Pvt.	2,60,13,404	22,81,878	M.C.
268	No.268	Park	Ghodbunder, Kashi	Ghodbunder: 213pt., Kashi: 48pt., 47pt,49pt., 42pt., 44pt., 41pt., 43pt., 32pt.,	66818.73	Pvt.	1,85,08,78,749	13,36,37,455	M.C.
269	No.269	Playground	Kashi	43pt., 47pt.,	3542.56	Pvt.	8,07,70,331	70,85,117	M.C.
270	No.270	Medical Amenity	Kashi	49pt., 43pt., 32pt., 67pt.,	5334.68	Pvt.	12,16,30,638	16,00,40,313	M.C.
271	No.271	Municipal Market	Kashi	28pt., 31pt., 30pt., 32pt., 67pt.,	2450.74	Pvt.	5,58,76,830	7,35,22,144	M.C.
272	No.272	URS Purpose	Kashi	28pt., 50pt., 31pt., 30pt,49pt., 43pt., 32pt., 67pt., 53pt.,	41751.56	Pvt.	0	0	M.C.
273	No.273	Garden	Kashi	57pt., 56pt., 59pt.,	10132.32	Pvt.	23,10,16,997	2,02,64,649	M.C.
274	No.274	URS Purpose	Kashi, Mira	Mira: CTS 1449pt., 1770pt., 1299pt., 1601pt., 1394pt., 1354pt., 1355pt.	23379.23	Pvt.	0	0	M.C.
275	No.275	Garden	Mira	Mira: CTS 2907pt., 3314pt., 2905pt., 2652pt., 3551pt., 3552pt., 3545pt., 3549pt., 3547pt., 3548pt.,	8915.22	Pvt.	10,34,69,837	1,78,30,442	M.C.

				3546pt., 3550pt., 3885pt.					
276	No.276	Educational Amenity	Mira	CTS 3395pt.3396pt., 2404pt., 2403pt., 2401pt., 2402pt., 2907pt., 3314pt., 3545pt., 3546pt., 3544pt., 3543pt., 3885pt.	2753.07	Pvt.	7,90,13,089	8,25,92,079	M.C.
277	No.277	Garden	Mahajanwadi, Mira	Mahajanwadi:76p t., 260pt., Mira: CTS 3056pt., 3555pt., 3885pt.,	7702.60	Pvt.	23,64,69,949	1,54,05,208	M.C.
278	No.278	Medical Amenity	Mira	CTS 3815pt.,	2001.96	Pvt.	5,74,56,303	6,00,58,853	M.C.
279	No.279	Shopping Center	Mahajanwadi, Mira	Mahajanwadi:85p t., Mira CTS 3815pt.,	2093.48	Pvt.	6,42,69,729	6,28,04,296	M.C.
280	No.280	URS Purpose	Mahajanwadi	83pt., 34pt., 85pt.,	23422.28	Pvt.	0	0	M.C.
281	No.281	Picnic Spot	Ghodbunder	241pt., 207pt.,	6530.92	Pvt.	18,09,06,571	19,59,27,694	M.C.
282	No.282	Educational Amenity	Ghodbunder	241pt., 208pt.,	2910.14	Pvt.	8,06,10,848	8,73,04,168	M.C.
283	No.283	URS Purpose	Ghodbunder	3pt., 4pt., 5pt., 47pt.,	15810.23	Pvt.	0	0	M.C.
284	No.284	Garden	Ghodbunder	Gaothan	1496.66	Pvt.	4,14,57,353	29,93,311	M.C.
285	No.285	Water Terminal	Ghodbunder, Versave	Ghodbunder:206p t.205pt., 244pt., Versave: 5pt	25470.23	Pvt.	0	0	Maritime Board
286	No.286	Water Works	Ghodbunder	31pt., 16pt.	1356.94	Pvt.	3,75,87,231	27,13,880	M.C.

287	No.287	Transport Hub	Ghodbunder	18pt., 19pt., 20pt., 31pt., 16pt., 17pt.,	33830.53	Pvt.	93,71,05,815	1,01,49,16,045	M.C.
288	No.288	Garden	Ghodbunder	128pt., 114pt., 115pt., 23pt.,	15236.12	Pvt.	42,20,40,655	3,04,72,249	M.C.
289	No.289	ISBT Terminal	Varsave	38pt., 39/1pt., 39/2pt., 24pt., 25pt., 27pt.,	7698.98	Pvt.	4,98,12,425	23,09,69,512	M.C.
290	No.290	Municipal Purpose	Varsave	38pt., 36/1pt.27pt., 22pt.,	5004.57	Pvt.	3,23,79,550	15,01,37,018	M.C.
291	No.291	Garden	Varsave	105pt., 106pt., 107pt., 108pt.,	6386.69	Pvt.	4,13,21,869	1,27,73,375	M.C.
292	No.292	Educational Amenity	Varsave	105pt., 201/2pt., 23pt.,	4094.12	Pvt.	2,64,88,925	12,28,23,454	M.C.
293	No.293	Shopping Center	Varsave	42pt., 21pt.,	3122.06	Pvt.	2,01,99,725	9,36,61,784	M.C.
294	No.294	Educational Amenity	Varsave	87/2pt., 84pt., 93pt., 95pt., 94pt.,	3434.95	Pvt.	2,22,24,153	10,30,48,624	M.C.
295	No.295	Playground	Varsave	84pt., 97/2pt., 96/2pt.97/1pt., 96/1pt,95pt., 45pt., 98pt.	8693.45	Pvt.	5,62,46,643	1,73,86,907	M.C.
296	No.296	Park	Varsave	59pt., 69pt., 71pt., 56pt., 54pt., 74pt., 51pt., 52pt., 50pt., 48pt., 58pt., 61//1pt., 57/2pt., 70/2pt., 57/1pt,70/3pt., 77/2pt., 78/3pt.,	107933.01	Pvt.	69,83,26,558	21,58,66,015	M.C.

				78/2pt., 70/1pt., 55/2pt., 72/1pt., 72/2pt., 73/2pt., 77/1pt., 55/1pt., 76/3pt., 76/2pt., 73/1pt., 76/2pt., 49/5pt., 49/4pt., 53/3pt., 78/1pt., 49/3pt., 75/2pt., 80/1pt., 53/1pt., 49/2pt., 53/2pt.,					
297	No.297	Police Station	Chene	8pt., 148pt., 149pt.,	4330.26	Pvt.	2,79,30,208	12,99,07,943	M.C.
298	No.298	Cremation Ground	Chene	102pt.	880.00	Pvt.	57,25,481	2,64,00,000	M.C.
299	No.299	Medical Amenity	Chene	103pt.,	2157.30	Pvt.	1,39,14,607	6,47,19,102	M.C.
300	No.300	Shopping Center	Chene	43/1pt., 43/2pt., 37pt.,	3706.08	Pvt.	2,39,04,197	11,11,82,312	M.C.
301	No.301	Tribal Hostel	Chene	71pt., 70/1pt.,	4302.45	Pvt.	2,77,50,815	12,90,73,560	M.C.
302	No.302	Garden	Chene	70/1pt.70/2pt., 70/3pt., 81/1pt.	4475.41	Pvt.	2,88,66,426	89,50,830	M.C.
303	No.303	Medical Amenity	Chene	71pt., 70/1pt., 80/1pt., 81/2pt., 70/2pt.,	3664.53	Pvt.	2,36,36,235	10,99,35,979	M.C.
304	No.304	Educational Amenity	Chene	78pt., 79pt., 71pt., 80/1pt.,	4472.82	Pvt.	2,88,49,718	13,41,84,736	M.C.
305	No.305	Fire Brigade Station	Chene	70/2pt., 81/2pt.,	1184.60	Pvt.	76,40,653	3,55,37,921	M.C.
306	No.306	Water Works	Chene	80/2pt., 81/2pt.,	1015.97	Pvt.	65,53,021	20,31,944	M.C.
307	No.307	Development of Fort	Ghodbunder	241pt., 207pt., 208pt., 241pt.	29606.34	Pvt.	82,00,95,627	88,81,90,210	M.C.

Annexure X: Municipal Finance Revenue

MUNICIPAL FINANCE REVENUE			
REF. YEAR (LAST 5 YEARS)	REVENUE (In Lakhs)	EXPENDITURE (In Lakhs)	BALANCE (In Lakhs)
2017-2018	73110.19	73420.78	-310.59
2018-2019	83831.03	69305.98	14525.05
2019-2020	98706.29	83977.05	14729.24
2020-2021	114548.6	107305.23	7243.37
2021-2022	133321.54	133416.04	-94.5

Annexure XI: Phase Wise Program (Plan of two year each)

Sr. No.	Purpose of Reservation	Phase I	Phase II	Phase III	Phase IV	Phase V
1	Administrative Building for Govt. Office	-	-	-	-	-
2	Auditorium	-	73	-	144	-
3	Crematorium/ Burial Ground/ Cemetery	100, 213, 99, 101, 214	258, 257, 3	298, 253, 109	14, 15, 40	-
4	Bus Stand/ISBT	75, 175, 233	289, 234	-	-	-
5	Community Hall	55, 136, 154	43, 209, 189	147, 115	-	-
6	Educational Amenity	30, 51, 210, 179, 180, 145, 225, 237, 304, 191, 140, 172, 237, 200, 191	241, 294, 127, 141, 219, 237, 282,108	5, 48, 67, 153, 265, 87, 142, 164, 243, 247, 111	70, 41, 134, 260, 219, 18	72, 176, 133, 276, 292, 139
7	Exhibition Centre	217	-	-	-	-
8	Fire Brigade Station	19, 230, 305	162, 252	9, 266	-	-
9	Garden	53, 254, 128, 122, 218, 160, 242, 168, 201, 238, 163, 197, 26	2, 6, 249, 302, 216, 205, 143, 166, 275, 63	57, 39, 102, 291, 157, 202, 212, 83, 277	94, 62, 74, 259, 112, 96, 88, 284, 11	37, 36, 1, 138, 129, 263, 288, 273

10	Housing for Dishoused	195, 117, 118	227	35, 250	45	-
11	Mangrove Park	-	21, 91	92	215	80
12	Medical Amenity	152, 207, 231, 190, 121, 184	56, 86, 155, 131	244, 105, 159, 303	278, 270, 12	299
13	Parking	95, 174, 255, 194, 23, 25,24	42, 120, 150, 106	68, 58, 245, 78	71, 77, 85, 47	130, 186, 93
14	Municipal Godown	-	76	-	-	-
15	Market	33, 89, 193, 185, 239	132, 181, 188	38, 7, 261, 104,	27, 182, 60	16, 271
16	Municipal Purpose	226, 169	256, 203, 178	290, 17	-	-
17	Night Shelter	-	-	46	-	-
18	Old Age Home	-	161	-	-	-
19	Park	-	236	268	296	-
20	Picnic Spot	281	-	-	-	-
21	Planetarium & Aquarium	-	198	-	-	-
22	Playground	125, 146, 208, 196, 98, 90	113, 221, 107	4, 65, 84, 206	264, 295, 116	246, 13, 269
23	Project Affected Person	-	-	69	-	-
24	Public Amenity	119	54	97	-	-
25	S.T. Stand & Depot	22	-	-	-	-

26	Shopping Center	124, 149, 49	248, 28	293	61, 300, 79	137
27	Slaughter House	31	-	-	-	-
28	Spiritual Center	-	-	50	-	-
29	Sports Complex	-	177	-	-	-
30	Stadium	20	-	-	-	-
31	STP	135, 211, 44	199, 64	110	29	114
32	Swimming Pool	-	148	-	-	-
33	Town Hall and Drama Theatre	-	-	171	-	-
34	Transport Hub	287	-	-	-	-
35	Truck Terminal	-	-	-	187	-
36	Water Works	222, 151, 183, 123	52, 32, 262, 235, 158, 82, 8	59, 286, 251, 306, 229, 66, 267	-	-
37	Women Hostel	223	-	-	-	-
38	Working Women Hostel & Child Care Center	-	165	-	-	-