



PANVEL MUNICIPAL CORPORATION



DRAFT REVISED & COMPREHENSIVE DEVELOPMENT PLAN FOR PANVEL MUNICIPAL CORPORATION: 2024-2044

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Town Planning Officer
And
Deputy Director of Town Planning
Panvel Municipal Corporation

Commissioner
Panvel Municipal Corporation

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LIST OF ABBREVIATIONS

PMC	Panvel 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
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 guides 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 acts as foundation and its broader assumptions and prescriptions will direct planning of 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.

1.1 Planning Area

PMC has been formed by amalgamating erstwhile Panvel Municipal Council and surrounding 29 revenue villages of Panvel Taluka consisting of includes revenue villages in various nodes from City and Industrial Development Corporation (CIDCO), which are Kharghar, Kalamboli, Kamothe, Kalundre, New Panvel, non-nodal CIDCO villages and 11 villages from Ambernath-Kulgaon-Badalapur and surrounding notified area development plan of MMRDA.

Table 1.1 Area under Panvel Municipal Corporation

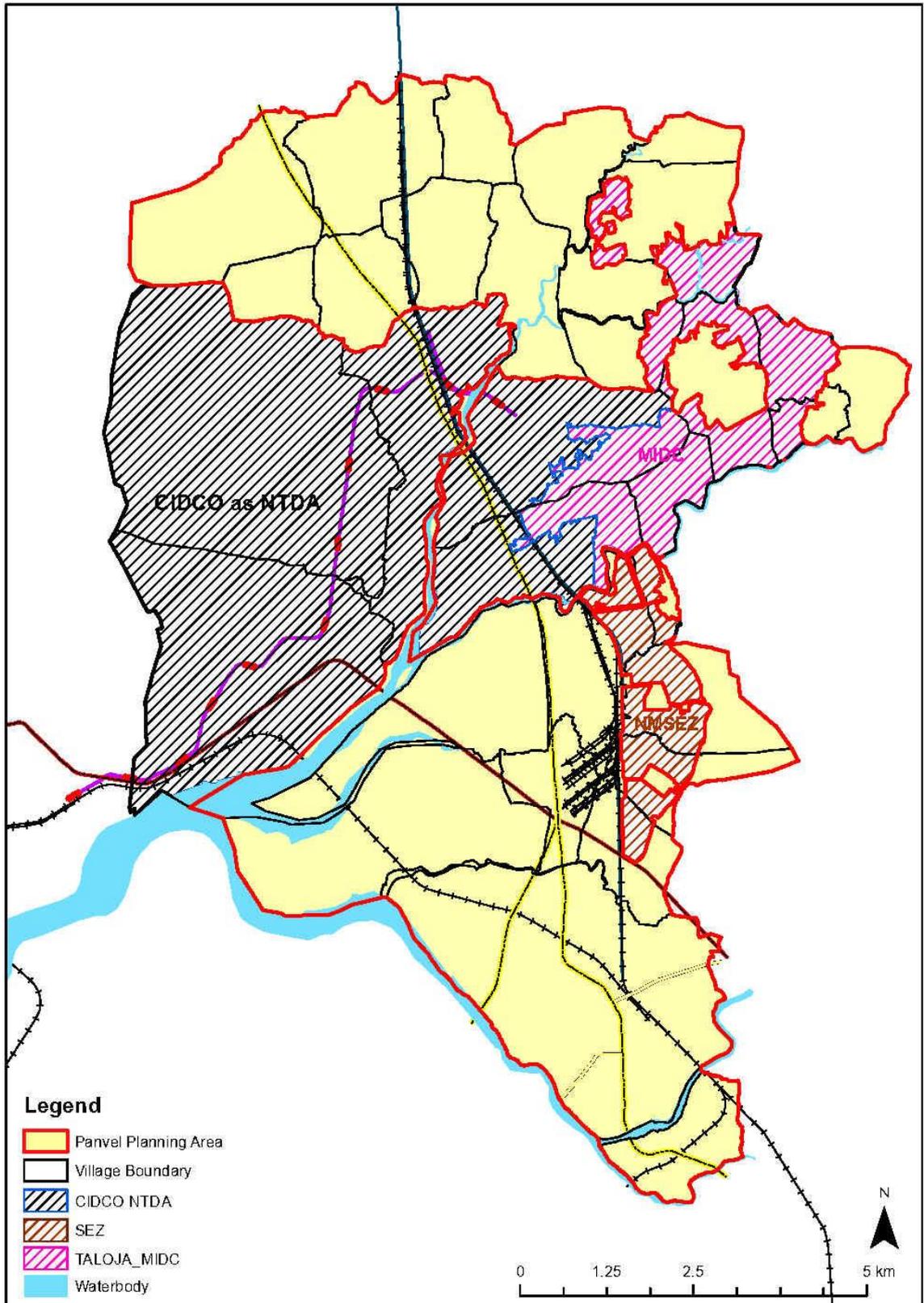
<i>Sr. No</i>	<i>Previously under</i>	<i>Village/Area name</i>	<i>Area in Ha</i>
1	Panvel Municipal Council/ CIDCO	Old Municipal Council	1217
2	CIDCO	Taloje Panchnand	520
3		Kalundre	260
4		Kharghar	1104
5		Owe	1367.9
6		Devichapada	77.56
7		Kamothe	4190
8		Chal	
9		Navade	
10		Tondhare	
11		Pendhar	

Sr. No	Previously under	Village/Area name	Area in Ha
12		Kalamboli	
13		Roadpali	
14		Khidukpada	
15		Padghe	
16		Walavali	
17		Pale-khurd, Dhongdyacha Pada	
18		Tembhode	
19		Asudgaon	
	Total CIDCO		7519.46
20	MMRDA	Bid	113.61
21		Adivali	412.44
22		Rohinjan	198.66
23		Dhansar, Dharnagaon, Dharna-camp	332
24		Pisarve	216.08
25		Turbhe	145.35
26		Nagzari	87
27		Taloje Majkur	239.86
28		Ghot	131
29		Koyana Velhe	187.48
30		Karavale Bk	206.8
	Total		2270.28
	Grand Total Area		11006.74

The Panvel Council Area is 3.63 sq. km.. Additionally, Taloja MIDC has an area of 8.63 sq. km., NMSEZ covers 3.49 sq. km., and CIDCO as NTDA spans 37.15 sq. km. The CIDCO Villages where PMC is planning authority encompass 34.46 sq. km., and 11 villages by MMRDA have an area of 22.70 sq. km. Table: 1.2 provide a concise overview of the distribution of administrative boundaries and their corresponding areas in the region.

Table 1.2 Area of Planning Authority within PMC

Sr. No.	Administrative Boundary	Area in sq. km.
1.	Panvel Council Area	3.63
2.	Taloja MIDC	8.63
3.	NMSEZ	3.49
4.	CIDCO as NTDA	37.15
5.	CIDCO area where PMC is Planning Authority	34.46
6.	11 villages of MMRDA	22.70



Map 1-1: Planning Area of PMC

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 Panvel Municipal

Corporation excluding the areas under the Talaja MIDC, NMSEZ, Kharghar & Talaja node as NTDA, CIDCO villages (Kharghar, Owe, Navade, Panchnand). It has however taken cognizance of the respective plans and requirements of these areas in terms of the connectivity and tertiary level infrastructure. Thus, PMC will have to prepare the Comprehensive revised DP for an area of only 60.78 sq km. This 60.78 sq km area will henceforth be called Area of Interest (AOI) for purpose of this report.

1.2 Planning Process

The Section 38 of the Maharashtra Regional and Town Planning Act 1966 stipulates the Revision of Development Plan at least once in twenty years. 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.

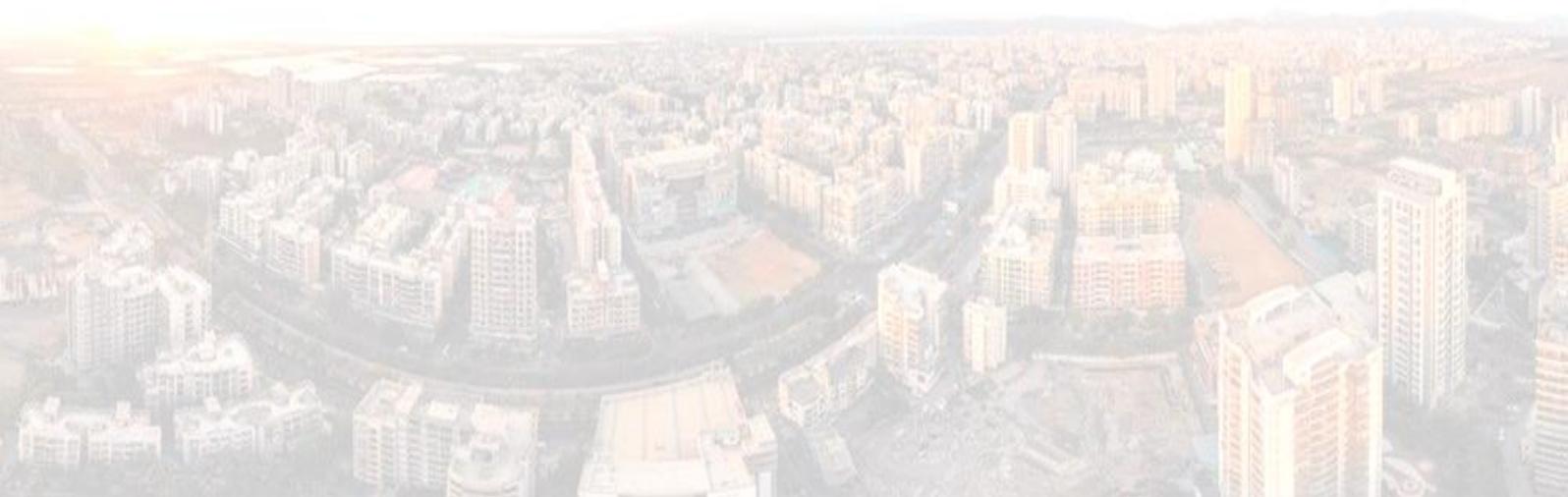
MRTP Act,1966	Mandate
Section 23	<p>Declaration of intention to prepare a Development Plan</p> <p>The planning authority before carrying out a survey and preparing an Existing Land Use map, by a resolution, makes a declaration of its intention, to prepare the Development Plan and sends it to the state 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.</p>
Section 24	<p>Appointment of Town Planning Officer</p> <p>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.</p>
Section 25	<p>Provision for survey and preparation of existing-land use map</p> <p>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.</p>

Section 26	<p>Preparation and publication of notice of Draft Development Plan</p> <p>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 30 days from the date of notice in the Official Gazette. The period so extended shall not exceed 12 months in aggregate.</p>
Section 27	<p>Provision of Regional Plan to be considered</p> <p>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.</p>
Section 30	<p>Submission of the Draft Development Plan</p> <p>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.</p>
Section 31	<p>Sanction to the Draft Development Plan</p> <p>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.</p>
Section 38	<p>Revision of Development Plan</p> <p>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.</p>
Section 42	<p>Implementation of plans</p> <p>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.</p>

Source: MR&TP ACT, 1966

CHAPTER 2

THE REGIONAL CONTEXT



2 THE REGIONAL CONTEXT

2.1 Introduction

Panvel is the first municipal corporation in the Raigad district of Maharashtra. It was formed after amalgamating Panvel old council area and 29 revenues villages encompassing CIDCO nodes, i.e., Kharghar, Kalamboli, Kamothe, Taloja, New Panvel, Navade, Kalundre, and 11 previously governed Mumbai Metropolitan Region Development Authority (MMRDA) villages. The city of Panvel is in the north-western part of Panvel taluka in Raigad district. Thane district lies to the north-west, with Navi Mumbai sharing its boundary with the PMC. Villages under the NAINA area forms the eastern and southern boundaries. Panvel forms a part of the MMR and is one of nine corporations located therein. Being the first corporation in Raigad district, the city occupies a unique position in the region. The city is an important satellite township and lies approximately 40 km east of Greater Mumbai within the MMR. Panvel is one of the fastest-growing urban centers in the MMR. Panvel can be termed as a city of opportunity given the fact that it comprises both developed areas of CIDCO, the old council area and an abundance of greenfield area in villages for future development. The presence of water bodies, hills and large open spaces makes Panvel a sought-after destination. Panvel also benefits from its strategic location, being close to both Pune and Mumbai. Given the upcoming international airport coming in its vicinity, Panvel has the capacity to become an international hub. It is very well connected to all the major cities via railways and roads. The upcoming metro, elevated railway line, Mumbai trans harbour link, and multimodal corridor will further enhance the city's connectivity. With such major developments lined up, Panvel city is likely to experience a growth spurt, making it stand out on a regional level. These infrastructure projects will empower people with opportunities to carry out business, trade and commerce. Education and health facilities will also make Panvel an epicentre for future growth. The total area of Panvel Municipal Corporation is 110.06 Sq.km. As provided in the MR&TP Act, 1996, the local authority ceases to be the Planning Authority for the Development Plan. The development plan covers the entire area within the jurisdiction of PMC. It has however taken cognizance of the Regional Plan and surrounding authorities in terms of the connectivity and tertiary-level infrastructure.

2.2 City History

Panvel, a historic settlement with roots dating back 300 years, evolved around crucial trade routes during periods of Muslim, Portuguese, and British dominance in the Konkan region.

Initially known as Paneli (Panelim in Konkani), it played a significant role as a European trading port, mentioned in historical records as early as 1570. In 1779, During first Anglo-Maratha War Panvel witnessed the dispatch of an English party under Colonel Eagerton, supporting Raghoba's cause. The town became strategically important, serving as a crucial point for English parties and later facing Maratha attacks during attempts to traverse the Ghats. By 1804, Lord Valentia described Panvel as a populous village on the banks of the Suthe River, and by 1820, it had grown into an extensive place well-suited for business and commerce, despite its location amid a salt morass.

In the post-cessation period of 1818, Panvel had a small English force stationed, and part of the town was referred to as the camp. The town's significance continued to grow, with mentions of a handsome reservoir, commercial activity, and the presence of various establishments, including the Rice Research Station, Mamaledar's office, and a State Transport depot. There is notable landmarks like the tomb of Musalman missionary Pir Karim Ali Shah, about 200 years old which adds historical value to Panvel. The town has fragments of fortification believed to be remnants of a fort built in 1682 by Shivaji's son Sambhaji to protect against raids by Siddis. Panvel's history is intertwined with trade, strategic importance and the cultural fabric of the region.

2.3 City Administration

Panvel, with its rich history dating back to the 16th century, evolved from a bustling port engaged in trade with Europe, Africa, and the Arabic region to a hub for migrants seeking affordable housing amid Mumbai's expansion. The Panvel Municipal Council, established in 1852, recognized the need for town development in the 1940s, leading to a failed attempt in 1941 and a subsequent town planning scheme in 1946. The initial development plan came into force in 1964, with subsequent revisions in 1974 and 1993, reflecting the city's evolving needs and expanding municipal limits.

The extension of Panvel's municipal limits in 1964, from 3.63 sq.km to 12 sq. km., necessitated a revision of the development plan under the MRTP Act, 1966. The revised plan, sanctioned in 1974, marked a significant milestone in Panvel's urban development. Further revisions in 1993 and 1994 aimed to accommodate the city's growth and changing dynamics, showcasing a commitment to adapting to the evolving urban landscape. The regional planning initiatives by the Maharashtra government led to the incorporation of the City and Industrial Development Corporation Limited (CIDCO) in 1970, designated as the new town development authority for

the Navi Mumbai Project. CIDCO played a pivotal role in developing new townships across the Mumbai Metropolitan Region, including Panvel. The CIDCO model involved planning, developing, and subsequently handing over these towns to local planning authorities.

The transformative Navi Mumbai Project, initiated in the early 1970s, aimed to reduce population growth in Greater Mumbai, achieve a balanced distribution of industries statewide, and improve living standards. CIDCO's developmental activities, encompassing areas like Belapur, New Panvel, Nerul, Kharghar, and more, eventually led to Panvel's inclusion in CIDCO planning.

As part of the CIDCO model, Panvel transitioned from a municipal council to a municipal corporation on October 1, 2016. This shift amalgamated the former Panvel Municipal Council, 29 revenue villages of Panvel Taluka, and five nodes from CIDCO, including Kharghar, Kalamboli, Kamothe, Kalundre, and New Panvel. With an expanded jurisdiction covering 110.06 sq. km., the Panvel Municipal Corporation (PMC) represents a significant step in managing the urbanization and development challenges in the region. The Planning area for PMC is 60.78 sq. km.

2.4 Geographic Settings

2.4.1 Location and Regional Setting

In terms of regional setting of PMC, Thane district lies to the north, with Navi Mumbai Municipal corporation lying on west side of PMC. Villages under the NAINA area forms the eastern and southern boundaries. Upcoming Navi Mumbai International Airport lies on southwest side of PMC. PMC was formed after amalgamation of 29 revenue villages of Panvel taluka with Panvel old council area spanning across an area of 110.06 sq. km. Panvel city is located in the north-western part of Panvel taluka in Raigarh district and lies at a distance of about 40 km from Mumbai and at height of about 6.7 m above sea level. Geographically the city of Panvel stretches from 73° 2' East to 73° 9' East(longitude) and 18° 58' North to 19° 7' North (latitude). Panvel has located 34 km from Kalyan and 38 km from Thane by road. The Mumbai Pune Expressway passes through the Panvel and NH 43 is also passing through the major portion within the PMC.

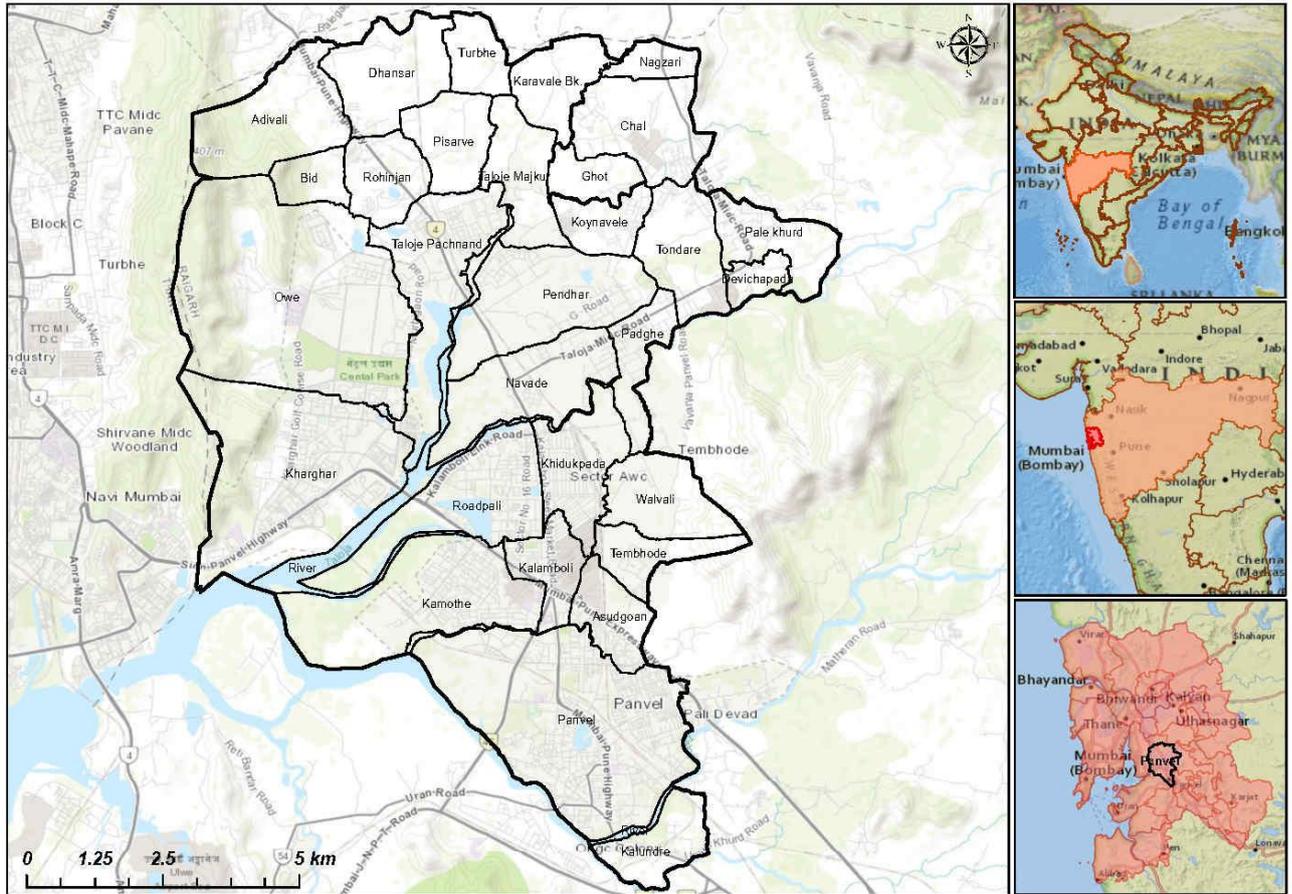


Figure 2.1 Panvel Location

2.5 Statutory Position in MMR

Panvel Municipal Corporation is surrounded by adjoining authorities like NMMC, NAINA, AKBSNA. It is a Member of MMR & one of the urban centres. The urban local bodies in MMR are:

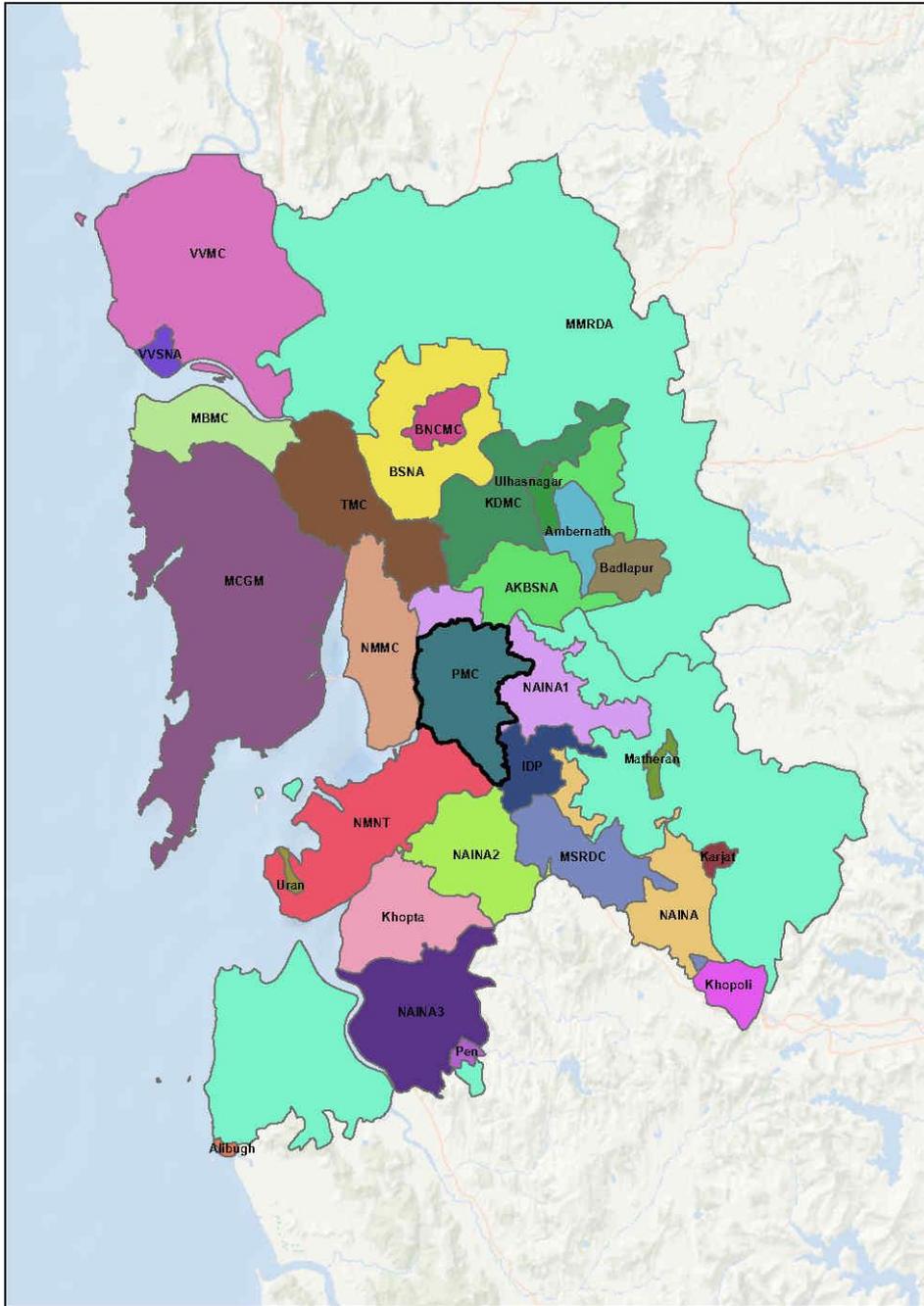


Figure 2.2 PMC in MMR

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	PMC	94.62
7	BNCMC	26.36
8	Ulhasnagar MC	13.2
9	Panvel MC	110
10	Ambernath MC	36.63
11	Kulgaon Badlapur MC	35.85
12	Khopoli	30.06
13	Pen	5.54
14	Uran	2.43
15	Karjat	7.35
16	Alibag	2.54
17	Matheran	7.49
Total		1488.07

2.5.1 Adjoining Authorities

Adjoining authorities to Panvel Municipal Corporation are as follow:

1. NAINA
2. NMMC
3. AKBSNA

2.5.1.1 Navi Mumbai Airport Influence Notified Area

NAINA stands for “Navi Mumbai Airport Influence Notified Area” Govt. of Maharashtra vide notification dated 10-01-2023 appointed CIDCO a SPA under section 40(1) of MR & TP Act, 1966 for area admeasuring 560 sq.km. comprising 256 villages of Raigad District and 14 villages of Thane District. Subsequently Government of Maharashtra reduced the project area to 461 sq. km. comprising 224 Villages. Development across the creek got a boost with the Thane Creek Bridge connecting Mankhurd and Vashi, constructed by PWD, getting open for traffic in 1972. Vashi was selected as the node for early development. Belapur was the second node to be taken up for the development that started with Panvel Creek Bridge. In 1972, construction of building for Konkan Region Commissionerate offices started in Belapur. It was the first landmark building in the area and since then it is recognised as Konkan Bhavan.

IDP was prepared for 23 villages of NAINA, as per all the procedure as laid down in MRTTP Act and submitted to Government for sanction in September 2015.

Gradually CIDCO developed 14 nodes of the city which are divided in North and South parts. The 7 nodes fall in the North part Airoli, Kopar Khairane, Vashi, Sanpada, Nerul and CBD Belapur; on the Southern part Kharghar, Kamothe, Kalamboli, Pushpak, Panvel, Ulwe and Dronagiri are the other 7 node. Today in this periphery two municipal bodies have been established Navi Mumbai Municipal Corporation in the North and Panvel Municipal Corporation in the South.

2.5.1.2 Ambernath-Kulgaon-Badlapur Surrounding Notified Area

There are seven special planning authority areas in the MMR region viz. Navi Mumbai New Town, NAINA, Kalyan 27 villages, Bhiwandi Surrounding Notified Area, Ambernath-Kulgaon-Badlapur Surrounding Notified Area (AKBSNA), Vasai Virar Sub Region Notified Area (VVSNA), Khopta. MMRDA is appointed as SPA for AKBSNA. The area under AKBSNA is 117.89 sq. km. with the population of 1,05,731.

There are several notified areas which are under Special Planning Authorities in rural MMR, constituted at various times. AKBSNA is identified as one of the important growth areas, due to industrial development and existing rail line connecting the area of MCGM and other national destinations. MMRDA is appointed as SPA for the development of AKBSNA area. The south of Kalyan was also designated as “New Town” to integrate the growth of surrounding nuclei into an integrated urban centre.

2.5.1.3 Navi Mumbai Municipal Corporation

The NMMC was established by the Govt. of Maharashtra vide Govt. Resolution No. NBC/1091/140/CR14/91/UD20 dated 17th Dec. 1991 which came into existence from dated 01/01/1992. As per this Notification, 44 villages were included in NMMC area out of which 29 revenue villages are part and parcel of sanctioned DP of CIDCO. Out of remaining 15 revenue villages, 14 (villages excluding Adavali-Bhutavali) were excluded from the NMMC area and only one village i.e. Adavali-Bhutavali is included in NMMC area. In all, there are now 30 villages within the jurisdiction of NMMC area. The total area of Navi Mumbai is 343.70 sq. km (excluding Adavali-Bhutavali) out of which 109.59 sq. km area falls under NMMC jurisdiction (including Adavali-Bhutavali). CIDCO had planned to develop 14 nodes in Navi Mumbai. NMMC is situated along Mumbai Pune highway and a fast-developing area and has tremendous development potential due to development of Navi Mumbai as Twin City, upcoming International Airport in the vicinity of Navi Mumbai area, Development of proposed Nhava-Sheva link road, proposed water transport services along the coastal area touching NMMC, existing Mumbai-Pune express highway which start from eastern boundary of NMMC.

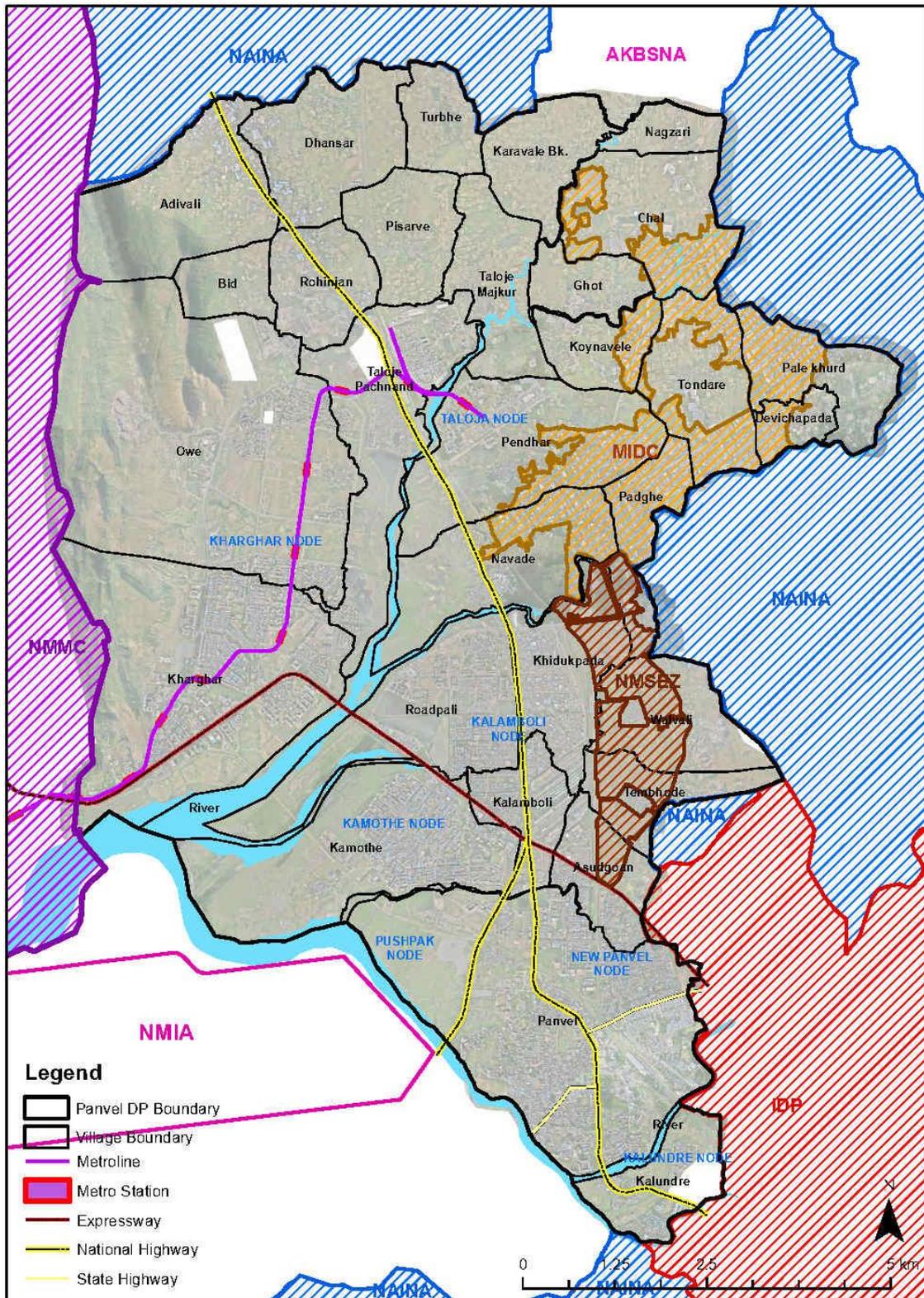


Figure 2.3 PMC Adjoining Authorities

2.6 Regional Connectivity

2.6.1 Road Network Connectivity

Panvel Municipal Corporation (PMC) boasts well-established transportation networks contributing to its connectivity. The Mumbai Pune Expressway traverses through key areas like Roadpali, Kalamboli, and Asudgaon, intersecting with NH 48. The city enjoys a robust road network along NH 48, connecting it from Thane to Goa, with additional connectivity provided by SH 548, linking NH 48 to the Navi Mumbai International Airport. PMC's strategic location ensures seamless connectivity with neighbouring urban centres, including Thane, Sion, and Navi Mumbai, facilitated by the National Highway and State Highway.

2.6.2 Railway

In terms of railway connectivity, PMC stands as a hub with the Dedicated Freight Corridor Corporation of India (DFCCIL) line network running adjacent to SH 54 and NH 48. Key stations like Kalamboli, Navade, and Taloja contribute significantly to efficient freight transportation and logistics in the region. PMC is well-served by the suburban rail network, encompassing stations such as Khandeshwar, Mansarovar, and Kharghar on the Thane-Vashi line and Kalamboli, Navde Road, and Taloja on the Indian Rail network. Both lines converge at Panvel station, extending towards Goa in the south and Vasai in the northwest within PMC limits.

Adding to the comprehensive rail infrastructure, PMC features a well-distributed metro line, commencing at Taloja station and passing through key stations like Panchnand, Pathpada, Central Park, Kharghar Goan, Kharghar Vihar, Utsav Chowk, and Belpada before reaching RBI Colony. This metro line, oriented towards the Sion direction, plays a crucial role in providing essential transportation links across various neighbourhoods in the Panvel Municipal Area. Together, these integrated transportation systems underline PMC's strategic accessibility and connectivity within the larger metropolitan landscape.

2.6.3 Air

The Navi Mumbai International Airport, strategically situated in proximity to the Panvel Municipal Corporation, stands poised to emerge as a pivotal driver of economic growth and development in the region. The strategic location of the airport not only enhances connectivity but also serves as a gateway for increased business activities, tourism, and trade. As a major transportation hub, it is poised to attract investments, spur job creation, and stimulate various sectors of the local economy.

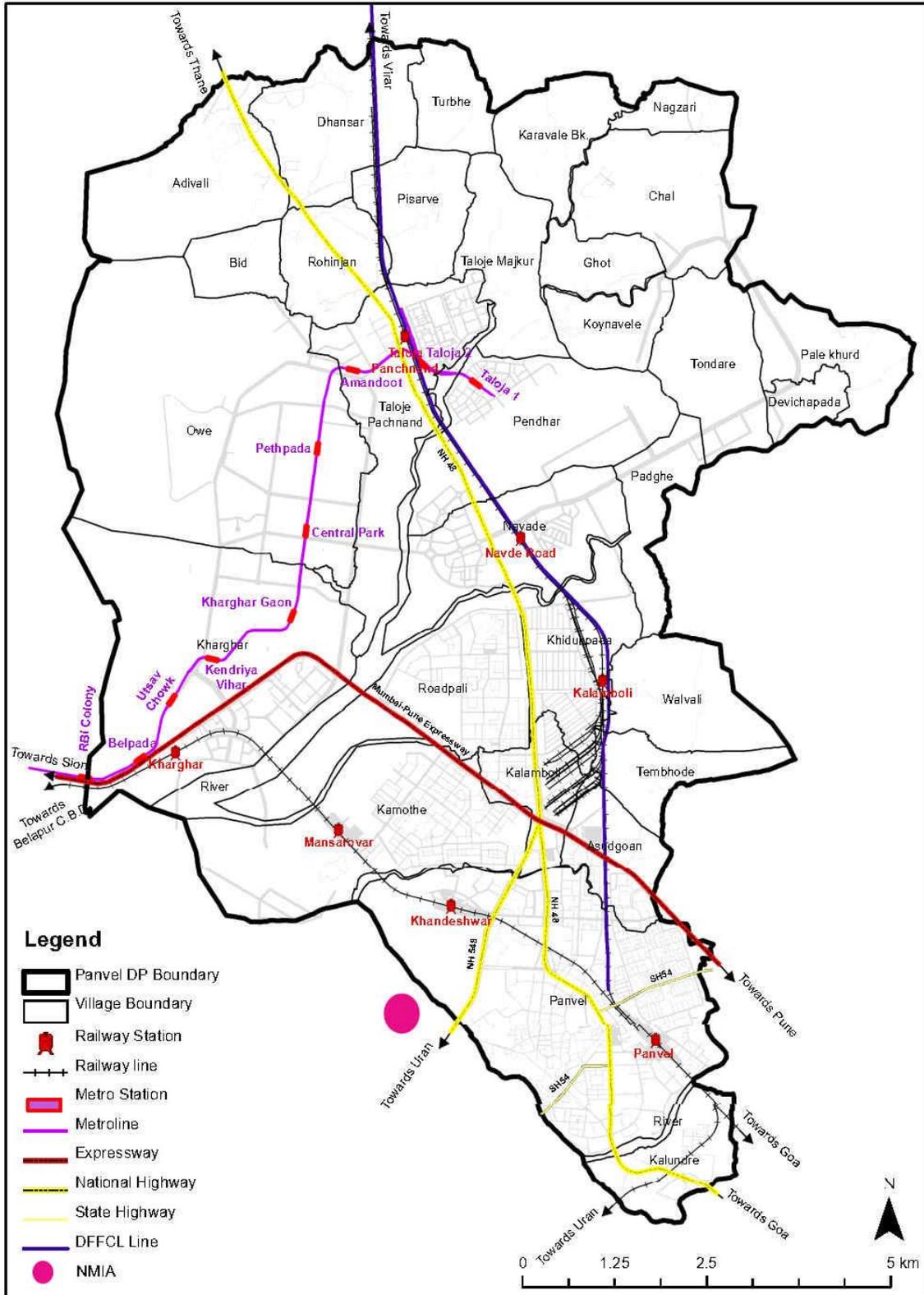


Figure 2.4 Transport Network in PMC

2.7 Topography and Climatology

2.7.1 Geographic Structure

Panvel, located in the Raigad district of Maharashtra, lies in the northern part of the Konkan region. Geographically situated at approximately 19.0005° N, 73.1066° E. Panvel is a significant urban centre with a diverse landscape and strategic positioning. The Panvel Creek and the Gadhi River are integral components of Panvel's geography, offering aesthetic beauty, influencing environmental considerations, and contributing to the city's overall infrastructure planning. As of the 2011 Census, the population of Panvel is recorded at 5.09 lakhs, underlining its status as a significant urban centre within the region. The Panvel Municipal Corporation plays a crucial role in managing the civic affairs and ensuring the sustainable development of the city, responding to the needs of its diverse population, and fostering overall growth.

2.7.2 Topography

The Konkan region is known for its lush greenery, rivers, and a tropical climate influenced by its proximity to the sea. Panvel, being a part of this coastal lowland, experiences the characteristics associated with the Konkan region's geography. The Western Ghats act as a natural barrier, influencing the weather patterns and adding to the overall ecological richness of the area. Geographically Panvel lies in the Konkan coastal lowland which is the area between the Arabian Sea and the Western Ghats. Panvel is located in the southern part of the Konkan coastal lowland, between the Arabian Sea to the west and the Western Ghats to the east. From Parsik Hill there is slope towards the eastern side. From Kalamboli Node, the area is sloping towards Southwestern side. The town in general is about 5-32 meters above sea level. On the western and central portion side of the jurisdiction is the Panvel Creek and to the south there is Gadhi River adjoining Panvel and Kalundre Node the village. On the west side village boundary, a major portion is bounded NMMC, NMNT and NMIA.

2.8 Climatology

Panvel boasts a tropical climate characterized by warm temperatures throughout the year, with an average annual temperature of 27.0 °C. The city experiences a substantial amount of rainfall, averaging around 3267 mm annually. The precipitation season extends from May to November, with the major overcast days and peak rainfall occurring in June, July, August, and September during the monsoon season. Conversely, the period from November to March is noted for its sunniest days, representing a drier phase after the monsoon. This climate profile signifies the

typical tropical weather patterns in Panvel, making it important to the region's agricultural cycles and overall environmental dynamics.

2.8.1 Temperature

The mean maximum temperature in Panvel Municipal Area varies from 27oC to 38oC while the mean minimum temperature varies between 25oC to 16oC. The temperature is maximum from March to May and minimum from December to February. The maximum average temperature observed during summer is 38 °C and the minimum temperature observed is 27 °C while the maximum temperature during winter is 25°C and the minimum is 16°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 January to December. The ‘mean daily maximum’ (solid red line) shows the maximum temperature of an average day for every month for Panvel. Likewise, the ‘mean daily minimum’ (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines).

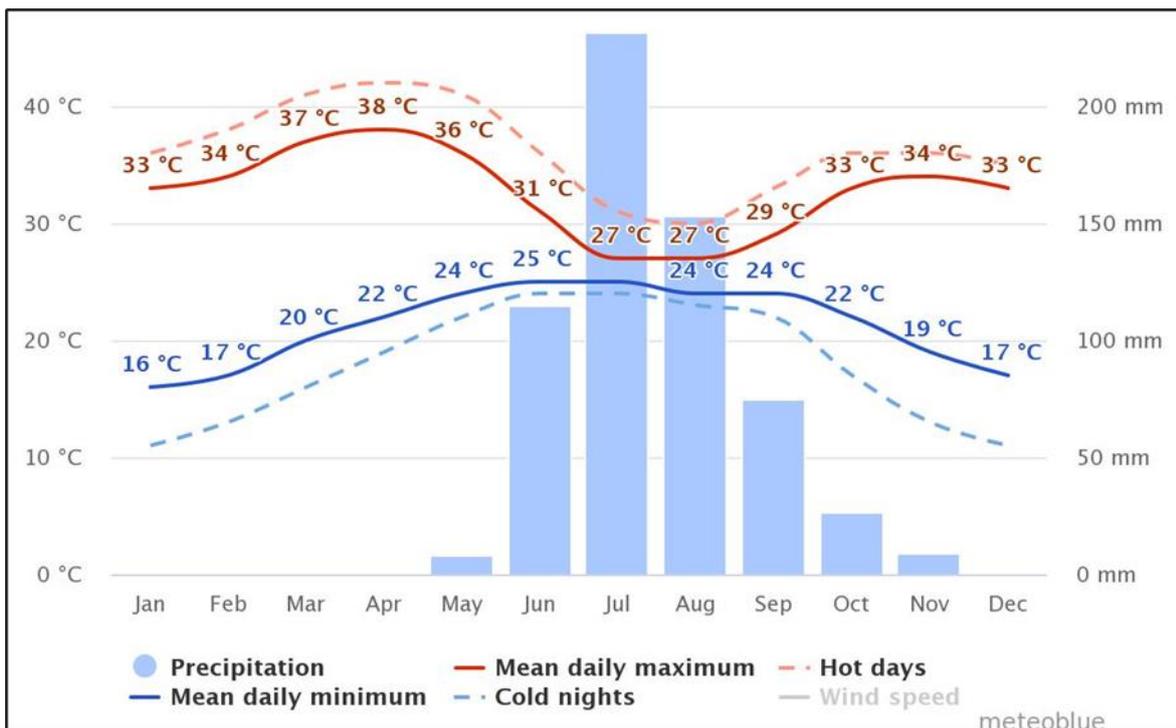


Figure 2.5: Temperature Variation Diagram

The figure 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 from 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.

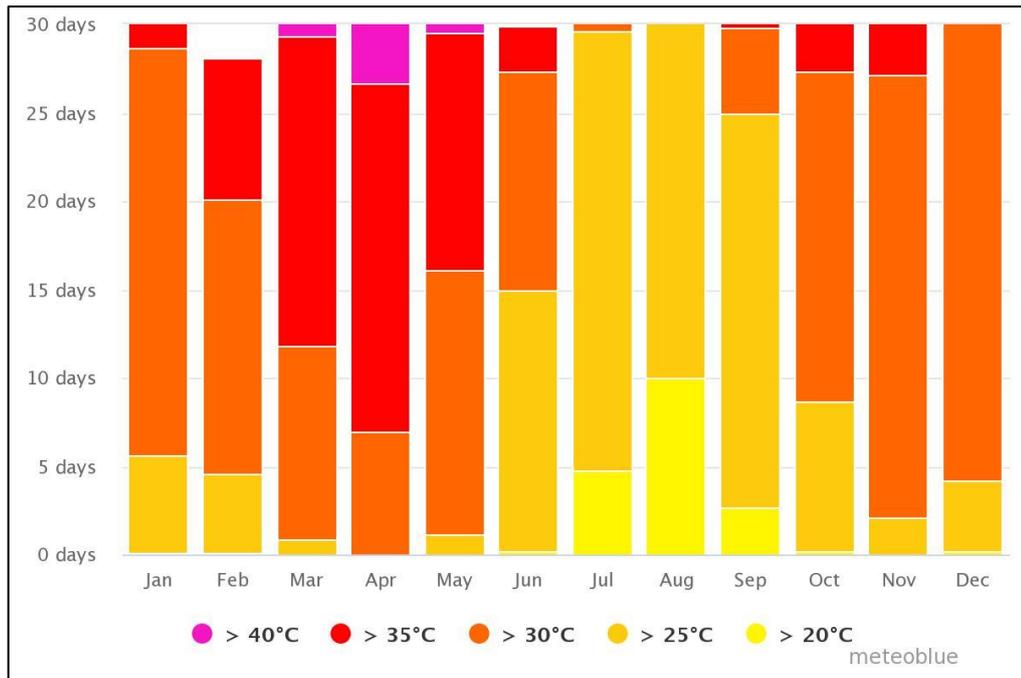


Figure 2.6: Maximum Temperature

2.8.2 Rainfall

The overall climate of Panvel city is hot and humid.

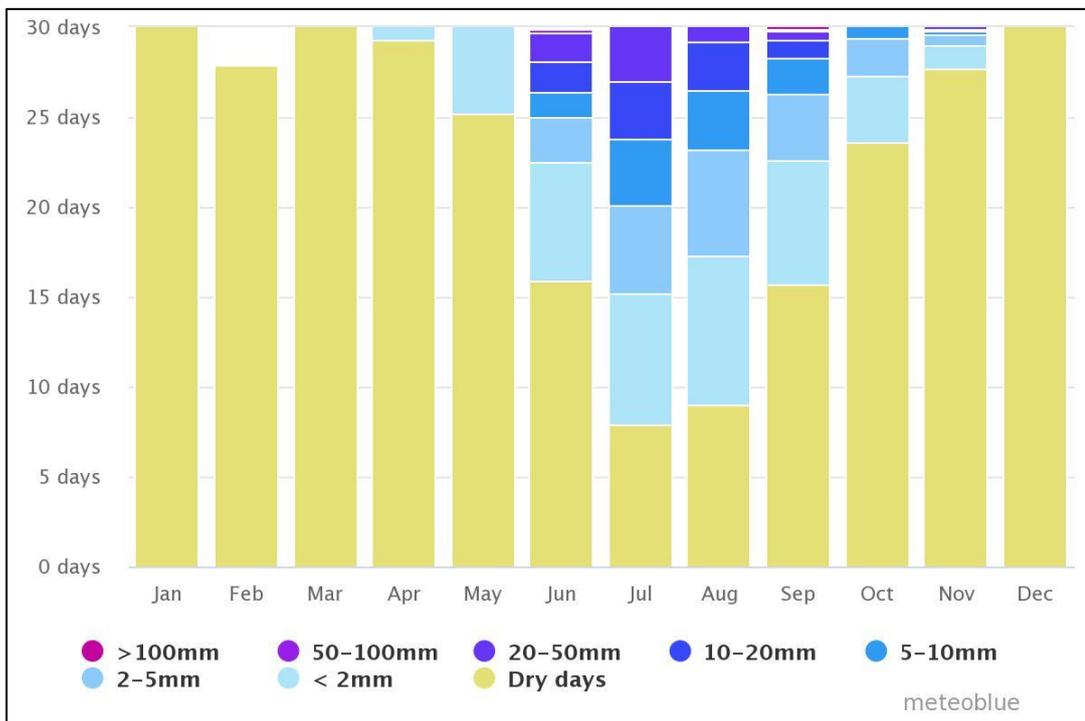


Figure 2.7: Precipitation Diagram

The average annual rainfall is 2500 to 3000 mm. Being on the western coast, the rainfall is usually experienced from the beginning of June to the end of September with an annual mean rainfall of 2677 mm. The precipitation diagram for Panvel shows how many days per month, certain precipitation amounts are reached.

2.8.3 Cloudy, Sunny, and Precipitation Days

The following 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. The region mostly experiences sunny days from November to April. Overcast weather is mostly observed from June to September. During this month city mainly receives rainfall. The days of April and May are partly cloudy.

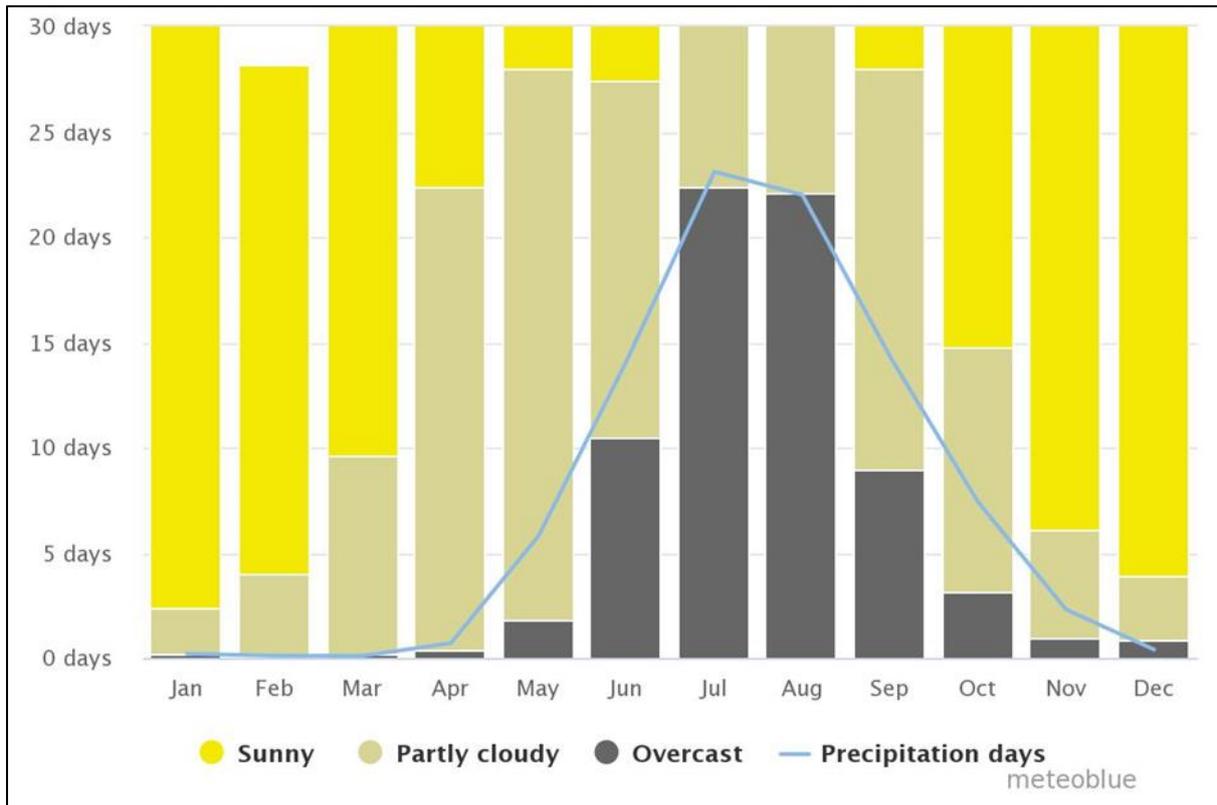


Figure 2.8: Monthly Climate Change

2.8.4 Humidity

The humidity in Panvel 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.

2.8.5 Wind Speed

The winds in the city blow from north to south and southwest at an average speed of 0.5 to 5 km/hr. The diagram for Panvel shows the days per month, during which the wind reaches a certain speed.

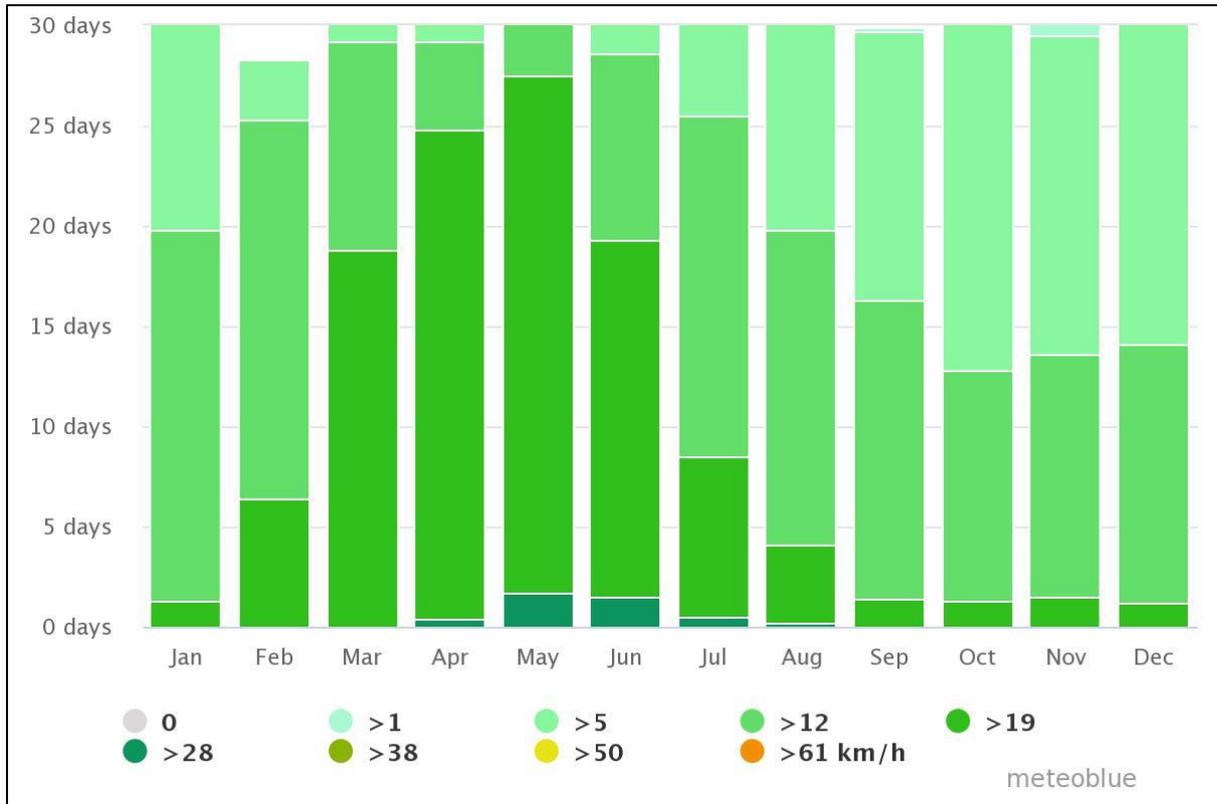


Figure 2.9: Monthly Wind Diagram

Table 2.1: Monthly wind speed

Sr. No.	Month	No. of Calm days	No. of days with wind speed					
			>1 kmph	>5 kmph	>12 kmph	>19 kmph	>28 kmph	>38 kmph
1	2	3	4	5	6	7	8	9
1	January	0	0	11.2	18.5	1.3	0	0
2	February	0	0	3	18.9	6.4	0	0
3	March	0	0	1.7	10.4	18.8	0	0
4	April	0	0	0.8	4.4	24.4	0.4	0
5	May	0	0	0.3	3.2	25.8	1.7	0
6	June	0	0	1.4	9.3	17.8	1.5	0
7	July	0	0	5.5	17	8	0.5	0
8	August	0	0	11.3	15.7	3.9	0.2	0

9	September	0	0.2	13.4	14.9	1.4	0	0
10	October	0	0.5	17.7	11.5	1.3	0	0
11	November	0	0.5	15.9	12.1	1.5	0	0
12	December	0	0	16.8	12.9	1.2	0	0

(Source: Meteoblue)

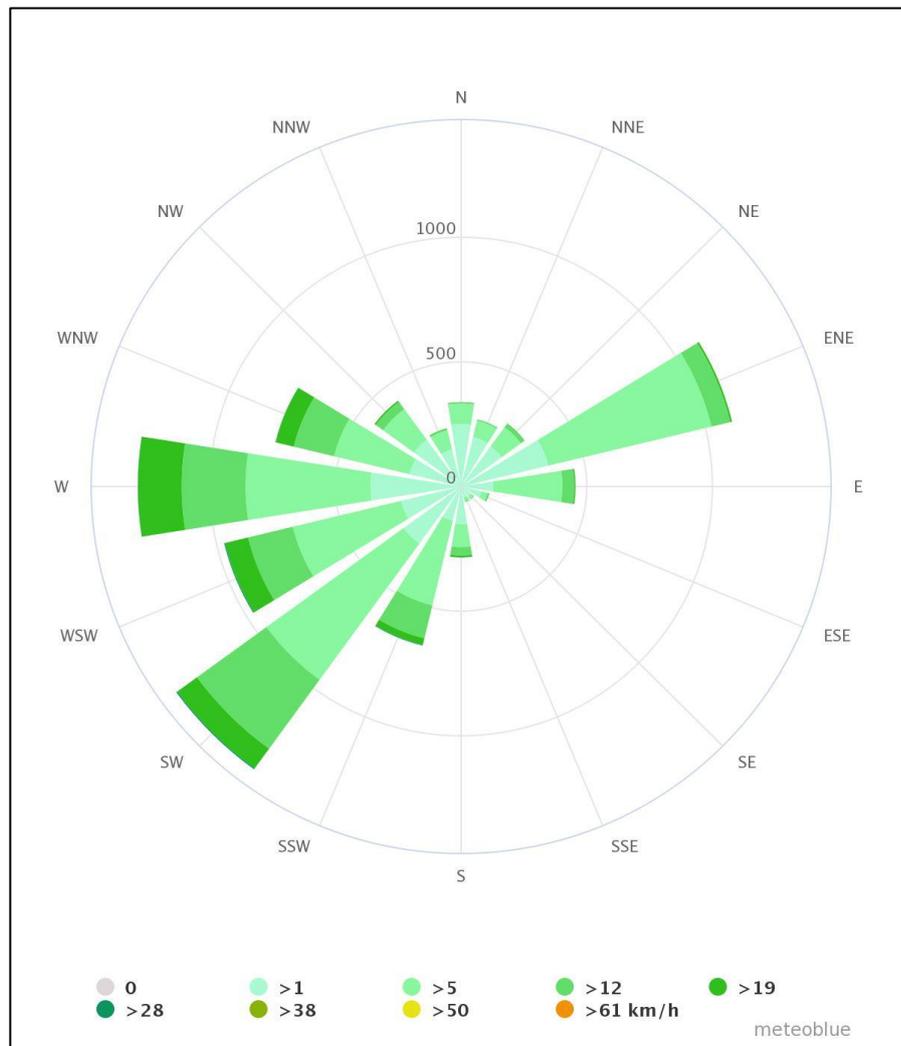


Figure 2.10: Wind Rose Diagram

The figure shows the days of the month, during which the wind reaches a certain speed. The wind rose diagram in Figure 2-6 for Panvel shows how many hours per year the wind blows from the indicated direction.

2.9 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. Panvel 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

Road Network Connectivity:

1. **Mumbai Pune Expressway Influence:** The Mumbai Pune Expressway passing through Roadpali, Kalamboli, and Asudgaon, crossing NH 48, significantly enhances PMC's connectivity. This direct link to two major cities fosters accessibility and attracts residents seeking convenient transportation options.
2. **Strategic Position on NH 48:** PMC's robust network on NH 48, connecting the northern to southern part, becomes a vital corridor. This route's significance, leading from Thane to Goa, positions PMC as a transit hub and a desirable residential destination.
3. **SH 548 Connectivity:** The connection between NH 48 and Navi Mumbai International Airport (NMIA) through NH 548 adds to PMC's appeal. This connection is pivotal for the city's accessibility, especially considering the importance of NMIA as a regional transportation hub.
4. **Connectivity with Neighbouring Urban Centres:** The good connectivity with neighbouring urban centres like Thane, Sion, and Navi Mumbai through national and state highways establishes PMC as an integral part of the broader Mumbai Metropolitan Region (MMR), attracting population growth.

Railway Infrastructure:

1. **Dedicated Freight Corridor (DFCCIL):** The DFCCIL line network, running adjacent to key roads and featuring strategic stations within PMC, enhances freight transportation connectivity. This infrastructure not only facilitates logistics efficiency but also contributes to the overall economic development of the region.
2. **Suburban Rail Network Integration:** PMC's integration with the Mumbai suburban rail network, featuring key stations like Khandeshwar, Mansarovar, Kharghar, Kalamboli, Navde Road, and Talaja, provides residents with efficient commuting options. The convergence of rail lines at Panvel station strengthens PMC's role as a transportation hub.

3. **Metro Line Integration:** The well-distributed metro line within PMC, connecting important neighbourhood's and converging at RBI Colony, significantly improves intra-city transportation. This development not only enhances local mobility but also contributes to the city's overall attractiveness.

Air Transportation:

1. **Navi Mumbai International Airport (NMIA):** The strategic proximity of NMIA to PMC emerges as a catalyst for economic growth. As a major transportation hub, NMIA not only improves connectivity but also attracts investments, stimulates job creation, and contributes to the overall development of PMC.
2. **Gateway for Economic Activities:** NMIA's role as a gateway for increased business activities, tourism, and trade creates a favourable environment for population influx. The anticipation of economic opportunities around the airport can attract residents seeking employment and business prospects.

In summary, the comprehensive and well-connected infrastructure in road networks, railways, and air transportation significantly enhances PMC's appeal as a vibrant and accessible urban centre. This, in turn, is likely to contribute positively to the city's population projection, attracting residents, businesses, and investments in the foreseeable future of the city.

2.10 Planning efforts in the past

Since the 16th century, Panvel has stood as a vibrant nexus for global trade and commerce, engaging in thriving exchanges with Europe, Africa, and the Arabian region. The historical port of Panvel maintained its significance during the British occupation of India, but with the ascent of Mumbai and the fortification of Mumbai-Pune Road and railway connectivity, Panvel's role as a trading hub waned. However, a seismic shift occurred as Mumbai's soaring living costs drove people to seek alternatives, and Panvel emerged as an affordable housing haven. In response, the Panvel Municipal Council, established in 1852, embarked on a visionary Town Development Scheme in 1941, which included the sale of building plots in 1944. Regrettably, the scheme faced challenges due to a shift in traffic trends caused by the Mumbai-Pune Road's S.T. Bus Stand construction.

Undeterred, the Panvel Municipal Council initiated a Town Planning Scheme in 1946 for an approximately 2.8 sq. km. area, gaining final approval from the Urban Development Public Health Department in 1964. Simultaneously, the Municipal Council expressed its commitment

to a Draft Development Plan for the old municipal limits in 1958, securing approval from the Government of Maharashtra in 1962. In 1964, with the municipal limits expanding to 12 sq. km., a revision of the development plan was necessary under the MRTP Act, 1966. The revised plan, submitted in 1969, received the Government's nod in 1974, marking the first revision, followed by the third development plan in 1993 and subsequent extensions in 1994.

The momentum continued with a visionary recommendation to create a twin city across the harbour for the Mumbai Metropolitan Region, embraced by the Government of Maharashtra. This led to the inception of the City and Industrial Development Corporation Limited (CIDCO) in 1970, entrusted with the mantle of new town development authority for the ambitious Navi Mumbai Project. CIDCO's 1971 endeavour saw the initiation of the Navi Mumbai Project, a colossal undertaking spanning 34,400 hectares over two decades. The objectives were clear: alleviate Greater Mumbai's population pressure, promote balanced statewide industrial development, and elevate living standards through comprehensive physical and social services.

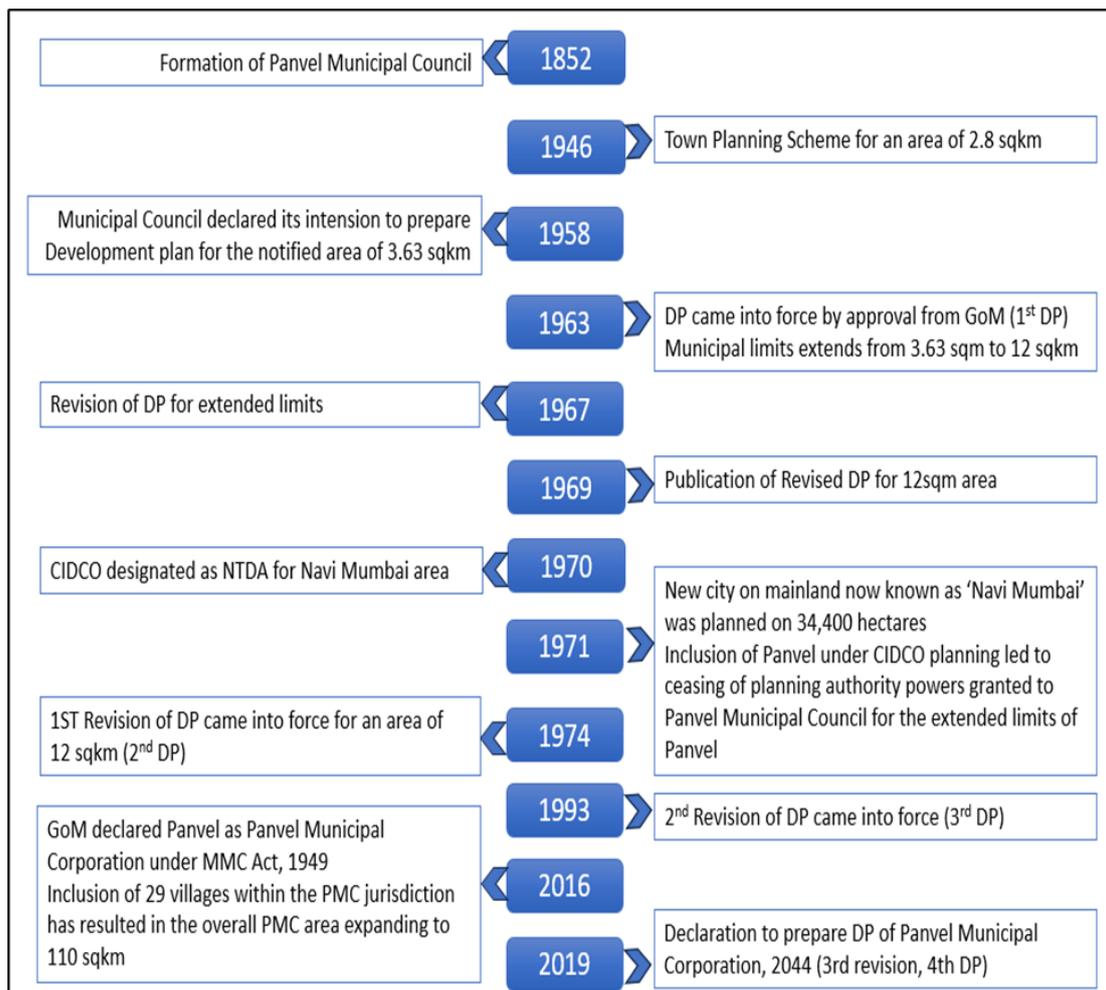


Figure 2.11: Past Planning Efforts

As Panvel integrated into CIDCO's development vision in 1971, the Panvel Municipal Council retained the old municipal council limits. This prompted a second revision of the sanctioned development plan for areas beyond CIDCO's jurisdiction. On October 1, 2016, a landmark decision by the Government of Maharashtra transformed Panvel into a Municipal Corporation, amalgamating the erstwhile Panvel Municipal Council, revenue villages of Panvel Taluka, and MMRDA villages within CIDCO's ambit. The PMC's jurisdiction expanded to cover 110.06 sq.km from earlier 3.63 sq.km. This underscored Panvel's journey from a historic trade centre to a dynamically evolving urban entity, a testament to its resilience and adaptability over the period of time.

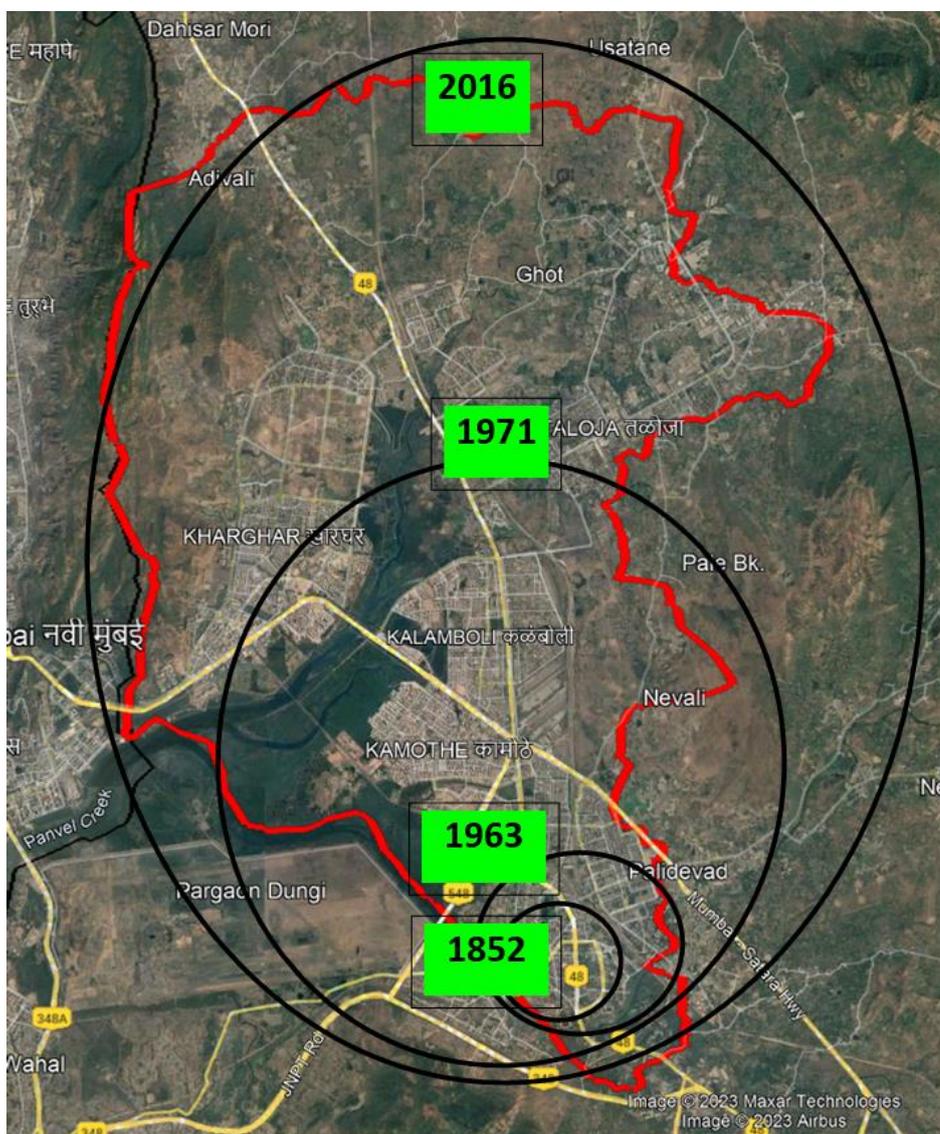


Figure 2.12: Genesis of PMC

2.10.1 Regional Plan

Panvel 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 of 1974 & the first regional plan was prepared by Regional Planning Board and sanctioned in 1973 under the provisions of the MR&TP Act, of 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 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 the census of 2001, there were 6 Corporations in MMR (including three new corporations of Mira Bhayander, Ulhasnagar, and Navi Mumbai corporations), 14 Municipal councils, 17 Census Towns, and 1023 Villages. By the 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 towns, and 994 villages in MMR.

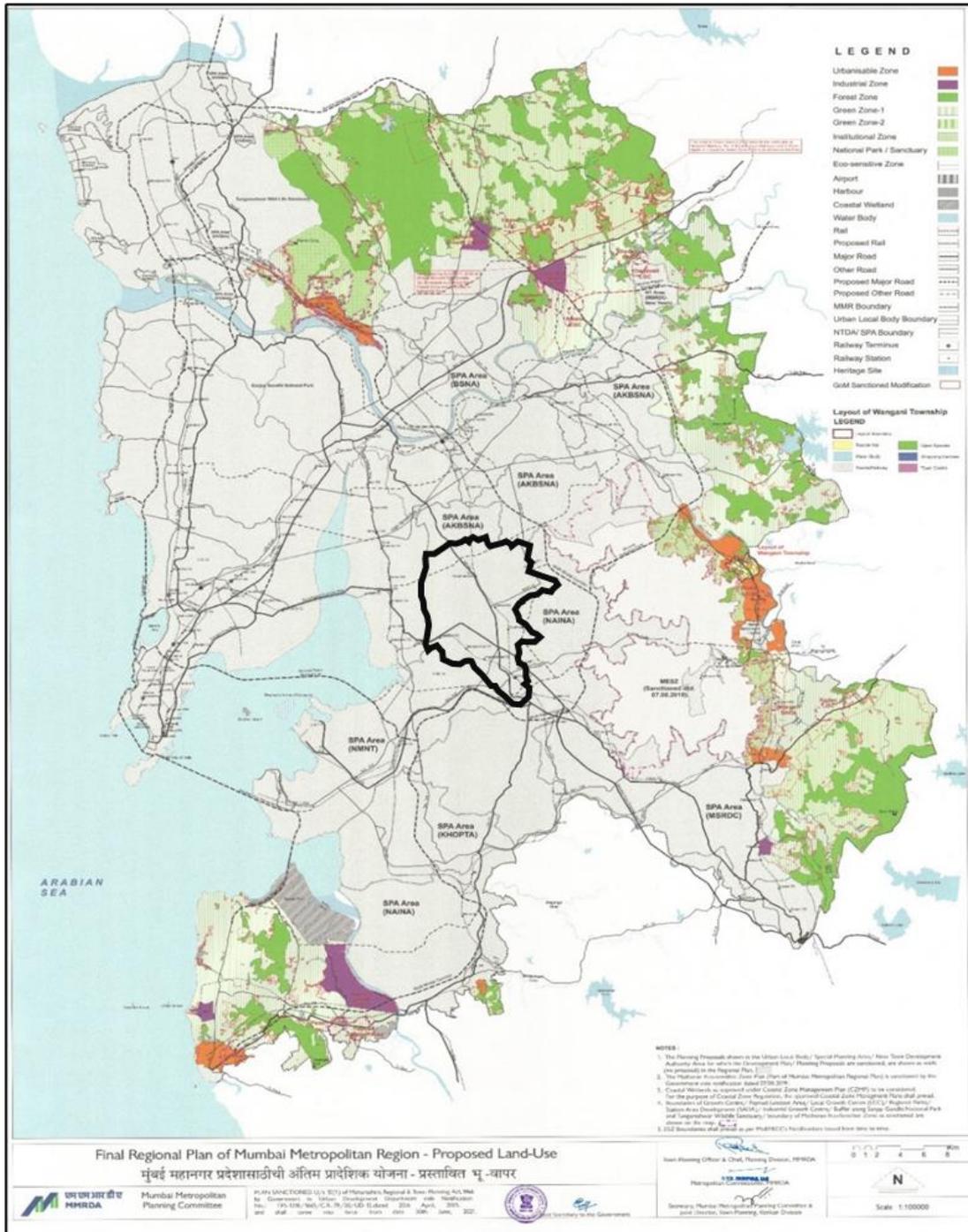


Figure 2.13: Proposed Land use, Regional Plan of Mumbai Metropolitan Region, 2021

2.10.2 Development Plan

The development history of Panvel Municipal Corporation (PMC) is a journey that spans several centuries, evolving from a significant centre of trade and commerce since the 16th century. Initially engaged in trade with Europe, Africa, and the Arabic region, Panvel's old port played a vital role during the British occupation of India. However, as Mumbai developed, the city's importance as a port declined, leading to an increased demand for housing as an alternative to Mumbai.

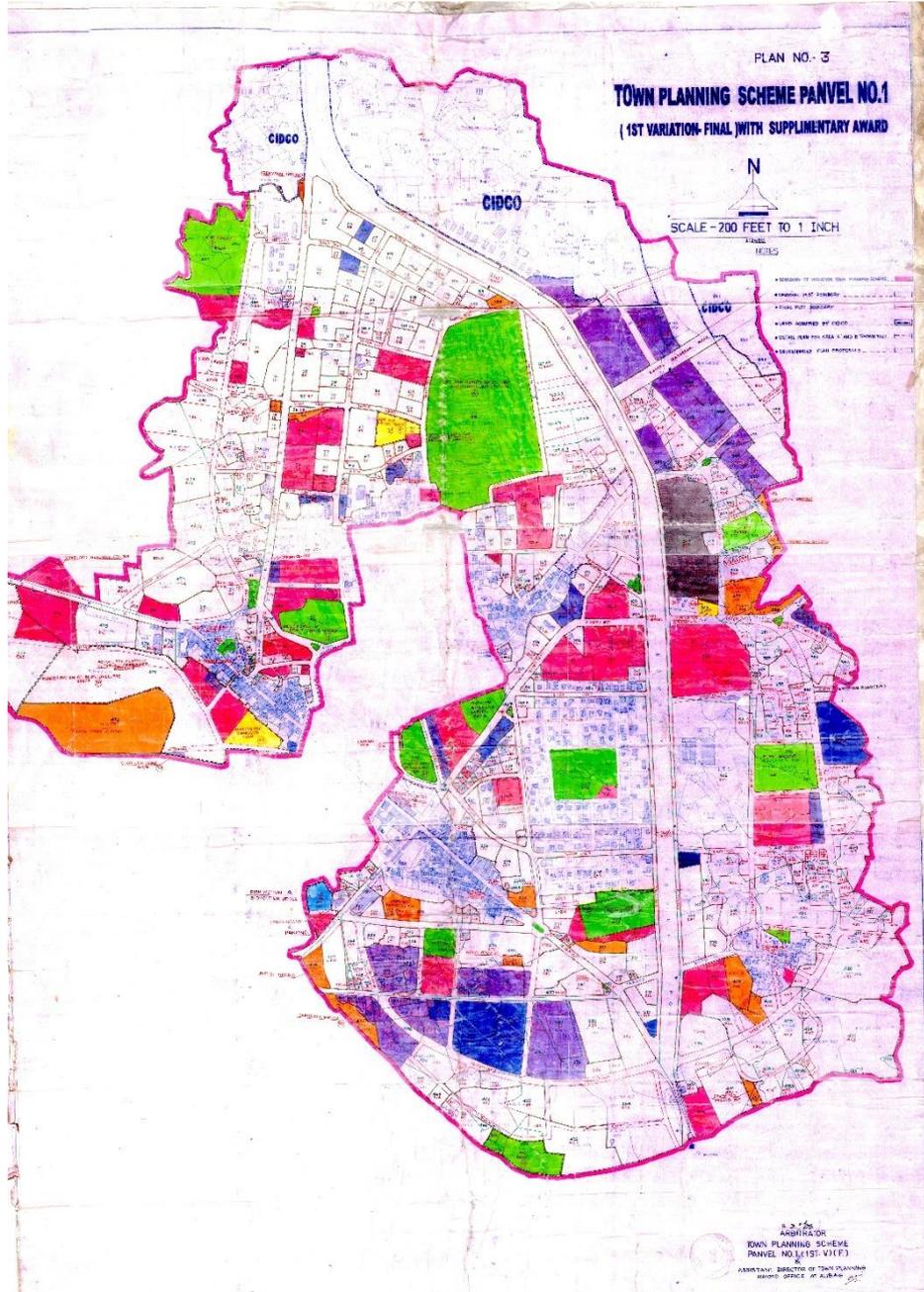


Figure 2.14: 1st TPS in PMC

Panvel witnessed a surge in migration due to its affordable housing and lower cost of living compared to Mumbai. The Panvel Municipal Council, established on September 1, 1852, recognized the need for town development and initiated a scheme in 1941. Despite challenges such as the construction of an S.T. Bus Stand, the council persevered and prepared a Town Planning Scheme in 1946 for approximately 2.8 sq. km. This scheme received final approval from the Urban Development Public Health Department in 1964.

The city's limits were extended in 1964 from 3.63 sq. km. to 12 sq. km., prompting a revision of the development plan under the MRTP Act, 1966. The Panvel Municipal Council declared its intention to prepare a revised development plan in 1967, which was published in 1969 and sanctioned by the Government of Maharashtra (GoM) in 1974.

The inclusion of Panvel under CIDCO planning resulted in a shift of planning authority powers from the Panvel Municipal Council to CIDCO in 1971. While New Panvel became part of CIDCO development, the old municipal council limits (3.63 sq. km.) were retained by Panvel Municipal Council. Subsequent revisions of the development plan occurred in 1974 and 1993, with the latter including excluded parts. On October 1, 2016, the GoM declared Panvel as a Municipal Corporation, incorporating the erstwhile Panvel Municipal Council, 29 revenue villages of Panvel Taluka, and 5 nodes from CIDCO. PMC covers a significantly expanded area of 110.06 sq. km., marking a new phase in the city's urban development.

CHAPTER 3

EXISTING LAND USE



3 EXISTING LAND USE

3.1 Introduction

The land use data gathered by flying the drone at a height of 100m over the entire jurisdiction of Panvel Municipal Corporation for 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 and Regional Plan there are significant changes made in both categories as well as classification. In the previous Sanctioned DP and RP 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 Defence, etc. The main classes are further subdivided into 479 sub-classes covering the existing land use in detail for the Panvel Municipal Corporation area.

3.3 Land use distribution

Land use is identification of use or activity on a land parcel. Land use classification system identifies activities taking place on land parcels in various categories such as residential, commercial, industrial, institutional, utilities, road, open spaces, vacant land etc. After the preparation of Existing Land use Map for PMC, we have carried out the existing land

use analysis using GIS Platform. This Existing Land use analysis will be helpful to understand the current land use classification. In the table below, we have broadly classified the land use of PMC into 17 categories. The ELU analysis will also be helpful in finding out most suitable land for development. Subsequent table in this section will carry out the Existing land use analysis for PMC area.

Table 3.1 Existing Land Use Distribution

Sr. No.	Land Use	Area (Ha.)	Percentage (%)
1	Residential	458.64	7.5%
2	Gaothan	61.09	1.0%
3	Commercial	55.28	0.9%
4	Mixed Use	223.58	3.7%
5	Industrial	369.21	6.1%
6	Public & Semi-Public Amenities	170.17	2.8%
7	Public Utilities	83.04	1.4%
8	Recreational	67.36	1.1%
9	Transportation	689.14	11.3%
10	Slums	18.13	0.3%
11	Defense	1.80	0.03%
12	Agricultural	1209.40	19.9%
13	Vacant Land	1474.27	24.3%
14	Green Areas	434.71	7.2%
15	Waterbody	224.56	3.7%
16	Mangroves	499.53	8.2%
17	Mining	38.58	0.6%
Grand Total		6078.50	100.00

Source: Existing Land Use Survey

According to the preceding table, around 8.5% of the land is classified as residential and Gaothan. Additionally, PMC is found to have 1209.40 acres, or 19.9% of its area used for agriculture purpose. The 11 MMR villages on the northern side of the PMC have land that is mostly used for agriculture. In terms of undeveloped land that is available for development, PMC possesses a sizable portion—24.3%.

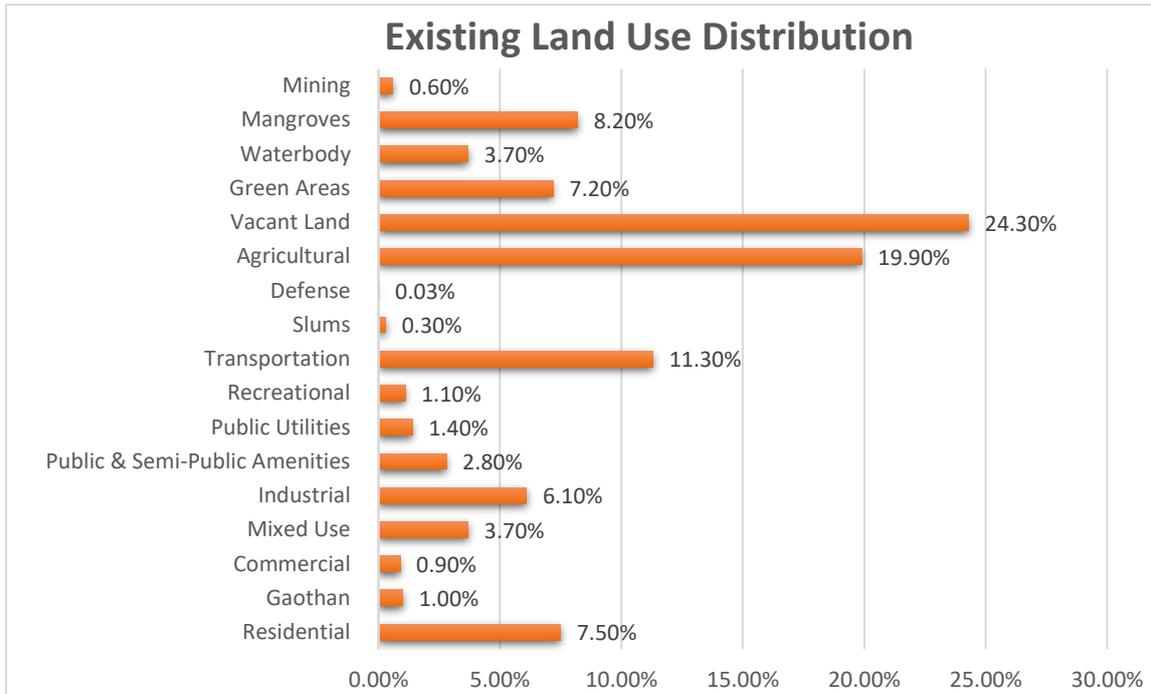
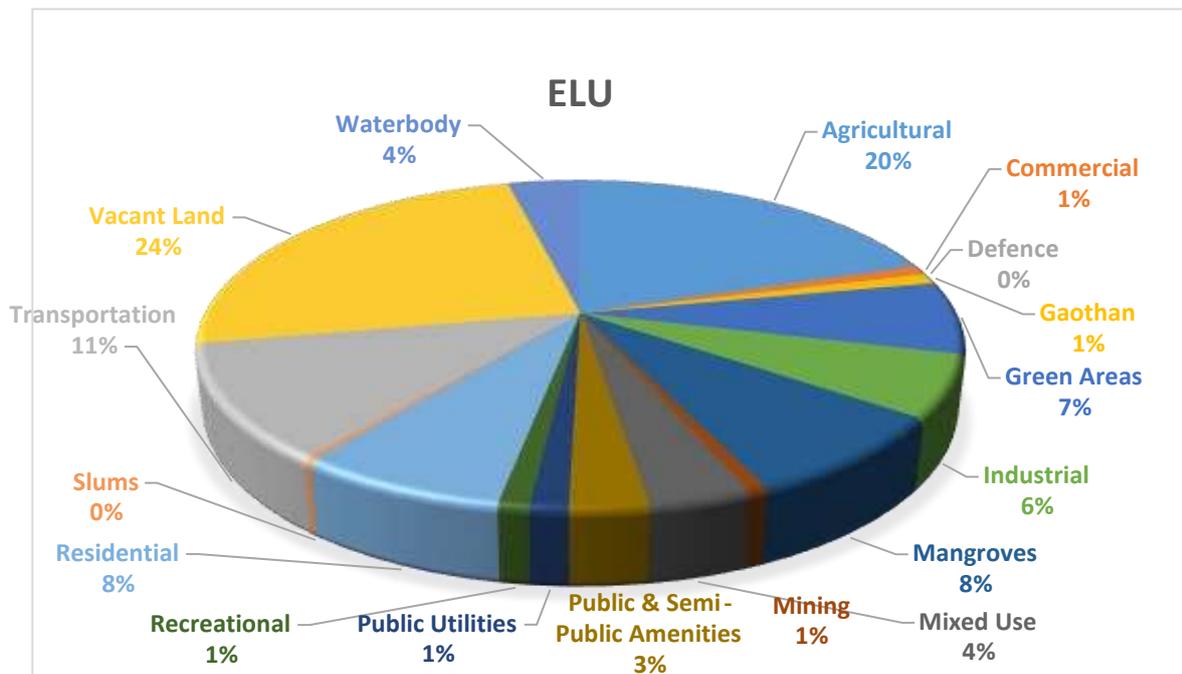


Figure 3.1: Existing land Use distribution



Source: Existing Land Use Survey

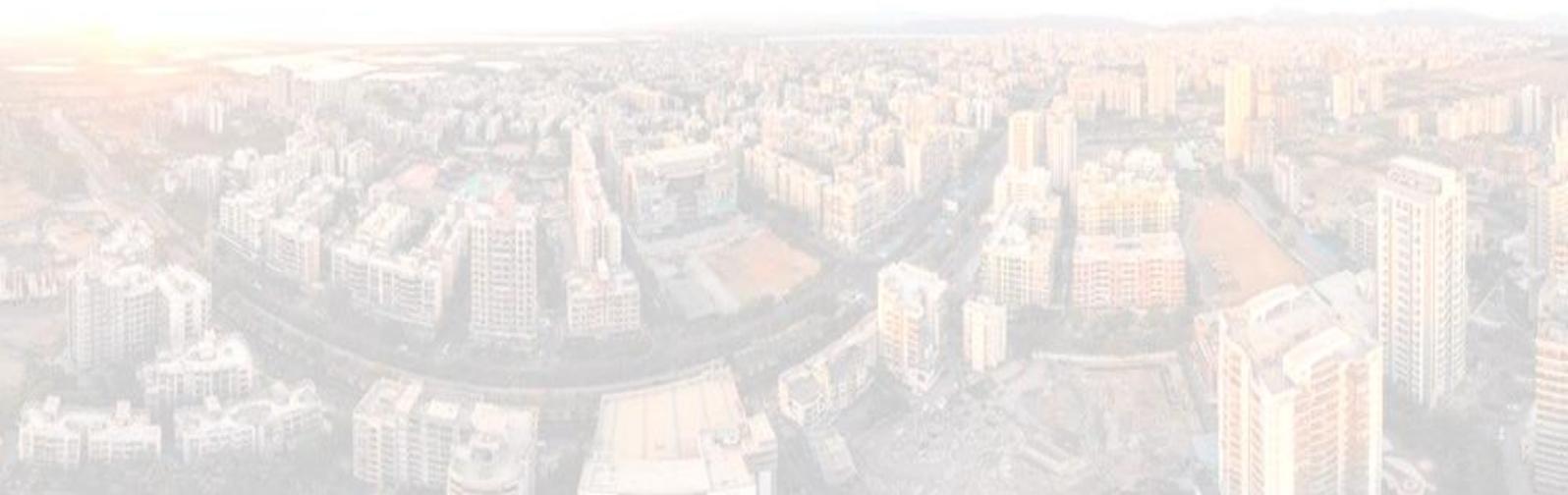
- The residential development occupies 458.64 hectares, or 7.5%, of the PMC's total AOI. One percent (61.09 hectares) of the AOI is made up of Gaothan. The CIDCO Nodal areas of Kamothe, Kalamboli, New Panvel, Kalundre, and Panvel Old Council area are where the majority of the residential settlement is located. The non-nodal CIDCO villages and the eleven MMRDA villages exhibit sporadic expansion for residential growth.
- The commercial development area is 0.9% (55.28 Ha), primarily located in the Kamothe, Kalamboli, and Old Panvel Council areas. Kalamboli and the area along NH4 are home to a number of warehouses, a marble and tile market, and a complex of markets for steel and iron. In the old council region, PMC also maintains the Agriculture Produce Market Committee (APMC) yard. In the urbanized areas of PMC, there are numerous shopping centers, department stores, and daily bazaars.
- Around 3.7% of the total area (223.58 Ha) is made up of mixed-use development. The majority of mixed-use developments occur in the CIDCO nodal area because this is the development pattern used there, with the ground level being used for commercial purposes and the upper stories being used for residential purposes.
- The industrial development area is 3.69.21 Ha, or 6.1% of the total. Significant industrial and warehouse activities are cantered in the Kalamboli area and along NH-4. In addition, PMC include the Panvel Industrial Cooperative Estate and the Jawahar Industrial Cooperative Estate. Also, a number of industrial establishments have been constructed close to the Taloja MIDC area.
- The Public Semi-Public covers 2.8% of the area (170.17 Ha). Education facilities, hospitals, government offices, post offices, fire stations, police stations, community centres, and libraries make up the majority of its buildings.
- The Public Utility covers 1.4% of the land (83.04 Ha). It mostly consists of waste management services, public restrooms, crematoriums, sewage and water services, power services, and waste management services.
- The transportation sector accounts for 11.3% (689.14 Ha). Expressways, State and Federal Highways, Roads, Train Lines, Bus Stand & Terminal, Train Station, Metro Station, and Truck Terminals make up the majority of its components.
- A total of 67.36 Ha (1.1%) is developed for recreational purposes. A recreation area consists of a playground, parks, and gardens.

- Of total land use, 434.71 Ha, or 7.2%, are used for green areas. The two types of green areas are forests and PMC tree plantations. Adivali, Bid, Pale Khurd, Owe, and Nagzari are the settlements with the highest concentration of forest lands.
- Agriculture area makes about 19.9% of the total area (1209.40 Ha). The majority of agricultural land is found in the non-nodal CIDCO villages and MMRDA areas.
- The PMC region has a huge amount of open space, totalling 1474 Ha. This space can be used to accommodate the anticipated population needs.

Note: Refer Annexure-V for comprehensive ELU 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 population of PMC as per census 2011 is 5,09,901 comprising 77 % of Panvel taluka’s population and 19 % of Raigad district’s population. The population of PMC in 2001 was 2,33,359, which witnessed a growth rate of 119 % during 2001-2011. The population of PMC in 1991 was 1,34,662 lakh which grew at a rate of 73.29 % from 1991-2001.

As per the census 2011, 11 revenue villages (MMRDA), 2 revenue villages (CIDCO) & 4 census towns (CIDCO) and 1 Panvel old council area were merged to form the PMC. Areas previously under CIDCO jurisdiction comprises major share of total population i.e. 61.24% with Panvel old council area comprising 35.30% and MMRDA villages comprising 3.46% of the total PMC’s population. Among all the areas, Navi Mumbai Panvel Raigad (CT) contributes the maximum population (38%) in PMC, as it consists of CIDCO developed areas such as Kalamboli and Kamothe.

Table 4.1: Demographic Details of the PMC Area

Sr. No.	Name of village/City	Previously governing authority	Population 2001	Population 2011	% of total population, 2011	% growth over 2001
1	Bid	MMRDA	81	118	0.0%	46%
2	Adivali		768	771	0.2%	0.4%
3	Rohinjan		2308	4020	0.8%	74%

4	Dhansar		2025	1881	0.4%	-7%	
5	Pisarve		1220	1179	0.2%	-3%	
6	Turbhe		692	673	0.1%	-3%	
7	Nagzari		556	883	0.2%	59%	
8	Taloje Majkur		1763	2026	0.4%	15%	
9	Ghot		1943	3341	0.7%	72%	
10	Koyana Velhe		1242	1337	0.3%	8%	
11	Karavel Bk		1219	1403	0.3%	15%	
12	Owe		CIDCO	6084	9746	1.9%	60%
13	Devichapada			3129	5574	1.1%	78%
14	Kharghar (CT)	5993		80612	15.8%	1245%	
15	Kalundre(CT)	7584		6626	1.3%	-13%	
16	Taloje Panchnand (CT)	10839		14318	2.8%	32%	
17	Navi Mumbai Panvel Raigad (CT)	81855		195373	38.3%	139%	
18	Panvel municipal council	PMC	104058	180020	35.3%	73%	
	Total		233359	509901	100%	119%	

Source: Census 2011 and 2001

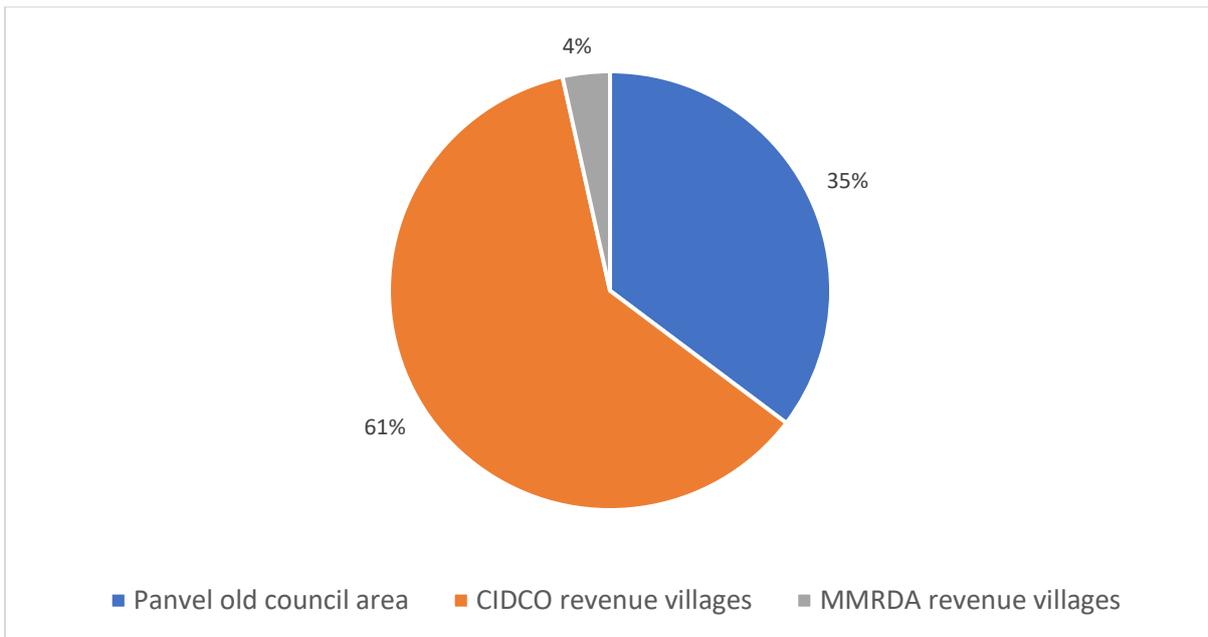


Figure 4.1: Population Distribution 2011

As discussed above, the total population of PMC region has grown 119% from 2001 to 2011, with most areas showing a positive growth rate. Kharghar (CT) has grown at a phenomenal rate of 1245%, followed by Navi Mumbai Panvel Raigad (CT) at 139%. This increased growth rate of Kharghar and Navi Mumbai Panvel Raigad can be attributed to the huge population influx due to the growth in infrastructure, existing connectivity to Pune, Mumbai and spurt in employment opportunities. On the other hand, growth rate of four areas namely Dhansar, Pesarve, Turbhe and Kalundre have turned negative, possible reason being out migration due to less employment opportunities. Rohinjan and Ghot are the only two MMRDA revenue village which have grown in notable way in past decade.

It should be noted that the government in exercise of the power conferred by section 113 (3A) of MRTP act, vide urban development notification no. UOR-77/16 dated 14/10/2016, CIDCO has been declared as new town development authority for villages namely Taloja Panchnand, Kharghar, Owe, Navade and Pendhar. Thus removing 5 villages of CIDCO, the population of remaining area as per census 2011 was 3,89,290.

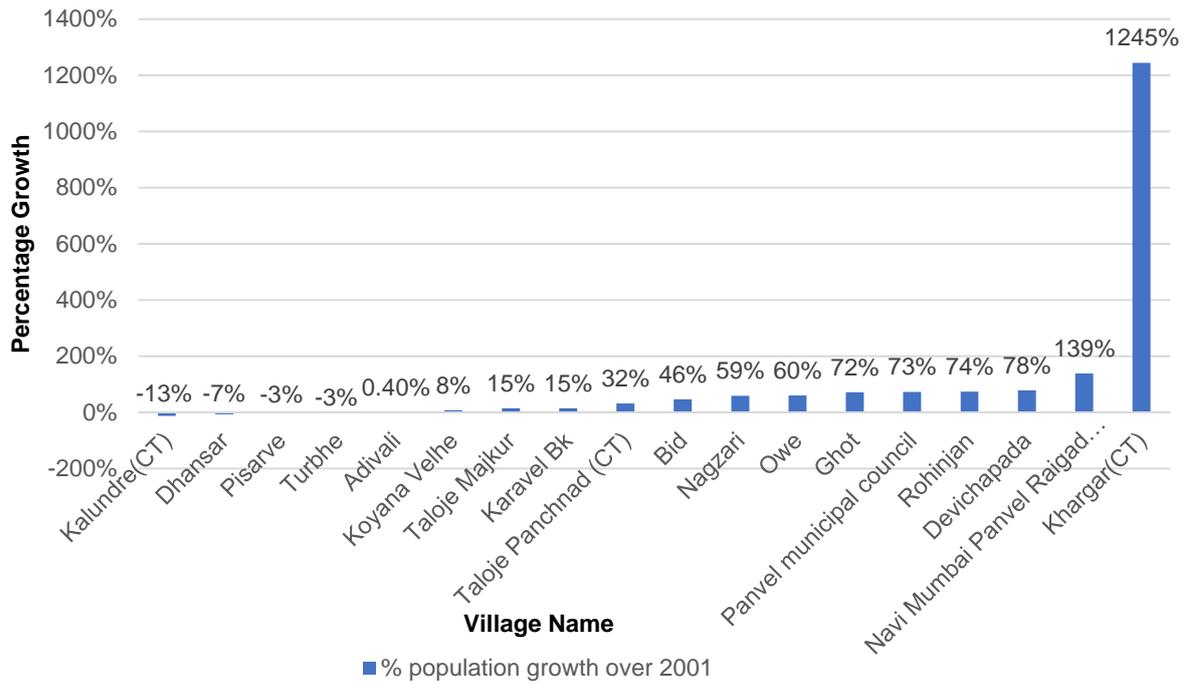


Figure 4.2: Growth Rate in PMC

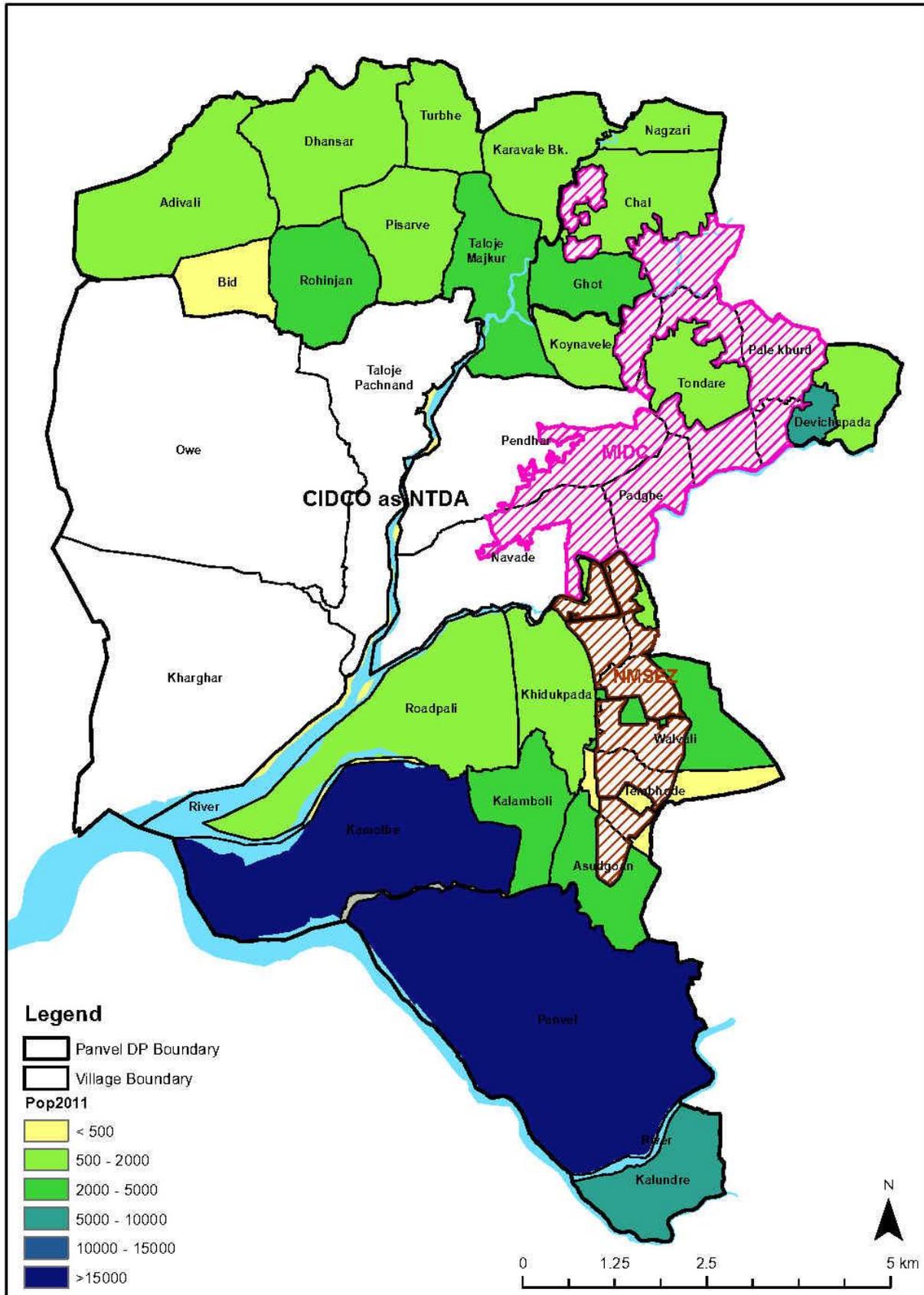


Figure 4.3 Population in PMC Planning Area

4.3 Structure of Population

4.3.1 Age group wise population

As per census 2011, the age sex pyramid shows higher value of 20-34 age group of population which may be due to in-migration in the region for work and education purposes and natural growth of population¹.

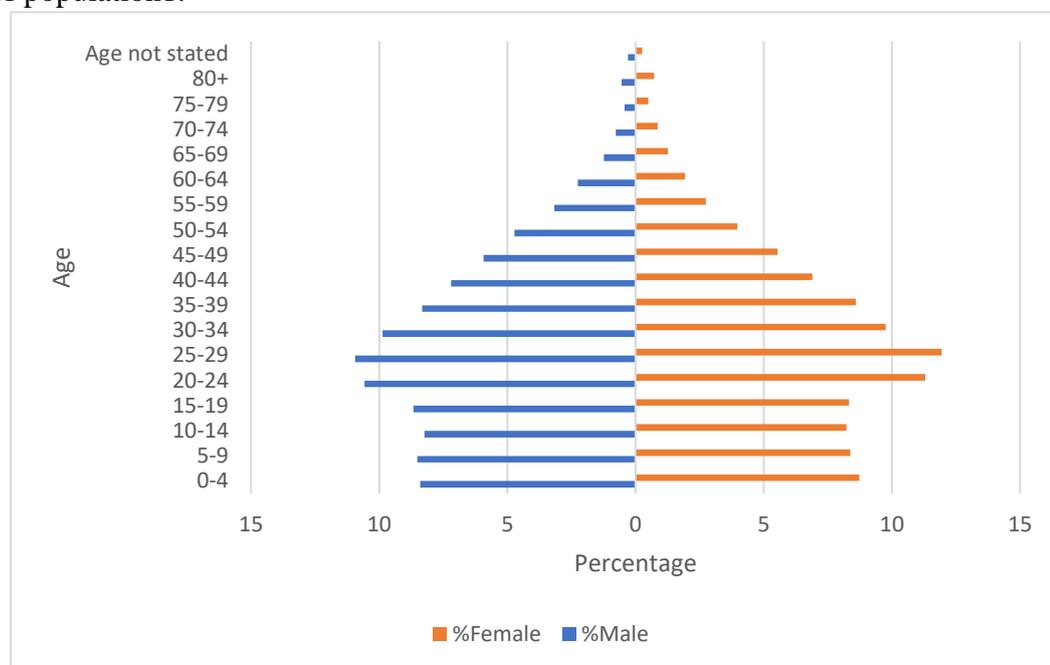


Figure 4.4: Age Sex Pyramid

4.3.2 Literacy Rate

As per census 2011, Panvel has a literacy rate of 91.2 %, which is greater than Raigad district (83.14%), and Maharashtra (82.34 %). A wide variation is observed across PMC, with Nagzari having lowest literacy rate of 52.9% literacy rate, while Old Panvel council region has 93.9% literacy rate. The literacy rate increased from 85.4% in 2001 to 91.2% in 2011. The literacy rate of males and females as per census 2011 is 93.8% and 88.1%, an improvement over 90.9% and 78.7%, respectively, as per census 2001.

Table 4.2: Literacy rate in PMC region

Sr No	Area	Literacy rates					
		Persons		Male		Female	
		2001	2011	2001	2011	2001	2011
1	Bid	57.6%	79.4%	58.8%	83.7%	56.0%	75.0%
2	Adivali	72.3%	82.0%	80.8%	88.8%	60.7%	72.9%
3	Rohinjan	84.8%	88.8%	94.1%	93.0%	74.8%	84.0%

¹Data restricted to Panvel old council area and Navi Mumbai Panvel Raigad Census Town

4	Dhansar	80.6%	84.5%	91.3%	91.4%	68.7%	77.2%
5	Pisarve	69.4%	84.6%	78.3%	92.4%	61.0%	77.6%
6	Turbhe	56.8%	84.4%	69.1%	88.4%	42.2%	79.8%
7	Nagzari	45.0%	52.9%	54.4%	60.2%	34.8%	45.1%
8	Taloje Majkur	80.3%	82.9%	92.7%	89.7%	67.9%	75.3%
9	Ghot	75.8%	80.1%	85.1%	85.4%	62.5%	72.3%
10	Koyana Velhe	84.2%	91.9%	93.2%	94.5%	74.4%	89.2%
11	Karavale Bk.	71.5%	81.6%	85.7%	90.2%	55.8%	73.1%
12	Owe	73.7%	80.5%	82.9%	85.5%	64.1%	74.1%
13	Devichapada	76.4%	90.1%	86.3%	93.8%	57.0%	83.5%
14	Kharghar (CT)	81.3%	93.6%	89.5%	95.2%	72.1%	91.8%
15	Kalundre (CT)	91.4%	87.7%	95.6%	90.9%	86.8%	84.1%
16	Taloje Panchnand (CT)	82.3%	87.9%	87.9%	91.3%	75.4%	84.0%
17	Navi Mumbai (Panvel, Raigarh) (CT)	83.3%	89.1%	89.9%	92.5%	74.6%	84.9%
18	Panvel (M Cl)	89.1%	93.9%	92.9%	96.0%	84.8%	91.7%
	Total	85.4%	91.2%	90.9%	93.8%	78.7%	88.1%

4.3.3 Scheduled Caste and Scheduled Tribe

As per census 2011, the SC population in PMC is about 0.37 lakh and ST population is 0.12 lakh which has seen a growth of about 347 % and 69% over 2001 respectively. The SC and ST population constitutes about 7.4 % and 2.5% of the total population of the city in 2011. As per census 2001, the share of SC and ST population to total population was 3.6 % and 3.2 % respectively. High increase has been noticed in share of SC population while ST population share has seen a downfall during 2001-2011. Further, the SC and ST population in city is compared with that at district and state level, to understand the share of respective population to that of the total population. As per Census 2011, in Raigad district, SC population accounts for 5.1 % of total population and ST accounts for 11.6 % of the total district population.

Table 4.3: SC/ST Population

Sr. No.	Name of village/City	% share of total population, 2011	
		SC	ST
1	Maharashtra	11.8 %	9.4 %
2	Raigad	5.1%	11.6%
3	PMC	7.4%	2.5%

Source: Census of India, 2011

4.3.4 Household Size

As per census 2011, the household size of PMC is 4.17 which is lower than Raigad (4.31) and Maharashtra (4.60). The HH size of Panvel as per census 2001 is 4.51.

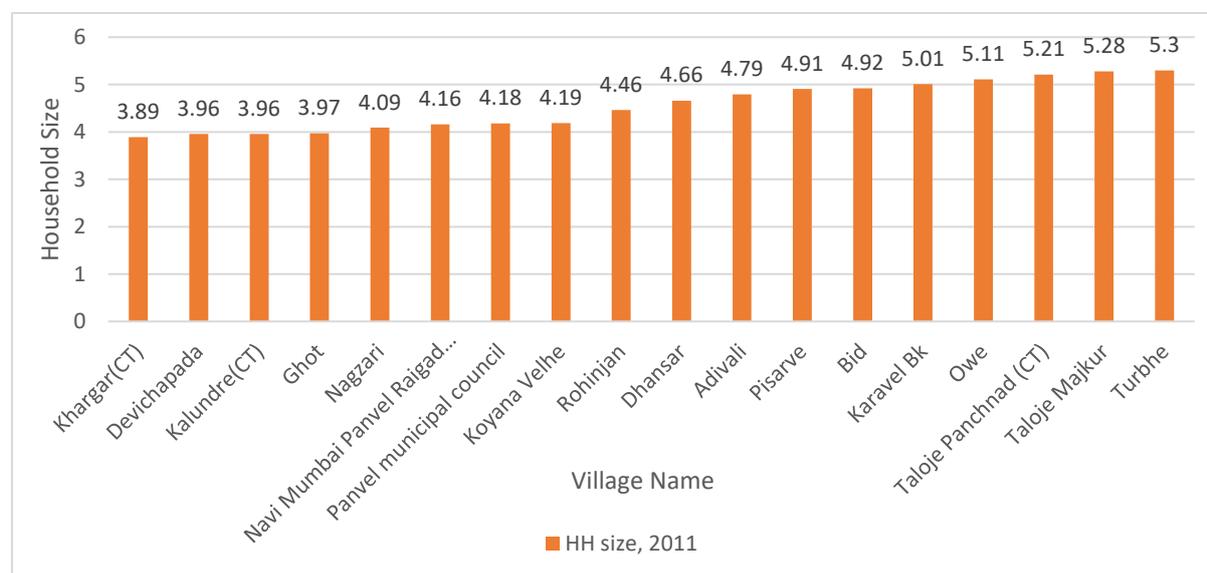


Figure 4.5: HH size distribution in PMC

Decreasing HH size from 2001 to 2011 translates directly into increasing space demand for housing. As per census 2011, vast variation of HH size can be seen across different areas of PMC ranging from 3.89 to 5.30. Turbhe (5.30) has the highest HH size followed by Taloja Majkur (5.28) and Taloja Panchnand (5.21). Kharghar (3.89), Devichapada (3.96) and Kalundre (3.96) have the least HH sizes. Turbhe is the only area in PMC where the HH size has increased from being 4.84 in 2001 to 5.30 in 2011.

4.3.5 Housing Condition

As per Census data, there has been improvement in the condition of housing in Panvel's old council area increasing in proportion from 74% in 2001 and 85% in 2011. The reduction in the share of dilapidated housing points towards increase in the number of new projects, along with the demolition of existing decrepit structures.

A comparison of houses in different jurisdictional areas as mentioned in table below, reveals that more than 80% of the houses in urban areas, labelled CIDCO Urban and old Panvel Municipal Council, were in good condition, with merely 1% of the houses being in a dilapidated state. Villages under MMRDA had a relatively lesser proportion of households in "good" condition (59%) as compared to CIDCO and old Panvel Municipal Council.

Table 4.4 Housing Condition in PMC

Condition of House	MMR	Planning Authority			Panvel municipal council
		CIDCO			
		Urban	Rural	Total	
		Total			
Good	59%	83%	70%	83%	85%
Livable	39%	16%	30%	17%	14%
Dilapidated	1%	1%	0%	1%	1%
		Residence			
Good	60%	83%	70%	83%	85%
Livable	39%	16%	30%	16%	14%
Dilapidated	1%	1%	0%	1%	1%
		Residence-cum-other use			
Good	40%	59%	64%	59%	67%
Livable	57%	41%	33%	46%	33%
Dilapidated	2%	0%	3%	0%	0%

Source: Census 2011

4.3.6 Slum

The PMC is implementing the PMAY, a scheme devised by the central government aimed at providing affordable housing for the poor. The data reveals a diverse distribution of hutments across various land categories, with a notable concentration on CIDCO property and significant government involvement in providing housing solutions. The presence of unauthorized settlements on public land underscores challenges in land regulation and management. The prevalence of informal settlements in tribal areas suggests specific housing needs within these communities, while hutments on MIDC land indicate housing challenges in industrial zones. The inclusion of railway administration and CIDCO evicted huts points to transient populations seeking shelter. Overall, the data highlights the multifaceted nature of informal settlements, necessitating comprehensive strategies addressing land regulation, governmental intervention, and the unique needs of different population groups.

Table 4.5 Distribution of hutments under different land categories

Sr. No.	Ownership	Number of Huts	Total Hutments	Total Population
1	CIDCO Land	20	3918	19926
2	Municipal Corporation / Maharashtra Government	8	2164	10320
3	Unauthorized Huts on Public Land	6	533	2665
4	Non-Slum CIDCO (Adivasi Pada)	11	814	5886
5	Non-Slum ULB (Adivasi Pada)	9	866	4330

6	MIDC Land	1	165	825
7	Railway Administration	1	138	690
8	CIDCO Evicted Huts	4	268	1340
	Total	60	8866	45982

The PMC has conducted a comprehensive survey of the slums within its jurisdiction, revealing significant details about the living conditions and distribution of hutments. According to the survey, there are 60 slums under PMC's jurisdiction, with a total of 8,866 hutments and an estimated population of 45,982 individuals.

The ownership of these lands varies, including properties managed by the Municipal Corporation, CIDCO, the Maharashtra Government, Railway Administration, and private owners. Specifically, 4,598 hutments are located on CIDCO lands, while the remaining 4,268 are spread across lands owned by the Municipal Corporation, Maharashtra Government, Railway Administration, and private entities.

Among the surveyed areas, notable slums include Navnath Nagar with 656 huts, Railway Goods Shed with 195 huts, and Panchshil Nagar with 608 huts, all located on lands managed by the Municipal Corporation and CIDCO. Additionally, large slum areas such as Papadicha Pada (Taloja Gaon) with 287 huts and Patel Mohalla with 493 huts highlight the substantial number of residents living in densely populated conditions.

This survey provides essential data for understanding the scope and scale of slum habitation within PMC's jurisdiction, aiding in future planning and resource allocation to improve living conditions for the affected populations.

Table 4.6 Details of Slum of PMC Area

No.	Slum Name	Slum Location	Total Area (sq. m)	Ownership (Public/Private/Mixed)	Total Number of Huts	Total Number of Hut Holders
1	Navnath Nagar	Near Ambedkar Bhavan	36026	Municipal Corporation and CIDCO	656	1780
2	Railway Goods Shed	Near Railway Platform	45889	Municipal Corporation and CIDCO	195	975
3	Panchshil Nagar	On Railway Station Road	14935	CIDCO	608	3040
4	Podi - 1 (More Chawl)	Near Amardham (New Panvel)	4530	CIDCO	51	255
5	Podi - 2.5	Near Pillai College	1640	CIDCO	47	235
6	Bhim Nagar	Opposite D Mart	4210	CIDCO	102	510

No.	Slum Name	Slum Location	Total Area (sq. m)	Ownership (Public/Private/Mixed)	Total Number of Huts	Total Number of Hut Holders
7	Ganesh Nagar	New Panvel	937	CIDCO	21	105
8	Taka Dargah	Near Railway Track	28635	CIDCO	167	835
9	Motha Khanda	Near Khandeshwar Station	22050	CIDCO	70	350
10	Valhachi Wadi	Beside Simran Motors	5205	CIDCO	64	320
11	Gavdevi Navde Fata	Near Gavdevi Bridge	4942	CIDCO	136	680
12	Ekta Nagar Navde Fata	Near Bridge	8040	CIDCO	275	1375
13	Mannan Colony Taloja Fata	Near Taloja Mosque	47100	CIDCO	738	3690
14	Papadicha Pada (Taloja Gaon)	Near Shiva Temple	112350	CIDCO	287	1435
15	Kamla Nagar	Near Highway Bridge Hotel		CIDCO	10	50
16	Sawatamali Hall	Near Gangaram Talkies	238	CIDCO	22	110
17	Sujal Super Market Roadpali	Opposite Super Market		CIDCO	177	885
18	Ganesh Nagar Roadpali	Roadpali Village	829	CIDCO	114	570
19	Sai Nagar Roadpali	Opposite City Hospital	6370	CIDCO	70	350
20	Marble Market Roadpali	Main Road Kalamboli	13747	Non-Slum CIDCO	108	2376
21	Valmiki Nagar	Near Sub-District Hospital	26211	Municipal Corporation and PWD	232	1160
22	Mahakali Nagar	Near Senior Citizens Hall	7057	Municipal Corporation	34	170
23	Indira Nagar	Near ITI College	15405	Maharashtra Government and Municipal Corporation	243	1215
24	Lakshmi Colony	Near Ambedkar Bhavan	21079	Maharashtra Government and Municipal Corporation	368	1840
25	Ashok Bagh	Near New Court	60309	Municipal Corporation	206	1030
26	Taka Colony	Opposite Big Bazaar	35185	Municipal Corporation	263	815
27	Kachhi Mohalla	Near Bunder Road	34590	Maharashtra Government	325	1625
28	Patel Mohalla	Near Bunder Road	37992	Maharashtra Government	493	2465
29	Shivaji Nagar	Near Bus Stand	17695	Municipal Corporation and Private	367	1835
30	Azad Nagar	Opposite CIDCO Parking	11536	Private	37	185
31	Market Yard	Near Market Yard	6581	Municipal Corporation and Private	20	100

No.	Slum Name	Slum Location	Total Area (sq. m)	Ownership (Public/Private/Mixed)	Total Number of Huts	Total Number of Hut Holders
32	Bavan Bangla	Beside Tehsil Office	12423	Municipal Corporation and Private	81	405
33	Vishrali Lake	Near Gujarati Chawls	7812	Municipal Corporation	18	90
34	Bhaskarwadi	Near National Pump	2835	Private	10	50
35	Naupada Katkarwadi	Naupada Village	3392	Non-Slum CIDCO	22	110
36	Jadhav Wadi Kalamboli	Behind Kamothe Bus Stop	4777	Non-Slum CIDCO	97	485
37	Adivasi Wadi Kalamboli	Main Road Kalamboli	13747	Non-Slum CIDCO	108	2376
38	Khidukpada Katkarwadi	Behind Foodland Company	12546	Non-Slum CIDCO	71	335
39	Asudgaon Katkarwadi	Near Railway Line	3867	Non-Slum CIDCO	31	155
40	Roadpali Katkarwadi	Beside Ganesh Temple	5311	Non-Slum CIDCO	20	100
41	Farshipada Owe	Farshipada	6604	Non-Slum CIDCO	120	600
42	Farshipada Taloja	Behind Mannan Colony	8869	Non-Slum CIDCO	86	430
43	Dhamole Katkarwadi	Dhamole Village	47131	Non-Slum CIDCO	147	735
44	Pendhar Katkarwadi	Pendhar Village	14260	Non-Slum CIDCO	37	185
45	Owe Camp	Beside Red Cross Ground		Non-Slum CIDCO	75	375
46	Pethali	Pethali Village	2839	Non-Slum ULB Area	36	180
47	Rohinjan Budhwadi	Rohinjan Village		Non-Slum ULB Area	5	25
48	Adivali Katkarwadi	A Ward Adivali	5443	Non-Slum ULB Area	25	125
49	Bidgaon Rohinjan	Bidgaon	16372	Non-Slum ULB Area	4	20
50	Pisarve Rohinjan	Pisarve	18742	Non-Slum ULB Area	267	1335
51	Turbhe Village	Turbhe Village	33964	Non-Slum ULB Area	172	860
52	Karwale Budruk	Karwale Budruk	31507	Non-Slum ULB Area	225	1125
53	Khutari Village	Khutari Village	8790	Non-Slum ULB Area	96	480
54	Katkariwadi HOC Colony	Near Karnala Sports	8684	Non-Slum ULB Area	36	180
55	Pendhar Fata	Near Petrol Pump	14260	MIDC	165	825
56	Aai Ekvira Devi	Beside ONGC Colony Main Road	6797	Railway Administration	138	690
57	Siddharth Nagar	New Panvel	5137	CIDCO	21	105

No.	Slum Name	Slum Location	Total Area (sq. m)	Ownership (Public/Private/Mixed)	Total Number of Huts	Total Number of Hut Holders
58	Mata Ramai Nagar	Near CKT College (New Panvel)	7730	CIDCO	139	695
59	Puranik Wadi	Near CKT College (New Panvel)	2334	CIDCO	13	65
60	Jai Sewalal Nagar	Near CKT College (New Panvel)	3796	CIDCO	95	475
		Total			8866	45982

Source: (Corporation, PMAY Cell)

CHAPTER 5

ECONOMIC BASE & GROWTH

POTENTIAL



5 ECONOMIC BASE & GROWTH POTENTIAL

5.1 Introduction

The economy plays an important role in the development of any area. Great impact has been seen on the Panvel due to the development of surrounding regions along with the existing industrial zones in the PMC area. Mumbai and its surrounding areas are growing rapidly due to various reasons, such as migration of population from rural areas as well as stagnant small towns to urban centers for better job opportunities & employment, education and social security. Such urbanization process while inevitable, is desirable for PMC region's urban development, if channelized in right direction.

With respect to PMC, it has major manufacturing industries in metal and chemical sectors within its jurisdiction. In addition, the retail and wholesale trading of commodities is also thriving, thereby contributing to the region's economy.

5.2 Occupational Structure

As per census 2011, the work force participation rate in Panvel is 38.09 % with 1.94 Lakh workers. The work force participation rate for PMC region as per census 2001 was 35.39% which has seen an increment of 2.7% in 2001-2011. Male workers contribute approximately 80% to total working population with 20% female working population. The share of main workers in total workforce has seen a marginal increment from being 89.4 % in 2001 to 89.5 % in 2011. The share of marginal workers as per census 2001 was 10.6 %, which has reduced to 10.5 % in 2011. As per census, the main and marginal workers are further classified into 4 categories and their distribution is given below.

Table 5.1: Census Categorization of Workforce of PMC

Sr. No.	Occupation Category	Pop, 2001	% of Total Working Pop	Pop, 2011	% of Total Working Pop
Main Workers		73845	89.4%	173755	89.5%
1	Cultivator	1845	2.2 %	2372	1.2%
2	Agriculture labours	1179	1.4%	1113	0.6%
3	Household industry workers	1401	1.7%	3560	1.8%

4	Others	69420	84.1%	166710	85.8%
Marginal workers		8747	11.8%	20452	10.5%
1	Cultivator	1113	1.3%	856	0.4%
2	Agriculture labours	935	1.1%	418	0.2%
3	Household industry workers	744	0.9%	906	0.5%
4	Others	5955	7.2%	18272	9.4%
Total workers		82592	100 %	194207	100%
1	Cultivator	2958	3.6%	3228	1.7%
2	Agriculture labours	2114	2.6%	1531	0.8%
3	Household industry workers	2145	2.6%	4466	2.3%
4	Others	75375	91.3%	184982	95.2%

Source: (Ministry of Home Affairs, Census India, 2011; Ministry of Home Affairs, Census India, 2001)

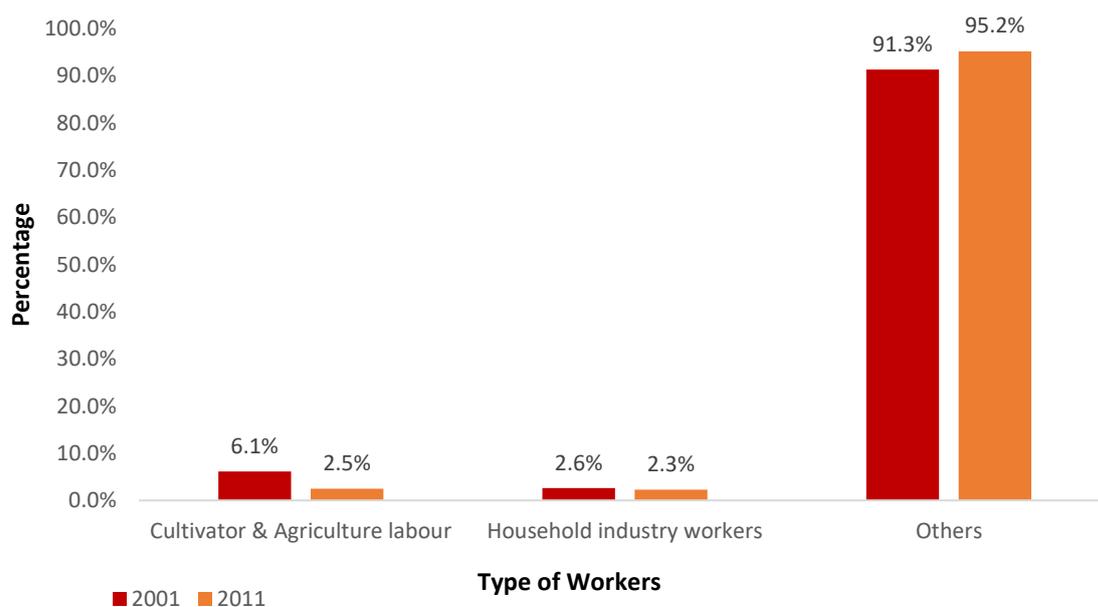


Figure 5.1: Workforce Data for PMC (2001-2011)

The above tables clearly indicates that, majority of workers (main + marginal) fall in others category. The share of other workers (main + marginal) in total workforce was 91.3% in 2001 which has increased to 95.2% in 2011. Other workers fall in tertiary and secondary sector category, which comprises service sector, manufacturing, trade & commerce and informal business activity etc. Tertiary and secondary sector has been the major contributor to workforce in Panvel.

The share of workers (main + marginal) in household industry category was 2.6 % in 2001 which has decreased to 2.3 % in 2011 which could be due to the slow growth of HH industries in the area. Household industry workers generally fall in secondary category which comprises workers involved in manufacturing and household industries.

The cultivators and agriculture labour (main + marginal) i.e. the primary sector category, has seen a sharp decline in share of total working population from being 6.1% in 2001 to 2.5 % in 2011.

5.3 Industrial Activities

Industry and services sectors play a crucial role in the economic development of the region. While the secondary sector transforms the raw resources into valuable goods and is dependent on the primary sector; the tertiary sector involves service sector of the society, such as IT, ITeS, BPOs, Consulting, FinTech, etc. Secondary sector includes construction, manufacturing, gas, electricity etc. These sectors combined play significant role in employment generation, GDP enhancement, providing finished product and act as catalyst for each sector.

Table 5.2: Total number of Manufacturing Industries in

Industries defined under Factory Act 1948	Manufacturing Units
Raigad District	1,190
Panvel Municipal Corporation Area	506

Source: Annual Survey of Industries, 2017-18

As per Annual Survey of Industry report, Raigad District has total 1,190 registered manufacturing units and out the 1190, 32% of manufacturing industries i.e. 506 lies in Panvel city jurisdiction.

The total number of manufacturing units in PMC region can be further classified into 14 types of industries categories. These 14 categories have been derived from the Annual Survey of

Industries survey for the year 2017-18 for registered industries under Factory Act 1948. These categories are:

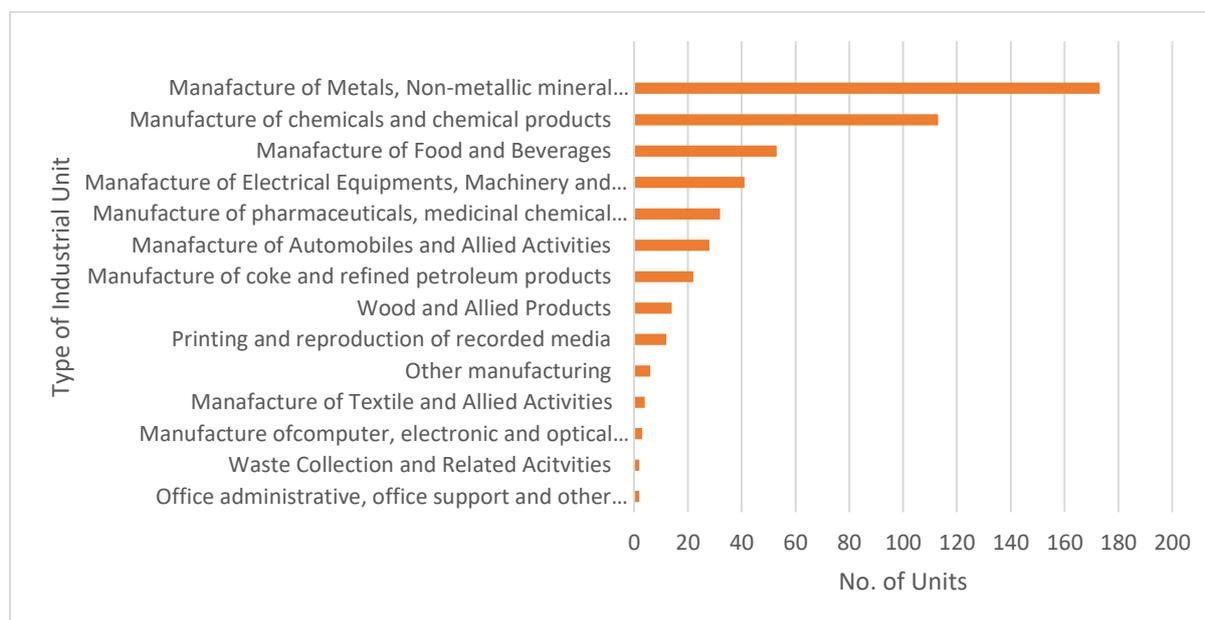


Figure 5.2: Total number of industrial units along with minor service sector units in PMC area

5.3.1 Taloja Industrial Area developed by MIDC

Maharashtra Industrial Development Corporation (MIDC) has been established by GoM as a special authority for establishment and prosperity of industrial areas in the State of Maharashtra. Out of the industrial areas and estates established by MIDC in Raigad district, the 5 major industrial areas are Taloja, Patalganga, Vile-Bhagad, Roha and Mahad. Usar and Nagothane are two other industrial areas present in Raigad district. A detailed profile on Taloja Industrial Area has been provided in the section below.

Taloja Industrial area was established by MIDC in 2009 and is strategically situated close to Navde and Kalamboli node. JNPT is at approximately 30 km distance and Navade railway station is nearest at approximately 1.5 km. It is spread over a total area of 863.19 ha, which after deductions the net usable area is 595.06 ha. Detailed area statement of Taloja MIDC has been given in Table below.

Table 5.3 Area statement of Taloja MIDC

Sr. No.	Particulars	Area Allocated (in ha)
1	Total Area	863.19
2	Deductions	
A	Plots above 40 ha	245.53

B	Area under nala, corridor, encroachment	14.37
C	Area under encroachment in open space and amenity	13.23
3	Net Area (1-2)	595.06
5	Provided Open Space	59.45
6	Amenities provided	30.56

Source: MIDC

As per Annual Survey of Industries 2017-18, around 41297 persons are employed in various industries within MIDC Talaja. It is observed that manufacturing of chemicals and metal, non-metallic products employ a large amount of people followed by manufacturing of food and beverages. The employment figures as per industry type are shown in table below.

Table 5.4 Employment details based on industry type under MIDC Talaja 2017-18

Types of Industries	Employment, 2017-18
Manufacture of computer, electronic and optical products	26
Manufacture of Metals, Non-metallic mineral products, rubber, and plastic	8190
Manufacture of Food and Beverages	6137
Manufacture of chemicals and chemical products	16766
Manufacture of coke and refined petroleum products	760
Manufacture of Electrical Equipment's, Machinery and Allied Industries	3580
Wood and Allied Products	588
Manufacture of Automobiles and Allied Activities	847
Manufacture of pharmaceuticals, medicinal chemical, and botanical products	1923
Manufacture of Textile and Allied Activities	203
Office administrative, office support and other business support activities	32
Other manufacturing	1488
Printing and reproduction of recorded media	473
Waste Collection and Related Activities	284
	41297

Source: Annual Survey of Industries 2017-18

5.3.2 Panvel Co-operative Industrial Estate

Panvel Co-operative Industrial estate is situated near Panvel old council area adjacent to Orion mall. Panvel Co-operative industrial estate stretches on an area of 12 Ha with a total number of 103 plot respectively. The total number of Industries within estate is 87. The number of industries is less than that of total number of plots because certain plots are clubbed together. Major industrial activity within this estate is manufacturing of automobiles and its allied activities followed by manufacturing of pharmaceuticals. The total number of employees within the estate is around 1,813 as per the Annual survey of industries 2017-18. The sector wise employment bifurcation basis on industries is given in table below.

Table 5.5 Employment details based on industry type under Panvel Industrial Estate 2017-18

Industrial Area in PMC	Types of Industries	Employment, 2017-18
Panvel Industrial Co-operative Estate	Manufacture of Metals, Non-metallic mineral products, rubber and plastic	192
	Manufacture of Food and Beverages	182
	Manufacture of chemicals and chemical products	84
	Manufacture of Electrical Equipment's, Machinery and Allied Industries	5
	Wood and Allied Products	54
	Manufacture of Automobiles and Allied Activities	749
	Manufacture of pharmaceuticals, medicinal chemical, and botanical products	427
	Printing and reproduction of recorded media	120
Panvel Industrial Co-operative Estate Total		1813

Source: Annual Survey of Industries 2017-18

5.3.3 Jawahar Co-operative Industrial Estate

Jawahar Co-operative industrial estate is situated in Kamothe area of Panvel. It can be easily accessed through Sion-Panvel Expressway close to Kalamboli junction. Jawahar Co-operative Industrial Estate stretches on an area of 28 ha with a total number of 248 plots in it. The total number of industries within estate accounts to 115 numbers. Major industries in this estate are involved in manufacturing of chemicals, electronic products and automobiles and its allied products. The total number of employees within this estate is around 4,054 which are involved

in various types of manufacturing industries. The sector wise employee bifurcation is shown in table below.

Table 5.6 Employment details based on industry type under Jawahar Industrial Co-Operative Estate 2017-18

Industrial Area in PMC	Types of Industries	Employment, 2017-18
Jawahar Industrial Co-operative Estate	Manufacture of computer, electronic and optical products	704
	Manufacture of Metals, Non-metallic mineral products, rubber and plastic	405
	Manufacture of chemicals and chemical products	1636
	Manufacture of coke and refined petroleum products	141
	Manufacture of Electrical Equipment's, Machinery and Allied Industries	299
	Wood and Allied Products	18
	Manufacture of Automobiles and Allied Activities	526
	Manufacture of pharmaceuticals, medicinal chemical, and botanical products	112
	Manufacture of Textile and Allied Activities	79
	Office administrative, office support and other business support activities	132
	Printing and reproduction of recorded media	2
Jawahar Industrial Co-operative Estate Total		4054

Source: Annual Survey of Industries 2017-18

5.3.4 Kalamboli (Iron & Steel Market, Warehousing complex)

The wholesale iron & steel market was shifted to Kalamboli market yard from 1989 to decongest South Mumbai. It is said to be the biggest iron & steel market in Asia, having approximately 1,901 plots for wholesale and retail traders which is spread over 302 hectares. There are also 115 plots for common amenities. Steel Authority of India (SAIL) and Tata Iron and Steel Company (TISCO) have also set up large scale warehousing facilities in the complex. Central warehousing corporation and Container Corporation also have their offices in this complex. Few cold storage warehouses are also present in Kalamboli warehousing complex.

This market has a capacity to generate an estimated employment of 40,000 which at present is around 10,000. It commands a monthly turnover of around Rs 1000 Cr.

The market yard was built on CIDCO plots. Mumbai Metropolitan Region Development Authority (MMRDA) is the governing body for Kalamboli market yard. Under MMRDA, The Mumbai Metropolitan Region Iron & Steel Market Committee (MMR Iron & Steel market Committee) looks after day-to-day affairs.

5.3.5 Warehousing in 11 Villages (MMRDA)

The Panvel Cluster is dominated by industrial warehouses and container freight stations due to its proximity to JNPT port. Logistics and warehousing activities in Panvel gained prominence with the growth of container traffic passing through JNPT. The fact that more than half of India's container traffic is routed through this port virtually cements Panvel's warehousing hub's as one of the strongest warehousing hubs in India. This also enables it to charge significantly higher rental values and occupancy level than Mumbai's only other major warehousing cluster at Bhiwandi.

Major warehousing activities within MMR villages are placed along the National Highway-4, Kalamboli and MIDC Talaja area. Within MMR villages, Adivali, Dhansar and Koynavale village have a major share of such warehousing activities. The village wise warehousing areas of 11 MMR villages are shown in table below:

Table 5.7 Warehousing details of 11 MMR Villages

Sr. No.	Village	Area (Ha)
1	Adivali	46.81
2	Dhansar	35.52
3	Ghot	1.95
4	Koynavale	30.92
5	Nagzari	7.70
6	Pisarve	0.17
7	Rohinjan	17.06
Grand Total		140.13

5.3.6 Trade & Commerce

Unprecedented growth in the housing market in Panvel has led to the development of commercial and retail space to cater to the demand of the growing population. The presence of people in the city with high disposable income and an escalating propensity to spend has prompted the development of an organised retail market in Panvel. In recent years, several malls and shopping plazas have come up in and around Panvel.

Furthermore, CIDCO has also developed a steel & iron market complex, marble & tile market and several warehouses in Kalamboli and along NH4. A part of Navi Mumbai SEZ also falls within the PMC's jurisdiction. PMC also has an APMC which is located in old council area. Further, Kharghar corporate park and NMSEZ is also proposed in PMC area.

CHAPTER 6

TRANSPORT



6 TRANSPORT

6.1 Introduction

PMC has seen a high rate of population growth and development in the recent past. Due to its proximity to Mumbai and its significance as an industrial hub of the region, the city is expected to continue its growth in the future. Panvel also benefits from its strategic location, being close to both Pune and Mumbai. Given the upcoming international airport coming in its vicinity, Panvel has the capacity to become an international hub. It is very well connected to all the major cities via railways and roads. The upcoming metro, suburban railway corridors, Mumbai trans harbour link, and multimodal corridor will further enhance the city's connectivity. With such major developments lined up, Panvel city is likely to experience a growth spurt, making it stand out on a regional level. These major transport infrastructure projects will empower people with opportunities to carry out business, trade, and commerce.

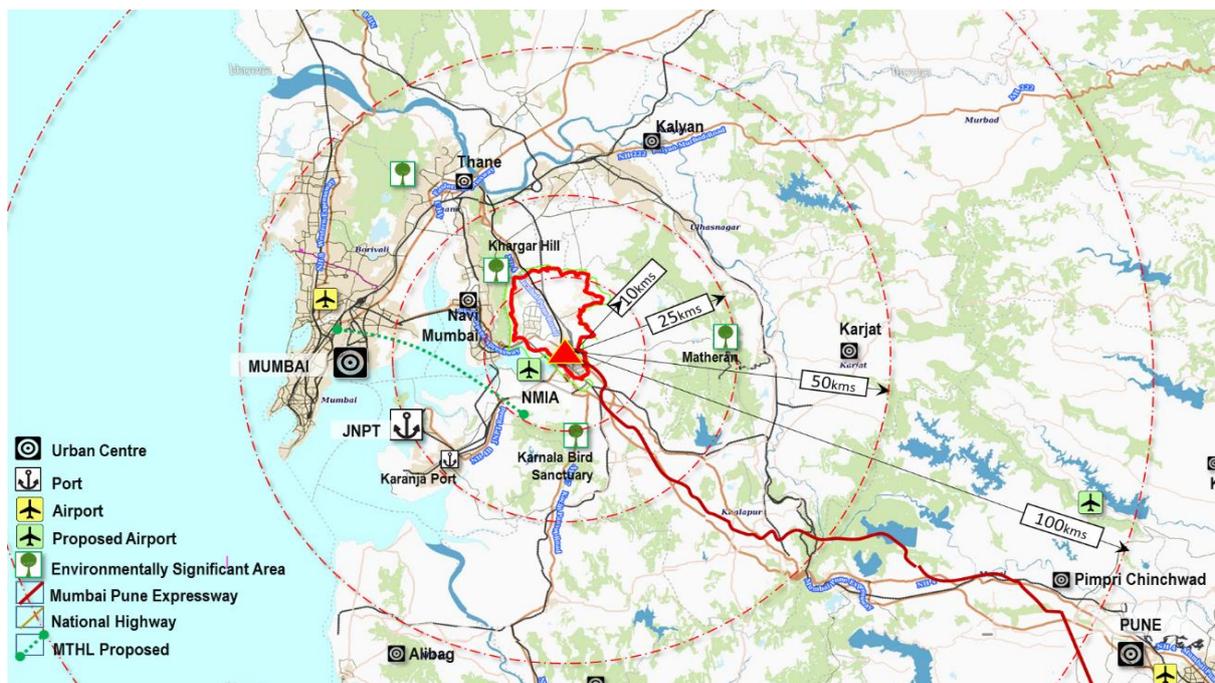


Figure 6.1 Regional context of PMC

6.2 Roadways (Internal & External)

The Panvel city is well connected with all major cities by road. All major highways and railways pass through the city due to which it has become a major trade and transportation centre in the region. The following prominent roads pass through the city.

- National Highway 4 connecting Delhi and Chennai. It passes through seven states traversing various important cities such as Jaipur, Ahmedabad, Mumbai and Pune.

- National highway 4C
- Pune-Mumbai Expresses way
- Sion Panvel highway
- State highway 54 connecting Panvel with Uran and Matheran (SH 103)
- State highway 85

PMC boasts well-established transportation networks contributing to its connectivity. The Mumbai Pune Expressway traverses through key areas like Roadpali, Kalamboli, and Asudgaon, intersecting with NH 48. The city enjoys a robust road network along NH 48, connecting it from Thane to Goa, with additional connectivity provided by SH 548, linking NH 48 to the Navi Mumbai International Airport. PMC's strategic location ensures seamless connectivity with neighbouring urban centres, including Thane, Sion, and Navi Mumbai, facilitated by the National Highway and State Highway.

PMC came into existence by amalgamation of areas from Old Panvel Municipal Council, CIDCO and MMRDA. Prior to the incorporation of PMC road infrastructure was sustained by the authorities like PMC, MIDC, CIDCO, Zilla Parishad, NHAI, MSRDC, PWD. PMC has a total road network of 404.23 km (392.68 km is constructed and 11.55 is under construction). Most of the roads were under the jurisdiction of CIDCO followed by Zilla Parishad and PMC.

Following table gives the road network information in PMC:

Table 6.1: Road Network on function basis

Sr. No	Authorities (Prior to the formation of PMC)	Types of Roads	Length (km)	Proportion (%)
1	Zila Parishad, Villages and non-nodal	District & Village Roads	76.08	18.82
2	CIDCO nodal areas	Internal city roads	241.31	59.70
3	Panvel Municipal Council roads	Internal city roads	48	11.87
4	NH/SH/Expressway	NH/SH	38.84	9.61
	Total		404.23	100

Source: PMC

After the formation of PMC, Zila Parishad has handed over total 35 roads of length 76.08 km of PMC and are now being taken care by its Public Work Department (PWD) of PMC. These include 32.28 km of Village roads (VR) and 43.80 km of other district roads.

Table 6.2 Road transferred by Zilla Parishad to PMC

Sr. No.	Area	Length proposed (km)	Roadwork Completed (km)	Percentage Completion	Surface type
1	Total district roads	43.80	39.8	90.9%	Bitumen
2	Total village roads	32.28	24.73	76.6%	Bitumen & WBM
	Grand Total	76.08	64.53	84.8%	

Source: PMC

The total length of roads within CIDCO nodes is 241.31km. The table below provides the status of roads within CIDCO nodes.

Table 6.3 Road within CIDCO node

Sr. No.	Node	Length of road (KM)	Surface
1	New Panvel	62	Bitumen
2	Taloja Phase I &II (Outside AOI)	21.35	Bitumen
3	Navde Phase II (Outside AOI)	1.91	Bitumen
4	Kalundre	1.81	Bitumen
5	Kalamboli	30.44	Bitumen
6	Kharghar (Outside AOI)	94	Bitumen
7	Kamothe	29.8	Bitumen
	Total	241.31	

Source: CIDCO board resolution 2017

The total road length within the old Panvel council area is 48km.

Table 6.4 Road within Panvel Old Council area

S.NO.	Area	Type of road	Length of road (Km)	Surface
1	Internal city road	Internal city road	5.7	Concrete road
2	Internal city road	Internal city road	42.3	Bitumen
	Total		48	

6.3 Bus Transport

Buses are the second preferred mode of transport. In the PMC region, the road-based public transport system is mainly served by government undertakings such as Brihanmumbai Electric Supply and Transport (BEST), Navi Mumbai Municipal Transport (NMMT), Thane Municipal Transport (TMT), Kalyan Dombivli Municipal Transport (KDMT), and Khopoli Municipal Transport (KMT). In addition to providing connectivity to far off places in the MMR, such as Thane, Kalyan and Dombivli, the buses also serve as feeder service to the sub-urban railways. There is one main bus stand in the PMC area for the state transport (ST) which also serves to buses of various government undertaking of BEST, NMMT, TMT, KDMT, KMT. There is a bus depot of NMMT in PMC area. From the ST stand, Maharashtra State Road Transport Corporation buses provide connectivity to all major cities within the MMR Region and state.

The share of two-wheelers and four-wheelers has seen a constant growth in PMC. Clearly, as the city’s population grew, the number of private vehicles grew too. But the same cannot be said about public transport. Without a robust public transport system, private vehicles in the city are likely to swell even further. Consequently, the city’s traffic congestion will worsen and so will its air quality. As the population surges in future, there would be a corresponding increase in transportation. To control the number of private vehicles plying on the road, public transport will have to be augmented.

6.4 Railway

In terms of railway connectivity, PMC stands as a hub with the Dedicated Freight Corridor Corporation of India (DFCCIL) line network running adjacent to SH 54 and NH 48. Key stations like Kalamboli, Navade, and Taloja contribute significantly to efficient freight

transportation and logistics in the region. PMC is well-served by the suburban rail network, encompassing stations such as Khandeshwar, Mansarovar, and Kharghar on the Thane-Vashi line and Kalamboli, Navde Road, and Taloja on the Indian Rail network. Both lines converge at Panvel station, extending towards Goa in the south and Vasai in the northwest within PMC limits. Adding to the comprehensive rail infrastructure, PMC features a well-distributed metro line, commencing at Taloja station and passing through key stations like Panchnand, Pathpada, Central Park, Kharghar Goan, Kharghar Vihar, Utsav Chowk, and Belpada before reaching RBI Colony. This metro line, oriented towards the Sion direction, plays a crucial role in providing essential transportation links across various neighbourhoods in the Panvel Municipal Area. Together, these integrated transportation systems underline PMC's strategic accessibility and connectivity within the larger metropolitan landscape.

6.5 Air

The Navi Mumbai International Airport, strategically situated in proximity to the Panvel Municipal Corporation, stands poised to emerge as a pivotal driver of economic growth and development in the region. NMIA, is the second airport for Mumbai Metropolitan Region (MMR). Cementing Mumbai's future as an International Financial Centre, air passenger number is expected to grow over 100 million by 2044. The Chhatrapati Shivaji Maharaj Airport alone will be unable to handle such an increase in demand. Therefore, NMIA is being constructed as second Airport for MMR. The strategic location of the airport not only enhances connectivity but also serves as a gateway for increased business activities, tourism, and trade. As a major transportation hub, it is poised to attract investments, spur job creation, and stimulate various sectors of the local economy.

6.6 Paratransit

Intermediate public transport (IPT) modes, such as taxis and auto rickshaws, play an important role in meeting unstructured travel demand of users in cities. They are feeders to the main mass transport system (both rail- and road-based) and provide accessible movement in predefined areas. The IPTs service is intermittent in nature and its destination is also flexible as the passengers determine it. In the PMC, IPT acts as a competent access/ egress mode. It even competes with road-based public transport system, especially in case of short trips. The characteristics of trips by these modes are completely different from those made by other motorized modes. IPT offers high flexibility and mostly even offers services from door to door. In the PMC, the sharing of auto rickshaws is more popular. Most people prefer this option for

travelling to the nearest railway/ bus station. This model ensures the last mile connectivity in the urbanized areas of the PMC.

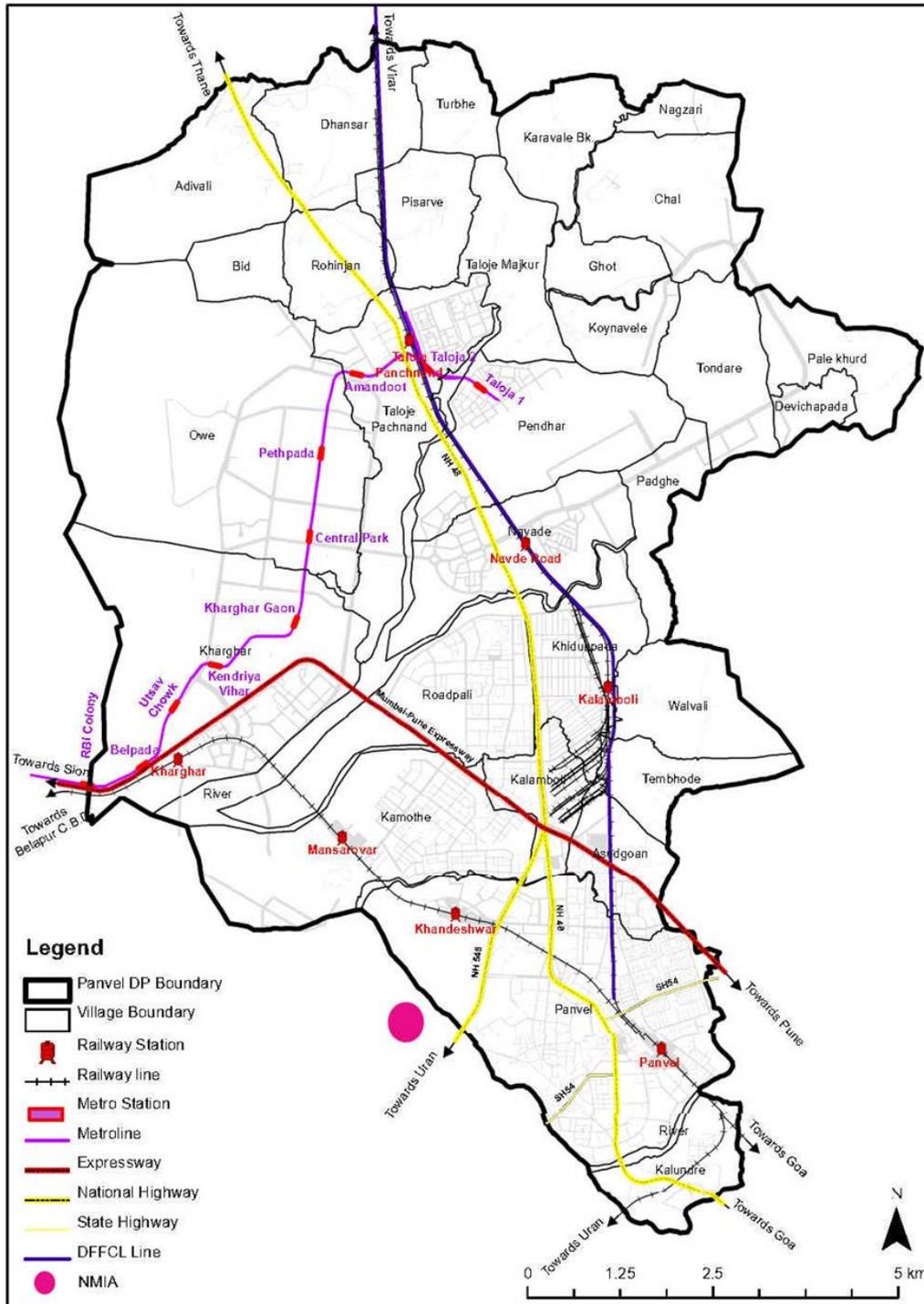


Figure 6.2 Transport connectivity in PMC

6.7 Vehicle Population

Yearly vehicle registration in Panvel region has observed a steady growth from being 46,213 in year 2011-12 to 63,891 in year 2018-2019. Of the total registered vehicle in 2019, two wheelers constituted the major share at 56 % followed by cars at 17%, autorickshaw at 12 %, goods truck at 7 % and tourist taxi AC at 3%. There were zero state carriage registered in year 2018-2019, indicating dependence on private vehicle for travel. The growth in registration of goods truck from being 3 % in 2011-12 to 7 % in 2018-19 indicates increasing warehousing and logistics activity in Panvel. The detailed table of yearly registration of vehicle is presented below:

Table 6.5 Yearly vehicle registration in Panvel

	Kind Of Vehicle	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1	Two Wheelers	25902	26237	25574	26432	31359	30661	35923	35646
2	Motor Cars	13733	12627	13577	15096	14293	14162	12693	11164
3	Jeeps	50			1	18	4		
4	Invalid Carriage							9	7
5	Meter Fitted Taxies					56	50	61	413
6	Cool Cabs								
7	Phone/Fleet Taxies								
8	Tourist Taxies (A/C)	529	446	445	700	1400	4576	695	1659
9	Tourist Taxies (Non-A/C)				90	9		463	
10	Tourist Taxies (Imported)						1		
11	Luxury Taxies								
12	Jeep Type Taxies								
13	Passenger A/Rikshaws	176	284	172	2164	727	1758	6220	7909
14	Pvt. A/Rikshaws	0			3		0		1
15	Stage Carriages	3	1	12	7	24	18		
16	Cont. Carriage (Ordinary)	40	53	89	61	49	102	130	3
17	All India Tourist Veh.				19		10	7	

18	All Maha. Parmit (A/C)				2	17	0	6	
19	Sleeper Coaches					0			
20	School Buses Up To 12 Seat	68	74	165	110	184	228	268	199
21	More Than 12 Seats	147	5	14			25		1
22	Pvt. Service Veh. (A/C)				11		27	18	
23	Pvt. Service Veh. (Non-A/C)	112	28	29	14		7	21	5
24	Camper Vans/Veh. (N/T)					1	1		
25	Camper Vans/Veh. (T.R)						0		
26	Escavator/Loaders, etc.	206	101		40	92	62	151	253
27	Cranes	173	70	120	54	127	85	115	174
28	Ambulances	96	24	21	20	34	53	44	10
29	Delivery Vans (3 Wh.)	227	862	803	535	191	297	104	207
30	Delivery Vans (4 Wh.)	1303	759	635	1500	1912	1668		0
31	Goods Trucks	1513	856	837	2460	2515	3266	5007	4771
32	Water Tankers				4				
33	Kerosene Tankers				3				
34	Diesel Tankers				4				
35	Petrol Tankers				3				
36	Other Tankers	219	276	201	102	154	7		
37	Arti. & Multi Axle Veh.	1596	1622	908	2994	3032	2047	829	1441
38	Agri. Tractors	115	143	51	15	2	6	10	27
39	Agri. Trailers	5	18	23			3	7	1
40	Others		47	124	10	27	23	1	
	Total	46213	44533	43800	52454	56223	59147	62782	63891

Source: RTO

6.8 Parking Facilities

Vehicle ownerships are increasing quickly in the PMC due to increased affordability, easy availability of loans, and weakening public transport services. The two-wheeler and four-wheeler registrations constitute 73% of the total vehicle registration in 2018-2019. This has, in turn, led to an increased demand for parking spaces. Parking of vehicles along the kerbs narrows the carriageway, thereby increasing congestion, accidents, and delays. Street parking is rampant in Panvel. During the ELU survey, it was observed in most of the road stretches, on-street parking happens on both sides. This reduces the effective carriageway, thereby causing hindrance in the regular flow of traffic. To control and regulate on-street parking, Panvel needs a comprehensive parking policy, which provides for off-street parking facilities, exclusive parking bays in various commercial areas and near marketplaces and levy of parking fee. It should set parking norms along with standards, devise demand management measures and incorporate parking/no-parking zones in congested and other areas as required.

6.9 Truck terminal Facilities

Shortage of truck terminals is one of the biggest issues causing traffic congestion in the PMC. There is only one truck terminal – at Kalamboli – in the area. Many trucks and multi-axle vehicles are usually parked along the NH 4, the Panvel-Sion Highway. This causes difficulty for traffic movement along these roads. In addition to this, there are large number of trucks and multi-axle vehicles parked on vacant plots in the PMC, mainly in the CIDCO notified areas.

6.10 Accident Data

The accident data of last three years has been analysed as per the MoHUA guidelines for black spots identification in urban areas. The black spot locations in PMC area, are:

- Kalamboli Bridge Chowk
- Kalamboli Circle
- Dr. Babasaheb Ambedkar Chowk
- Shivaji Chowk
- Roadpali Junction

6.11 Understanding the traffic situation and trends

6.11.1 Turning Movement Survey

This survey has been carried out to understand the carrying capacity of major junctions. Almost all the junctions have exceeded its capacity and thus, need some form of improvement/ upgradation immediately or in near future.

Sr. No.	Location	Remark
1	Taloja Phata, Kalamboli Link Road, Sector 23 Near Sahil Tyer Service	Limit will be exceeding in future, require signalization
2	Kalamboli Circle, Sector 1	Limit already exceeded, need grade separators
3	NH-48, Roadpali, Kalamboli, Near Accentive India Pvt. Ltd.	Need upgradation
4	NH-48, Sector 17, Greater Khanda, Near BBQ Maniac's	Limit will be exceeding in future
5	Chhatrapati Sambhaji Chowk, Sector 1A, New Panvel East, Panvel	Need upgradation and management measures
6	FBB & Big Bazaar Square Near Panvel Railway Station	Limit already exceeded, require signalization
7	NH-48, Forest Colony Near, Dr. Babasaheb Statue	Need upgradation and management measures
8	Chhatrapati Shivaji Maharaj Square Near DTDC Courier	Need upgradation and management measures
9	Bhaji Market Circle, Uran Road Near Shree Panchmukhi Hanuman Mandir	Limit already exceeded, require signalization and management measures
10	Takka colony, NH-48, Old Panvel Mindseed Pre-School Near Road Safety Foundation	Need upgradation
11	Panvel-Kalyan Kalamboli Bridge Steel Market Road Near Axis Bank ATM	Presently within limit
12	Bandar Road, Old Panvel, Near Samir Diwan Stores	Presently within limit

Out of 12 junctions, three junctions require signalization, six junctions need grade separators. Only three junctions are operating within its functional capacity.

6.11.2 Pedestrian Movement Characteristics

The survey was carried out at major junctions and pedestrian footfall locations like railway stations, bus stands, etc. Pedestrian crossing is maximum in Old Panvel area such as Bhaji Market Circle, Chhatrapati Shivaji Maharaj Square and near Panvel bus and railway station.

Sr. No.	Location	Remark
1	Near Kalamboli Bridge Close to Steel Market	Within the limit
2	HDFC Circle Near Shear Khan New Panvel Flyover Road	Pedestrian phase required
3	Bhaji Market Circle, Uran Rd, Old Panvel Near Bhaji Market	To be signalized and pedestrian phase shall be provided
4	Chhatrapati Shivaji Maharaj Square Near DTDC Courier	Pedestrian phase required
5	Old Panvel Station Road in Front of Government Hospital	Skywalk connecting to bus stand and railway station shall be provided
6	NH-48, Sector 15, Old Panvel, Panvel	Grade separated pedestrian infrastructure is required
7	NH-48, Roadpali, Kalamboli	Pedestrian phase required
8	Junction near Panvel Railway Station East Parking	Proper pedestrian crossing facilities
9	Kalamboli Circle, Sector 1 Road, Sector 1, Kalamboli, Panvel	Proper pedestrian crossing facilities and pedestrian phase
10	Acharya Jagande Chowk, Mahatma Gandhi Road	Proper pedestrian crossing facilities

It was found that out of the total 10 surveyed locations, 6 junctions need separate pedestrian phase in traffic signal.

6.11.3 Speed and delay survey

Based on the survey results, the average journey speed is derived to be 30.5 kmph, 28 kmph, and 28 kmph for morning peak period, off-peak period, and evening peak period, respectively. The results of the journey speed for the off-peak period on the overall network is observed to be less when compared with either the morning peak period or evening peak period, due to the movement of heavy commercial vehicles on NH-48. Higher congestion and delay time is observed on the link between Taloja MIDC and Kalamboli junction in during the off-peak period.

Causes for delay:

- Main reason for delay in PMC region is related to signals at intersections, 50% of the delay at the intersections is due to congestion at unsignalized intersections, and 25% is due to red signals.
- On street parking is second most contributor to delay in traffic

- Other reasons being heavy and slow movement of 2-axle vehicle, 3-axle vehicle, MAVs on the NH-48 and Roadpali Road during daytime.
- Other contributors for delay are congestion in market area, vendor encroachment, and midblock congestion.

6.11.4 Trunk movement survey

Truck operator's survey has been conducted at Taloja MIDC, Panvel MIDC, and Jawaharlal Industrial Estate. These areas are major industrial hubs in the MMR. More than 50,000 heavy vehicles cross Panvel through Sion-Panvel Expressway, NH-48, and Uran Road. Also, the dispersal of cargos, to and from JNPT, mostly passes through the PMC region. The key observations on the truck movement are:

- 45% of trucks are parked for 8 hours to 24 hours.
- The purpose of parking is idle time before loading which is about 42% and for halting which is about 35% of trucks.
- The major influence area observed were Odisha, Delhi, UP, Rajasthan, Gujarat, and MP, which accounts for 30% of the trips.
- The major destinations are Taloja, JNPT, Marble Market, Steel market etc.
- The key commodities carried was industrial goods, and steel.

6.11.5 Public transport, NMT, and IPT survey

The walk trips, IPT and public transport modes have been evaluated based on the survey findings. Key findings:

- The length of trips ranges 1-5 km for most of the commuters. Trip with length less than 500m is less than 1%.
- The average walk trips are of 1.25km and, for other modes, it is more than 2km. Two-wheeler trip lengths are 2.53km.
- Auto-rickshaw trips are prevalent around the stations, except for the Panvel station. The total auto-rickshaw trips were observed to be 37%.
- For Panvel station, the travel time is more due to the larger settlements far away from the stations.
- The average travel time for most of the modes falls between 12-18 minutes.
- The cost of trips majorly ranges Rs 10-20 for most of the commuters.

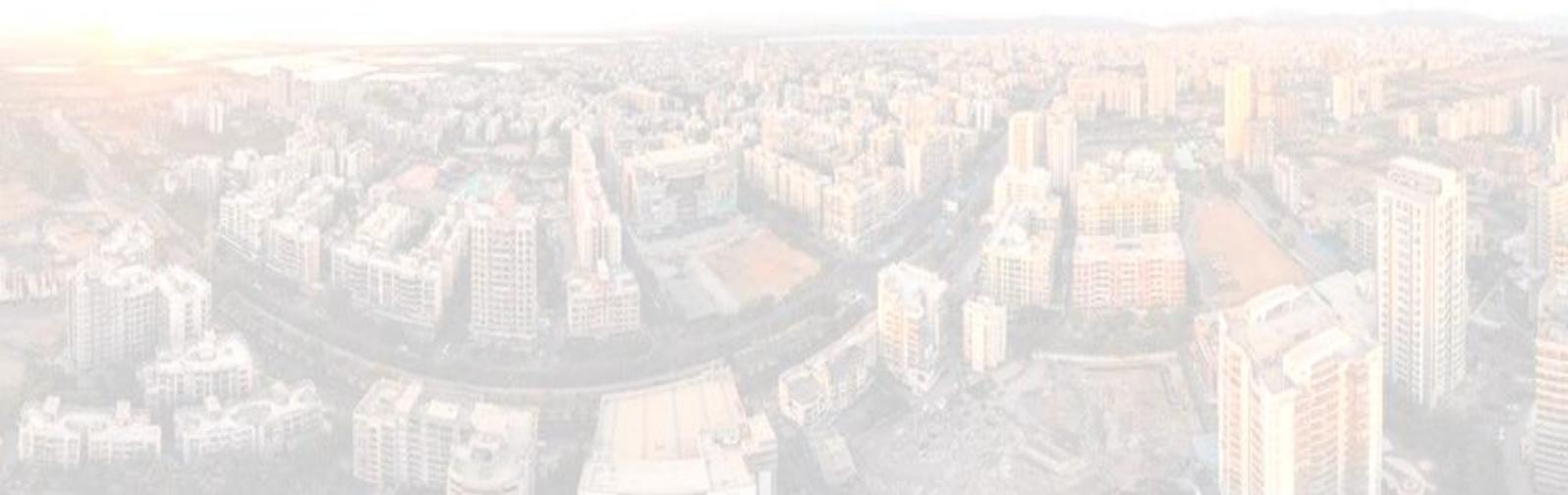
- The cost of travel is least for two-wheelers and government buses thereafter with Rs 13.64 and Rs 16.71, respectively.
- For IPTs, cab trips were found to be more expensive with Rs 30.56 per trip and, for auto-rickshaws, it is Rs 23.82.

6.11.6 Inference

- The city has a public transport system but needs to considerably improve the supply of buses/ coaches and their coverage as they don't serve most parts of the city. The frequency of the services needs to increase. It is not a comfortable system as there is considerable over loading/ overcrowding.
- The city has pedestrian facilities but not fully covered. Some parts of the city do not have intersections, footpaths, and street lighting. These must be rectified. Also, the existing footpaths need improvements. The system provided is comfortable and sustainable.
- The city lacks adequate intelligent transport system (ITS) facilities.
- Need considerable improvement in road design and road infrastructure, traffic management and other such features that significantly contribute to road safety.
- Inconsistency in the city structure and public transport system leading to lesser ridership and high dependence on personalised motor vehicles.

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 fulfil 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

The water supply to PMC region comprises water supply to Panvel old council area, CIDCO area and remaining rural areas. Multiple water supply sources cater to the water supply needs of citizens in the PMC. The Panvel old council area's water supply needs are fulfilled by the PMC-owned Dehrang Dam and treated water received from MJP, MIDC and CIDCO. Similarly, CIDCO area's water supply needs are fulfilled by the CIDCO-owned Hetawane Dam and treated water received from MJP, NMMC and MIDC. The water supply needs of villages are met by MIDC, PMC and CIDCO.

Water supply services in villages are far below the levels in the Panvel Old Council area and CIDCO nodes. Vast variations in water supply have been observed even across villages. About 32% of villages exclusively depend on bore well and open wells for fulfilling their water supply needs, whereas 7% depend upon bore wells, open wells, MIDC and CIDCO. There are 5% villages that do not have any source of water supply and depend on neighbouring villages for water supply. The remaining 53% of the villages depend on MIDC, CIDCO and PMC for fulfilling their water supply needs.

Table 7.1: Source of Water supply and area served

Sr. No.	Area	Source	Water supplied (MLD)		
1	Panvel Old Council area	PMC -Dehrang dam (own source)	16.00		
		MJP - Patalganga	3.50		
			1.00		
			0.00		
		MIDC - Patalganga	4.75		
			0.35		
			0.30		
			0.45		
		CIDCO - Hetawane	0.25		
			0.16		
			0.35		
				Total water supplied in Panvel Old Council area	27.11
		3	CIDCO node – Kalamboli	MJP - Patalganga	27.00
MIDC - Patalganga					
4	CIDCO node – Kamothe	NMMC - Morbe	36.00		
		MIDC - Patalganga			
5	CIDCO node- Kharghar	CIDCO - Hetawane	65.00		
		NMMC - Morbe			
6	CIDCO node – Taloja	CIDCO - Hetawane	5.50		
		MIDC - Barvi			
7	CIDCO node – Navade	MIDC - Barvi	1.00		
8	CIDCO node – Kalundre	MJP - Patalganga	0.70		
		Total water supplied in CIDCO nodes	171.2		
9	Remaining villages	MIDC	12.00		

		CIDCO PMC Open well/bore wells	
		Total water supply across PMC	210.31

Source: Data collected and discussed with PMC and CIDCO

7.2.2 Water Storage and Distribution

At present, the water supply to the entire city is being fed by 35 ESR/GSR. Under which requisition of 4 ESR from CIDCO and 3 ESR from MIDC has been made. The details of all existing ESR with their capacity (MLD) are shown in the following table.

Table 7.2 Details of ESR

Sr. No.	Village Name	Capacity (MLD)
1.	Pendhar	0.60
2.	Roadpali	2.20
3.	Tembhode	0.30
4.	Kalamboli	8.90
5.	Kalundre	2.00
6.	Adivali	0.55
7.	Rohinjan	1.75
8.	Turbhe	2.40
9.	Owe Gaon	5.85
10.	Owe Camp	5.35
11.	Owe Morbe	1.75
12.	Kamothe	3.90
13.	Jui Gaon	2.60
14.	Khargar	4.35
15.	Palekhurd	1.55
16.	Tondare	1.35
17.	Karavale Bk	1.85
18.	Taloje Majkur	1.60
19.	Ghot	6.05
20.	Koynavele	1.85
21.	Rohinjan	4.70

22.	Padaghe	1.20
23.	Asudgaon	6.47
24.	Valavli	7.90
25.	Navade	2.60
26.	Khargar Belpada	4.80
27.	Dhansar	1.20
28.	Pisarve	0.85
Requisition of ESR from CIDCO		
1.	Khidukpada	6.75
2.	Kamothe- 2	2.55
3.	Bhingari	
4.	Taloje Panchnand	14.55
Requisition of ESR from MIDC		
1.	Devichapada	7.30
2.	MIDC (MBR)	14.3
3.	Dogyachapada	3.90

7.2.3 Treatment and Storage

The treatment and storage in PMC area is analysed in 3 sections i.e. for Old Council Area, CIDCO nodes and newly added villages.

7.2.3.1 Panvel Old Council Area

Raw water from Dehrang Dam is drawn via an intake well with a diameter of 2.5 m and 15 m height, through three pipes of 350 mm diameter, placed at different levels. Raw water is conveyed to a water treatment plant (WTP) by 16 km-long, 500 mm diameter PSC pipes. The raw water is then treated at a 16 MLD water treatment plant (conventional type) which was constructed in 2001 and is located near the ST stand. A sump of 200,000 litres is located near the WTP and is used to store pure water.

Treated water from the plant is then sent to the ESR/ground water sumps and distributed throughout the Panvel Old Council area through distribution pipelines by the PMC. Further, treated water is directly received from MJP, CIDCO and MIDC which is tapped at various locations and supplied to the city. Water is supplied for 1.5 hours per day.

The **total storage capacity** of Panvel Old Council area is **4.25 ML**. Out of the total storage available, **elevated storage reservoirs** can hold **3.6 ML**, whereas **ground water reservoirs** store **0.65 ML**.

7.2.3.2 CIDCO Nodes

All WTPs that serve treated water to CIDCO area (falling under PMC jurisdiction) are located outside the boundary of PMC.

The treated water received is stored in various storage facilities and distributed throughout the nodes by CIDCO. The total **storage capacity** of ESRs/GSRs/HSRs/MBRs present in CIDCO nodes is **123.95 ML**. Out of the total storage available, MBRs can hold 26 ML, GSRs can store 25.3 ML, ESRs can store 18.65 ML, whereas HSRs can hold 54 ML. The ESR present in Sector 30 and ESR present in Sector 14 of Kharghar are abandoned/not working. No storage facilities are available in Taloja, Kalundre and Navade nodes.

7.2.3.3 Villages within PMC area

There has been a vast variation in the availability of storage and distribution facilities in villages under the PMC. While 50% of the villages have both storage and distribution network available, the condition of them is poor. 22% of the villages lack both storage and distribution network. The remaining 28% villages either have storage or distribution facilities. Many villages have temporary arrangements with PVC and Sintex tanks for storage.

7.3 Sewerage and Drainage

7.3.1 Sewerage System

7.3.1.1 Panvel Old Council Area

In the past, the wastewater generated in the Panvel Old Council area was collected through kuchha drains and was directly disposed into water bodies without any treatment. In 2010, construction of the sewage treatment plant of 14 MLD (SBR technology) and underground drainage lines of 37.71 km was initiated and constructed.

Total **11.5 MLD wastewater** is generated from various establishments in Panvel. This is transferred through underground drainage by gravity and treated at the sewage treatment plant located near old court and then disposed into the Panvel creek. At present, treated wastewater is not reused.

There are **30 septic tanks** as of date, which are connected to community and public toilets. PMC has one suction machine of 3,000 litres capacity, which is used for emptying these tanks.

Approximately 78.5% of roads under the Panvel Old Council area have a proper drainage system, the exceptions being Patel Mohalla, Wani Ali and Mirchi galli.

7.3.1.2 CIDCO nodes

CIDCO has developed a sewage collection, conveyance and treatment system for all the nodes which now form a part of the PMC region. Details of the sewerage network developed by CIDCO are as follows:

- Approximately 180 km of distribution sewerage network
- 7 pumping stations
- 6 STP plants with total capacity of 264 MLD

The present water supply to CIDCO node is 171.2 MLD. As per the CPHEEO manual, 80% of water supply may be expected to reach the sewer. Hence, in this case, the approximate sewage generated will be 137 MLD. This sewage is collected from all the properties that have direct sewerage connections. The length of sewerage network in CIDCO nodes is 180.32 km and encompasses ~74.5% of its total road length, along with 4,671 manholes. Navade and New Panvel (East and West) are the only CIDCO nodes that do not have a sewage treatment plant. Sewage from New Panvel is transferred to Kamothe STP for treatment. Sewage from Navade is directly disposed into Kasarwadi river without any treatment.

7.3.1.3 Villages within PMC area

Sewerage services in villages are far below the levels in the Panvel Old Council area and CIDCO nodes. 74% of the villages do not have an underground drainage system. They depend on either soak pit, septic tank or directly dispose wastewater into nearby water bodies. 10% of the villages already have a sewerage network but require major upgradation. About 12% of the villages have a partial sewerage network available.

7.3.2 Extent of Reuse and Recycle

The total treatment capacity of PMC is 278 MLD. Treated water from the PMC-owned 14 MLD STP is directly disposed into a creek without any recycling or reuse. A small portion of the treated water from CIDCO STPs is used for gardening in Central Park and the golf course.

7.3.3 Sanitation

As per the data collected under the recent Swachh Survekshan conducted in the PMC region, there are 31 public toilets with 281 seats and 248 community toilets with 1,430 seats located near slums, municipal schools, railway station etc. These toilets are connected with soak pits

and septic tanks. There are 49 CTs/PTs which are at the proposal stage under the Swachh Bharat Mission. The city has fixed a target of 4,500 individual household latrines, (IHHL) of which, 4,148 have been constructed and 418 are under construction. Further, CIDCO has handed over some of the toilets that fall under the erstwhile CIDCO nodes (now a part of the PMC region) while handover of the rest of the toilets is awaited.

7.3.4 Storm Water Drainage

7.3.4.1 Panvel Old Council Area

Panvel is located at 6.7m above sea level, i.e. 21.97 feet. It receives a significant amount of rainfall – about 2,400 mm on average – every year, most of it during June-September.

Following are the details of the storm water drainage network in the Panvel old council area:

- Total length of drain on one side of road is 15.41 km.
- Total length of drain on both sides of the road is 8.58 km.
- The maximum and minimum depth of the drain is 3.30m and 0.30m, respectively.
- The maximum and minimum width of the drain is 8.0m and 0.20m, respectively.

The drains carry the rainwater, which ultimately flow through the nallah into the Gadhi River. There are 14 nallahs including eight major nallahs in the Panvel old council area. They carry the wastewater mixed with the storm water drainage. As per the URDPFI guidelines, the coverage in the Panvel old council area is around 50%.

Table 7.3: SWD network in Panvel old council area

<i>Length of storm water drains (km)</i>	<i>Length of roads (km)</i>	<i>Coverage (in %)</i>
23.99	48	49.97%

Source: City Sanitation Plan for Panvel Municipal Corporation, 2014

7.3.4.2 CIDCO nodes

Total length of storm water drainage available in CIDCO nodes is approximately 290.08 Km. The coverage of the SWD network in the CIDCO nodes, except Kharghar, almost equals or exceeds the benchmark range of 130-150%. In Kharghar, however, it is around 72%.

In addition to the above, the CIDCO nodes also have holding ponds. A holding pond means a detention basin adjacent to the rivers to temporarily store water as a protection against flooding. During high rainfall or high tides, the drainage is prone to flooding. Such ponds store water

during high tide / high rainfall, thereby avoiding water logging. They serve as retention basins in normal conditions. Capacity should be sufficient to hold water during the entire duration of a high tide.

7.3.4.3 Village in PMC area

Recently the PMC carried out an assessment of the road length, sewerage system coverage, storm water drains coverage, etc. in villages.

- Most of the villages under the PMC – 42 out of 70 to be exact – do not have a storm water drainage system in place.
- Eighteen of the villages are covered partially.
- In three, the drainage network needs repair.

Based on the above findings, it can be deduced that nearly two-thirds of the villages do not have storm water drains and one-fourth are only partially covered.

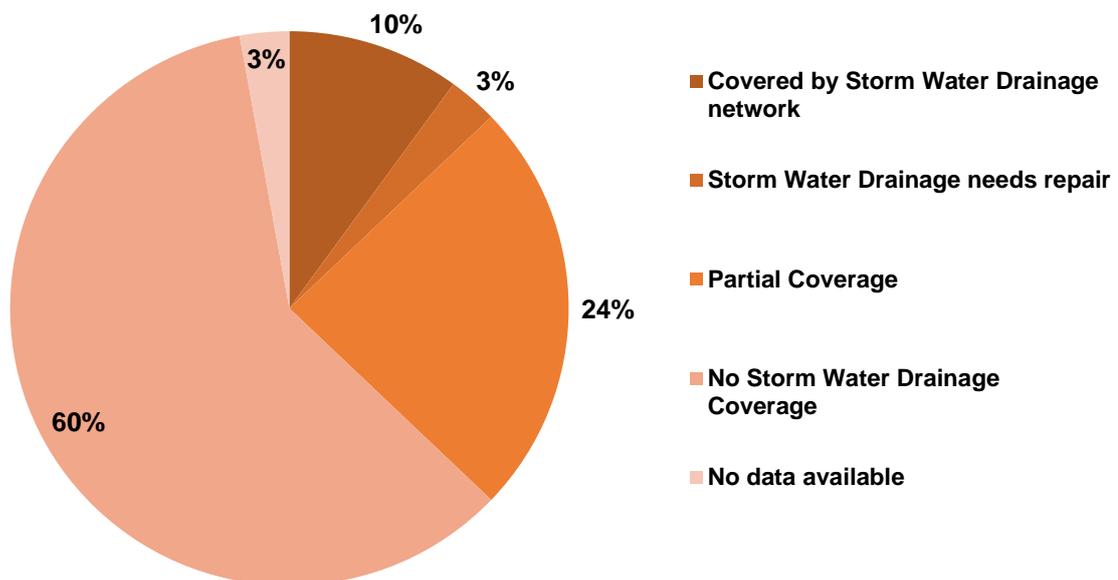


Figure 7.1: Storm Water Drainage network in village area of PMC

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 Panvel is handled by the Panvel 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 Collection and transportation of waste

PMC, in year 2018 have taken the responsibility of solid waste management for whole of its jurisdiction. The collection happens daily in all the 20 wards of the PMC. After the collection, the waste is transported to the disposal site. The PMC has appointed a private operator for the collection and transportation of the waste to processing facility at Ghot. The PMC is currently paying Rs 777 per tonne for the collection and transportation of waste. The PMC has 100% coverage of door-to-door waste collection for all the waste generated in the city. But PMC does not handle and collect bio-medical waste, industrial waste, construction & demolition waste and e-waste. The PMC generates about 470.8 tonne waste per day. Its break-up is given in the table below.

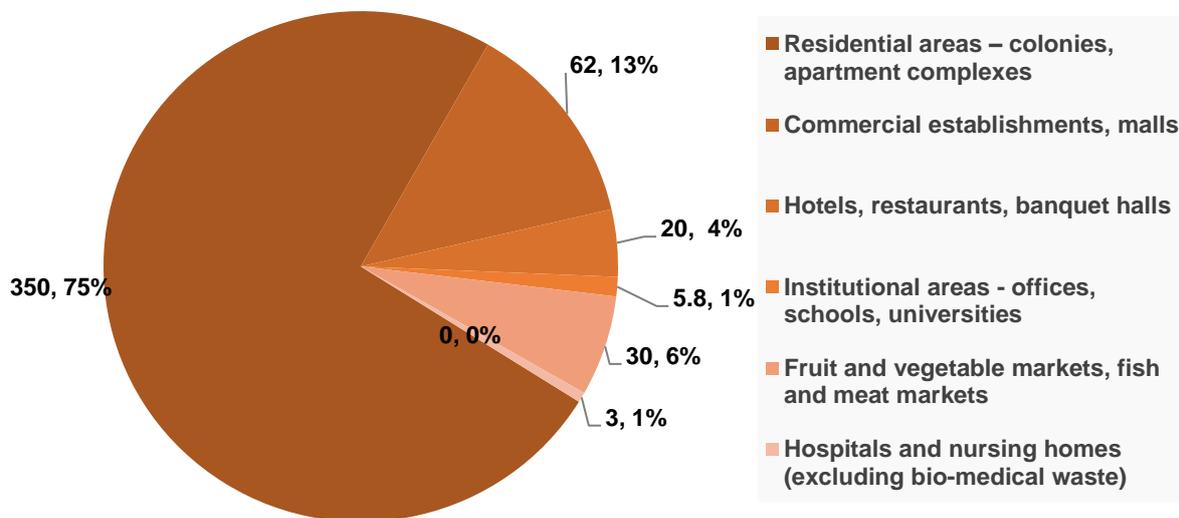


Figure 7.2: Waste generation from different sources in TPD (%)

7.4.2 Storage

Storage of the waste, at source is the first and most essential component of solid waste management. Storage of the waste at places of generation such as households, shops, commercial establishments, and institutions is called the primary storage of waste. Community

waste storage bins, placed at various locations, serve as the secondary storage of waste. At present, there are roughly 274 dustbins placed across the city.

7.4.3 Street sweeping

Street sweeping is an important function of the sanitation department. It is essential not only to help keep the 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. Main roads, sub-roads, streets, by-lanes and footpaths are all swept clean. In total, 354 km of road is cleaned every day. The cleaning is done in two shifts – some of the roads get cleaned in the day and others in the night. The PMC also carries out sweeping twice a day in public places such as commercial hubs and markets.

7.4.4 Door-to-door waste collection

The PMC does door-to-door collection of the solid waste from households within its jurisdiction. The waste is collected by private operated from households and transported to processing plant using vehicles called ghanta gaadis which are of different sizes depending on the area and the population. The PMC has 71 vehicles of varying capacity of 1-3 tonnes which have been provided to private operator for transporting waste.

7.4.5 Processing and disposal system

Segregating, recycling and landfill

At present, all the waste generated from the city is transported to a waste processing facility at Ghot which is operated by a private operator. The site is spread across 14 hectares and is 17 km from the city core. This site is currently under the CIDCO administration, and the PMC is paying a tipping fee of Rs. 799 per tonne for processing. The site is capable of handling 500 TPD of waste and has a weighbridge facility of 20-25 tonne. The site has in total five landfill shells of which three are already scientifically capped. Of the remaining two, one is operational, and the other is under construction.

The process of treatment reduces the density and, in turn, weight of the waste by about 44%. After the processing, non-recyclable waste that cannot be used to make refuse derived fuel (RDF) or in compost is taken to landfill. In case of the PMC, about 25.5% of waste goes into the landfill, nearly 0.42% (picked up by rag pickers) goes for recycling, 10% to compost and 20% for making RDF. The following figure shows the distribution of waste while and after treatment of the waste at the disposal facility.

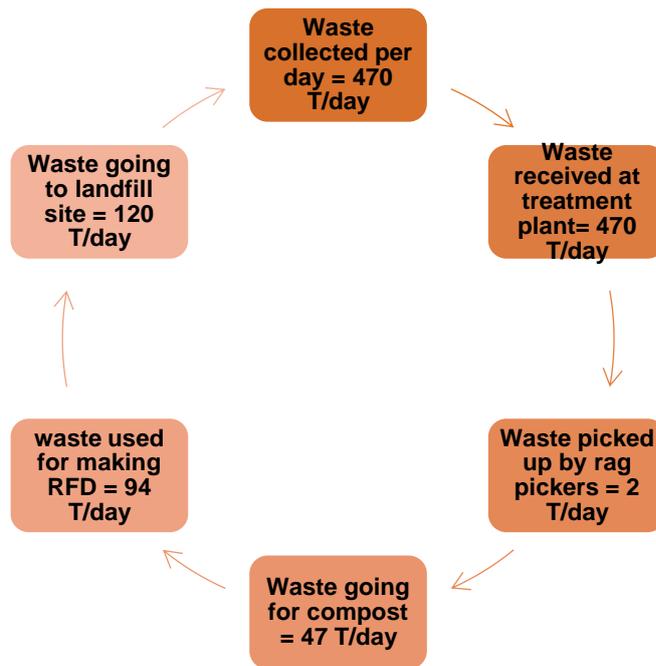


Figure 7.3: Distribution of the waste and after treatment of the waste at the disposal facility

Source: PMC

Segregation Mechanism of processing plant

There are four steps involved in the processing of the waste.

Step 1: After the waste arrives at the processing plant, it is screened through two lines of 100 mm trommels along with blowers to remove the lightweight materials such as plastics, papers etc.

Step 2: The waste is screened in the 35mm trammel and sent for composting.

Step 3: The waste is screened through 16 mm trommel and sent for composting.

Step 4: The waste is screened through 4 mm trommel and sent for composting.

The composting facility has a capacity of 450 tonne per month. However, the PMC doesn't have facilities for bio-methanization, vermicomposting, incineration etc.

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

Fire safety rules and firefighting facilities are crucial to ensure prompt response to accidents. In fact, fire and emergency services are mandatory for urban local bodies under the 12th Schedule of the 74th Constitutional Amendment Act.

Existing fire infrastructure:

Currently, there is only one fire station under the PMC, which is located at the corporation office (Old Panvel). The PMC will soon have fire stations in New Panvel, Kalamboli and Rohinjan also, which are currently operated by CIDCO.

The fire station under the PMC has:

- o One water tender
- o One mini water tender
- o One utility van
- o One jeep

7.5.2 Power Supply

The power supply in the region is handled by the Maharashtra State Electricity Board (MSEB), which was bifurcated into 3 divisions, with the intention of disaggregating the functions of power generation, transmission, and distribution. Apart from MSEB, Maharashtra Electricity Development Agency is also involved in the generation of electricity through renewable sources; and other private agencies are also involved in the power generation, which is used for their own purposes. MSEDCL, which transmits electricity from the regional transmission station to the consumer, is divided into zones, circles and divisions for the purpose of operations and maintenance. The region falls into Bhandup zone. Bhandup zone is further subdivided into two circles i.e. Thane and Vashi. Vashi circle is further sub divided into 3 divisions i.e. Vashi, Nerul and Panvel. Panvel division is further subdivided into 2 sub-division i.e. Kharghar and Kalamboli.

5-year Transmission Plan

MSEDCL has prepared a five-year Transmission Plan for 2017-18 to 2022-23. The transmission plan is prepared considering the previous year's load growth of distribution and upcoming load centres SEZ's, MIDC, New Industrial corridors, agriculture, and Commercial complex. Load growth is considered as per the district wise load forecasting by distribution licensees. The proposals in place for the STU are as given below:

Table 7.4: 5-year master plan-MSEDCL

Particulars	2019-20	2020-21	2021-22
New substation	220 KV GIS switching station at Kharghar	220/33 KV New timber Market GIS/Panvel -II	220/33 KV GIS Switching Station Khandeshwar
	-	220/33 KV Panchnand-Taloja	-

Source: MSETCL

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.

The PMC provides education at the primary level, for which the state government provides grants to the extent of 80% of staff salary and the Corporation provides the remaining. Following are the types of education facilities available in PMC.

- o Government schools: Entirely funded and managed by the central, state or local governments - includes Corporation-run and zilla parishad-managed schools.
- o Aided schools: Run by private managements, but funded largely by government grant-in-aid. These schools are called private aided or just aided schools.
- o Private schools: Run entirely on fee-revenue and have no government intervention in financial or operational matters. Private schools are divided into two types: recognised and unrecognised schools

Considering only AOI area, there are total 30 ZP schools, 11 PMC schools (8 Marathi medium, 2 Urdu and 1 Gujarati) and rest are privately managed.

The Panvel Education Department's data from FY 2014 to FY 2023 highlights significant trends in student enrolment, teacher count, and the student-teacher ratio. Student numbers fluctuated, peaking at 2,234 in FY 2014 and hitting a low of 1,183 in FY 2020-21, likely due to the COVID-19 pandemic. Enrolment rebounded to 1,934 in FY 2022-23. The teacher count remained stable, varying slightly between 70 and 78 over the years. FY 2022-23 recorded 72 teachers, matching the count in several previous years.

The student-teacher ratio improved from a high of 31.03 in FY 2014 to 15 in FY 2020-21, corresponding with the drop in student numbers. By FY 2022-23, the ratio was 27, indicating an increase but still lower than early peak years. Despite enrollment fluctuations due to external factors like the pandemic, the Panvel Education Department maintained a stable teacher count, leading to an improved student-teacher ratio and suggesting a focus on sustaining educational quality.

Table 8.1 Student-teacher ratio in PMC-run schools in the past five years

Years	FY 2022-23	FY 2021-22	FY 2020-21	FY 2019-20	FY2018	FY2017	FY2016	FY2015	FY2014
Student	1934	1752	1183	1899	1938	2018	2138	2134	2234
Teacher	72	70	77	78	70	72	73	72	72
Ratio	27	25	15	24	28	28.03	29.29	29.64	31.03

Source: Education Department, PMC

Table 8.2: Students enrolment in PMC-run school

Years	FY2018	FY2017	FY2016	FY2015	FY2014
Males	928	950	1004	1006	1048
Females	1010	1068	1134	1128	1186
Total	1938	2018	2138	2134	2234

Source: Education Department, PMC

Other facilities provided at PMC-run schools

Following are the basic facilities provided to students at the schools managed by the PMC:

- The PMC does not charge fees from students
- Uniforms and books for students are provided by the state government
- From June 2019 onwards, Akshay Patra Foundation will provide midday meals to the students at the 11 PMC-run schools as well as the 50 schools under zilla parishad

PMC's initiatives

The PMC plans to construct three more primary schools for girls. The proposal for it has been approved and is estimated to cost Rs10.50 crore.

8.2.1 Library and Study Centre

Library are the spaces which provide access, not just to books but information, experiences and ideas as well. In Panvel old council area, there is a library named Dr. Babasaheb Ambedkar Bhavan which consists of an auditorium for students on the first floor and library on the second floor.

8.3 Health and Medical Facilities

Health and medical facilities are one of the most critical aspects for any city in today's scenario. Table 8.3 gives an overview of the existing health infrastructure in the AOI. There are primary health centres (PHCs) that cater to the healthcare needs of the public. At present in AOI, there are four urban PHCs - two in Panvel and one each in New Panvel and Kalamboli. The urban PHCs in Kalamboli and New Panvel were owned by CIDCO and have been handed over to the PMC. Awareness programs on family planning, immunisation, leprosy, TB, and malaria are being run through these PHCs.

In the rural areas, apart from one PHCs in Kamothe, there is a 50-bed general hospital is run by the State government which is being upgraded to a sub-district hospital with 120 beds. Besides, there are several Anganwadis, which are used for providing basic healthcare facilities. The PMC recently received a mobile medical unit under the NUHM, which will cover all the 29 villages twice a month. It is quite evident that the existing government healthcare

infrastructure managed by the PMC is way less compared with private healthcare infrastructure.

Table 8.3: Existing health care facilities in AOI area

Facilities	Number	Location
Microscopy centres for testing and diagnosis of tuberculosis (TB)	2	Rural Hospital, Panvel, and MGM Hospital, Kamothe
PHCs in rural region (owned by the state government)	1	Kamothe
Urban PHCs	4	Two in Panvel, one each in New Panvel, Kalamboli
Sub district hospital	1	Panvel

Source: PMC's health department

CIDCO has also identified other plots for setting up health facilities and will be handing them over to the PMC soon. These plots are listed below:

1. Sector 47 in Kamothe
2. Plot 13 in Kalundre
3. Sectors 7E in New Panvel
4. Sector 1W in New Panvel

PMC's initiatives

Nudged by an increase in population in the region, the PMC is working towards improving the health services available to citizens. Some of the initiatives undertaken towards the same are as follows:

The PMC plans to set up seven more urban PHCs in the region. It is also carrying out repair and maintenance of the existing urban primary health centers, at a cost of ~Rs50 lakh.

It also plans to set up two maternity and children's hospitals of 30 beds each.

8.4 Commercial Facilities

PMC has a variety of commercial spaces. There is a steel & iron market complex, marble & tile market and several warehouses in Kalamboli and along NH4. A part of Navi Mumbai SEZ also falls within the PMC's jurisdiction (outside AOI). PMC also has Agriculture Produce Market committee (APMC) yard located in old council area. There are many shopping complex, departmental stores, daily bazaar in developed parts of PMC. Further, Kharghar corporate park of about 140 Ha is also proposed in PMC area (outside AOI).

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 alienation faced by residents of a city by encouraging them to interact with one another and create a sense of belongingness. While the benefits of such spaces accrue to women and children, they also accrue to marginalised groups such as poor and elderly who have few other means of recreation within a city. Recreational facilities provided by the government include open spaces, gardens, playgrounds, sports complexes, swimming pool and stadiums, community centres, and libraries. Outdoor recreation areas should be well located to serve the needs of a community; have an appropriate design, size and form to meet the needs of people they intend to serve; and provide for future management and maintenance of the site.

Gardens and open space in the PMC area

Attractive, safe and accessible parks and green spaces offer positive social, economic and environmental benefits; improve public health, well-being and quality of life. Gardens in the Panvel Old Council area was earlier maintained by the garden department of the erstwhile Panvel Municipal Council. After the formation of the PMC, gardens and open spaces in CIDCO nodes as well as 11 MMRDA villages are being managed by the Corporation.

At present, there are seven gardens and two playgrounds in the Panvel Old Council area:

In addition to above, there are 37 gardens in the CIDCO nodes which will be handed over to PMC (developed by CIDCO) and another 17 gardens under the 12.5 % scheme all of which fall in AOI. Also, CIDCO will hand over 5 open spaces from nodal and 17 open spaces under 12.5 % scheme to the Corporation that fall in AOI.

CIDCO will also handover 16 common playground from nodal, 6 common playgrounds under 12.5 % scheme, 33 school playground from nodal and 18 school playgrounds under 12.5 % scheme all of which are located in AOI.

There is a Central Park in Kharghar can be easily accessed by road. The park is a green link between the hills dotting Kharghar and Panvel creek, while a natural channel runs from the hills to the creek with trees and vegetation in sporadic locations. Kharghar also has a 103-hectare golf course with a large tract of open green land. (Both fall outside AOI but are part of PMC area).

Socio-cultural facilities in the PMC area

Socio-cultural facilities such as community halls, auditoriums, recreational clubs, libraries, etc. help promote an active lifestyle for the city residents' welfare. They play an important role in improving the quality of life as well as the sustainability of the city. The Panvel Old Council area has one theatre for drama, named after freedom fighter Vasudeo Balwant Phadke.

There is a library at Dr. Babasaheb Ambedkar Bhavan which consists of an auditorium for students on the first floor and library on the second floor. Both were developed by erstwhile Panvel Municipal Council for the public and inaugurated in 2014. It may be noted that CIDCO will also allot 4 community centres and 2 plots for proposed community centres to the PMC that fall in AOI area.

PMC's initiatives

Initiatives taken to ensure sufficient space under gardens, playgrounds, etc. are as follows:

- The PMC has issued work order for beautification of Wadale Talab- one of the oldest lakes in Panvel. An amount of Rs10.74 crore has been sanctioned for the project, which involves developing two parking slots on either side of the lake along with a food plaza and a promenade.
- Under Shatkoti Mission of the state government, the Corporation plans to plant 15,000 saplings.
- Three more gardens will be developed in the PMC region under the AMRUT Mission.

Table 5-4 provides detail of the gardens planned:

Table 8.4 Gardens to be developed in the PMC region under AMRUT

S No	Respective government resolution (GR)	Area (sq. m.)	Cost (Rs crore)
1	AMRUT-2015/P.N.197/UD-33 dtd.13 th October'15	976	1.0
2	AMRUT-2016/P.N.187/UD-33 dtd.29 th September'18	2550	1.5
3	AMRUT-2016/P.N.187/UD-33 dtd.02 nd November'17	2469	2.0

8.6 Cremation and Burial Ground

There are multiple cremation and burial ground spread throughout PMC. In total, 48 crematorium & 16 burial ground spread across AOI area in PMC. Crematoriums are spread across an area of total 9.492 Ha and burial grounds are spread across an area of 3.955 Ha.

More reservation for crematorium and burial ground will be required to cater requirement of future population.

CHAPTER 9

ENVIRONMENT



9 ENVIRONMENT

9.1 Introduction

The environment in Panvel Municipal Corporation (PMC) is a multifaceted aspect crucial to the city's sustainable development. Shaped by various factors such as urbanization, industrialization, and demographic shifts, PMC's environmental landscape faces challenges like pollution, resource management, and habitat conservation. As an integral part of the broader ecosystem, PMC's environment reflects intricate interdependencies between human activities and natural processes. Efforts to address environmental concerns encompass initiatives in water supply, sewage management, waste disposal, biodiversity conservation, and pollution control. With a focus on sustainability and resilience, PMC endeavours to enhance environmental quality, promote eco-friendly practices, and foster community engagement for a healthier, greener urban environment.

9.2 Water Supply

Dehrang Dam is the main source of water in Panvel City. A total of 16 MLD of water is lifted from the Dehrang Dam to fulfill the water demand of the PMC area and nearby villages. During summers, the level of water reduces so, only 5-6 MLD of water is available for abstraction. Panvel gets 6 MLD water from Maharashtra Industrial Development Corporation (MIDC) and 4 MLD from Maharashtra Jeevan Pradhikaran (MJP) & rest of the demand is fulfilled by borewells constructed by PMC. Considering the current and near future water demand, the PMC need to make certain provision to meet the water demand.

9.2.1 Surface water

Rivers, lakes, oceans and wetlands are commonly known as surface water bodies. The surface water body in Panvel City is Taloja River & Kasrudi dam. A major source of water supply in Panvel City is from Dehrang Dam which is across Gadeshwar Lake. The other sources of water at Panvel are from MIDC, CIDCO, MJP, Patalganga, and from borewell installed by PMC in Panvel. Table 9.1 captures the PMC water profile and Figure 9.1 shows the distribution of water supply in PMC.

Table 9.1 PMC Water profile

Water Availability	210 MLD
Source of Water Supply	Dehrang Dam, MIDC, CIDCO, Patalganga river, MJP, NMMC and Morbe Dam
Water Requirement	245 MLD
Water Coverage	95%
Net supply per person	110 LPCD

Source: ESR 2022-23

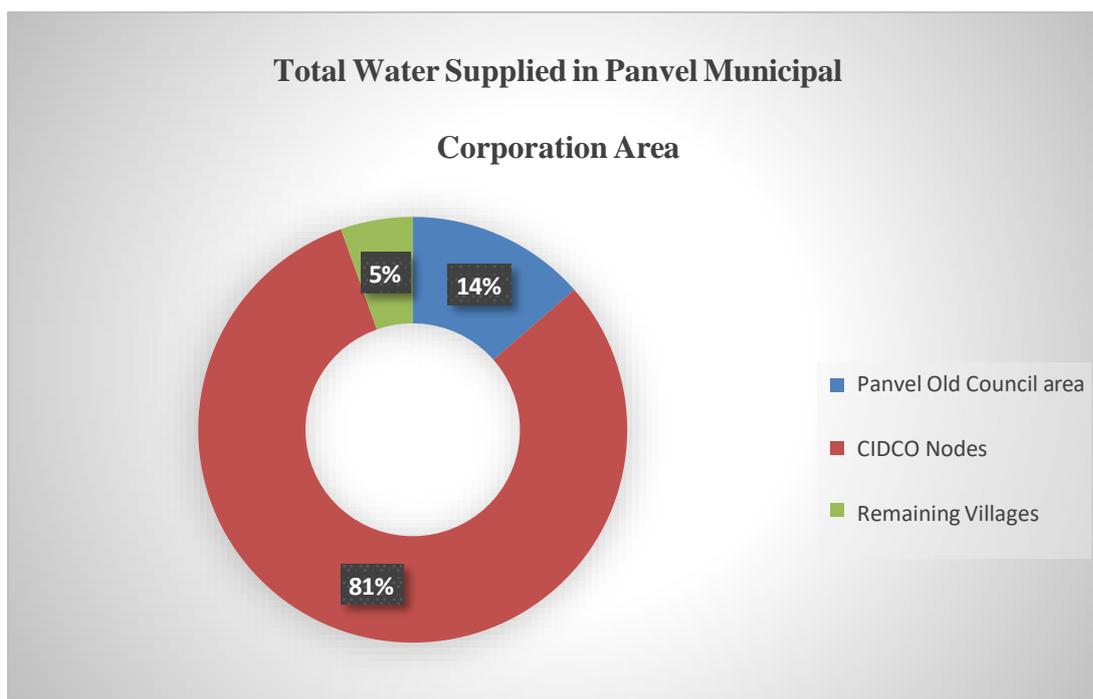


Figure 9.1 Total water supplied in PMC

Under the ownership of PMC, Deharanga Dam was constructed in the year 1964 and is spread over 277 acres of land. The Dehrang Dam has been PMC’s main source of water supply for around 1.45 lakhs people of old Panvel region, comprising three villages, namely old Khanda, Takka & Podi gaathan area. For remaining population, PMC needs to buy more water from Maharashtra Jeevan Pradhikaran (MJP), Maharashtra Industrial Development Corporation (MIDC) and Navi Mumbai Municipal Corporation (NMMC) and CIDCO.

There are a total of four water distribution systems in PMC through which PMC manages the water supply. They are:

- Water supply from Panvel ST stand to Panvel Corporation area.

- Maharashtra Jeevan Pradhikaran (MJP) to Kalamboli & New Panvel.
- Bhokarpada (WTP) to Kamothe.
- In Kharghar & Taloja water being supplied from CIDCO.

9.3 Forest

Forest of Maharashtra are on the Konkan coast, the Sahyadri's, the deccan plateau and Vidarbha region of Maharashtra. There are different types of forests on the Konkan coast. These includes intertidal swampy forests, deciduous forest, and semi evergreen forests Konkan Coast. There are many types of forest as per Maharashtra Forest Acts, few of them are listed below:

Reserved Forest: Reserved forests are areas designated by the government under the Indian Forest Act. The government has exclusive rights over these forests, and they are managed to produce timber and other forest products. Reserved forests in Maharashtra are likely to be governed by the Indian Forest Act, 1927, or any subsequent amendments.

Protected Forest: Protected forests are also areas designated by the government, but unlike reserved forests, local communities may have certain usage rights. These areas are managed for ecological and environmental reasons, and restrictions on activities are generally in place to ensure sustainable management. Protected forests in Maharashtra may be governed by the Indian Forest Act, 1927, or any subsequent amendments.

Private Forest: Private forests are lands owned by private individuals or entities. However, the government may regulate and control the activities in these forests to ensure sustainable use and conservation. Private forests in Maharashtra are likely to be governed by state-specific laws and regulations related to private forest management.

The PMC villages in the region exhibit a diverse landscape of forested areas. Among them, Walwali stands out with the largest forest area in PMC, spanning an extensive 65.62 hectares. Chal, Nagzari, Pale Khurd, and Pesarve exemplify the commitment to protected forests, with areas ranging from 1.77 to 21.51 hectares. The designation of protected forest areas underscores a broader strategy to balance human activities with environmental concerns. Furthermore, smaller villages like Karavale Bk and Rohinjan, though with more modest forest areas of 0.95 and 2.36 hectares, respectively, contribute to the overall green cover. Therefore, the total percentage of Forest area in PMC planning area is 7.24%.

Table 9.2: Forest area in PMC Villages

Sr No.	Village Name	Survey No.	Type of Forest	Area (Ha)
1	Adivali	5(7),6(1), (Protected Forest), Forest, Lake	Forest	187.7
		5(7),6(1), (Protected Forest),6(4),84,86,87, Lake	Protected Forest	4.17
2	Bid	14,55,63, Forest,65,66,67, Forest, Bid Gaothan	Forest	47.7
		63	Protected Forest	2.2
3	Chal	3, 60, 67	Protected Forest	21.51
4	Devichapada	11,14,19	Protected Forest	1.77
5	Dhansar	133,169(10), 19 Protected Forest,191, 193,198(3), 205, 84 F	Forest	36.91
6	Karavale Bk	107	Forest	0.95
		106, 107, 111	Protected Forest	11
7	Nagzari	1, Protected Forest, 10(2)	Protected Forest	14.24
8	Pale khurd	28, 3, 4, Palekhurd Gaothan	Protected Forest	15.63
9	Pisarve	83, 130, 133, 136, 148, 149, 15,150 ,2, 28, 30, 32	Protected Forest	21.05
10	Rohinjan	10, 42A	Forest	2.36
11	Turbhe	11, 83, 85, 94	Forest	17.7
12	Walwali	49, Forest	Forest	65.62
TOTAL AREA				450.51

Source: ESR, 22-23

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, defence.

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 kilometre 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 kilometre, 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 Panvel city covers its South-western coast. Along the South-western coast, it covers the boundary of villages Kharghar, Roadpali, Kamothé and Panvel. Along the southern bank, there is Gadhi River flowing towards westward direction, it

covers the boundary of villages Panvel and Kalundre. Panvel creek is spreaded from western to central part of the jurisdiction. 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 Panvel creek right from Kharghar village in the west to the Taloje Majkur village in the north is proposed to be included in CRZ-I. Along the seacoast, all villages along the coastline are proposed to be included in CRZ-I, CRZ-II, High Tide line, Intertidal, Mangrove and Mangrove buffer. The activities permissible in the restricted zone is tabulated above and the villages falling under the restricted zone is also tabulated below.

Table 9.3: CRZ in PMC

Sr. No.	Village	Area(ha)	Total % of CRZ in PMC Planning Area
1	Kalamboli	0.008	0.01
2	Kamothe	329.23	5.28
3	Kharghar	134.05	2.15
4	Khidukpada	0.02	0.00
5	Navade	130.43	2.09
6	Owe	3	0.05
7	Panvel	192.62	3.09
8	Pendhar	95.51	1.53
9	River	168.15	2.69
10	Roadpali	255.81	4.10
11	Taloje Majkur	4.02	0.06
12	Taloje Pachnand	155.64	2.49
	TOTAL	1468.5	23.53
	TOTAL PLANNING AREA	6078	

Source: ESR, 22-23

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

Ambient air quality in Panvel city was monitored at four locations to evaluate its adherence to the National Ambient Air Quality Standards (NAAQS) set by the Central Pollution Control Board (CPCB). The selection of monitoring sites was informed by past data analysis, the area's topography, and the presence of sensitive receptors. Criteria such as representativeness, accessibility, proximity to receptors, and power availability guided site selection. Parameters including Particulate Matter (PM_{2.5} and PM₁₀), Nitrogen Oxides (NOX), Sulphur Dioxide

(SO₂), and Carbon Monoxide (CO) were monitored on December 23, 2022. These locations were chosen in accordance with the Environmental Impact Assessment manual from the Ministry of Environment, Forest and Climate Change (MoEF&CC) to establish baseline pollutant concentrations in the study area's ambient air.

Table 9.4 Ambient air- quality monitoring results (Pre- Monsoon)

CODE	LOCATIONS	PARAMETERS				
		SO ₂ (µg/m ³) 24 Hourly	NO ₂ (µg/m ³) 24 Hourly	PM ₁₀ (µg/m ³) 24 Hourly	PM _{2.5} (µg/m ³) 24 Hourly	CO (mg/m ³) 8 Hourly
AQ1	Shilp Chowk	15.34	19.45	169.85	81.23	1.89
AQ2	Kalamboli Circle	12.10	22.13	183.19	96.45	1.61
AQ3	Panvel Bus Depot	15.10	16.98	170.58	86.31	1.40
AQ4	Navade Gram Panchayat	12.10	13.19	150.37	75.13	1.20
NAAQS		80	80	100	60	2

Source: ESR, 22-23

As seen in Table 9.4, the SO₂, NO₂ and CO concentrations are below the NAAQS across all the selected locations. However, the concentrations of PM₁₀ & PM_{2.5} are above the NAAQS at all the monitoring locations. Generally, PM₁₀ & PM_{2.5} concentration increases mainly due to by traffic, industrial activities, domestic fuel burning, as well as from unspecific sources of human origin. In the post-monsoon scenario, the pollution load is usually low as rain depends on particles floating in the air, its falls with them to the ground reducing the concentration of pollutants.

The maximum PM₁₀ & PM_{2.5} concentrations are seen at Kalamboli Circle, 183.19 µg/m³ & 96.45 µg/m³, respectively. The location is a circle with vehicles coming from all the directions which explains the increased concentration. Also, the major transport route, Mumbai - Satara Highway, Kalamboli Flyover Bridge, MIDC area with cement industries are in the proximity of Kalamboli circle that adds up to increased pollution in the said area.

Table 9.5 Ambient air- quality monitoring results (post-monsoon)

CODE	LOCATIONS	PARAMETERS				
		SO ₂ (µg/m ³) 24 Hourly	NO ₂ (µg/m ³) 24 Hourly	PM ₁₀ (µg/m ³) 24 Hourly	PM _{2.5} (µg/m ³) 24 Hourly	CO (mg/m ³) 8 Hourly
AQ1	Shilp Chowk	0.003	0.02	79.4	69.32	1.40
AQ2	Kalamboli Circle	0.003	0.01	56.8	50.0	1.0
AQ3	Panvel Bus Depot	0.003	0.012	66.9	58.7	1.0
AQ4	Navade Gram Panchayat	0.003	0.016	61.4	54.3	0.8
NAAQS		80	80	100	60	2

Source: ESR, 22-23

As seen in Table 9.5, the SO₂, NO₂, PM₁₀, PM_{2.5} and CO concentrations are below the NAAQS in all the areas. The highest PM_{2.5} concentration which exceeded the standard concentration was observed at Shilp Chowk, which is 69.32 µg/m³. This particular place is in the centre of a roundabout connecting sector 12, 21, 19 and 20 and it is a major conjugation point in Kharghar city.

9.5.2 Water Quality

The water quality of PMC was assessed for physio-chemical and bacteriological analysis of ground and surface water samples. Five groundwater and eight surface water samples were collected from Panvel city for analysis of the existing water quality in the area. For surface water, samples were collected from the rivers in the city and groundwater samples were collected from bore wells and hand pumps. The parameters of the ground water samples were compared with the drinking water quality standards specified in IS 10500: 2012.

The details of the CETP, ground water and surface water quality locations and parameters are tabulated under Table 9.6.

Table 9.6 Surface & Ground water sample collection locations and parameters

Code	Site Location	Area	Parameters
SW1	Shree Shiv Samarth	Kharghar	pH, Turbidity, Total Coliform, Free Ammonia, TDS, Nitrate, Total hardness as CaCO ₃ , Total alkalinity as CaCO ₃ , COD, BOD, DO, TSS, Sodium Absorption Ratio
SW2	Shiv Temple Pond	Kamothe	
SW3	Roadpali	Kalamboli	
SW4	Dewale Lake	New Panvel	
SW5	Taloje River	Up Stream	
SW6	Taloje River	Down Stream	
SW7	Kasrdi River	Up Stream	
SW8	Kasrdi River	Down Stream	
GW1	Kharghar Gram Panchayat	Kharghar	pH, Turbidity, TDS, Arsenic, Total hardness as CaCO ₃ , Total alkalinity as CaCO ₃ , DO, Chloride, TSS, Fluoride, Mercury, Lead
GW2	Kamothe gram panchyat office	Kamothe	
GW3	Kalamboli gram panchyat office	Kalamboli	
GW4	Panvel panchyat samiti	panvel	
GW5	Taloje MIDC	Taloja MIDC	

Source: ESR, 22-23

Surface Water Analysis-

Surface & Ground water samples were collected from all four wards of PMC and also from major rivers around the city. The parameters of the surface water samples were compared against the designated best use classification of CPCB.

The Results of Surface Water Samples Analysis (Pre-Monsoon) is captured in Table 9.7 below.

Table 9.7 Results of surface water samples analysis (pre-monsoon)

Sr. No.	Parameter	Normal Range	Units	(SW1)	(SW2)	(SW3)	(SW4)
1.	pH	6.0-8.5		7.5	7.19	7.28	7.4
2.	Electrical Conductiv	< 2250.0	mS/cm	2490	1284	2260	471

	ity						
3.	Taste	NS	---	Agreeable	Agreeable	Agreeable	Agreeable
4.	Colour	NS	Haze n	1.1	0.9	1.4	0.6
5.	Odour	NS	---	Agreeable	Agreeable	Agreeable	Agreeable
6.	Turbidity	NS	NTU	1	1	1.2	0.55
7.	TSS	NS	mg/L	34	28	39	23
8.	TDS	< 2100.0	mg/L	2266	1042	2015	402
9.	COD	NS	mg/L	38.4	89.6	83.2	38.4
10.	BOD@ 27°C for 3 days	NS	mg/L	11.5	29.1	27.6	12.8
11.	DO	NS	mg/L	3.6	3	3.2	3.9
12.	Total Hardness as CaCO ₃	NS	mg/L	1860	608	1450	148
13.	Total Alkalinity as CaCO ₃	NS	mg/L	86	80	68	72
14.	Free Ammonia as N	NS	mg/L	NIL	NIL	NIL	NIL
15.	Nitrates as NO ₃	NS	mg/L	3.45	2.9	2.85	2.75
16.	SAR	< 26.0	---	12.4	10.4	11.6	10.1
17.	Total Coliform	NS	CFU/ ml	34	28	27	24

Sr. No.	Parameter	Normal Range	Units	(SW5)	(SW6)	(SW7)	(SW8)
1.	pH	6.0-8.5		7.03	7.21	7.33	6.51
2.	Electrical Conductivity	< 2250.0	mS/cm	3320	4722	4260	6892
3.	Taste	NS	---	Agreeable	Agreeable	Agreeable	Agreeable
4.	Colour	NS	Haze n	1.8	2.25	2.2	4.3
5.	Odour	NS	---	Agreeable	Agreeable	Agreeable	Disagreeable
6.	Turbidity	NS	NTU	1.65	2.1	1.9	3.5
7.	TSS	NS	mg/L	46	56	48	69
8.	TDS	< 2100.0	mg/L	3012	4256	3950	6322

9.	COD	NS	mg/L	70.4	83.2	96	627.2
10.	BOD@ 27°C for 3 days	NS	mg/L	26.5	33.2	37.5	298.6
11.	DO	NS	mg/L	2.9	2.1	2.5	0.8
12.	Total Hardness as CaCO ₃	NS	mg/L	990	640	760	600
13.	Total Alkalinity as CaCO ₃	NS	mg/L	66	74	70	62
14.	Free Ammonia as N	NS	mg/L	NIL	NIL	2.45	3.12
15.	Nitrates as NO ₃	NS	mg/L	2.45	4.12	3.9	5.25
16.	SAR	< 26.0	---	12.5	14.1	13.4	16.2
17.	Total Coliform	NS	CFU/ml	42	50	42	62

The Results of Surface Water Samples Analysis (Post-Monsoon) is captured in Table 9.8 below.

Table 9.8 Results of surface water samples analysis (post-monsoon)

Sr. No.	Parameter	Normal Range	Units	(SW1)	(SW2)	(SW3)	(SW4)
1.	pH	6.5 -7.5		7.69	7.69	7.63	7.82
2.	Electrical Conductivity	0 - 0.75	dSm ⁻¹	1.56	0.87	1.42	0.35
3.	Carbonates		mg/L	1.60	4.00	1.60	0.30
4.	Bicarbonates		mg/L	1.60	2.40	2.40	3.60
5.	Chlorides	0 - 5.00	mg/L	1.20	4.40	4.00	4.00
6.	Sulphates	0 - 4.00	mg/L	21.48	1.00	12.62	1.55
7.	Calcium		mg/L	20.40	4.60	12.40	2.60
8.	Magnesium		mg/L	3.20	4.60	4.60	1.60
9.	Sodium		mg/L	1.83	2.10	3.03	1.68
10.	Potassium		mg/L	0.45	0.50	0.59	0.47
11.	Mg: Ca ratio	0 - 1.50		0.16	1.00	0.37	0.62
12.	SAR	<10		0.53	0.69	1.04	1.16

13.	Residual sodium carbonate (RSC)	<1.25		0.00	0.00	0.00	0.00
14.	Total Dissolved Salts (TDS)	< 460	mg/L	998.40	556.80	908.80	224.00
15.	Total hardness as CaCO ₃		mg/L	2360	920	1700	420
16.	Total alkalinity as CaCO ₃		mg/L	320	640	400	390
17.	BOD	< 30	mg/L	11.41	9.09	10.54	8.04
18.	COD	< 200	mg/L	46.18	36.00	42.08	32.16
19.	Nickel (Ni)	< 3	mg/L	traces	traces	0.02	traces
20.	Chromium (Cr)	6.5 -7.5	mg/L	0.17	0.15	0.15	0.12

Sr. No.	Parameter	Normal Range	Units	(SW5)	(SW6)	(SW7)	(SW8)
1.	pH	6.5 -7.5		8.11	8.13	7.62	7.33
2.	Electrical Conductivity	0 - 0.75	dSm ⁻¹	0.36	0.37	0.68	4.10
3.	Carbonates		mg/L	0.40	0.30	0.40	0.30
4.	Bicarbonates		mg/L	4.00	2.80	5.20	5.20
5.	Chlorides	0 - 5.00	mg/L	4.00	4.40	4.40	4.00
6.	Sulphates	0 - 4.00	mg/L	1.32	2.00	0.83	50.38
7.	Calcium		mg/L	5.20	2.40	3.60	8.20
8.	Magnesium		mg/L	5.60	2.00	2.60	4.60
9.	Sodium		mg/L	1.01	1.04	4.04	47.08
10.	Potassium		mg/L	0.07	0.06	0.39	3.02
11.	Mg: Ca ratio	0 - 1.50		1.08	0.83	0.78	0.56
12.	SAR	<10		0.44	0.70	2.26	18.61
13.	Residual sodium carbonate (RSC)	<1.25		0.00	0.00	0.00	0.00
14.	TDS	<460	mg/L	230.40	236.80	435.20	2624.00
15.	Total hardness as CaCO ₃		mg/L	1080	440	640	1280
16.	Total alkalinity as CaCO ₃		mg/L	440	310	560	550
17.	BOD	< 30	mg/L	6.50	7.23	8.04	16.71
18.	COD	< 200	mg/L	26.01	28.92	32.16	66.84

19.	Nickel (Ni)	< 3	mg/L	traces	traces	traces	traces
20.	Chromium (Cr)	6.5 -7.5	mg/L	0.13	0.11	0.12	0.13

Source: ESR, 22-23

- pH of the surface water samples was observed to be in the range of 7.33 – 8.13.
- The Chemical Oxygen Demand (COD) value was reported to be in the range of 26.01 mg/l to 66.84 mg/l. The highest level of COD (66.84 mg/l) was seen in sample SW8 (Kasrdi River is downstream of Navade bridge). All values obtained were within the desirable limit for COD as prescribed by CPCB.
- The maximum concentrations of Biochemical Oxygen Demand (BOD) were observed at SW8 (16.71 mg/l), whereas the minimum concentration was observed at SW5 (6.50 mg/l); but all the values are within the permissible limits.
- Total Hardness was observed to be ranging between 420 to 2360mg/l. The highest value of hardness was recorded at Shree Shiv Samarth Talav, Kharghar & minimum value was recorded at SW4; which is a sample collected in Dewale Lake in the study area.
- The concentrations of Total Dissolved Solids were in the range of 224 mg/l to 2624 mg/l. The maximum concentration of Total Dissolved Solids (TDS) was observed at SW1, SW2, SW3 & SW8, whereas the minimum TDS concentration was observed at SW4, SW5, SW6 & SW7. Since the locations are wide-ranging from rivers & lakes, a large variation is observed in the concentration of Total Dissolved Solids.

Ground water analysis-

The ground water samples were analyzed for parameters as specified in IS: 10500 (2012) standards, “Drinking Water- Specifications” and analyzed as per methods specified in IS: 3025, “Methods of sampling and test (physical and chemical) for water and wastewater”. The results of the analysis are presented in Table 9.9. The summary of results is presented in the following sub section.

Table 9.9 Results of Ground water sample analysis (pre-monsoon)

Sr. No	Parameters	Units	Limits as per IS10500:2018	(GW1)	(GW2)	(GW3)	(GW4)	(GW5)
1	pH	---	6.5-8.5	7.23	6.88	6.86	7.18	7.15
2	Electrical Conductivity	mS/cm	Not Specified	0.67	0.79	0.10	0.57	0.155

3	Total Hardness as CaCO ₃	mg/L	< 200.00	214	202	36	180	62
4	TDS	mg/L	< 500.00	544	656	88	494	130
5	TSS		Not Specified	16	24	12	20	14
6	Chlorides as Cl	mg/L	< 250.00	51.35	61.40	5.05	39.25	14.10
7	Total Alkalinity as CaCO ₃	mg/L	< 200.00	48	52	42	58	60
8	DO	mg/L	Not Specified	5.30	5	6.60	5.10	6.40
9	Arsenic as As	mg/L	< 0.01	BDL< 0.01	BDL< 0.01	BDL< 0.01	BDL< 0.01	BDL< 0.01
10	Fluoride as F	Mg/L	< 1.00	0.17	0.195	0.023	0.09	NIL
11	Mercury as Hg	mg/L	< 0.001	BDL< 0.01	BDL< 0.01	BDL< 0.01	BDL< 0.01	BDL< 0.01
12	Lead as Pb	mg/L	< 0.01	BDL< 0.01	BDL< 0.01	BDL< 0.01	BDL< 0.01	BDL< 0.01

Sr. No	Parameters	Units	LIMITS AS PER IS10500:2018	(GW1)	(GW2)	(GW3)	(GW4)	(GW5)
1	pH	-	6.5-8.5	8.01	7.96	8.08	8.02	8.49
2	Electrical Conductivity	mS/cm	Not Specified	0.18	0.10	0.37	0.16	0.95
3	Total Hardness	mg/L	< 200.00	240	300	480	380	940
4	TDS	mg/L	< 500.00	115	64	236	102	608
5	Chloride as Cl	mg/L	< 250.00	4	2.80	3.60	2.80	5.60
6	Total Alkalinity as CaCO ₃	mg/L	< 200.00	160	200	520	360	1200
7	Chromium as Cr	mg/L	6.5 -7.5	0.12	0.12	0.12	0.11	0.12
8	Nickel	mg/L	3	traces	traces	traces	traces	traces

Source: ESR, 22-23

- The above results indicate that the pH of all the ground water samples was observed to be in the range of 6.86-8.49.
- Total Dissolved Solids in the samples were in the range of 64 – 656 mg /l.

- Total Hardness was found to vary between 360-940 mg/l.
- Chloride was detected in the range of 2.80 to 61.40 mg/l.
- Heavy metal concentrations in all the samples were found to be well within the limits.

9.5.3 Noise Pollution

Baseline noise levels were monitored at the locations where the ambient air quality monitoring was conducted. The ambient noise monitoring was conducted using a spot noise measurement device. Noise level measurement locations were identified for assessment of existing sound level status, keeping in view the land use pattern, residential areas, schools, bus stands etc. The day and night-time hours as prescribed by CPCB are from 06:00 AM to 10:00 PM and from 10:00 PM to 06:00 AM. The results of ambient noise level monitoring for daytime and nighttime are given in Table 9.10.

Table 9.10 Results for Noise Level Monitoring

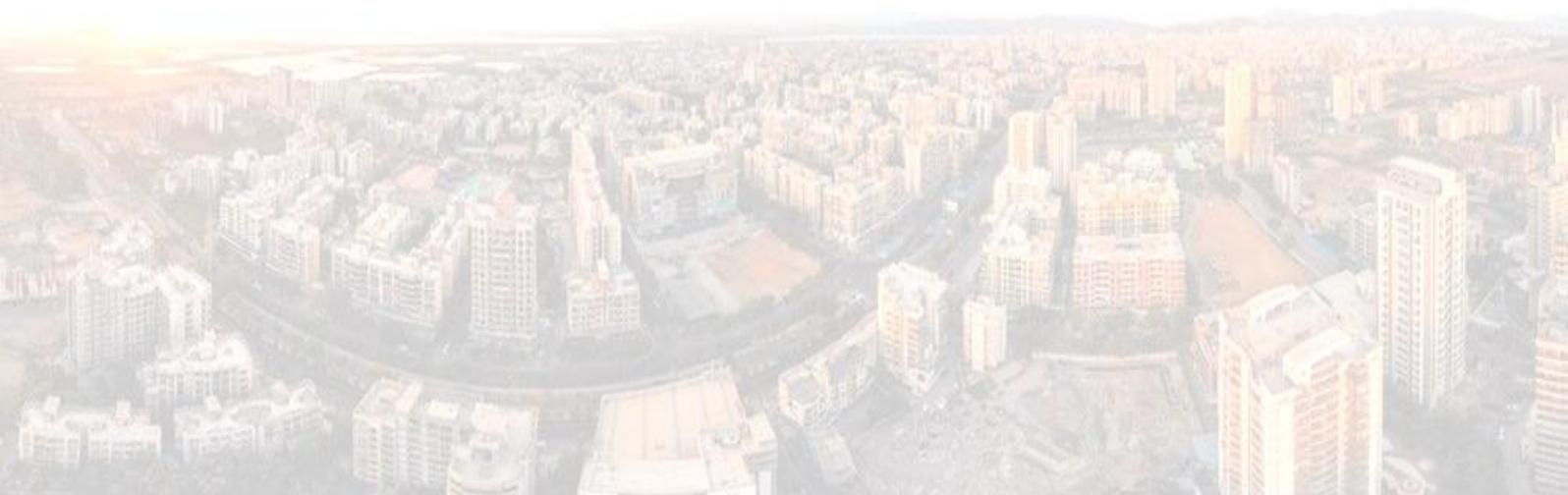
Code	Locations	Zone	Minimum L_{eq} , dB(A)	Maximum L_{eq} , dB(A)	Average L_{eq} , dB(A)
NQ1	Shilp Chowk	Residential	58.5	96.1	70.73
NQ2	Kalamboli Circle	Industrial	66	93.5	75.47
NQ3	Panvel Bus Depot	Commercial	73.5	92.6	78.70
NQ4	Navade Gram Panchyat	Industrial	84.4	97.2	95.05

Source: ESR, 22-23

As seen in Tables 10.8 & 10.9, the noise level in commercial, residential and industrial areas were reported above the CPCB limits. The average noise level is highest in Navade gram panchayat area (95.05 dB (A)). It can be due to its proximity to the railway station and the highway. The average noise level is the lowest at the Shilp Chowk (70.73 dB (A)).

CHAPTER 10

HERITAGE & TOURISM



10 HERITAGE & TOURISM

Heritage comprises buildings, artefacts, structures, areas and precincts of historic, aesthetic, architectural or cultural significance, and includes natural features within such areas or precincts of environmental significance or scenic beauty, such as sacred groves, hills, hillocks, water bodies (and areas adjoining the same), open areas, wooded areas, etc.

There are 117 monuments protected by the Archaeological Survey of India (ASI) in the Mumbai Circle as monuments of national importance. Out of these, 49 monuments have been identified, listed and protected within Raigad district. However, there are no centrally protected monuments in the jurisdiction of the PMC. Raigad district also have 2 state-protected monuments with both outside PMC jurisdiction.

Major tourism spots in and around Panvel

- **PANDAVKADA FALLS**

The 350 feet high Pandavkada or Pandavgad waterfall, which is near Kharghar, is a popular tourist spot for residents from Mumbai, Navi Mumbai and Panvel. The high tourist footfall is because of its accessibility via rail as well as road. While there is no infrastructure facility at Pandavkada, there are several hotels, restaurants, food malls in the vicinity.

- **SYNAGOGUE**

A small community of Bene-Israel reside in Panvel. The architectural splendour of the synagogue attracts several people from Mumbai and nearby cities.

- **CENTRAL PARK AND GOLF COURSE**

Central Park in Kharghar can be easily accessed by road. The park is a green link between the hills dotting Kharghar and Panvel creek, while a natural channel runs from the hills to the creek with trees and vegetation in sporadic locations. Kharghar also has a 103-hectare golf course with a large tract of open green land.

- **KARNALA BIRD SANCTUARY AND FORT**

Karnala Bird Sanctuary is situated along Mumbai-Goa highway, NH-17, about 12 km from Panvel. This is first bird sanctuary in Maharashtra, covering 12.11 sq km. The bird sanctuary is home to 134 resident and 38 migratory bird species, and about 642 plant species.

At a height of 445 metres above sea level, Karnala is also known for its thumb-shaped peak, which is a favourite for professional mountain climbers. Karnala Fort, also known as Funnel Hill, is a hill fort situated within Karnala Bird Sanctuary.

- **BALLESHWAR TEMPLE, PALI**

Ballaleshwar temple is one of the eight Ashtavinayak temples of Lord Ganesha. It is located at Pali in Sudhagad tahsil, about 70 km from Panvel. The temple is situated between Sarasgad Fort and the Amba River. Facilities such as toilets, parking and accommodation are available for devotees.

- **VARADVINAYAK TEMPLE, MAHAD**

Varadvinayak temple is another Ashtavinayak temple of Lord Ganesha. It is located in Mahad village in Khalapur tahsil, about 45 km from Panvel. This temple is said to be built in 1725 AD.

- **PRABALMACHI**

Prabalmachi is a quaint little village situated half-way up a mountain (such a plateau or ledge is called a "Machi" in Marathi) hidden in the hills off the old Mumbai – Pune highway about 15 km from Panvel. Prabalmachi is blessed with rocky cliffs, beautiful hilly terrain, and lush green grasslands. One can experience the magical sunrise and sunset view, Sahyadri ranges, Matheran hill, Gadhi River, Chanderi and Peb forts and the city of Mumbai. It is a popular camping site and act as base camp for Prabalgad & Kalavantin durg trekking.

- **BIRTHPLACE OF VASUDEV BALWANT PHAKDE, SHIRDHON**

The house of Freedom Fighter, Vasudeo Balwant Phadke, situated in Shirdhon, which is 10 km from Panvel, is a major tourist centre.

- **HAJI MALANG**

Haji Malanggad is fort near about 24km from PMC. It is the religious place known as Sri Malang or Haji Malang. Shilahr Raja built the fort of Malanggad. The ancient temple of Machhindranath is on this fort. Haji Malang is the grave of a Muslim monk. Puja of Muslim monk is done by Hindu people. Yatra is on Magh Poornima.

Like other forts in Raigad district, there is a difficult cone on the top, and a little below. Samadhi of Baba Malang is situated on the boundary of the Thane district and Raigad district.

There is a very high mountain on the fort. There are fortifications, entrances, water ponds and towers on fort. From the top of fort, the Kurla-Mumbai area, the entrance to Panvel and the Matheran region are seen.



Karnala Bird Sanctuary



Pandavkada Falls



Beth El Synagogue



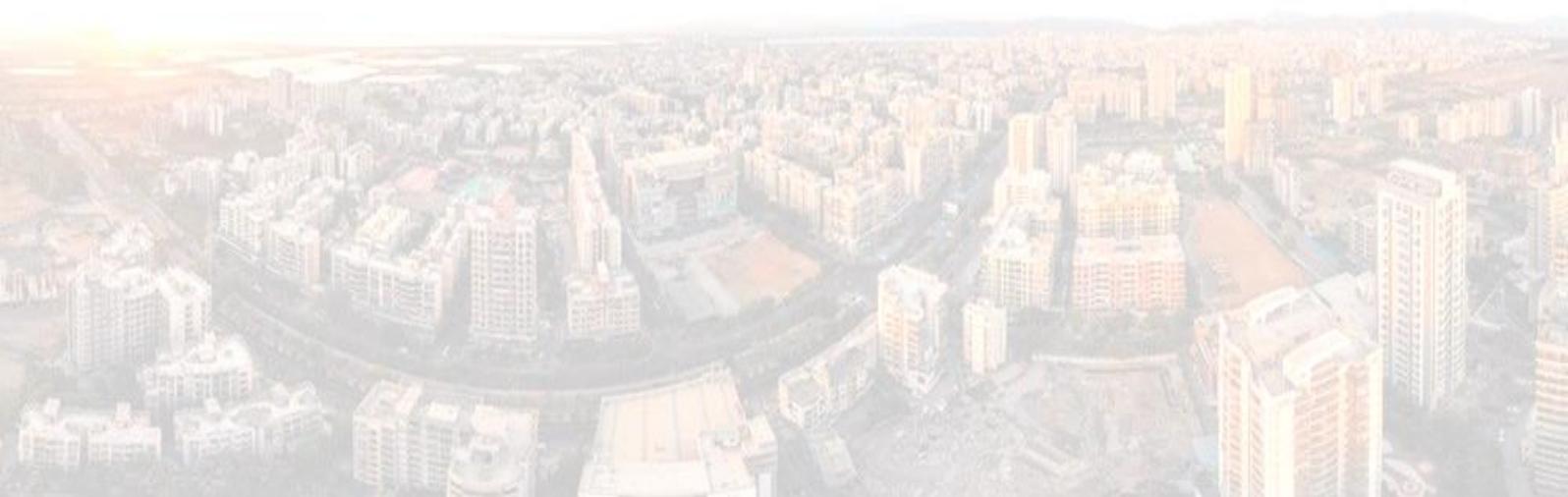
Baleshwar Mandir



Khandeshwar Shiva Temple

CHAPTER 11

OBSERVATIONS AND INFERENCES



11 OBSERVATIONS AND INFERENCES

Following are the observations and problems identified for the

- **Housing Deficiencies:** There is a lack of quality housing in certain parts of the planning area to accommodate both the existing and proposed population.
- **Slum Conditions:** The sheer number of slums suggests that slum inhabitants require adequate housing and facilities.
- **Dilapidated Housing:** Poor housing conditions in village areas and old council areas.
- **Weak Linkages:** The North-South and East-West connectivity is weak, with only NH4 connecting the southern to the northern part of PMC, and the Sion Panvel Highway serving as the sole major road for east-west connectivity.
- **Absence of Suburban Railway Stations:** MMR villages, which have significant growth potential, lack suburban railway stations.
- **Narrow Roads:** Old council areas, MMR, and non-nodal CIDCO villages have narrow roads that limit expansion potential.
- **Road Linkage Deficiencies:** There is a lack of proper road linkages and a functional hierarchy of roads, especially in MMR and non-nodal CIDCO villages.
- **Traffic Congestion:** Heavy congestion due to freight movement, inadequate truck terminals, and the resulting bottlenecks from trucks and multi-axle vehicles parked along roads.
- **Inadequate Public Parking:** The absence of sufficient public parking facilities leads to rampant on-street parking, reducing effective carriageway space for traffic.
- **Lack of Pedestrian Infrastructure:** There are no footpaths for pedestrians, and pedestrian crossings are unregulated.
- **Lack of Public Transport:** PMC lacks its own public transport facilities, such as a bus service or BRTS for intra-city travel.
- **Stress on Social Infrastructure:** Increasing population is putting stress on existing social infrastructure, including recreational facilities, green spaces, and open spaces.
- **Deficiency of Social Amenities:** Especially in MMR and non-nodal CIDCO village areas.

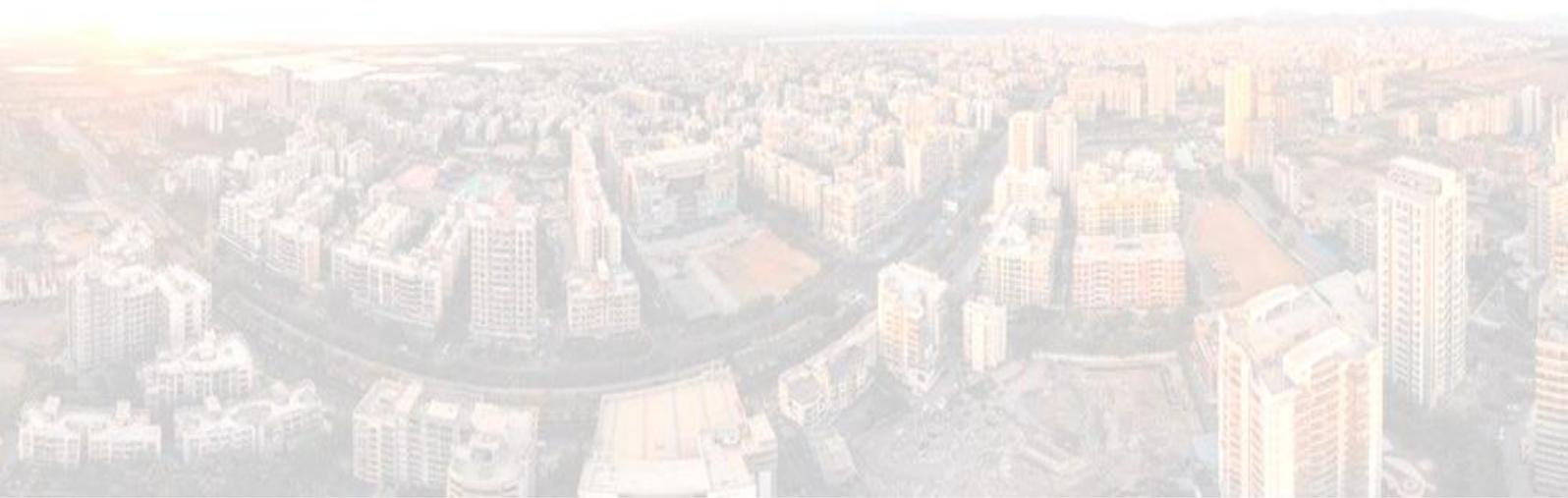
- **Water Supply Issues:** There is no secure future water source, with heavy reliance on external sources for the current water supply, and a deficiency in storage and distribution facilities, particularly in MMR and non-nodal CIDCO villages.
- **Sewerage Infrastructure Deficit:** Absence of adequate sewerage infrastructure, particularly in MMR and non-nodal CIDCO villages, and minimal reuse and recycling of wastewater.
- **Storm Water Infrastructure Disparity:** Inconsistent storm water infrastructure across PMC.
- **Solid Waste Management:** The current solid waste management site is expected to get saturated within 2-3 years.
- **Fire Safety Deficiencies:** Lack of an adequate number of fire stations and related equipment.
- **Heritage Conservation:** Absence of initiatives for recognition, preservation, and advancement of Panvel's heritage character.
- **Pollution Issues:** Taloja MIDC's presence causes pollution of the air and water in the region.
- **Development Timeline:** No defined timeline for the development of NMSEZ and Kharghar corporate park, and the need for PMC to allocate areas for commercial/office development to provide employment opportunities.
- **Development Constraints:** Land development is restricted by the existence of CRZ, red and blue flood lines, forests, and regions with a slope higher than 1:5.



PART 2

PROPOSALS

CHAPTER 12
PAST DEVELOPMENT PLAN
PERFORMANCE



12 PAST DEVELOPMENT PLAN PERFORMANCE

12.1 Introduction

PMC is formed by amalgamating 11 MMRDA revenue villages, 18 CIDCO villages and 1 Panvel old council area.

12.2 Analysis of the Previous Development Plan in Panvel old council area

It is important to analyse 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 2024 -2044 to accelerate the planned development in the city. The earlier DP was sanctioned for an area of 3.63 Sq. km.

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 last development plan was prepared for old council area which got sanctioned on 16th March 1993 and came into force on 15th May 1993. The excluded part of the plan got sanctioned on 27th April 1994 and came into force on 1st July 1994.

The total number of reservation sites proposed in the earlier DP was 56 in number. The total area under the reservation sites proposed was 46.45 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.

Table 12.1 Proposed reservation site under previous DP

RESERVATION SITES			
Sr. No.	Category	Number	Area (Ha)
1	Reservations	56	46.45

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 12-2. Out of these 56 reservations, 22 are completely developed, 5 are partially developed. The area of developed site is 10.98 Ha and partially developed site is 6.09 Ha. Refer Annexure I for details.

Table 12.2 Development Status of The Reservation Sites

DEVELOPMENT STATUS OF RESERVATION SITES			
Sr. No.	Category	Number	Area (Ha)
1	Developed	22	10.98
2	Not Developed	28	29.57
3	Partly Developed	5	6.09
4	Deleted	1	0.45
Total Reservations		56	47.09

12.3 Analysis of Regional Plan on 11 MMRDA Villages

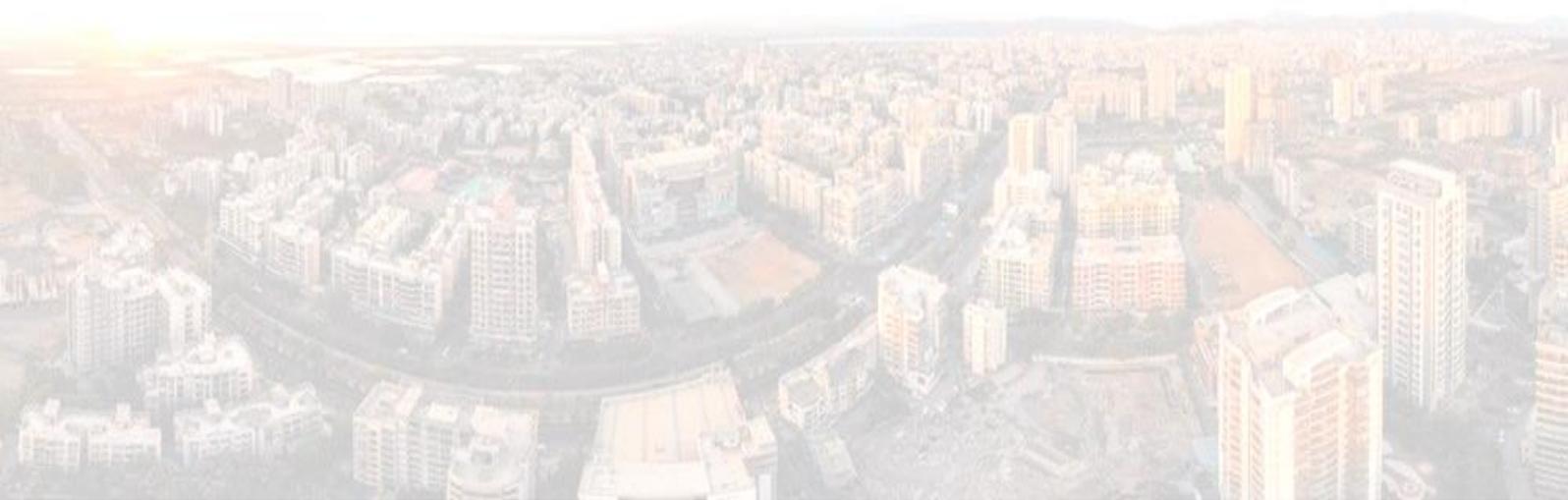
The zoning area details under RP of MMRDA 11 Villages is provided in the below table 12.3:

Table 12.3 Regional Plan on 11 MMRDA Villages

Sr. No.	CLASS	AREA(Ha)
1	Forest	236.78
2	Green Zone	935.86
3	Roads	52.73
4	Urbanizabale Zone	1034.63
Total		2260.00

CHAPTER 13

POPULATION PROJECTION



13 POPULATION PROJECTION

13.1 Introduction

Panvel Municipal Corporation has declared its intention to prepare development plan u/s 23 of MR&TP Act 1966 dated September 9, 2019. For reservations and land use zoning, the projected population is considered for horizon year 2034 and 2044 respectively.

13.2 Population Trend

The population of the Panvel Municipal Corporation area as per Census 2011 is 5,04,875. The population of Panvel Municipal Corporation Planning Area as per Census 2011 is 3,89,290. The population for the years 2024, 2034 and 2044 for Panvel Municipal Corporation area has been projected through various methods considering natural and induced growth. The existing population trends of the last five decades in PMC area is as mentioned in the Table below:

Table 13.1: Existing Population Trends in PMC (1961-2011)

Sr. No.	Decade	Population	Increase in population per decade (Ia)	Rate of increase in population per decade (Ra)	Incremental Increase per Decade (Iai)
1	2	3	4	5	6
	1961	41041	–	–	–
1	1971	55294	14253	3+0.35	–
2	1981	82785	27491	0.50	13238
3	1991	133562	50777	0.61	23286
4	2001	233359	99797	0.75	49020
5	2011	509901	276542	1.19	176745
Total			468860	3.39	262289
Average			93772 (Ia)	0.68	65572 (Iai)

Source: Census of India

13.3 Population Projection

For the area excluding 5 Villages of CIDCO and NMSEZ and MIDC area the population for the base year 2011 will be 389290. Various Methods Used for Population Projection:

1. Arithmetic Increase Method

2. Geometric Increase Method
3. Incremental Increase Method
4. Graphical Method
5. Percentage Change method
6. Shift and Share Method

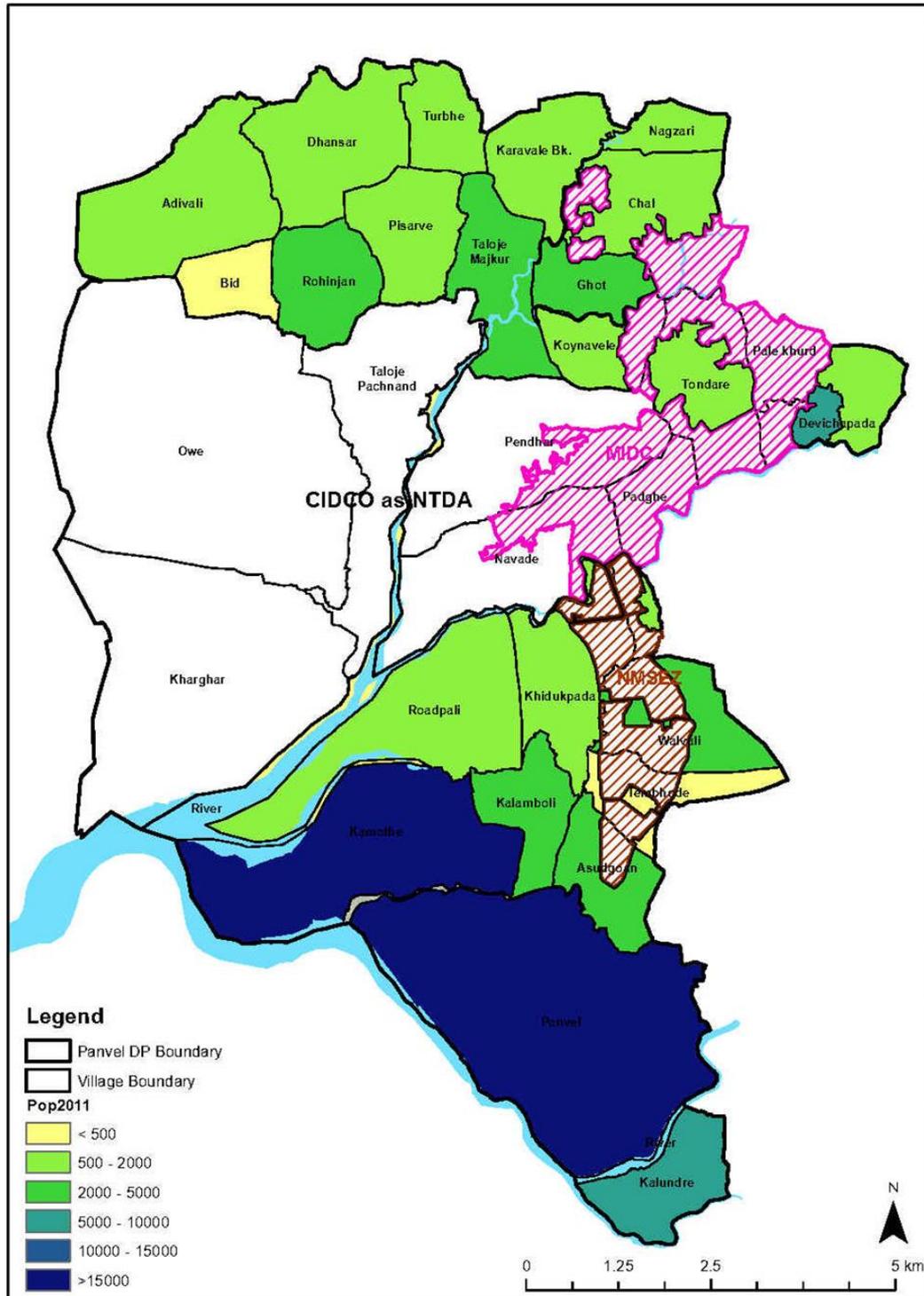


Figure 13.1: Map showing Population distribution in PMC Planning Area

13.3.1 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

13.3.2 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

13.3.3 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 nth decade

X: Average increase

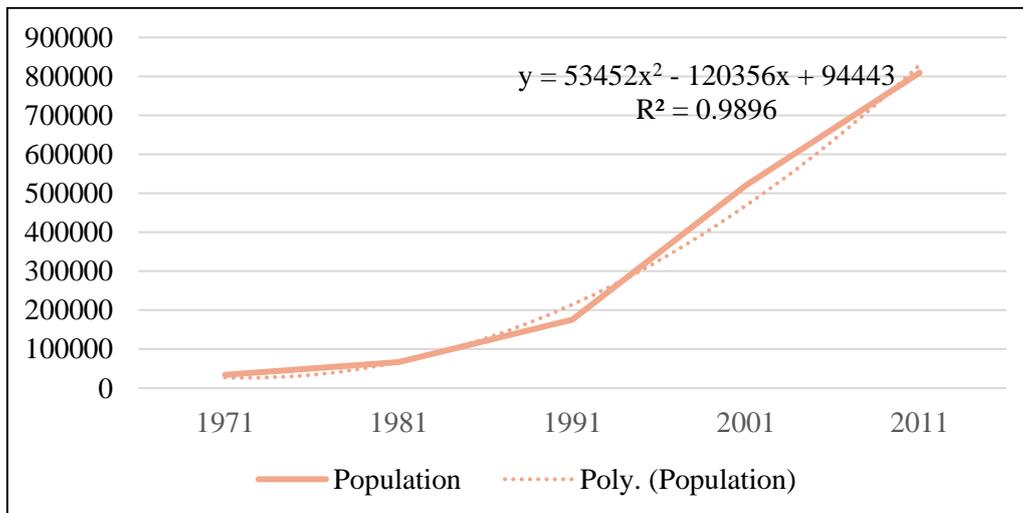
Y: Incremental increase

13.3.4 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 13.2 R^2 values for different expressions

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



13.3.5 Percentage Variation Methods

The percentage variation method, commonly known as the percentage change method, is a straightforward approach for projecting future populations based on historical growth trends. It involves calculating the average annual growth rate by comparing the population at the end of a specified period with the population at the start. This growth rate is then applied to project future populations. While the method is simple and useful for short-term projections when consistent growth patterns exist, it assumes a constant rate of change, which may not always reflect real-world complexities. Factors such as economic shifts, policy changes, or unforeseen events can impact population dynamics, making it essential to interpret results cautiously and consider additional forecasting methods for a more comprehensive understanding of demographic trends.

$$P_f = P_p * (n*v+1)$$

P_f = Future population

P_p = Population of previous decade

v = Average rate of increase in population per decade

N = No. of decades

13.3.6 Shift and Share Method

Mathematical and graphical methods used for population projection are effective for individual cities but overlook regional effects. Panvel, part of the MMR Region, anticipates significant population growth due to migration driven by cheaper accommodation, connectivity, and employment opportunities. To account for regional shifts, the Shift and Share method is employed, starting from national or state demographic forecasts. This method projects PMC (Excluding Kharghar Node) population based on MMR Regional Plan data, reflecting Panvel's increasing share since 1991. Projected PMC population (Excluding Kharghar Node) is 6.46 Lakh in 2021, 10.72 Lakh in 2031, and 13.07 Lakh in 2041, with interpolated figures for 2024, 2034, and 2044. Shift shares indicate PMC's share of MMR population to be 4.49% in 2021, 6.50% in 2031, and 8.47% in 2041, considering reductions in GMUA+BNMC+VVSR share compensated by PMC growth.

13.4 Summary

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

Table 13.3: Comparison of Projected Population by various methods for PMC

Sr. No.	Forecasting Methods	2011	2024	2034	2044
1	Arithmetic Increase	389289	481914	553164	624414
2	Geometric Increase	389289	752337	1248880	2073141
3	Incremental Increase	389289	549669	725158	945967
4	Graphical Method	389289	752337	1025000	1205000
5	Percentage Variation Method	389289	723299	980230	1237160
6	Shift & Share	389289	774000	1143000	1434000

The projected population growth of Panvel Municipal Corporation (PMC) is influenced by several key factors. Economic growth and industrial development play pivotal roles, attracting residents and workers to the region. Infrastructure projects like NMIA and the Bullet train enhance PMC's appeal, facilitated by its excellent regional connectivity through expressways, railways, and proposed metro lines. Land use planning, educational, and healthcare facilities also impact population distribution and growth.

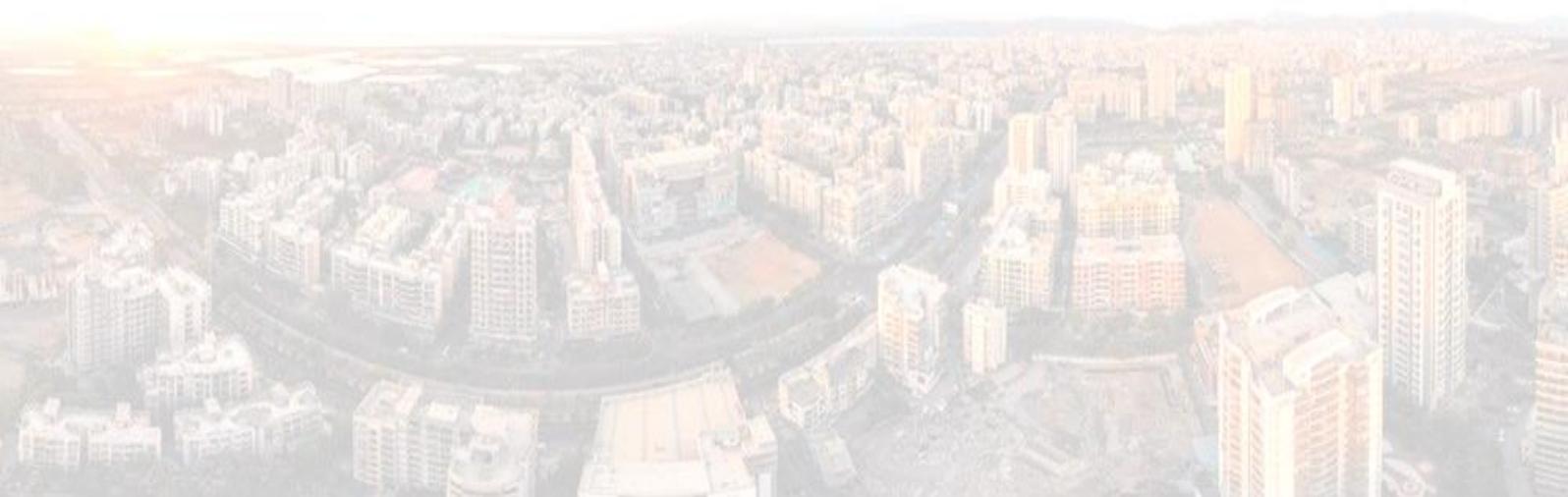
Government policies, cultural amenities, and environmental sustainability further shape PMC's desirability as a residential area. Migration patterns and population age structure provide insights into future growth trends. Considering PMC's proximity to Navi Mumbai and its well-developed areas like Kharghar, a significant decadal population increase is anticipated.

To accommodate the projected population growth effectively, planning proposals for PMC under the 2044 Development Plan need meticulous consideration. Hence the above population projection calculations were recommended for an approval to Hon. Joint director, Town planning, Kokan. As per the approval given by Hon. Joint director, Town planning, Kokan vide letter no/JDTP/kokan/PMC/population projection/2024/378, Dated 01/03/2024 **the recommended population for PMC Development Plan is 9,68,347 for the year 2034 and 12,05,532 for the year 2044.**

Table 13.4 Population projection for PMC (AOI)

Year	Projected Population	Use
2034	9,68,347	For social amenities provision
2044	12,05,532	For Zoning provision

CHAPTER 14
PLANNING STANDARDS AND
NORMS



14 PLANNING STANDARDS AND NORMS

14.1 Introduction

It is stipulated under section 22 of the MR&TP Act, 1966 to provide land for public amenities. The provision of land for public amenities, encompassing education, health, social, and recreational facilities, as well as infrastructural necessities like roads, water, sewerage, solid waste management, and cremation, among others. The effective spatial allocation of these amenities holds significant importance. Utilizing planning standards and norms facilitates the calculation of required amenities to meet satisfactory levels. The presence of public services and facilities within urban environments profoundly influences the quality of life for urban residents. Essential components for fostering a healthy and sustainable urban life encompass good quality physical and social infrastructure, including education facilities, health and welfare services, civic amenities, distribution services, transportation networks, water supply systems, sewerage systems, and community facilities.

14.2 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 PMC Development Plan, planning norms, standards and guidelines are referred from URDPFI, Revised DP MCGM 2034 & Nashik Development Plan 2036.

Panvel 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. Panvel 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 Panvel 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 Panvel 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 14-1.

Table 14.1 Comparison of Planning Standards and Norms

Sr. No.	Category	Subcategory	URDPFI 2015		Nashik Development Plan		1979 Town Planning Norms		CIDCO
			Min unit/s Required	Area Required	Min unit/s Required	Area Required	Min unit/s Required	Area Required	Area Required
1	Education	Primary School	1/500 students, 1/5000 popu	0.4 ha	-	-	1)15% of total population 2)10 sq.m. per student	400 to 500 pupils per school	0.4 ha per 10170 population
		Secondary School	1/7500 popu	1.8 ha	-	-	1) 7.5% of total population 2) 4 sq.m. per student	750 to 1000 pupils per school	0.4 ha per 10170 population
		Higher Secondary	1/1000-1500 students, 1/1.25 lakh popu	5 ha	-	-	-	-	1 Ha for 125000 pop
2	Health and Medical Facility	Dispensary	1/15000	0.08 ha-0.12 ha	-	-	-	-	-
		Nursing home & maternity center	1/ 45000-1 Lakh	0.2-0.3 ha (25-30 beds)	-	-	0.25 Ha per 10000 popu	-	0.15 Ha per 25000 pop
		General Hospital	Intermediate hospital: 1/ 1 lakh; 80 beds	Intermediate hospital:1 Ha	1 for the city	0.65 ha/bed	-	-	0.5 Ha per 100000 pop

			General Hospital: 1/2.5 lakh; 500 beds	General Hospital: 6 Ha					
3	Socio-Culture	Community Hall	1/15000	0.2 ha	-	-	0.5 Ha		0.2 Ha per 100000 pop
4	Civic	Cremation Ground	Electric Crematorium: 1 for a large town	Electric Crematorium: 2 ha for a large town	As per the requirement		-	-	As per requirement
		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	-	-	-	-		-
			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: 18 m x 15m		-	-			-
		Compressed Natural Gas	-		1080 sqm	-			-

		(CNG)/ filling centre							
6	Police, Civil Defense, and Home G uards	Police Station	40,000 – 50, 000	0.16 Ha	-	-	-	-	-
		Police Chowki	90,000	1.50 Ha	-	-	-	-	-
7	Safety Mana gement	Fire Station	2 lakh popul ation or 5- 7 km radius	1 Ha	-	-	-	-	-
8	Commercial	Municipal Market	-	-	2 numbers in each sector	0.20 ha	-	-	-
9	Open Spaces	Park/ Garden	1/15000	1 ha	1/50,000 population	3 ha	-	-	0.3 Ha per -1000 popu
		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				
		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	-	-
12	Solid Waste Management	Transfer Station	-	-	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	-	-
				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	-	-

14.3 Planning Sector

To determine the competence of the amenities, the city is divided into 5 sectors considering the character of the area and the physical boundary of the wards. The following Table 14.2 and Map 14-1 show the area covered in each sector.

Table 14.2 Details of Planning Sectors

Planning sector no.	Villages included	Area (Sq. km)
1	Panvel Municipal Council &, Kalundre Village	6.13
2	New Panvel Node including Tembhode & Asudgaon village)	7.21
3	Kamothe Node	10.81
4	Kalamboli Node including Padghe village & walvali village	8.97
5	Adivali, Bid, Dharna gaon, Dhansar, Dharna camp, Rohinjan, Pesarve, Karavale bk, Turbhe, Ghot(pt), Chal(pt), Koyanavelhe(pt), Tondhare(pt), Palekhurd(pt), Devichapada(pt), Nagzari, Taloja Majkur, Padghe(pt), Walvali(pt), Tembhode(pt), Asudgaon(pt)	27.6
Total		60.78

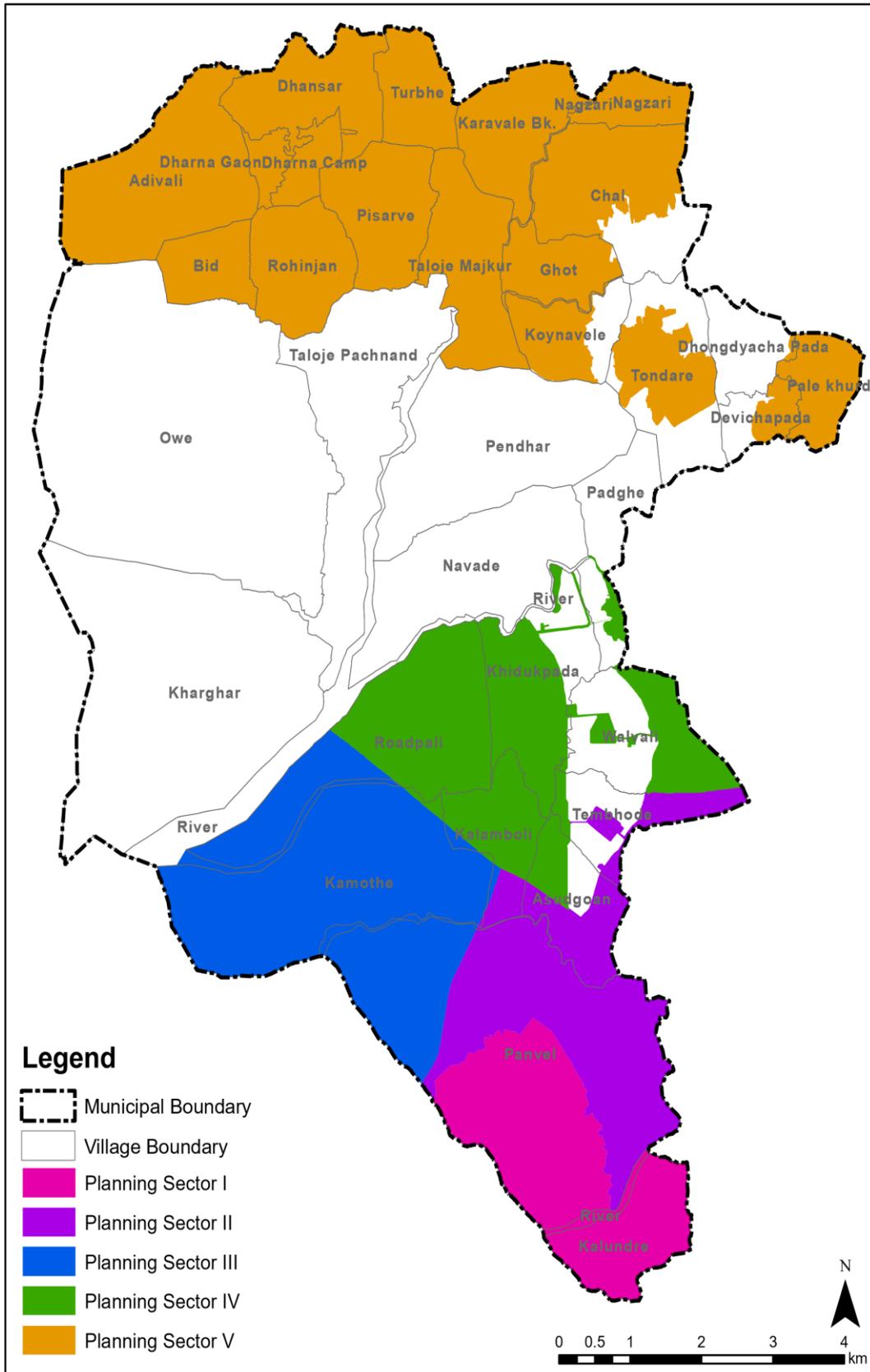


Figure 14.1 Planning Sectors in PMC

14.4 Sector- wise population projection

To devise equal distribution of amenities all over the region, the sector – wise population is studied. This will allow to understand the needs of individual sectors and further will help in even distribution of provision for amenities. The following Table 14.3 shows the sector-wise population details:

Table 14.3 Sector-wise population details

Sr. No	Planning Sector	Planning - Village /CIDCO Nodes	Part	Aera (Sq.km)	Population	
					2034	2044
1	I	Panvel Muncipal Council Jurisdiction & Kalundre	Panvel Municipal Council & Kalundere	6.13	179918	223986
2	II	New Panvel Node including Tembhode & Asudgaon village)	CIDCO Node	7.21	246258	306576
3	III	Kamothe Node	CIDCO Node	10.81	186991	232792
4	IV	Kalamboli Node including Padghe village & walvali village	CIDCO Node	8.97	205374	255678
5	V	Adivali, Bid, Dharna gaon, Dhansar, Dharna camp, Rohinjan, Pesarve, Karavale bk, Turbhe, Ghot(pt), Chal(pt), Koyanavelhe(pt), Tondhare(pt),Palekhurd(pt), Devichapada(pt),Nagzari, Talolja Majkur, Padghe(pt), Walvali(pt), Tembhode(pt), Asudgaon(pt)	MMRDA/CIDCO Villages	27.6	149807	186500
Total				60.78	968348	1205532

14.5 Computation and Provision of Amenities

After comparing the planning standards and norms mentioned in Table 14-1, the following planning standards are adopted for the Panvel 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.
- 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 14.4 Planning Standards and Norms adopted for PMC DP

Sr. No.	Sub-category	Proposed Planning Norms for PMC
Educational Facilities		
1	Primary School	0.4 ha per 10170 population
2	Secondary School	0.4 ha per 10170 population
3	Playgrounds	0.4 ha per 10000 population
4	Degree colleges/ Professional college/ Technical college/ University	As per requirement
5	School for physically/mentally challenged	1 for 45000 population, 400 students' site of 5000 sqm
Health Facilities		
6	Primary Health Centre	0.15 Ha per 25000 pop.
7	Hospital	0.5 Ha per 100000 pop.
8	Pandemic Hospital + Isolation Centre/Super Speciality Hospital	2 Ha per 250000 pop.
Social and Cultural Centres		
9	Community hall/ Town hall	0.2 Ha per 100000 pop.
10	Working women hostel	0.3 Ha per 100000 pop
11	Other hostels	0.3 Ha per 100000 pop
12	Auditorium	0.4 Ha per 400000 pop
13	Central Library	4.00 Ha per 2000000 pop
14	Cultural and Linguistic centre	0.60 Ha per 100000 pop
Daily bazaar/ market complex		
15	Vegetable market	0.1 Ha per 10000 pop
16	Fish/ Meat market	

17	Municipal Shopping Complex	As per requirement
Public Utilities		
18	Fire brigade and allied services	1 in each Planning sector of 1.5 Ha
19	Disaster management centre	As per requirement
20	Electric crematorium	As per requirement
21	Burial ground/ Cremation ground	As per requirement
22	Police station	As per requirement
23	Sewage Treatment Plant	As per requirement
24	Water Treatment Plant	As per requirement
25	Solid waste management/ Dumping ground	As per requirement
26	Parking	As per requirement
Parks and Open Spaces		
27	Park	0.3 Ha per 1000 popu
28	Multipurpose ground/ Play Ground stadium/Sports Complex	As per requirement

14.6 Total Land Demand for Amenities

Planning Standards adopted above have been used to estimate the total land requirement for amenities for Panvel for a population of 968. 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 14.5.

Table 14.5 Total Land Demand for Amenities in PMC

Category	Subcategory	Norms	Total Demand (Ha)
Amenities			
Education	Primary School	0.4 ha per 10170 population	38.08
	Secondary School	0.4 ha per 10170 population	38.08
	Play grounds	0.4 ha per 10000 population	38.73

	Degree Colleges	As per requirement	
	Professional college/ Technical college		
	University		
	School for physically challenged	1 for 45000 population, 400 students' site of 5000 sqm	11 (Nos.- 22)
	School for mentally challenged		
Health & Medical Facility	Primary Health Centre	0.15 Ha per 25000 popu	5.81
	Hospital	0.5 Ha per 100000 popu	4.84
	Pandemic Hospital + Isolation Centre/Super Speciality Hospital	2 Ha per 250000 popu	7.74
Social and Cultural Centres	Community hall/ Town hall	0.2 Ha per 100000 popu	1.94
	Working women hostel	0.3 Ha per 100000 popu	2.90
	Other Hostels	0.3 Ha per 100000 popu	2.90
	Auditorium	0.4 Ha per 400000 popu	0.97
	Central Library	4.00 Ha per 2000000 popu	1.93
	Cultural and Linguistic centre	0.60 Ha per 100000 popu	5.81
Daily Bazaar/market complex	Vegetable Market	0.1 Ha per 10000 popu	9.68
	Fish/ Meat Market		
	Municipal Shopping Complex	As per requirement	
Public Utilities			
Public Utilities	Fire brigade and allied services	1 in each Planning sector of 1.5 Ha	
	Disaster Management Centre	As per requirement	
	Electric Crematorium		

	Burial ground/ Cremation ground	As per requirement	
	Police station		
	Sewage Treatment Plant		
	Water Treatment Plant		
	Solid waste Management/ Dumping ground		
	Parking		
Parks and Open Spaces			
Open Spaces	Park/ garden	0.3 Ha per 1000 popu	290.50
	Playground/ Sports Complex		
	Multipurpose Ground	As per requirement	
	City Park		

14.7 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 below tables.

SECTOR-I

The below Table 14.6 shows the land demand detail for Amenities in Sector I, for which the projected population is 179918 from Table 14.6.

Table 14.6 Land Demand for Amenities in Sector I

Sr · No ·	Facilities		Proposed Planning Norms for PMC Sector-I			
			Norms	Remarks	Pop (No)	Total Land Demand (Ha.)
AMENITIES						
1	Educational Facilities	Primary School	0.4 ha per 10170 population		179918	7.08
2		Secondary School	0.4 ha per 10170 population			7.08
3		Play grounds	0.4 ha per 10000 population			7.2

4						
5		Degree colleges	As per requirement			
6		Professional college/ Technical college				
7		University				
8		School for physically challenged	1 for 45000 population, 400 students' site of 5000 sqm	4		2
9		School for mentally challenged				
Total Area (Ha)			23.36			
10	Health Facilities	Primary Health Centre	0.15 Ha per 25000 popu		179918	1.07
11		Hospital	0.5 Ha per 100000 popu			0.90
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	2 Ha per 250000 popu			1.44
Total Area (Ha)			3.41			
13	Social and Cultural Centres	Community hall/ Town hall	0.2 Ha per 100000 popu		179918	0.36
14		Working women hostel	0.3 Ha per 100000 popu			0.54
15		Other hostels	0.3 Ha per 100000 popu			0.54
16		Auditorium	0.4 Ha per 400000 popu			0.18
17		Central Library	4.00 Ha per 2000000 popu			0.36
18		Cultural and Linguistic centre	0.60 Ha per 100000 popu			1.07
Total Area (Ha)			3.05			
19	Daily bazaar/ market complex	Vegetable market	0.1 Ha per 10000 popu		179918	2.12368

20		Fish/ Meat market				
21		Municipal Shopping Complex	As per requirement			
PUBLIC UTILITIES						
22	Public Utilities	Fire brigade and allied services	1 in each Planning sector of 1.5 Ha			1.5
23		Disaster management center	As per requirement	as per requirement		
24		Electric crematorium	As per requirement			
25		Burial ground/ Cremation ground	As per requirement			
26		Police station	As per requirement	as per requirement		
27		Sewage Treatment Plant/CETP	As per requirement	as per requirement		
28		Water Treatment Plant	As per requirement			
29		Solid waste managemnt/ Dumping ground	As per requirement			
30		Parking	As per requirement			
PARKS AND OPEN SPACES						
31	Parks and Open Spaces	Park	0.3 Ha per 1000 popu		179918	53.97
32		Play Ground stadiumm/Sports Complex				
33		Multipurpose ground	As per requirement			
34		City Park				

SECTOR- II

The below Table 14.7 shows the land demand detail for Amenities in Sector II, for which the projected population is 246258 from Table 14.7.

Table 14.7 Land Demand for Amenities in Sector II

Sr · No ·	Facilities		Proposed Planning Norms for PMC Sector- II			
			Norms	Remarks	Pop (No)	Total Land Demand (Ha.)
AMENITIES						
1	Educational Facilities	Primary School	0.4 ha per 10170 population		246258	9.69
2		Secondary School	0.4 ha per 10170 population			9.69
3		Play grounds	0.4 ha per 10000 population			
4						
5		Degree colleges	As per requirement			
6		Professional college/ Technical college				
7		University				
8		School for physically challenged	1 for 45000 population, 400 students' site of 5000 sqm	6.45	246258	2.5
9		School for mentally challenged				
Total Area (Ha)			31.73			
10	Health Facilities	Primary Health Centre	0.15 Ha per 25000 popu		246258	1.47
11		Hospital	0.5 Ha per 100000 popu			1.23
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	2 Ha per 250000 popu			1.97
Total Area (Ha)			4.67			
13	Social and Cultural Centres	Community hall/ Town hall	0.2 Ha per 100000 popu		246258	0.49
14		Working women hostel	0.3 Ha per 100000 popu			0.74

15		Other hostels	0.3 Ha per 100000 popu			0.74
16		Auditorium	0.4 Ha per 400000 popu			0.24
17		Central Library	4.00 Ha per 2000000 popu			0.49
18		Cultural and Linguistic centre	0.60 Ha per 100000 popu			1.47
Total Area (Ha)			4.17			
19	Daily bazaar/ market complex	Vegetable market	0.1 Ha per 10000 popu		246258	2.46
20		Fish/ Meat market				
21		Municipal Shopping Complex	As per requirement			
PUBLIC UTILITIES						
22	Public Utilities	Fire brigade and allied services	1 in each Planning sector of 1.5 Ha			1.5
23		Disaster management centre	As per requirement	as per requirement		
24		Electric crematorium	As per requirement			
25		Burial ground/ Cremation ground	As per requirement			
26		Police station	As per requirement	as per requirement		
27		Sewage Treatment Plant/CETP	As per requirement	as per requirement		
28		Water Treatment Plant	As per requirement			
29		Solid waste management/ Dumping ground	As per requirement			
30		Parking	As per requirement			
PARKS AND OPEN SPACES						
31	Parks and Open Spaces	Park	0.3 Ha per 1000 popu		246258	73.87
32		Play Ground stadium/Sports Complex				
33		Multipurpose ground	As per requirement			
34		City Park				

SECTOR- III

The below Table 14.8 shows the land demand detail for Amenities in Sector III, for which the projected population is 186991 from Table 14.8

Table 14.8 Land Demand for Amenities in Sector III

Sr · No ·	Facilities		Proposed Planning Norms for PMC Sector-III			
			Norms	Remarks	Pop (No)	Total Land Demand (Ha.)
AMENITIES						
1	Educational Facilities	Primary School	0.4 ha per 10170 population		186991	7.35
2		Secondary School	0.4 ha per 10170 population			7.35
3 4		Play grounds	0.4 ha per 10000 population			7.48
5		Degree colleges	As per requirement			
6		Professional college/ Technical college				
7		University				
8		School for physically challenged	1 for 45000 population, 400 students' site of 5000 sqm	4.15	186991	2.0
9		School for mentally challenged				
Total Area (Ha)			24.18			
10	Health Facilities	Primary Health Centre	0.15 Ha per 25000 popu		186991	1.12
11		Hospital	0.5 Ha per 100000 popu			0.93
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	2 Ha per 250000 popu			1.5
Total Area (Ha)			3.55			
13	Social and Cultural Centres	Community hall/ Town hall	0.2 Ha per 100000 popu		186991	0.37
14		Working women hostel	0.3 Ha per 100000 popu			0.56

15		Other hostels	0.3 Ha per 100000 popu			0.56
16		Auditorium	0.4 Ha per 400000 popu			0.18
17		Central Library	4.00 Ha per 2000000 popu			0.37
18		Cultural and Linguistic centre	0.60 Ha per 100000 popu			1.12
Total Area (Ha)			3.16			
19	Daily bazaar/ market complex	Vegetable market	0.1 Ha per 10000 popu		186991	1.87
20		Fish/ Meat market				
21		Municipal Shopping Complex	As per requirement			
PUBLIC UTILITIES						
22	Public Utilities	Fire brigade and allied services	1 in each Planning sector of 1.5 Ha			1.5
23		Disaster management centre	As per requirement	as per requirement		
24		Electric crematorium	As per requirement			
25		Burial ground/ Cremation ground	As per requirement			
26		Police station	As per requirement			
27		Sewage Treatment Plant/CETP	As per requirement	as per requirement		
28		Water Treatment Plant	As per requirement			
29		Solid waste management/ Dumping ground	As per requirement			
30			Parking	As per requirement		
PARKS AND OPEN SPACES						
31	Parks and Open Spaces	Park	0.3 Ha per 1000 popu		186991	56.09
32		Play Ground stadium/Sports Complex				
33		Multipurpose ground	As per requirement			
34		City Park				

SECTOR- IV

The below Table 14.9 shows the land demand detail for Amenities in Sector IV, for which the projected population is 205374 from Table 14.9.

Table 14.9 Land Demand for Amenities in Sector IV

Sr · No ·	Facilities		Proposed Planning Norms for PMC Sector-IV Kalamboli			
			Norms	Remarks	Pop (No)	Total Land Demand (Ha.)
AMENITIES						
1	Educational Facilities	Primary School	0.4 ha per 10170 population		205374	8.08
2		Secondary School	0.4 ha per 10170 population			8.08
3 4		Play grounds	0.4 ha per 10000 population			8.21
5		Degree colleges	As per requirement			
6		Professional college/ Technical college				
7		University				
8		School for physically challenged	1 for 45000 population, 400 students' site of 5000 sqm	4.56	205374	2.5
9		School for mentally challenged				
Total Area (Ha)			26.87			
10	Health Facilities	Primary Health Centre	0.15 Ha per 25000 popu		205374	1.23
11		Hospital	0.5 Ha per 100000 popu			1.02
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	2 Ha per 250000 popu			1.64
Total Area (Ha)			3.89			
13	Social and Cultural Centres	Community hall/ Town hall	0.2 Ha per 100000 popu		205374	0.41
14		Working women hostel	0.3 Ha per 100000 popu			0.62

15		Other hostels	0.3 Ha per 100000 popu			0.62
16		Auditorium	0.4 Ha per 400000 popu			0.20
17		Central Library	4.00 Ha per 2000000 popu			0.41
18		Cultural and Linguistic centre	0.60 Ha per 100000 popu			1.23
Total Area (Ha)			3.49			
19	Daily bazaar/ market complex	Vegetable market	0.1 Ha per 10000 popu		205374	2.05
20		Fish/ Meat market				
21		Municipal Shopping Complex	As per requirement			
PUBLIC UTILITIES						
22	Public Utilities	Fire brigade and allied services	1 in each Planning sector of 1.5 Ha			1.5
23		Disaster management centre	As per requirement	as per requirement		
24		Electric crematorium	As per requirement			
25		Burial ground/ Cremation ground	As per requirement	as per requirement		
26		Police station	As per requirement			
27		Sewage Treatment Plant/CETP	As per requirement	as per requirement		
28		Water Treatment Plant	As per requirement			
29		Solid waste management/ Dumping ground	As per requirement			
30			Parking	As per requirement		
PARKS AND OPEN SPACES						
31	Parks and Open Spaces	Park	0.3 Ha per 1000 popu		205374	61.61
32		Play Ground stadium/Sports Complex				
33		Multipurpose ground	As per requirement			
34		City Park				

SECTOR- V

The below Table 14.10 shows the land demand detail for Amenities in Sector V, for which the projected population is 149807 from Table 14.10.

Table 14.10 Land Demand for Amenities in Sector V

Sr · No ·	Facilities		Proposed Planning Norms for PMC Sector-V			
			Norms	Remarks	Pop (No)	Total Land Demand (Ha.)
AMENITIES						
1	Educational Facilities	Primary School	0.4 ha per 10170 population		149807	5.89
2		Secondary School	0.4 ha per 10170 population			5.89
3 4		Play grounds	0.4 ha per 10000 population			6.0
5		Degree colleges	As per requirement			
6		Professional college/ Technical college				
7		University				
8		School for physically challenged	1 for 45000 population, 400 students' site of 5000 sqm	3.32	149807	1.50
9		School for mentally challenged				
Total Area (Ha)			19.28			
10	Health Facilities	Primary Health Centre	0.15 Ha per 25000 popu		149807	0.90
11		Hospital	0.5 Ha per 100000 popu			0.75
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	2 Ha per 250000 popu			1.20
Total Area (Ha)			2.85			
13	Social and Cultural Centres	Community hall/ Town hall	0.2 Ha per 100000 popu		149807	0.30
14		Working women hostel	0.3 Ha per 100000 popu			0.45

15		Other hostels	0.3 Ha per 100000 popu			0.45
16		Auditorium	0.4 Ha per 400000 popu			0.15
17		Central Library	4.00 Ha per 2000000 popu			0.30
18		Cultural and Linguistic centre	0.60 Ha per 100000 popu			0.90
Total Area (Ha)			2.55			
19	Daily bazaar/ market complex	Vegetable market	0.1 Ha per 10000 popu		149807	1.50
20		Fish/ Meat market				
21		Municipal Shopping Complex	As per requirement			
PUBLIC UTILITIES						
22	Public Utilities	Fire brigade and allied services	1 in each Planning sector of 1.5 Ha			1.5
23		Disaster management centre	As per requirement	as per requirement		
24		Electric crematorium	As per requirement			
25		Burial ground/ Cremation ground	As per requirement	as per requirement		
26		Police station	As per requirement			
27		Sewage Treatment Plant/CETP	As per requirement	as per requirement		
28		Water Treatment Plant	As per requirement			
29		Solid waste management/ Dumping ground	As per requirement			
30			Parking	As per requirement		
PARKS AND OPEN SPACES						
31	Parks and Open Spaces	Park	0.3 Ha per 1000 popu		149807	44.94
32		Play Ground stadium/Sports Complex				
33		Multipurpose ground	As per requirement			
34		City Park				

14.8 Sector wise 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 for every sector is mentioned in below tables.

SECTOR- I

The below Table 14.11 shows the demand gap detail for Amenities in Sector I:

Table 14.11 Amenity-wise Demand Gap for Sector I

Sector-1, Estimated population: 179918 Proposed Planning Norms for PMC Sector-1 Panvel & Kalundre Node					
Sr. No.	Facilities		Demand	Existing Amenities	Gap in Amenities
			Required Area (Ha.)	Area (Ha)	Area (Ha)
A	Amenities				
	Educational Facilities				
1		Primary School	7.08	18.87	-4.72
2		Secondary School	7.08		
8		School for physically challenged	2.00		2.00
9		School for mentally challenged			
Total Area (Ha)					
10	Health Facilities	Primary Health Centre	1.08	4.83	-2.85
11		Hospital	0.90		
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	1.44	0	1.44
Total Area (Ha)					
13	Social and Cultural Centres	Community hall/ Town hall/social facility	0.36	1.25	-0.89
14		Hostel	0.54	0	0.54
15		Other hostels	0.54	0	0.54
15		Auditorium	0.18	0.56	-0.38
16		Central Library	0.36	0.04	0.32
18		Cultural and Linguistic center	1.08	0	1.08

Total Area (Ha)					
17	Daily bazaar/ market complex	Vegetable market	1.80	0.2	1.60
18		Fish/ Meat market			
19		Municipal Shopping Complex	As per requirement	0.2	-0.20
Total Area (Ha)					
B	Public Utilities				
20	Public Utilities	Fire brigade and allied services	1.50	0.05	1.45
21		Disaster management center	as per requirement		
22		Electric crematorium		4.66	
23		Burial ground/ Cremation ground			
24		Police station	as per requirement	0.99	
25		Sewage Treatment Plant	as per requirement	1.21	
26		Water Treatment Plant		0.18	
27		Solid waste managemnt/ Dumping ground			
28		Parking		0	
Total Area (Ha)				7.09	
C	Parks and Open Spaces				
29	Parks and Open Spaces	Park	53.98	4.03	49.95
30		Play Ground stadium/Sports Complex			
31		Multipurpose ground	As per requirement		
32		City Park			
Total Area (Ha)				4.03	49.95

SECTOR- II

The below Table 14.12 shows the demand gap detail for Amenities in Sector II:

Table 14.12 Amenity-wise Demand Gap for Sector II

Sector-2, Estimated population: 246258				
Sr. No.	Facilities	Demand	Existing Amenities	Gap in Amenities
		Required Area (Ha.)	Area (Ha)	Area (Ha)
A	Amenities			
	Educational Facilities			
1	Primary School	9.69	16.13	3.24

2		Secondary School	9.69		
8		School for physically challenged	2.74	0.00	2.74
9		School for mentally challenged			
Total Area (Ha)				16.13	5.98
10	Health Facilities	Primary Health Centre	1.48	2.46	0.25
11		Hospital	1.23		
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	1.97	0	1.97
Total Area (Ha)				2.46	2.22
13	Social and Cultural Centres	Community hall/ Town hall/social facility	0.49	0.82	-0.33
14		Hostel	0.74	0.67	0.07
15		Other hostels	0.74	0.36	0.38
15		Auditorium	0.25	0	0.25
16		Central Library	0.49	0	0.49
18		Cultural and Linguistic center	1.48	0	1.48
Total Area (Ha)				6.77	6.77
17	Daily bazaar/ market complex	Vegetable market	2.46	1.48	0.98
18		Fish/ Meat market			
19		Municipal Shopping Complex	As per requirement	0.2	
Total Area (Ha)				1.68	0.98
B	Public Utilities				
20	Public Utilities	Fire brigade and allied services	1.50	0.81	0.69
21		Disaster management centre	as per requirement		
22		Electric crematorium		1.56	
23		Burial ground/ Cremation ground			
24		Police station	as per requirement	0.08	
25		Sewage Treatment Plant	as per requirement	0.52	
26		Water Treatment Plant		2.18	
27		Solid waste management/ Dumping ground			
28		Parking		4.09	
Total Area (Ha)				9.24	0.69

C	Parks and Open Spaces				
29	Parks and Open Spaces	Park	73.88	29.06	39.44
30		Play Ground stadium/Sports Complex		5.38	
31		Multipurpose ground	As per requirement		
32		City Park			
Total Area (Ha)				34.44	39.44

SECTOR- III

The below Table 14.13 shows the demand gap detail for Amenities in Sector III:

Table 14.13 Amenity-wise Demand Gap for Sector III

Sector-3, Estimated population: 186991						
Sr. No.	Facilities	Demand	Existing Amenities	Gap in Amenities		
		Required Area (Ha.)	Area (Ha)	Area (Ha)		
A	Amenities					
	Educational Facilities					
1		Primary School	7.35	10.51	-3.16	
2		Secondary School	7.35			
3						
8		School for physically challenged	2.08		2.08	
9		School for mentally challenged				
Total Area (Ha)				10.51	-1.08	
10	Health Facilities	Primary Health Centre	1.12	0.77	2.78	
11		Hospital	0.93			
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	1.50			
Total Area (Ha)				0.77	2.78	
13	Social and Cultural Centres	Community hall/ Town hall/social facility	0.37	0.49	-0.12	
14		Hostel	0.56	0	0.56	
15		Other hostels	0.56	0		
15		Auditorium	0.19	0	0.19	

16		Central Library	0.37	0	0.37
18		Cultural and Linguistic center	1.12		
Total Area (Ha)				0.49	1.01
17	Daily bazaar/ market complex	Vegetable market	1.87	0.17	1.70
18		Fish/ Meat market			
19		Municipal Shopping Complex	As per requirement	0	
Total Area (Ha)				0.17	1.70
B	Public Utilities				
20	Public Utilities	Fire brigade and allied services	1.50	0	1.50
21		Disaster management center	as per requirement		
22		Electric crematorium			
23		Burial ground/ Cremation ground		0.16	
24		Police station	as per requirement	0.24	
25		Sewage Treatment Plant	as per requirement	4.03	
26		Water Treatment Plant		0.32	
27		Solid waste management/ Dumping ground		0	
28		Parking		0.31	
Total Area (Ha)				5.06	1.50
C	Parks and Open Spaces				
29	Parks and Open Spaces	Park	56.10	10.88	45.22
30		Play Ground stadium/Sports Complex			
31		Play grounds			
32		Multipurpose ground	As per requirement	0	
33		City Park			
Total Area (Ha)				10.88	45.22

SECTOR- IV

The below Table 14.14 shows the demand gap detail for Amenities in Sector IV:

Table 14.14 Amenity-wise Demand Gap for Sector IV

Sector-4, Estimated population: 205374				
Sr. No.	Facilities	Demand	Existing Amenities	Gap in Amenities
		Required Area (Ha.)	Area (Ha)	Area (Ha)
A	Amenities			

	Educational Facilities				
1	Educational Facilities	Primary School	8.08	13.64	2.52
2		Secondary School	8.08		
5					
6					
7					
8		School for physically challenged	2.28	0	2.69
9		School for mentally challenged			
Total Area (Ha)				13.64	5.21
10	Health Facilities	Primary Health Centre	1.23	2.52	-0.26
11		Hospital	1.03		
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	1.64	0	1.64
Total Area (Ha)				2.52	1.38
13	Social and Cultural Centres	Community hall/ Town hall	0.41	0.38	0.03
14		Hostel	0.62	0.45	0.17
15		Other hostels	0.62	0	0.62
15		Auditorium	0.21	0	0.21
16		Central Library	0.41	0	0.41
18		Cultural and Linguistic center	1.23	0	1.23
Total Area (Ha)				0.83	1.11
17	Daily bazaar/ market complex	Vegetable market	2.05	0.36	1.69
18		Fish/ Meat market			
19		Municipal Shopping Complex	As per requirement	0	
Total Area (Ha)				0.36	1.69
B	Public Utilities				
20	Public Utilities	Fire brigade and allied services	1.50	0.67	0.83
21		Disaster management centre	as per requirement	0	0.00
22		Electric crematorium		0	0.00
23		Burial ground/ Cremation ground		1.86	0.00
24		Police station	as per requirement	2.78	0.00
25		Sewage Treatment Plant	as per requirement	1.46	0.00
26		Water Treatment Plant		2.6	0.00

27		Solid waste management/ Dumping ground		0	0.00
28		Parking		0.39	0.00
Total Area (Ha)				9.76	0.83
C	Parks and Open Spaces				
29	Parks and Open Spaces	Park	61.61	10.82	50.79
30		Play Ground stadium/Sports Complex			
31		Multipurpose ground	As per requirement	0	
32		City Park			
Total Area (Ha)				10.82	50.79

SECTOR- V

The below Table 14.15 shows the demand gap detail for Amenities in Sector V:

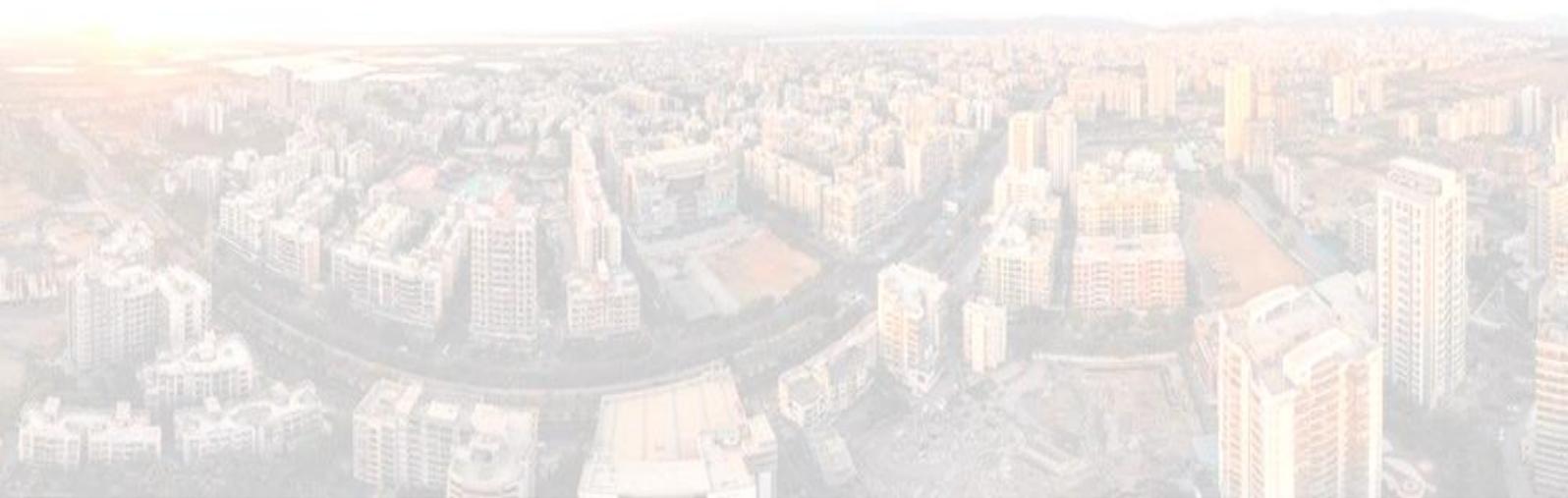
Table 14.15 Amenity-wise Demand Gap for Sector V

Sector 5, Estimated population: 149807					
Sr. No.	Facilities	Demand	Existing Amenities	Gap in Amenities	
			Area (Ha)	Area (Ha)	Area (Ha)
A	Amenities				
	Educational Facilities				
1	Primary School	5.89	4.15	7.63	
2	Secondary School	5.89			
8	School for physically challenged	1.50	0.00	1.50	
9	School for mentally challenged				
Total Area (Ha)					
10	Health Facilities	Primary Health Centre	0.90	0.58	1.07
11		Hospital	0.75		
12		Pandemic Hospital + Isolation Centre/Super Speciality Hospital	1.20	0	1.20
Total Area (Ha)				0.58	2.27
13	Social and Cultural Centres	Community hall/ Town hall/social facility	0.30	0.02	0.28
14		Hostel	0.45	0	0.45
15		Other hostels	0.45	0	0.45

15		Auditorium	0.15	0	0.15
16		Central Library	0.30	0	0.30
18		Cultural and Linguistic center	0.90	0	0.90
Total Area (Ha)				1.18	7.06
17	Daily bazaar/ market complex	Vegetable market	1.50	0	1.50
18		Fish/ Meat market			
19		Municipal Shopping Complex	As per requirement	0	
Total Area (Ha)				0	1.50
B	Public Utilities				
20	Public Utilities	Fire brigade and allied services	1.50	0	1.50
21		Disaster management center	as per requirement	1.33	
22		Electric crematorium			
23		Burial ground/ Cremation ground			
24		Police station	as per requirement	0.02	
25		Sewage Treatment Plant	as per requirement	0.19	
26		Water Treatment Plant			
27		Solid waste management/ Dumping ground		42.15	
28		Parking			
Total Area (Ha)				43.69	1.50
C	Parks and Open Spaces				
29	Parks and Open Spaces	Park	44.94	0.66	44.28
30		Play Ground stadium/Sports Complex			
31		Multipurpose ground	As per requirement		
32		City Park			
Total Area (Ha)				0.66	44.28

CHAPTER 15

VISION, GOALS AND OBJECTIVES



15 VISION, GOALS AND OBJECTIVES

15.1 Vision of the Development Plan

The aim is to cultivate a thriving and inclusive community in Panvel by 2044, prioritizing holistic progress through innovative environmental preservation efforts, infrastructural advancements, and economic empowerment initiatives.

15.2 Goals of the Development Plan

- Promote inclusive growth
- Improve environmental standards
- Enhance transportation infrastructure
- Develop tourism
- Implement efficient strategies
- Engage the community for sustainable progress

15.3 Objectives of the Development Plan

1. Ensure equitable access to social and physical infrastructure.
2. Provide affordable housing options to promote social inclusiveness.
3. Integrate social amenities for the specially-abled into the planning process.
4. Preserve natural areas, mangroves, and salt pans.
5. Expand recreational spaces and leisure parks.
6. Enhance the efficiency of the traffic and transportation network.
7. Encourage the use of public transport, NMT, and pedestrian movements.
8. Conserve heritage structures within the city.
9. Improve the effectiveness of Development Plan implementation through efficient mechanisms like Accommodation Reservation, TDR, FSI, and PPP.

CHAPTER 16

LAND USE ZONING



16 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 land use zoning has been proposed keeping in mind the current and future prospects of PMC. All the zones are based on newly published Unified DCPR.

16.1 Proposed Land Use Zoning

Areas under proposed zone have been arrived after detailed analysis of requirements for projected population. This projected population for year 2044 have been distributed into 5 planning sectors proposed in this plan. This zoning will aid in achieving the vision for PMC. Following are the details of proposed zones.

Table 16.1 Proposed Land Use Zone

Sr. No.	Class	Area (Ha)	Percentage
1.	Residential	2284.89	38%
2.	Commercial	51.27	1%
3.	Industrial	382.43	6%
4.	Public & Semi-Public Zone	264.79	4%
5.	Public Utilities	151.89	2%
6.	Recreational	254.16	4%
7.	Transportation	765.19	13%
8.	Proposed Roads	348.71	6%
9.	Defence	2.36	0%
10.	Agriculture	358.62	6%
11.	Mangroves	608.28	10%
12.	Waterbody	224.93	4%
13.	Forest zone	381.14	6%
Total		6078.71	100%

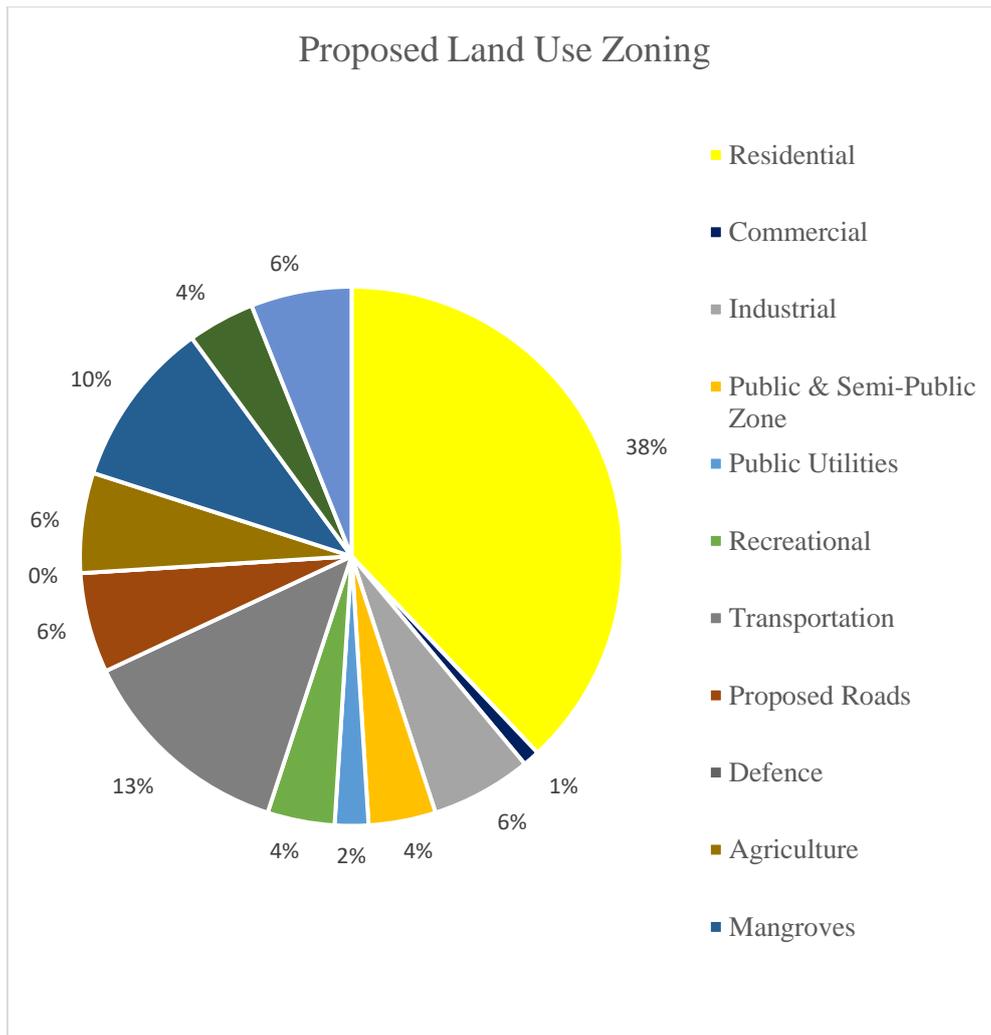


Figure 16.1 Proposed Land Use Zoning

The following mentioned zones are proposed in the Draft Revised DP 2024-2044:

16.2 Residential Zone

The residential zone is generally proposed to accommodate the projected population for the horizon year 2044. 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 2284.89 Ha of land is designated for residential purposes, which is 38% of the total area.

Following things were considered while proposing the Residential Zone for the PMC area:

1. Accommodate the future projected population of 1205532
2. Maintain contiguous development with CIDCO nodes

3. Utilizing proposed key roads to promote transit-oriented development
4. Preserve eco - sensitive environmental features
5. To accommodate the already developed areas growing in unplanned manner
6. Close to social amenities such as school, garden, playgrounds etc.
7. Close to public transit
8. Physiography of the area

16.3 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 51.27 Ha which constitutes 1 % of the total area.

16.4 Industrial Zone

The industrial zone has been proposed with consideration for existing industrial development. In the Draft DP, 382.43 Ha of land is shown as an industrial zone which constitutes 6 % of the total area.

Following things were considered while proposing the Industrial Zone for the PMC area:

1. It is primarily located near Taloja MIDC to create harmony with the existing development
2. It is proposed with reference connecting the subsidiary roads to the existing roads, ensuring good connectivity (Kalyan Road connecting with Panvel)
3. The cognizance to Vasai Virar Multi Modal Corridor
4. According to expanding pattern of the existing development

16.5 Public Semi-Public Zone

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. Amenities have been proposed keeping in mind the requirements calculated for projected population for year 2044. Also, the factor of the Gaothan expansion and the 11 villages of MMRDA which typically lacks in basic amenities were

considered to propose the distribution and lack of facilities in the area. The total area under Public Semi-Public and Public Utilities is 264.79 Ha which is 4 % of the total area.

16.6 Public Utilities

Public utility zone consists of infrastructure required for water supply such as ESR/GSR, sewage /influent treatment plant, electric substation, cemeteries, burial ground and cremation grounds, slaughter house, solid waste landfill / management site, fire station, post, etc. Total area proposed under this zone is 151 .89 hectare which is 2 % of the total area. Some proposals related to waste management is provided at the extension to MIDC Hazardous site. Also, according to the CPCB guidelines of hazardous waste zone, a 500 m buffer is provided around the proposed site.

16.7 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. These spaces help improve the quality of life of the citizens residing in the area. Riverfront development area has also been proposed along the rivers passing through PMC. Green belt is also being proposed in buffer zone given around the hazardous waste zone site near to MIDC area. The reservations for the same are also considered under this zone in the Draft DP. This zone constitutes 4 % of the total area which is 254.16 Ha.

16.8 No Development Zone

In this zone ecologically and environmentally sensitive areas such as land that comes under Forest, Mangroves, 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. Gadhi is the main rivers which passes through Panvel. Taloja and Kasardi are other rivers which also passes through PMC. In addition, there are multiple lakes/ponds available in PMC. Forest land is spread all across PMC predominantly in the 11 MMRDA and non-nodal CIDCO villages area. The total area occupied by this zone is 1214.35 Ha which constitutes 20 % of the total area.

16.9 Transportation

All the transportation related infrastructure are included in this zone. A comprehensive transport network including new roads, widening of existing roads, parking, freight management, provision for metro and bus have been proposed as part of this DP. Panvel has a

good regional connectivity with presence of Mumbai Pune Expressway, NH 4,4C and SH 85/54,103 and Sion Panvel highway. Total area proposed under this zone is 348.71 Ha & 765.19 for Transportation (Parking, Bus depot, Bus Terminal).

16.10 Forest Zone

Along the forest zone many recreational spaced have been proposed. The forest zone is majorly located in the Sector V of MMRDA villages. To maintain the connectivity roads are proposed in the forest area which comprise total area of 17.80 Ha. The total area under forest zone comes up to 381.14 Ha.

CHAPTER 17

UTILITIES AND SERVICES



17 UTILITIES AND SERVICES

17.1 Sewerage Services

Total 9 sites have been proposed for sewerage services in consultation with the department. These sites are located in Panvel, Roadpali, Adivali, Taloje Majkur, Ghot, and Kalundre, as listed in Annexure II, site for tertiary treatment plant.

17.2 Water Works

Total 27 sites have been proposed under water services having total area of 5.9 Ha, based on the demand and in consultation with the department.

17.3 Solid Waste Management

Transfer Station: 2 sites have been proposed based on the requirement.

Material Recovery Facility: 1 site has been proposed.

Construction & Demolition Site: 1 site has been proposed.

Biofuel Plant: 1 site has been proposed.

17.4 Public Utility

56 sites have been proposed for public utility services in PMC area.

17.5 Crematorium & Burial Ground

Based on the necessity for the proposed population, a total of 20 sites are proposed in the Draft Revised Development Plan. As per the space standards, the total land provision for the same is 4.6 Ha. These reservations are listed in Annexure II.

17.6 Fire Station

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 5 sites having a total area of 4.7 Ha, are proposed for fire brigade stations and their allied services.

17.7 Electric Substation:

Considering the requirement of Electric substation site, 2 sites are proposed for area 1.82 Ha in Sector V.

The reservation detail under each category is shown in Annexure II.

CHAPTER 18
EDUCATION, HEALTH, AND
SOCIAL AMENITIES



18 EDUCATION, HEALTH, AND SOCIAL AMENITIES

18.1 Introduction

A Development Plan additionally targets developing surroundings to allow the citizens to experience a good 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.

18.2 Education

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 18.1. The amenities can be decided as per the requirement in the particular neighbourhood.

The following is the list of reservations under Educational Amenities.

Table 18.1 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

In the Development Plan, a total of 44 reservations are proposed for the educational amenities. Hence, the total land provision for the same is 21.58 Ha. The reservation details are given in

the Annexure II. If more sites are essential in the newly opened-up area for development, a requirement can be met through the regulation of amenity space.

18.2.1 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.

18.3 Health

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 18-2. As per the requirement in the particular neighbourhood amenity can be developed.

The following is the list of reservations for Health amenities.

Table 18.2 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 45 reservations are proposed considering the standard area requirements for the health amenities. 32 locations have been proposed for medical-related amenities. 1 veterinary hospital has been proposed & 12 location for health facility. Hence, the total land provision for the same is 20.65 Ha.

18.3.1 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.

18.4 Other Social Amenities

- 1) **Slaughter House:** 1 site is proposed considering the demand. These reservations are listed in Annexure. Hence, the total land provision for the same is 2.04 Ha in Sector V.
- 2) **Community Centre:** Considering the future need, 20 community centres have been proposed, with 2 of them including libraries.
- 3) **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 2 reservations for the school for specially-abled people is proposed having an area of 0.72 Ha, in Sector III & V.
- 4) **Municipal Offices/ Municipal Purposes:** On the basis of demand 21 locations have been proposed for municipal offices and municipal purposes.
- 5) **Post Office:** 1 site is proposed considering the demand. The land provision for the same is 0.4 Ha in Sector IV.
- 6) **Municipal Market:** 65 sites has been proposed in order to cater the future demand comprising total area of 10.7 Ha.
- 7) **Health Club & Gymnasium:** 3 site is proposed considering the demand. The total land provision for the same is 0.19 Ha.

18.5 Shelter-Based Social Amenities

1) Working Women Hostel:

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.

Hence, considering the standards and future requirements 1 plot of 0.122 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) **Hostel:** 8 hostels has been proposed having a total area of 2.0 Ha.

3) Old Age Home:

The Draft DP proposes 3 Old Age Homes, preferably near hospitals and gardens 0.40 Ha area is reserved under this reservation.

4) Housing for Dis-housed:

Reservation of housing for dis-housed is provided for the persons affected by the projects of the Government. 4 number sites are proposed for this reservation. Hence, the total area reserved for housing for dis-housed is 2.78 Ha.

5) Housing for EWS/LIG

2 sites have been proposed for housing for EWS/ LIG/ MIG with total area of 6.65 Ha.

CHAPTER 19
PUBLIC OPEN SPACES,
RECREATION & LEISURE
AMENITIES



19 PUBLIC OPEN SPACES, RECREATION & LEISURE AMENITIES

19.1 Introduction

Public Open Spaces (POS) are indispensable components of the urban fabric, serving as vital counterbalances to built environments. They function as the city's "lungs," enhancing air quality and providing essential green spaces. POS contribute significantly to the quality of life by offering opportunities for social interaction, recreation, and physical activity. These spaces foster community cohesion, support public health initiatives, and provide essential respite from the demands of urban living. By offering venues for leisure and recreation, POS facilitate bonding and enjoyment among friends, families, and the wider community.

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

Public Open Spaces (POS) are defined as areas accessible to the general public with universally applicable rights of access, subject to potential restrictions. This encompasses traditional public spaces such as parks and squares, as well as community-oriented spaces like residential society grounds. While facilities such as swimming pools and gymkhanas, often accessed through membership, are typically considered private, for the purposes of Development Plans (DP), they are classified as POS due to their significant public usage.

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

All lands designated as Natural Areas are classified as Open Spaces. However, to be considered a Public Open Space (POS), these areas must be accessible to a significant portion of the population. Conversely, open spaces exclusively accessible to a single family unit, such as private bungalows, are classified as Private Open Spaces and do not fall under the POS category.

19.2 Public Open Spaces, Recreational and Leisure Amenities

While proposing the sites under this category, max. site was identified to be as Government land which will reduce the cost of acquisition.

Green Spaces:

- **Gardens:** To accommodate the projected population of 2034, the Development Plan proposes 57 new garden sites, adding 44.8 hectares to the existing green spaces.
- **Parks:** A total of 33 park sites, covering 21.79 hectares, are planned to meet the recreational needs of the anticipated population.

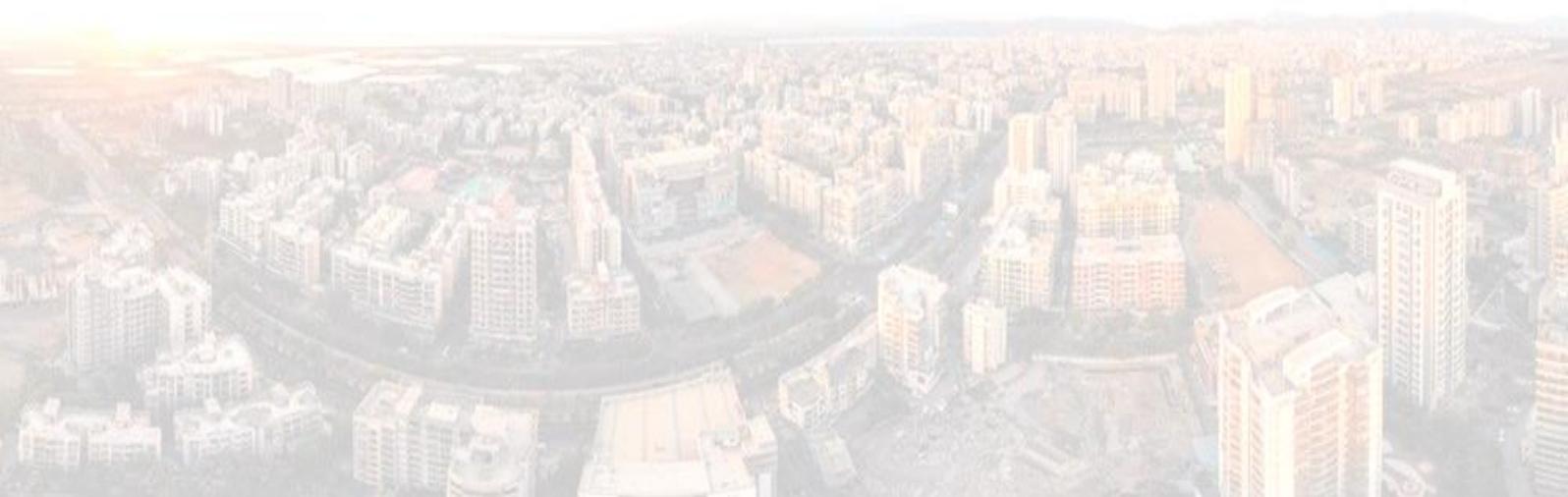
- **Playgrounds:** Recognizing the importance of playgrounds for child development, 55 new sites encompassing 52.70 hectares are proposed.
- **Sports Complex:** Three sports complexes, totaling 3.03 hectares, will be established to provide year-round exercise opportunities for residents.
- **Mangrove Park:** A mangrove park (8.08 Ha) is proposed to safeguard the coastal ecosystem, raise awareness about its importance, and attract tourism.
- **River front:** A 5.89-hectare riverfront development site is proposed for Sector V. Riverfronts offer recreational, ecological, and economic benefits to urban areas.

Cultural and Recreational Facilities:

- **Auditoriums:** Five new auditorium sites with a combined area of 2.14 hectares are planned to cater to the city's growing cultural needs.
- **Other Facilities:** The development includes five cultural and linguistic centers, one art institute, one adventure and amusement park, one park, science, and exhibition center (5.90 hectares),
- **Conventional Center:** A 1.68-hectare conventional center in Sector V will serve as a hub for conferences, exhibitions, and events.

CHAPTER 20

TRANSPORTATION



20 TRANSPORTATION

20.1 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 Panvel 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.

20.2 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 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.

20.2.1 New DP Roads

To facilitate improved connectivity and integrated development within the designated residential zones outlined in the Draft Development Plan, a new road network has been proposed for Panvel City. Table 20-1 provides a comprehensive overview of both existing and proposed roads within the city.

Table 20.1 Summary of Proposed DP Roads

Sr.No	RoW	Length (Km)
1	6	3.74
2	7	0.19
3	8	0.25
4	9	8.07
5	10	1.09
6	11	0.86
7	12	26.34
8	15	36.39
9	18	27.34
10	20	1.27
11	21	2.54
12	24	46.72

Sr.No	RoW	Length (Km)
13	30	11.41
14	36	0.34
15	35	3.03
16	45	10.44
17	49	0.10
18	60	5.98
Total		186.4

20.2.2 East West Connectivity across Railway Line

Currently, there is only one rail over the bridge connecting eastern Panvel to the west. The Draft DP has proposed 4 linkages across the railway line to connect east-west connectivity near Taloja Railway 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.

20.3 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.

20.3.1 Metro Network

Panvel shall be benefitted from the Metro lines proposed by MMRDA and railway connectivity to the surrounding area. There is an existing Navi Mumbai Metro line 1, running from Belapur to Taloja that passes through the Panvel. The proposed Metro line 12 (Taloja- Kalyan) passes through the Panvel region, connecting the 11 MMRDA villages. The area affected under Panvel by Metro line 12 has three metro stations with a length on a 5.52 km metro line. The three metro stations are Turbhe Metro Station, Pesarve Depot Metro Station, and Pesarve Metro Station.

Table 20.2 Proposed Metro Rail Routes under Panvel

Sr. No.	Metro Line	Route	Length (km)	Status
1	Mumbai Metro Line 12	Taloja to Kalyan	5.52	Proposed

20.3.2 Train Connectivity

PMC is served by the suburban rail network, encompassing stations such as Khandeshwar, Mansarovar, and Kharghar on the Thane-Vashi line and Kalamboli, Navde Road, and Taloja on the Indian Rail network. Both lines converge at Panvel station, extending towards Goa in the south and Vasai in the northwest within PMC limits.

20.3.3 Public Bus Transport

Strategic location for the bus terminus has been proposed in the draft DP so that it act as a feeder system for people who have their destination in Mumbai or for the people who come to Panvel city. The proposed sites are devised in a way that it will extend the connectivity to railways, NH and metro. All the proposals are proposed over Government land. A bus depot and 4 bus terminals have been proposed in Sector V, whereas 2 bus terminal and depot are proposed in Sector II for the PMC area. Total 7 locations have been proposed to meet future travel demand in the city.

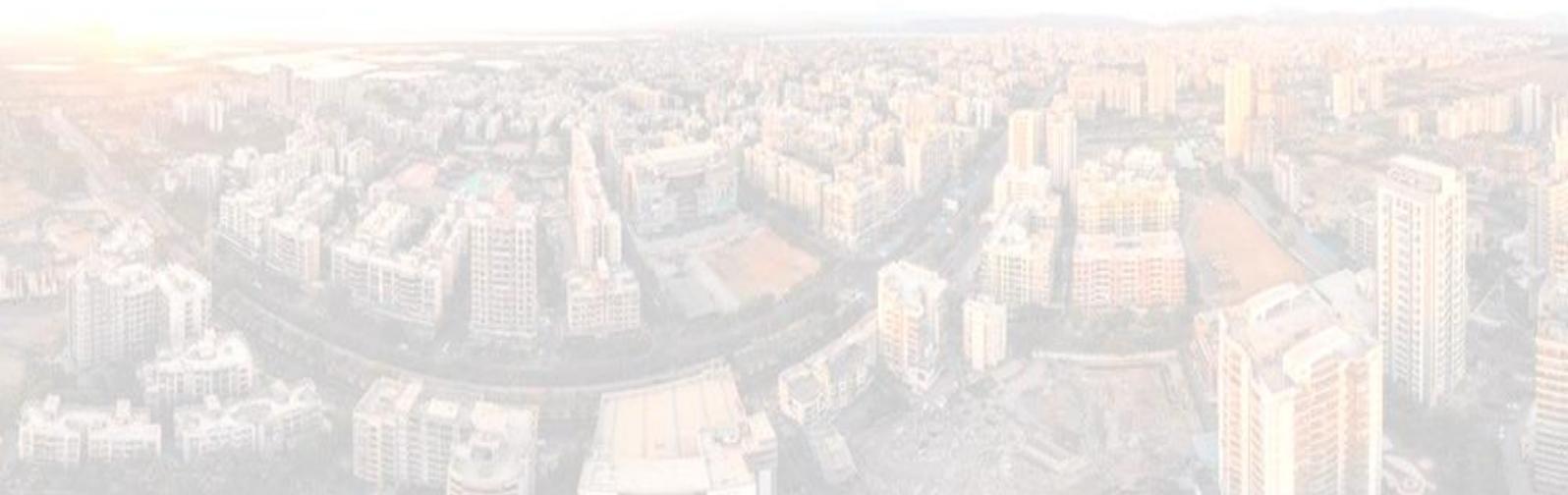
20.4 Parking

Rapid urbanization and increasing vehicle ownership in India's metropolitan areas have led to a persistent parking shortage. To mitigate this growing challenge, the Draft Development Plan (DP) proposes the creation of off-street parking facilities. Strategic sites have been identified and reserved to accommodate projected parking demands up to the year 2034. These designated areas are primarily situated along major thoroughfares, in proximity to commercial hubs, and near public amenities.

20.5 Truck Terminals

For the efficient logistics management, reducing urban congestion, and supporting smooth movement of goods a dedicated area for Truck should be provided at city level. Considering the logistic needs of proposed new industrial zone, Vasai- Virar Multi Modal Corridor and the subsidiary connection of Kalyan and Panvel, 3 sites of Truck Terminals are proposed in Sector II and Sector V of DP.

CHAPTER 21
STRATEGY FOR
IMPLEMENTATION



21 STRATEGY FOR IMPLEMENTATION

21.1 Background & Overview

PMC has undertaken the task of preparation of Development Plan (DP) under Maharashtra Regional and Town Planning Act (MRTP) Act, 1966 for the next 20 years and declared intention to prepare Revised and Comprehensive New Draft Development Plan under vide notice no. PMC/TPO/ADTP/3007/2019 dated 09/09/2019 in Maharashtra Government Gazette. Thereby the performance or success in the implementation of this first-generation DP shall be evaluated accordingly.

21.2 The Assessment of Implementation

A comprehensive evaluation of the first-generation Development Plan (DP) necessitates a thorough examination of the prevailing socio-economic and administrative conditions during its implementation. Key factors influencing the DP's effectiveness include:

- **Rapid Economic Transformation:** The transition from a primarily agrarian economy to an industrialized and subsequently service-oriented one exerted immense pressure on urban infrastructure and resources.
- **Demand-Supply Imbalances:** The burgeoning population, coupled with limited housing affordability, exacerbated the issue of unauthorized development and encroachments.
- **Multi-Agency Coordination:** The involvement of multiple regulatory bodies resulted in overlapping jurisdictions, and inconsistent enforcement.

A critical analysis of these challenges is essential to inform the development of strategies for the successful implementation of the second-generation DP (2044). By understanding the root causes of past shortcomings, policymakers can devise more effective and sustainable urban development plans.

21.3 The strategy for Implementation:

To effectively implement 21st-century development plans (DPs) for metropolitan areas and towns, a paradigm shift from conventional methods is imperative. City leaders, including mayors, administrators, elected officials, and regulatory bodies, must adopt innovative and progressive strategies that prioritize the needs of citizens, the environment, and the city's

overall well-being. To achieve this, implementation strategies can be broadly categorized into three key areas that can be implemented independently, concurrently, or in combination.

21.3.1 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.

21.3.2 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.

21.3.3 The Reformative Approach

This is the need of the time to identify judicially 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 texted stakeholders can be brought in for the operational efficiency of the concession period or some other model for sustainable results.

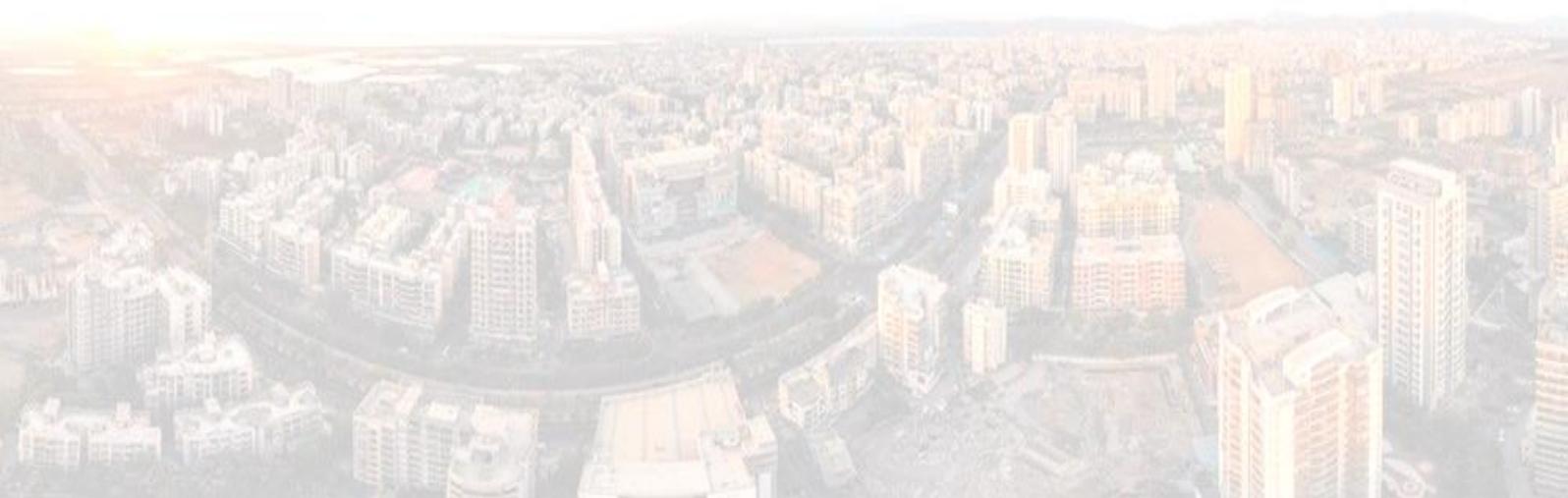
The Government of India through the Department of Economic Affairs (DEA) has very meticulously evolved various PPP models, their suitability in various sectors, transaction advisory global impanelled agencies available for structuring the projects, and their successful financial closure. This is available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

21.3.4 The Timeline Mandate

The three proposed implementation approaches should be customized to suit individual planning proposals within the Development Plan 2034. This will enable the creation of detailed timelines with sufficient flexibility to accommodate unforeseen challenges. A comprehensive implementation strategy, including these timelines, requires formal approval from the competent authority to establish legal binding obligations for the executing agency. By imposing clear deadlines and performance metrics, this approach fosters transparency, accountability, and incentivizes efficient execution while reducing discretionary powers.

CHAPTER 22

FINANCE



22 FINANCE

The Draft Revised Development Plan is prepared for the horizon year containing land use zoning proposals for the projected population 1434000 for the year 2044. The plan period is 2024-2044. This development plan will act as a blueprint for the city's development over the next 20 years, with a planning horizon extending to 2044.

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 Panvel 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 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 different 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. 2 and 3 need to be more effective and profitable. The implementation success will mainly depend upon these two tools.

22.1 Cost of Development Plan Proposals

The cost required for the various proposals of Development Plan has been worked out in Annexure II. The cost calculations are done on the basis of the rates given in the Annual Statement of Rates of Registration department. The cost of implementation of DP has two parts. First is the cost required for acquisition of land and secondly being the development/ construction cost. The approximate cost of land acquisition of all the sites for implementing the Development Plan works out to be Rs. 1678 crores. Whereas the cost required for the development / construction envisaged in these areas is Rs. 3190 crores. Hence, approximately the total cost of acquisition and development of the sites, to the planning authority will be around Rs. 4867 Crores. The approximate land acquisition and construction cost of roads and other relate work will be around Rs. 2491crores. The total cost of the plan, will be around Rs. 7358.5 crores.

22.2 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%.

Table 22.1 Implementation through TDR

Reservation		
Cost of acquisition to be waived	40% of 1678 Crores	= Rs. 671 Crores
Cost of development / construction to be waived	20% of 3190 Crores	= Rs. 638 Crores
Roads		
Cost of acquisition and development to be waived	70% of 2491 Crores	= Rs. 1743 Crores
Total Cost to be waived by this tool		= Rs. 3052 Crores

22.3 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:

Table 22.2 Implementation through AR Policy

Cost of acquisition to be waived	25% of 1678 Crores	= Rs. 419.4 Crores
Cost of development / construction to be waived	25% of 3190 Crores	= Rs. 797.4 Crores
Total Cost to be waived by this tool		= Rs. 1217 Crores

22.4 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:

Table 22.3 Implementation through T.P. Scheme

Reservation		
Cost of acquisition to be waived	10% of 1678 Crores	= Rs. 167.8 Crores
Cost of development/ Construction to be waived	-	-
Roads		
Cost of acquisition to be waived	10% of 2491.07 Crores	=Rs. 249.1 Crores
Total Cost to be waived by this tool		=Rs. 416.9 Crores

22.5 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.

Table 22.4 Implementation through Monetary Compensation

Reservation		
Cost of acquisition to be waived	25% of 1678 Crores	= Rs. 419.4 Crores
Cost of development/ Construction to be waived	55% of 3190 Crores	= Rs. 1754.4 Crores
Roads		
Cost of acquisition to be waived	40% of 2491 Crores	= Rs. 498.2 Crores
Total Cost to be waived by this tool		= Rs. 2672.05 Crores

22.6 Implementation through resource mobilization

1. Development charges

The development charges are to be levied as per section 124(A) of the Maharashtra Regional and Town Planning Act, 1966 for development permissions.

The charges collected under this section for the preceding years i.e. Rs 10.63 Cr for FY20-21, Rs 38.9 Cr for FY21-22, Rs 43.70 Cr for FY22-23 & Rs 43.02 Cr for FY 23-24. This average amount of Rs. 34 crores can also be utilised for the implementation.

2. Premium charges

Unified DCRP has provision of additional FSI with payment of premium to the tune of 0.5. Rate of premium FSI shall be 35% of the rate of the land in annual statement of rates. This provision will not only give impetus to the development but will also create funds for infrastructure development. It is expected that the amount generated by this resource will be to the tune of Rs.30 cores per year and will increase year by year. This can be used for augmentation of infrastructure and implementation of Development Plan.

3. Ancillary FSI charges

An innovative concept of Ancillary FSI has been introduced in the unified DCPR. In addition to all the FSI mentioned in unified DCPR, ancillary area FSI upto the extent of 60% of the proposed FSI in the development permission (including Basic FSI, Premium FSI, TDR but excluding the area covered in Regulation No.6.8) shall be allowed with the payment of 10 % rate of premium at the rate on the land rate in Annual Statement of Rates of the said land. This shall be applicable to all buildings in

all zones. Provided that in case of non-residential use, the extent of ancillary area FSI shall be upto 80%. It is expected that the amount generated by this resource will be to the tune of Rs.20 cores per year and will increase year by year. This can be used for augmentation of infrastructure and implementation of Development Plan.

4. Other charges

Other charges like scrutiny fees, building permission related charges etc. will also generate good amount which can be used of DP implementation

5. Implementation by public participation

It is possible that instead of shouldering entire burden of creation and maintenance of amenity by the Corporation, this work may be entrusted to willing private institutions which are engaged in similar activities. The modalities can be worked out for such a venture. Amenities like garden, road street furniture etc. may also be developed under this concept.

Reserving 20% of the municipal income, in normal course, may be difficult. However, new avenues which are opened for resource generation will definitely enable the corporation to spare 20% of fund for implementation of Development Plan.

All these measures will lead to successful implementation of Development Plan.

22.7 Need for Monitoring

At present implementation of Development Plan is not monitored by separate cell though, it is of utmost importance. Creation of better amenities through Development Plan enhances the quality of the life of the citizens. Therefore, this aspect needs to be taken seriously. The aspects like types of amenities to be created immediately, course of action to be adopted for acquisition and development of reserved land, selection of the new road linkages to be taken on priority, augmentation of resources, etc. need to be monitored frequently and for that purpose a devoted cell is required on permanent basis and shall be created under administrative control of Town planning department.

22.8 Programming

A phased program for implementation of reservations in the Development Plan for the various civic amenities is mentioned in Annexure IV. 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.

22.9 Conclusion

Panvel is one of the most important and fastest growing cities in Maharashtra. The development potential of Panvel 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: Deviation Statement

Sr. No.	Reservation No	Purpose of Reservation	Village Name	Area (Sqm)	New Reservation Number	Area (Ha)	Proposals in Draft Revised DP	Survey No. / CTS / Plot No.	Remark
1	1	Playground	Panvel	34186	I-2	3.41	Playground	FP 538 A	Retained as Play Ground
2	2	Primary School and Playground	Panvel	5184	I-3	0.5	Educational Amenity	FP 538 B	Retained as Educational Amenity
3	3	Municipal Water Supply Scheme	Panvel	887			-	FP 18	Developed
4	4	Beautification of Wadale Tank	Panvel	126343.07	I-24	1.89	Garden	125	Partly Retain as Garden
5	5	Income Tax Department Office and Staff Quarters	Panvel	1268.36			-	90	Developed as Law and Judiciary Department Staff Quarters
6	6	Site for Law and Judiciary Staff Quarters	Panvel	6504.83			-	91,92	Developed
7	7	Playground	Panvel	4567				79,80	Deleted
8	8	B & C Office and Staff Quarters	Panvel	3191.57	I-22	0.3	Housing for dishoused	81	Retained as Gov Office
9	9	Garden	Panvel	5875			-	746 (Part)	Developed
10	10	Shopping Centre, Maternity Home and Dispensary	Panvel	3225	I-7	0.33	Municipal Market	481 (Part), 482 (Part)	Retained as Municipal Market
11	11	Playground	Panvel	8559.6	I-8	0.74	Playground	481 (Part), 482 (Part), 483 (Part)	Retained as Playground
12	12	Primary School and Highschool	Panvel	8064	I-9	0.5	Parking	481 (Part), 483 (Part)	Partly developed as educational amenity Partly Retain as Parking
13	13	Extension to Childrens Playground	Panvel	572	I-21	0.06	Garden	31	Proposed as a Garden
14	14	Shopping Centre	Panvel	887				50	Developed
15	15	Beautification of Devale Tank and Garden	Panvel	14177				49	Developed

Panvel Municipal Corporation, Revised & Comprehensive Development Plan: 2024-2044

Sr. No.	Reservation No	Purpose of Reservation	Village Name	Area (Sqm)	New Reservation Number	Area (Ha)	Proposals in Draft Revised DP	Survey No. / CTS / Plot No.	Remark
16	16	Children's Playground	Panvel	323	I-25	0.03	Graden	639, 641 (CTS No)	Retained as Garden
17	17	Parking	Panvel	345		0.03		184/1 (Part)	Developed
18	18	Municipal Shops	Panvel	450				184/1 (Part)	Developed
19	19	Library and Children's Playground	Panvel	322	I-29	0.03	Garden	162	Retained as Garden
20	20	Gymnasium	Panvel	185	I-30	0.02	Health Club & Gymnasium	166	Retained as Health and Gymnasium
21	21	Garden	Panvel	1052			-	181	Developed
22	22	Municipal Market	Panvel	3882	II -E-47	1.1		397	Retained as Municipal Shopping Complex & Parking
23	23	Children's Playground	Panvel	979	I-19	0.09	Garden	280 CTS No.	Retained as Garden
24	24	M.C. Education Office	Panvel	233	I-26	0.02	Municipal Purpose	695,697(Part)	Retained as Municipal Purpose
25	25	Beautification of Krushnale Tank and Garden	Panvel	13824				248(Part)	Developed
26	26	Parking	Panvel	460				248(Part)	Developed
27	27	Shopping Plot	Panvel	3738				247 (Part)	Developed
28	28	Town Hall and Community Centre	Panvel	11333				248 (Part)	Developed
29	29	Shopping Centre and Parking	Panvel	3470	I-28	0.15	Parking	241	Partly retained as Parking
30	30	Parking	Panvel						
31	31	Parking & Hawkers Zone	Panvel						
32	32	Primary School and Playground	Panvel	4194	I-35	1.64	Educational Amenity & Playground	415 (Part)	Retained as Educational Amenity & Play Ground
33	33	Dispensary	Panvel	1287	I-34	0.13	Dispensary	415 (Part)	Retained as Medical Amenity

Panvel Municipal Corporation, Revised & Comprehensive Development Plan: 2024-2044

Sr. No.	Reservation No	Purpose of Reservation	Village Name	Area (Sqm)	New Reservation Number	Area (Ha)	Proposals in Draft Revised DP	Survey No. / CTS / Plot No.	Remark
34	34	Highschool and Playground	Panvel	11728	I-35	1.64	Educational Amenity	415 (Part)	Retained as Educational Amenity
35	35	Shopping Centre	Panvel	3942	I-36	0.4	Municipal Market	415 (Part)	Retained as Municipal Market
36	36	Extension to Primary School	Panvel	1955					Deleted
37	37	Cremation Ground	Panvel	1371			-	451	Developed
38	38	Park	Panvel	11000	I-41	0.26	Community Centre and Library	499, 500	Partly Retained as Community Centre and Library
39	39	Cremation Ground	Panvel	3730			-	506	Developed
40	40	Primary School and Playground	Panvel	7188	I-39	0.63	Educational Amenity	273	Retained as Educational Amenity
41	41	Garden	Panvel	5335	I-38	0.44	Garden	273 A	Retained as Garden
42	42	Burial Ground	Panvel	4057			-	262	Developed
43	43A	Fish, Mutton Market and Slaughter House	Panvel	6907			-	261 (Part)	Developed
	43B	Dispensary and Parking	Panvel				-	261 (Part)	Developed
44	44	M.C. Water Supply Scheme	Panvel	1071			-	66A,68,69,70,70/1	Deleted
45	45	Housing for Dishoused	Panvel	7258		0.72		508 (part)	Developed
46	46	Slaughter House	Panvel	1014			-	508 (part)	Deleted
47	47	Primary School and Playground	Panvel	5990	I-18	0.65	Educational Amenity	508 (part)	Earlier reservations are relocated as per regulation no. 3.11 of UDCPR in Final Plot No 508 p
48	48	Dispensary	Panvel	1982	I-16	0.2	Medical Amenity	508 (part)	Earlier reservations are relocated as per regulation no. 3.11 of UDCPR in Final Plot No 508 p

Panvel Municipal Corporation, Revised & Comprehensive Development Plan: 2024-2044

Sr. No.	Reservation No	Purpose of Reservation	Village Name	Area (Sqm)	New Reservation Number	Area (Ha)	Proposals in Draft Revised DP	Survey No. / CTS / Plot No.	Remark
49	49	Shopping Centre	Panvel	1498	I-17	0.15	Municipal Market	508 (part)	Earlier reservations are relocated as per regulation no. 3.11 of UDCPR in Final Plot No 508 p
49	49A	School for Mentally Retarded and Handicapped Students	Panvel	1700	I-15	0.28	specially abled children (Educational Amenity)	508 (part)	Earlier reservations are relocated as per regulation no. 3.11 of UDCPR in Final Plot No 508 p
50	50	Rehabilitation of Slum	Panvel	89460	I-10 (P)	1.62	Ext to. Sewerage Services	520 P	Partly retained Ext to. Sewerage Services
					I-12	3.1	Play ground	508 P	Proposed as Garden
					I-14	1.1	Burial Ground	508 P	Proposed as Burial Ground
					I-13	1.04	Cremation Ground	508 P	Proposed as Cremation Ground
					I-15	0.3	specially Abled children (Educational Amenity)	508 P	Retained as specially abled Educational Amenity
					I-16	0.2	Medical Amenity	508 P	Retained as Medical Amenity
					I-17	0.15	Municipal Market	508 P	Retained as Municipal Market
					I-18	0.65	Educational Amenity	508 P	Retained as Educational Amenity
51	51	Extension to Court	Panvel	4510	I-11	0.47	Open Space	520 p	Partly retained Open Space
52	52	Municipal Staff Quarters	Panvel	4227	I-10 (P)	1.62	Ext to. Sewerage Services	520 P	Partly retained Ext to. Sewerage Services
53	53	Housing for Dishoused	Panvel	1004	I-33	0.17	Housing for Dishoused	307A	Retained as Housing for Dishoused
54	54	Garden	Panvel	460			-	61A	Developed
55	55	Market and Shopping Centre	Panvel	3792			-	250	Developed
56	56	Beautification of Israil Tank and Garden	Panvel	21437.19				207, 209	Developed

Annexure II: Statement Showing List of Reservations for Amenities and their Cost of Acquisition and Development in Draft Revised Development Plan

Sr. No	Reserv ation No	Purpose	Planning Sector	Village /CIDCO Node	Survey No., Nodal Plot No, Final Plot No.	Sector No (CID CO)	Area (Sq.M)	Cost of acquisition	Cost of development	Land Owner ship	Acquiring Authority
1	I-1	Parking	1	Panvel	F.P.No-10		419.7		1117294.6	PMC	PMC
2	I-2	Playground	1	Panvel	F.P.No-538/A		34186.0		91003132.0	PMC	PMC
3	I-3	Educational Amenity	1	Panvel	F.P.No-538/B		5184.0		151797888.0	PMC	PMC/Institute
4	I-4	Park	1	Panvel	S.No.486(p)		11995.6	513412536	31932340.4	Pvt	PMC
5	I-5	Municipal Purpose	1	Panvel	S.No.486(p)		4938.2	211355816	144600958.0	Pvt	PMC
6	I-6	Municipal Market	1	Panvel	S.No.486(p)		1167.8	49983552	3108790.1	Pvt	PMC
7	I-7	Municipal Market	1	Panvel	S.No.482(p), 481(p)		3321.8	166089601	8842610.4	Pvt	PMC
8	I-8	Playground	1	Panvel	S.No.481(p),482(p), 483(p)		8559.6	427980740	22785694.6	Pvt	PMC
9	I-9	Parking	1	Panvel	S.No.483(p),481(p)		4939.4	246971578	13148766.8	Pvt	PMC
10	I-10	Ext to. Sewerage Services	1	Panvel	F.P.No-520		16190.5		215495200.7	Govt	PMC
11	I-11	Open Space	1	Panvel	F.P.No-520A		4000.0		10648000.0	Govt	PMC
12	I-12	Playground	1	Panvel	F.P.No-508/G(p), 520(p)		39834.8		106040317.5	Govt	PMC
13	I-13	Cremation Ground	1	Panvel	F.P.No-508/G(p)		4370.1		11633206.2	Govt	PMC
14	I-14	Burial Ground	1	Panvel	F.P.No-508/G(p)		8190.1		21802152.7	Govt	PMC
15	I-15	Educational Amenity	1	Panvel	F.P.No-508/G(p)		2871.1		84072822.4	Govt	PMC/Institute

Panvel Municipal Corporation, Revised & Comprehensive Development Plan: 2024-2044

Sr. No	Reserv ation No	Purpose	Planning Sector	Village /CIDCO Node	Survey No., Nodal Plot No, Final Plot No.	Sector No (CID CO)	Area (Sq.M)	Cost of acquisition	Cost of development	Land Owner ship	Acquiring Authority
16	I-16	Medical Amenity	1	Panvel	F.P.No-508/G(p)		2139.9		62659211.9	Govt	PMC
17	I-17	Municipal Market	1	Panvel	F.P.No-508/G(p)		1522.5		4052765.5	Govt	PMC
18	I-18	Educational Amenity	1	Panvel	F.P.No-508/G(p)		6532.0		191270024.0	Govt	PMC/Institute
19	I-19	Garden	1	Panvel	CTS No-280		979.0	26041400	2606098.0	Pvt	PMC
20	I-20	Community Centre	1	Panvel	F.P.No-35		2041.1	102054171	59767004.8	Govt	PMC
21	I-21	Playground	1	Panvel	F.P.No-31 (p)		572.0	24481600	1522664.0	Pvt	PMC
22	I-22	Housing For Dishoused	1	Panvel	F.P.No-81		3191.6		178415146.1	PMC	Govt
23	I-23	Municipal Market	1	Panvel	F.P.No-85A		1719.0		4575978.0	Govt	PMC
24	I-24	Garden	1	Panvel	F.P.No-125		18884.9		50271666.0	PMC	PMC
25	I-25	Garden	1	Panvel	CTS No-639, 641		323.0		859826.0	PMC	PMC
26	I-26	Municipal Purpose	1	Panvel	CTS No-695		233.0	11137400	6822706.0	Govt	PMC
27	I-27	Shopping Center and parking	1	Panvel			1877.8		54985739.6	Govt	PMC
28	I-28	Parking	1	Panvel	F.P.No-241(p)		1558.6		4148909.6	PMC	PMC
29	I-29	Garden	1	Panvel	F.P.No-162(p)		322.0		857164.0	PMC	PMC
30	I-30	Health Club & Gymnasium	1	Panvel	F.P.No-166(p)		185.0		5417170.0	PMC	PMC
31	I-31	Parking	1	Panvel	F.P.No-188(p)		3522.5		9376974.9	PMC	PMC

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32	I-32	Municipal Purpose	1	Panvel	F.P.No-188(p)		4085.5		119631611.0	PMC	PMC/Institute
33	I-33	Housing for Dishoused	1	Panvel	F.P.No-307/A		1004.0		56125608.0	PMC	PMC
34	I-34	Medical Amenity	1	Panvel	F.P.No-415C		1314.0		38476548.0	PMC	PMC
35	I-35	Educational Amenity & Playground	1	Panvel	F.P.No-415, 415B		15922.0			PMC	PMC/Institute
36	I-36	Municipal Market	1	Panvel	F.P.No-415A		3942.0		10493604.0	PMC	PMC
37	I-37	Medical Amenity	1	Panvel	F.P.No-291		3572.1	172889340	104598050.8	Govt	PMC
38	I-38	Garden	1	Panvel	F.P.No-273A		5335.0		14201770.0	PMC	PMC
39	I-39	Educational Amenity	1	Panvel	F.P.No-273		7188.0			PMC	PMC/Institute
40	I-40	Garden	1	Panvel	F.P No. 489		5971.0	253170400		PMC	PMC/Institute
41	I-41	Community Centre & Library	1	Panvel	F.P.No-500,499		2624.5		76849952.9	PMC	PMC
42	I-42	Cremation Ground	1	Kalundre	S.No.98/2(p)		781.6	7659861	2080668.4	Pvt	PMC
43	I-43	Burial Ground	1	Kalundre	S.No.98/2(p)		858.3	8411303	2284784.7	Pvt	PMC
44	I-44	Garden	1	Kalundre	S.No.96/2(p),94/7(p)		3239.8	31750205	8624392.4	Pvt	PMC
45	I-45	Municipal Market	1	Kalundre	S.No..94/7(p),94/6(p)		1682.6	25576155	4479192.4	Pvt	PMC
46	I-46	Parking	1	Kalundre	S.No..94/6(p),94/7(p)		1232.7	18737100	3281457.9	Pvt	PMC

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47	I-47	Municipal Purpose	1	Kalundre	S.No..88/5(p)		1818.6	32298936	53253234.9	Pvt	PMC
48	I-48	Medical Amenity	1	Kalundre	S.No.49/1(p),49/2		1826.7	32442135	53489335.4	Pvt	PMC
49	I-49	Community Centre	1	Kalundre	S.No.49/1(p)		1120.4	19897988	32807032.4	Pvt	PMC
50	I-50	Cremation Ground	1	Kalundre	S.No..70/1(p),107(p)		1283.4	22794071	3416543.7	Pvt	PMC
51	I-51	Market	1	Kalundre	P.No. 172		235.7	3040629	627453.8	CIDC O	PMC
52	I-52	Public Utility	1	Kalundre	P.No.175B		68.9	888299	916531.3	CIDC O	PMC
53	I-53	Public Utility	1	Kalundre	P.No.132		181.0	2335146	2409363.5	CIDC O	PMC
54	I-54	Playground	1	Kalundre	P.No.160		5017.6	60863806	13356921.0	CIDC O	PMC
55	I-55	Community Center	1	Kalundre	P.No.159A		666.7	8086671	19521343.4	CIDC O	PMC
56	I-56	Public Utility	1	Kalundre	P.No.159		1365.9	16568867	18180677.8	CIDC O	PMC
57	I-57	Medical Amenity	1	Kalundre	P.No.13		363.4	4397122	10641035.8	CIDC O	PMC
58	I-58	Public Utility	1	Kalundre	P.No.17A		143.7	1738725	1912597.5	CIDC O	PMC
59	I-59	Garden	1	Kalundre	P.No.109A		725.3	8776376	1930802.6	CIDC O	PMC
60	I-60	Public Utility	1	Kalundre	P.No.46B		97.2	1175837	1293420.7	CIDC O	PMC
61	I-61	Public Utility	1	Kalundre	P.No.47A		239.7	2900571	3190627.6	CIDC O	PMC
62	I-62	Market	1	Kalundre	P.No.82		167.5	2031263	445772.6	CIDC O	PMC

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63	I-63	Garden	1	Kalundre	S.No.13(p),12/4(p),1 1/2(p),12/3(p),11/1(p)		18685.3	91558141	49740361.5	Pvt	PMC
64	II-E-1	Community Centre	2	Panvel	P.No.142	1S	1505.0	20723673	44069033.2	CIDC O	PMC
65	II-E-2	Public Utility	2	Panvel	P.No.134	1S	233.5	0	3108379.8	CIDC O	PMC
66	II-E-3	Municipal Market	2	Panvel	P.No.98B	1S	157.8		420052.9	PMC	PMC
67	II-E-4	Public Utility	2	Panvel	P.No.22/A	1S	314.3	0	4183907.8	CIDC O	PMC
68	II-E-5	Open Space	2	Panvel	P.No.91/C	1S	1472.5	0	3919927.0	CIDC O	PMC
69	II-E-6	Social Facility	2	Panvel	P.No.32	2	169.8	2338640	4973133.2	CIDC O	PMC
70	II-E-7	Hostel	2	Panvel	P.No.33	2	990.6	13640127	29005824.4	CIDC O	PMC
71	II-E-8	Cultural & Linguistic Centre	2	Panvel	P.No.35	2	153.4	2112494	4492232.7	CIDC O	PMC
72	II-E-9	Municipal Market	2	Panvel	P.No.35A(p)	2	483.2		1286166.9	PMC	PMC
73	II-E-10	Parking	2	Panvel	P.No.35A(p)	2	900.0		2395770.2	PMC	PMC
74	II-E-11	Municipal Market	2	Panvel	P.No.46A	4	138.1	1902238	367738.4	CIDC O	PMC
75	II-E-12	Auditorium	2	Panvel	P.No.50	5	4118.6	56713673	120602017.9	CIDC O	PMC
76	II-E-13	Park	2	Panvel	P.No.44	5	1256.8	0	3345566.9	CIDC O	PMC
77	II-E-14	Cultural & Linguistic Centre	2	Asudgoan	P.No.15	5A	575.6	7925915	16854512.1	CIDC O	PMC
78	II-E-15	Social Facility	2	Asudgoan	P.No.4	5A	482.2	6639422	14118776.7	CIDC O	PMC
79	II-E-16	Social Facility	2	Asudgoan	P.No.4A	5A	484.9	6676393	14197396.4	CIDC O	PMC
80	II-E-17	Police Housing	2	Asudgoan	P.No.1A	5A	4501.0			CIDC O	Concerned Dept.

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81	II-E-18	Municipal Market	2	Asudgoan	P.No.E-21, E-22	6	296.8	4086656	790027.5	CIDC O	PMC
82	II-E-19	Cultural & Linguistic Centre	2	Asudgoan	P.No.E-20	6	202.5	2788086	5928883.6	CIDC O	PMC
83	II-E-20	Health Facility	2	Asudgoan	P.No.E-18, E-19	6	1183.6	0	34659637.8	CIDC O	PMC
84	II-E-21	Municipal Market	2	Asudgoan	P.No.27C	6	112.4		299307.7	PMC	PMC
85	II-E-22	Public Utility	2	Asudgoan	P.No.75A	6	124.8	0	1661119.7	CIDC O	PMC
86	II-E-23	Public Utility	2	Asudgoan	P.No.B/25C	6	54.3	0	723181.4	CIDC O	PMC
87	II-E-24	Open Space	2	Asudgoan	P.No.F2	6	17226.6	0	45857319.2	CIDC O	PMC
88	II-E-25	Municipal Market	2	Asudgoan	P.No.14	7	590.0	8123625	1570449.6	CIDC O	PMC
89	II-E-26	Health Facility	2	Asudgoan	P.No.G1	7	472.2		13825970.7	PMC	PMC
90	II-E-27	Playground	2	Panvel	P.No.28	11	44918.1		119572060.4	PMC	PMC
91	II-E-28	Bus Terminal	2	Panvel	P.No.19	12	4808.6	66214904	12800586.3	CIDC O	PMC
92	II-E-29	Municipal Market	2	Panvel	P.No.21	12	1072.4		2854667.4	PMC	PMC
93	II-E-30	Open Space	2	Panvel	P.No.12A	13	419.4	0	1116463.5	CIDC O	PMC
94	II-E-31	Public Utility	2	Panvel	P.No.14B	13	227.3	0	3025538.8	CIDC O	PMC
95	II-E-32	Park	2	Panvel	P.No.24A	13	2622.3	0	6980640.5	CIDC O	PMC
96	II-E-33	Municipal Market	2	Panvel	P.No.32	15	672.8	9263938	1790893.5	CIDC O	PMC
97	II-E-34	Public Utility	2	Panvel	P.No.43/A	15	222.6	0	6655.0	CIDC O	PMC
98	II-E-35	Park	2	Panvel	-	15	3332.4	0	8870735.1	CIDC O	PMC
99	II-E-36	Ext to Garden	2	Panvel	P.No.25	15A	1434.2		3817730.8	PMC	PMC
100	II-E-37	Public Utility	2	Panvel	P.No.5/A	16	352.9	0	4697558.7	CIDC	PMC

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										O	
101	II-E-38	Parking	2	Panvel	P.No.10B	16	3602.0	49599801	9588574.5	CIDC O	PMC
102	II-E-39	Municipal Market	2	Panvel	P.No. 30, 30A/1, 30A/2, 30A/3, 30A/4	16	187.2	2577109	498203.7	CIDC O	PMC
103	II-E-40	Water Services	2	Panvel	P.No.25	16	1283.1	0	17078447.9	CIDC O	PMC
104	II-E-41	Park	2	Panvel	P.No.22(p), Riverfront	16	21750.5	0	57899919.2	CIDC O	PMC
105	II-E-42	Housing for Dishoused	2	Panvel	P.No.22(p), Riverfront	16	10473.3	144217862	585480533.5	CIDC O	PMC
106	II-E-43	Public Utility	2	Panvel	P.No.12	17	127.6	0	1698407.9	CIDC O	PMC
107	II-E-44	Municipal Market	2	Panvel	P.No.12B	17	430.1	5922401	1144911.6	CIDC O	PMC
108	II-E-45	Public Utility	2	Panvel	P.No.20(p), 20A	18	3583.0	0	47689941.0	CIDC O	PMC
109	II-E-46	Community Centre	2	Panvel	P.No.12, 14(p)	19	940.8	12955385	27549714.9	CIDC O	PMC
110	II-E-47	Municipal Shopping Complex & Parking	2	Panvel	P.No.6, FP N.397	20	11153.3	153581079	326591223.4	CIDC O	PMC
111	II-E-48	Park	2	Panvel	P.No.21(p)	20	7897.8	0	21023837.1	CIDC O	PMC
112	II-E-49	Educational Amenity	2	Panvel	P.No.20	21	4219.4			CIDC O	PMC/Institute
113	II-E-50	Playground	2	Panvel	P.No.19	21	4923.9	0	13107405.7	CIDC O	PMC
114	II-E-51	Water Service	2	Panvel	P.No.17	21	3188.1		42433371.5	PMC	PMC
115	II-E-52	Housing for Dishoused	2	Panvel	P.No.5+6	21	13015.9	179228945	727614850.7	CIDC O	PMC

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116	II-E-53	Park	2	Panvel	P.No.7	21	9437.3	0	25121986.1	CIDC O	PMC
117	II-E-54	Public Utility	2	Panvel	P.No.8	21	158.2	0	2105384.5	CIDC O	PMC
118	II-E-55	Park	2	Asudgoan	S.No.59/5(p), 53(p)		5178.9	373916793	13786239.6	Pvt	PMC
119	II-E-56	Municipal Market	2	Asudgoan	S.No.59/5(p),33(p),59/1(p),59/4(p)		6369.3	459866560	16955190.9	Pvt	PMC
120	II-E-57	Government Office	2	Asudgoan	S.No.59(1)p,59(2)p, 59(4)p,		4744.9	0	0.0	Pvt	Govt
121	II-E-58	EWS/LIG/MIG	2	Asudgoan	S.No.33(p),57(p)		59811.3	0	3343569217.9	Pvt	PMC
122	II-E-59	Government Office	2	Asudgoan	S.No.61p		7820.5	0	0.0	Pvt	Govt
123	II-E-60	Government Office	2	Asudgoan	S.No..67(2)p,59(2)p, 61p,62,63,64,65,66p		34721.2	0	0.0	Pvt	Govt
124	II-E-61	Park	2	Tembhode	S.No.40(p),45(p),43(p)		3779.8	35908082	10061822.6	Pvt	PMC
125	II-E-62	Health Facility	2	Tembhode	S.No.31(p),6(p),7(p)		1592.0	15124270	46617777.0	Pvt	PMC
126	II-E-63	Water Services	2	Tembhode	S.No.104(p)		4618.2	1958102	61467763.9	Pvt	PMC
127	II-W-1	Health Facility	2	Panvel	P.No.10A	1	257.0		75.25024638		PMC
128	II-W-2	Shppoing Centre	2	Kalamboli	P.No.1	2	688.6	9482176	201.6391216		PMC
129	II-W-3	Social Facility	2	Kalamboli	P.No.1A	2	320.4	4412454	93.83114241		PMC
130	II-W-4	Social Facility	2	Kalamboli	P.No.1B	2	521.7	7184316	152.7749707		PMC
131	II-W-5	LPG Godown	2	Kalamboli	P.No.2	2	679.3	0	90.40909206		Concerned Dept.

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132	II-W-6	Social Facility	2	Kalamboli	P.No.8	2	1945.8	26794315	569.7829663		PMC
133	II-W-7	Bus Terminal & Depot	2	Kalamboli	P.No.3(p)	3	28131.0	387364544	1497.697044		PMC
134	II-W-8	Health Facility	2	Kalamboli	P.No.1	3	14156.2	0	4145.225685		PMC
135	II-W-9	Parking	2	Kalamboli	P.No.3(p)	3	7661.8	105503501	2243.53922		PMC
136	II-W-10	Park	2	Asudgoan	-	4	1977.2	0	52.63393945		PMC
137	II-W-11	Public Utility	2	Asudgoan	P.No.43B	5	95.9	0	12.76017508		PMC
138	II-W-12	Park	2	Asudgoan	P.No.B28	5	890.5		23.70607146		PMC
139	II-W-13	Municipal Market	2	Asudgoan	P.No.31A, 31B, 31C, B31	5	269.5		78.91239825		PMC
140	II-W-14	Public Utility	2	Panvel	P.No.7A	6	152.0	0	20.22556015		PMC
141	II-W-15	Open Space	2	Panvel	TOTLOT	6	617.5	0	16.43800599		PMC
142	II-W-16	Municipal Market	2	Panvel	P.No.B19A	7	384.6		112.6117552		PMC
143	II-W-17	Public Utility	2	Panvel	P.No.35A	7	107.0	0	14.239038		PMC
144	II-W-18	Health Facility	2	Panvel	P.No.B19	7	558.6	0	163.5829211		PMC
145	II-W-19	Municipal Market	2	Panvel	P.No.12A	7	202.9	2793589	59.40585516		PMC
146	II-W-20	Municipal Market	2	Asudgoan	P.No.22A	7	119.5	1645946	35.00115409		PMC
147	II-W-21	Park	2	Panvel	P.No.5	8	5613.2	0	149.4239022		PMC
148	II-W-22	Community Centre	2	Panvel	P.No.14	8	1935.9	26657917	566.882453		PMC
149	II-W-23	Bus Terminal & Depot	2	Panvel	P.No.11	8	5577.9	76808260	296.969628		PMC
150	II-W-24	Municipal Market	2	Panvel	P.No.11	11	125.6		36.79035721		PMC
151	II-W-	Health Club &	2	Panvel	P.No.8	11	1078.9	14856562	315.9258195		PMC

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	25	Gymnasium									
152	II-W-26	Park	2	Panvel	P.No.2A	11	24317.7	0	647.3374146		PMC
153	II-W-27	Social Facility	2	Panvel	P.No.3A	12	2253.6	31031832	659.8940438		PMC
154	II-W-28	Hostel	2	Panvel	P.No.4A	12	2295.8	31612590	672.2439041		PMC
155	II-W-29	Old age Home	2	Panvel	P.No.5B, 5C	12	1362.1	0	398.8408475		PMC
156	II-W-30	Indoor Sports Complex	2	Panvel	P.No.5A	12	2128.7	0	623.3228474		PMC
157	II-W-31	Park	2	Panvel	P.No.4	12	3388.1	0	90.18992624		PMC
158	II-W-32	Burial Ground	2	Panvel	P.No.B4	12	2219.5	0	59.08326969		PMC
159	II-W-33	Park	2	Panvel	P.No.2	12	8436.7	0	224.586048		PMC
160	II-W-34	Crematorium	2	Panvel	P.No.B1	12	3344.0		89.01762795		PMC
161	II-W-35	Garden	2	Panvel	P.No.1	13	24059.0		640.4492821		PMC
162	II-W-36	Health Facility	2	Panvel	P.No.2B/2	13	6638.3	0	1943.839592		PMC
163	II-W-37	Health Facility	2	Panvel	P.No.2B	13	9671.7	0	2832.079497		PMC
164	II-W-38	Park	2	Panvel	P.No.5	14	16203.4	0	431.3351615		PMC
165	II-W-39	Public Utility	2	Panvel	P.No.63A	15	1699.8	0	226.2442207		PMC
166	II-W-40	Park	2	Panvel	P.No.65	15	13362.0	0	355.695109		PMC
167	II-W-41	Parking	2	Panvel	P.No.61	15	1227.9	16908672	359.5640711		PMC
168	II-W-42	Ext. to Crematorium	2	Panvel	P.No.54	16	1183.4	0	31.50208718		PMC
169	II-W-43	Garden	2	Panvel	P.No.48	16	9821.4	0	261.445352		PMC

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Sr. No	Reserv ation No	Purpose	Planning Sector	Village /CIDCO Node	Survey No., Nodal Plot No, Final Plot No.	Sector No (CID CO)	Area (Sq.M)	Cost of acquisition	Cost of development	Land Owner ship	Acquiring Authority
170	II-W-44	Educational Amenity	2	Panvel	P.No.44	16	5175.6		1515.515248		PMC/Institute
171	II-W-45	Social Facility	2	Panvel	P.No.43	16	4046.6	55721044	1184.911844		PMC
172	II-W-46	Government Office	2	Panvel	P.No.1	16	11234.4		0		Concerned Dept.
173	II-W-47	Social Facility	2	Panvel	P.No.8	16	21990.0	302802713			PMC
174	II-W-48	Park, Science & Exhibition Centre	2	Panvel	P.No.9(P)	16	59076.4	0	17298.76298		PMC
175	II-W-49	Health Facility	2	Panvel	P.No.7A	16	4861.6		1423.565129		PMC
176	II-W-50	Truck Terminal	2	Panvel	P.No.9(P)	16	63213.7	870453240	1682.749837		PMC
177	II-W-51	Playground	2	Panvel	P.No.9(p)	16	12953.6	0	363.8497919		PMC
178	II-W-52	Health Facility	2	Panvel	-	17	635.2	0	186.0051204		PMC
179	II-W-53	Public Utility	2	Panvel	-	17	808.4	0	236.7274008		PMC
180	II-W-54	Municipal Market	2	Panvel	-	17	470.9	6484844	137.9006508		PMC
181	II-W-55	Health Facility	2	Panvel	P.No.17, 18	17	3589.2	0	1050.985429		PMC
182	II-W-56	Playground	2	Panvel	P.No.16(p)	17	3701.8		98.54104398		PMC
183	II-W-57	Educational Amenity	2	Panvel	P.No.16(p)	17	2639.9		773.0211873		PMC/Institute
184	II-W-58	Social Facility	2	Panvel	P.No.89	17	309.5	4261696	90.62525916		PMC
185	II-W-59	Public Utility	2	Panvel	P.No.101	17	84.2	0	11.20213789		PMC
186	II-W-60	Park	2	Panvel	P.No.78	17	1009.7	0	26.87768056		PMC
187	II-W-61	Public Utility	2	Panvel	P.No.27/A	17	828.1	0	110.2235103		PMC
188	II-W-	Sports Complex	2	Kalamboli	P.No.7	18	1832.4	25232129	536.5629744		PMC

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	62										
189	III-1	Park	3	Kamothe	-	1 To 4 (p)	28865.1	0	76839013.7	CIDC O	PMC
190	III-2	Playground	3	Kamothe	-	1 To 4 (p)	40420.2	0	107598577.8	CIDC O	PMC
191	III-3	School for Specially Abled	3	Kamothe	-	1 To 4 (p)	4200.1	0	122988503.0	CIDC O	PMC
192	III-4	Playground	3	Kamothe	-	1 To 4 (p)	7468.1	0	19879995.3	CIDC O	PMC
193	III-5	Municipal Market	3	Kamothe	P.No.13	5	674.4		1795221.2	PMC	PMC
194	III-6	Municipal Market	3	Kamothe	P.No.3	6A	519.9	5453835	1383995.2	CIDC O	PMC
195	III-7	Public Utility	3	Kamothe	P.No.3A	6A	179.5	0	2388890.6	CIDC O	PMC
196	III-8	Park	3	Kamothe	P.No.4	6A	1612.2	0	4291763.6	CIDC O	PMC
197	III-9	Medical Amenity	3	Kamothe	P.No.7&8	6A	1203.3	0	35233801.4	CIDC O	PMC
198	III-10	Playground	3	Kamothe	P.No.45	6A	3759.0		10006398.3	PMC	PMC
199	III-11	Park	3	Kamothe	P.No.34	6A	6576.1	0	17505480.3	CIDC O	PMC
200	III-12	Public Utility	3	Kamothe	P.No.35	6A	614.7	0	8181295.5	CIDC O	PMC
201	III-13	Playground	3	Kamothe	P.No.25	8	5140.0		13682642.8	PMC	PMC
202	III-14	Social Facility	3	Kamothe	P.No.8	8	477.2	5005550	13972593.9	CIDC O	PMC
203	III-15	Government & Semi-Government Offices	3	Kamothe	P.No.7	8	564.8	5924309	16537235.7	CIDC O	Govt
204	III-16	Playground	3	Kamothe	P.No.30	9	4976.1		13246358.4	PMC	PMC
205	III-17	Playground	3	Kamothe	P.No.31	9	5086.4	0	13539985.4	CIDC O	PMC
206	III-18	Social Facility	3	Kamothe	P.No.54	9	336.0	3524166	9837428.5	CIDC O	PMC
207	III-19	Social Facility	3	Kamothe	P.No.11	9	562.8	5903672	16479629.8	CIDC O	PMC

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208	III-20	Parking	3	Kamothe	P.No.16	10	215.6	2262027	574024.4	CIDC O	PMC
209	III-21	Municipal Market	3	Kamothe	P.No.15	10	287.4		765110.8	PMC	PMC
210	III-22	Park	3	Kamothe	P.No.22	10	4191.3	0	11157117.8	CIDC O	PMC
211	III-23	Park	3	Kamothe	P.No.32	10	898.0	0	2390502.9	CIDC O	PMC
212	III-24	Crematorium	3	Kamothe	P.No.36	10	1399.2	0	3724543.4	CIDC O	PMC
213	III-25	Educational Amenity	3	Kamothe	P.No.1	11	6622.8			CIDC O	PMC/Institute
214	III-26	Social Facility	3	Kamothe	P.No.1B	11	1778.7		52082462.5	PMC	PMC
215	III-27	Municipal Office	3	Kamothe	P.No.1A	11	1890.9	19835899	55370334.5	CIDC O	PMC
216	III-28	Playground	3	Kamothe	P.No.4	11	7644.1	0	20348476.9	CIDC O	PMC
217	III-29	Municipal Market	3	Kamothe	P.No.48	11	1005.6		2676961.6	PMC	PMC
218	III-30	Playground	3	Kamothe	P.No.36	11	3577.7	0	9523955.8	CIDC O	PMC
219	III-31	Community Centre	3	Kamothe	P.No.27A	11	441.2	4628255	12919406.4	CIDC O	PMC
220	III-32	Park	3	Kamothe	P.No.38A	11	2337.2	0	6221737.7	CIDC O	PMC
221	III-33	Playground	3	Kamothe	P.No.38	11	4797.5		12770927.4	PMC	PMC
222	III-34	Medical Amenity	3	Kamothe	P.No.42	11	1137.3	0	33302497.5	CIDC O	PMC
223	III-35	Municipal Market	3	Kamothe	P.No.17	11	164.6	1726861	438217.8	CIDC O	PMC
224	III-36	Park	3	Kamothe	P.No.4A	12	743.3	0	1978690.1	CIDC O	PMC
225	III-37	Park	3	Kamothe	P.No.15A	12	829.7	0	2208740.9	CIDC O	PMC
226	III-38	Parking	3	Kamothe	P.No.41	12	146.2	1533759	389215.0	CIDC O	PMC
227	III-39	Municipal Market	3	Kamothe	P.No.140(p)	14	232.7	2440634	619348.7	CIDC O	PMC

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228	III-40	Park	3	Kamothe	P.No.163	14	691.0	0	1839494.4	CIDC O	PMC
229	III-41	Garden	3	Kamothe	P.No.8	14	2538.9		6758680.8	PMC	PMC
230	III-42	Public Utility	3	Kamothe	P.No.104	14	527.6	0	7021753.4	CIDC O	PMC
231	III-43	Municipal Market	3	Kamothe	P.No.36	14	595.6	6247893	1585499.6	CIDC O	PMC
232	III-44	Public Utility	3	Kamothe	P.No.43	14	733.9	0	9768286.4	CIDC O	PMC
233	III-45	Public Utility	3	Kamothe	P.No.19	15	1520.9		20242593.3	CIDC O	PMC/Institute
234	III-46	Public Utility	3	Kamothe	P.No.10	15	209.2	0	2783946.3	CIDC O	PMC
235	III-47	Social Facility	3	Kamothe	P.No.11	15	190.9	2002566	5590004.0	CIDC O	PMC
236	III-48	Garden	3	Kamothe	-	15	822.8	0	2190264.9	CIDC O	PMC
237	III-49	Municipal Market	3	Kamothe	P.No.26	17	540.4		1438523.6	PMC	PMC
238	III-50	Community Centre	3	Kamothe	P.No.14, 14D	17	1206.7	12658099	35334075.4	CIDC O	PMC
239	III-51	Parking	3	Kamothe	P.No.14C	17	268.4	2815199	714400.4	CIDC O	PMC
240	III-52	Library	3	Kamothe	P.No.14A, 14B	17	527.1	5529191	15434295.9	CIDC O	PMC
241	III-53	Playground	3	Kamothe	P.No.14	17	4544.5	0	12097580.3	CIDC O	PMC
242	III-54	Creamation Ground	3	Kamothe	P.No.38	18	522.9	0	1391974.4	CIDC O	PMC
243	III-55	Public Utility	3	Kamothe	P.No.46	18	147.1		1957360.4	PMC	PMC
244	III-56	Municipal Market	3	Kamothe	P.No.47	18	701.5		1867351.4	PMC	PMC
245	III-57	Medical Amenity	3	Kamothe	P.No.30	18	719.3	0	21061742.5	CIDC O	PMC
246	III-58	Parking	3	Kamothe	P.No.88	19	437.2	4585827	1163724.8	CIDC O	PMC
247	III-59	Municipal Market	3	Kamothe	P.No.37	19	172.4	1808169	458850.9	CIDC O	PMC

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248	III-60	Educational Amenity	3	Kamothe	P.No.14	19	3701.6			PMC	PMC/Institute
249	III-61	Municipal Market	3	Kamothe	P.No.74B	20	392.8	4120528	1045647.8	CIDC O	PMC
250	III-62	Playground	3	Kamothe	P.No.18+19	20	4955.2	0	13190788.2	CIDC O	PMC
251	III-63	Social Facility	3	Kamothe	P.No.47	20	537.4	5637681	15737138.8	CIDC O	PMC
252	III-64	Educational Amenity	3	Kamothe	P.No.48	24	3450.3		0.0	CIDC O	PMC/Institute
253	III-65	Water Services	3	Kamothe	P.No.68	21	2316.5	0	30832613.7	CIDC O	PMC
254	III-66	Municipal Market	3	Kamothe	P.No.62	21	535.7		1426143.9	PMC	PMC
255	III-67	Educational Amenity	3	Kamothe	P.No.33	21	3674.1			CIDC O	PMC/Institute
256	III-68	Playground	3	Kamothe	P.No.34	21	4807.1	0	12796454.6	CIDC O	PMC
257	III-69	Parking	3	Kamothe	P.No.1	21	1450.1	15211744	3860215.7	CIDC O	PMC
258	III-70	Social Facility	3	Kamothe	P.No.38	22	657.2	6894163	19244507.5	CIDC O	PMC
259	III-71	Social Facility	3	Kamothe	P.No.35	22	452.6	4747711	13252857.7	CIDC O	PMC
260	III-72	Park	3	Kamothe	P.No.11	22	5557.5	0	14794092.5	CIDC O	PMC
261	III-73	Playground	3	Kamothe	P.No.8	24	5199.0	0	13839707.1	CIDC O	PMC
262	III-74	Social Facility	3	Panvel	P.No.8	25	2032.5	21320832	59515404.9	CIDC O	PMC
263	III-75	Social Facility	3	Panvel	P.No.12, 14	25	2532.4	26564737	74153348.0	CIDC O	PMC
264	III-76	Playground	3	Panvel	P.No.26	25	6898.3	0	18363303.3	CIDC O	PMC
265	III-77	Educational Amenity	3	Panvel	P.No.27	25	3582.8			PMC	PMC/Institute
266	III-78	Public Utility	3	Panvel	P.No.25	25	2132.9	0	0.0	CIDC O	Concerned Dept

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267	III-79	Social Facility	3	Panvel	P.No.4	26	3373.9	35392073	98794155.6	CIDC O	PMC
268	III-80	Social Facility	3	Panvel	P.No.6	26	1584.9	16625888	46409843.7	CIDC O	PMC
269	III-81	Medical Amenity	3	Panvel	P.No.5	26	1275.0	0	37333677.5	CIDC O	PMC
270	III-82	Playground	3	Panvel	-	26	10530.7	0	28032603.2	CIDC O	PMC
271	III-83	Educational Amenity	3	Panvel	P.No.26	26	12413.0			CIDC O	PMC/Institute
272	III-84	Open Space	3	Panvel	-	26	2282.1	0	6074979.1	CIDC O	PMC
273	III-85	Sewege Treatment Plant	3	Panvel	P.No.3A	26	771.9		10274232.2	PMC	PMC
274	III-86	Open Space	3	Panvel	-	26	6467.6	0	17216698.0	CIDC O	PMC
275	III-87	Playground	3	Panvel	P.No.3	27	4672.1	0	12437179.7	CIDC O	PMC
276	III-88	Educational Amenity	3	Panvel	P.No.5	27	4105.5			CIDC O	PMC/Institute
277	III-89	Medical Amenity	3	Panvel	P.No.7	27	3019.1	0	88404072.1	CIDC O	PMC
278	III-90	Social Facility	3	Panvel	P.No.8	27	2246.3	23563368	65775264.8	CIDC O	PMC
279	III-91	Garden	3	Panvel	P.No.4	27	5647.2	0	15032718.1	CIDC O	PMC
280	III-92	Garden	3	Panvel	P.No.3	29	5315.5	0	14149898.2	CIDC O	PMC
281	III-93	Garden	3	Panvel	P.No.2, 3, 4, 5	30	13893.5	0	36984396.4	CIDC O	PMC
282	III-94	Medical Amenity	3	Panvel	P.No.1	30	1423.4	0	41681064.1	CIDC O	PMC
283	III-95	Garden	3	Kamothe	P.No.2+3+4+5	31	4475.0		11912460.5	PMC	PMC
284	III-96	Sewege Treatment Plant	3	Panvel	P.No.19	32	28332.4	0	377103578.5	CIDC O	PMC
285	III-97	Auditorium	3	Kamothe	P.No.1	32	5627.8	59035842	164793854.3	CIDC O	PMC

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286	III-98	Government & Semi-Government Offices	3	Kamothe	P.No.2	32	834.1	8750210	24425515.6	CIDC O	Govt
287	III-99	Medical Amenity	3	Kamothe	P.No.12	32	1952.8	0	57181145.7	CIDC O	PMC
288	III-100	Social Facility	3	Kamothe	P.No.12A	32	350.9	3681220	10275832.6	CIDC O	PMC
289	III-101	Hostel	3	Kamothe	P.No.11	32	2211.5	23199029	64758243.4	CIDC O	PMC
290	III-102	Educational Amenity	3	Kamothe	P.No.10	32	3675.3			PMC	PMC/Institute
291	III-103	Playground	3	Kamothe	P.No.9	32	4106.9	0	10932695.4	CIDC O	PMC
292	III-104	Fire Brigade Station	3	Kamothe	P.No.5	32	7319.7		97425419.3	PMC	PMC
293	III-105	Burial Ground	3	Kamothe	P.No.8	32	1905.9		5073635.8	PMC	PMC
294	III-106	Social Facility	3	Kamothe	P.No.7	32	2130.0		62370233.7	PMC	PMC
295	III-107	Medical Amenity	3	Kamothe	P.No.166	34	762.1	0	22315805.5	CIDC O	PMC
296	III-108	Public Utility	3	Kamothe	P.No.152	34	232.4	0	3093540.8	CIDC O	PMC
297	III-109	Public Utility	3	Kamothe	P.No.120	34	193.3	0	2573166.6	CIDC O	PMC
298	III-110	Social Facility	3	Kamothe	P.No.60	34	518.8	5442524	15192372.8	CIDC O	PMC
299	III-111	Health Club & Gymnasium	3	Kamothe	P.No. 61	34	557.8	5851265	16333341.5	CIDC O	PMC
300	III-112	Educational Amenity	3	Kamothe	P.No.96	35	3021.0			CIDC O	PMC/Institute
301	III-113	Playground	3	Kamothe	P.No.97, 98	35	6288.0	0	16738619.5	CIDC O	PMC
302	III-114	Municipal Market	3	Kamothe	P.No.85	35	1079.8	11327586	2874550.4	CIDC O	PMC
303	III-115	Park	3	Kamothe	P.No.5+54	35	4921.3	0	13100507.0	CIDC O	PMC
304	III-116	Educational Amenity	3	Kamothe	P.No.17	36	4951.0			CIDC O	PMC/Institute

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305	III-117	Park	3	Kamothe	P.No.55	36	1475.5	0	3927861.2	CIDC O	PMC
306	III-118	Medical Amenity	3	Kamothe	P.No.44	36	1609.5	0	47128863.8	CIDC O	PMC
307	III-119	Municipal Market	3	Kamothe	P.No.24	36	622.6		1657467.6	PMC	PMC
308	III-120	Parking	3	Kamothe	P.No.23	36	268.1	2812072	713606.8	CIDC O	PMC
309	III-121	Garden	3	Kamothe	P.No.2	44	16876.8	0	44926147.4	CIDC O	PMC
310	III-122	Mangrove Park	3	Kamothe	-	45	80774.7	0	215022304.6	CIDC O	PMC
311	III-123	Social Facility	3	Kamothe	P.No.11	46	2604.7	27323628	76271732.1	CIDC O	PMC
312	III-124	Educational Amenity	3	Kamothe	P.No.12	46	2073.5			CIDC O	PMC/Institute
313	III-125	Playground	3	Kamothe	P.No.13(p)	46	4954.5	0	13188879.0	CIDC O	PMC
314	III-126	Park	3	Kamothe	P.No.1A	47	6361.5	0	16934395.9	CIDC O	PMC
315	III-127	Open Space	3	Kamothe	P.No.1B	47	3136.0	0	8347989.8	CIDC O	PMC
316	III-128	Open Space	3	Kamothe	-	47	8884.5	0	23650496.0	CIDC O	PMC
317	IV-1	Shopping Complex	4	Kalamboli	P.No.18	1	4419.2	46357116	129402198.7	CIDC O	PMC
318	IV-2	Parking	4	Kalamboli	P.No.27	1	1075.8	11285142	2863779.6	CIDC O	PMC
319	IV-3	Social Facility	4	Kalamboli	P.No.11A	1E	1231.8	12921903	36070464.2	CIDC O	PMC
320	IV-4	Working Women Hostel	4	Kalamboli	P.No.11B	1E	1229.2	12894126	35992927.1	CIDC O	PMC
321	IV-5	Hostel		Kalamboli	P.No.12	1E	1874.2	19659834	54878860.3	CIDC O	PMC
322	IV-6	Public Utility	4	Kalamboli	P.No.24B	1E	259.5	0	3454566.0	CIDC O	PMC

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323	IV-7	Social Facility	4	Kalamboli	P.No.24A	1E	533.7	5598756	15628480.3	CIDCO	PMC
324	IV-8	Social Facility	4	Kalamboli	P.No.23	2E	297.3	3118183	8704158.8	CIDCO	PMC
325	IV-9	Police Housing	4	Kalamboli	P.No.8	2E	4569.4	0	0.0	CIDCO	Concerned Dept.
326	IV-10	Municipal Market	4	Kalamboli	P.No.3C	2E	197.1		524767.6	PMC	PMC
327	IV-11	Hostel	4	Roadpali	P.No.30A	4	677.8	7109948	19846854.2	CIDCO	PMC
328	IV-12	Old age Home	4	Roadpali	P.No.31	4	575.4	0	16848540.0	CIDCO	PMC
329	IV-13	Municipal Purpose	4	Roadpali	P.No.20	4	418.8	4393086	12262950.0	CIDCO	PMC
330	IV-14	Hostel	4	Roadpali	P.No.2	4	1050.3	11017198	30753631.7	CIDCO	PMC
331	IV-15	Municipal Market	4	Roadpali	P.No.5A	5E	735.9		1958899.1	PMC	PMC
332	IV-16	Municipal Market	4	Roadpali	P.No.7	5E	532.6		1417788.4	PMC	PMC
333	IV-17	Public Utility	4	Roadpali	P.No.7A	5E	153.4	0	2041089.9	CIDCO	PMC
334	IV-18	Parking	4	Roadpali	P.No.7B	5E	145.6	1527107	387527.0	CIDCO	PMC
335	IV-19	Public Utility	4	Roadpali	P.No.9	5E	879.5		11705795.9	PMC	PMC
336	IV-20	Public Utility	4	Roadpali	-	5E	387.1	0	5151766.6	CIDCO	PMC
337	IV-21	Municipal Market	4	Roadpali	P.No.11B	5E	624.5		1662518.0	PMC	PMC
338	IV-22	Police Station	4	Roadpali	P.No.11A	5E	265.7	0	0.0	CIDCO	Concerned Dept.
339	IV-23	Public Utility	4	Roadpali	P.No.10A	6	198.1		2636232.9	PMC	PMC

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340	IV-24	Public Utility	4	Roadpali	P.No. 5B	6E	198.2	0	2638663.3	CIDC O	PMC
341	IV-25	Municipal Market	4	Roadpali	P.No.2	7E	2351.4	24666065	6259396.1	CIDC O	PMC
342	IV-26	Sports Complex	4	Roadpali	P.No.2A	7E	1177.1	0	34467550.2	CIDC O	PMC
343	IV-27	Art Institute	4	Roadpali	P.No.7	7E	3439.5	36080145	100714853.4	CIDC O	PMC
344	IV-28	Medical Amenity	4	Roadpali	P.No.1, 9, 9A	8	1539.9	16153507	45091230.3	CIDC O	PMC
345	IV-29	Social Facility	4	Roadpali	P.No.8	8E	482.9		0.0	PMC	PMC
346	IV-30	Government Office	4	Roadpali	P.No.6&7	8E	872.3		0.0	PMC	Govt
347	IV-31	Medical Amenity	4	Roadpali	P.No.5	8E	963.4	10106385	28211170.3	CIDC O	PMC
348	IV-32	Educational Amenity	4	Roadpali	P.No.5	9E	4740.3			CIDC O	PMC/Institute
349	IV-33	Playground	4	Roadpali	P.No.6	9E	4068.2		10829534.0	PMC	PMC
350	IV-34	Medical Amenity	4	Roadpali	P.No.7+8+9A	9E	3618.6	37959125	105959875.9	CIDC O	PMC
351	IV-35	Municipal Market	4	Roadpali	P.No.26	10	468.1		1246146.1	PMC	PMC
352	IV-36	Water Services	4	Roadpali	P.No.15	10	2336.2	0	31095063.7	CIDC O	PMC
353	IV-37	Municipal Market	4	Roadpali	P.No.22	10	829.3		2207620.9	PMC	PMC
354	IV-38	Social Facility	4	Roadpali	P.No.19A	10	798.5	8376600	23382611.1	CIDC O	PMC
355	IV-39	Public Utility	4	Roadpali	P.No.9	10	512.1	0	6816431.1	CIDC O	PMC

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356	IV-40	Social Facility	4	Roadpali	P.No.1	10E	330.6	3467691	9679782.4	CIDC O	PMC
357	IV-41	Garden	4	Roadpali	P.No.11	10E	2189.2		5827708.7	PMC	PMC
358	IV-42	Playground	4	Roadpali	P.No.16	10E	6447.3		17162734.4	PMC	PMC
359	IV-43	Municipal Market	4	Roadpali	P.No.28 to 30 (p)	10E	141.9	1488976	377850.7	CIDC O	PMC
360	IV-44	Community Centre	4	Roadpali	P.No.28 to 30 (p)	10E	515.5	5407441	15094442.0	CIDC O	PMC
361	IV-45	Police Station	4	Roadpali	-	10E	874.4	0	0.0	CIDC O	Concerned Dept.
362	IV-46	Parking	4	Roadpali	P.No.15	10E	13458.2		35825755.0	PMC	PMC
363	IV-47	Social Facility	4	Roadpali	P.No.8A	11	755.9	7929247	22133861.8	CIDC O	PMC
364	IV-48	Cultural & Linguistic Centre	4	Roadpali	P.No.6D	11	219.1	2298491	6416054.4	CIDC O	PMC
365	IV-49	Social Facility	4	Roadpali	P.No.6C, 6C/1	11	1836.6		0.0	PMC	PMC
366	IV-50	Medical Amenity	4	Roadpali	P.No.9A, 9C	11	1004.0		29399782.0	CIDC O	PMC
367	IV-51	Public Utility	4	Roadpali	P.No.2	11	1256.1		16718850.9	CIDC O	PMC
368	IV-52	Playground	4	Roadpali	P.No.14&15 (p)	11	6898.5		18363853.4	CIDC O	PMC
369	IV-53	Post Office	4	Roadpali	P.No.14&15 (p)	11	1406.7		0.0	CIDC O	Concerned Dept.
370	IV-54	Municipal Market	4	Roadpali	P.No.14&15 (P)	11	1617.8	16970305	4306477.9	CIDC O	PMC
371	IV-55	Trasfer Station	4	Roadpali	P.No.C7	12	2361.5		6286220.4	PMC	PMC

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372	IV-56	Sewage Treatment Plant	4	Roadpali	P.No.C6	12	3767.0	0	50139075.8	CIDC O	PMC
373	IV-57	Garden	4	Roadpali	P.No.12A, 12B	12	2169.2		5774393.6	PMC	PMC
374	IV-58	Public Utility	4	Roadpali	P.No.A/11	12	146.2	0	1945290.8	CIDC O	PMC
375	IV-59	Playground	4	Roadpali	P.No.A/12	12	970.9		2584468.5	PMC	PMC
376	IV-60	Garden	4	Roadpali	P.No.B-4	12	916.7		2440217.9	PMC	PMC
377	IV-61	Municipal Market	4	Roadpali	P.No.B-5	12	376.4	3948235	1001925.9	CIDC O	PMC
378	IV-62	Public Utility	4	Roadpali	P.No.2	13	67.5	0	897924.2	CIDC O	PMC
379	IV-63	Auditorium	4	Roadpali	P.No.5	13	3895.2	40860581	114059059.0	CIDC O	PMC
380	IV-64	Metro Station and Parking	4	Roadpali	P.No.8A	13	9585.2	0	0.0	CIDC O	Concerned Dept.
381	IV-65	Medical Amenity	4	Roadpali	P.No.6+7+8	13	1835.2	0	53739143.2	CIDC O	PMC
382	IV-66	Public Utility	4	Roadpali	P.No.123	13	104.5	0	1390624.5	CIDC O	PMC
383	IV-67	Municipal Market	4	Roadpali	P.No.16A	14	300.2		799012.8	PMC	PMC
384	IV-68	Public Utility	4	Roadpali	P.No.66A	14	127.7	0	1699093.5	CIDC O	PMC
385	IV-69	Municipal Market	4	Roadpali	P.No.53A	14	370.3		985700.7	PMC	PMC
386	IV-70	Municipal Market	4	Roadpali	P.No.42A	14	240.4	2521896	639970.1	CIDC O	PMC
387	IV-71	Municipal Market	4	Roadpali	P.No.41A	14	372.9		992599.1	PMC	PMC

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388	IV-72	Municipal Market	4	Roadpali	P.No.43A	15	199.8		531953.1	PMC	PMC
389	IV-73	Public Utility	4	Roadpali	P.No.35A	15	194.6	0	2589807.7	CIDC O	PMC
390	IV-74	Municipal Market	4	Roadpali	P.No.34A	15	158.7		422516.1	PMC	PMC
391	IV-75	Municipal Market	4	Roadpali	P.No.S-4	15	293.5	3079223	781400.5	CIDC O	PMC
392	IV-76	Public Utility	4	Roadpali	P.No.S/5	15	127.8	0	1701506.3	CIDC O	PMC
393	IV-77	Social Facility	4	Roadpali	P.No.27	16	719.9	7551358	21079014.9	CIDC O	PMC
394	IV-78	Public Utility	4	Roadpali	P.No.1	16	554.3	0	7377240.0	CIDC O	PMC
395	IV-79	Social Facility	4	Roadpali	P.No.40	16	728.5	7642181	21332539.5	CIDC O	PMC
396	IV-80	Social Facility	4	Roadpali	P.No.75	16E	413.9	4341525	12119022.5	CIDC O	PMC
397	IV-81	Garden	4	Roadpali	P.No.91A (p)	16E	4590.8	0	12220656.4	CIDC O	PMC
398	IV-82	Open Space	4	Roadpali	P.No.24	16E	148.3	0	394790.3	CIDC O	PMC
399	IV-83	Community Centre	4	Roadpali	P.No.18	16E	395.7	4150369	11585423.3	CIDC O	PMC
400	IV-84	Crematorium	4	Roadpali	P.No.17A	16E	1767.0		4703739.7	PMC	PMC
401	IV-85	Social Facility		Roadpali	P.No. 10E	16E	771.2	8089364	2052801.3	CIDC O	PMC
402	IV-86	Water Services	4	Roadpali	P.No.78	17	3975.1	0	52908407.1	CIDC O	PMC
403	IV-87	Medical Amenity	4	Roadpali	P.No.8B	17	4707.1	0	137831956.8	CIDC O	PMC

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404	IV-88	Sports Complex	4	Roadpali	P.No.4	17	27342.9	0	291146682.5	CIDCO	PMC
405	IV-89	Open Space	4	Roadpali	P.No.70	17	2264.1		6026988.4	PMC	PMC
406	IV-90	Playground	4	Roadpali	P.No.2C	19	55350.6		147343165.9	PMC	PMC
407	IV-91	Park	4	Roadpali	P.No.6	20	7194.6	0	19151983.4	CIDCO	PMC
408	IV-92	Educational Amenity	4	Roadpali	P.No.11	20	5090.2	0	0.0	CIDCO	PMC/Institute
409	IV-93	Garden	4	Roadpali	P.No.19	20	2185.6		5817951.2	PMC	PMC
410	IV-94	Playground	4	Roadpali	P.No.18	20	4679.0		12455570.5	PMC	PMC
411	IV-95	Cultural & Linguistic Centre	4	Roadpali	P.No.17	20	534.6	5607989	15654254.7	CIDCO	PMC
412	IV-96	Garden	4	Roadpali	P.No.26	20	4704.6		12523734.4	PMC	PMC
413	IV-97	Educational Amenity	4	Roadpali	P.No.71	20	2849.9	0	0.0	CIDCO	PMC/Institute
414	IV-98	Playground	4	Roadpali	P.No.72	20	3094.3		8236910.7	PMC	PMC
415	IV-99	Public Utility	4	Roadpali	P.No.103	23	219.5	0	2921548.7	CIDCO	PMC
416	IV-100	Open Space	4	Roadpali	P.No.104	23	1228.4	0	3270028.6	CIDCO	PMC
417	IV-101	Open Space	4	Roadpali	P.No.139	23	2331.0	0	6205070.0	CIDCO	PMC
418	IV-102	Truck terminal	4	Khidukpada	-	-	22633.6	237426254	60250590.0	CIDCO	PMC
419	IV-103	Public Utility	4	Kalamboli	P.No.857F	KWC	5240.8	0	69754648.7	CIDCO	PMC
420	IV-104	Park	4	Walwali	S.No.1/1/A (p)		2563.2	24350495	6823265.0	Pvt	PMC
421	IV-105	Educational Amenity	4	Walwali	S.No.78 (p)		2820.7	26796650	82595737.4	Pvt	PMC/Institute
422	IV-106	Playground	4	Walwali	S.No.78 (p)		4113.6	39079295	10950429.8	Pvt	PMC

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423	IV-107	Playground	4	Padghe	S.No.127(p), 128(p)		1507.8	14203664	4013816.8	CIDC O	PMC
424	V-1	Adventure Park & Amusement Park	5	Adivali	S.No.92(p), 93, 94, 95(p), 101, 90/1B, 100		260388.0	0	693152953.8	Govt	PMC
425	V-2	Parking	5	Adivali	S.No.97(p), 90(p)		21396.8	0	56958245.9	Govt	PMC
426	V-3	Municipal Purpose	5	Adivali	S.No.89, 103(p), 97(p), 90(p)		37126.3	204194892	395321311.0	Govt/P vt	PMC
427	V-4	Bus Terminus	5	Adivali	S.No.89 (p)		16989.1	0	90450027.4	Govt	PMC
428	V-5	Fire Station & Allied Services	5	Adivali	S.No.89(p), 104(p), 105(p),89/1A		16472.3	90597594	87698470.7	Govt/P vt	PMC
429	V-6	Water Services	5	Adivali	S.No.89 (p), 104 (p)		5568.8	30628395	74120715.2	Govt/P vt	PMC
430	V-7	Municipal Purpose	5	Adivali	S.No.89 (p), 104 (p)		12138.3	66760512	161560439.3	Govt/P vt	PMC
431	V-8	Municipal Market	5	Adivali	S.No.89(p)		4389.3	24141224	11684352.6	Govt/P vt	PMC
432	V-9	Medical Amenity	5	Adivali	S.No.89 (p)		6214.1	34177419	181960578.7	Govt/P vt	PMC
433	V-10	Municipal Office	5	Adivali	S.No.5/2(p),5/7(p)		1346.7		39434256.0	Govt	PMC
434	V-11	Garden	5	Adivali	S.No.5/2(p)		4273.4		11375801.0	Govt	PMC
435	V-12	Educational Amenity	5	Adivali	S.No.89(p), 114 /4(p), 5/3(p)		7542.6	41484109	220861396.1	Govt/P vt	PMC/ Organisation

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436	V-13	Playground	5	Adivali	S.No.89(p), 5/3(p), 7(p)		5566.0	30613140	14816759.6	Govt/P vt	PMC
437	V-14	Water Services	5	Adivali	S.No.89(p)		1430.2	7865987	19035688.3	Govt/P vt	PMC
438	V-15	Water Services	5	Adivali	S.No.4(p), 5/5(p)		792.8	8720482	10551783.5	Pvt	PMC
439	V-16	Parking	5	Adivali	S.No.33/1(p)		4366.3		11622970.7	Govt	PMC
440	V-17	Garden	5	Adivali	S.No.85		3450.0		9183833.0	Govt	PMC
441	V-18	Material Recovery Facility (MRF) & Transfer Station (SWM)	5	Adivali	S.No.5/7(p)		20032.1		53325340.8	Govt	PMC
442	V-19	Public Utility	5	Adivali	S.No.5/7(p)		11616.0		154609432.6	Govt	PMC
443	V-20	Garden	5	Adivali	S.No.42/13(p),42/12(p)		2839.7	31236859	7559319.8	Pvt	PMC
444	V-21	Municipal Purpose	5	Adivali	S.No.42/10(p), 48(p)		4247.4	46721755	124373312.7	Pvt	PMC
445	V-22	Parking	5	Adivali	S.No.42/10(p), 48(p)		2957.8	32535567	7873607.2	Pvt	PMC
446	V-23	Playground	5	Adivali	S.No.42/10(p)		3816.4	41980384	10159252.9	Pvt	PMC
447	V-24	Educational Amenity	5	Adivali	S.No.42/10(p)		4120.6	45327058	120660627.2	Pvt	PMC/ Organisation
448	V-25	Burial Ground	5	Bid	S.No.15(p), 14(p), 16(p)		5445.1	28586643	14494789.3	Govt/P rvt	PMC
449	V-26	Ext. to Crematorium	5	Bid	S.No.17(p)		1334.3		3551985.9	Govt	PMC
450	V-27	Ext. to Water Services	5	Bid	S.No.16(p)		904.0	4293821	12031737.3	pvt	PMC
451	V-28	Water Services	5	Bid	S.No.11, 10, 9, 8(p)		6877.8	32669782	91544167.8	Govt/P vt	PMC

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452	V-29	Medical Amenity	5	Bid	S.No.1(p), 62, 8(p)		3740.7	17768096	109533764.5	Govt/P vt	PMC
453	V-30	Garden	5	Bid	S.No.27(p)		1161.2	5515757	3091146.3	Govt/P vt	PMC
454	V-31	Community Centre	5	Bid	S.No.25(p), 29(p), 27(p)		2297.9	21830180	67287509.9	Govt/P vt	PMC
455	V-32	Municipal Market	5	Rohinjan	S.No.10(p)		6458.7		17193038.8	Govt	PMC
456	V-33	Garden	5	Rohinjan	S.No.10(p)		12695.0		33794172.4	Govt	PMC
457	V-34	Public Utility	5	Rohinjan	S.No.10(p)		18448.2		245545287.1	Govt	PMC
458	V-35	Electric Substation	5	Rohinjan	S.No.10(p), 11(p)		14529.4	0	0.0	Govt/p vt	PMC/Distributio n company
459	V-36	Ext. to Health Facility	5	Rohinjan	S.No.10(p)		1623.2		47531170.6	Govt	PMC
460	V-37	Community Centre	5	Rohinjan	S.No.10(p)		1564.3		45807268.3	Govt	PMC
461	V-38	Auditorium	5	Rohinjan	S.No.10(p)		4482.3		131251018.3	Govt	PMC
462	V-39	Parking	5	Rohinjan	S.No.10(p)		2674.3		7118856.9	Govt	PMC
463	V-40	Parking	5	Rohinjan	S.No.110(p), 111(p), 112(p)		873.1	9604270	2324233.4	Pvt	PMC
464	V-41	Educational Amenity	5	Rohinjan	S.No.110(p), 109(p), 107(p)		4477.4	49251049	131106293.4	Pvt	PMC/ Organisation
465	V-42	Playground	5	Rohinjan	S.No.110(p), 109(p), 107(p)		3142.0	34561538	8363892.1	Pvt	PMC
466	V-43	Garden	5	Rohinjan	S.No.68(p)		1686.0	9272725	4487998.9	Pvt	PMC
467	V-44	Garden	5	Rohinjan	S.No.54A(p), 74(p)		6603.8	72641506	17579244.6	Govt/P vt	PMC
468	V-45	Bus Terminus	5	Rohinjan	S.No.54A(p)		11151.9		59372925.2	Govt	PMC
469	V-46	Parking	5	Rohinjan	S.No.54A(p)		7030.2		18714426.9	Govt	PMC
470	V-47	Water Services	5	Rohinjan	S.No.50(p)		1946.6		25908945.4	Govt	PMC

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471	V-48	Crematorium	5	Rohinjan	S.No.50(p)		881.9		2347571.3	Govt	PMC
472	V-49	Municipal Market	5	Rohinjan	S.No.50(p)		1300.5		3461990.5	Govt	PMC
473	V-50	Water Services	5	Rohinjan	S.No.41(p)		1270.5	13974958	16909699.0	Pvt	PMC
474	V-51	Garden	5	Rohinjan	S.No.28		17700.7	194707956	47119325.3	Pvt	PMC
475	V-52	Auditorium	5	Dharna Camp	S.No.3		3363.2		98482551.1	Govt	PMC
476	V-53	Parking	5	Dharna Camp	S.No.7		4601.1		12248108.2	Govt	PMC
477	V-54	Municipal purpose	5	Dharna Camp	S.No.8		10329.6		302471789.7	Govt	PMC
478	V-55	Garden	5	Dharna Camp	S.No.20(p)		7725.1		20564253.7	Govt	PMC
479	V-56	Parking	5	Dharna Camp	S.No.20(p)		567.2		1509946.1	Govt	PMC
480	V-57	Garden	5	Dharna Camp	S.No.20(p)		5216.1		13885133.2	Govt	PMC
481	V-58	Municipal Purpose	5	Dharna Camp	S.No.23(p)		1138.1		33327017.5	Govt	PMC
482	V-59	Water Services	5	Dharna Camp	S.No.24(p)		937.5		12478713.3	Govt	PMC
483	V-60	Educational Amenity	5	Dharna Camp	S.No.24(p)		5682.1		166383542.0	Govt	PMC/ Organisation
484	V-61	Educational Amenity	5	Dharna Gaon	Dharna Camp S.No.4(p), Dharna Gaon 33/2(p), 34/9(p)		8122.1	42641078	237831625.0	Govt/Pvt	PMC/ Organisation
485	V-62	Playground	5	Dharna Gaon	S.No.34/6(p), 33/1(p), 33/2(p), Dhansar 133(p)		7178.0	37684760	19107968.1	Govt/Pvt	PMC
486	V-63	Medical Amenity	5	Dharna Gaon	S.No.29(p), 25(p)		2635.2		77165204.4	Govt	PMC
487	V-64	Water Services	5	Dharna Gaon	S.No.22(p)		2272.0	23855822	30240094.2	Pvt	PMC

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488	V-65	Public Utility	5	Dhansar	S.No.179(p)		870.7		11588518.6	Govt	PMC
489	V-66	Housing for EWS/LIG/MIG	5	Dhansar	S.No.179(p)		6782.8		379170628.7	Govt	PMC
490	V-67	Bus Depot	5	Dhansar	S.No.165(p), 164(p), 176(p), 166, 179(p), 184(p), 177(p), 189/12(p), 185(p), 178		58265.8	305895417	310207086.0	Govt/pvt	PMC
491	V-68	Health Facility	5	Dhansar	S.No.156/4(p), 156/5(p)		1880.6	19746510	55068314.8	Pvt	PMC
492	V-69	Community Centre	5	Dhansar	S.No.156/5(p), 179(p)		3018.5	1955087	88387900.1	Govt/pvt	PMC
493	V-70	Medical Amenity	5	Dhansar	S.No.179(p)		4914.4		143904061.3	Govt	PMC
494	V-71	Water Services	5	Dhansar	S.No.179(p)		684.9		9115528.8	Govt	PMC
495	V-72	Garden	5	Dhansar	S.No.179(p)		6406.3		17053696.8	Govt	PMC
496	V-73	Government & Semi-Government Offices	5	Dhansar	S.No.179(p), 184(p)		2152.8	0	63037271.4	Govt	PMC
497	V-74	School for Specially Abled	5	Dhansar	S.No.179(p), 189/1(p), 185(p)		3054.5	16035867	89440430.7	Govt/pvt	PMC
498	V-75	Municipal Market	5	Dhansar	S.No.179(p)		4594.2		12229718.2	Govt	PMC
499	V-76	Educational Amenity	5	Dhansar	S.No.179(p), 180/2		4864.5	0	142443618.7	Govt	PMC/ Organisation
500	V-77	Playground	5	Dhansar	S.No.179(p)		12758.2		33962246.3	Govt	PMC
501	V-78	Public Utility	5	Dhansar	S.No.189/4(p)		201.8		2686549.0	Govt	PMC
502	V-79	Municipal Purpose	5	Dhansar	S.No.189/4(p)		1231.0		36046101.6	Govt	PMC

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503	V-80	Municipal Purpose	5	Dhansar	S.No.215		1920.7	20167865	56243374.2	Pvt	PMC
504	V-81	Garden	5	Dhansar	S.No.13(p)		102.4	537661	272619.5	Pvt	PMC
505	V-82	Garden	5	Dhansar	S.No.122		5971.3		15895627.2	Govt	PMC
506	V-83	Parking	5	Dhansar	S.No.38(p), 59(p), 40(p), 39(p), 60(p)		11891.1	124856403	31654071.0	Pvt	PMC
507	V-84	Educational Amenity	5	Dhansar	S.No.119(p), 118(p)		3405.3	35755692	99714113.1	Pvt	PMC/ Organisation
508	V-85	Playground	5	Dhansar	S.No.118(p), 119(p)		3365.3	35336083	8958538.4	Pvt	PMC
509	V-86	Transfer Station (SWM)	5	Dhansar	S.No.102(p)		821.6	8626586	2187044.9	Pvt	PMC
510	V-87	Garden	5	Dhansar	S.No.105(p)		3793.8	0	10099082.6	Govt	PMC
511	V-88	Bus Terminus	5	Turbhe	S.No.30(P), 24(P), Dhansar 68/3(p), 68/1(p)		11411.8	111379185	60756432.2	Pvt	PMC
512	V-89	Educational Amenity	5	Turbhe	S.No.44(p), 40(p)		4087.0	19944797	119676955.7	Govt/P vt	PMC/ Organisation
513	V-90	Playground	5	Turbhe	S.No.44(p)		3667.2	0	9761990.3	Govt	PMC
514	V-91	Garden	5	Turbhe	S.No.43(p), 50(p)		1693.1	16525043	4507137.6	Pvt	PMC
515	V-92	Municipal Purpose	5	Turbhe	S.No.50(p)		10400.8		304557337.6	Govt	PMC
516	V-93	Burial Ground	5	Turbhe	S.No.71(p)		3132.6		8339066.9	Govt	PMC
517	V-94	Crematorium	5	Turbhe	S.No.71(p)		2730.6		7268830.0	Govt	PMC
518	V-95	Garden	5	Turbhe	S.No.5(p), 2(p)		3109.4	0	8277128.9	Govt	PMC
519	V-96	Municipal Purpose	5	Turbhe	S.No.81		1607.9	15692997	47082207.1	Pvt	PMC

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520	V-97	Garden	5	Turbhe	S.No.84(p)		2224.5		5921731.6	Govt	PMC
521	V-98	Water Services	5	Turbhe	S.No.89(p)		2595.8		34550223.9	Govt	PMC
522	V-99	Parking	5	Turbhe	S.No.88(p), 89(p)		5641.3		15017209.7	Govt	PMC
523	V-100	Municipal Office	5	Turbhe	S.No.89(p)		3519.6		103060668.4	Govt	PMC
524	V-101	Medical Amenity	5	Turbhe	S.No.88(p), 89(p)		3295.0		96484862.6	Govt	PMC
525	V-102	Community Centre & Library	5	Turbhe	S.No.89(p)		1566.2		45860839.1	Govt	PMC
526	V-103	Fire Station	5	Turbhe	S.No.89(p)		7173.6		95480983.7	Govt	PMC
527	V-104	Garden	5	Turbhe	S.No.89(p)		4079.4		10859370.7	Govt	PMC
528	V-105	Conventional Centre	5	Turbhe	S.No.88(p), 89(p)		16843.0	164387713	493196824.2	Pvt	PMC
529	V-106	Playground	5	Turbhe	S.No.14(p), 12(p), 11(p), 10		11637.5	56791144	30979103.6	Govt/Pvt	PMC
530	V-107	Educational Amenity	5	Turbhe	S.No.14(p), 13, 12(p), 16(p), 11(p)		7514.2	36669481	220031914.0	Govt/Pvt	PMC/ Organisation
531	V-108	Medical Amenity	5	Turbhe	S.No.18		5673.4		166129455.9	Govt	PMC
532	V-109	Garden	5	Turbhe	S.No.93		4746.2		12634401.9	Govt	PMC
533	V-110	Educational Amenity	5	Pisarve	S.No.28(p), 27(p), Dhansar 84 F(p)		5381.5	56505926	157581573.6	Pvt	PMC/ Organisation
534	V-111	Playground	5	Pisarve	S.No.28(p)		7093.5	74481322	18882788.5	Pvt	PMC
535	V-112	Municipal Shopping Complex & Parking	5	Pisarve	S.No.22(P)		21666.8		634446359.1	Govt	PMC

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536	V-113	Medical Amenity	5	Pisarve	S.No.19(p)		10030.9		293725432.9	Govt	PMC
537	V-114	Water Services	5	Pisarve	S.No.19(p)		1166.9		15531996.1	Govt	PMC
538	V-115	Water Services	5	Pisarve	S.No.19(p)		838.0		11154296.9	Govt	PMC
539	V-116	Community Centre	5	Pisarve	S.No.19(p)		6845.9		200462753.2	Govt	PMC
540	V-117	Garden	5	Pisarve	Talav		18099.2	95021010	48180176.9	Govt/p vt	PMC
541	V-118	Old age Home	5	Pisarve	S.No.143(p),142(p), 144(p),141(P)		1515.5	7956585	44378042.3	Govt/p vt	PMC
542	V-119	Crematorium	5	Pisarve	S.No. 152(p)		1317.6	6917138	3507318.1	Govt/p vt	PMC
543	V-120	Hostel	5	Pisarve	S.No.152(p), 4(p), 5(p)		2790.7	14651018	81716398.9	Govt/p vt	PMC
544	V-121	Municipal Purpose	5	Pisarve	S.No.59(p)		1141.5	0	33424549.9	Govt	PMC
545	V-122	Municipal Market	5	Pisarve	S.No.73(p), 2(p), 74(p), 62(p)		3062.0	32150666	8150959.4	Pvt	PMC
546	V-123	Sewerage Services	5	Pisarve	S.No.66(p), 70B, 69, 70A(p), 75(p), 68(p), 71(p)		9646.5	50644383	128395568.9	Govt/P vt	PMC
547	V-124	Educational Amenity	5	Pisarve	S.No.118(p), 121(p), 122(p)		3815.7	40064794	111731170.5	Pvt	PMC/ Organisation
548	V-125	Playground	5	Pisarve	S.No.118(p), 121(p), 122(p), 123(p), 124(p)		4826.0	50673019	12846816.8	Pvt	PMC

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549	V-126	Bus Terminus	5	Pisarve	S.No.115(p), 119, 118(p), 121(p)		10083.3	52937135	53683296.3	Govt/P vt	PMC
550	V-127	Sewerage Services	5	Pisarve	S.No.108(p), 109		5096.1	0	67828663.2	Govt	PMC
551	V-128	PMC Staff Quarters (Shram Safalya Yojana)	5	Taloje Majkur	S.No.29(p), 28(p), 26(p), 52(p)		13417.4	60378300	392888305.1	Govt/p vt	PMC
552	V-129	Playground	5	Taloje Majkur	S.No.51(p), 50(p), 54(p)		2827.6	25448310	7527044.6	Pvt	PMC
553	V-130	Educational Amenity	5	Taloje Majkur	S.No.51(p), 50(p), 54(p)		2324.5	20920348	68065515.8	Pvt	PMC/ Organisation
554	V-131	Medical Amenity	5	Taloje Majkur	S.No.52(p)		4720.5	0	138225191.7	Govt	PMC
555	V-132	Garden	5	Taloje Majkur	S.No.55(p), 54(p), 53(p),67a(p), 66(p), 64(p)		12310.5	55397329	32770598.0	Govt/p vt	PMC
556	V-133	Garden	5	Taloje Majkur	S.No.65(p), 94(p),95(p),64(p)		9161.0	82449000	24386582.0	pvt	PMC
557	V-134	Sewerage Treatment Plant	5	Taloje Majkur	S.No.131(p)		4468.8	0	130854286.2	Govt	PMC
558	V-135	Community Centre	5	Taloje Majkur	S.No.131(p)		1607.5		47070691.6	Govt	PMC
559	V-136	Municipal Purpose	5	Taloje Majkur	S.No.131(p)		2856.7		83650635.8	Govt	PMC
560	V-137	Water Services	5	Taloje Majkur	S.No.131(p)		553.1		7361666.3	Govt	PMC
561	V-138	Garden	5	Taloje Majkur	S.No.128, 127		8452.3		22500146.4	Govt	PMC

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562	V-139	Riverfront Development	5	Taloje Majkur	S.No.118(p),119(p), 121(p),124(p),123(p),125(p),126(p),109(p), Koyanavelhe 43(p),41(p), Ghot 53(p), 3(p),2(p)		58922.1	265149251	156850512.6	Govt/Pvt	PMC
563	V-140	Garden	5	Taloje Majkur	S.No.123(p), 113(p)		12871.2		34263159.9	Govt	PMC
564	V-141	Municipal Staff Quarters	5	Taloje Majkur	S.No.123(p), 113(p)		27311.9		799745948.9	Govt	PMC
565	V-142	Medical Hub	5	Taloje Majkur	S.No.123(p), 113(p), 122(p)		67066.8		892658465.3	Govt	PMC
566	V-143	Fire Station	5	Taloje Majkur	S.No.123(p), 113(p), 112(p)		8000.1		106480693.1	Govt	PMC
567	V-144	Hostel	5	Taloje Majkur	S.No.123(p)		8278.7		242416437.9	Govt	PMC
568	V-145	Burial Ground	5	Taloje Majkur	S.No.131(p)		1923.5		5120378.2	Govt	PMC
569	V-146	Crematorium	5	Taloje Majkur	S.No.131(p)		1512.0		4024931.0	Govt	PMC
570	V-147	Parking	5	Taloje Majkur	S.No.131(p)		2571.4		6845075.2	Govt	PMC
571	V-148	Municipal Market	5	Taloje Majkur	S.No.131(p)		4709.3		12536233.8	Govt	PMC
572	V-149	Veterinary Hospital	5	Taloje Majkur	S.No.108(p)		916.3		26830602.1	Govt	PMC
573	V-150	Kondwada	5	Taloje Majkur	S.No.108(p)		3343.5		8900325.7	Govt	PMC
574	V-151	Water Services	5	Taloje Majkur	S.No.108(p), Ghot 53(p)		3106.2		41343888.8	Govt	PMC
575	V-152	Sewerage Services	5	Taloje Majkur	S.No.108(p)		16389.2		218139876.0	Govt	PMC

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576	V-153	Garden	5	Karavale Bk.	S.No.112		1191.6		3172161.7	Govt	PMC
577	V-154	Garden	5	Karavale Bk.	S.No.98(p), 96(p)		3962.5	33681545	10548267.4	Pvt	PMC
578	V-155	Municipal Market	5	Karavale Bk.	S.No.109		2125.3	0	5657561.0	Govt	PMC
579	V-156	Water Services	5	Karavale Bk.	S.No.61		706.1	0	9398038.5	Govt	PMC
580	V-157	Educational Amenity	5	Karavale Bk.	S.No.87(p)		4365.3	39287250	127823250.5	Pvt	PMC/ Organisation
581	V-158	Playground	5	Karavale Bk.	S.No.71(p), 76(p), 78(p), 77(p), 68(p), 69, 59(p), 67(p), 70(p), 87(p), 80(p),82(p)		55213.1	469311657	146977368.2	Pvt	PMC
582	V-159	Educational Amenity	5	Nagzari	S.No.26/2(p)		2874.1	28051116	84159095.1	Pvt	PMC/ Organisation
583	V-160	Playground	5	Nagzari	S.No.28(p), 11/1(p), 26/1(p), 26/2(p)		4040.7	39437543	10756428.3	Pvt	PMC
584	V-161	Municipal Office	5	Nagzari	S.No.28(p)		1959.1	19120467	57365320.3	Pvt	PMC
585	V-162	Water Services	5	Nagzari	S.No.31/2(p)		4863.1	47464082	64728169.2	Pvt	PMC
586	V-163	Water Services	5	Nagzari	S.No.4(p), 3(p)		1262.8	6061233	16807293.4	Pvt	PMC

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587	V-164	Municipal Solid Waste Management	5	Chal	S.No.81/2(p), 82, 87(p), 103/1, 103/2, 84, 103/4(p), 101(p), 103/3, 83, 100(p), 88(p), 89(p), 90(p)		248850.0	1985822695	1324877196.4	Pvt	PMC
588	V-165	Garden	5	Chal	Chal S.No.103/6(p), 103/5, 81/2(p), 103/4(p), 103/10(p), 103/8, 103/11(p), 103/9, 101(p), 100(p), 103/12(p), Nagzari. 17/2(p), 16(p)		87740.7	700170912	233565785.6	Pvt	PMC
589	V-166	Tertiary Treatment Plant	5	Chal	S.No.103/11(p), 101(p), 100(p), 99(p), 103/12(p)		12537.4	100048354	166872630.4	Govt/Pvt	PMC

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590	V-167	Slaughter House	5	Chal	S.No.87(p), 100(p), 94/1, 91(p), 88(p), 94/2(p), 98(p)		20413.1	162896179	54339552.5	Govt/Pvt	PMC
591	V-168	C&D Waste Management	5	Chal	S.No.91(p), 88(p), 89(p), 93(p), 92, 90(p), 94/2(p), 98(p), 95(p)		50575.5	403592618	134632023.7	Govt/Pvt	PMC
592	V-169	Municipal Hospital	5	Chal	2/1(p), 2/2(p), 2/3(p), 115(p)		4623.1	73785155	135374492.7	Pvt	PMC
593	V-170	Fire Station	5	Chal	2/1(p), 2/2(p), 2/3(p), 4/2(p)		8222.0	131222641	240755725.5	Pvt	PMC
594	V-171	Truck Terminal	5	Chal	S.No.5/3(p), 5/4, 4/1(p), 5/5(p), 4/2(p), 4/5(p), 4/3, 4/4		56442.5	900822225	150249922.6	Pvt	PMC
595	V-172	Garden	5	Ghot	S.No.36(p), 35(p)		27308.6	136542864	72695421.0	Govt/Pvt	PMC
596	V-173	Electric Substation	5	Ghot	S.No.34(p)		3740.2	0	0.0	Pvt	PMC/Distribution company
597	V-174	Scrap Parking	5	Ghot	S.No.31(p),32(p),15(p), Chal 58/8(p)		18620.9	93104545	49568859.7	Govt/Pvt	PMC
598	V-175	Biofuel Plant	5	Ghot	S.No.14(p), 15(p)		6599.5	32997336	87838908.6	Govt/Pvt	PMC
599	V-176	Sewerage Services	5	Ghot	S.No.14(p)		4105.8	20529132	54648548.5	Pvt	PMC

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600	V-177	Educational Amenity	5	Ghot	S.No.27(p)		4006.7	40066800	117323603.8	Pvt	PMC/ Organisation
601	V-178	Playground	5	Ghot	S.No.27(p), 26(p), 23(p), 21(p)		3902.0	39020400	10387230.5	Pvt	PMC
602	V-179	Public Utilities	5	Koynavele	S.No.41(p)		1422.3		18931459.2	Govt	PMC
603	V-180	Environmental Observatory Station	5	Koynavele	S.No.41(p)		778.5		0.0	Govt	Govt
604	V-181	Urban Research Training Centre	5	Koynavele	S.No.41(p)		2376.5		69588713.8	Govt	PMC
605	V-182	Playground	5	Koynavele	S.No.41(p)		5724.6		15238965.3	Govt	PMC
606	V-183	Educational Amenity	5	Koynavele	S.No.41(p)		3155.1		92386351.3	Govt	PMC/ Organisation
607	V-184	Garden	5	Koynavele	S.No.21(p), 19(p)		4300.5	37672041	11447828.0	Pvt	PMC
608	V-185	Parking	5	Koynavele	S.No.33(p), 23(p)		2839.2	24871230	7557901.0	Pvt	PMC
609	V-186	Market	5	Koynavele	S.No.33(p), 23(p)		3610.7	31630103	9611796.0	Pvt	PMC
610	V-187	Playground	5	Koynavele	S.No.33(p), 26(p)		4454.7	39023468	11858501.3	Pvt	PMC
611	V-188	Educational Amenity	5	Koynavele	S.No.26(p)		4727.4	41411731	138426747.9	Pvt	PMC/ Organisation
612	V-189	Municipal Market	5	Tondare	S.No.17(p), 16(p), 3(p)		3959.0	37610707	10538915.9	Pvt	PMC
613	V-190	Community Centre	5	Tondare	S.No.3(p)		1704.6	16193357	49913041.0	Pvt	PMC
614	V-191	Garden	5	Tondare	S.No.4(p), 145(p), 142(p)		3227.3	30659150	8591016.5	Pvt	PMC

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Sr. No	Reserv ation No	Purpose	Planning Sector	Village /CIDCO Node	Survey No., Nodal Plot No, Final Plot No.	Sector No (CID CO)	Area (Sq.M)	Cost of acquisition	Cost of development	Land Owner ship	Acquiring Authority
615	V-192	Medical Amenity	5	Tondare	S.No.149(p), 139(p), 65(p)		1283.3	12191134	37576923.5	Pvt	PMC
616	V-193	Playground	5	Tondare	S.No.135(p), 133(p),		4312.0	40963905	11478517.4	Pvt	PMC
617	V-194	Educational Amenity	5	Tondare	S.No.135(p), 133(p),130(p),132(p)		3493.2	33185020	102286711.1	Pvt	PMC/ Organisation
618	V-195	Water Services	5	Tondare	S.No.132(p), 133(p), S.No.130(p)		1242.4	11802800	16536344.0	Pvt	PMC
619	V-196	Government & Semi-Government Offices	5	Pale khurd	S.No.50(p)		1600.0		46850847.0	Govt	PMC
620	V-197	Municipal Purpose	5	Pale khurd	S.No.58(p), 53(p), 54(p), 55(p)		11668.9	56944242	341688787.4	Govt/Pvt	PMC
621	V-198	Water Services	5	Pale khurd	S.No.55(p), 52(p)		2523.0	0	33581277.4	Govt	PMC
622	V-199	Municipal Purpose	5	Pale khurd	S.No.59(p)		568.9	0	16659108.4	Govt	PMC
623	V-200	Municipal Market	5	Pale khurd	S.No.1(p), 2(p)		1697.1	8281966	4517744.7	Pvt	PMC
624	V-201	Garden	5	Pale khurd	S.No.11(p)		6133.6	59864379	16327764.0	Pvt	PMC
625	V-202	Garden	5	Devichapada	S.No.3(p), 1(p)		1591.4	13940251	4236181.4	Pvt	PMC
626	V-203	Medical Amenity	5	Devichapada	S.No.6(p),1(p),8(p),12		1919.9	8409087	56218011.4	Govt/Pvt	PMC
627	V-204	Municipal Market	5	Devichapada	S.No.16(p),17(p)		1128.6	9886149	3004215.5	Pvt	PMC
628	V-205	Playground	5	Devichapada	S.No.19(p)		2510.1	21988318	6681838.1	Pvt	PMC
629	V-206	Educational	5	Devichapada	S.No.19(p)		2252.4	19730718	65953755.6	Pvt	PMC/

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Sr. No	Reserv ation No	Purpose	Planning Sector	Village /CIDCO Node	Survey No., Nodal Plot No, Final Plot No.	Sector No (CID CO)	Area (Sq.M)	Cost of acquisition	Cost of development	Land Owner ship	Acquiring Authority
		Amenity									Organisation

Annexure III: Municipal Finance Revenue

Income (In Lakh)								
Account Head (In Lakh)	2020-2021	2021-2022	2022-2023	2023-2024 Actual Provision	2023-2024 first 8 months Actual	2023-2024 last 4 months Probable	2023-2024 Revised	2024-2025 Commissioner Est.
Opening Balance	24911.21	32494.24	43404.77	23472.37	75185.84	143086.7	75185.84	125856.3
Revenue Receipt	24679.28	40247.48	63887.03	181334.3	111723.4	59639.35	171362.7	192360.2
Capital Receipt	5138.11	2480.61	5959.61	45447.47	6665.48	18737.26	25402.73	47856.65
Suspense & Other	484.27	6230.33	9922.62	31734.77	7564.65	17893.65	25458.3	33126.75
Total (1+2+3)	30301.66	48958.42	79769.26	258516.5	125953.5	96270.26	222223.8	273343.6
Total Incl. Opening Balance	55212.87	81452.66	123174	281988.9	201139.3	239357	297409.6	399199.9
Expenditure (In Lakh)								
Expenditure (In Lakh)	2020-2021	2021-2022	2022-2023	2023-2024 Actual Provision	2023-2024 Actual	2023-2024 Probable	2023-2024 Revised	2024-2025 Commissioner Est.
Revenue Expenditure	11997.09	20845.62	28434.87	86461.86	31694.34	44461.6	76155.94	131751.8
Capital Expenditure	10558.61	15116.03	17594.3	163749.5	24331.79	53641.4	77973.19	228294.3
Suspense & Other	162.93	2086.24	1959.02	31734.77	2026.46	15397.71	17424.17	39121.75
Total (1+2+3)	22718.63	38047.89	47988.19	281946.1	58052.59	113500.7	171553.3	399167.8
Total Incl. Closing Balance	32494.24	43404.77	75185.84	42.79	143086.7	125856.3	125856.3	32.14
Total Incl. Opening Balance	55212.87	81452.66	123174	281988.9	201139.3	239357	297409.6	399199.9

Annexure IV: Phase Wise Program

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
1	I-1	Parking	Phase-1
2	I-2	Playground	Phase-1
3	I-3	Educational Amenity	Phase-1
4	I-4	Park	Phase-1
5	I-5	Municipal Purpose	Phase-1
6	I-14	Burial Ground	Phase-1
7	I-15	Educational Amenity	Phase-1
8	I-16	Medical Amenity	Phase-1
9	I-18	Educational Amenity	Phase-1
10	I-19	Garden	Phase-1
11	I-29	Garden	Phase-1
12	I-31	Parking	Phase-1
13	I-34	Medical Amenity	Phase-1
14	I-36	Municipal Market	Phase-1
15	I-38	Garden	Phase-1
16	I-48	Medical Amenity	Phase-1
17	I-54	Playground	Phase-1
18	I-58	Public Utility	Phase-1
19	II-E-2	Public Utility	Phase-1
20	II-E-4	Public Utility	Phase-1
21	II-E-6	Social Facility	Phase-1
22	II-E-13	Park	Phase-1
23	II-E-15	Social Facility	Phase-1
24	II-E-31	Public Utility	Phase-1
25	II-E-32	Park	Phase-1
26	II-E-33	Municipal Market	Phase-1
27	II-E-39	Municipal Market	Phase-1
28	II-E-40	Water Services	Phase-1
29	II-E-45	Public Utility	Phase-1
30	II-E-48	Park	Phase-1
31	II-W-6	Social Facility	Phase-1
32	II-W-9	Parking	Phase-1
33	II-W-10	Park	Phase-1
34	II-W-16	Municipal Market	Phase-1
35	II-W-17	Public Utility	Phase-1
36	II-W-21	Park	Phase-1
37	II-W-26	Park	Phase-1
38	II-W-28	Hostel	Phase-1
39	II-W-32	Burial Ground	Phase-1
40	II-W-35	Garden	Phase-1
41	II-W-38	Park	Phase-1
42	II-W-39	Public Utility	Phase-1
43	II-W-44	Educational Amenity	Phase-1
44	II-W-48	Park, Science & Exhibition Centre	Phase-1
45	II-W-57	Educational Amenity	Phase-1

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
46	II-W-58	Social Facility	Phase-1
47	II-W-61	Public Utility	Phase-1
48	III-1	Park	Phase-1
49	III-2	Playground	Phase-1
50	III-7	Public Utility	Phase-1
51	III-13	Playground	Phase-1
52	III-14	Social Facility	Phase-1
53	III-19	Social Facility	Phase-1
54	III-20	Parking	Phase-1
55	III-23	Park	Phase-1
56	III-25	Educational Amenity	Phase-1
57	III-30	Playground	Phase-1
58	III-33	Playground	Phase-1
59	III-34	Medical Amenity	Phase-1
60	III-35	Municipal Market	Phase-1
61	III-36	Park	Phase-1
62	III-38	Parking	Phase-1
63	III-39	Municipal Market	Phase-1
64	III-40	Park	Phase-1
65	III-41	Garden	Phase-1
66	III-42	Public Utility	Phase-1
67	III-43	Municipal Market	Phase-1
68	III-49	Municipal Market	Phase-1
69	III-53	Playground	Phase-1
70	III-56	Municipal Market	Phase-1
71	III-58	Parking	Phase-1
72	III-60	Educational Amenity	Phase-1
73	III-67	Educational Amenity	Phase-1
74	III-69	Parking	Phase-1
75	III-71	Social Facility	Phase-1
76	III-72	Park	Phase-1
77	III-80	Social Facility	Phase-1
78	III-83	Educational Amenity	Phase-1
79	III-84	Open Space	Phase-1
80	III-88	Educational Amenity	Phase-1
81	III-91	Garden	Phase-1
82	III-94	Medical Amenity	Phase-1
83	III-95	Garden	Phase-1
84	III-104	Fire Brigade Station	Phase-1
85	III-108	Public Utility	Phase-1
86	III-112	Educational Amenity	Phase-1
87	III-125	Playground	Phase-1
88	III-128	Open Space	Phase-1
89	IV-3	Social Facility	Phase-1
90	IV-6	Public Utility	Phase-1
91	IV-15	Municipal Market	Phase-1
92	IV-24	Public Utility	Phase-1

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
93	IV-28	Medical Amenity	Phase-1
94	IV-31	Medical Amenity	Phase-1
95	IV-32	Educational Amenity	Phase-1
96	IV-33	Playground	Phase-1
97	IV-36	Water Services	Phase-1
98	IV-38	Social Facility	Phase-1
99	IV-41	Garden	Phase-1
100	IV-43	Municipal Market	Phase-1
101	IV-46	Parking	Phase-1
102	IV-55	Trasfer Station	Phase-1
103	IV-58	Public Utility	Phase-1
104	IV-59	Playground	Phase-1
105	IV-65	Medical Amenity	Phase-1
106	IV-72	Municipal Market	Phase-1
107	IV-73	Public Utility	Phase-1
108	IV-81	Garden	Phase-1
109	IV-85	Social Facility	Phase-1
110	IV-89	Open Space	Phase-1
111	IV-93	Garden	Phase-1
112	IV-94	Playground	Phase-1
113	IV-100	Open Space	Phase-1
114	IV-103	Public Utility	Phase-1
115	IV-104	Park	Phase-1
116	V-3	Municipal Purpose	Phase-1
117	V-6	Water Services	Phase-1
118	V-8	Municipal Market	Phase-1
119	V-9	Medical Amenity	Phase-1
120	V-11	Garden	Phase-1
121	V-12	Educational Amenity	Phase-1
122	V-13	Playground	Phase-1
123	V-18	Material Recovery Facility (MRF) & Transfer Station (SWM)	Phase-1
124	V-28	Water Services	Phase-1
125	V-30	Garden	Phase-1
126	V-33	Garden	Phase-1
127	V-34	Public Utility	Phase-1
128	V-39	Parking	Phase-1
129	V-41	Educational Amenity	Phase-1
130	V-42	Playground	Phase-1
131	V-44	Garden	Phase-1
132	V-46	Parking	Phase-1
133	V-50	Water Services	Phase-1
134	V-53	Parking	Phase-1
135	V-55	Garden	Phase-1
136	V-62	Playground	Phase-1
137	V-65	Public Utility	Phase-1
138	V-68	Health Facility	Phase-1
139	V-71	Water Services	Phase-1

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
140	V-72	Garden	Phase-1
141	V-75	Municipal Market	Phase-1
142	V-79	Municipal Purpose	Phase-1
143	V-83	Parking	Phase-1
144	V-89	Educational Amenity	Phase-1
145	V-90	Playground	Phase-1
146	V-91	Garden	Phase-1
147	V-96	Municipal Purpose	Phase-1
148	V-99	Parking	Phase-1
149	V-101	Medical Amenity	Phase-1
150	V-104	Garden	Phase-1
151	V-106	Playground	Phase-1
152	V-110	Educational Amenity	Phase-1
153	V-114	Water Services	Phase-1
154	V-125	Playground	Phase-1
155	V-132	Garden	Phase-1
156	V-140	Garden	Phase-1
157	V-143	Fire Station	Phase-1
158	V-148	Municipal Market	Phase-1
159	V-153	Garden	Phase-1
160	V-155	Municipal Market	Phase-1
161	V-156	Water Services	Phase-1
162	V-157	Educational Amenity	Phase-1
163	V-158	Playground	Phase-1
164	V-172	Garden	Phase-1
165	V-182	Playground	Phase-1
166	V-183	Educational Amenity	Phase-1
167	V-184	Garden	Phase-1
168	V-192	Medical Amenity	Phase-1
169	V-193	Playground	Phase-1
170	V-194	Educational Amenity	Phase-1
171	V-200	Municipal Market	Phase-1
172	V-202	Garden	Phase-1
173	V-203	Medical Amenity	Phase-1
174	I-6	Municipal Market	Phase-2
175	I-7	Municipal Market	Phase-2
176	I-8	Playground	Phase-2
177	I-9	Parking	Phase-2
178	I-11	Open Space	Phase-2
179	I-12	Playground	Phase-2
180	I-13	Cremation Ground	Phase-2
181	I-20	Community Centre	Phase-2
182	I-21	Playground	Phase-2
183	I-22	Housing For Dishoused	Phase-2
184	I-23	Municipal Market	Phase-2
185	I-24	Garden	Phase-2
186	I-26	Municipal Purpose	Phase-2

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
187	I-27	Shopping Center and parking	Phase-2
188	I-30	Health Club & Gymnasium	Phase-2
189	I-32	Municipal Purpose	Phase-2
190	I-33	Housing for Dishoused	Phase-2
191	I-35	Garden	Phase-2
192	I-37	Medical Amenity	Phase-2
193	I-40	Educational Amenity & Playground	Phase-2
194	I-43	Burial Ground	Phase-2
195	I-44	Garden	Phase-2
196	I-45	Municipal Market	Phase-2
197	I-46	Parking	Phase-2
198	I-47	Municipal Purpose	Phase-2
199	I-49	Community Centre	Phase-2
200	I-50	Cremation Ground	Phase-2
201	I-51	Market	Phase-2
202	I-52	Public Utility	Phase-2
203	II-E-3	Municipal Market	Phase-2
204	II-E-7	Hostel	Phase-2
205	II-E-8	Cultural & Linguistic Centre	Phase-2
206	II-E-9	Municipal Market	Phase-2
207	II-E-11	Municipal Market	Phase-2
208	II-E-12	Auditorium	Phase-2
209	II-E-17	Police Housing	Phase-2
210	II-E-18	Municipal Market	Phase-2
211	II-E-20	Health Facility	Phase-2
212	II-E-21	Municipal Market	Phase-2
213	II-E-22	Public Utility	Phase-2
214	II-E-24	Open Space	Phase-2
215	II-E-25	Municipal Market	Phase-2
216	II-E-28	Bus Terminal	Phase-2
217	II-E-34	Public Utility	Phase-2
218	II-E-35	Park	Phase-2
219	II-E-37	Public Utility	Phase-2
220	II-E-38	Parking	Phase-2
221	II-E-42	Housing for Dishoused	Phase-2
222	II-E-43	Public Utility	Phase-2
223	II-E-44	Municipal Market	Phase-2
224	II-E-47	Municipal Shopping Complex & Parking	Phase-2
225	II-E-49	Educational Amenity	Phase-2
226	II-E-50	Playground	Phase-2
227	II-E-53	Park	Phase-2
228	II-E-61	Park	Phase-2
229	II-E-62	Health Facility	Phase-2
230	II-E-63	Water Services	Phase-2
231	II-W-1	Health Facility	Phase-2
232	II-W-2	Shppoing Centre	Phase-2
233	II-W-3	Social Facility	Phase-2

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
234	II-W-7	Bus Terminal & Depot	Phase-2
235	II-W-8	Health Facility	Phase-2
236	II-W-12	Park	Phase-2
237	II-W-13	Municipal Market	Phase-2
238	II-W-14	Public Utility	Phase-2
239	II-W-18	Health Facility	Phase-2
240	II-W-19	Municipal Market	Phase-2
241	II-W-20	Municipal Market	Phase-2
242	II-W-22	Community Centre	Phase-2
243	II-W-23	Bus Terminal & Depot	Phase-2
244	II-W-24	Municipal Market	Phase-2
245	II-W-25	Health Club & Gymnasium	Phase-2
246	II-W-27	Social Facility	Phase-2
247	II-W-31	Park	Phase-2
248	II-W-36	Health Facility	Phase-2
249	II-W-37	Health Facility	Phase-2
250	II-W-40	Park	Phase-2
251	II-W-41	Parking	Phase-2
252	II-W-43	Garden	Phase-2
253	II-W-46	Government Office	Phase-2
254	II-W-49	Health Facility	Phase-2
255	II-W-50	Truck Terminal	Phase-2
256	II-W-52	Health Facility	Phase-2
257	II-W-54	Municipal Market	Phase-2
258	II-W-55	Health Facility	Phase-2
259	II-W-56	Playground	Phase-2
260	II-W-59	Public Utility	Phase-2
261	II-W-60	Park	Phase-2
262	II-W-62	Sports Complex	Phase-2
263	III-3	School for Specially Abled	Phase-2
264	III-4	Playground	Phase-2
265	III-5	Municipal Market	Phase-2
266	III-6	Municipal Market	Phase-2
267	III-8	Park	Phase-2
268	III-9	Medical Amenity	Phase-2
269	III-10	Playground	Phase-2
270	III-12	Public Utility	Phase-2
271	III-18	Social Facility	Phase-2
272	III-21	Municipal Market	Phase-2
273	III-24	Crematorium	Phase-2
274	III-27	Municipal Office	Phase-2
275	III-28	Playground	Phase-2
276	III-29	Municipal Market	Phase-2
277	III-31	Community Centre	Phase-2
278	III-32	Park	Phase-2
279	III-37	Park	Phase-2
280	III-47	Social Facility	Phase-2

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
281	III-48	Garden	Phase-2
282	III-51	Parking	Phase-2
283	III-52	Library	Phase-2
284	III-59	Municipal Market	Phase-2
285	III-62	Playground	Phase-2
286	III-64	Educational Amenity	Phase-2
287	III-66	Municipal Market	Phase-2
288	III-75	Social Facility	Phase-2
289	III-78	Public Utility	Phase-2
290	III-81	Medical Amenity	Phase-2
291	III-82	Playground	Phase-2
292	III-85	Sewage Treatment Plant	Phase-2
293	III-86	Open Space	Phase-2
294	III-87	Playground	Phase-2
295	III-92	Garden	Phase-2
296	III-93	Garden	Phase-2
297	III-96	Sewage Treatment Plant	Phase-2
298	III-97	Auditorium	Phase-2
299	III-99	Medical Amenity	Phase-2
300	III-100	Social Facility	Phase-2
301	III-101	Hostel	Phase-2
302	III-102	Educational Amenity	Phase-2
303	III-105	Burial Ground	Phase-2
304	III-111	Health Club & Gymnasium	Phase-2
305	III-113	Playground	Phase-2
306	III-116	Educational Amenity	Phase-2
307	III-117	Park	Phase-2
308	III-118	Medical Amenity	Phase-2
309	III-119	Municipal Market	Phase-2
310	III-120	Parking	Phase-2
311	III-121	Garden	Phase-2
312	III-123	Social Facility	Phase-2
313	III-126	Park	Phase-2
314	IV-2	Parking	Phase-2
315	IV-9	Police Housing	Phase-2
316	IV-10	Municipal Market	Phase-2
317	IV-13	Municipal Purpose	Phase-2
318	IV-18	Parking	Phase-2
319	IV-21	Municipal Market	Phase-2
320	IV-22	Police Station	Phase-2
321	IV-23	Public Utility	Phase-2
322	IV-25	Municipal Market	Phase-2
323	IV-27	Art Institute	Phase-2
324	IV-29	Social Facility	Phase-2
325	IV-34	Medical Amenity	Phase-2
326	IV-37	Municipal Market	Phase-2
327	IV-40	Social Facility	Phase-2

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
328	IV-42	Playground	Phase-2
329	IV-45	Police Station	Phase-2
330	IV-53	Post Office	Phase-2
331	IV-54	Municipal Market	Phase-2
332	IV-57	Garden	Phase-2
333	IV-61	Municipal Market	Phase-2
334	IV-62	Public Utility	Phase-2
335	IV-63	Auditorium	Phase-2
336	IV-71	Municipal Market	Phase-2
337	IV-74	Municipal Market	Phase-2
338	IV-76	Public Utility	Phase-2
339	IV-77	Social Facility	Phase-2
340	IV-79	Social Facility	Phase-2
341	IV-82	Open Space	Phase-2
342	IV-83	Community Centre	Phase-2
343	IV-84	Crematorium	Phase-2
344	IV-86	Water Services	Phase-2
345	IV-87	Medical Amenity	Phase-2
346	IV-88	Sports Complex	Phase-2
347	IV-90	Playground	Phase-2
348	IV-92	Educational Amenity	Phase-2
349	IV-97	Educational Amenity	Phase-2
350	IV-98	Playground	Phase-2
351	IV-101	Open Space	Phase-2
352	IV-102	Truck terminal	Phase-2
353	IV-105	Educational Amenity	Phase-2
354	IV-106	Playground	Phase-2
355	IV-107	Playground	Phase-2
356	V-1	Adventure Park & Amusement Park	Phase-2
357	V-2	Parking	Phase-2
358	V-4	Bus Terminus	Phase-2
359	V-5	Fire Station & Allied Services	Phase-2
360	V-7	Municipal Purpose	Phase-2
361	V-10	Municipal Office	Phase-2
362	V-17	Garden	Phase-2
363	V-19	Public Utility	Phase-2
364	V-20	Garden	Phase-2
365	V-22	Parking	Phase-2
366	V-23	Playground	Phase-2
367	V-24	Educational Amenity	Phase-2
368	V-25	Burial Ground	Phase-2
369	V-29	Medical Amenity	Phase-2
370	V-31	Community Centre	Phase-2
371	V-32	Municipal Market	Phase-2
372	V-35	Electric Substation	Phase-2
373	V-37	Community Centre	Phase-2
374	V-38	Auditorium	Phase-2

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
375	V-40	Parking	Phase-2
376	V-45	Bus Terminus	Phase-2
377	V-47	Water Services	Phase-2
378	V-51	Garden	Phase-2
379	V-52	Auditorium	Phase-2
380	V-54	Municipal purpose	Phase-2
381	V-57	Garden	Phase-2
382	V-58	Municipal Purpose	Phase-2
383	V-59	Water Services	Phase-2
384	V-61	Educational Amenity	Phase-2
385	V-63	Medical Amenity	Phase-2
386	V-67	Bus Depot	Phase-2
387	V-69	Community Centre	Phase-2
388	V-70	Medical Amenity	Phase-2
389	V-76	Educational Amenity	Phase-2
390	V-77	Playground	Phase-2
391	V-81	Garden	Phase-2
392	V-82	Garden	Phase-2
393	V-85	Playground	Phase-2
394	V-86	Transfer Station (SWM)	Phase-2
395	V-88	Bus Terminus	Phase-2
396	V-92	Municipal Purpose	Phase-2
397	V-93	Burial Ground	Phase-2
398	V-94	Crematorium	Phase-2
399	V-95	Garden	Phase-2
400	V-97	Garden	Phase-2
401	V-100	Municipal Office	Phase-2
402	V-103	Fire Station	Phase-2
403	V-107	Educational Amenity	Phase-2
404	V-109	Garden	Phase-2
405	V-111	Playground	Phase-2
406	V-112	Municipal Shopping Complex & Parking	Phase-2
407	V-113	Medical Amenity	Phase-2
408	V-117	Garden	Phase-2
409	V-119	Crematorium	Phase-2
410	V-121	Municipal Purpose	Phase-2
411	V-123	Sewerage Services	Phase-2
412	V-126	Bus Terminus	Phase-2
413	V-128	PMC Staff Quarters (Shram Safalya Yojana)	Phase-2
414	V-129	Playground	Phase-2
415	V-130	Educational Amenity	Phase-2
416	V-131	Medical Amenity	Phase-2
417	V-134	Sewerage Treatment Plant	Phase-2
418	V-135	Community Centre	Phase-2
419	V-137	Water Services	Phase-2
420	V-138	Garden	Phase-2
421	V-142	Medical Hub	Phase-2

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
422	V-144	Hostel	Phase-2
423	V-145	Burial Ground	Phase-2
424	V-147	Parking	Phase-2
425	V-150	Kondwada	Phase-2
426	V-152	Sewerage Services	Phase-2
427	V-159	Educational Amenity	Phase-2
428	V-160	Playground	Phase-2
429	V-162	Water Services	Phase-2
430	V-164	Municipal Solid Waste Management	Phase-2
431	V-165	Garden	Phase-2
432	V-169	Municipal Hospital	Phase-2
433	V-170	Fire Station	Phase-2
434	V-173	Electric Substation	Phase-2
435	V-178	Playground	Phase-2
436	V-185	Parking	Phase-2
437	V-186	Market	Phase-2
438	V-188	Educational Amenity	Phase-2
439	V-189	Municipal Market	Phase-2
440	V-195	Water Services	Phase-2
441	V-197	Municipal Purpose	Phase-2
442	V-199	Municipal Purpose	Phase-2
443	V-201	Garden	Phase-2
444	V-204	Municipal Market	Phase-2
445	V-205	Playground	Phase-2
446	V-206	Educational Amenity	Phase-2
447	I-10	Ext to. Sewerage Services	Phase-3
448	I-17	Municipal Market	Phase-3
449	I-25	Garden	Phase-3
450	I-28	Parking	Phase-3
451	I-39	Educational Amenity	Phase-3
452	I-41	Community Centre & Library	Phase-3
453	I-42	Cremation Ground	Phase-3
454	I-53	Public Utility	Phase-3
455	I-55	Community Center	Phase-3
456	I-56	Public Utility	Phase-3
457	I-57	Medical Amenity	Phase-3
458	I-59	Garden	Phase-3
459	I-60	Public Utility	Phase-3
460	I-61	Public Utility	Phase-3
461	I-62	Market	Phase-3
462	I-63	Garden	Phase-3
463	II-E-1	Community Centre	Phase-3
464	II-E-5	Open Space	Phase-3
465	II-E-10	Parking	Phase-3
466	II-E-14	Cultural & Linguistic Centre	Phase-3
467	II-E-16	Social Facility	Phase-3
468	II-E-19	Cultural & Linguistic Centre	Phase-3

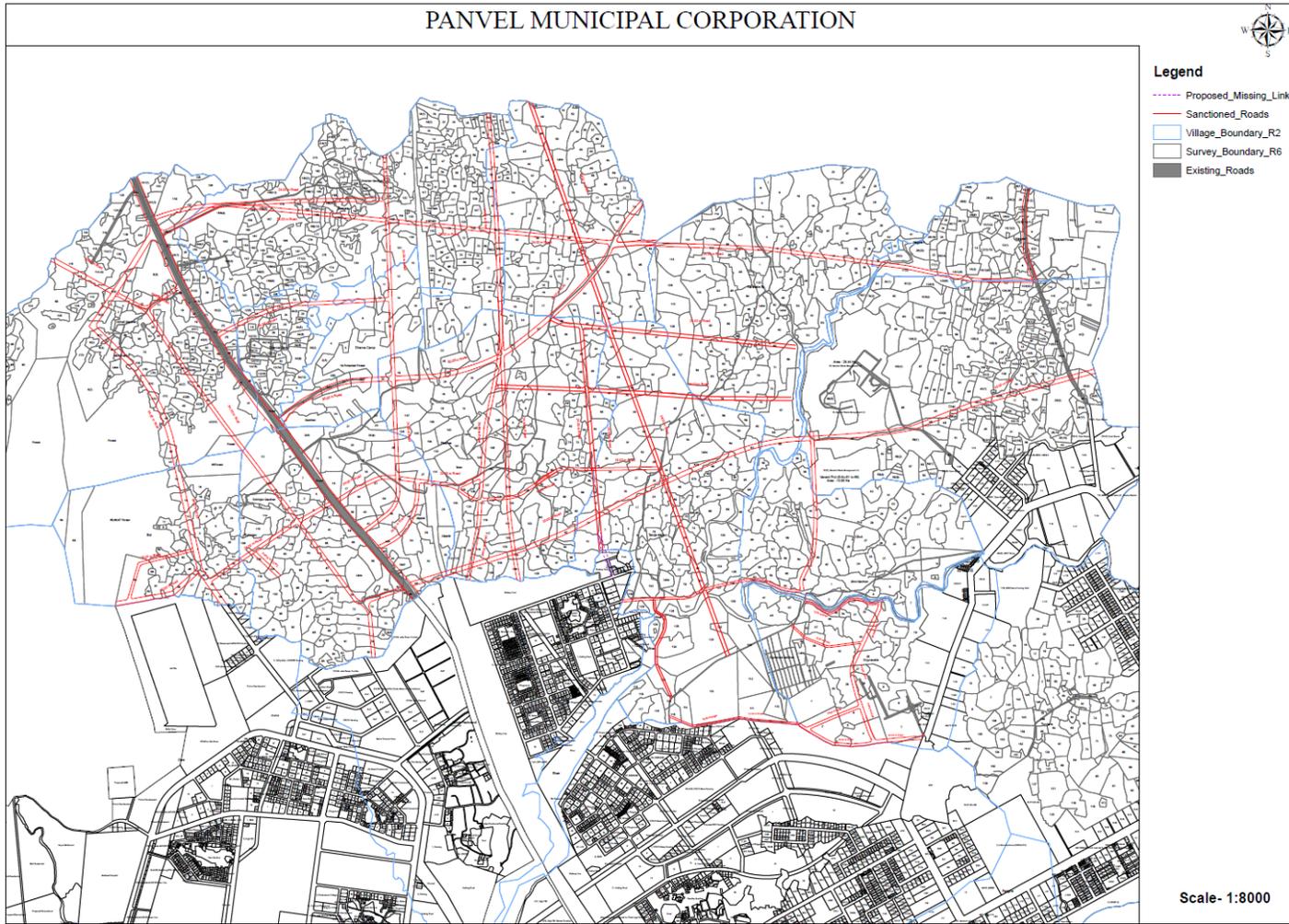
The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
469	II-E-23	Public Utility	Phase-3
470	II-E-26	Health Facility	Phase-3
471	II-E-27	Playground	Phase-3
472	II-E-29	Municipal Market	Phase-3
473	II-E-30	Open Space	Phase-3
474	II-E-36	Ext to Garden	Phase-3
475	II-E-41	Park	Phase-3
476	II-E-46	Community Centre	Phase-3
477	II-E-51	Water Service	Phase-3
478	II-E-52	Housing for Dishoused	Phase-3
479	II-E-54	Public Utility	Phase-3
480	II-E-55	Park	Phase-3
481	II-E-56	Municipal Market	Phase-3
482	II-E-57	Government Office	Phase-3
483	II-E-58	EWS/LIG/MIG	Phase-3
484	II-E-59	Government Office	Phase-3
485	II-E-60	Government Office	Phase-3
486	II-W-4	Social Facility	Phase-3
487	II-W-5	LPG Godown	Phase-3
488	II-W-11	Public Utility	Phase-3
489	II-W-15	Open Space	Phase-3
490	II-W-29	Old age Home	Phase-3
491	II-W-30	Indoor Sports Complex	Phase-3
492	II-W-33	Park	Phase-3
493	II-W-34	Crematorium	Phase-3
494	II-W-42	Ext. to Crematorium	Phase-3
495	II-W-45	Social Facility	Phase-3
496	II-W-47	Social Facility	Phase-3
497	II-W-51	Playground	Phase-3
498	II-W-53	Public Utility	Phase-3
499	III-11	Park	Phase-3
500	III-15	Government & Semi-Government Offices	Phase-3
501	III-16	Playground	Phase-3
502	III-17	Playground	Phase-3
503	III-22	Park	Phase-3
504	III-26	Social Facility	Phase-3
505	III-44	Public Utility	Phase-3
506	III-45	Public Utility	Phase-3
507	III-46	Public Utility	Phase-3
508	III-50	Community Centre	Phase-3
509	III-54	Creamation Ground	Phase-3
510	III-55	Public Utility	Phase-3
511	III-57	Medical Amenity	Phase-3
512	III-61	Municipal Market	Phase-3
513	III-63	Social Facility	Phase-3
514	III-65	Water Services	Phase-3
515	III-68	Playground	Phase-3

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
516	III-70	Social Facility	Phase-3
517	III-73	Playground	Phase-3
518	III-74	Social Facility	Phase-3
519	III-76	Playground	Phase-3
520	III-77	Educational Amenity	Phase-3
521	III-79	Social Facility	Phase-3
522	III-89	Medical Amenity	Phase-3
523	III-90	Social Facility	Phase-3
524	III-98	Government & Semi-Government Offices	Phase-3
525	III-103	Playground	Phase-3
526	III-106	Social Facility	Phase-3
527	III-107	Medical Amenity	Phase-3
528	III-109	Public Utility	Phase-3
529	III-110	Social Facility	Phase-3
530	III-114	Municipal Market	Phase-3
531	III-115	Park	Phase-3
532	III-122	Mangrove Park	Phase-3
533	III-124	Educational Amenity	Phase-3
534	III-127	Open Space	Phase-3
535	IV-1	Shopping Complex	Phase-3
536	IV-4	Working Women Hostel	Phase-3
537	IV-5	Hostel	Phase-3
538	IV-7	Social Facility	Phase-3
539	IV-8	Social Facility	Phase-3
540	IV-11	Hostel	Phase-3
541	IV-12	Old age Home	Phase-3
542	IV-14	Hostel	Phase-3
543	IV-16	Municipal Market	Phase-3
544	IV-17	Public Utility	Phase-3
545	IV-19	Public Utility	Phase-3
546	IV-20	Public Utility	Phase-3
547	IV-26	Sports Complex	Phase-3
548	IV-30	Government Office	Phase-3
549	IV-35	Municipal Market	Phase-3
550	IV-39	Public Utility	Phase-3
551	IV-44	Community Centre	Phase-3
552	IV-47	Social Facility	Phase-3
553	IV-48	Cultural & Linguistic Centre	Phase-3
554	IV-49	Social Facility	Phase-3
555	IV-50	Medical Amenity	Phase-3
556	IV-51	Public Utility	Phase-3
557	IV-52	Playground	Phase-3
558	IV-56	Sewage Treatment Plant	Phase-3
559	IV-60	Garden	Phase-3
560	IV-64	Metro Station and Parking	Phase-3
561	IV-66	Public Utility	Phase-3
562	IV-67	Municipal Market	Phase-3

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
563	IV-68	Public Utility	Phase-3
564	IV-69	Municipal Market	Phase-3
565	IV-70	Municipal Market	Phase-3
566	IV-75	Municipal Market	Phase-3
567	IV-78	Public Utility	Phase-3
568	IV-80	Social Facility	Phase-3
569	IV-91	Park	Phase-3
570	IV-95	Cultural & Linguistic Centre	Phase-3
571	IV-96	Garden	Phase-3
572	IV-99	Public Utility	Phase-3
573	V-14	Water Services	Phase-3
574	V-15	Water Services	Phase-3
575	V-16	Parking	Phase-3
576	V-21	Municipal Purpose	Phase-3
577	V-26	Ext. to Crematorium	Phase-3
578	V-27	Ext. to Water Services	Phase-3
579	V-36	Ext. to Health Facility	Phase-3
580	V-43	Garden	Phase-3
581	V-48	Crematorium	Phase-3
582	V-49	Municipal Market	Phase-3
583	V-56	Parking	Phase-3
584	V-60	Educational Amenity	Phase-3
585	V-64	Water Services	Phase-3
586	V-66	Housing for EWS/LIG/MIG	Phase-3
587	V-73	Government & Semi-Government Offices	Phase-3
588	V-74	School for Specially Abled	Phase-3
589	V-78	Public Utility	Phase-3
590	V-80	Municipal Purpose	Phase-3
591	V-84	Educational Amenity	Phase-3
592	V-87	Garden	Phase-3
593	V-98	Water Services	Phase-3
594	V-102	Community Centre & Library	Phase-3
595	V-105	Conventional Centre	Phase-3
596	V-108	Medical Amenity	Phase-3
597	V-115	Water Services	Phase-3
598	V-116	Community Centre	Phase-3
599	V-118	Old age Home	Phase-3
600	V-120	Hostel	Phase-3
601	V-122	Municipal Market	Phase-3
602	V-124	Educational Amenity	Phase-3
603	V-127	Sewerage Services	Phase-3
604	V-133	Garden	Phase-3
605	V-136	Municipal Purpose	Phase-3
606	V-139	Riverfront Development	Phase-3
607	V-141	Municipal Staff Quarters	Phase-3
608	V-146	Crematorium	Phase-3
609	V-149	Veterinary Hospital	Phase-3

The development of reservations will be divided into three phases: Phase 1 will last for 3 years, Phase 2 will also span 3 years, and Phase 3 will extend over duration of 4 years.			
Sr. No	Reservation No.	Purpose	Phasing
610	V-151	Water Services	Phase-3
611	V-154	Garden	Phase-3
612	V-161	Municipal Office	Phase-3
613	V-163	Water Services	Phase-3
614	V-166	Tertiary Treatment Plant	Phase-3
615	V-167	Slaughter House	Phase-3
616	V-168	C&D Waste Management	Phase-3
617	V-171	Truck Terminal	Phase-3
618	V-174	Scrap Parking	Phase-3
619	V-175	Biofuel Plant	Phase-3
620	V-176	Sewerage Services	Phase-3
621	V-177	Educational Amenity	Phase-3
622	V-179	Public Utilities	Phase-3
623	V-180	Environmental Observatory Station	Phase-3
624	V-181	Urban Research Training Centre	Phase-3
625	V-187	Playground	Phase-3
626	V-190	Community Centre	Phase-3
627	V-191	Garden	Phase-3
628	V-196	Government & Semi-Government Offices	Phase-3
629	V-198	Water Services	Phase-3

Annexure VII: Road Modification details

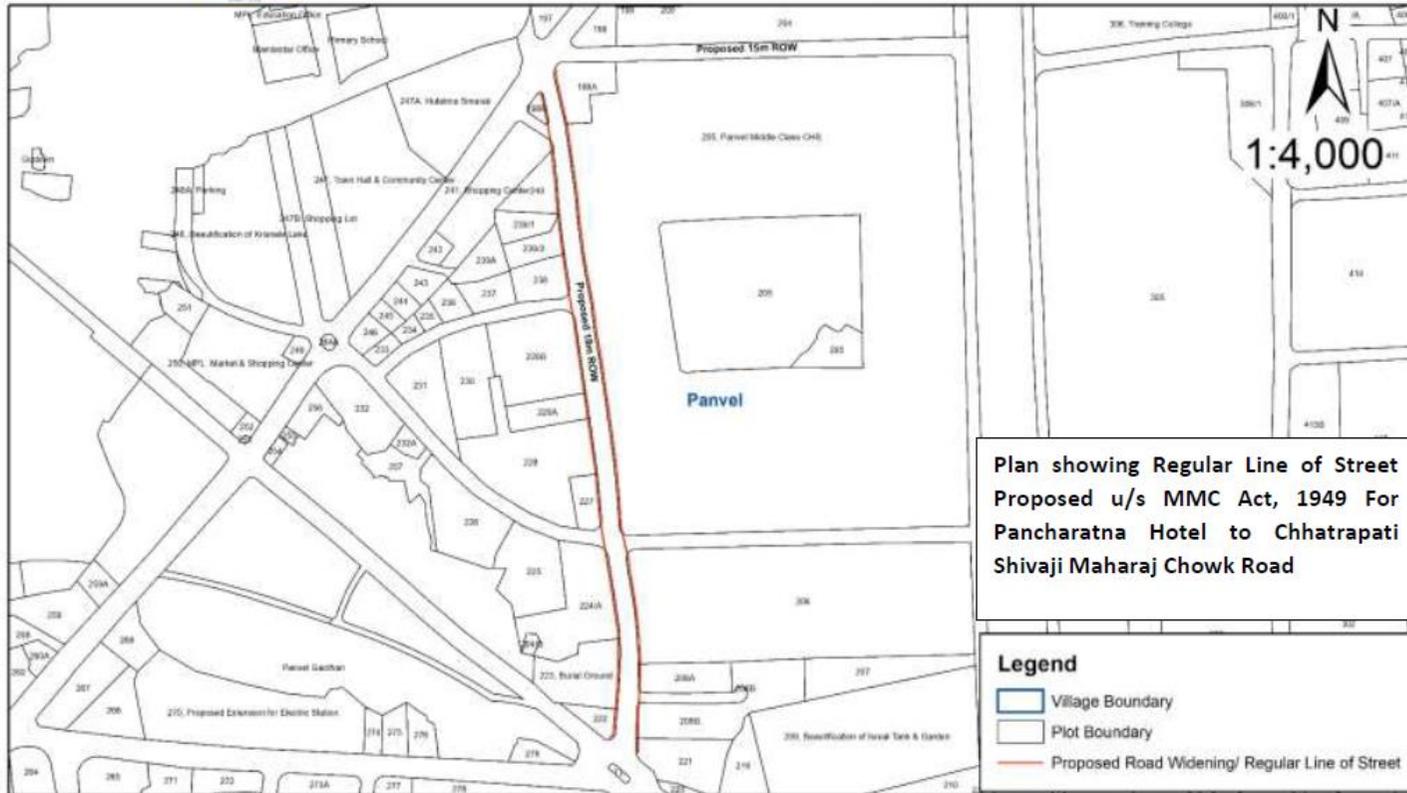


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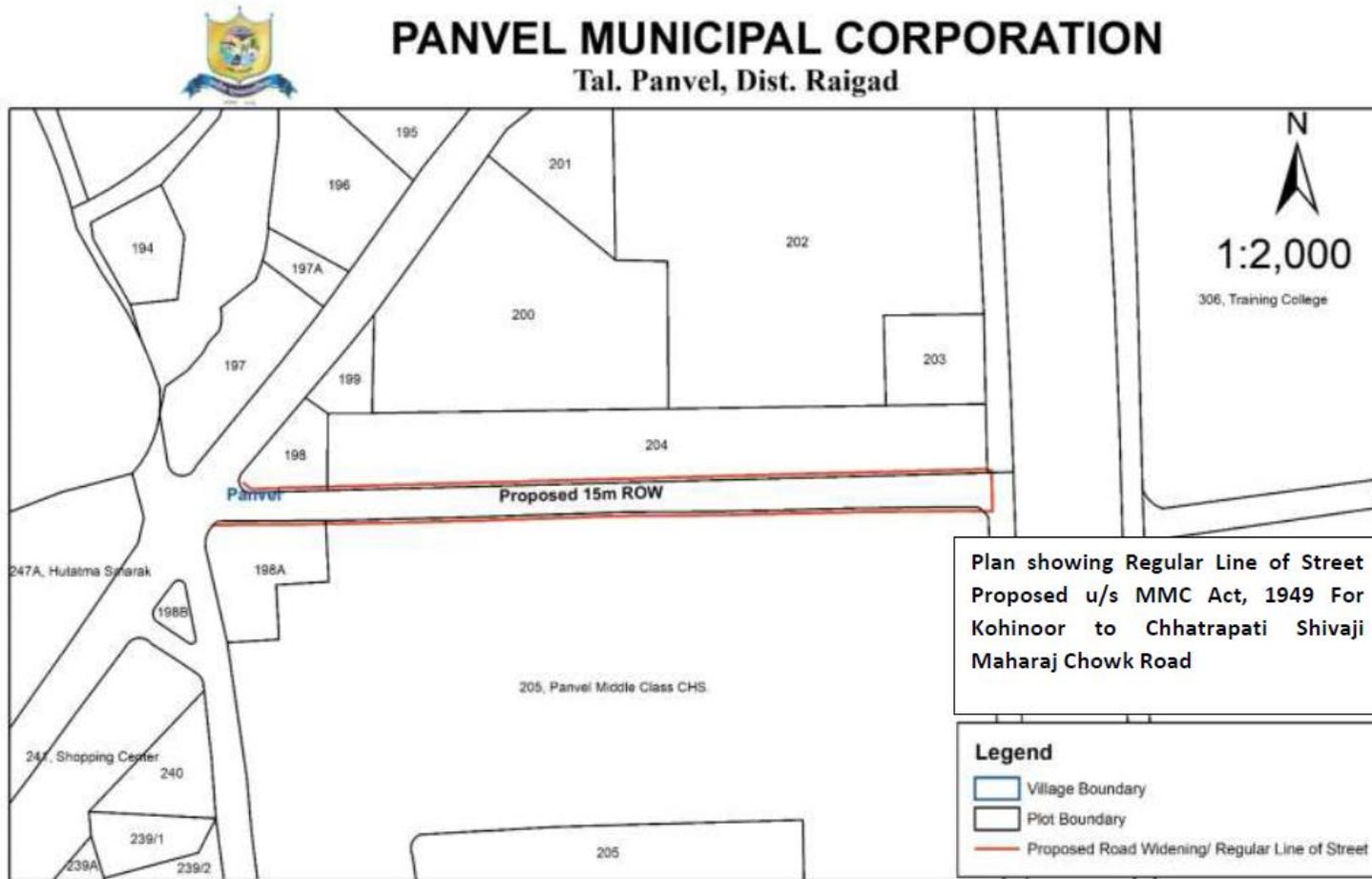
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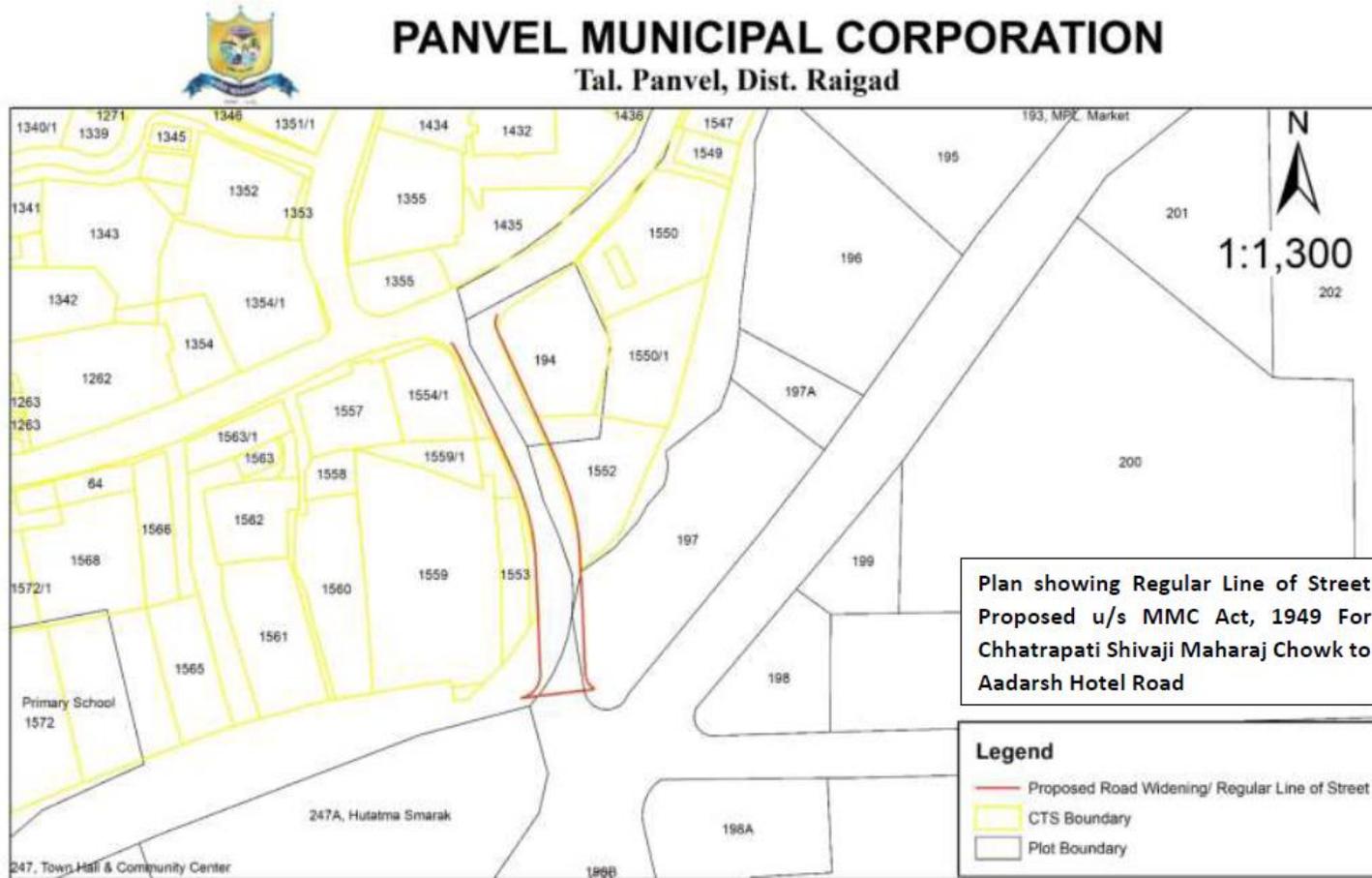
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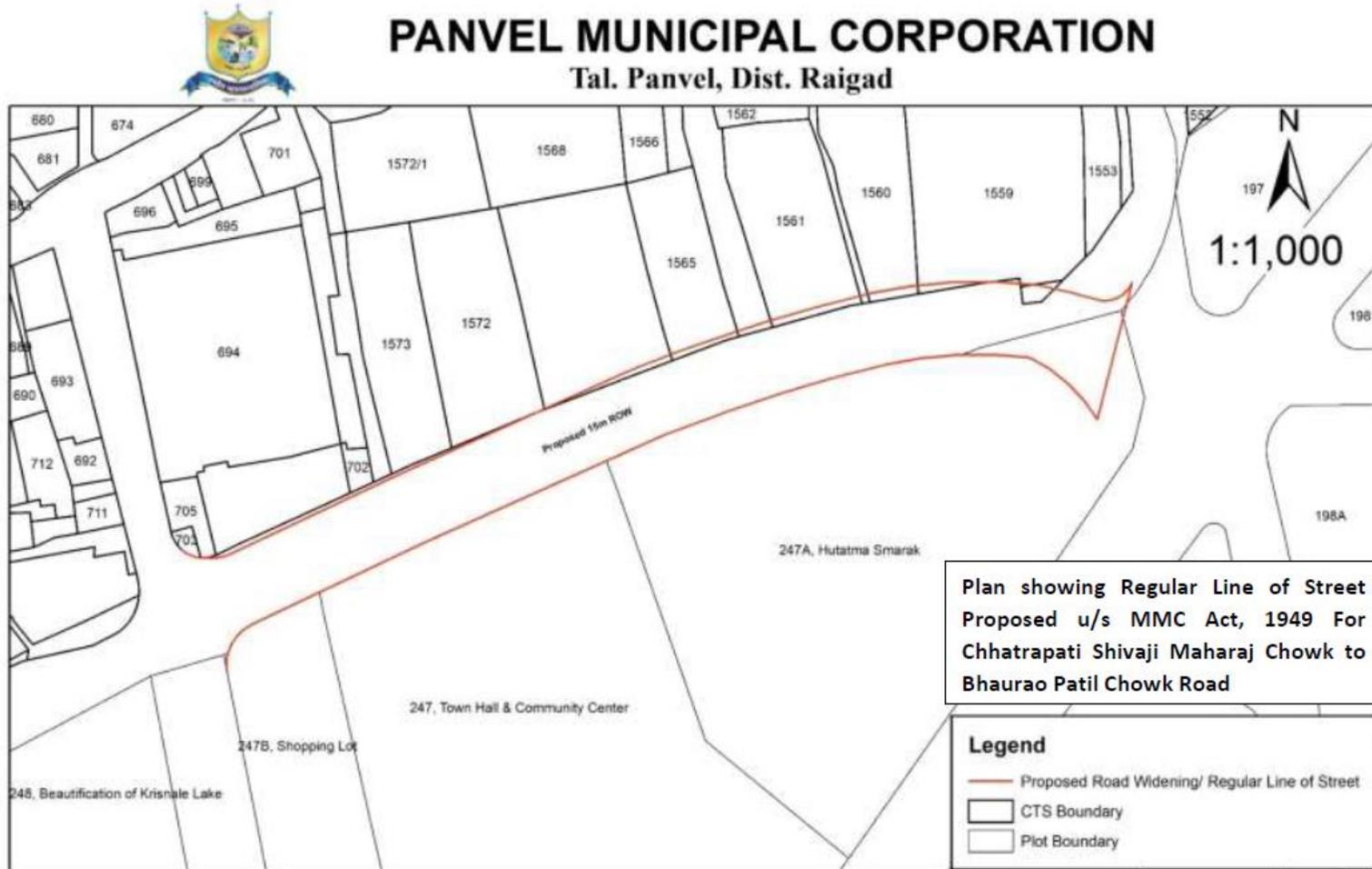
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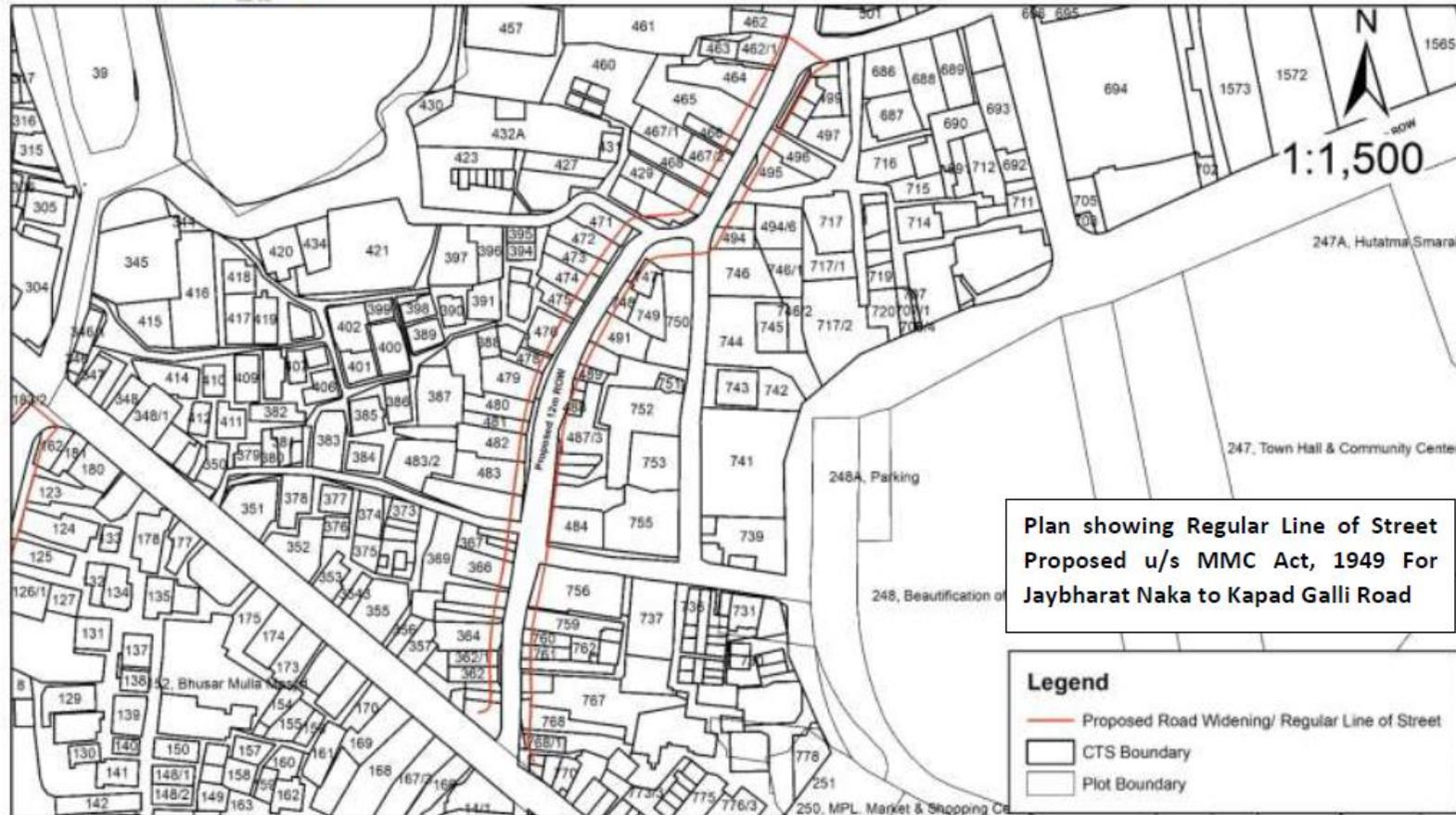
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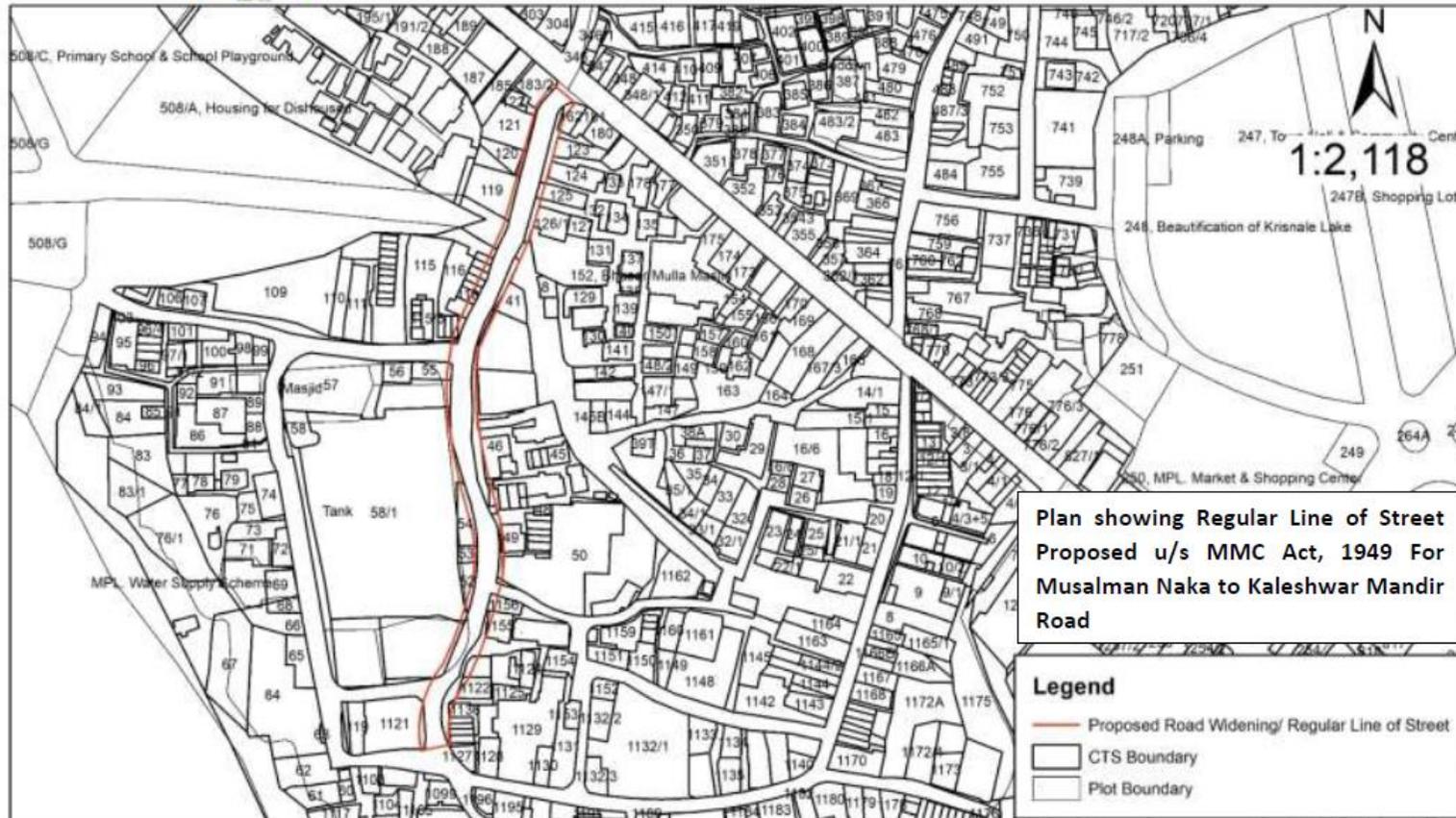
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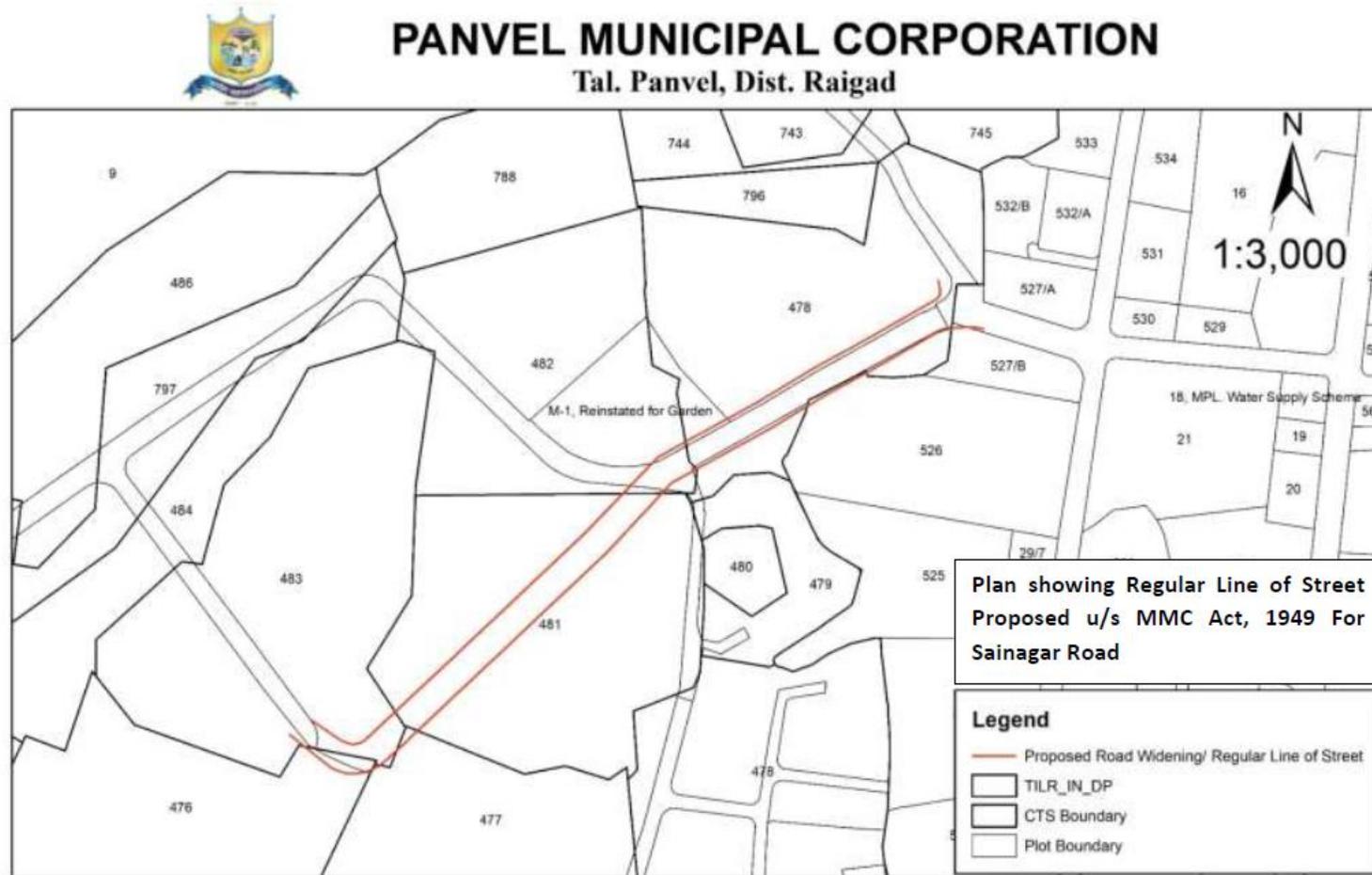
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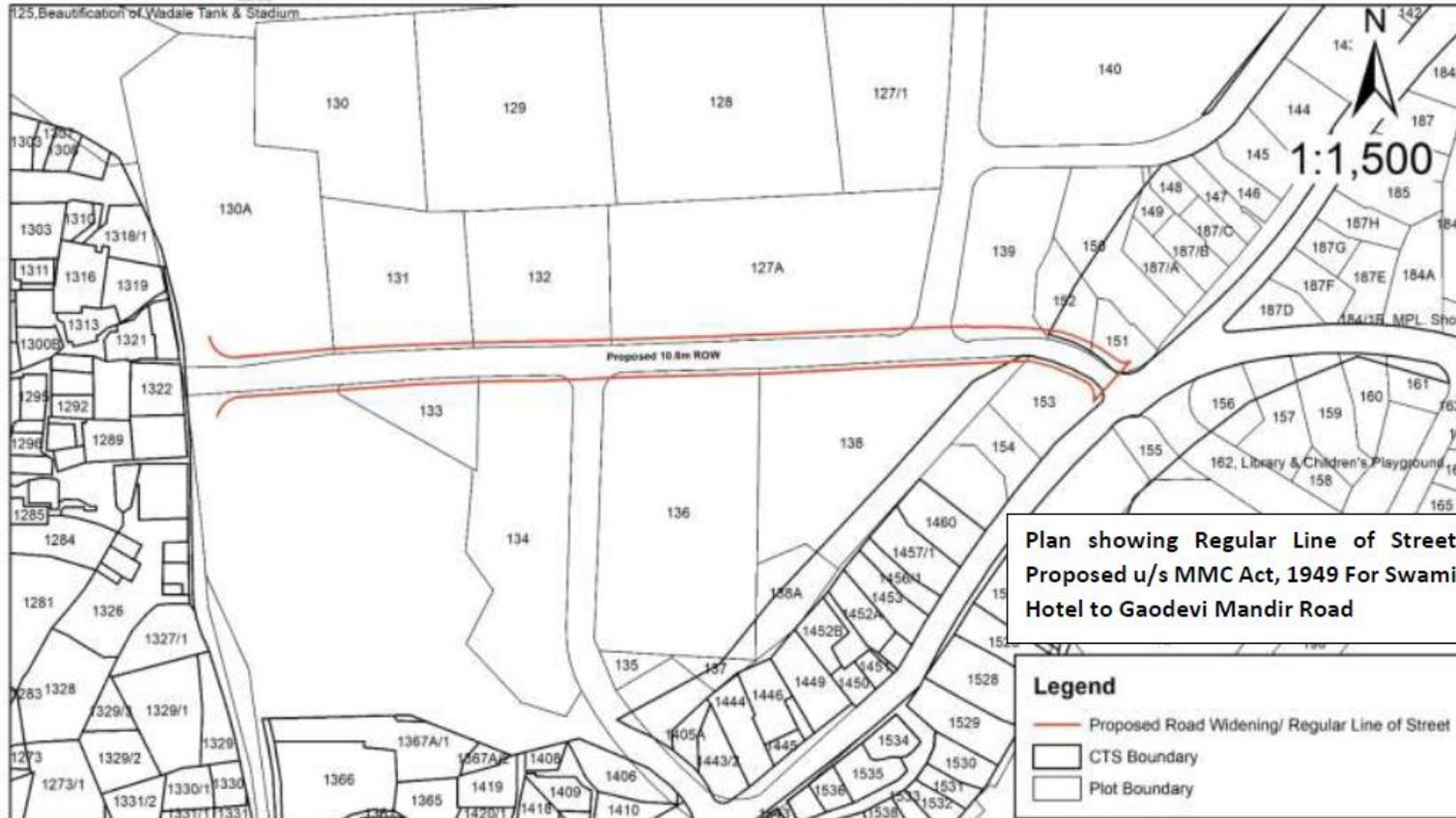
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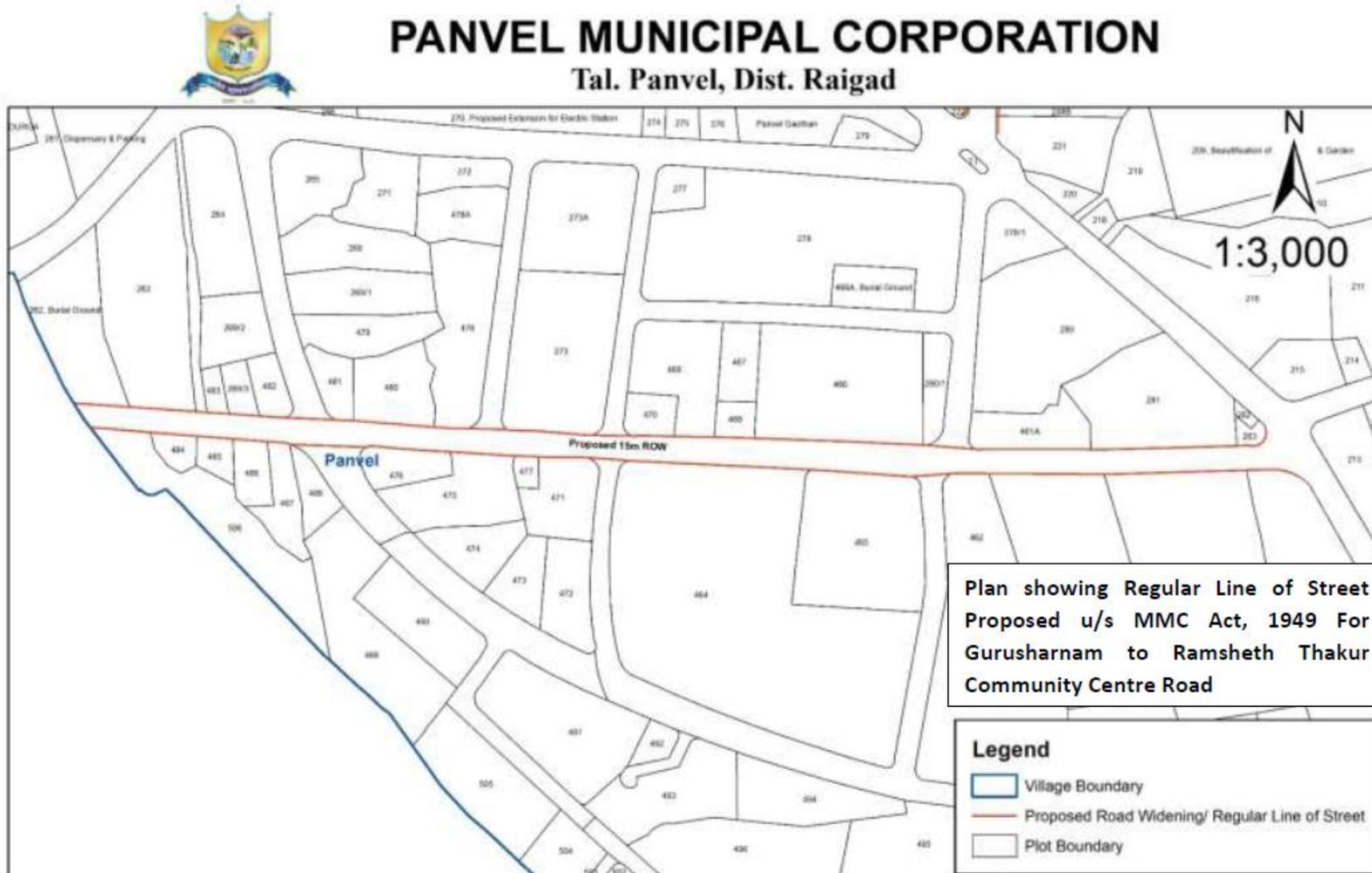
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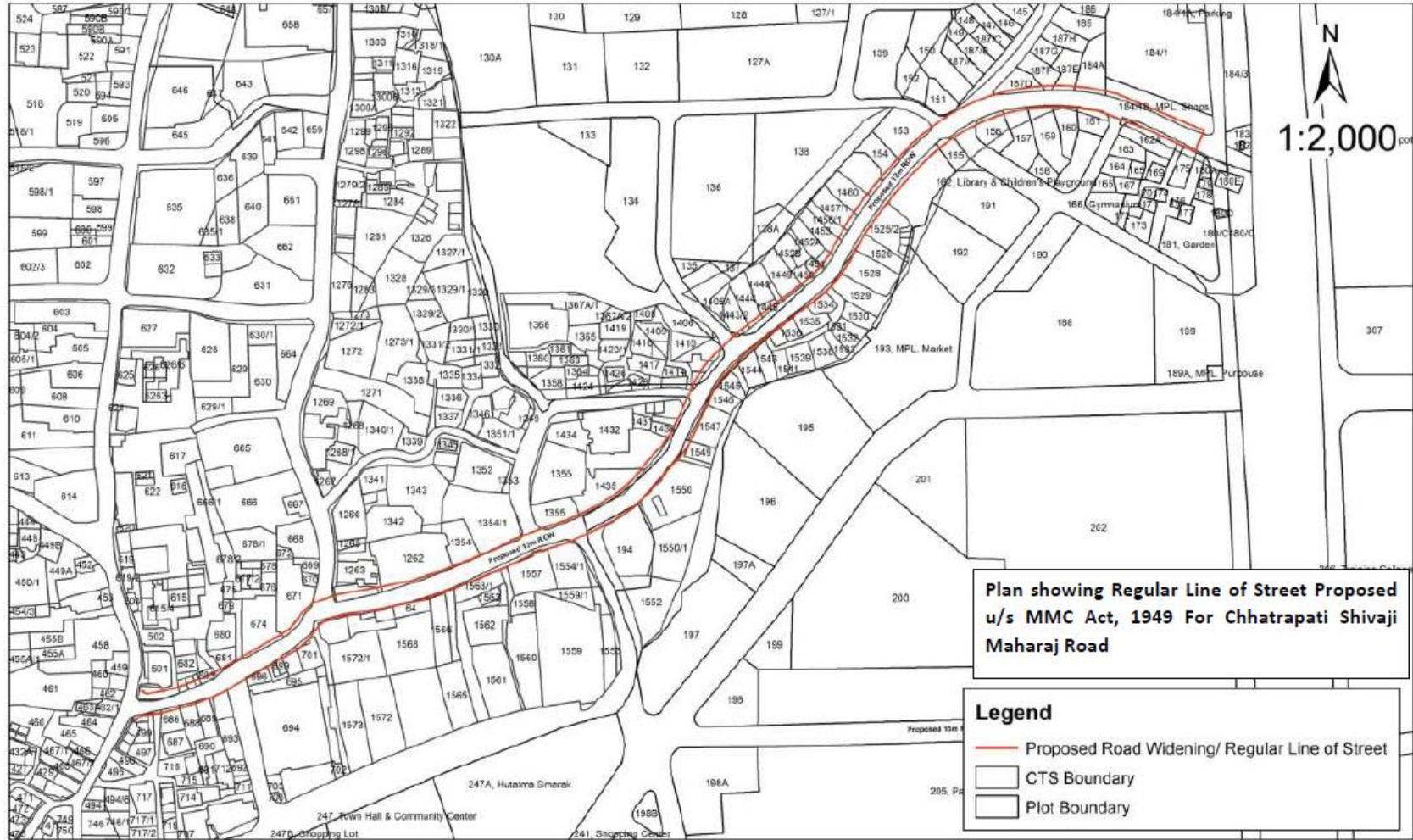
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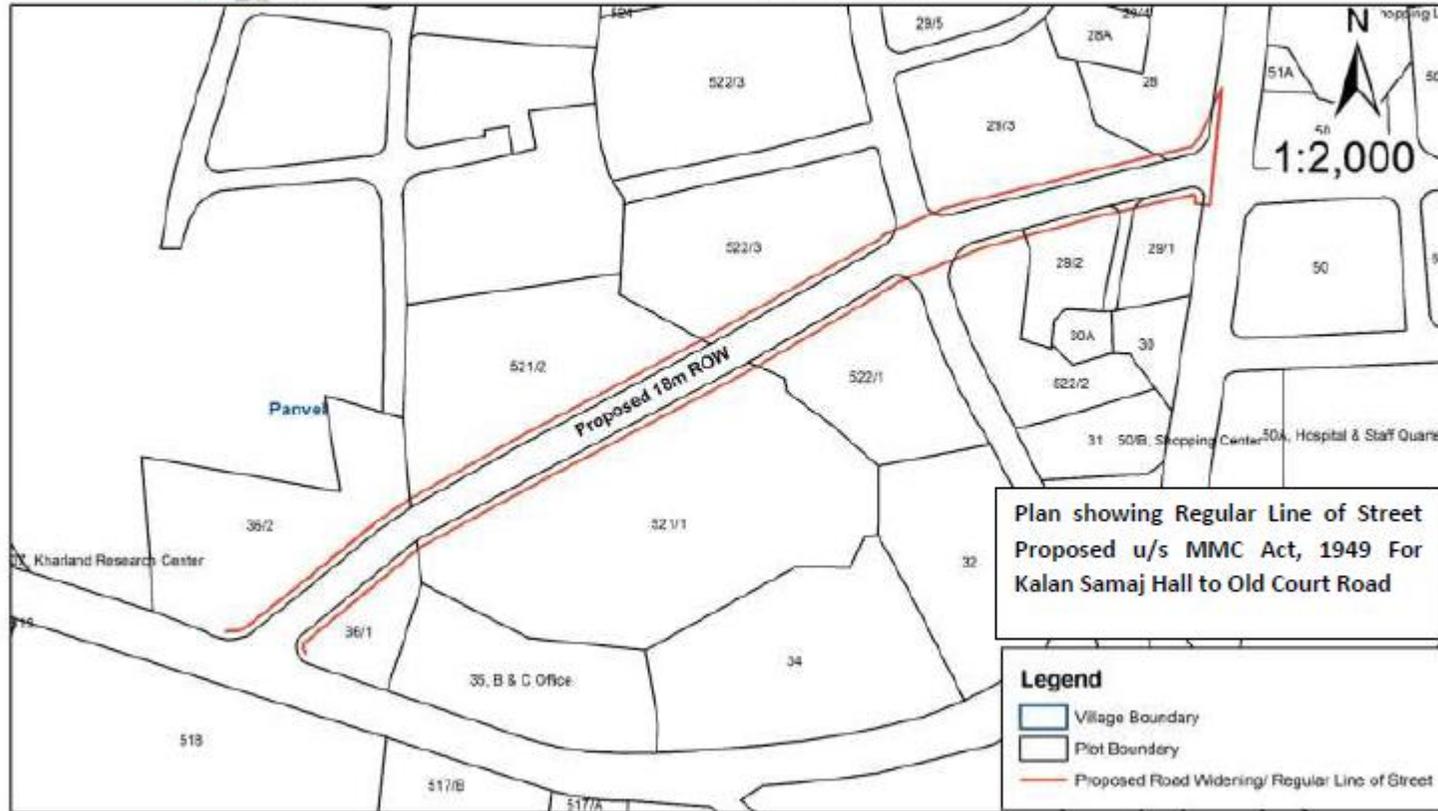


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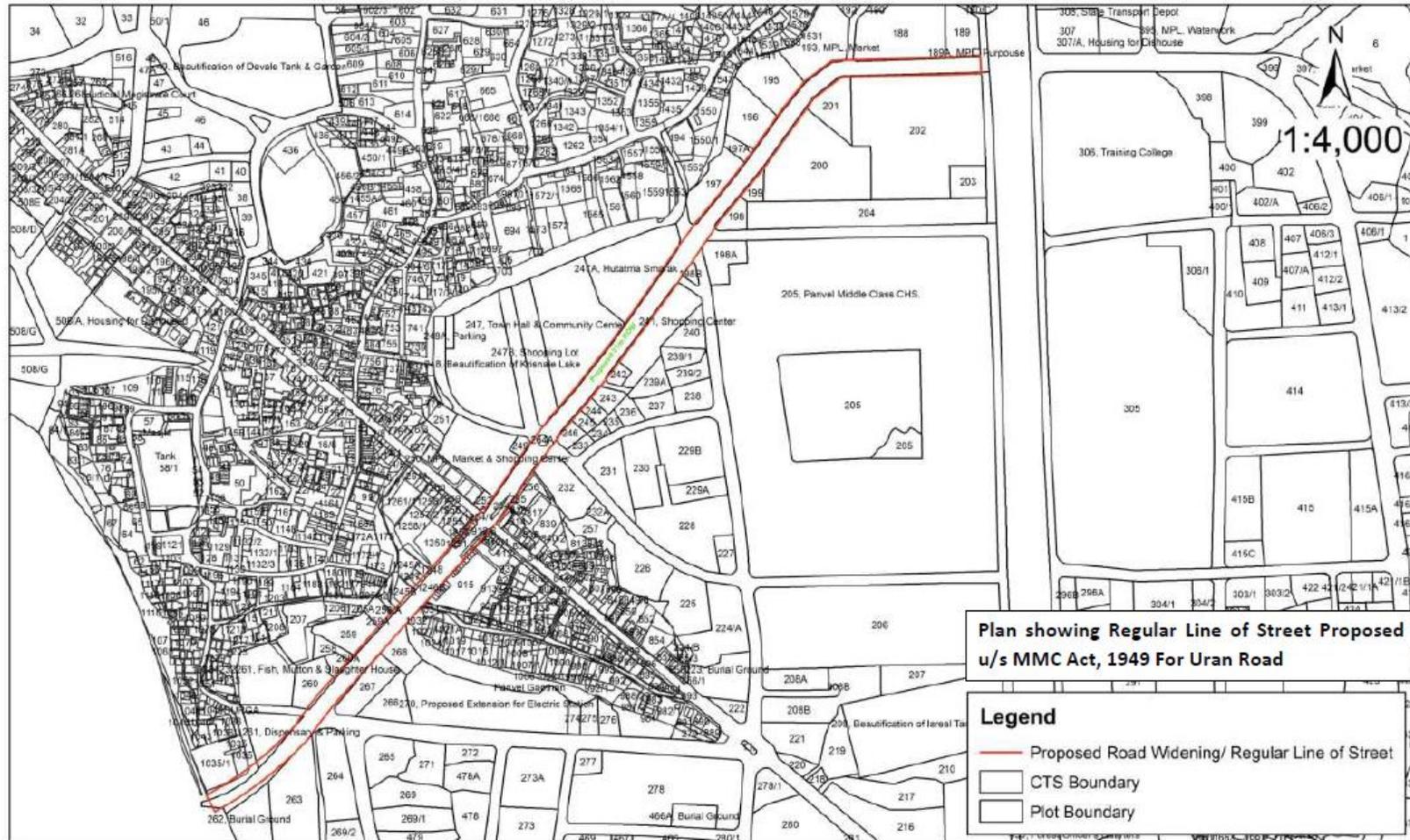
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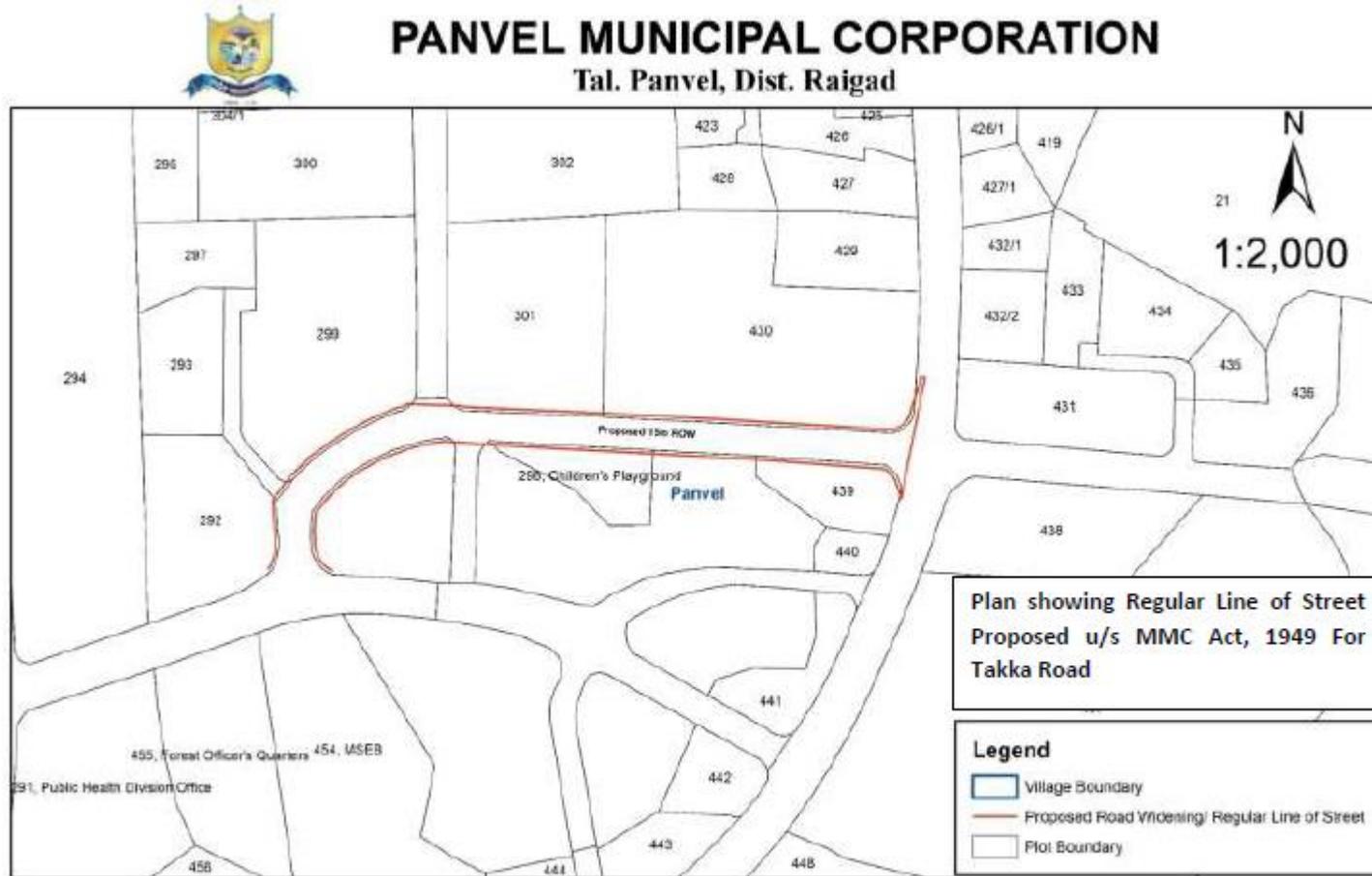
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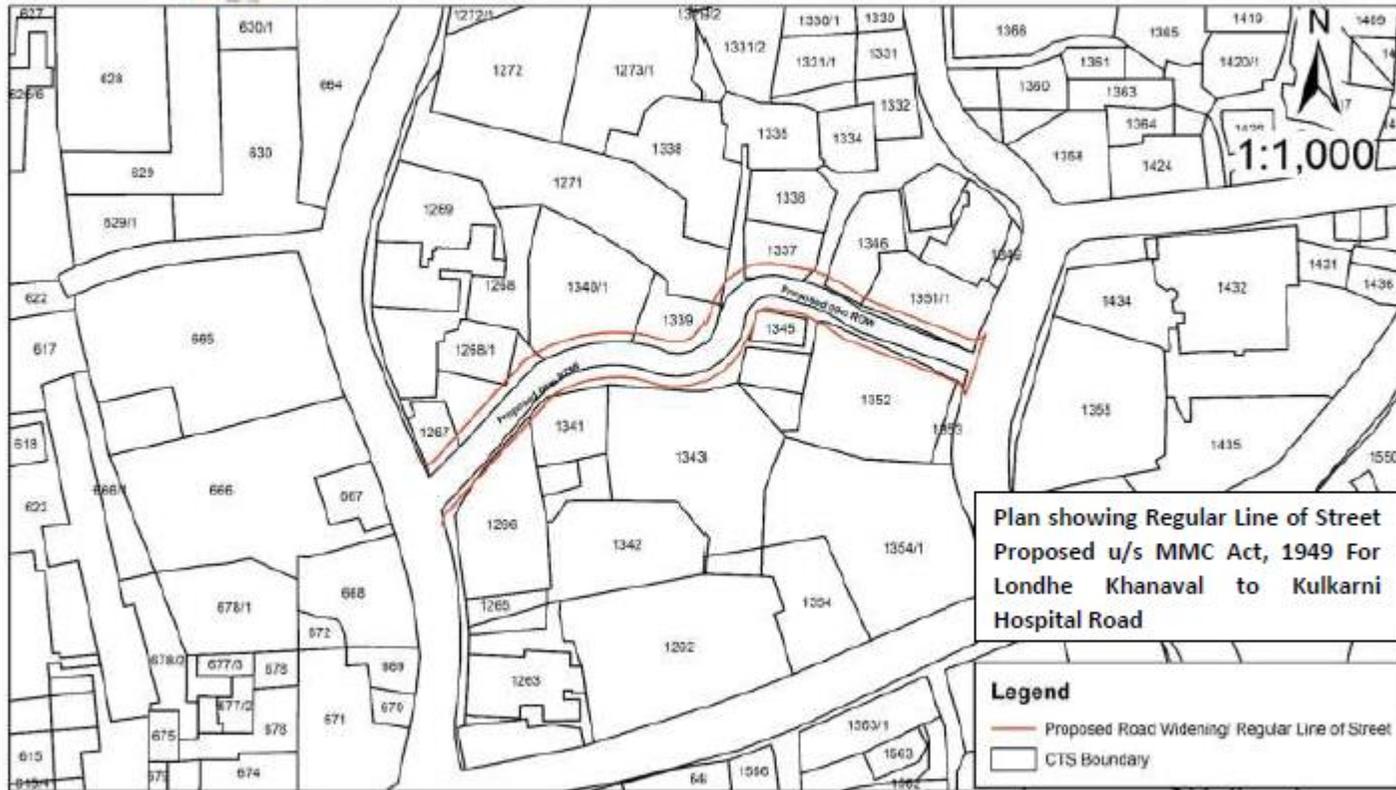
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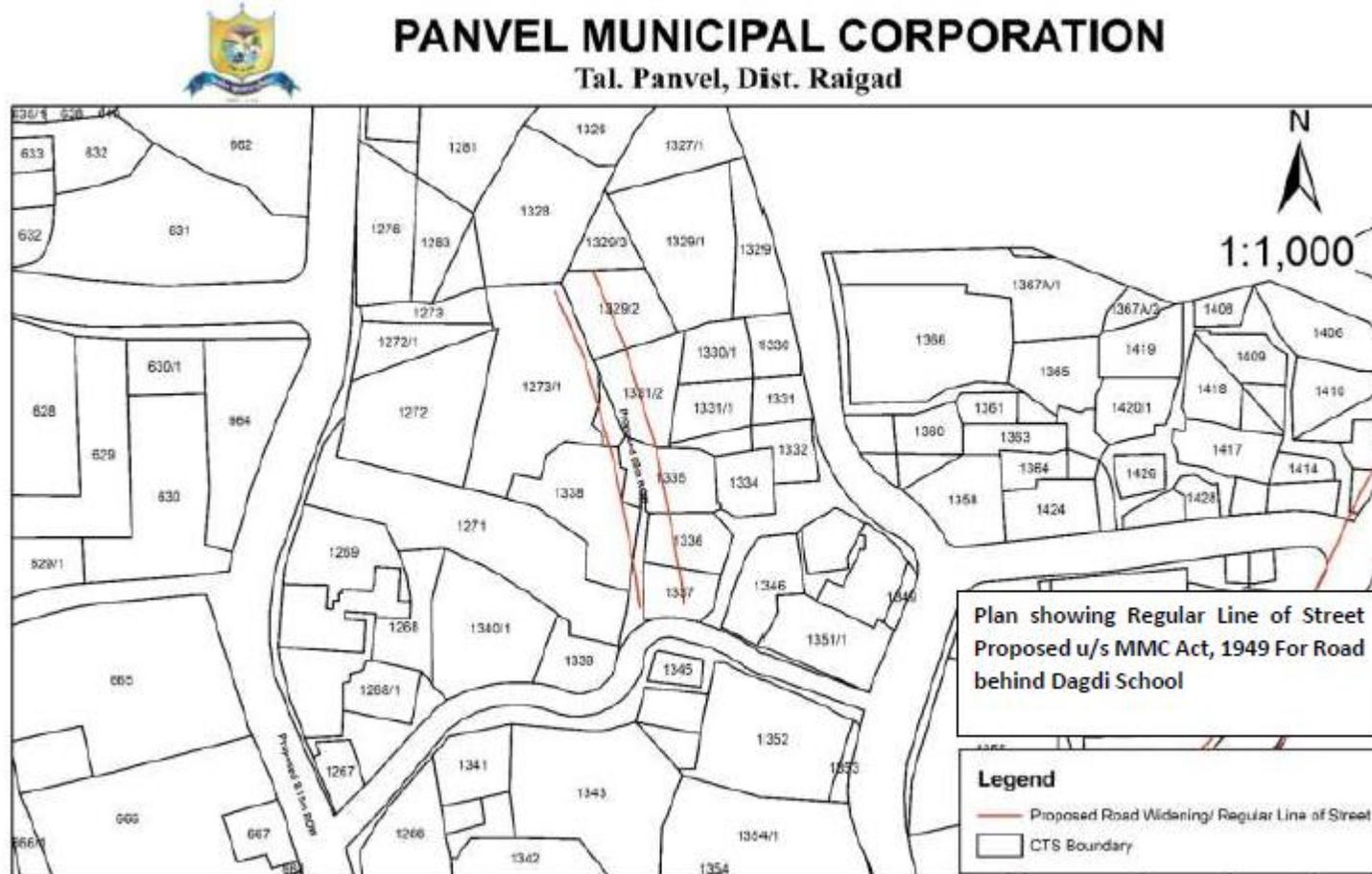
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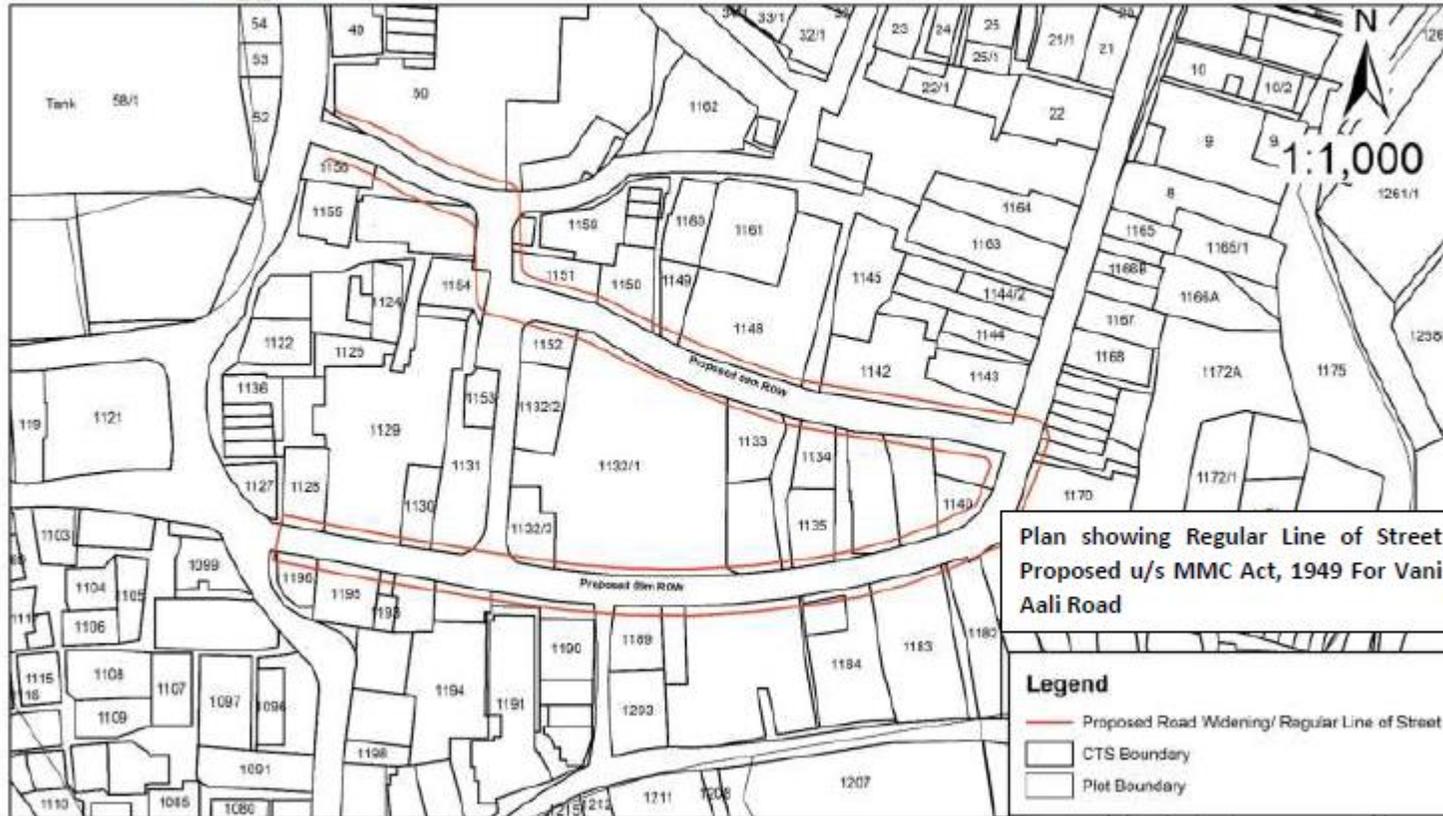
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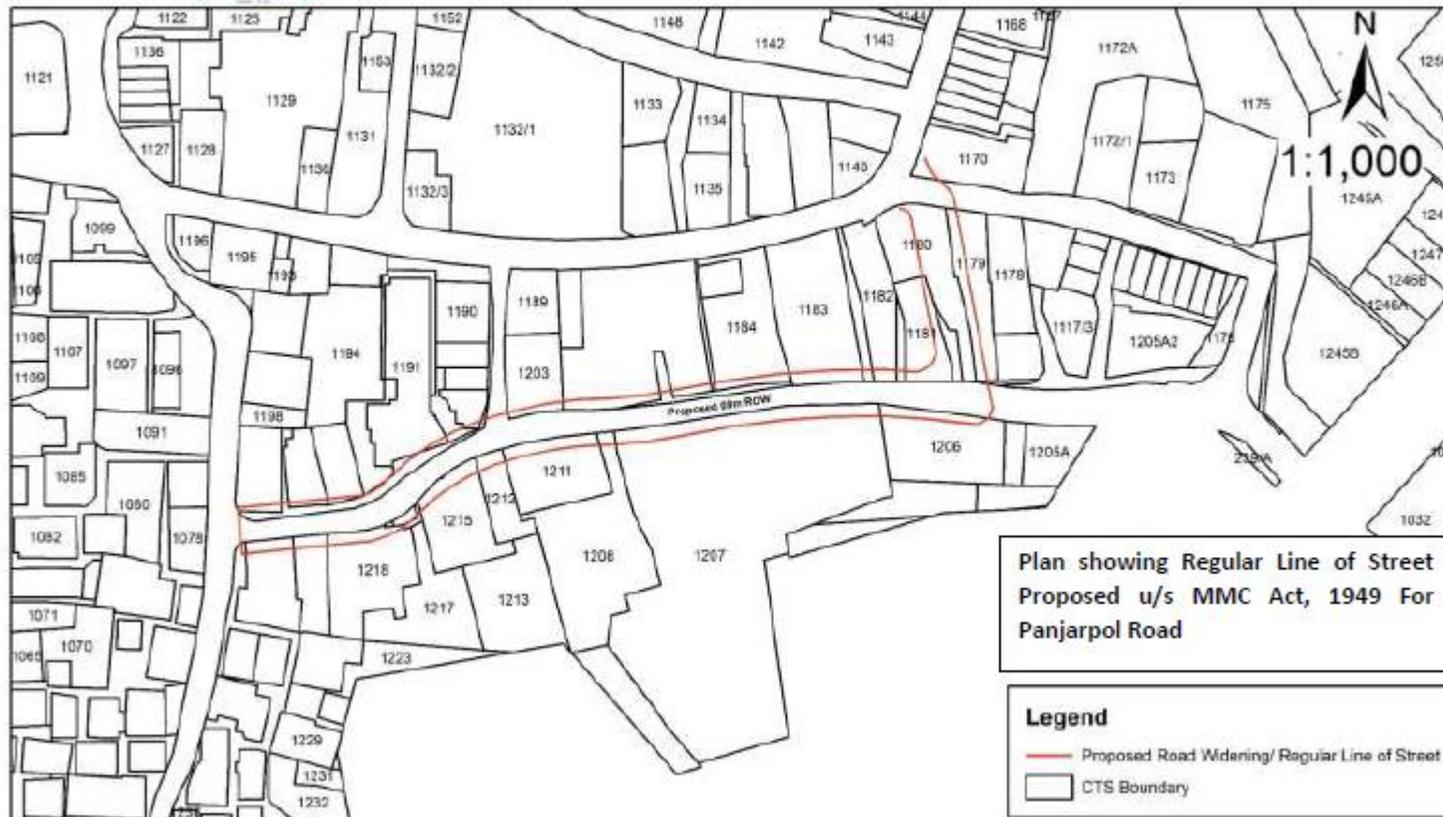
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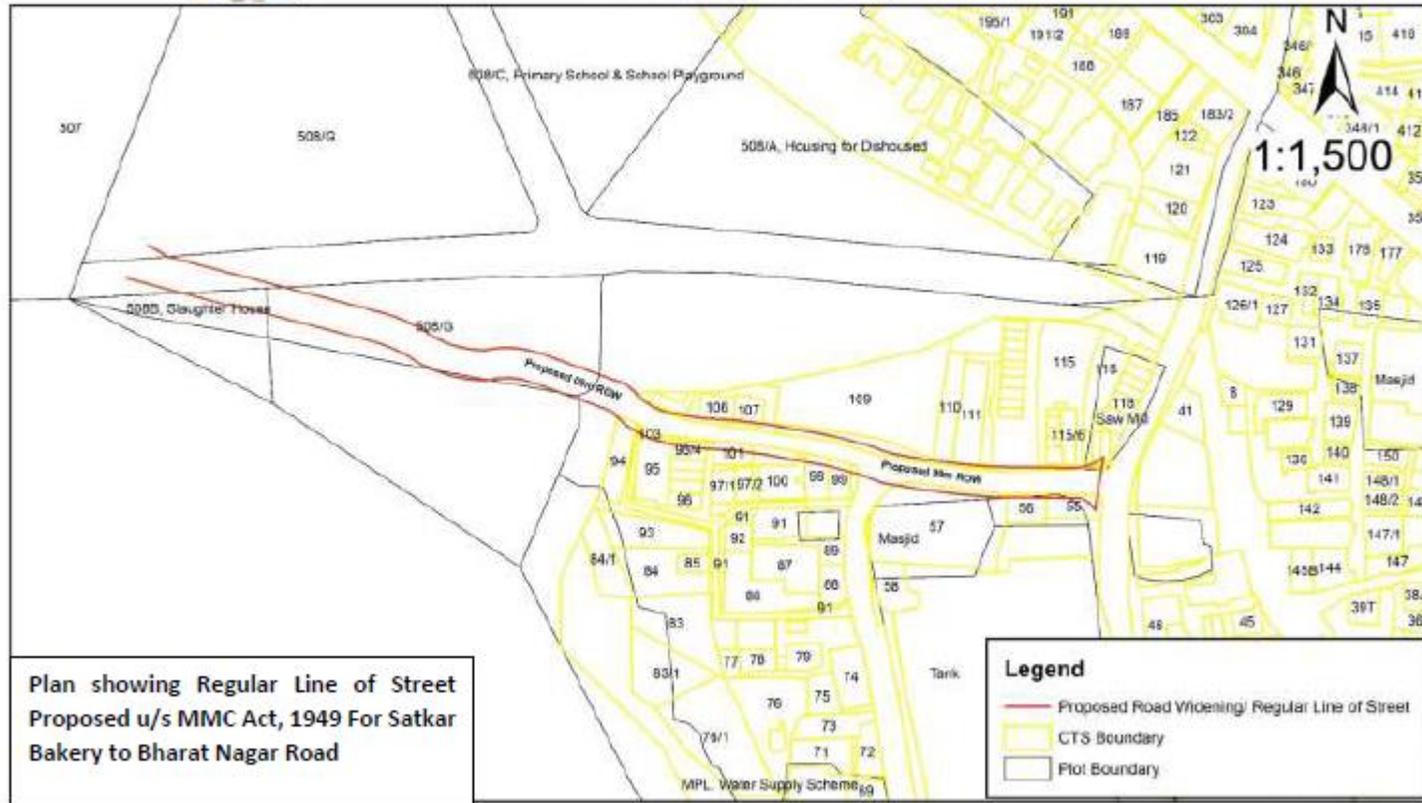
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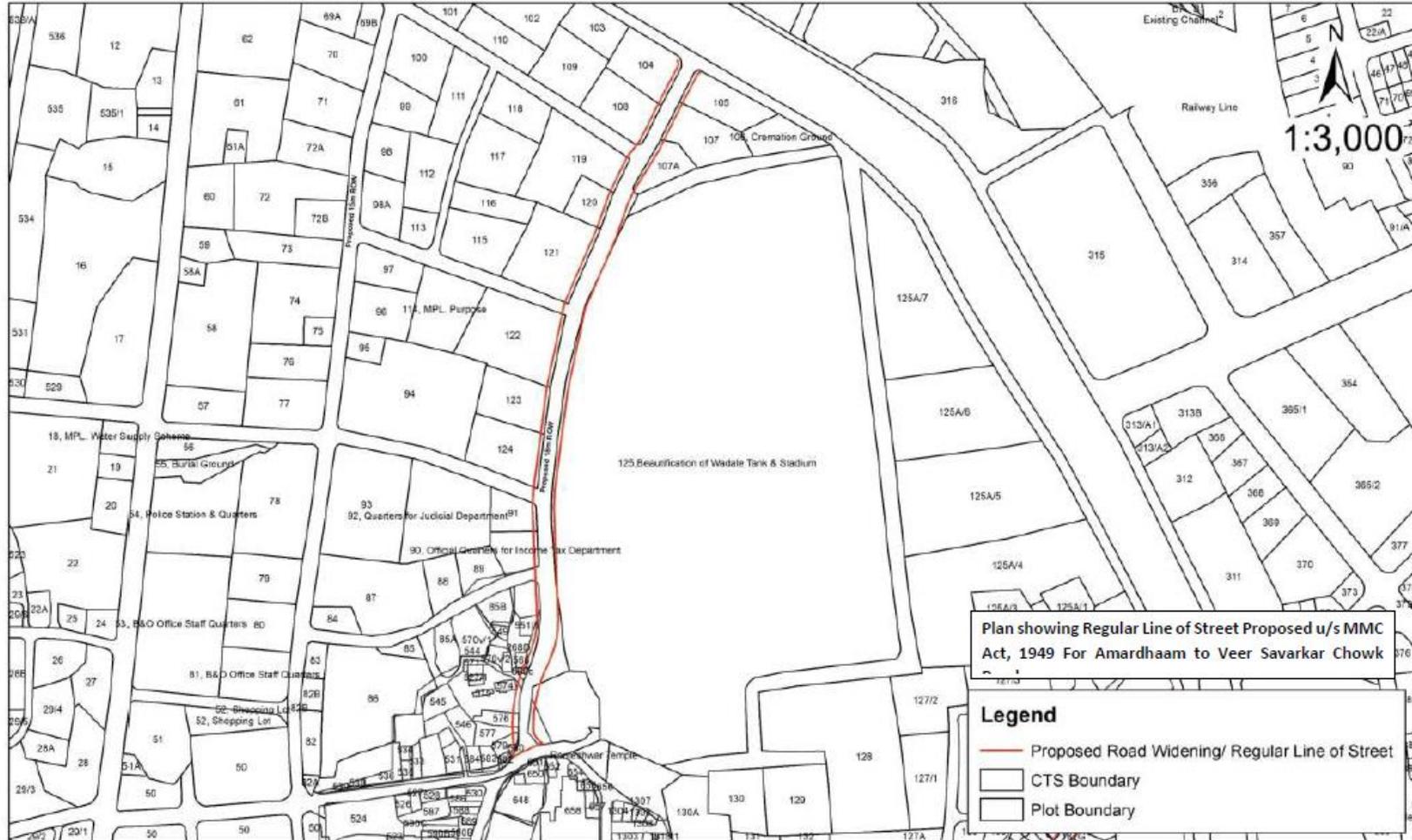
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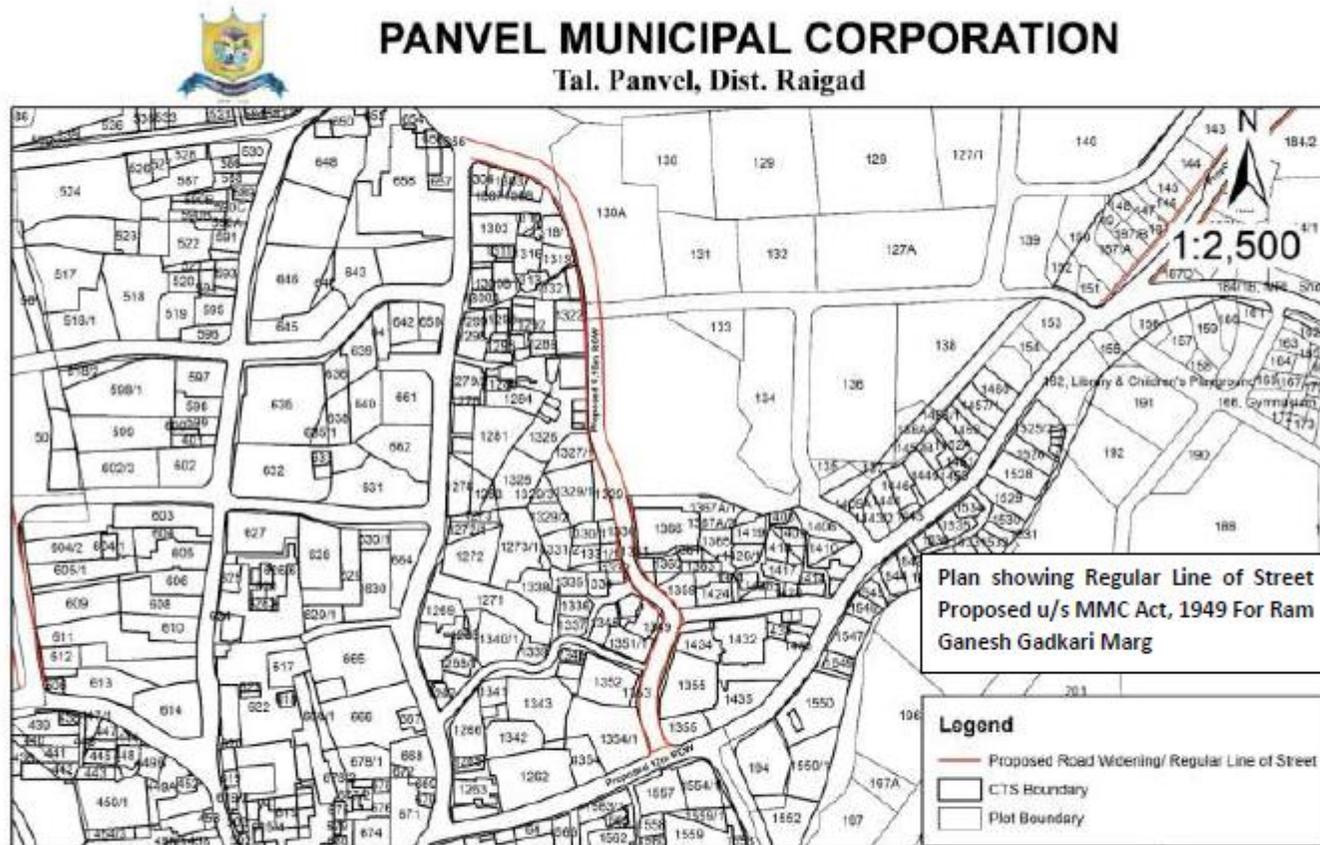
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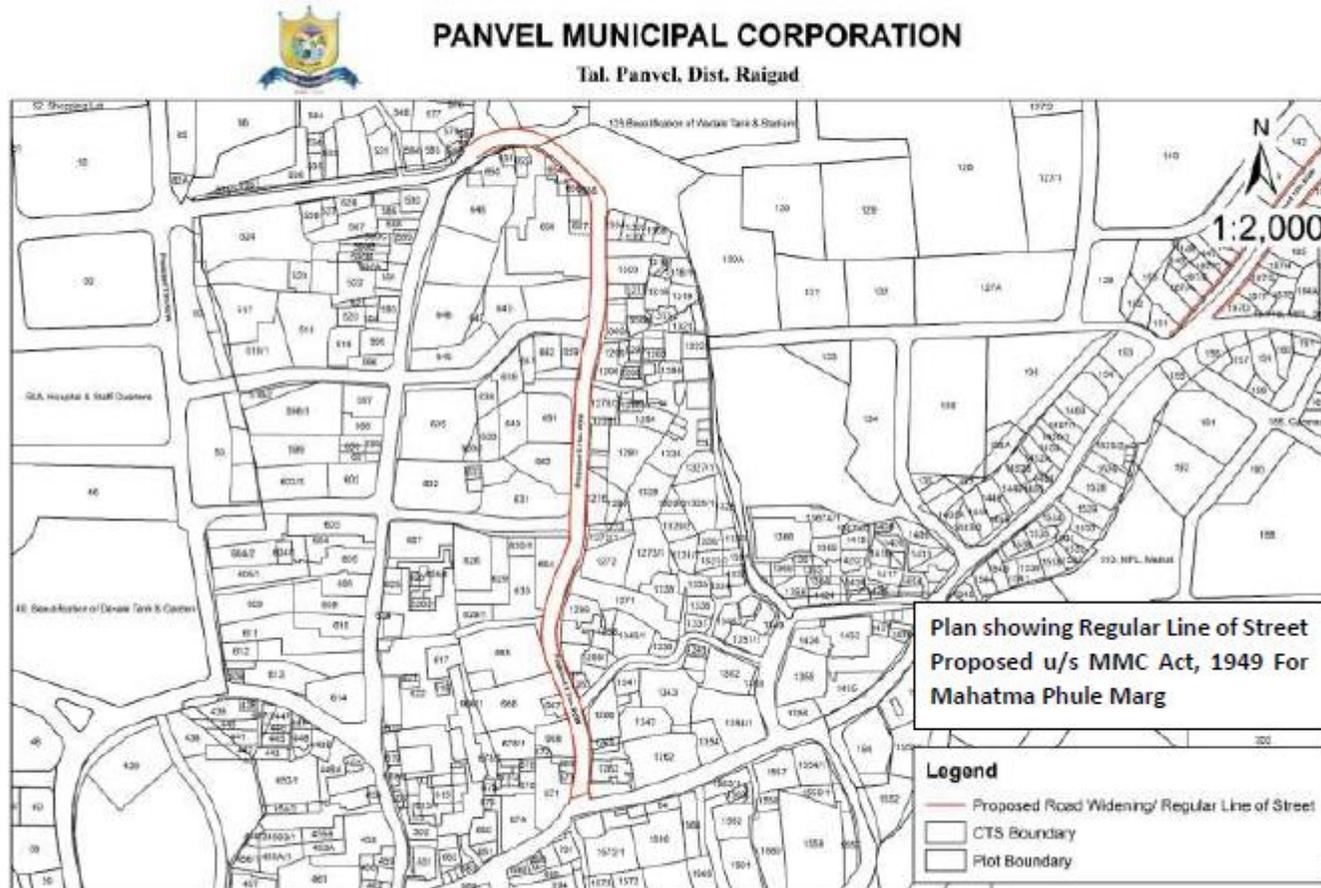
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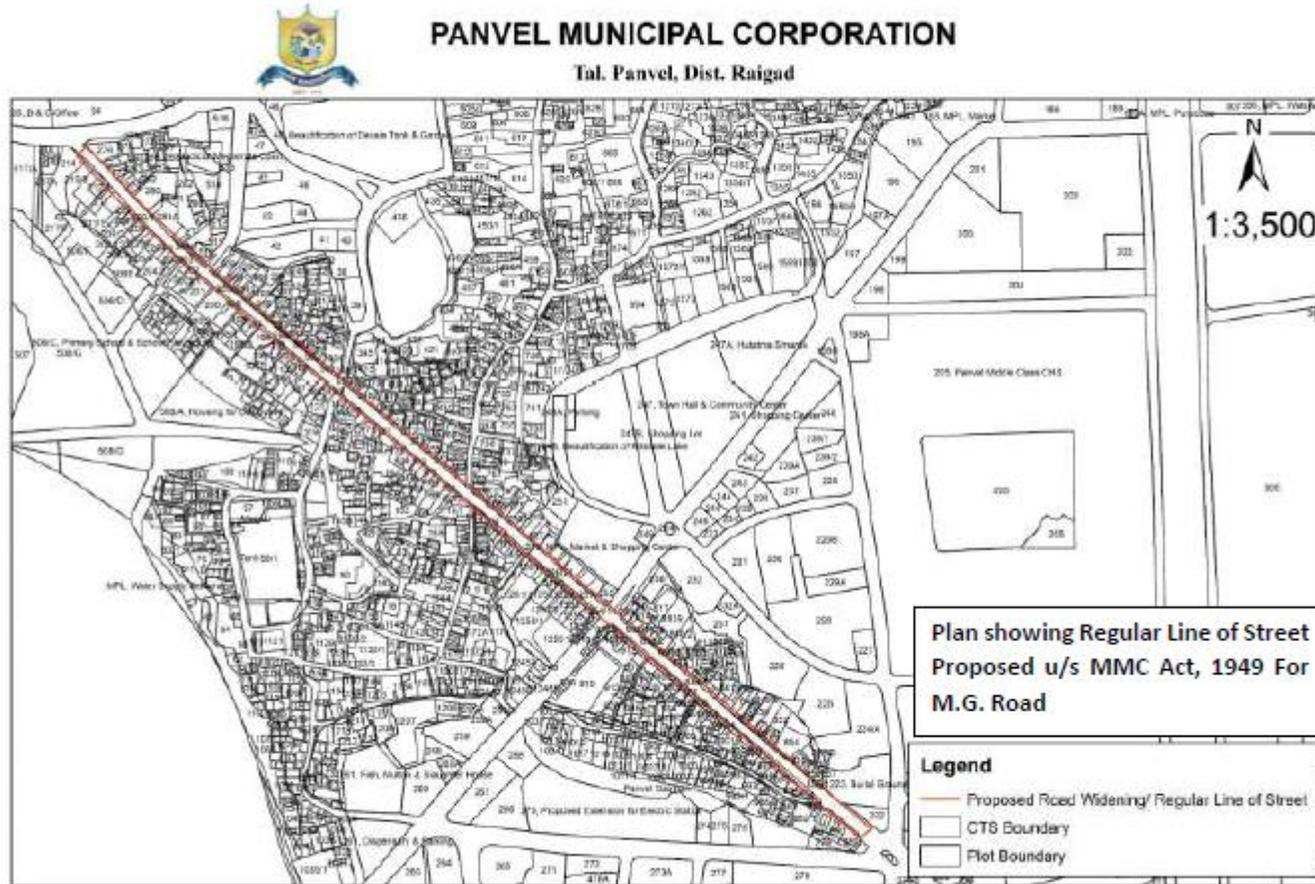
REGULAR LINE OF STREET PROPOSED U/S 209,210 OF MMC ACT, 1949



ASSISTANT DIRECTOR, TOWN PLANNING
PANVEL MUNICIPAL CORPORATION

COMMISSIONER
PANVEL MUNICIPAL CORPORATION

REGULAR LINE OF STREET PROPOSED U/S 209,210 OF MMC ACT, 1949



ASSISTANT DIRECTOR, TOWN PLANNING
PANVEL MUNICIPAL CORPORATION

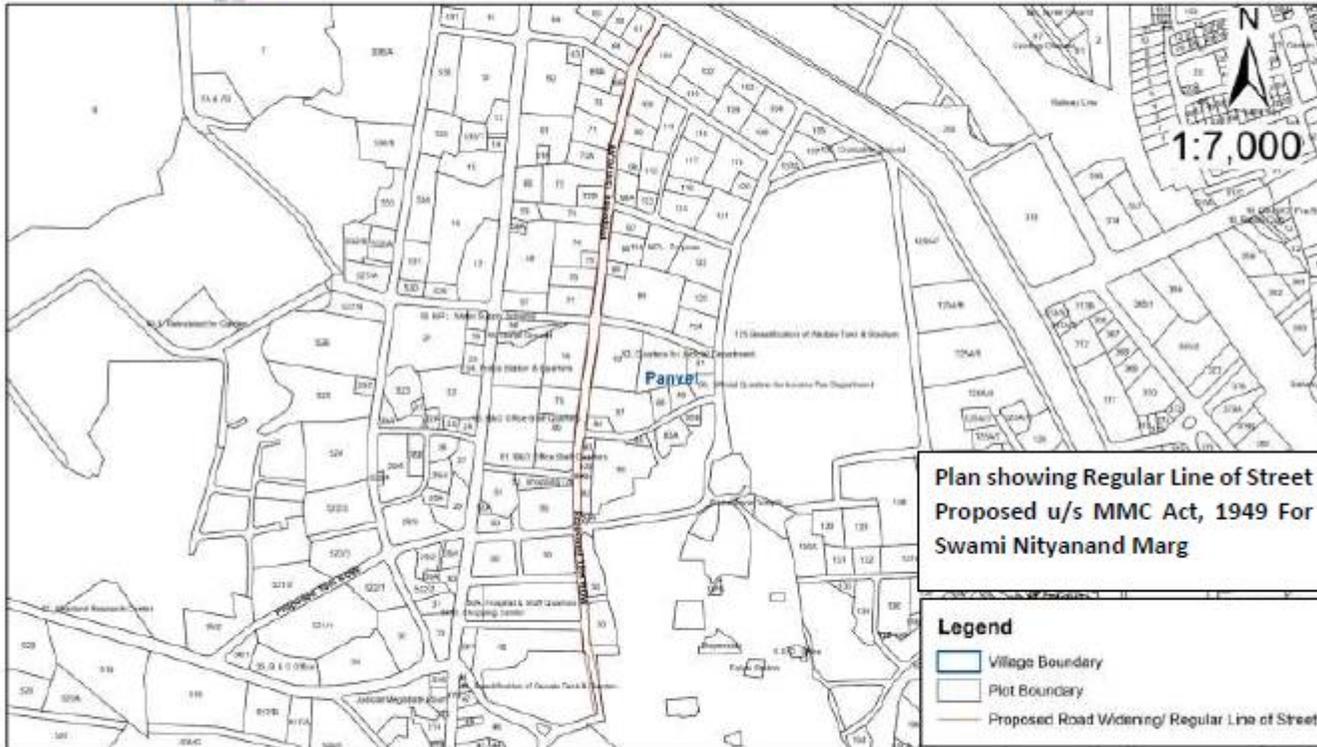
COMMISSIONER
PANVEL MUNICIPAL CORPORATION

REGULAR LINE OF STREET PROPOSED U/S 209,210 OF MMC ACT, 1949



PANVEL MUNICIPAL CORPORATION

Tal. Panvel, Dist. Raigad



ASSISTANT DIRECTOR, TOWN PLANNING
PANVEL MUNICIPAL CORPORATION

COMMISSIONER
PANVEL MUNICIPAL CORPORATION

Annexure VIII: Road Details



Figure 23.1 18 M wide Road Details

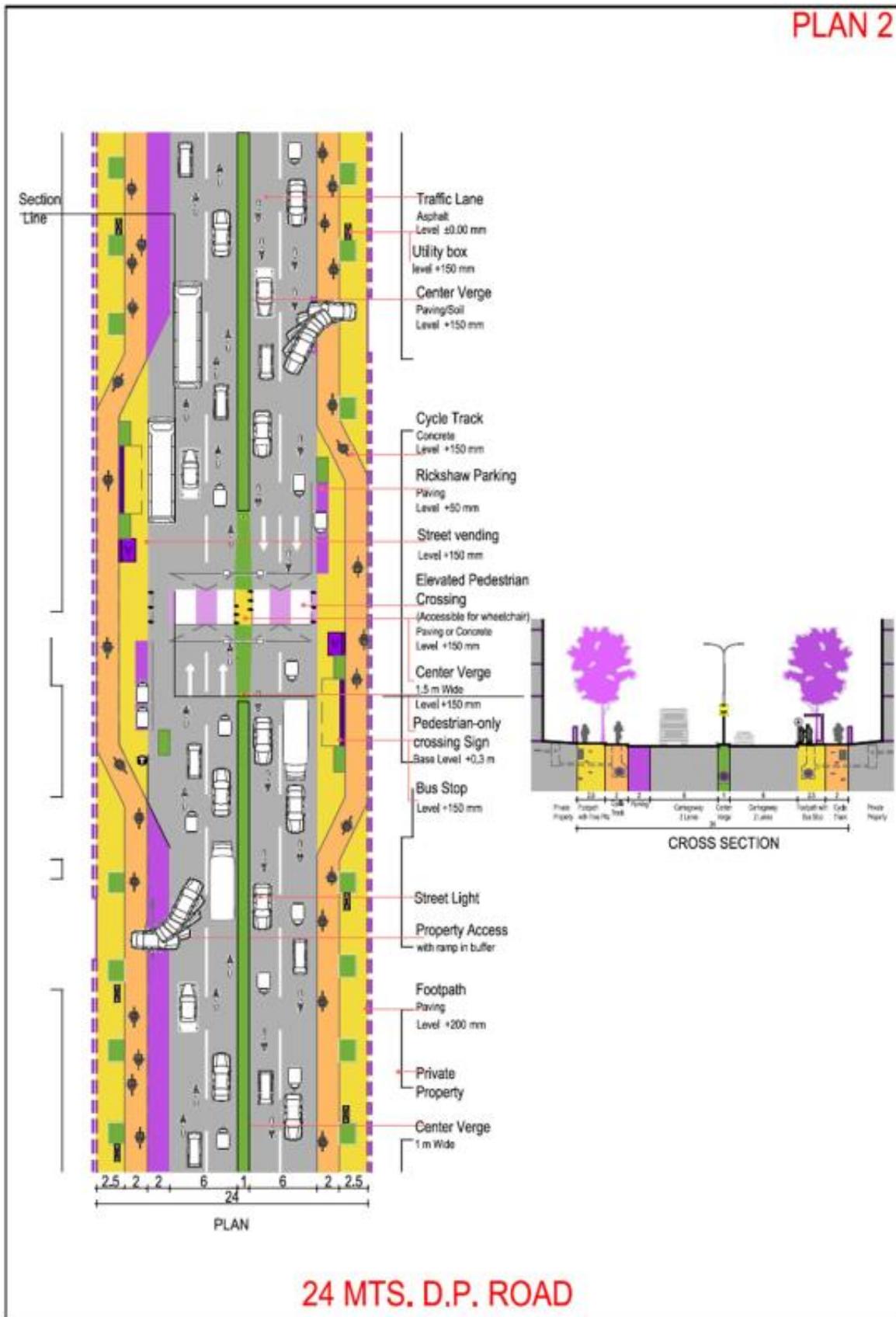


Figure 23.2 24 M Wide Road Details

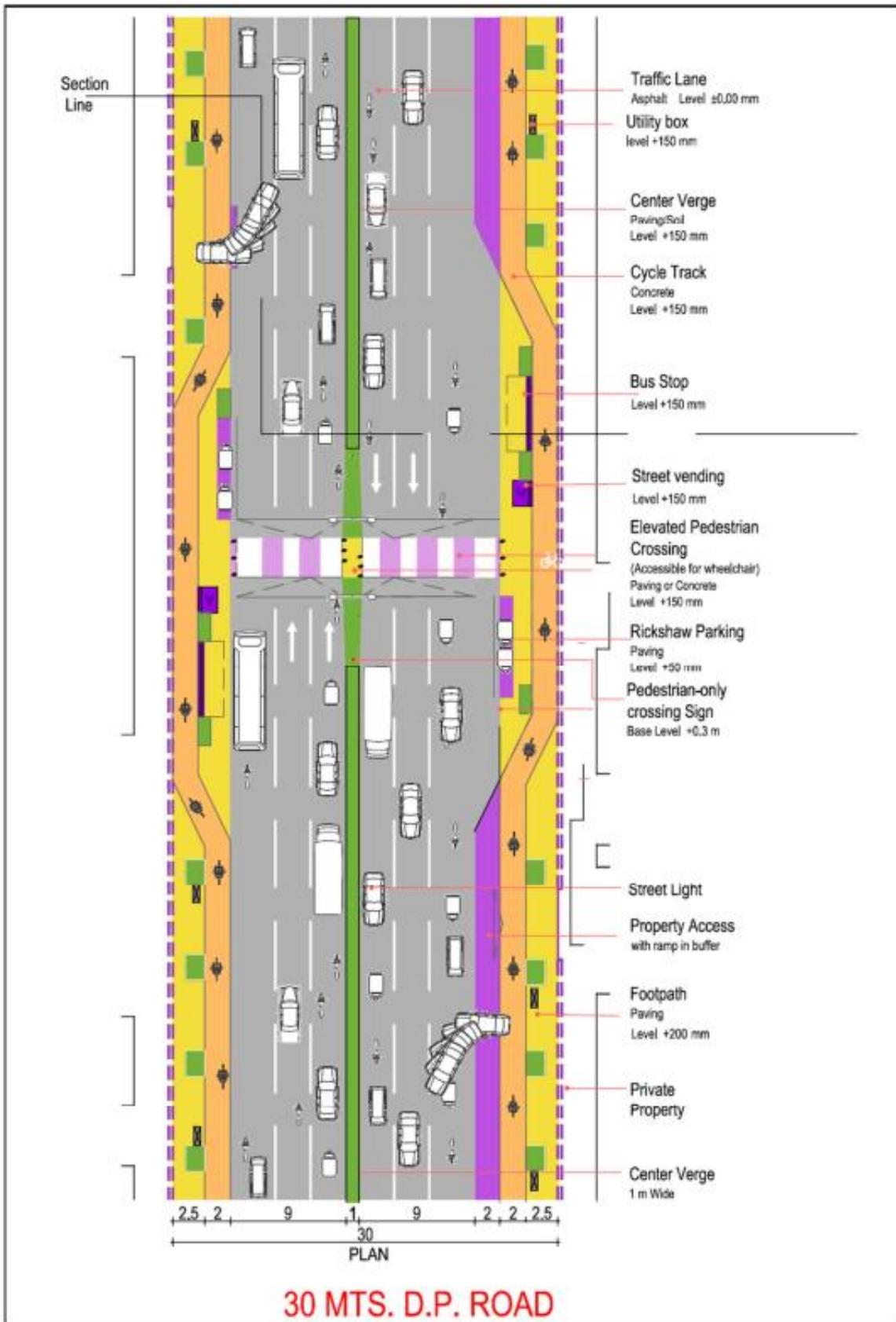


Figure 23.3 30 M Wide Road Details

Annexure IX: Revised and Comprehensive Draft Development Plan 2024-2044 Team

<i>Sr. No.</i>	<i>Name</i>	<i>Designation</i>
1	Shri Mangesh Chitale	Commissioner and Administrator
2	Smt. Jyoti Kawade	Town Planning Officer & Deputy Director of Town Planning
3	Shri Vitthal Dhaigude	Town Planner
4	Shri Aniket Durgawale	Planning Assistant