

PLANNING FOR PUBLIC SPACES IN INDIAN CITIES, A CASE OF MUMBAI

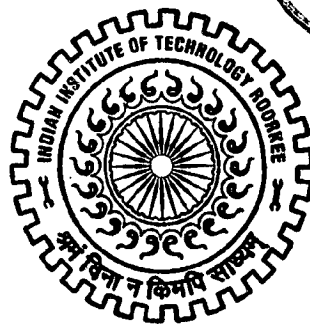
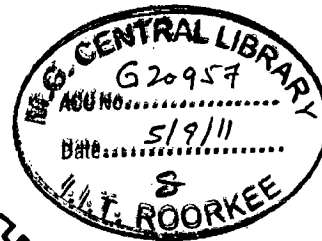
A DISSERTATION

*Submitted in partial fulfillment of the
requirements for the award of the degree
of*

MASTER OF URBAN AND RURAL PLANNING

By

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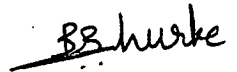
JUNE, 2011

CANDIDATE'S DECLARATION

I hereby certify that the work, which is being presented in the dissertation, entitled **"PLANNING FOR PUBLIC SPACES IN INDIAN CITIES, A CASE OF MUMBAI"**, is partial fulfilment of the requirement for the award of the degree of Master of Urban and Rural Planning, submitted to the Dept. of Architecture and Planning, Indian Institute of Technology Roorkee, Roorkee is an authentic record of my own work carried out during the period from July 2010 to June 2011 under the supervision of Prof. R. Shankar, Dept. of Architecture and Planning, Indian Institute of Technology Roorkee, Roorkee.

The matter embodied in this dissertation has not been submitted by me for the award of any other degree.

Dated: 28th June'2011

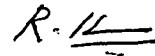


Place: Roorkee

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This is to certify that the above statement made by the candidate Miss. Bhurke Prajakta Suryakant Sujata is correct to the best of my knowledge.

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EXECUTIVE SUMMARY

Cities are engines of the economy of the country. Cities are organic. They grow in terms of population, infrastructure, their physical size and economy. It is the people, who work and live in city are responsible for the success of the city. It is the duty of the city government to provide the people with best possible infrastructure services, facilities and amenities. The rank of a city depends upon the quality of life it can give to its citizens. It is in this context, that a good public realm, improves the standard of living of the citizens eventually making the city work better.

To have good quality of life recreation is inevitable part of life. The public spaces in the city are responsible for providing people with leisure and recreation. The public spaces that are available to all the users of the city at all the time having bustling environment and variety of activities to perform are responsible for making the cities more liveable.

The dissertation report starts with introduction to the problem with the aim, objectives, scope of work, limitations for the study and methodology followed for the dissertation. This chapter has explored the possible areas for study in relation with the topic.

A comprehensive literature survey has been done beginning with the definition of public space, followed by its classification by various authors, benefits of public spaces in an urban scenario, parameters for evaluation of a public space and factors responsible for the failure and success of the public space. Public spaces in the historical period have been briefly discussed in the chapter. This chapter also gives an idea of the development control regulations for the redevelopment of the Mumbai mill land. A comparative note on the planning policies and plan documents like master plans, city development plans and byelaws with building control regulations regarding planning for public realm in major Indian cities, has been written in the same chapter of literature review.

The third chapter consists of the case studies covering international as well as Indian examples of successful public spaces. The public realm of the two cities namely Chandigarh and Copenhagen has been studied in the chapter of case studies. The study area being CBD of the Mumbai city, city centres are primarily considered for case studies. The city centres of Chandigarh and Copenhagen have been compared on certain parameters to draw inferences.

With the help of reviewed literature and case studies a detail survey schedule has been prepared to analyse the public realm of Mumbai city. Considering the limitations of time span and available information, out of the twenty one wards in the limits of MCGM boundary,

total nine wards lying in the limits of Mumbai City District have been selected for conducting the detail survey of the public spaces. The fourth chapter discusses the entire survey methodology, analysis of the select public spaces and the findings from survey.

After completion of the analysis of public spaces in the city wards of Mumbai, the current scenario of development in the selected ward has been expressed with help of maps and visuals in the fifth chapter. This chapter covers the analysis of the potential brown field sites, which have been handed over to MCGM in order to develop them as spaces for public purpose. This chapter has been written to give a background of the available sites, the regulations for the redevelopment of these sites along with the possible site locations for the planning of the public spaces in the city of Mumbai. With the availability of data and drawings regarding the locations, a site/number of sites have been finalised for preparing an urban planning and design proposal for public spaces.

The sixth chapter is the last chapter of the report having four parts. From the survey carried out for analysis of public spaces in the Mumbai city, four sites have been identified and have been provided with an improvement scheme for improving those public spaces. These detail improvement schemes are explained in writing as well as with three dimensional model making in the sixth chapter. The next part of chapter has been written to explain the proposals on the selected and analysed mill sites in the fifth chapter. The need for planning a city level public space with necessary facts and figures has been established in the third part of the chapter with proposing a suitable mill site for such a public space. In the fourth part of the chapter planning guidelines, recommendations and standards for planning public spaces in urban areas have been discussed concluding the chapter with a note about the planning and maintenance of the public spaces to achieve a better public realm in cities.

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List of Abbreviations:

MCGM	Municipal Corporation of Greater Mumbai
DP	Development Plan
DCR	Development Control Regulations, 1991
FSI	Floor Space Index
GoM	Government of Maharashtra
MMRDA	Mumbai Metropolitan Regional Development Authority
MHADA	Maharashtra Housing and Development Authority
BEST	Brihanmumbai Electric Supply & Transport
sq.mt.	square meter
sq.km.	square kilometre
sq.ft.	square feet
MPD	Master Plan Delhi
CST	Chhatrapati Shivaji Terminus (Victoria Terminus earlier)

Chapter 1: INTRODUCTION

1.1. *Background to the study*

1.2. *Need for the study*

1.3. *Aim*

1.4. *Objectives*

1.5. *Scope*

1.6. *Limitations*

1.7. *Methodology*

1. Introduction

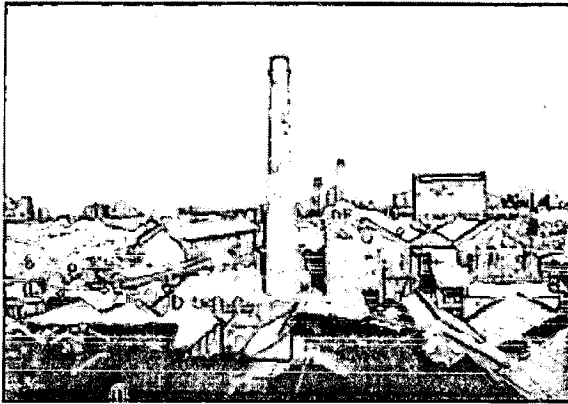
Indian cities are growing fast and are the engines of the development of the nation as a whole. Mumbai is the economic capital of India as well as the state capital of Maharashtra. The city has seen tremendous growth and development over years since the British Period. On the one hand Mumbai stands as an example of public transport oriented growth and on the other, a testing ground for many innovative land management and urban development practices. It also, in a very exemplary way, responds quickly and spontaneously to disasters, both natural and man-made. How should and would Mumbai respond to the multitude of complex challenges of the 21st century is something that the planners, designers, architects and technologists, along with other experts of India from diverse related fields should be concerned about.

This dissertation study tries to understand the significance of public spaces in the urban context with respect to the cities in India and in particular case of Mumbai. To understand the public realm in the city better, the study tries to classify the public spaces as they appear all around the world, what their characteristics are, what activities are taking place at such places, what can be the parameters to judge the success of a public space and last but not the least, the availability of public spaces in the major cities of India and the way to address the public spaces in the planning and development process. Making planning activity more effective and people oriented and how the deficiency should be dealt with is realized through various case studies within the country and from abroad. The dissertation gives an opportunity to deal comprehensively with the planning and design of public spaces in the cities to maintain the cultural and social milieu.

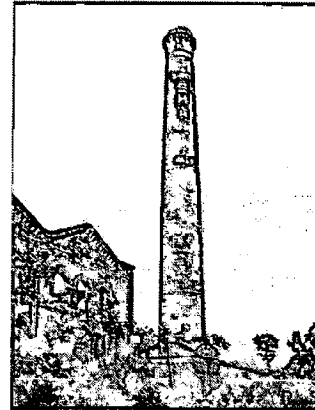
1.1. Background to the study

The impetus towards the founding of a cotton industry in Mumbai came from Indian entrepreneurs. Cowasji Nanabhai Davar opened the Indian cotton mills, "the Bombay spinning mill", in 1854 in Bombay. In 1870 there were 13 mills in Bombay and employed 15,000 people.

This laid a foundation of a strong industrial base, which was consolidated later by about 85 textile mills. Cotton exports grew during the American civil war, when supplies from the U.S. were interrupted. At the end of 1895 there were 70 mills; growing to 83 in 1915. A period of stagnation set in during the recession of the 1920's.



1.1 Aerial view of textile mill of Mumbai



1.2 Dilapidated non-functioning textile mill

In 1925 there were 81 mills in the city. By this time India was the second largest producer and the third largest exporter in the world. The aftermath of World War II brought about several changes in the city. Under strong competition from Japan, the mills declined. By 1950, the looms were sold off and the labour was retrenched under the pretence of modernisation and rationalisation of labour, which never took place. In 1953 there remained only 53 mills in the city. In 1970's faulty land use policies of the state resulted in a boom in the real estate prices of the island city. Many industries sold their land to make huge profits. However due to restrictions on change of land use, of the mill, the textile industry could not exploit the boom in the real estate market except by surreptitious means.

Through the 1980's, the mill owners continued the selling of looms and retrenchment of workers, while production was being subcontracted. At the same time, leading textile houses started engineering and petrochemical industries by diverting the profits from the textile industry. This confirmed the status of Bombay as a leading industrial city, through the textile industry was declining and the city of Mumbai from a colonial port city, grew as a trading city, and later developed as the economical capital for the country.

1.2.Immediate study context

In 1991, the mill owners, under the pretence of modernising the sick mills finally secured the permission from the state government to sell in the speculative market, two million sq.ft. of land lying under the textile village. In 1996, the GoM, set up a study group to prepare an integrated development plan for the development of textile mills land under the architect and designer Charles Correa, following certain principles.

It is in this context, that a study of the public realm of Mumbai City (public spaces including streets, squares, open spaces and public places) which this dissertation deals with, is meaningful. An integral part of the context is availability of 26 "sick" textile mill premises taken over by the government and available in central Mumbai for urban development, giving an opportunity for the people of Mumbai to experience a better city in the coming years which is what is attempted by the dissertation study.

1.3.Aim

To integrate planning of public spaces with the urban fabric of Mumbai city

1.4.Objectives

- a) To study the morphology, function and importance of urban public spaces in the context of urban planning and design.
- b) To study select examples of well-planned public spaces in cities outside India and draw useful guidelines.
- c) To have an overview of historical and recent examples of public spaces in Indian cities.
- d) To study the existing public realm of Mumbai and analyze its performance and future needs.
- e) To analyze the development potential of select brown field sites available in Mumbai in the light of development plan proposals.
- f) To make an urban development proposal integrating public spaces with land use for the select brown field sites of Mumbai in terms of plan, design, development control regulations and 3D form.
- g) To formulate planning and design guidelines for integrating public spaces in urban planning in general and in the context of brown field sites of Mumbai in particular.

1.5.Scope

- a) Though study of public realm has been based on the context of Mumbai city, application of plan proposals and guidelines drawn from this study are relevant in the context of urban renewal in other metropolitan cities of India.
- b) The plan proposals, design details and standards as well as the methodology evolved for the redevelopment of brown field sites is applicable in similar urban development studies for other Indian cities.

1.6.Limitations

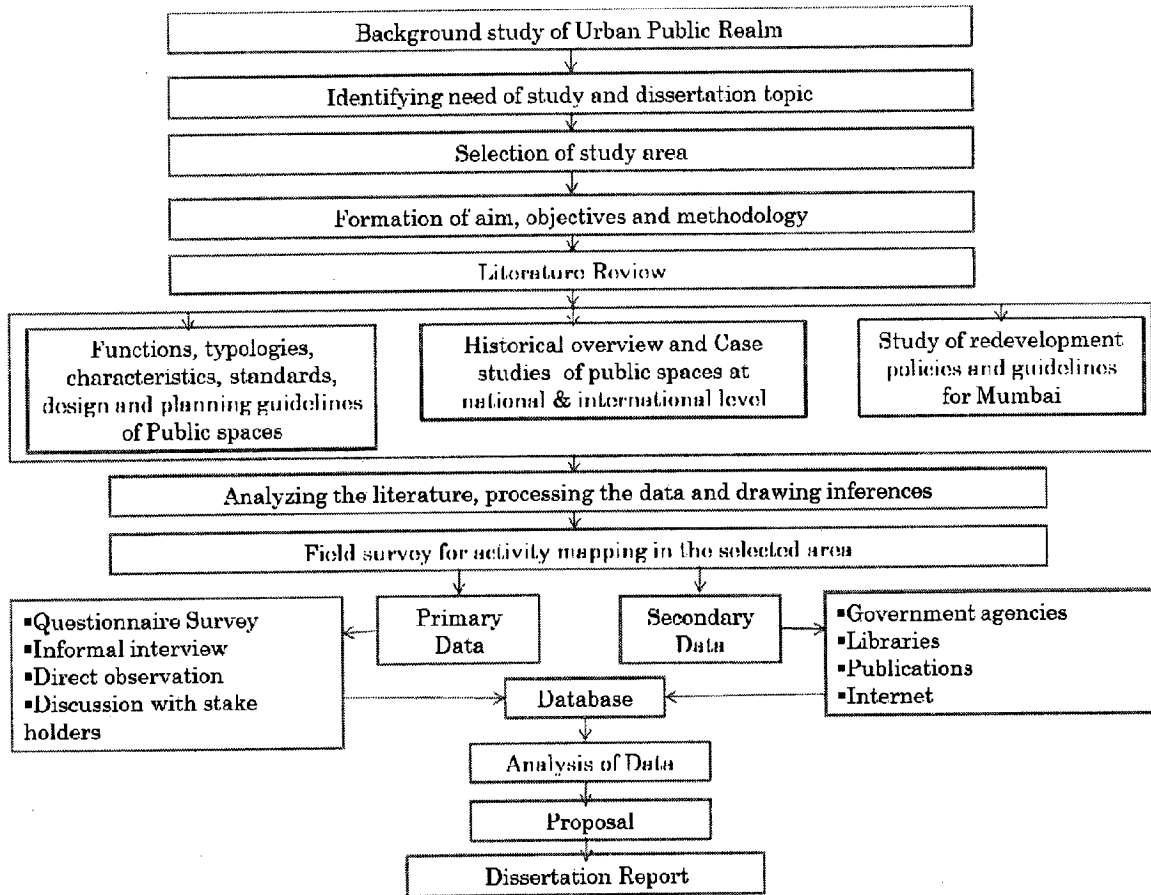
- a) The study has been mainly based on the availability secondary sources in the selected wards of the city.

- b) Inaccessibility to the brown fields has limited data and depth of the field surveys about the brown fields.
- c) The depth of field study was limited by the time frame and paucity of the information.
- d) Case studies of various public spaces in and outside the country was based on available on internet and literature.

1.7.Methodology

In order to achieve the above stated objectives (ref. fig. 1.3):

- a) The first stage formulates the need for study, identification of the problem, formulation of aim, objectives, the scope of study and its limitations along with background study of public realm.
- b) In the next stage detailed study of the available data from secondary sources and literature regarding the functions, typology, characteristics, standards etc. for design of the public spaces and case studies has been done.
- c) Analyzing the literature and data and drawing inferences with projections of required data would be the next step of work.
- d) In the next stage the data gathered through field surveys of the selected area is processed.
- e) The database thus created is further processed for drawing policies and recommendations for proposals.
- f) The final stage consists of preparation of the proposals, improvement schemes and guidelines for select studied public spaces, general recommendations and policies guidelines for designing of public spaces in urban scenario with reference to the redevelopment potential of sites and eventually the report writing.



1.3 The figure explaining methodology

Chapter 2: LITERATURE REVIEW

- 2.1 *What is 'public space'?*
- 2.2 *Classification of public spaces:*
- 2.3 *Benefits of great public spaces in cities:*
- 2.4 *Factors responsible for making a public space successful:*
- 2.5 *Reasons for failing of public spaces:*
- 2.6 *Historic Public Spaces of India*
- 2.7 *Critical Comparison of planning practices regarding public realm in the Indian cities:*

2. Literature Review

To understand and analyse the public spaces, a variety of literature is available in terms of books approaching the public realm in the classical way, and those discussing the cities, various research papers, technical journals, critical comments, essays and so considerable information available on the internet through a number of websites. For the dissertation, mainly classical books, research papers and publications in journals, explaining the development of cities from the context of urban design were referred and reviewed, along with information and visuals available through the internet.

The literature reviewed can be categorised into:

- Nature and typologies of public spaces, classifications
- The qualities or attributes required by the public spaces in order to become successful
- Functions/uses of public spaces in an urban scenario
- Evaluation of the public spaces based on certain parameters
- Overview of historic public spaces in India
- Planning practices in Indian cities with respect to public spaces

2.1 What is 'public space'?

Many authors have defined the "public space" in number of ways on the basis of parameters like ownership, accessibility criteria, the user groups, activity patterns seen in the spaces etc. Majority of the authors accept the universal accessibility and vitality of social interaction provided by the public space. It goes unquestioned that in the current community the range of public spaces is varying and all of them are needed to be addressed in a more responsible way to achieve better urban public spaces.

A public space is social space such as a town square that is open & accessible to all, regardless of gender, race, ethnicity, age or socio-economic level. Public spaces are part of urban life, offering excitement and repose, markets and public ceremonies, a place to meet friends and watch the world go by. (Michael Webb) The coming together of people in space in time facilitates an important social dimension which has subsequently been taken as an essence of the "urban" in a cultural sense. (Oldenburg, 1999) Public space is spatial location or venue of activities where through face to face human contact, social interaction takes place in Public Realm. (Vineet Gupta, 1978) An attractive public realm is very important to a

feeling of well-being and comfort (Fransic Tibbalds). Public spaces provide recreation to the citizens. Recreation need not be something one must go somewhere to find. At best it is the part of daily living experience. Although specific types of recreation – such as sports and court games – may need their own specialized areas, recreation may also be no more than a jog or walk down a pleasant path or a visit while minding the kids at the playground. A proper community abounds with enjoyable things to see and do- “a fun place in which to live” (John Ormsbee Simonds) Successful public places are the places which belong to all and are easily accessible. These are the places where people can go out to participate in a collective identity, be excited, silent & anonymous all at once! (Rahul Mehrotra,1999).

Number of critics comment about the lost public realm in cities due to automotives, communication technologies and personalized entertainment gadgets. With this changing lifestyle of people, actually the essentials of public spaces have gone higher. (Matthew Carmona, 2010) The concept of public space is not new. It has been present in the human civilizations from ages. The Athenian Agora, Roman Fora are very expressive examples of this. We have to admit that the forms of public space are changing with the generations. And we have to understand them as per their functions, user groups, management, and behavioural aspects.

2.2 Classification of public spaces:

Public spaces can be categorised on the basis of shapes or ground plans of spaces in cities, ownership and activities taking place in and around these spaces. Spiro Kostof has elaborated the classification of squares on their physical forms i.e. their plans (1992). Flusty (1997) categorises the public spaces into five types based on people’s experience. Matthew Carmona (2010) defines a new typology of urban public spaces in which they are categorised into positive, negative, ambiguous and private spaces. B.V.Doshi has classified the Indian public spaces as street bazaars, local activity streets, activity nodes, and public greens, all having important characteristic of presence of hawkers.

2.21 According to Carr et. al.(1992), there are following eleven functional types of public spaces-

- i. Public parks
- ii. Squares and plazas
- iii. Memorials
- iv. Markets
- v. Streets
- vi. Playgrounds

- vii. Community open spaces
- viii. Greenways and parkways
- ix. Atria and indoor markets
- x. Found spaces/ everyday spaces
- xi. Waterfronts

2.22 The way users engage with space also forms the basis of a typology suggested by Dines and Cattell (2006) who classify the spaces based on the human behavioral pattern in public spaces-

- i. **Everyday places:** the range of everyday neighborhood spaces that make up much of the public realm and the everyday venues for interaction
- ii. **Places of meaning:** that differ from person to person and that relate to particular associations and meanings attached to particular spaces, both positive and negative
- iii. **Social environments:** that through their design and uses actively encourage social encounters like between users, both fleeting and more meaningful
- iv. **Places of retreat:** to offer a chance to people to be alone with their thoughts or to socialize in small group of friends
- v. **Negative spaces:** where some experience aspects of antisocial behaviour, including racism and disruptive activities that are often perceived as threatening.

In reality none of these categories are mutually exclusive. Spaces may at the same time be everyday, social and places of meaning. Thus this categorization tends to be overlapping and fluid.

2.23 Flusty (1997) categorises explicit exclusionary tactics, by distinguishing between five types of spaces, each designed to exclude to different degrees.

- a) **Stealthy space:** is the space which is camouflaged or obscured by level changes or intervening objects, and which therefore cannot be changed
- b) **Slippery space:** this is difficult to reach because of contorted, protracted means of access or missing paths
- c) **Crusty space:** to this kind of spaces access is denied due to obstructions such as walls, gates and checkpoints
- d) **Prickly space:** is difficult and uncomfortable to occupy, for example seats designed to be uncomfortable, lingering
- e) **Jittery space:** it is the one that is actively monitored and which is cannot be used without being observed

It can be clearly seen that even in the above stated characteristics of the public spaces, there are certain types of spaces which can execute one or more than one features. They are not all exclusive.

2.24 Matthew Carmona (2010) defines a new typology of urban public spaces in which they are categorised into of positive, negative, ambiguous and private spaces. They are as follows:

Sr. No.	Space type	Distinguishing characters	Examples	In MUMBAI
POSITIVE SPACES				
1	Natural/semi natural urban space	natural and semi natural features within urban areas, typically under state ownership	Rivers, natural features, sea fronts, canals	Sanjay Gandhi National Park, Kanheri caves, sea fronts at Dadar, Girgaon, Worli
2	Civic Space	The traditional forms of urban space, open and available to all and catering to a wide variety of functions	Streets, squares, promenades	Kalaghoda art precinct, arcaded walkways at the D N Road
3	Public open space	Managed open space, typically green and available and open to all, even if temporarily controlled	Parks, gardens, commons, urban forests, cemeteries	Shivaji park, Hanging gardens, five gardens
NEGATIVE SPACES				
4	Movement space	Transport stops and interchanges, whether internal or external	Main roads, motorways, railways, underpasses	Suburban railway stations, bus depots, bus stops
5	Service space	Space dominated by modern servicing requirements needs	Car parks, service yards	Car parks below the flyovers
6	Left over space	Space left over after development,	SLOAP'(Space left over after planning), Modernist open	

designed without function space

- | | | | | |
|---|-----------------|---|---|------------------------|
| 7 | Undefined space | Undeveloped space, either abandoned or awaiting development | Redevelopment space, abandoned space, transient space | Mills' lands of Mumbai |
|---|-----------------|---|---|------------------------|

AMBIGUOUS SPACES

- | | | | | |
|----|-----------------------------|--|--|--|
| 8 | Interchange space | Transport stops and interchanges, whether internal or external | Metros, bus interchanges, railway stations, bus/tram stops | Suburban railway stations, bus stops, bus depots |
| 9 | Public 'private' space | Seemingly public external space, in fact privately owned and to greater or lesser degrees controlled | Privately owned 'civic' spaces, business parks, church grounds | IT parks, public halls attached to religious institutions like temples, churches, mosques etc. |
| 10 | Conspicuous space | Public spaces designed to make strangers feel conspicuous and potentially unwelcome | Cul-de sacs, dummy gated enclaves | |
| 11 | Internalized 'public' space | Formally public and external uses internalised and often privatized | Shopping/ leisure malls, introspective mega structures | Malls, art galleries |
| 12 | Retail space | Privately owned but publically accessible exchange space | Shops, covered markets, petrol stations | Road side shops |
| 13 | Third place spaces | Semi-public meeting and social spaces, public and private | Cafes, restaurants, libraries, town halls, religious buildings | Asiatic library, haji ali durgah, various restaurants and cafes |
| 14 | Private 'public' space | Publically owned but, functionally and user determined spaces | Institution grounds, housing estates, university campuses | Parks attached to residential societies |

15	Visible private spaces	Physically private, but visually public space	Front gardens, allotments, squares	front gardens of gated offices
16	Interface spaces	Physically demarked but publically accessible interface between public and private space	Street cafes, private pavement space	Food stalls on the pavements, shops extended by spill over at the footpaths
17	User selecting spaces	Spaces for selected groups, determined (and sometimes controlled) by age or activity	Skate parks, playgrounds, sports fields/ grounds, courses	Mahalaxmi race course, cricket and football stadia, hockey fields attached to gymkhanas

PRIVATE SPACES

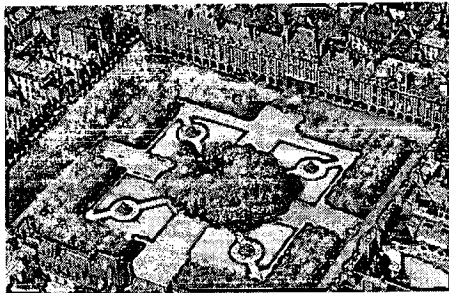
18	Private open space	Physically private open space	urban agricultural remnants, woodlands	N.A.
19	External private space	Physically private spaces, grounds and gardens	Gated streets/enclaves, private gardens, private sports clubs, parking courts	gardens and parks in residential communities, housing societies, private sports clubs and their grounds
20	Internal private space	Private or business space	Offices, houses etc.	Office premises not accessible to people other than employees, eg. Godrej Campus at Vickroli

Out of the above categories as given by Matthew Carmona, the study will consider the spaces that fall under the category of the Positive public spaces, public open spaces and specially the civic spaces. These are the spaces which need to be taken care of in planning guidelines and designing of the cities. The types of spaces especially the private spaces and many of the ambiguous spaces are not accessible to all and everyone but people meeting with the certain criteria laid down for entering such spaces. But the positive public spaces

are the domain of the governing agencies and the development machinery in the city and are for all the citizens.

2.25 Paul Zucker's taxonomy of squares, based on the physical forms; in his book, *Town & Squares: From the Agora to Village Green*, 1959, is given as,

- i. **The closed square:** where the space is static and self-contained like Place des Vosges 2.1)
- ii. **The dominated square:** where the space is dynamic, that is directed toward a terminal object which can be a church, a gate or an arch, a fountain, or a view 2.2)
- iii. **The nuclear square:** where space is formed around the a central statue, fountain, or other vertical accent (Fig 2.3)
- iv. **The grouped square:** the combination of spatial units for eg. St. Petersburg 2.4)
- v. **The amorphous square:** Times Square in New York 2.5)



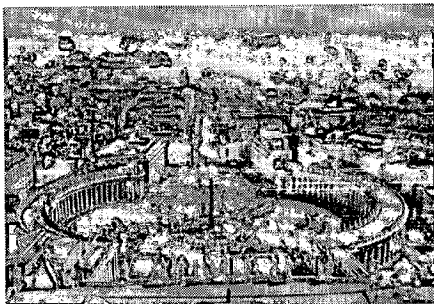
2.1 Place des Vosges, Paris, A closed square



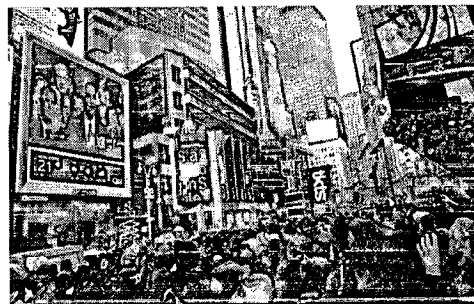
2.2: Nottingham old market square, England, A dominated square



2.3: The Louvre, Paris, A nuclear square



2.4 The Petersburg, Russia, grouped square



2.5 Times Square, New York, an amorphous square

2.26 Spiro Kostof has elaborated the classification of squares on their **physical forms** i.e. **their plans**. The six form based classifications are-

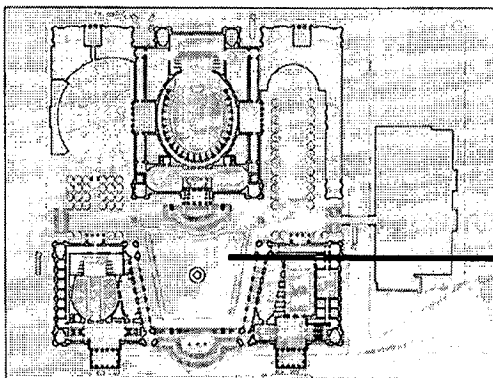


2.6: Place Dauphine, Paris

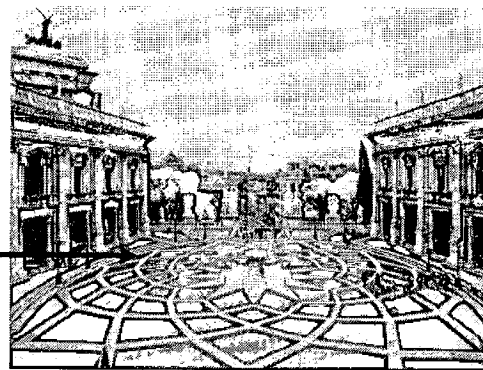


2.7: Place Dauphine, Paris Plan of location

The triangle: The triangular public place of "organic" towns is almost always the inflated crossroads, the characteristic setting for open-air markets. The feature is a commonplace of English medieval towns; it is likely to appear at the foot of the castle where three important roads come together. The shape is flexible: the sides tend to give, bulging or receding in gentle curves; the "points," where the converging roads open into the square, are loosely defined. Though, in geometrical form, a triangle is rare. (Fig.2.6 & 2.7)



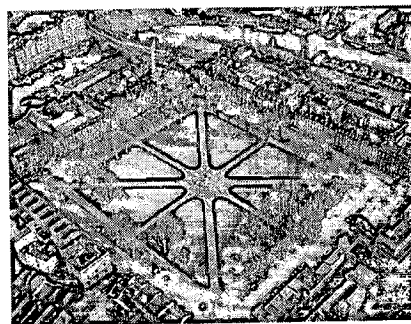
2.8: Plan Michaelangelo's Campidoglio, Rome, Italy



2.9: Michaelangelo's Campidoglio, trapezoidal square

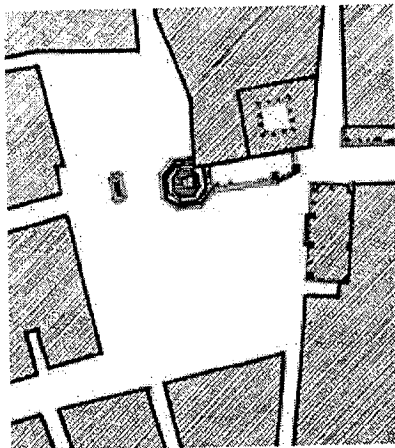
The trapezoid: The principle here might be said intrusion of a climactic façade on one of the points of a triangular plaza. The schematic reproduction of a perspective box so simulated might account for the identification of the type with the Italian Renaissance. The telltale sequence, which some scholars consider deliberate, consists of Bernardo Rossellino's square at Pienza (1459), Michelangelo's Campidoglio (1537), and the small unit in front of the basilica in Bernini's Piazza of St. Peter's (1656).(Fig. 2.8, 2.9)

The rectangle: This form is relatively rare being a perfect square in plan. Two famous examples are the Place des Vosges in Paris & Queen Square at Bath. Because of the equality of the sides, this type does not easily lend itself to architectural emphasis directing attention onto the open space. County and state capitals in the United States, which devote one of the checkers of the urban grid to the town square, commemorate this fact by placing the courthouse or capitol on a slight eminence in the middle of the space. The common rectangle, on the other hand, is possibly the most frequently used shape for the public place. One of its advantages is precisely that it allows a directional axis toward a culminating monument. . 2.10)

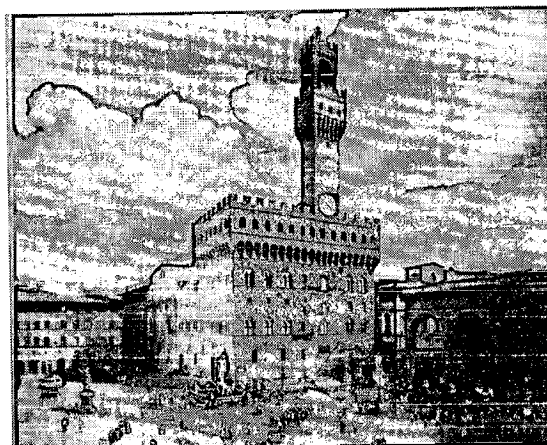


2.10: Queen's Square at Bath, England

The L-shaped Square: Normally, this is a combination of two separate adjacent rectangular spaces, as with the monumental case of the Piazza and Piazzetta S. Marco in Venice. The corner of the L-shaped square becomes a critical point of emphasis for the visual cohesion of the space.



2.11: Plan, Piazza del Signoria, Florence, Italy



2.12: Piazza Del Signoria, Florence, Italy

The corner of the L-shaped square becomes a critical point of emphasis for the visual cohesion of the space. In Venice this corner is stabilized with S. Marco's free standing

campanile. The Renaissance prefers sculpture, like the Gattamelata of Donatello in Padua at the northwest corner of Saint Antonio, Giambologna's Neptune Fountain in Bologna, and the statue of Cosimo I at the Piazza della Signoria in Florence, also by Giambologna. (Fig.2.11 & 2.12)

The circular & elliptical squares: In antiquity, these forms, though infrequent, were not unknown. The renaissance revived these curvilinear types for its public places, as it did in its architecture.

Hemicycle form: The natural progenitor of this type is the concave recession in the building line across from an important public building like a church. The earliest examples seem to come in the first half of the 13th century, and the arrangement is widespread enough in Europe to suggest the northern rather than a Mediterranean origin. Never very deep, the concavity merely expands the street running along the public building and dignifies its façade, without interrupting the spatial flow. There can be further two types of such squares based on whether the plaza breaks the line of the curve to collect the traffic forming an open form of hemicycle or keeps this line intact making a closed form of hemicycle.

Public spaces are the heart of civic life in a city. The physical environment of these spaces must encourage and accommodate the diverse activities that the citizens, young and old, indulge in.

2.27 According to B. V. Doshi (1976) in the Indian cities, **Street Bazaars** are the most preferred behaviour settings for public activities. Even though this trait of human behaviour is well recognized by most, our planning standards have failed to respond to these in a meaningful manner. Next to main bazaars, **local activity streets** and squares are the other important public spaces. Their location and physical character must enhance their role in the residential areas. Activity streets are the more local versions of the street bazaar. An activity street supports the relatively local, non residential activities like shops and workshops to social services like schools, health services and institutional uses like temples and libraries. These activities may occur in different compatible groups, either around small chowks or preferably along linearly along major residential streets. They are ideally suited as informal meeting places for children, teenagers, women and elderly. The next in the classification come the **activity nodes**. These are the very common sites in India where a number of activities are concentrated along apparently crowded streets. This takes place due to potential of certain activities to generate larger volumes of activities. Some such places are the open spaces between the colonnaded walkways in southern Mumbai on the D N Road. **Public Greens** are a major category of public spaces and are the elitist need for the green space. Parks are essential in the cities to maintain the green areas as well to allow

comfortable play and use. The fifth category mentions the **hawkers in public spaces**. Hawkers are integral to the nature of our economy characterized by large informal sector activities and the design of public spaces must respond to their needs.

The literature reviewed to understand the concept and nature of the term “public space” is a cluster concept and it has multiple & sometimes contradictory definitions.

2.3 Benefits of great public spaces in cities:

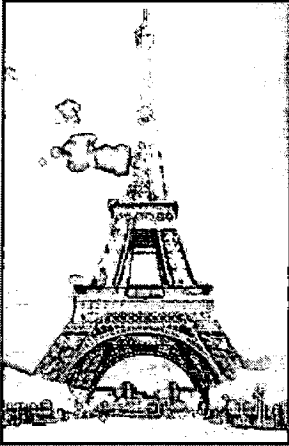
Great public places contribute to community health – whether socially, economically, culturally or environmentally. They add enhancement to the civic realm – not only visually, but also in providing a sense of character and a forum for public activities. They can be anchors for downtowns and communities, acting as focal points for definition and foundations for healthy growth. All of these assets, as well as the opportunity these places offer for people to relax and enjoy themselves, add up to greater community liveability.

Great public places benefit all kinds of communities, from dense urban neighbourhoods and downtowns to small towns and suburbs, and from diverse communities to those with a single ethnic group. The following benefits focus primarily on the importance of these places to cities, but they are applicable to every community.

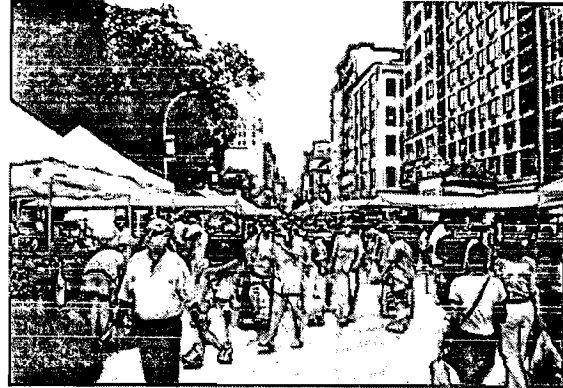
- i. Give identity to cities
- ii. Benefit cities economically
- iii. Help the environment
- iv. Provide settings for cultural and social activities

i. Giving an identity to cities:

Without great public places, there would be no great cities. For example, the skating rink and the other public spaces around Rockefeller Centre are one of the most-visited tourist attractions in New York City. Thousands gather there for the annual lighting of the holiday tree or to stand in the street outside the “Today Show” studios, hoping to be on television. These public spaces represent New York the way the Eiffel Tower represents Paris (Fig.2.13). While people travel thousands of miles to experience such revered places as the Piazza San Marco in Venice, the Champs Elysee in Paris, Las Ramblas in Barcelona, Central Park in New York, Miami’s beaches, or Riverwalk in San Antonio, others need only to walk down the street to find places they cherish. Indeed, great public spaces can be world-renowned, or they can be important because the people in a particular neighbourhood value them.



2.13: Eiffel Tower, the image of Paris



2.14: Farmers' green market Union Square, providing economic boost to the city

ii. Economic boosting of cities by public spaces:

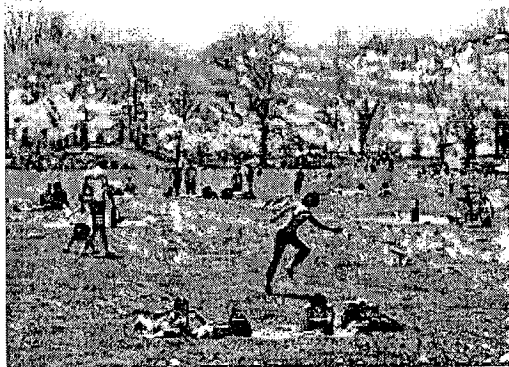
Public spaces that are great places have many real and measurable economic benefits. For example, parks can contribute significantly to the land values in a city. In New York, the real estate values around Bryant Park, Central Park, Prospect Park and Riverside Park are the highest in the city. Minneapolis' prime residential areas are located along the extensive park and trail system surrounding its numerous lakes. California's Pacific Coast beaches and parks provide the setting for some of the most expensive homes in the country.

In New York, the Greenmarket on the north end of Union Square has been a major catalyst in revitalizing the surrounding neighbourhood and providing opportunities for small-scale entrepreneurship (Fig 2.14). Upscale restaurants in the area buy produce at the Greenmarket and develop their menus around what is fresh seasonally. Following the example of Union Square, 26 additional greenmarkets are now helping to revitalize neighbourhoods all over New York City. Little Rock, Arkansas' River Market has helped bring the city's downtown to life, spurring development of residential apartments, a museum, the relocation of the city's library, and a sports arena. Seattle's Pike Place Market is a major tourist attraction, supporting more than 600 businesses with sales of over \$100 million.

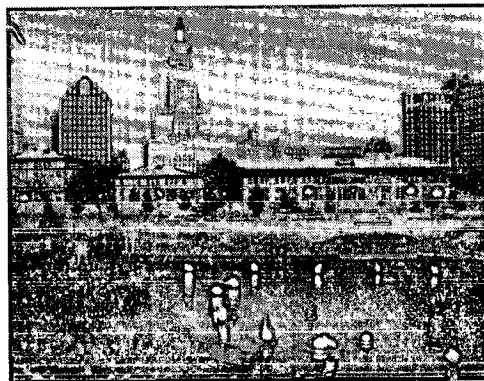
Revitalizing streets for walking, gathering, and shopping is perhaps the most direct example of how public spaces can benefit a city or town economically. Too many towns suffer from streets dedicated to moving high volumes of traffic quickly – a goal that effectively eliminates foot traffic, parking and other features necessary for healthy street life and economic activity. In New Haven, Connecticut, a new streetscape that incorporated wider sidewalks, large trees, enhanced parking, and a community-inspired leasing and development program, helped bring Chapel Street back to life, rejuvenating an important neighbourhood in that city.

iii. Helping the environment:

Great public places also have environmental benefits because they give relief to urban living. Not only do they reduce the need for and dependence on the automobile, but parks and other “green” public spaces, such as waterfronts and wildlife areas, increase people’s appreciation for and stewardship over the natural environment, and also provide habitats for animals – for example, Brooklyn’s Prospect Park is home to more than 200 species of birds (Fig.2.15). What is more, the trees and other greenery so characteristic of these places filter out pollutants and freshen the air.



2.15: Prospect Park, Brooklyn



2.16: Rhode Island's WaterFire

iv. Providing settings for cultural and social activities

Often, public places offer free, open forums for people to encounter art, to enjoy performances, and to participate in other cultural activities. From “Shakespeare in the Park” festivals to string quartets at a downtown plaza, good places foster and enhance a city’s cultural life. Providence, Rhode Island’s WaterFire, an award winning fire and music installation, has had an impressive cultural and economic impact, attracting hundreds of thousands of visitors to the downtown riverfront on summer and fall evenings. A symbol of the city’s renaissance, WaterFire brings people and events to a central urban area that had been typically deserted after dark. These events also bring a great variety of people together and set the stage for positive social interaction. (Fig.2.16)

v. Other major benefits of the public spaces:

- i. Support local economies and informal sector of market: Eg. Streets markets, informal portable vending booths etc.(Fig.2.17)
- ii. Attract business investments: Eg. The railway station areas of suburban stations in Mumbai (Ref. fig.2.18)
- iii. Attract tourism
- iv. Provide cultural opportunities
- v. Encourage volunteerism
- vi. Reduce crime

- vii. Improve pedestrian safety
- viii. Increase use of public transportation
- ix. Improve public health



2.17: Fashion Street, a street market in south Mumbai



2.18: Suburban Railway station area, Mulund

2.4 Factors responsible for making a public space successful:

The various kinds of public spaces that are discussed in this study form a major part of the interactive communities in the city. Some of the spaces are used extensively while some are not. The reason behind this is the quality of the public spaces. Some spaces are used willingly by the people while some are used forcefully, for example the spaces fall on the ways to certain destinations. The publicness of space is understood at two levels viz, conceptual and practical. (George Varna and Steve Tiesdell, 2010).

The spaces can be generally evaluated on how well they perform their functions, to what degree they invite participation of different user groups and how compatible they are with surrounding activity systems. Compatibility is again reflected by how conveniently people can use the spaces and how symbiotic is the use of that space along with the dominant activity in that area. (Asha Jadeja, 1984)

The public are meant to be for common people and are the vibrant centres of the city. People want to use these spaces if they are accessible to all; they hold the various activities that can be participated by number of people, and on an overall level of sociability of the space. Following are the parameters that make the public space successful:

- 2.41 Access & Linkages
- 2.42 Comfort & Image
- 2.43 Uses & Activities
- 2.44 Sociability

2.41 Access & Linkages:

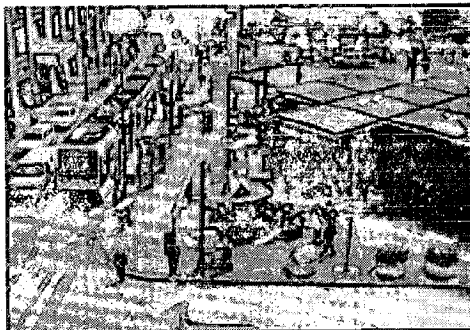
We can judge the accessibility of a place by its connections to its surroundings, both visual and physical. A successful public space is easy to get to and get through; it is visible both from a distance and up close. The edges of a space are important as well: For instance, a row of shops along a street is more interesting and generally safer to walk by than a blank wall or empty lot. Accessible spaces have a high parking turnover and, ideally, are convenient to public transit.

Questions to consider on Access & Linkages:

- i. Can you see the space from a distance? Is its interior visible from the outside?
- ii. Is there a good connection between the space and the adjacent buildings, or is it surrounded by blank walls? Do occupants of adjacent buildings use the space?
- iii. Can people easily walk to the place? For example, do they have to dart between moving cars to get to the place?
- iv. Do sidewalks lead to and from the adjacent areas?
- v. Does the space function for people with special needs?
- vi. Do the roads and paths through the space take people where they actually want to go?
- vii. Can people use a variety of transportation options – bus train, car, bicycle, etc. – to reach the place?
- viii. Are transit stops conveniently located next to destinations such as libraries, post offices, park entrances, etc.?

Guiding Principles:

- i. Make public spaces universally accessible
- ii. Make these spaces accessible through different modes of transport, especially public transport (Fig.2.19).
- iii. Provide better visual connectivity with adjoining areas.



2.19: Pioneer Courthouse Square, Portland, Oregon, having very well connectivity both visual and physical



2.20: City centre, Sector 17, Chandigarh, comfort of the place

2.42 Comfort & Image:

Whether a space is comfortable and presents it well – has a good image – is key to its success. Comfort includes perceptions about safety, cleanliness, and the availability of places to sit – the importance of giving people the choice to sit where they want is generally underestimated. Women in particular are good judges on comfort and image, because they tend to be more discriminating about the public spaces they use.

Questions to consider on Comfort & Image:

- i. Does the place make a good first impression?
- ii. Are there more women than men?
- iii. Are there enough places to sit? Are seats conveniently located? Do people have a choice of places to sit, either in the sun or shade?
- iv. Are spaces clean and free of litter? Who is responsible for maintenance? What do they do? When?
- v. Does the area feel safe? Is there a security presence? If so, what do these people do? When are they on duty?
- vi. Are people taking pictures? Are there many photo opportunities available?
- vii. Do vehicles dominate pedestrian use of the space, or prevent them from easily getting to the space?

Guiding Principles:

- i. Enable people to use the space round the clock with no hesitation or fear. (Fig. 2.20)
- ii. Provide for physical comfort as well as choice of places to sit or to gather.
- iii. Make the place look warm and welcoming with careful design of elements.
- iv. Enable people of different age groups and gender to find their niches in public spaces.

2.43 Uses & Activities:

Activities are the basic building blocks of a public space. Having something to do give people a reason to come to a place – and return. (Fig. 2.21 & 2.22) When there is nothing to do, a space will be empty and that generally means that something is wrong.

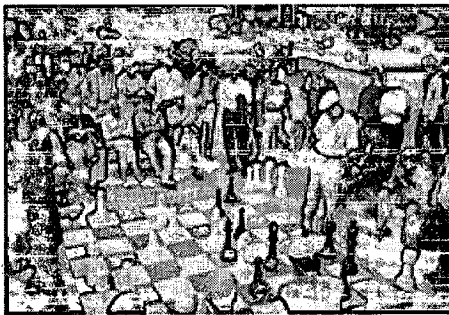
Questions to consider on Uses & Activities:

- i. Are people using the space or is it empty?
- ii. Is it used by people of different ages?
- iii. Are people in groups?
- iv. How many different types of activities are occurring – people walking, eating, playing baseball, chess, relaxing, reading?

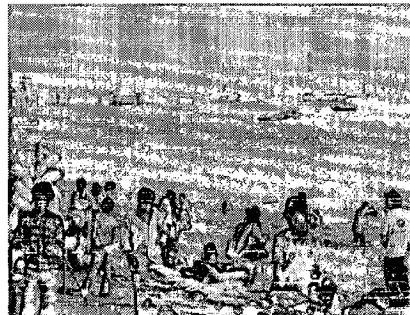
- v. Which parts of the space are used and which are not?
- vi. Are there choices of things to do?
- vii. Is there a management presence, or can you identify anyone is in charge of the space?

Guiding principles:

- i. Make provisions for more activities and the more people to participate.
- ii. Ensure a good balance between men and women and between different age groups.
- iii. Make design provisions and offer opportunities for both singles and people in groups for better socializing, and more fun.



2.21: Kungstradgarden, Stockholm, Sweden, showing interesting activity



2.22: Girgaon Chaupati, Mumbai, expressing the variety of activities to perform on the beach

2.44 Sociability:

This is a difficult quality for a place to achieve, but once attained it becomes an unmistakable feature. When people see friends, meet and greet their neighbours, and feel comfortable interacting with strangers, they tend to feel a stronger sense of place or attachment to their community – and to the place that fosters these types of social activities.

Questions to consider on Sociability:

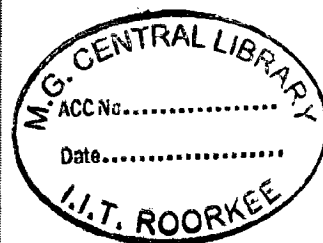
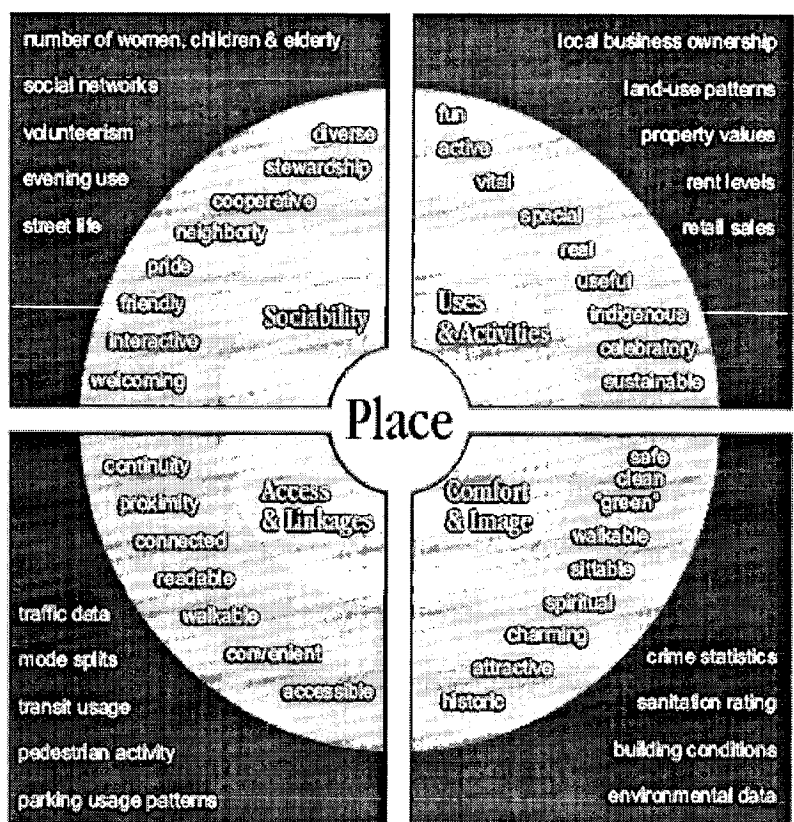
- i. Is this a place where you would choose to meet your friends? Are others meeting friends here or running into them?
- ii. Are people in groups? Are they talking with one another?
- iii. Do people seem to know each other by face or by name?
- iv. Do people bring their friends and relatives to see the place or do they point to one of its features with pride?
- v. Are people smiling? Do people make eye contact with each other?
- vi. Do people use the place regularly and by choice?
- vii. Does a mix of ages and ethnic groups that generally reflect the community at large?
- viii. Do people tend to pick up litter when they see it?

Guiding principles:

- i. Design the space to be inviting and interesting not only to people of the community but also to the visitors.
- ii. Make provisions for holding regular, organized as well as spontaneous activities with equal ease.

These are the questions that give a platform for understanding the quality of any public space. These parameters question the success of the public space qualitatively and quantitatively.

The following diagram provides a better idea of evaluation of the public spaces in the cities:



2.23: The format for evaluation of public space

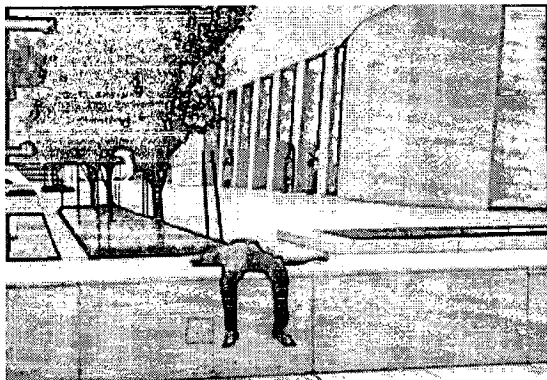
Imagine that the centre circle on the diagram is a specific place that you know: a street corner, a playground, a plaza outside a building. You can evaluate that place according to four criteria in the red ring. In the ring outside these main criteria are a number of **intuitive or qualitative** aspects by which to judge a place; the next outer ring shows the **quantitative aspects** that can be measured by statistics or research.:

2.5 Reasons for failing of public spaces:

William H. Whyte once said, "It is difficult to design a space that will not attract people – what is remarkable is how often this has been accomplished." Today, many public spaces seem to be intentionally designed to be looked at but not touched. They are neat, clean, and empty – as if to say, "no people, no problem!" But to us, when a public space is empty, vandalized, or used chiefly by undesirables, this is generally an indication that something is very wrong with its design, or its management, or both. Seven factors which are discussed below are considered responsible for the failure of public spaces.

2.51 Lack of places to sit:

Many public spaces do not even provide a place to sit. So, in their protracted quest just to be comfortable, people are often forced to adapt to the situation in their own way. (Fig.2.24)



2.24: Failure: No proper places to sit



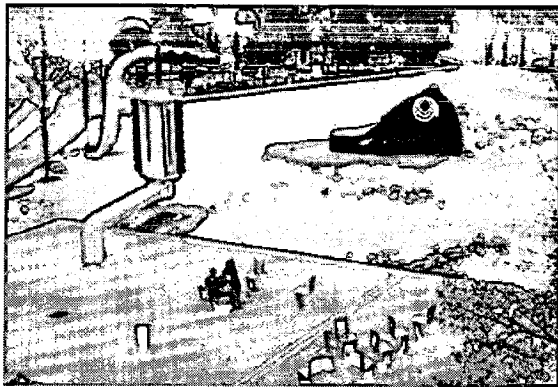
2.25: Success with lots of sitting options

On the other hand, a choice of seats in sun or shade can make all the difference in a place's success, depending on its climate and location (Fig.2.25). Allowing people to sit near a playground or within view of other activities is also crucial.

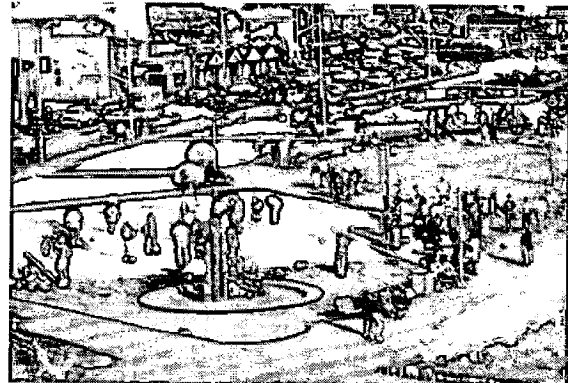
2.52 Lack of gathering points

This includes features people want or need, such as playgrounds, or places where varying elements—bus stop, vending cart, outdoor seating—combine to create a gathering point. Food is often a critical component of a successful gathering point.

Paris' Parc de la Villette (Fig.2.26) has seats that force people to sit in unsociable ways, and signs that ask them *not* to climb on the sculpture. Though located along a stretch of the Pacific Coast Highway, this park at Laguna Beach has loads of activities, food, and places to sit. It is a busy, healthy gathering place (Ref. fig.2.27).



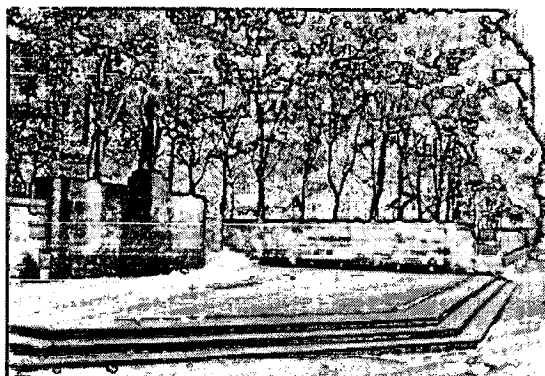
2.26: Failure: No proper gathering space or activity: Paris' Parc de la Villette



2.27: Success: various gathering spots: Park at Laguna Beach, California

2.53 Poor entrances and visually inaccessible spaces

If a space is to be used, people need to see it and they need to be able to get to it. A dark or narrow entrance such as those that used to be at New York City's Bryant Park (Fig.2.28) keeps people out instead of inviting them in. The same entrance was redesigned to be more inviting and open, has kiosks that sell coffee and sandwiches, and the interior of the park is visible from the street. (Fig. 2.29)



2.28: Failure: Old entrance of Byrant Park, New York

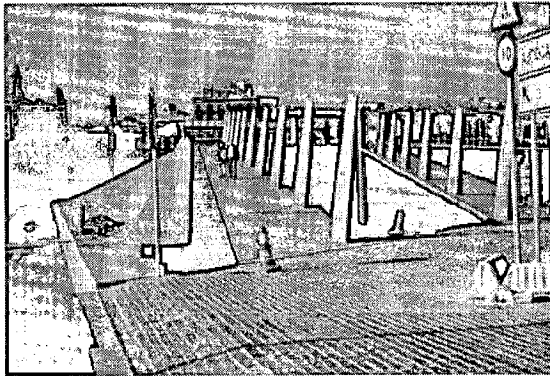


2.29: Success: New design for entrance of Byrant park, New York

2.54 Presence of dysfunctional features

Oftentimes features are designed simply to punctuate the space, serving a use more visual than functional, instead of encouraging activity to occur around them – as at this waterfront park in Barcelona, below. (Fig.2.30)

Good features, such as the old lady's shoe at the Kamala Nehru Garden, Mumbai, encourage activity to occur around them. (Fig.2.31)



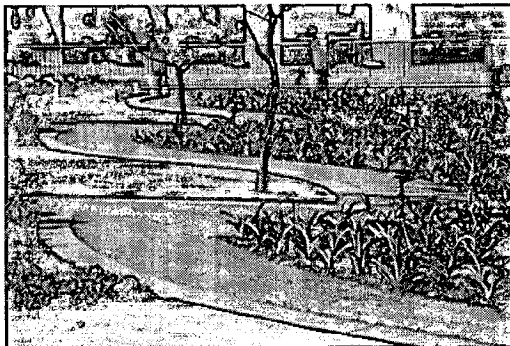
2.30: Failure: waterfront park in Barcelona



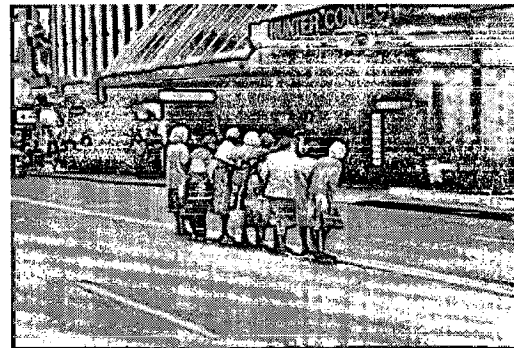
2.31: Success: good features like old lady's shoe

2.55 Paths that don't go where people want to go

Paths that lead to nowhere are useless. Also the paths need to show the destinations or at least glimpses of the destination, so that they excite people to reach there and at the same time allow people to relax alongside. (Fig.2.32)



2.32: Failure: Paths that don't go anywhere



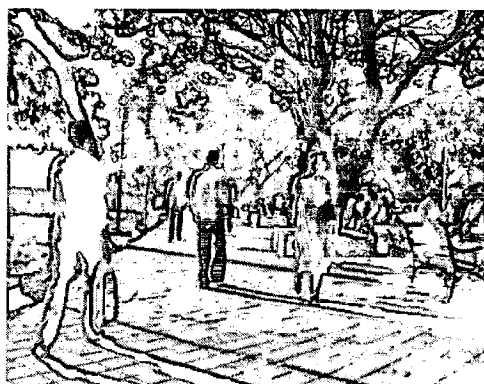
2.33: Failure: domination of space by vehicles, George street, Australia

2.56 Domination of a space by vehicles

There may be a lack of crosswalks, or streets that are too wide, or lacking sidewalks. A main street is not a highway. One should not fear crossing the street so much that the activity needs to occur in groups, as on George Street in Sydney, Australia.(Fig.2.33) Crossing the street should be an easy, comfortable activity. Even if people have to wait.



2.34: Blank walls along do not contribute to spaces and leave the spaces mundane



2.35: The open edges of a space add life to them

2.57 Blank walls or dead zones around the edges of a space

The area around a space is as important to its success as the design and management of the space itself. (Fig.2.34 & 2.35)

2.6 Historic Public Spaces of India

In the Indian cities public spaces have been present through history till date. Such spaces have their own functions and their own identities to people. They can be identified as religious buildings, maidans or open grounds, residential courtyards as well as the common water sources which are visited on a daily basis.



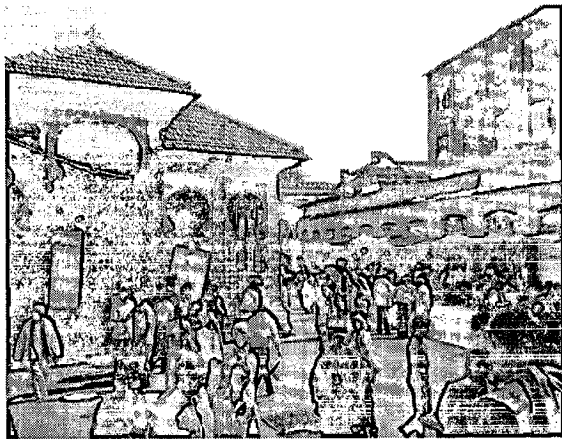
2.36 Entrance of Fatehpur Sikkri with a water fountain



2.37 Meenakshi Temple Mandapa

The planned settlement like Fatehpur Sikkri provides a good example of integration of the public spaces in the residential areas by means of open courts, places for public addresses, common water fountains, and of course monuments and mosques. (Fig. 2.36) In almost all the Hindu towns, large temples are found. The temple complex consisting of a womb-chamber, in which the idol is housed, circumambulation, a congregation hall, and

possibly an antechamber with porch that becomes a public space. The temple thus becomes a bustling public space visited by people often and also becomes a centre of attraction for other activities. Meenakshi Temple of Madurai, Chennai (Fig. 2.37) and the Mahalakshmi Temple at Kolhapur, Maharashtra (Fig. 2.38) are very good examples of this. The market areas are all surrounding such town centres. (Fig. 2.39)



2.38 The courtyard full of public activity around the Mahalakshmi Temple, Kolhapur

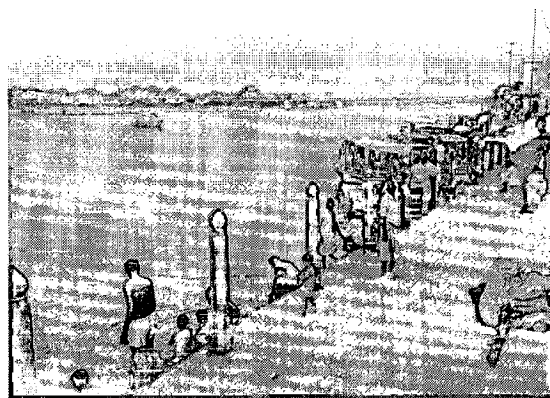


2.39 The bustling market area around the Mahalakshmi Temple, Kolhapur

There have been water fountains, lakes and community wells which served the purpose of public spaces as they allowed congregational spaces on a daily basis. (Fig. 2.40) The river *ghats* are the best examples of such public spaces which even are related to religious spaces and rituals in India. (Fig. 2.41)



2.40 A community well in residential locality



2.41 Vishraam Ghaat of Mathura

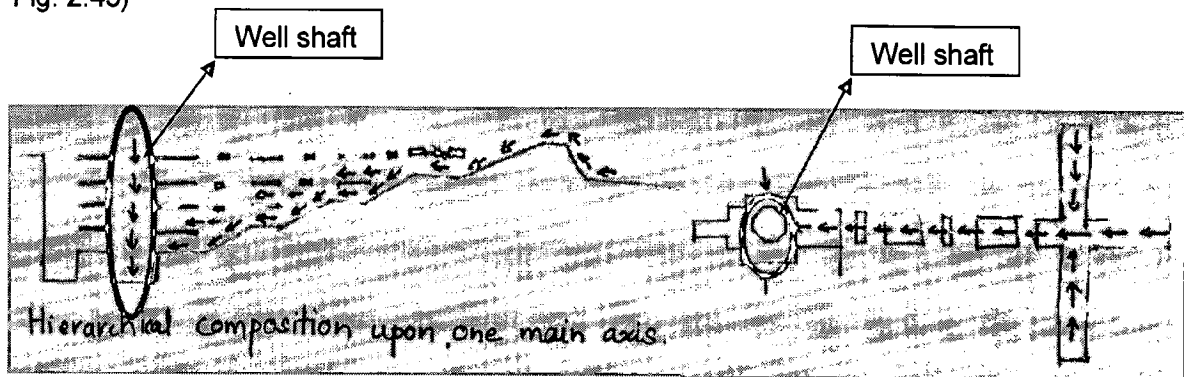
Following are the good examples of how public spaces have always been there in India through the historic times:

- 2.61 "Wavs" – i.e. stepped wells of Gujarath
- 2.62 Temple complex: Kolhapur, Mahalakshmi Temple
- 2.63 Chowks of Jaisalmer

2.61 "Wavs"- i.e. stepped wells of Gujarath:

Gujarath has a dry and hot climate, which makes it difficult for the people to have a good water supply. This is where the community wells come to serve the population.

These community wells or wavs are not merely erections over the well shafts but took the form of extensive subterranean galleries of a highly architectural order. (Fig. 2.42 & Fig. 2.43)



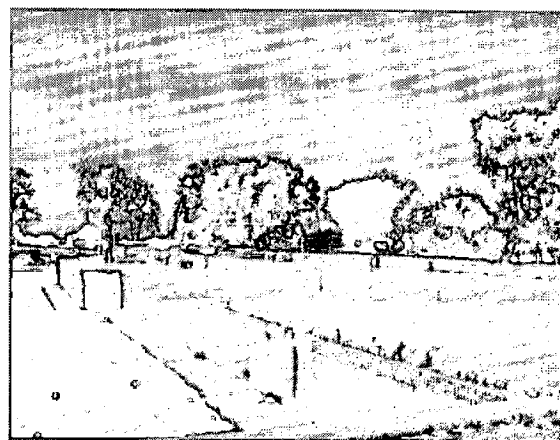
2.42: Section showing the movement of people reaching the well shaft through descending stairways and galleries, Stepped well of Adalaj, Guarat

2.43: Plan showing the axial movement of people in the stepped well of Adalaj, Gujarat

These wavs or bawlis consists of two parts, a vertical well shaft (Fig 2.47)from which the water is drawn from with help of rope in usual manner and the other one as a commodious inclines passage way descending by means of flights of steps in regular stages to the level of water.

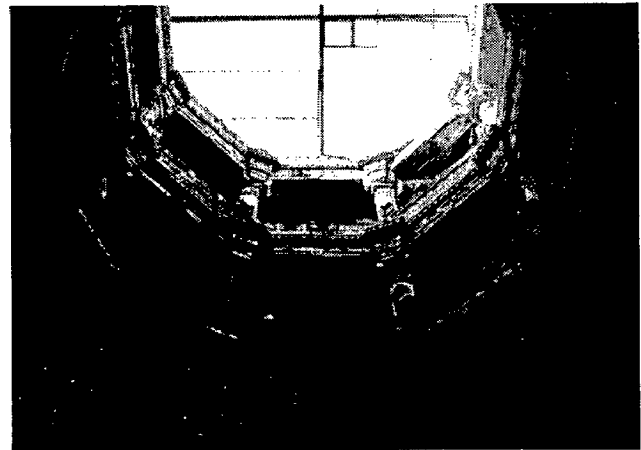
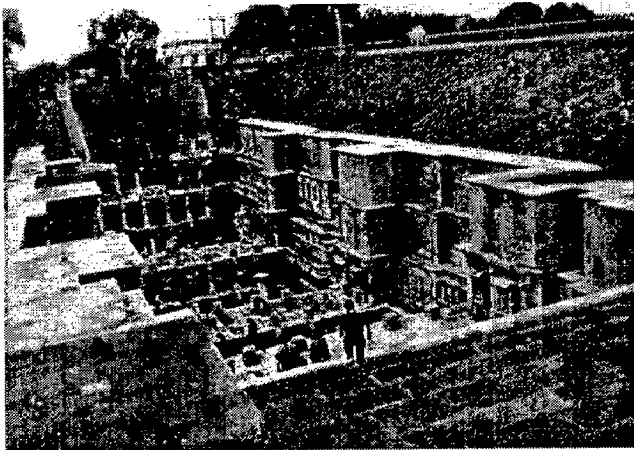


2.44: The galleries with descending stairways becoming a place of retreat, Stepped well of Adalaj, Gujarat



2.45: The superstructure of the stepped well of Adalaj

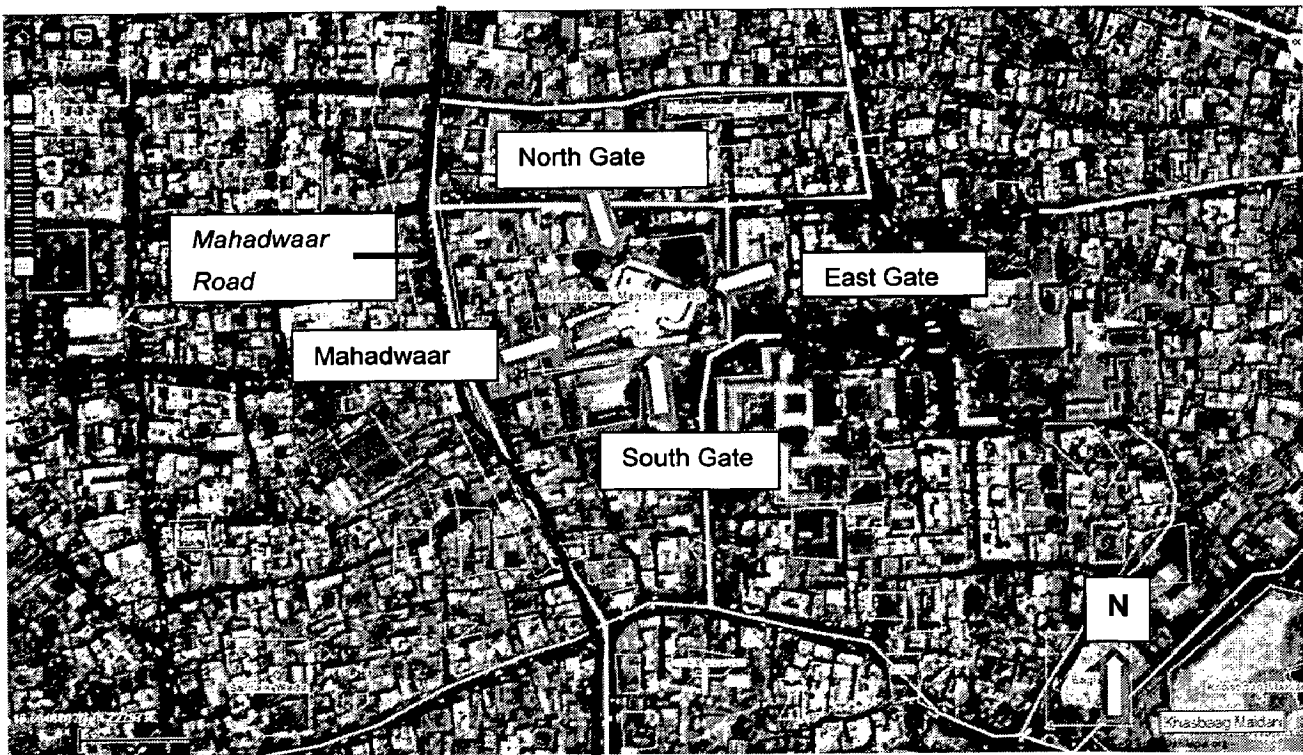
The only part of the structure above the ground level is the kiosks at each end of the scheme, the whole of the reminder being underground.(Fig. 2.45) The subterranean passageway takes the form of a series of galleries connected by stairways in three pillared stories (Fig. 2.44), so that a system of supercolumniation is an outstanding characteristic of the main composition. (Fig. 2.46) For around each compartment are balconies, and thus each storey becomes a cool and quiet retreat converting the well into a place for public to come together, interact in a desirable cooler temperature condition.



2.46: The descending steps to the water shaft of Rani ki Wav, Patan, a world heritage site

2.47: The main water shaft of the Adalaj stepped well

2.62 Temple complex: Mahalakshmi Temple, Kolhapur



2.48 Google map showing Mahalakshmi Temple Complex

Kolhapur is located in Kolhapur district and is well connected with Pune, 240 km north. It is on the national highway between Bangalore and Pune. It is situated on the banks of the Panchganga river and is full of ancient temples and shrines.

The temple complex is surrounded by large market area. Outside the complex, there are various shops selling clothes, footwear, food items as well as jewellery. The market is always bustling with activity. There are many informal stalls around the temple. (Fig. 2.49)

The main entrance or *Mahadwara* of the temple is the western entrance. (Fig. 2.48, 2.51) Upon entering the *Mahadwara* one is confronted with several *deepamaalas* on either side, and enters the Garuda mandap with square pillars and foliated arches of wood, characteristic of Maratha temples. This mandap dates back to the 18th century. An image of garuda faces the sanctum. Another stone mandap, on a raised platform enshrining Ganesh, also faces the sanctum. Following this is the mandap with three shrines facing west. The central one is that of Mahalakshmi and the two on either side are those of Mahakali and Mahasaraswathi.



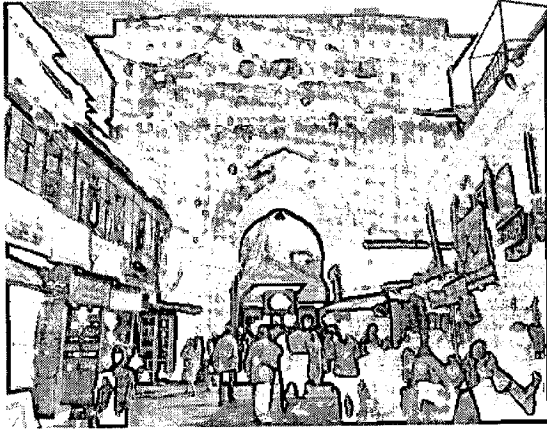
2.49: The 'Mahadwaar Road', i.e. the road leading to the main gate of temple complex is a street market



2.50: The vendors in the temple complex, with a line of shops bordering the *Pradaksina Path*

The area surrounding the mandapa is the pradakshina path, as well as a platform for various activities like, those related to the rituals and the informal sector shopping. (Fig 2.50) People enjoy sitting and chatting around the various small shrines, tree platforms and steps of temples. (Fig. 2.52)

Thus the temple complex becomes a busy and active public space of the city which a city level space due to its religious identity.



2.51: The 'Mahadwaar' i.e. the main gate of temple complex

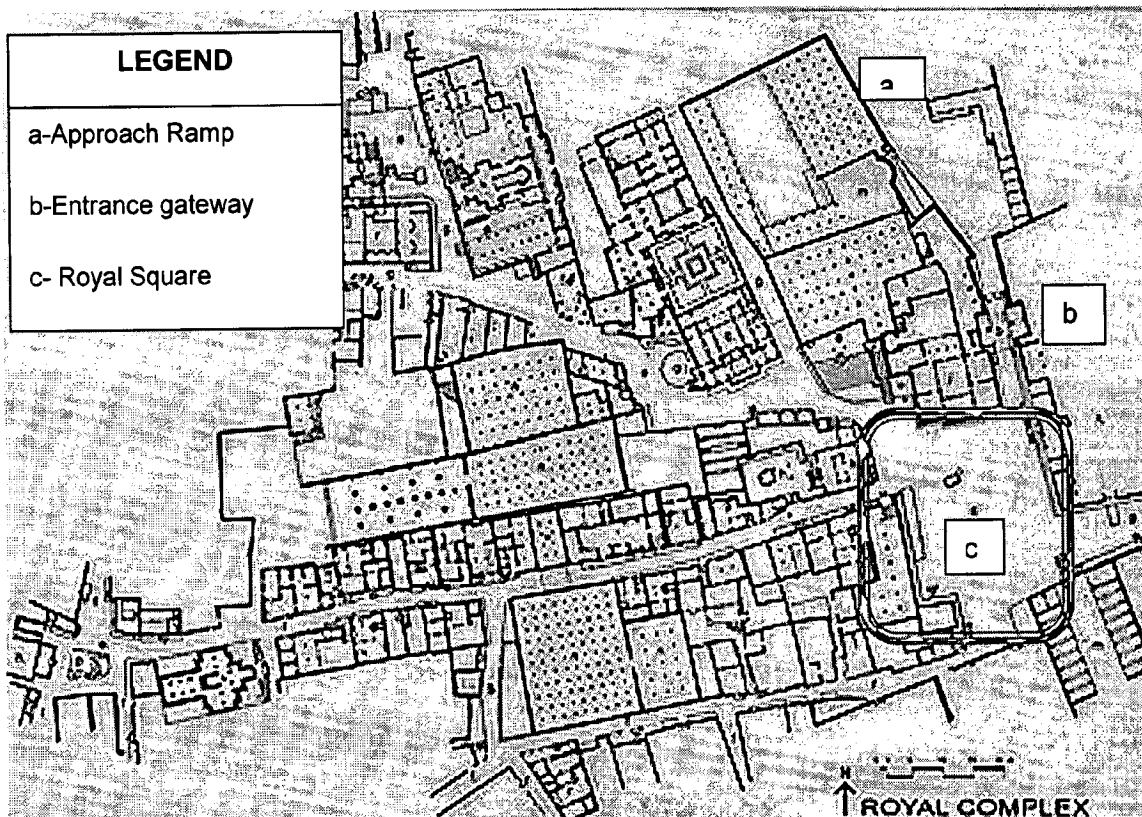


2.52: People relaxing in a corner of Pradakshina Path

2.63 Chowks of Jaisalmer

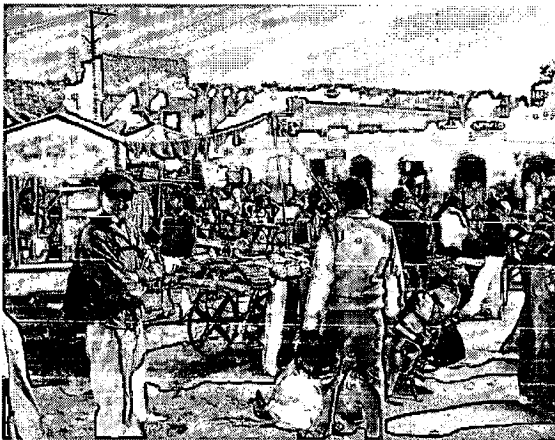
Jaisalmer is located in the arid plains of west Rajasthan in the midst of the vast Thar Desert.

Public spaces in Jaisalmer may be classified according to their types. The major categories are: The Royal Square in the center of the upper city; public spaces like Gandhi chowk and Gopa chowk as well as community spaces at the level of residential clusters.



2.53: The Plan of Royal Complex with location of the Royal Square earmarked

The Royal Square (Fig. 2.53) is a very well conceived space forming the core of the upper city as well as the Royal quarters. It has a high quality of architectural order. On reaching the entrance to the square through a winding and well guarded path, one sees very few buildings; actually one views the horizon just above the fort wall. Only on turning around does one find the richly ornamented Royal Palace and the temple exhibiting exquisite craftsmanship. Visitors and traders met the king and the community in this square. The king's throne occupies one corner of the square at a diagonal, overlooking the square. The square acts as a key linking element and as a nucleus in the upper city thus holding it together. Market squares, such as Gandhi Chowk, Gopa Chowk etc. are all located in the lower city. (Fig. 2.54) These squares build part of a sequence of spaces and streets forming the main bazaar. Starting with Gandhi Chowk, just inside the western wall of the lower city, one is lead through the main bazaar with Jindani Chowk along the way to Gopa Chowk, the latter being the main market square.



2. 54 : Gandhi Chowk, A market square of Jaisalmer



2.55 : A street performer playing musical instrument at Royal Square

With reviewed literature, it is clear that the public spaces are perceived and defined in various ways throughout world. The literature draws light upon the best practices as well as the dos and don'ts regarding the planning and execution of the public spaces. Some cities, countries follow the good practices to maintain and improve the public realms, while some are still fumbling in their approaches. Reviewing the master plans and/or city development plans along with the development control regulations or building byelaws of the select Indian cities, the practices for the planning policies and guidelines for development and maintenance of the public realm of the Indian cities are understood in this dissertation study.

For reviewing the current practices in Indian cities, Delhi, Mumbai, Ahmedabad, Chennai and Chandigarh were selected being the former four being the metro cities and later being the first planned city of India.

2.7 Critical Comparison of planning practices regarding public realm in the Indian cities:

Being a country reflecting varied cultures and lifestyle, India today is redefined by its upmarket cities, leading a momentous existence. With the four metros guiding the way, other Indian cities have come up fast with improvisations and a sophisticated outlook to a people-friendly living whilst boasting their copious heritage.

Ahmedabad CDP (2006-2012), Chandigarh CDP (2006-2036), Chennai CDP (2026), master plan of Delhi (2021) and Mumbai CDP (2005-2025) along with respective city's development control regulations are studied in a comparative manner to understand the public realm and related provisions and existing situation of the same. They give an overall view about the concerns of planning authority regarding development of public spaces in the cities.

The master plans and city development plans of the select cities are compared on the basis of land use break ups, spaces covered under the terminology of recreational spaces, amenities and public facilities and the various provisions in the plans for them.

2.71 Land use comparison:

Table 2.1. Land use comparison of select Indian cities

Sr. No.	Landuse	% of land use				
		Delhi	Ahmedabad	Chennai	Mumbai	Chandigarh
1	Residential and Commercial	45-55	38.42	49.14	28	68.82
2	Industrial	4to 5	15.79	5.1	6	5.04
3	Recreational	4to 5	N.M.	5.25	6	N.M.
4	Circulation	15-20	9.68	N.M.	19	1.12
5	Public- Semi Public and institutional	8to10	2.84	17.38	4	8.92

6	Forest, agriculture & water bodies	10to12	4.58	N.M.	37	19.61
7	Other	N.M.	28.69	23.13	0	0

Note: In the Ahmedabad land use Other land uses consists of village site/gramtal and open/vacant land. N.M. means the category of the land use is not mentioned in the respective CDP or master plan.

Source: Ahmedabad CDP (2006-2012), Chandigarh CDP (2006-2036), Chennai CDP (2026), master plan of Delhi (2021) and Mumbai CDP (2005-2025)

2.72 Recreational Spaces:

All the selected cities' plans viz. Ahmedabad CDP, Chandigarh CDP, Chennai CDP, master plan of Delhi and Mumbai CDP describe the recreational spaces as vital area though Ahmedabad and Chandigarh CDP does not include the category of Recreational land use in the provided land use table. In the Delhi master plan 2021, it is stated that the urban extension of the city has 6 land use categories and have green/recreation as their part. It also envisages the green/recreational areas while discussing the chapter of 'environment', which includes the following use types:

- Formal parks for community
- Incidental greens for balancing the environment
- Amusement parks
- The plan proposes to provide green cover in the urban extension at the rate of 15% of total land excluding the regional park
- To improve the environment, development of specialized parks like bio-diversity parks, plantation along the roads, drains, riverbanks is also considered

Though Ahmedabad CDP does not have a category of land use for recreational uses, it gives broad classification of existing open and recreational spaces as open, garden, playground, green belt & recreational area. As per the plan document 100 parks are maintained by the private agencies like Mother dairy, Amul and Dairy Den on lease hold basis with corporation. In the periphery of the city AUDA(Ahmadabad Urban Development Authority) has developed 50 parks over an area of 27 Ha. According to the existing statistics in the city there is just 0.37 sq. mt. of open space per person is available. The plan document notes on the reducing amount of open spaces. There is clear lack of community play/park areas. The green belts seen in the past are put to various urban land uses and the gardens & parks in the city are very less to cater the recreational needs of the increased population of the city.

The CDP of Chennai also discusses the “green areas” under the chapter of ‘environment’. In the Development Control Regulations for city, the land use pattern and the various activities permitted under the land uses are discussed in detail. Under “Recreation and Open space” following activities/uses are mentioned which form a part of public spaces:

- All public and semi public recreational uses
- open spaces
- parks
- play grounds
- zoological and botanical gardens
- nurseries
- waterfront developments
- museums
- memorials
- theme parks
- amusement parks
- open air theatre
- exhibition grounds
- fairs and circuses
- festival grounds

The CDP of Mumbai has an entire chapter dealing with the “Gardens and Public spaces” which form a major part of public spaces. This chapter gives an overview of various classified open spaces/gardens considered and maintained by MCGM. They are:

- Neighbourhood parks/ Garden R.G. upto 5000 sq. mt.
- Theme Park/Garden/R.G. 5000 to 20000 sq. mt.
- Non theme park garden/ R.G. more than 20000 sq. mt.
- City level park above 20000 sq. mt (Veer Jijamata Udyan with proposed extension)
- Play grounds
- Area under green cover other than above reservations

In the environment chapter of CDP, development of open spaces is considered and reservations are mentioned for playground, recreational ground, public libraries which are part of public spaces.

The Development Control Regulations of the city prescribes the activities permitted in “assembly and recreation” use which are as follows:

- Cinema theatre
- Open air theatre
- drama theatre
- children’s theatre,
- public hall,
- museum,
- gymnasium,
- club,
- stadium,
- swimming pool,
- recreation ground,
- playground, garden,
- park,
- sports complex cum shopping centre,
- library,
- tourist complex/centre,
- art galleries

Recreational open spaces in the residential and commercial layouts are also discussed in the DCR.

Chandigarh CDP does not envisage the recreational land use and considers the recreation as part of the commercial and residential neighbourhoods as per the earlier reservation by Le Corbusier as mixed land use. Chandigarh has leisure valley, gardens, sector parks and open courtyards as important public spaces for citizens.

2.73 Amenities and community facilities:

Many of the public spaces are often considered under the sector of 'community facilities'. The Delhi Master Plan has defined a city as an assemblage of buildings & streets, systems of communication and utilities, places of work, transportation leisure and meeting places forming a part of public spaces and certain other facilities which do not form a part of public spaces. While mentioning the development hierarchy of the urban development, public spaces are provided as per the size of population in the settlements. These spaces are part of community facilities which include religious buildings, housing area playgrounds, and neighbourhood area playgrounds at community and neighbourhood levels. Also in the chapter of 'urban design' under the sub title of 'public amenities there is consideration of public spaces though no further characteristics, types, or their locations are specified. Under the 'social infrastructure', the following socio-cultural facilities are considered.

- Banquet hall
- Multipurpose community hall which may include provision for marriages, small public gatherings, functions
- Eating joint
- Library
- Community recreational club
- Auditorium
- Music, dance and drama centre
- Meditation and spiritual centre
- Science centre
- International convention centre
- Exhibition cum fair ground

In the Ahmedabad City Development Plan, the chapter 'social amenities' takes care of a part of public realm under 'open spaces'. These amenities include means roads, streets, open space, parks, recreational grounds, play grounds, gardens, and they form a major part of public spaces in a city.

According to the Chennai City Development plan, open spaces and green areas fall under the 'social facilities'.

In the Mumbai City Development plan, public spaces are not considered under the amenities. As per the Development Control Regulations of Mumbai amenity means roads,

streets, open spaces, parks, recreational grounds, gardens which are forming part of public spaces.

In the Chandigarh City Development Plan, the various public spaces are not addressed under the title of amenities or social facilities.

2.74 Public spaces as a result of commercial activities:

The importance of commercial spaces in the Indian scenario of public spaces has been discussed earlier, which admits the very necessity of the same. The Delhi Master Plan vision addresses the problem of informal sector which dominates the public spaces the most. While advocating the infrastructure requirement for the layout of a neighbourhood, in the context of public realm, "informal bazaar" under shopping sector is mentioned. Under the chapter of "trade & commerce" the plan defined scope of a "Community Centre". as per the plan the community centres should be conceived as shopping and business centres, which may have retail shopping, commercial and government offices, local body/public sector undertaking offices, cinema/Cineplex, hotels, restaurants, banquet halls & guest houses, nursing homes, dispensary, clinical laboratory, clinic and polyclinic facilities with other facilities (as per the five tier system of commercial development) thus forming majority of the public spaces. With reference to commercial areas the plan takes into consideration the "informal sector" which is an important part of "public realm" in any city. The plan also envisages the "organized informal sector" places which would be strategically located in the city at certain places at certain locations. Informal bazaars, weekly markets are strategic forms of informal trade allowing vibrant activity in the public places. Reference is made to the pedestrianization of certain area of the Connaught place and extensions, which is a commercial area and is a vibrant public space. Also while discussing the mix land use in the city "commercial streets and area" are broadly discussed in the plan.

Ahmedabad City Development Plan, Chennai City Development Plan as well as Chandigarh City Development plan do not make any mention of the commercial areas as a part of major public space.

Mumbai City Development Plan, though not paying any attention to the informal sector of market and other major commercial areas as a part of public spaces, it gives a thought to the number of tourists visiting the city. The CDP speaks of cashing the 'Bollywood Industry' for new tourism potential and 'Cruise Tourism'. Though the city has a number of tourists' spots, developing the public realm around such spaces in order to facilitate more tourist activities is completely sidelined.

2.75 Planning provisions and different approaches for development of public spaces:

The plans provide different approaches in addressing the public spaces in the cities. Various proposals or provisions are mentioned in the plans in order to integrate more public spaces in the city as all the cities lack in the terms of providing them.

Delhi master plan envisages the urban design development provisions of the following areas which are important public spaces:

- Historical Monuments and Gardens.
- Exhibition grounds, Zoo etc.
- Areas along entry routes and other important routes in Delhi.
- Republic day parade route.
- Road and Rail, MRTS corridors, entries, and terminals.
- Central Vista and the areas in its North and South, Lutyen's Bungalow Zone.

While discussing the mix land use in plan, 'commercial streets and area' are broadly discussed in the plan.

The Ahmedabad City Development plan focuses on the reducing amount of open spaces. There is clear lack of community play/park areas. In the Sabarmati riverfront development, there are plans for various parks, gardens, promenades, amusement park, and road development along the river. All these form a larger part of public realm of the city. Plan has given a summary of sector wise investment requirement in AMC (Ahmadabad Municipal Corporation), where Environment & River Front Development is given nearly one fourth share. This is the sector which is largely related to public realm. In the development of land, the plan addresses the development/redevelopment of closed textile mills in the city. The GDCR enforce the owners to give the 20% of the land to the authority for provision of public amenities/public purpose in that area. Land use zoning is discussed in detail in the GDCR and it has given the specific types of development permissible in the recreation zone and garden and open spaces.

Chennai CDP vision aims at planned development of various activities considering "recreation" as one of it. Annexure XX is about reservation of land for community recreational purpose in case of special buildings/group developments/ multi storied building development.

Mumbai CDP encourages private participation for development and maintenance of playgrounds, recreational grounds, parks and gardens which will ensure a reasonable access to the common Mumbaikar to such places. The CDP gives the Emerging City Development Strategy in which tourism promotion and city beautification would take care the public realm of the city by designing, developing and maintaining the places of tourists' interests.

In the Chandigarh CDP, The various key factors identified in the plan have sections dealing with the environment & physical infrastructure but it does not relate to public spaces and social amenities for general public. In the chapter of Urban Environment and Heritage, the plan envisages the proposals for sustainable urban environment, which contain certain components of environmental interventions like urban greening with urban parks and open spaces. These spaces fall under the public realm of the city but are not discussed in the way of developing public realm for the citizens but to provide a better environmental quality. Urban parks and open spaces are briefly discussed later for guidance of their planning. For Urban Greening of the city major forestation is proposed at macro level and at micro level in the form of personal nurseries, neighbourhood and residential community parks. These spaces are related to the city's public realm and can perform as great public spaces.

2.76 Conclusions:

The Indian cities are provided with guidelines for development in terms of plans, which lack in an overall collective approach. The plan documents of major cities of India are lacking in a vision to provide wholesome social infrastructure in terms of public spaces.

The terminologies used in the different city plans are not uniform but varying. Even there is not enough attention to the provisions related to public realm and out of the above studied planning procedures in five cities, Chandigarh and Ahmedabad lack in it. Though the plans are broader guidelines for development machinery in the city, either do not guide the development at all in the area of public realm or up to the expected level of detail. Chandigarh CDP does not mention anything about planning, designing and maintenance of public spaces and the city continues to have the spaces envisioned by Le Corbusier while planning the city.

The plan documents do not envisage all the types of public spaces and they address the public spaces with varying definitions. The new plans of the cities lack in order to achieve a better public realm through upgradation of the existing public spaces and creation of new ones to deal with the shortage of public spaces. The plans fail to discuss the design aspects and approach to urban design for such public spaces. Only Delhi Master Plan has some provisions for the urban design proposals for certain identified areas to give them the glory of

people friendly, well designed, and better used public spaces. Other plan documents do not go much beyond the public gardens, parks, playground and recreational grounds. Maintenance aspect of the public space is not discussed at all in the plan documents, which has a larger practical value in Indian cities, where there is a tendency of such spaces being ill maintained or not maintained at all.

2.8 Summary & useful findings:

2.81 Summary:

A public space must be freely accessible to all the people despite the biases of their social and economic class, age and gender. The literature reviewed provides an idea of the morphology of the public spaces, their characters and the successful practices in the world wide cities. The literature makes us aware about the significance of public space in an urban context. It also draws light upon the reasons for success and failure of public spaces.

Public spaces have been all over the world and also in Indian towns since historical times. These spaces still hold their significance in the society along with evolution of new public spaces as per the changing lifestyle of people.

The old public spaces in a city or town must be maintained while new public spaces must be made available for people with the growing population, in order to provide them with better quality of life. The five plan documents studies for cities Ahmedabad, Chandigarh, Chennai, Delhi and Mumbai give an idea of the planning practices regarding the public space planning in these cities. There are very little or no efforts are taken to improve the public realm of these and such other cities.

2.82 Findings:

- Public spaces are immensely important in urban set up.
- Out of the many classifications provided by various authors, those spaces, which are freely available to all, should be concentrated to improve the public realm of the city.
- The success of a public space can be measured on the basis of certain parameters like accessibility, linkages, variety of activities available in the public space, the image and comfort provided by the space to the users and the sociability of the space.

Chapter 3: CASE STUDIES

- 3.1 *Introduction*
- 3.2 *Copenhagen city centre:*
- 3.3 *Chandigarh City Centre:*
- 3.4 *Comparative analysis:*

3. Case Studies

3.1 Introduction:

Public spaces are certainly the spaces that attract people from all over the world. There are invariable cases of successful public spaces particularly in foreign countries. There are bustling public spaces in the American cities like New York, Washington D.C., Seattle etc. and in the European cities like London, Italy, Amsterdam and Munich.

For the dissertation a foreign case study has been selected on the basis of the diversity of public spaces available in one city. One internationally known example for such a city is Copenhagen as it has done conscious efforts to convert car traffic dominated city centre into a pedestrian friendly one. In India, in the contemporary context and being a planned effort the city of Chandigarh is selected as a case study. These two cases allow analysing the qualities of public spaces, their user friendliness and the characters that provide success to the public spaces.

Along with the city centres' cases, this chapter also analyses other successful public spaces in India as well as in foreign countries. These public spaces are studied on the basis of available literature in books and information available on internet.

3.2 Copenhagen City Centre:

3.21 Introduction:

This is the capital city and the largest city of Denmark. Copenhagen is a major regional centre of culture, business, media, and science, as indicated by several international surveys and rankings. Life science, information technology and shipping are important sectors and research & development plays a major role in the city's economy. Its strategic location and excellent infrastructure with the largest airport in Scandinavia located 14 minutes by train from the city centre, has made it a regional hub and a popular location for regional headquarters as well as conventions.

Copenhagen has repeatedly been recognized as one of the cities with the best quality of life. It is also considered one of the world's most environmentally friendly cities.

3.22 Geography & Location:

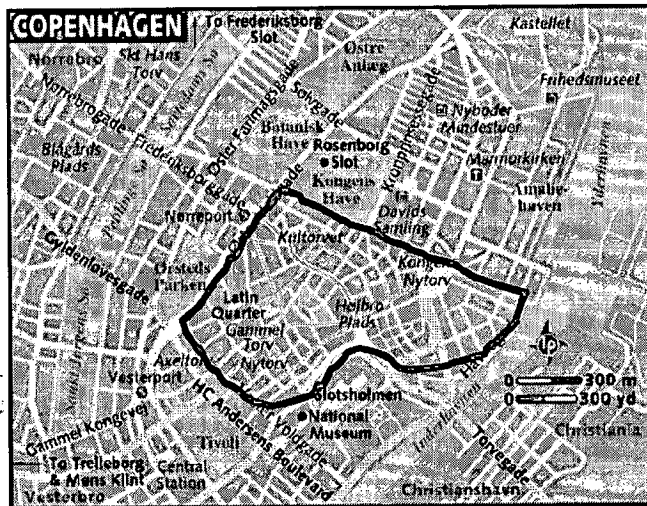
Copenhagen is located on the eastern shore of the island of Zealand, partly on the island of Amager and on a number of natural and artificial islets in between the two.

Copenhagen faces the Oresund to the east, the strait of water that separates Denmark from Sweden, and which connects the North Sea with the Baltic Sea. On the Swedish side of the sound directly across from Copenhagen, lies the towns of Malmo and Landskrona. (fig. 3.1, 3.2)

Copenhagen is also a part of the Oresund region, which consists of Zealand, Lolland-Falster and Bornholm in Denmark and Scania in Sweden.



3.1 Location of Copenhagen in Denmark



3.2 Map of Copenhagen with the city centre marked

3.23 Climate:

Copenhagen is in the oceanic climate zone, bordering on a humid continental climate. The main reason for warmth in the city is the Atlantic Gulf Stream, which pushes warm water from around the Sargasso towards the northwest, and the low-pressure systems follow with the oceanic stream. (table 3.1)

Table 3.1 Climate Data for Copenhagen

Climate data for Copenhagen (1961–1990)													[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high °C (°F)	1.9 (35.4)	2.0 (35.6)	4.8 (40.6)	9.5 (49.1)	15.0 (59)	19.2 (66.6)	20.4 (68.7)	20.3 (68.5)	16.7 (62.1)	12.1 (53.8)	7.1 (44.8)	3.7 (38.7)	11.1 (52)
Average low °C (°F)	-2.0 (28.4)	-2.4 (27.7)	-0.6 (30.9)	2.3 (36.1)	7.2 (45)	11.3 (52.3)	12.9 (55.2)	12.6 (54.7)	9.8 (49.6)	6.7 (44.1)	2.7 (36.9)	-0.5 (31.1)	5.0 (41)
Precipitation mm (inches)	46 (1.81)	39 (1.54)	39 (1.54)	39 (1.54)	42 (1.65)	52 (2.05)	68 (2.68)	64 (2.52)	60 (2.36)	56 (2.2)	61 (2.4)	58 (2.2)	613 (24.13)
Avg. rainy days	17	16	16	16	16	11	16	16	16	16	17	16	163
Sunshine hours	63	67	110	168	217	218	202	193	133	90	65	12	1,539

Source #1: Denmark's Meteorologiske Institut
 Source #2: World Weather Information Service^[31]

Precipitation is moderate throughout the year, with a small peak during June to August. Snowfall occurs mainly from late December until early March, but snow cover seldom lasts for long. Rain during January and February is as common as snow, and the average temperatures for these two winter months is almost exactly on the freezing point.

Spring is comparable to continental Europe, but delayed about a week because of the cold surrounding water. On the other hand, in late autumn Copenhagen is kept milder due to the same factor, but reversed. In late November and December, water temperatures are generally higher than the air with wind-chill conditions. In the period from mid-October to February, one or two storms (or even hurricanes) occur. Storms in the summertime are very rare.

Summer is, like the other seasons, a mixture of south-western mild, windy and rainy low pressure systems, and periods of stable high pressures. In summer, high pressure systems usually bring sunny and fairly warm weather. But these warm periods, which can occur anytime from late April until mid-September, usually last no longer than ten days.

3.24 Numerical facts:

Total Population of city: 531,199

City area: 88.25 km² (34.1 sq mi)

Population Density: 6,019.3/km² (15,589.8/sq mi)..... (Estimated 2010 population)

3.25 Economy:

Copenhagen is the economic and financial centre of Denmark and also strong business and economic centre in the Scandinavian-Baltic region. In 2008, Copenhagen was ranked 4th by Financial Times-owned FDI magazine on their list of *Top 50 European Cities of the Future* after London, Paris and Berlin. In the 2008 *Worldwide Centres of Commerce Index*, published by MasterCard, Copenhagen was ranked 14th in the world and 1st in Scandinavia.

Copenhagen has a service oriented economy. An important sector is life science and research & development plays a major role in the economy of the city. Copenhagen has some of the highest gross wages in the world. Copenhagen is however also among the most expensive cities in Europe.

3.26 Public Realm of Copenhagen:

Copenhagen has been lucky. The city centre still has medieval street pattern and is dominated by aged buildings at a good human scale. The city centre of the Copenhagen has been spared the large scale reconstruction, destruction from war and traffic adaption that have dramatically transformed many other large cities in Europe, and other parts of world.

Copenhagen has followed a policy targeted to reduce the impact of traffic on the city centre, to improve conditions for users. In the process it has become less polluted, more beautiful and friendlier which gives affine reception. The city is now used by more people and in new ways. It has pedestrianized plazas and street squares that allow very interesting activities for all the citizens. With the strong policies Copenhagen step by step has become an attractive city having excellent public realm.

Copenhagen is a green city well-endowed with open spaces. It has an extensive and well-distributed system of Parks that act as venues for a wide array of events and urban life. As a supplement to the regular parks, there are a number of congenial public gardens and some cemeteries doubling as parks. It is official municipal policy in Copenhagen that all citizens by 2015 must be able to reach a park or beach on foot in less than 15 minutes.

3.27 History of public realm in the city centre of Copenhagen:

Up till 1962, all the streets in the city centre were filled with car traffic, and all the squares were used as car parks. The post war increase in the city centre car traffic rapidly deteriorated conditions for pedestrians.

Following plan explains the network of car free streets and squares along with mass transit system nodes in 1996. (fig. 3.3)



3.3. Location of pedestrian streets, squares and major traffic interchanges in the city centre of Copenhagen

Legend:

- Pedestrian streets
- ▨ Pedestrian squares
- Pedestrian priority streets
- ✦ Ferry service to Sweden
- ⬠ Suburban and regional railway stations
- Major bus interchanges

It was on 17th November 1962, Copenhagen's main street Stroget was turned into a pedestrian street. Although scepticism was rampant, the new car free environment proved extremely popular with Copenhageners right from the very first day.

In due course of time, Copenhagen addressed the issue of quality of public realm in the city critically by making the city centre pedestrian friendly. Car traffic gradually pushed out of the city centre, one by one, city squares have been converted from car parks to the

attractive and well-used people space. The Copenhagen story combines two things, i.e. taming and controlling traffic and creating quality spaces for popular use.

3.28 Major Public spaces of Copenhagen city centre: (fig. 3.6)

- A. Pedestrian Streets:** Stroget, Fiolstraede, Kobemagergade and Stradet
- B. Major city squares:** Gammeltorv & Nytorv, Amagertorv
- C. Other city squares:** Grabrodtorv and Kultorvet
- D. At the waterfront:** Along the canals
- E. Little friendly streets**
- F. Parks and squares just outside the city centre**

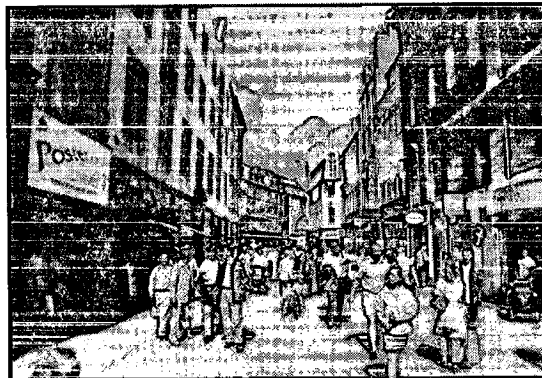
A. Pedestrian Streets:

i. Stroget:

It is the first pedestrianized street in the city of Copenhagen in 1962. This change was welcomed by all the citizens as they could receive the benefits of traffic less pedestrian friendly environment. Stroget is without a doubt the main link in the pedestrian system handling east-west connections in the city centre. It has always been and still is Copenhagen's main shopping street. However it serves as the important public space of the city, a place to be, a place to see and a place to be seen. This is major city promenade.



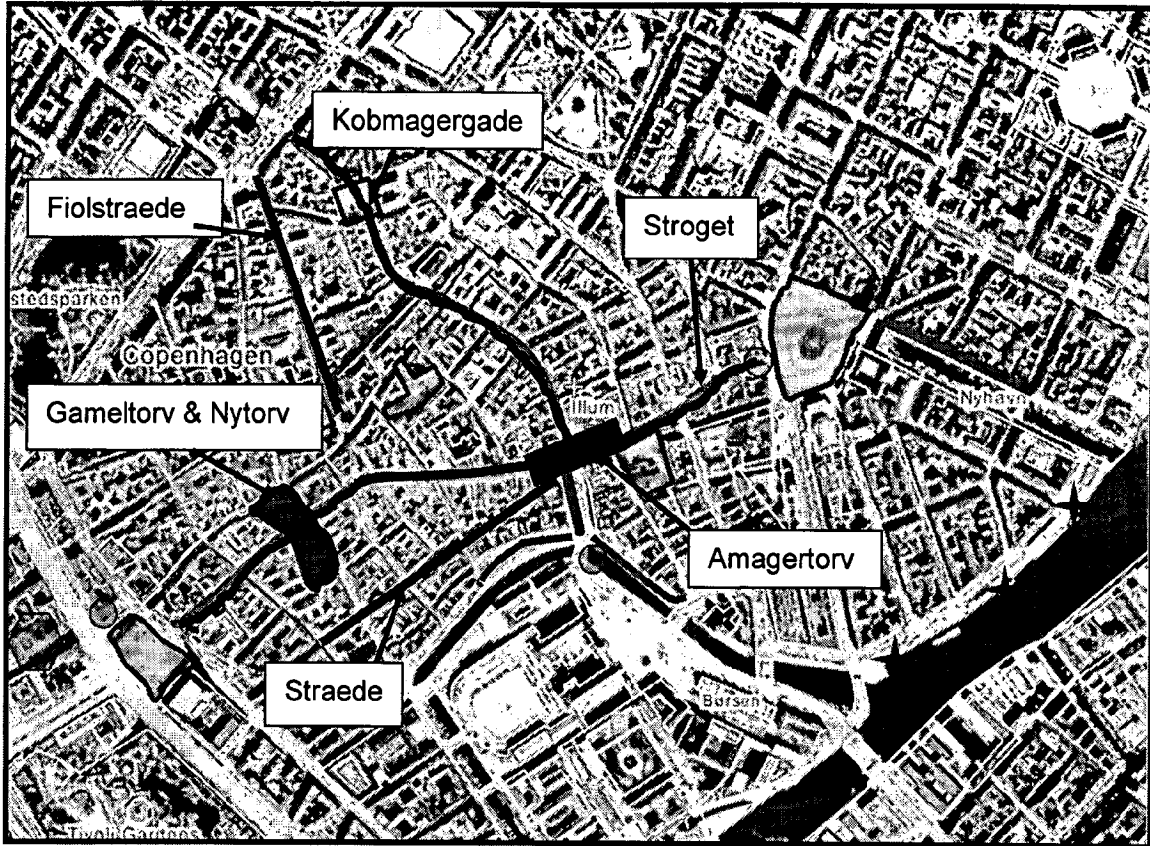
3.4: Stroget, the main pedestrian street of Copenhagen



3.5: Stroget, a pedestrian street with commercial activity aligned

With the width of 10 to 12 meters, Stroget can handle 145 pedestrians per minute. Especially in the summer season, the main parts of the street are seen carrying 145 pedestrians per minute. This explains that the street is carrying the people at its maximum capacity and there is no space for more. This has been the situation for some 30 years now. On ordinary winter days, Stroget carries some 25,000 people per day between the 10.00 to

18.00 hrs. On the summer days the pedestrian traffic reaches up to 55,000 people between the same hours of time. (fig 3.4, 3.5)



3.6: Copenhagen city centre, Pedestrian streets marked

ii. Fiolstraede:

This was pedestrianized in 1968 after the success of Stroget. This is an 8 meter wide street which is unique street that carries almost the equal numbers of pedestrians in the summer as well winters i.e. nearby 11 thousand to 12 thousand people in a day from 10.00 to 18.00 hrs. The reason for it is its location in the middle of university quarter. Once the summer traffic is over and tourists have gone, the students come here for the autumn term. Though, this street is calm and quiet in the evening on weekends and holidays. (Fig. 3.7)



3.7: Fiolstraede



3.8: Kobmagergade

iii. Kobmagergade:

It is the second most important pedestrian shopping street in Copenhagen. In addition this street links to the transport node of Norreport with the heart of the city: Amagertorv. Traffic is peculiarly heavy and brisk both early and late times of the day many people use this as connector between the railway station and the central working parts of the city. (Fig. 3.8)

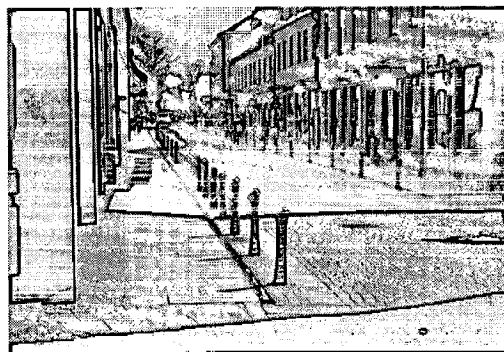
The daily pedestrian traffic does not change drastically season to season on this street. The summer traffic is about 33,000 people a day whereas the same in winters falls to 24,000 on an average.

iv. The Straedet:

This is the street on which the principle of pedestrian priority has been applied. This means that the street will have a priority for the pedestrians and the bicycles over motor vehicles. This was done in 1989 by dividing the street into short one way sections and allowing the vehicles at a lower speed on the street and the through traffic was completely cut off. Earlier bus routes that used to pass through this street were relocated to the streets at the age of the city centre area. (Fig. 3.9, 3.10)



3.9 Straedet, the pedestrian priority street at night



3.10 Straedet, the pedestrian priority street at day time

The street is now shared by pedestrians, bicycles and a few cars, which have satisfied the public as a better space.

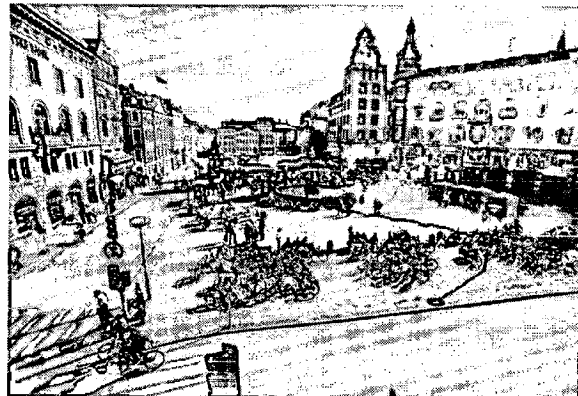
B. Major city squares:

i. Gammeltoiv & Nytorv:

Today they serve as a single public space but earlier they were two different spaces, two squares. Both of them were serving as major parking lots till the 1962. After pedestrianization of the Stroget, the first part of Gammeltoiv was freed of parking and later Nytorv part was reclaimed in 1973. (Fig. 3.11, 3.12)

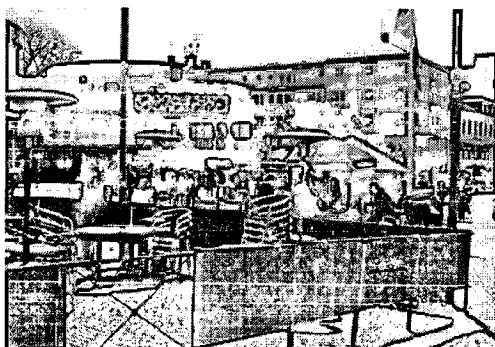


3.11: Gammeltoiv, having demonstration

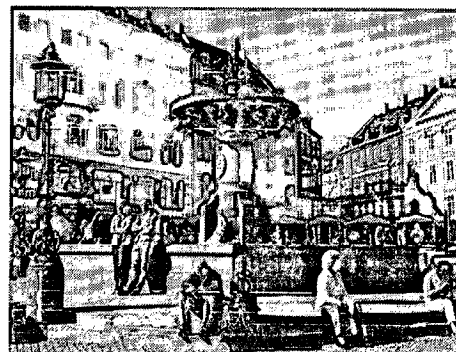


3.12 : Gammeltoiv, showing the connection of street and square with parking lot for bicycles

The renovation included putting up a set of much criticized 'walls' that framed the pedestrian areas. In 1992, the remaining part of Nytorv was cleared of parking and both the squares were completely repaved and refurbished. An interesting element in the repaving project was the light colour granite stone demarcation of the location of the old town halls that used to divide the space. (Fig. 3.13, 3.14)



3.13: Street cafes at Nytorv



3.14: The Caritas Fountain and relaxing people

Gammeltoiv is a much popular square and is used well around the year. People like to relax near the famous Caritas fountain which offers a fine view of the crowds passing by on Stroget. Nytorv is quieter although it provides a backdrop of several outdoor cafes during the summer months. The squares serve for various functions around the year.

ii. Amagertov:

Amagertov is the heart of Copenhagen. The main street of Stroget widens at Amagertov thus creating a large trumpet shaped square. (fig. 3.15)

Amagertov was partly cleared of traffic in 1962, when Stroget was closed to traffic, although an extensive taxi stand remained for several years. The square was further transformed in several stages. Fruit and vegetable stands, as well as outdoor cafes, settled in the square. In the middle, the stairs to an underground toilet were partially camouflaged by a raised planted area.



3.15 : Amagertov : Redesigned pavement



3.16: Grabrodtov square in a sunny afternoon

In 1993, Amagertov was redesigned and splendidly repaved in a fine patterned granite floor designed by sculptor Bjørn Nørgrd. The project was initiated by businesses in the area, which also acted as main sponsors. (Re. fig. 3.15)

Amagertov is busy at all times of the day, year round. It is the meeting place for Copenhageners, and its new elegant pavement has enhanced its popularity. On summer evenings, the square teems with people and happenings. It provides a stunning outdoor stage for the city, and is the favourite haunt of street theatre groups and street musicians. The square is at its liveliest on a summer evening. A rainy day is the best time to enjoy the fine granite paving.

C. Other city squares:

i. Grabrodtorv:

Grabrodtorv was the first of the many remote city square to be converted to pedestrian use. In 1968, the square was cleared of parked cars and the air-raid shelters hastily erected during World War II. Dominated by a beautiful, solitary plane, this square with its renewed cobblestone pavement a new fountain by sculptor Soren Georg Jensen soon became one of the finest, most popular squares in the city. The elegant, quiet square, is somewhat removed from bustling streets and almost exclusive.

For the first four or five years after renovation, the square was extremely quiet, as if Copenhageners had not quite found yet, or were not quite sure what a square like this could be used for. Gradually, the square began attracting more and more people. Outdoor cafes sprung up in increasing number and students from the nearby University of Copenhagen other young people started to meet at Gråbrodtorv habitually, sitting around the square during the day or evening. The mid-1980's, the square was crowded almost beyond capacity, throughout the outdoor season. (Ref. fig. 3.16) Some of the spontaneous use of the square has faded away in more recent years. Other city space - notably Nyhavn - Amagertorv with its fine new pavement - appears to have attracted some of the crowds of young people who use gather in Gråbrodtorv. However, the cafes are more r than ever, and for obvious reasons, the square continues to be a much loved place, as well as a fine stage for performances, concerts and city events.

ii. Kultorvet:

Købmagergade runs across Kultorvet diagonally, so when the Street was closed to traffic in 1973, the square was closed as well, cleared of parked cars and transformed into a square for pedestrians.



3.17 Kultorvet having music play



3.18: Kultorvet having demonstration

The square is characterized by the heavy pedestrian traffic that crosses it diagonally. The streams of people make Kultorvet a popular place for all kinds of people-oriented activities. The square has many stalls and kiosks and quite a number of outdoor cafes.

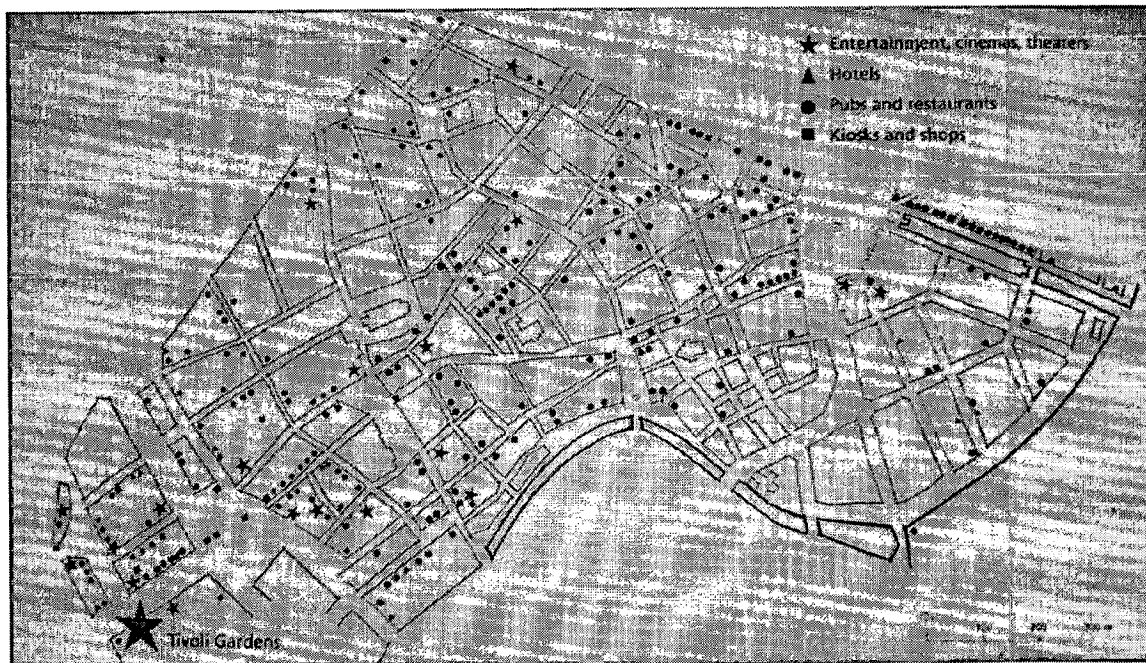
The square is also the place for political and ideological demonstrations, for handing out flyers and pamphlets, and for contact with passersby through activities like Street music; street performances, parades and lottery ticket sales. (Fig. 3.17, 3.18)

All in all, Kultorvet is rather a mixture in terms of activities as well as spatially. Over the years, the square has provided space for many different elements: stalls, kiosks, cafes and pavilions. Kultorvet is one of the few “early” pedestrian projects that has not yet been renovated, and it has started to acquire a tired look.

D. Locations of entertainment centres, pubs, kiosks, hotels etc.:

The following image explains the location of entertainment centres, cinemas, theatres, hotels, pubs and restaurants, kiosks and shops etc. (Fig. 3.19)

These activities are located all along the pedestrian squares and streets which enhance the publicness of the area.



3.19. Location of Important activities in Copenhagen City Centre

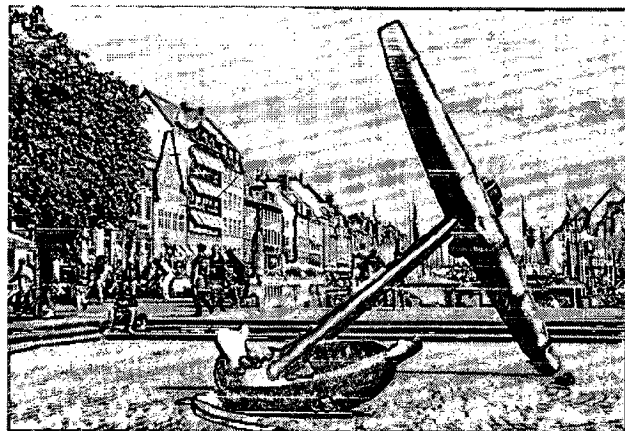
E. At the waterfront: Nyhavn

Nyhavn used to be a busy part of Copenhagen harbor and a favorite pub crawl for seamen. As harbour activities dwindled, this place, like so many others, became a parking area, yet still the place managed to hang on housing quite a few pubs and cafes. In 1980, this picturesque quay with a southern exposure was cleared of traffic and parked cars, and turned into a pedestrian area.

Some people might even call this quay a pedestrian Street. However, given that it carries almost no pedestrian traffic, for all practical purposes, the space serves as a square, an oasis in the city — a place to go to rather than a street to walk through. Nyhavn's location is perfect. Whenever there is a ray of suns shine in Copenhagen, Nyhavn enjoys it. The quay is lined with old sailing ships, which are offered almost free berth. In summary, cars and traffic are gone, the climate is good, the view of the water and ships is great, and the scale is right — a 100% successful public place. As icing on the cake, a cobblestone renovation of the pavement was carried out in 1996.



3.20: Nyhavn at the night times



3.21 : Memorial at Nyhavn

So there are plenty of good reasons why Nyhavn has acquired enormous popularity with Copenhageners and visitors to the city over the years. From the first days of spring in early April until late October, the place is filled to capacity by people out promenading or taking refreshment in the many cafes and restaurants. (Fig. 3.20) Summer evenings are especially popular. In June, the activity level increases throughout the day, peaking just before midnight. A beloved city space indeed. (Fig. 3.21)

3.29 Lessons learnt from the Copenhagen City Centre:

- A. Value of pedestrianization
- B. Accessibility's role in vibrant public spaces
- C. Scale and language of the built around
- D. The activities to be permitted
- E. Climate's role in success of the public spaces

A. *Value of pedestrianization:*

The streets and squares of Copenhagen have been successful by strong policy making towards pedestrianization in the city centre. Without elimination of car traffic this would not have been successful to the extent which Copenhagen has achieved.

Absence of car traffic provides a mental security to the people, which enables people to visit such places again and again for leisure with friends and family.

B. *Accessibility's role in vibrant public spaces:*

To have footfall in the public spaces, it is must to have accessibility to all age groups, social groups as well as differently able people. the access to such spaces must be provided by the way of public transport systems in the form of LRTS, MRTS, BRTS, metro rails, intermediate public transports etc., which will allow the public to enter such public spaces at various nodes.

To eliminate the vehicular traffic becomes successful with the availability of safe mass transit systems in the city centres.

C. *Scale and language of the built around:*

The built form along the public streets and squares are very interesting. They allow a greater interaction between the users. The facades are richly detailed with many niches to allow people to sit and stand and to discuss. This built performs extremely well with the public spaces as it creates splendid edges.



3.22: Scale of built and facades lining streets



3.23: Scale of built and facades lining streets

With its medieval city structure, Copenhagen is blessed by a fine scale to which people can relate directly. Streets are narrow and squares are relatively small, providing attractive relationships between building heights and ground floor areas. When space is limited, it brings everyone closer to each other and to building facades, resulting in an environment rich in sensory stimulation. (Fig. 3.22 & 3.23) Narrow buildings have the fine effect of making streets more interesting, because narrow units mean many doors and many different functions to look at, even on a short walk through town.

The many narrow buildings also have a predominately vertical facade structure, which has the important visual effect of making distances feel shorter. This makes it more pleasant and comfortable to walk around in the city. In addition, Copenhagen buildings have many niches, stairs, stones and recesses. These small places give people opportunities to sit and stand.

Other fine attributes resulting from the scale and structure are the attractive ground floor facades that dominate the city center of Copenhagen. Good ground floor facades are an important city feature. They make the city interesting to walk through, interesting to look at, to touch and to stand next to. Activities inside buildings and those on the street can enrich each other. In the evenings, friendly light shines out through the windows of shops and other ground floor activities, contributing to a feeling of security as well as to genuine safety. Interesting ground floor facades also provide good reasons for walking around in the city in the evenings and on Sunday, engaging in the age-old pastime of window-shopping. In contrast, blank walls underline the futility of visiting the city outside working hours.

Copenhagen is lucky to be blessed with a fine scale, and interesting ground floor facades in nearly all parts of the city center. A few streets and buildings break seriously with this overall pattern, making certain parts of the city rather unattractive, boring and – at night – even scary.

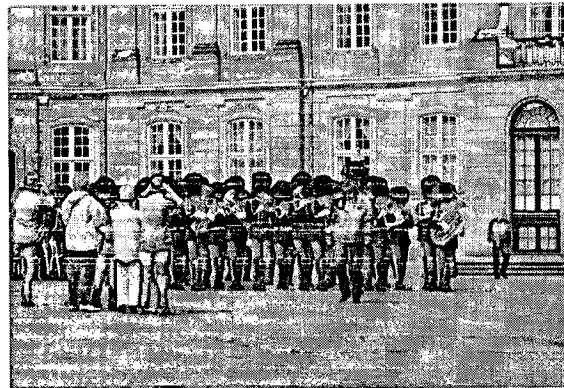
D. The activities to be permitted:

The city centre becomes a vibrant activity centre with shops aligned along the public spaces, cafes, restaurants, pubs and various kiosks and stalls. The public spaces in the city centre allow people to take just a stroll with a passive interaction with the surroundings by just watching the world go by and some of the activities like street performances, music shows, shopping, and appreciation of art and so on. (Fig. 3.24 & 3.25)

These activities also foster a sense of responsibility in the people and the value of civic spaces.



3.24 People enjoying painting at pavement



3.25 People enjoying a march

E. Climate's role in success of the public spaces:

The difference between the seasons is a key to understanding Danish outdoor behavior. Because of the long, dark winter, the sun and summer are cherished, and when the lovely summer days reappear, everyone wants to enjoy them to the utmost. Sun, summer, light and leafy green trees and plants are treasured features of Scandinavian culture.

As might be expected, life in the public spaces of Copenhagen differs drastically between the winter season and the outdoor season. In the winter, people walk and even stop occasionally, but their stride is generally brisk and purposeful, and their stops are few, brief and of necessity.

During the summer, people still walk, of course, but now in greater numbers. More people are outside, and the city draws many visitors. Walking strides are slower and more leisurely than in the winter.

However, the striking contrast to the winter pattern is that city spaces are now used widely for recreational purposes. People have stopped walking and started to sit down to enjoy the summer, the city and each other.

In numbers, twice as many people walk in the city center in the summer, while eight times more people can be found spending time in the city: standing, seated or otherwise enjoying themselves. This is why winter streets and squares seem rather quiet, while in the summer, the whole city teems with people. While there are only twice as many pedestrians present they spend four times more time in public spaces on average.

This explains the power of the weather on the behavioral pattern of citizens in a city. While allowing the public spaces to be open, they must be made comfortable to the users too. There should be maximum usage time achieved on the time scale of the day and season by creating proper scale of space and related features.

3.3 Chandigarh City Centre:

3.31 Introduction:

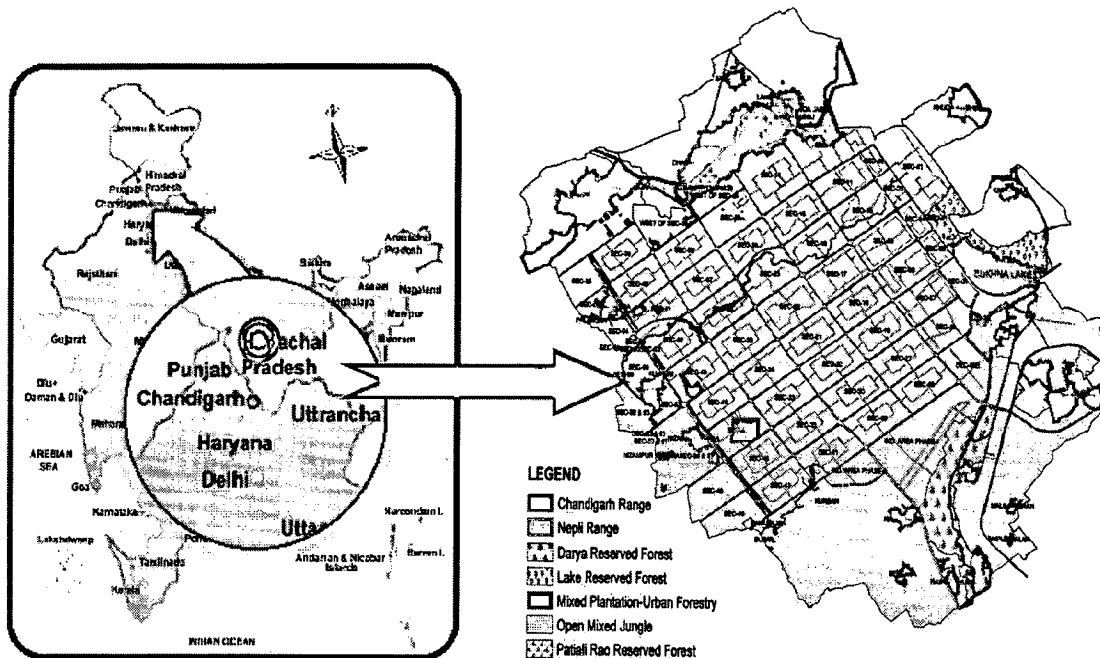
Chandigarh is India's first planned city built in the early 1950s by the internationally renowned architect Le Corbusier. This pulsating city provides an ample of tourist destinations. It was the dream city of Pt. Jawaharlal Nehru who had proclaimed Chandigarh to be "unfettered by the traditions of the past, a symbol of the nation's faith in the future." The city is in stark contrast with the modern generation and rapid industrial development. It is strategically divided into 57 blocks or sectors. The main complex is the "Capitol Complex" which includes the State Secretariat, Assembly and High Court building.

Chandigarh city boasts of several beautiful gardens which are treat to the eye. The famous Rose and Rock garden of the city are the foremost destinations for tourists to have scenic beauty. The art and culture of the city is incredible in the nation. The city is also a destination for thousands of devotees of Hindu and Sikh religions.

The city's pollution-free air, the short distance, the wide tree lined boulevards and avenues, lakes contribute to making Chandigarh a charming place for residents and visitors. The Nehruvian idealism at its core is in stark contrast to the industrial development on the outskirts.

3.32 Geography and location:

Chandigarh is located near the foothills of the Shivalik range of the Himalayas in Northwest India. It covers an area of approximately 44 sq mi or 114 km². and shares its borders with the states of Haryana in the east and Punjab in the north, west and south.



3.26. Location of Chandigarh in India 7 Chandigarh Plan

3.33 Climate:

Chandigarh has a humid subtropical climate characterized by a seasonal rhythm: very hot summers, mild winters, unreliable rainfall and great variation in temperature (-1 °C to 41.2 °C). In winter, pieces of snow sometimes occur during December and January. The average annual rainfall is 1110.7 mm. The city also receives occasional winter rains from the west.

- **Spring:** The climate remains quite pleasant during the spring season (from mid-February to mid-March and then from mid-September to mid-October). Temperatures vary between (max) 16 °C to 25 °C and (min) 9 °C to 18 °C.
- **Autumn:** In autumn (from Mid-March to April), the temperature may rise to a maximum of 36 °C. Temperatures usually remain between 16° to 27° in autumn. The minimum temperature is around 11 °C.
- **Summer:** The temperature in summer (from Mid-May to Mid-June) may rise to a maximum of 45 °C (rarely). Temperatures generally remain between 35 °C to 40 °C.
- **Monsoon:** During monsoon (from mid-June to mid-September), Chandigarh receives moderate to heavy rainfall and sometimes heavy to very heavy rainfall (generally during the month of August or September). Usually, the rain bearing monsoon winds blow from south-west/ south-east. Mostly, the city receives heavy rain from south (which is mainly a persistent rain) but it generally receives most of its rain during

monsoon either from North-west or North-east. Maximum amount of rain received by the city of Chandigarh during monsoon season is 195.5 mm in a single day.

- **Winter:** Winters (November to Mid-March) are mild but it can sometimes get quite chilly in Chandigarh. Average temperatures in the winter remain at (max) 7 °C to 15 °C and (min) -3 °C to 5 °C. Rain usually comes from the west during winters and it is usually a persistent rain for 2–3 days with sometimes hail-storms.

3.34 Numerical facts:

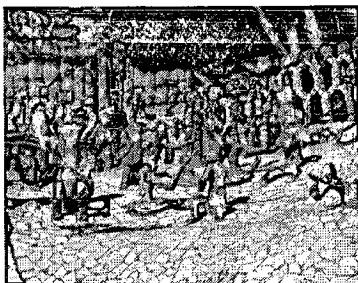
- Total Area of Chandigarh: 114 square kilometres.
- Total Population: 900,635
- Population Density of Chandigarh: 7,900 /km²..... (Census 2001 database)

3.35 Economy:

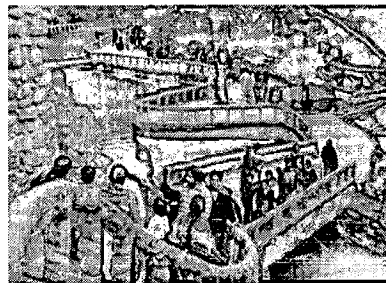
The government is a major employer in Chandigarh with three governments having their base here. A significant percentage of Chandigarh's population therefore consists of people who are either working for one of these governments or have retired from government service. For this reason, Chandigarh is often called a "Pensioner's Paradise". There are about 15 medium to large industrial including two in the Public sector. In addition Chandigarh has over 2500 units are registered under small scale sector. The important industries are paper manufacturing, basic metals and alloys and machinery. Other industries are relating to food products, sanitary ware, auto parts, machine tools, pharmaceuticals and electrical appliances. Yet, with a Per capita income (PCI) of ₹99,262, Chandigarh is the richest city in India. Chandigarh's gross state domestic product for 2004 is estimated at \$2.2 billion in current prices.

3.36 Public Realm of Chandigarh

Chandigarh boasts to be first planned city of India and is known internationally for its architecture and urban planning. Chandigarh is home to numerous architectural projects of Le Corbusier, Pierre Jeanneret, Matthew Nowicki, and Albert Mayer.



3.27 Rock Garden



3.28 Trail in the Leisure Valley



3.29 View of Rose Garden

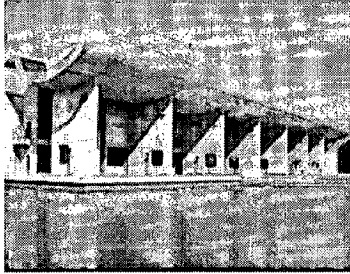
Chandigarh has gardens across the entire city. It is home to world famous Rock Garden, built from mostly from waste material. (Fig. 3.30) Another well-known garden is the Rose Garden.(fig. 3.28) Other gardens include Garden of Annuals, Fragrance Garden, Hibiscus Garden, Chrysanthemum Garden, Botanical Garden and Shanti Kunj. These gardens form a major part of public realm in the city.

Along with the gardens, leisure valley, Sukhana Lake, Capitol Complex and the open Hand Monument are major tourist destinations and active public spaces of the city. Leisure valley is the most beautiful and popular tourist attraction destination in Chandigarh. (Fig. 3.29) Chandigarh Leisure valley is like a garland of gardens that beautifies the entire city. It begins from Rajendra Park in Sector 1 that is basically used for long walks, yoga and other fitness workout activities and stretches till the Bougainvillea garden in Sector 3. It also covers the splendid garden of roses in Sector 16. Leisure valley takes a curvaceous turn, when it enters Sector 23. It is in the Leisure valley in Chandigarh, India that different kinds of theme gardens are set up.

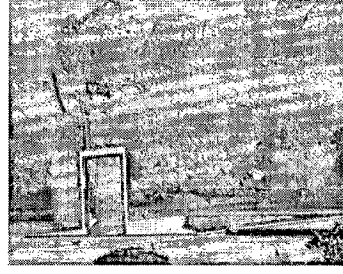
Sukhna Lake is a beautiful lake that lies in the foothills of Shivalik range. The unique thing about Sukhna is that it is a manmade lake. It is a 3 km long lake that was created in the year 1958. It was done by damming the Sukhna Choe, which is a seasonal stream flowing down from the Shivalik hills. Sukhana Lake of Chandigarh, India has become an integral part of the city. People visit this place in the morning to enjoy the cool breeze and the beauty of nature. Chandigarh Sukhna Lake serves as a great picnic spot and an apt place for pursuing water sport activities like boating, yachting and water skiing etc. The atmosphere over here is very serene and thus apt for meditating. Also, you can savour the melodious humming of birds. People come here in the evening time to forget their worries and relax for a while.

Open hand in Chandigarh, India is one of the most significant monuments of the city. The credit for laying down its plan goes to Le Corbusier. (Fig. 3.30)It is located in sector 1 in the Capitol Complex. The significance of open hand is that it conveys the social message of peace and unity that is "open to give & open to receive." Open hand is the city's official emblem.

The credit for the awesome designing of the Capitol complex goes to Le Corbusier. Located in Sector 1, capitol complex in Chandigarh, India consists of three main edifices, namely, the Secretariat, the Legislative Assembly and the High Court. The three buildings of the Capitol complex stand majestically representing themselves as the temples of democracy of free India. (Fig. 3.31 and 3.32)



3.30 The secretariat in Capitol Complex



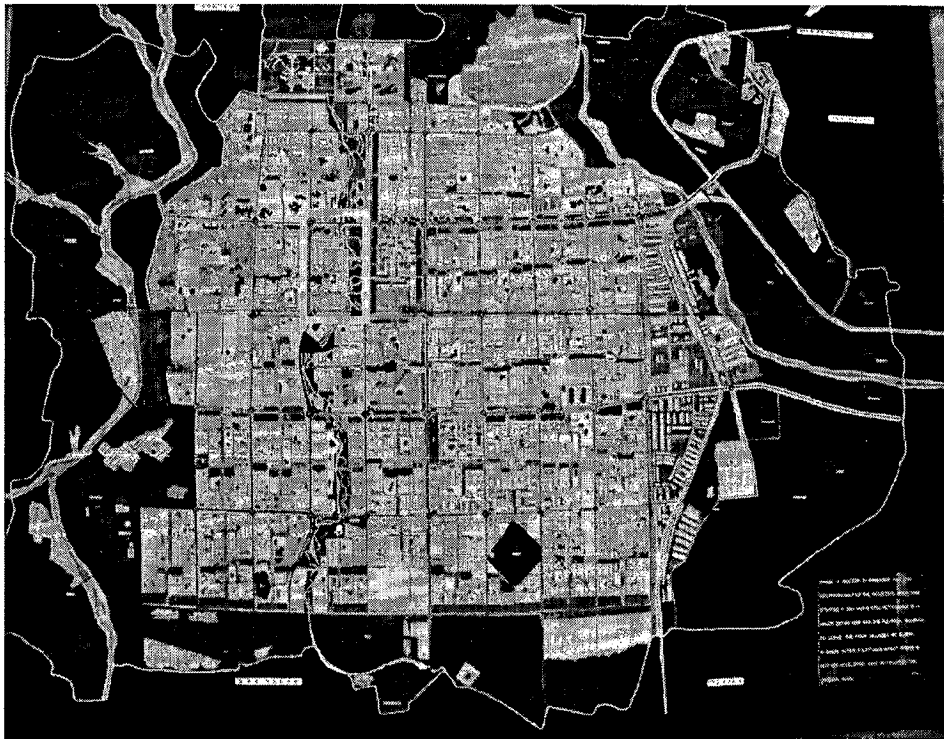
3.31 The Open Hand Monument



3.32 The Chandigarh high Court in Capitol Complex

In addition to the above public spaces, the city has a very well designed city centre. Sector seventeen is the C.B.D. of the city. Public realm of the city centre is discussed in detail below.

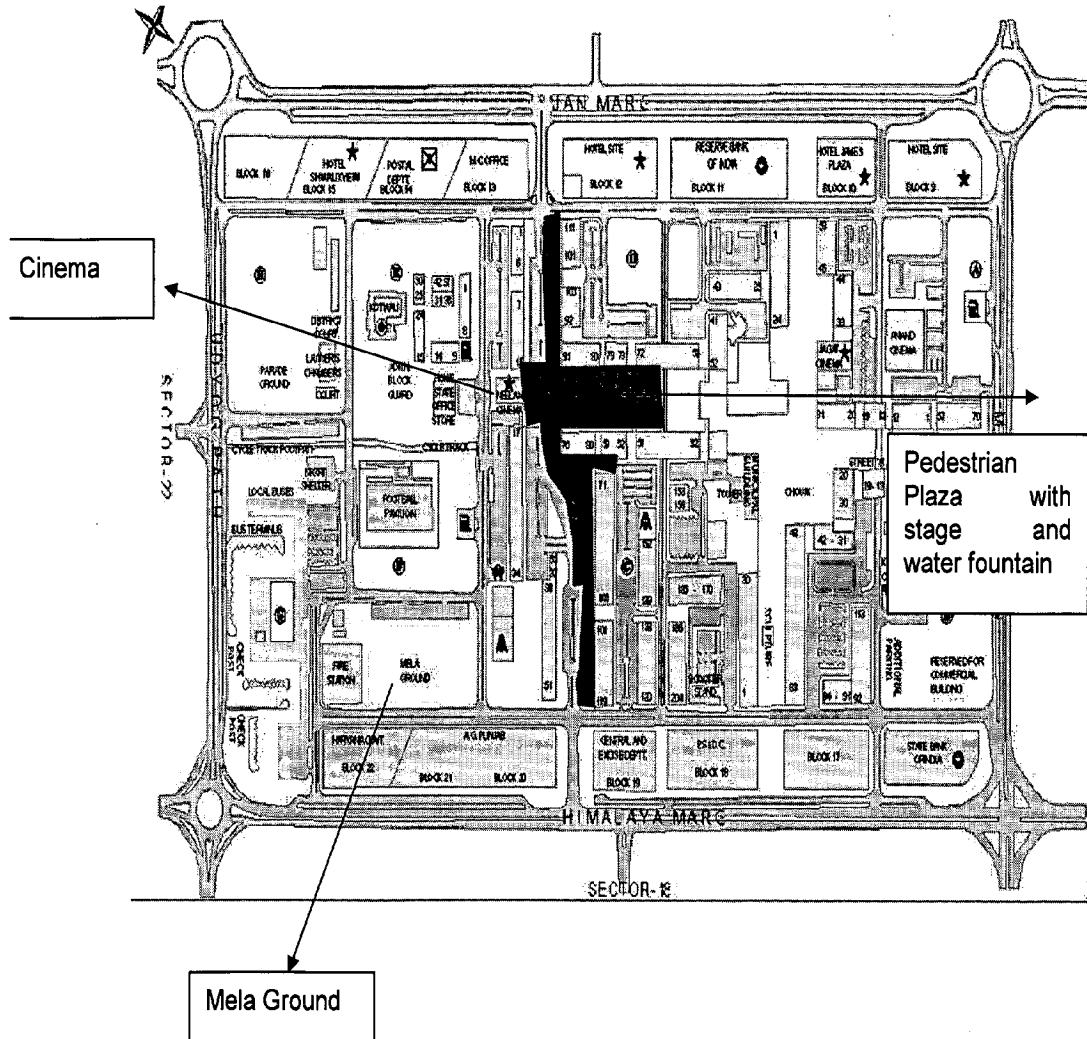
3.37 City Centre of Chandigarh:



3.33 Location of City Centre, sector 17 of Chandigarh

Spread Across the City Plaza (French word for Open Space) designed by Le Corbusier himself is the City Centre which is main shopping and commercial centre of Chandigarh in Sector 17. This vast commercial complex is partly pedestrianised. It is the favourite pass time for the residents of Chandigarh as everybody can find some reason to visit this place from hectic business activity to unhurried window shopping and even crowd

gazing in the vicinity of the fountain. Big showrooms and departmental stores cater to the needs of shoppers. Government Emporia, innumerable shops, eateries, coffee houses, bars & pubs keep the visitor completely occupied.



3.34 Chandigarh city centre detail plan

3.38 Public spaces:

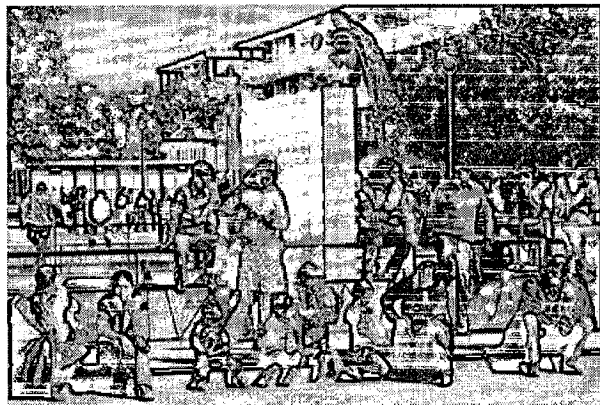
i. Pedestrian plaza:

The plaza in the city centre allows people to come together, interact, take a stroll and participate in community activities. Shopping becomes an interesting activity with availability of variety and diverse sections of shops ranging from international brands to local shops.

ii. Gathering places:



3.35 : Pedestrian plaza

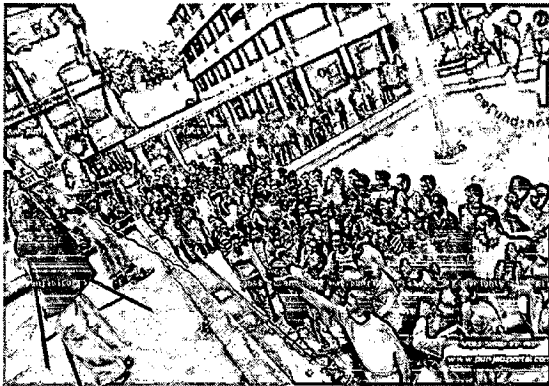


3.36: People of all age groups enjoying the sunshine

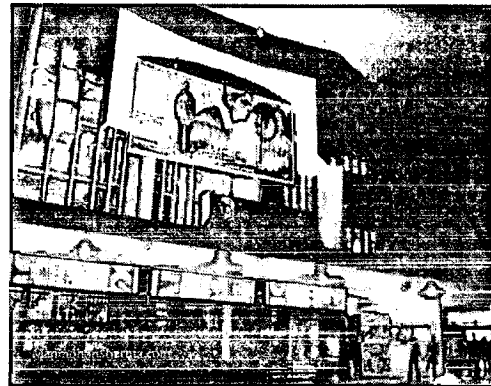
The plaza has number of gathering places like a fountain, a pond, trees with platform around which has been a typical community place in India from years. People enjoy the furniture of the plaza, which helps the plaza to get publicized more.(Fig. 3.35,3.36,3.37)

iii. Activities:

With a view to promote cultural life of the citizens of Chandigarh and to tourism, weekend cultural shows are organized on every Saturday and Sunday at various locations and gardens in the city. This not only makes the evening life of the city more happening and entertaining but also it gives a platform to the budding artists to showcase their talent. A talent bank is also compiled through these shows to be utilized in the annual tourism and cultural events of Chandigarh. Every Saturday and Sunday evening, people of Chandigarh enjoy the three-hour at the plaza in Sector 17, Sukkna Lake, Fragrance Garden, Terraced Garden, and Rose Garden. It intends to promote local artists from every field. The attractions vary every Saturday and it could be anything from dance, music, and magic show to painting display, sculpture display, acrobatics, or mimicry.



3.37: People enjoying a show at the Plaza



3.38: Cine theatre at the plaza

iv. The activities around:

The city centre is the commercial as well as entertainment and leisure centre of Chandigarh. The pedestrian plaza is surrounded by major office complexes. Thus people visit this place daily for their work and then have an opportunity to enjoy the environment in the evenings. City centre has major hotels lined along, which have access to the city centre plaza. Also there is cinema theatre at the plaza. (Fig. 3.38)

v. Access:

Chandigarh is the city in India which has the highest per capita number of vehicles in India. People in Chandigarh prefer their own vehicles over the public transport. This has resulted in dedicating lot of space for the parking of the vehicles. Also the streets are wide with dedicated parking lay bays, which hamper the environment from being pedestrian friendly.

3.39 Lessons learnt:

Chandigarh city centre is one of its kinds in India. It has a taste of modernism in India. The plaza and the buildings around are having a specific architectural language and the scale of Chandigarh is monumental. When compared to the scale of the squares and spaces in Copenhagen, Chandigarh looks less lively.

Chandigarh has grown with the time, but the city centre policies have not changed much. There is not much area for the informal sector. The plaza is huge and does not get enough shed in summers. There are absolutely no kiosks and stalls in the city centre. The city centre looks very attractive with the groups of people and lots of activities. But it does have certain dull hours when there are harsh weathers.

The pedestrianization has gone into only a small part and the city centre is not directly accessible walking. People generally take their vehicles to the city centre, park it at the parking lots and then take stroll of the plaza. The city centre is not directly visible from the main streets.

It goes without saying that Chandigarh has its own strengths to become a great public space in India, but it lags in many aspects when compared with other successful public spaces with respect to parameters like extent of pedestrianization, scale of the plaza and built around, climate and thermal comfort, and public space furniture etc.

3.4 Comparative analysis of the Copenhagen city centre & Chandigarh city centre:

Table 3.2 Comparison of public realm at city centres of Copenhagen and Chandigarh

Aspect	Copenhagen	Chandigarh
City Area	88.25 km ²	114 km ² .
City Centre Area	1.15 km ² .	0.96 km ² .
Pedestrianization extent	60%	5%
Climate	oceanic climate zone	humid subtropical climate
Temperature Variation	(-2) to 20 degree Celsius	(-1) degree to 41 degree celsius
Activities	shopping, performances, interaction, lousing, art, cultural events, demonstrations etc.	shopping, performances, interaction, lousing
Image	Vibrant with interesting facades with different colours and niches for accomodating peoples' activities	Monotonous facades of building blocks
Scale	Enclosing, Tangible	Monumental
Informal Sector	Present significantly	Hardly seen
Connectivity/ Accessibility	Excellent connectivity by public transport	No Public transport is used
Visibility	Visible	Cannot be experienced from away

Chapter 4: ANALYSIS OF EXISTING PUBLIC REALM OF MUMBAI CITY

- 4.1 *Introduction*
- 4.2 *Selected area for field survey*
- 4.3 *An overview of the public spaces, their per capita availability and the area covered*
- 4.4 *Location of the surveyed public spaces in the city limits*
- 4.5 *Detailed review of the surveyed public spaces*
- 4.6 *Comparative analysis of the surveyed public spaces*
- 4.7 *Summary*

4. Study of existing Public Realm of Mumbai City

4.1 Introduction:

Mumbai is a bustling metropolis with huge floating population from the surrounding cities like Thane, Nave Mumbai, Kalyan, Dombivali as well as Virar and Vasai. Also the city's population has grown over the time tremendously. The amenities, facilities and infrastructure have not coped up with the bulging population for years.

This chapter surveys the existing public realm of the city by listing out the available public spaces in the wards of the city limits, classifying them as city level, ward level and neighbourhood level public spaces in terms of their areas, number of users/ visitors, a total of the public spaces available in a ward and its availability per capita.

4.2 Survey methodology:

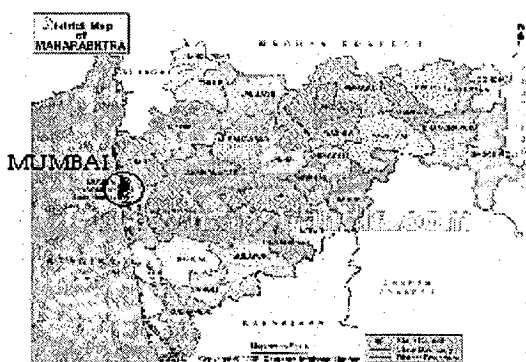
Out of the above listed public spaces of Mumbai, twenty four public spaces are selected in order to perform a detailed survey. The spaces were selected on the basis of the popularity of the space, the hierarchical level of the space, accessibility and the uses characteristics. Primarily the city and sub-city level public spaces were selected. The spaces were also selected on the basis of accessibility and opening hours of the spaces. The survey was carried out systematically and methodically to evaluate the public spaces on an equal platform of parameters namely (i) the accesses and linkages to the space, (ii) the variety of activities the space allows, (iii) the image and safety of the space and (iv) the sociability factor. The spaces were surveyed at different points of times, visually as well as verbally by asking the users and the maintenance staff certain questions about the public space. Every space was captured through the camera to make visual notes and illustrate the space's characteristics, pros and cons as well as activities performed in the space.

All the spaces thus studied were allotted points for various questions under the above mentioned four parameters. The total score achieved by the space is then analysed against the various parameters by the method of correlation. This analysis gives an overall idea of the success rate of the public spaces in Mumbai, and helps drawing guidelines and principles for planning of the public spaces in the urban areas of the country.

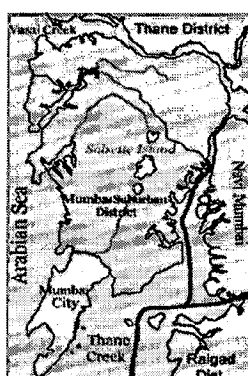
4.3 Selected area for field survey:

To study the public spaces in the Mumbai, the wards falling under the Mumbai city area limits (fig. 4.2 & 4.3) are selected as field. There are total nine wards in the city district and -- -- major public spaces are distributed in the area. Location of Mumbai in Maharashtra, Mumbai District map and the ward map of Mumbai is given below in

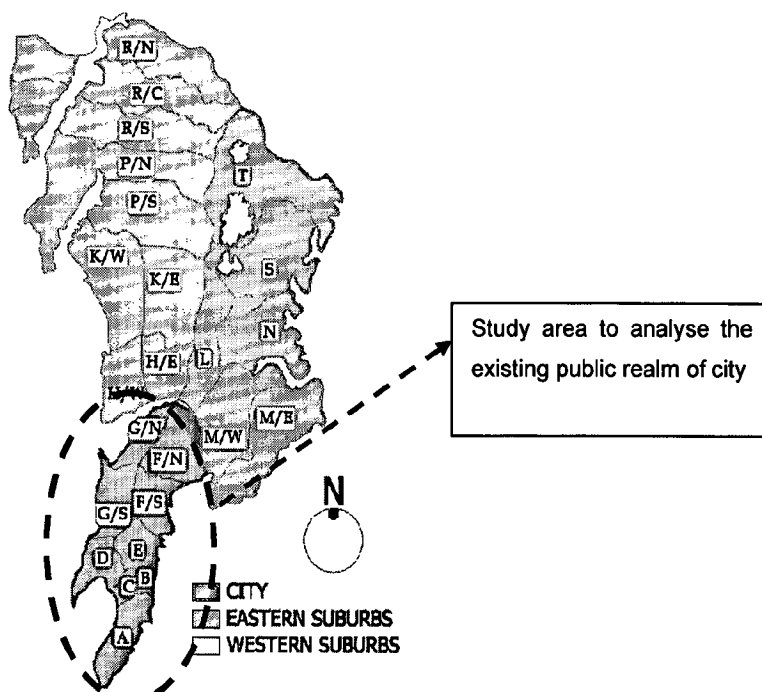
There are total nine wards in the city area having varying population densities, areas and physical features such as proximity to sea. (Table 4.1) The public spaces are in the sequence of their presence into the wards of the city area.



4.1: Location of Mumbai in Maharashtra



4.2: Mumbai District Map



4.3: Ward map of Mumbai

Study area to analyse the existing public realm of city

4.3 An overview of the public spaces, their per capita availability and the area covered:

Though a public space should be ideally free for the citizens, certain spaces charge a minimal amount for maintenance of the space as well as to make people responsible in availing the space. Botanical gardens, museums, certain parks, aquariums, are examples of such spaces. The overview of the available public spaces in city limits, discussed below, includes such spaces as they are available to common man on daily basis with even concessions on occasions. There are certain other types of spaces which are available to public only on certain events. These are the events like sport matches as well as music concerts which require people to pay an amount which is not easily affordable to common man. Though such spaces are listed below in the tourist destinations and other important public spaces in wards, they are not considered while analysing the total availability and distribution of public spaces. Such spaces allow the higher economic groups to avail the facilities at the venues like stadia and performance arena, thus reducing the pressure on the use of the other public spaces that can be used by common people all the time with no or very little money spent.

Table 4.1 Ward wise distribution of population, public spaces, and per capita availability of the public spaces

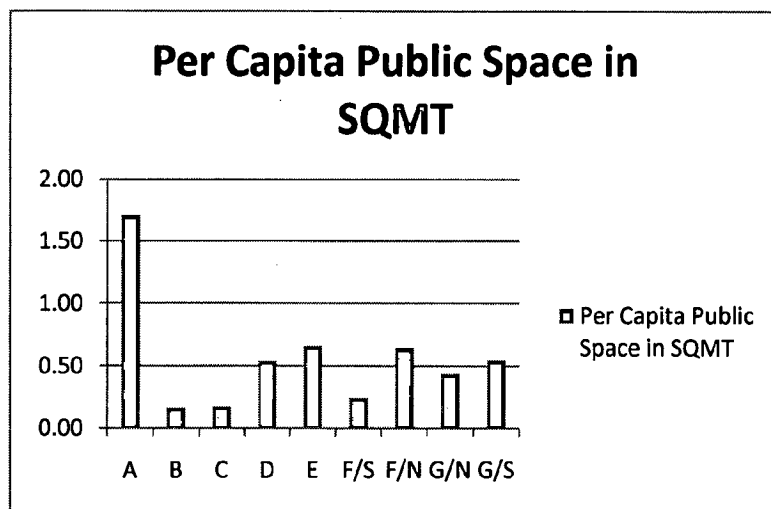
WARD NAME	LOCATION	AREA (Km ²)	POPULATION	POPULATION DENSITY	Total No. of Public space	No. of city level public spaces	No. of sub-city/ward level public spaces	AREA (Km ²)	% of Public Space of total ward area	Per Capita Public Space in SQMT
A	COLABA	10.61	1,94,844	18363.29	25	11	14	0.333	3.14	1.71
B	SANDHURST ROAD	2.14	1,17,722	55036.08	10	0	10	0.019	0.90	0.16
C	MARINE LINES	2.33	1,97,228	84811.01	18	1	17	0.034	1.44	0.17
D	GRANT ROAD	7.84	4,01,548	51186.82	32	4	28	0.216	2.75	0.54
E	BYCULLA	6.55	4,10,824	62761.99	30	1	29	0.270	4.12	0.66
F/S	PAREL	8.98	4,17,136	46475.09	33	0	33	0.101	1.13	0.24
F/N	MATUNGA	13.10	4,30,687	32872.69	43	0	43	0.278	2.12	0.64
G/N	DADAR/PLAZA	6.58	4,83,806	73553.32	30	1	29	0.211	4.3	0.44
G/S	ELPHINSTONE	10.15	5,21,094	51333.05	33	3	30	0.283	2.08	0.54

The above table gives us an idea about the number of public spaces, and their per capita availability considering the free public spaces and the ones charging token amount

but excluding the spaces that are not used by a common man cannot afford. The following table thus excludes sports stadia in wards, which are not freely available to common man.

Table 4.1 draws light on the overall scarcity of public spaces in one of the largest metro city of India, Mumbai. Being the place with highest density of population, city fails to provide a healthy environment and better opportunity for having a great public life in the city for its citizens especially the common man.

From the above figures it's clear that the per capita availability of public space in the city wards i.e. the nine wards is less than 0.52 square meters. This is the public space calculated considering the open maidaans, recreation grounds, public squares, plazas as well as public buildings. But major cities like Delhi and Chennai are having an open space consisting of parks, playgrounds, open maidaans as public greens as 4 square meters per capita each. (Dinesh Naik, Public Open Spaces, Unpublished thesis, CEPT.)

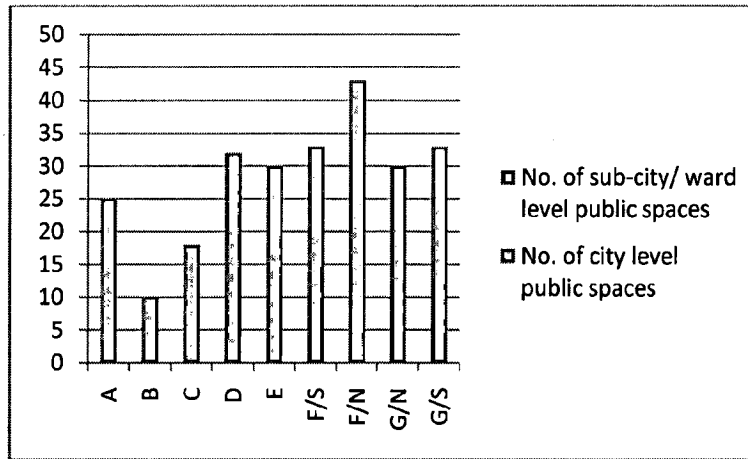


4.4 . Per Capita Public Space availability in city wards of Mumbai

In overall comparison between the city wards, ward 'A' fares better than all other wards reasonably. It's the only ward having per capita availability of the public space more than 1.5 square meters. Wards B, C, F/S and G/N are very deficient in terms of the same, which have less than 0.5 square meter public space per capita. Wards D, E, F/N and G/S are slightly better than wards B, C, F/S and G/N in terms of per capita availability of public space as they have per capita public space available more than 0.5 square meters.

When we compare the distribution and number of public space available according to their hierarchy, ward 'A' fares the best having large number of city level public spaces which are major tourist destinations. It has total twenty five public spaces out of which eleven are city level public spaces. Ward 'D' ranks next among the other wards as it has total thirty two

public spaces with four city level public spaces. Ward 'G/S' has thirty public spaces among which three are city level spaces. Ward 'E' and 'G/N' have equal number of public spaces (thirty) with equal number (one) of city level public spaces. Though considering the total number of public space, ward 'F/N' is at rank one, it has no city level public spaces. Wards 'F/S' has as many as thirty three public spaces all being ward level public spaces. Ward 'B' is the poorest ward in terms of both, total number of available public spaces as well as there is not a single city level public space out of the available ten public spaces in the ward.



4.5 Chart showing city and ward level public spaces in select wards

Looking at the locations and positions of the wards, it is clearly visible, that the southern city wards, A to D are having major city level public space, while the other major wards which constitute the central Mumbai are lacking in terms of the good city level public spaces.

Public spaces and tourist destinations in the ward 'A':

Mumbai is an important tourist destination. People from all over the world, travel to Mumbai city to have glimpses of the city. Following is a table listing the various vital public spaces and tourist destinations in ward 'A'.

Table 4.2 Important public spaces & tourist destinations in ward 'A'

Sr. No.	Name of centre or event with date	Classification	Number of people visiting daily or for the specific event	Area (SQMT)
1*	Gateway of India	Tourist destination	15,000	19620
2	Prince of Wales Museum	Tourist destination	15,000	12000
3	Hutatma Chowk (21st Nov. & 1st May)	Historical & Political Importance	5,000	2500
4#	Wankhede Stadium	Stadium Sports	50,000	25434
5#	C.C.I. (Brabourne Stadium)	Stadium Sports	20,000	28900
6#	Cooperage Grounds	Stadium Sports	5,000	16014
7*	Azad Maidan	Playground	N.A.	128820
8*	Cross Maidan	Playground	N.A.	64530
9*	Oval Maidan	Playground	N.A.	89030
10*	Khau Galli CST	Hawking zone	N.A.	1973
11*	The Asiatic Library Steps	Frontage of a public building	N.A.	543
12*	Kalaghoda Art Precinct	Street Precinct	N.A.	10390
13*	Fashion Street	Street Market	N.A.	4015
14*	Horniman Circle Garden	Garden	N.A.	12021

Note: * marked public spaces are selected for detailed survey and analysis, # marked spaces are not considered for the area analysis and per capita public space analysis.

The public spaces of ward 'A' given in table 4.2 are a mix of city level and ward level public spaces. This ward is comparatively rich in the available area as public space to people and total number of public spaces with respect to the population. Out of the total 28 public spaces, above 14 are major city level public spaces as well as tourist destinations.

Table 4.3 Public spaces listed by Garden dept. of MCGM in ward 'A'

Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	0	0
2	Play Grounds	0	0
3	Recreation Grounds	7	41821
4	Parks	1	31000
5	Open Spaces	8	29166
6	Total No. of Plots	16	101987

The breakup of public spaces which are listed by the Garden Dept. of MCGM, under the categories of playgrounds, parks, recreational grounds, open spaces and gardens are as given above in table 4.3.

Ward B is devoid of any major city level public spaces, but there are 10 nos. of public spaces maintained by the Garden dept. of MCGM, in the form of gardens, playgrounds and recreation grounds. They are as follows:

Table 4.4 Public spaces listed by Garden Dept. of MCGM in ward 'B'

Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	1	600
2	Play Grounds	7	13114
3	Recreation Grounds	2	5450
4	of Parks	0	-
5	Open Spaces	0	-
6	Total No. of Plots	10	19164

Public spaces and tourist destinations in the ward 'C':

Table 4.5 Important public spaces & tourist destinations in ward 'C'

Sr. No.	Name of centre or event with date	Type (historical, religious, tourist, sports, political centre)	Number of people visiting daily or for the specific event	Area (SQMT)
1	Taraporewalla Aquarium	Tourist Centre	Approximately 5,000 daily	4340
2*	S.K. Patil Graden	-	N.A.	11516

Note: * marked public spaces are selected for detailed survey and analysis

Taraporewalla Aquarium is one of its kinds in Mumbai. Its location is strategic as its situated against the Marine Drive. The S.K.Ptail garden in the above table is a very active ward level public space. The residences in this ward are more of small and chawli types, where children cannot get enough space and good environment to study. Thus this park become becomes a very popular destination for students in their exam times. Otherwise the park is full of people of all age groups, especially in the early mornings and evening times. People take a stroll even after their dinner. The other major public spaces listed by the Garden Dept. of MCGM are as follows in ward 'C':

Table 4.6 Public spaces listed by Garden Dept. of MCGM in ward 'C'

Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	0	-
2	Play Grounds	0	-
3	Recreation Grounds	15	17601
4	Parks	1	11516
5	Open Spaces	1	100
6	Total No. of Plots	17	29217

Public spaces and tourist destinations in the ward 'D':

Table 4.7 Important public spaces & tourist destination in ward 'D'

Sr. No.	Name of centre or event with date	Type (historical, religious, tourist, sports, political centre)	Number of people visiting daily or for the specific event	Area (SQMT)
1*	Kamala Nehru Park	Tourist	N.A.	29195
2*	Hanging Garden	Tourist	N.A.	28247
3	Mani Bhavan	Historical	N.A.	450
4*	Girgaon Chowpatty	Tourist	N.A.	83627
5*	Priyadarshini Park	-	N.A.	65000

Note: * marked public spaces are selected for detailed survey and analysis

Above given table explains that besides the public parks, gardens, playgrounds and recreational grounds which are maintained by MCGM Garden Dept., there are important city level tourist attractions in the ward. Following are the listed spaces by Garden Dept. of MCGM.:

Table 4.8 Public spaces listed by Garden Dept. of MCGM in ward 'D'

Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	0	0
2	Play Grounds	3	24865
3	Recreation Grounds	14	35059
4	Parks	1	65000
5	Open Spaces	10	6650
6	Total No. of Plots	28	131574

Public spaces and tourist destinations in the ward 'E':

Table 4.9 Important public spaces and tourist destinations in the ward 'E'

Sr. No. Ward E	Name of centre or event with date	Type (historical, religious, tourist, sports, political centre)	Number of people visiting daily or for the specific event	Area (SQMT)
1	Jijamata Bhosale Udyan & Zoo	Tourist	10,000	1,90,000
2	Bhau Daji Lad Museum	Tourist	1,500	In the campus of zoo
3*	Joseph Baptista Park	-	N.A.	6070

Note: * marked public spaces are selected for detailed survey and analysis

Jijamata Bhosale Udyan and Zoo is the only zoo and botanical garden in a city's municipal corporation's limits in India. This is a major tourist attraction. The Bhau Daji Lad Museum, situated in the same campus of the botanical garden and zoo, is the oldest museum of Mumbai. This museum houses a large number of archaeological finds, maps and historical photographs of Mumbai, clay models, silver and copper ware and costumes.

Apart from the above major public spaces in the ward E, there are following playgrounds, parks, recreational grounds, gardens and open spaces as follows:

Table 4.10 Public spaces listed by Garden Dept. of MCGM in ward 'E'

Sr. No.	Type of Public Space	Nos.	Area (SQMT)
1	Gardens	0	0
2	Play Grounds	3	6805
3	Recreation Grounds	19	59618
4	Parks	0	0
5	Open Spaces	5	7507
6	Total No. of Plots	27	73930

There are no city level public spaces in the ward F/S. following are the play grounds, gardens, recreation gardens as well as open spaces listed by Garden Dept. of MCGM which fall under public spaces:

Table 4.11 Public spaces listed by Garden Dept. of MCGM in ward 'F/S'

Sr. No.	Type of Public Space	Nos.	Area (SQMT)
1	Gardens	1	612
2	Play Grounds	7	30743
3	Recreation Grounds	24	61137
4	Parks	0	0
5	Open Spaces	1	6000
6	Total No. of Plots	33	98492

The ward F/N is another ward having no city level famous public space or any of the tourists' attraction, but this ward is richer in the number of public spaces under the category of gardens, playgrounds, parks, open spaces as well recreation grounds as listed by the Garden Dept. of MCGM. Following table gives the breakup of the above mentioned spaces and their number and areas under each of the category.

Table 4.12 Public spaces listed by Garden Dept. of MCGM in ward 'F/N'

Sr. No. Ward F/N	Type of Public Space	Nos.	Area (SQMT)
1	Gardens	3	69366
2	Play Grounds	10	47083
3	Recreation Grounds	26	121548
4	Parks	0	0
5	Open Spaces	4	39552
6	Total No. of Plots	43	277549

Public spaces and tourist destinations in the ward 'G/S':

Table 4.13 Important public spaces and tourist destinations in the ward 'G/S'

Sr. No. Ward G/S	Name of centre or event with date	Type	Number of people visiting daily or for the specific event	Area
1	Nehru Planetarium	Tourist	350	5884
2	Nehru Science Centre	Tourist	200	73860
3	Worli Dairy	Tourist	100	71498
5*	Worli Sea Face Promenade	Tourist	N.A.	30368
6*	Shastri Garden	-	N.A.	15480

Note: * marked public spaces are selected for detailed survey and analysis

The Nehru Planetarium, Science centre and Worli Dairy are major tourist destinations. These are the spaces where many of the school picnics are arranged and study visits for various students are organised free of cost or at a very little entry fee. The sea face is a large walking promenade with very few vendors. Shastri garden is a garden build around the water reservoir and has safety issues as the water contamination is a serious problem and high security is required at this garden. This garden is mostly used by the local residents.

Apart from the above listed important public spaces, following is a list of gardens, parks, recreation grounds and playgrounds which are listed by the Garden Dept. of MCGM.

Public spaces and tourist destinations in the ward 'G/N':

Table 4.14 Important public spaces and tourist destinations in the ward 'G/N'

Sr.No. Ward G/N	Name of centre	Type	Number of people visiting	Area (SQMT)
1*	Chaitya Bhoomi, Dadar Chowpati	Religion	6.00 Lakhs on Occasion	3500
2*	Shivaji Park Maidan	Religious, Political, Sports.	2.00 Lakhs daily	112937
3*	Chaityabhoomi Park	-	N.A.	5417
4*	Veer Kotwal Garden	-	N.A.	2240
5*	Dadar Market	Tourist	N.A.	13844
6*	Dadar Chaupati	-	N.A.	3800

Note: * marked public spaces are selected for detailed survey and analysis

All the above public spaces in ward G/N are used by local people as well as floating population. With the above spaces following are the playgrounds, recreation grounds, parks and open spaces as listed by the Garden Dept. of MCGM.

Table 4.15 Public spaces listed by Garden Dept. of MCGM in ward 'G/N'

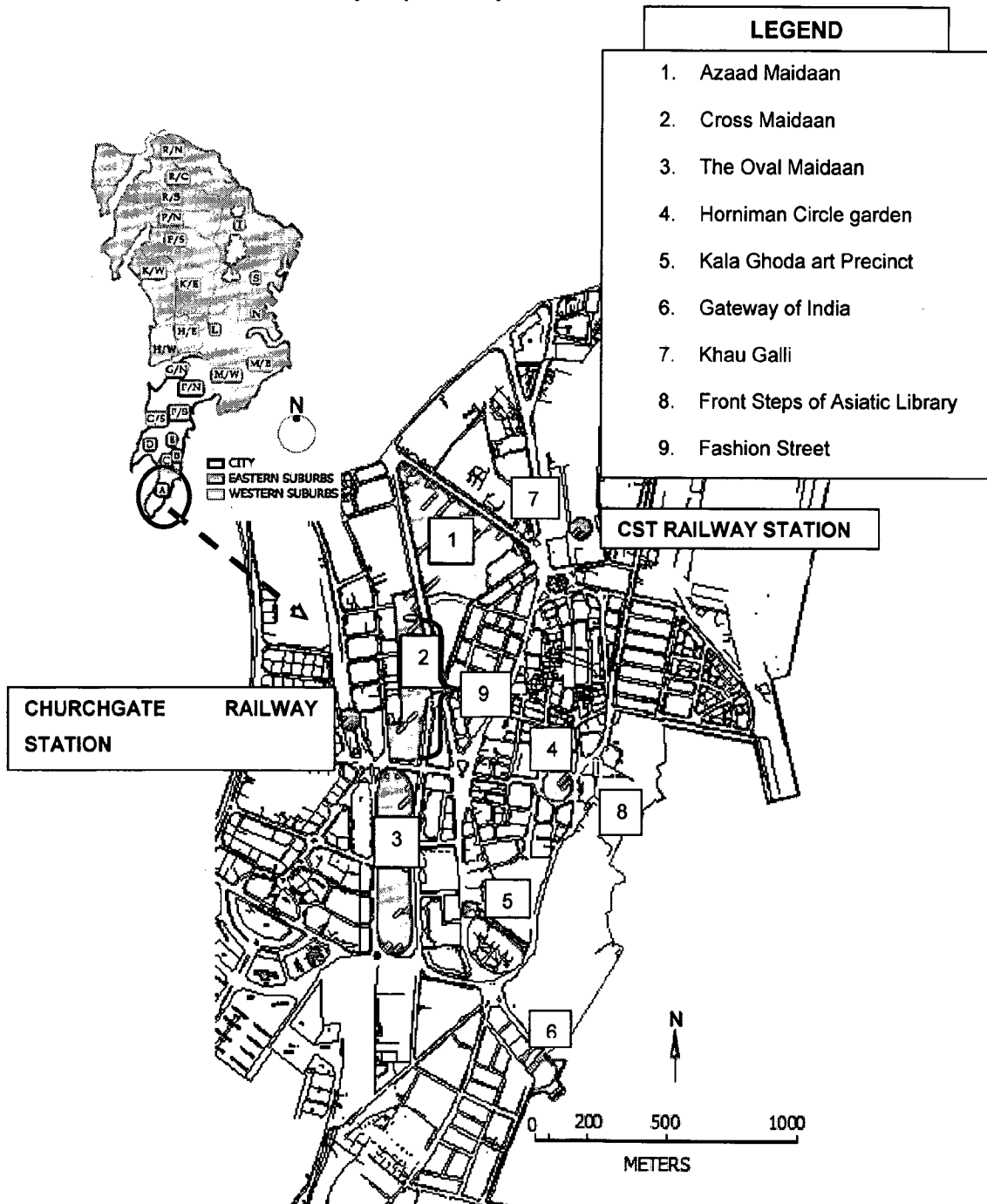
Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	7	17765
2	Play Grounds	7	17772
3	Recreation Grounds	15	41621
4	Parks	2	3010
5	Open Spaces	2	8190
6	Total No. of Plots	33	88358

These statistics are used for calculating per capita available space in the wards under city limits. The accuracy of the calculations completely depends on the data provided by the garden dept. of MCGM.

4.4 Location of the surveyed public spaces in the city limits

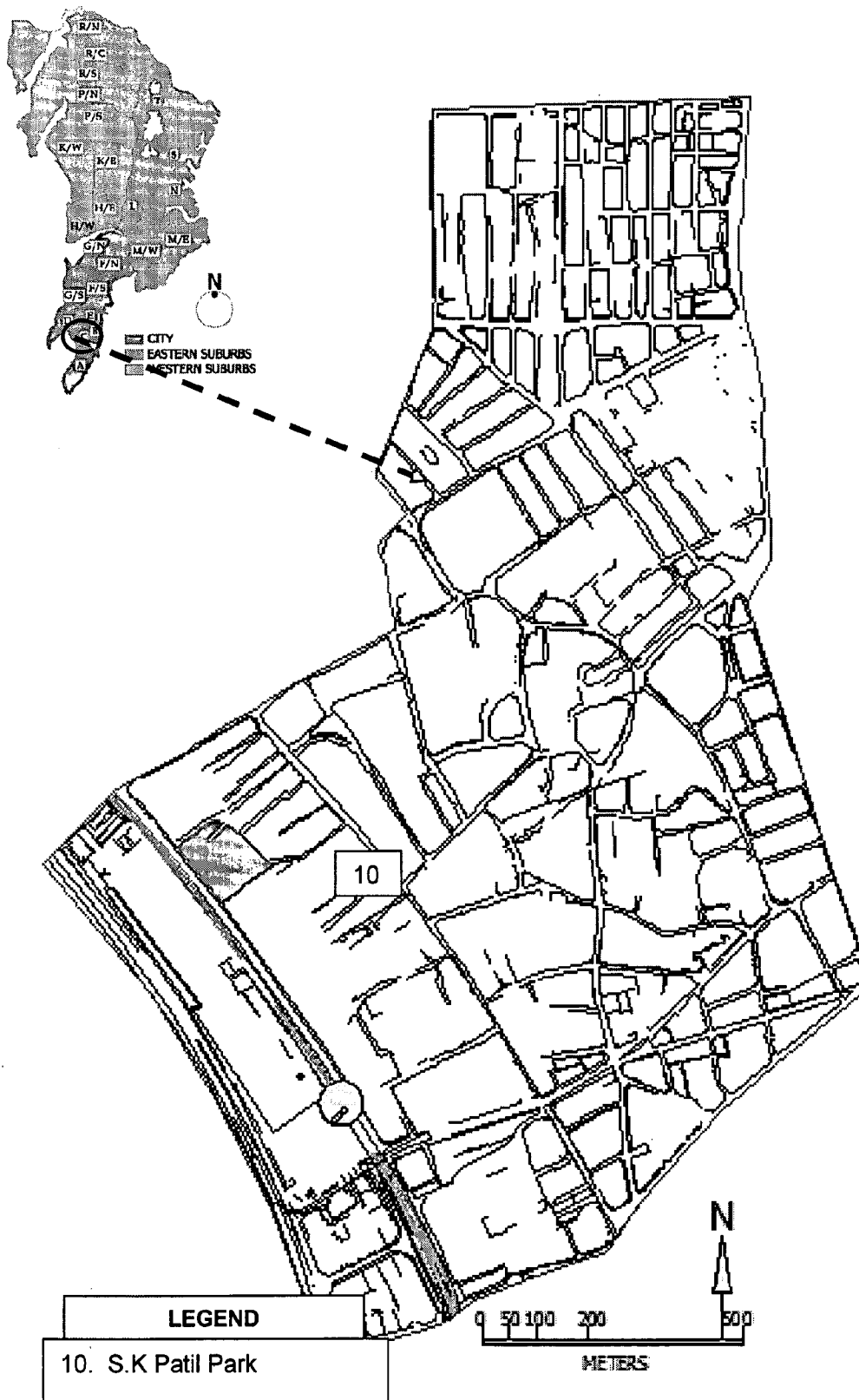
Out of the city's thirty seven most famous and extensively used public spaces mentioned in the above sub-chapter 4.3; twenty four public spaces are selected on the basis of their location, the typology of the public space and their extent of use. The most important factor for the selected public spaces is that, they are accessible to all the people, all the time or the regulated time with no entry fee.

4.41 Location of surveyed public spaces in Ward 'A':



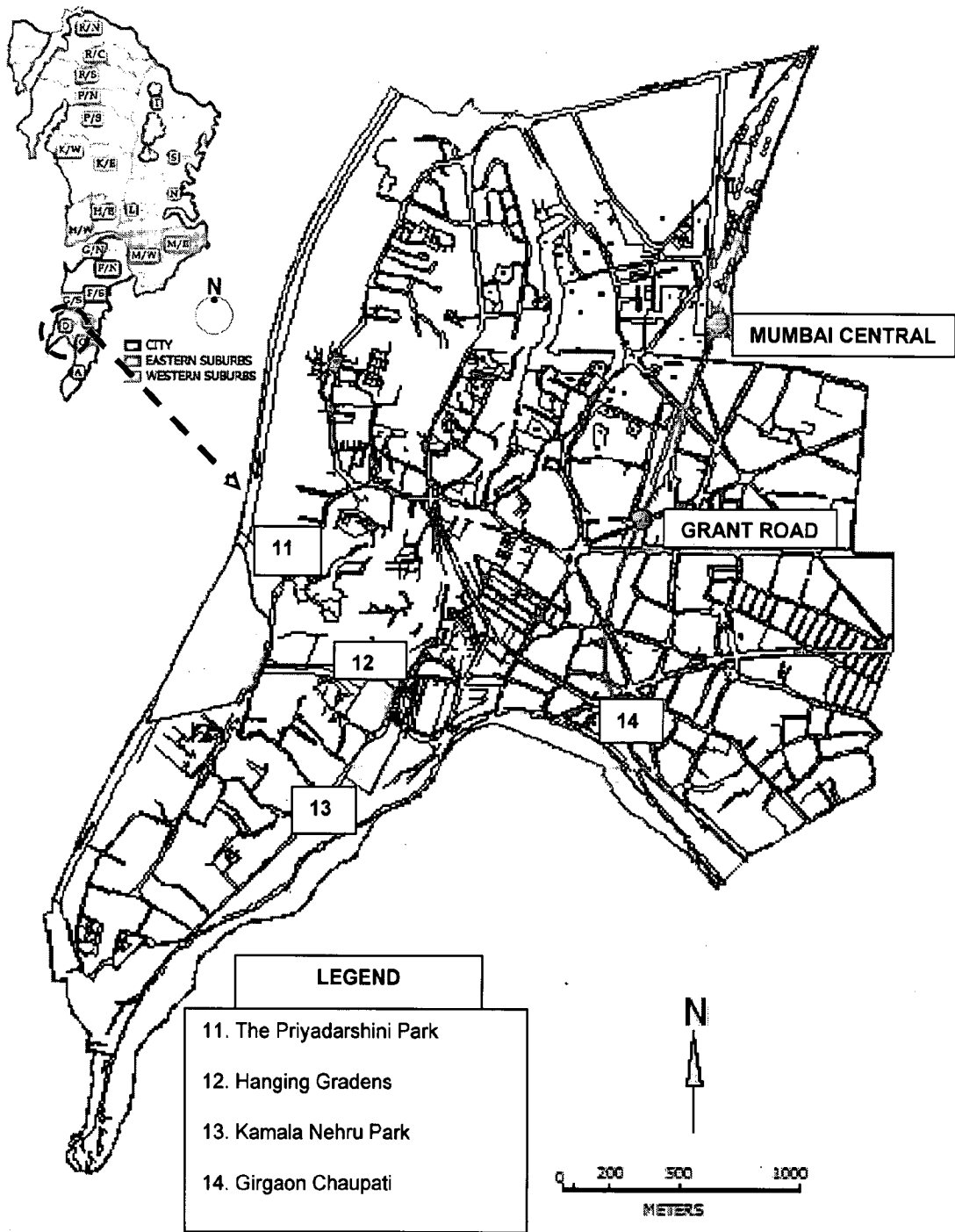
4.6 Location of surveyed public spaces in ward 'A'

4.42 Location of surveyed public spaces in Ward 'C':



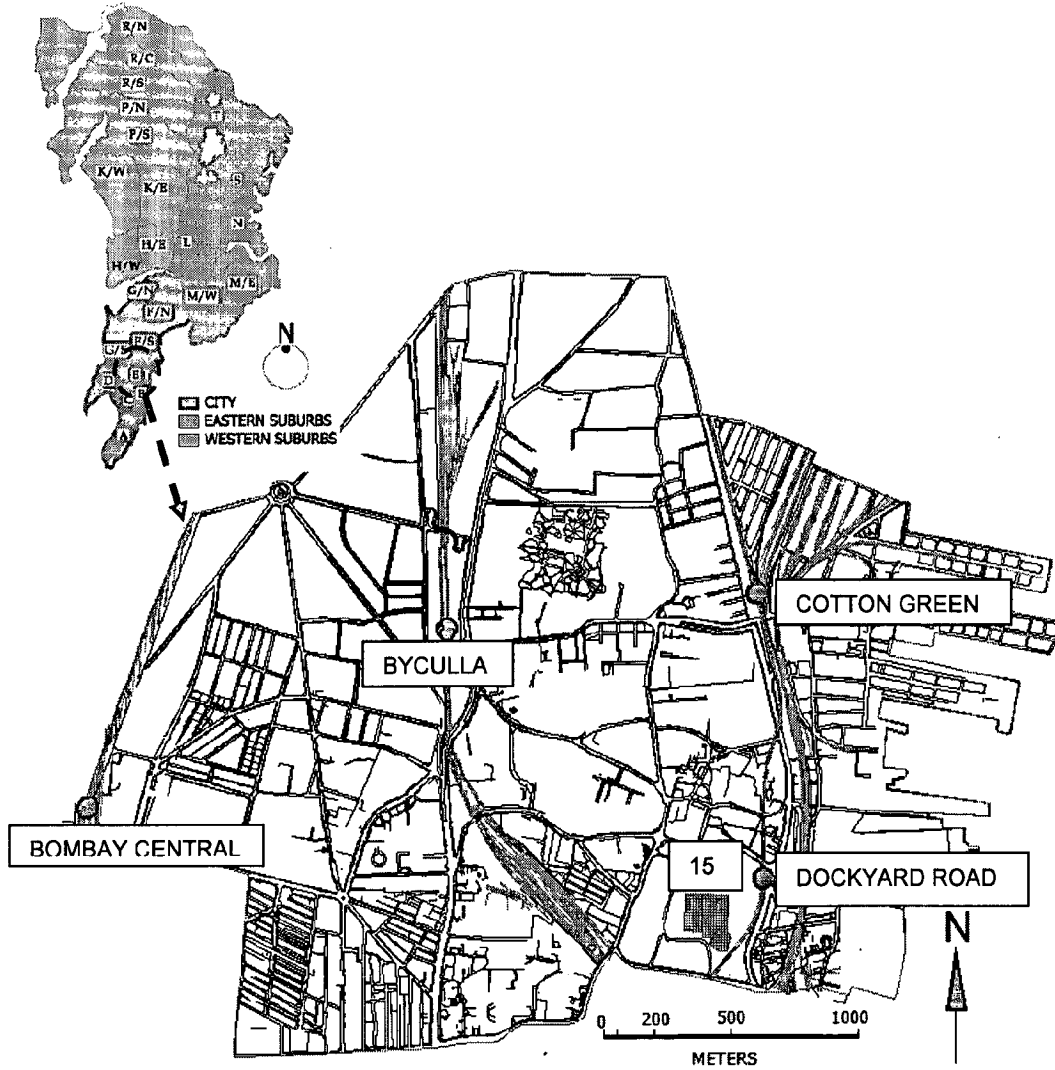
4.7 Location of surveyed public spaces in ward 'C'

4.43 Location of surveyed public spaces in ward 'D':

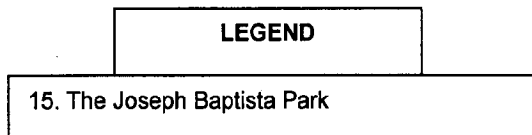


4.9: Location of surveyed public spaces in ward 'D'

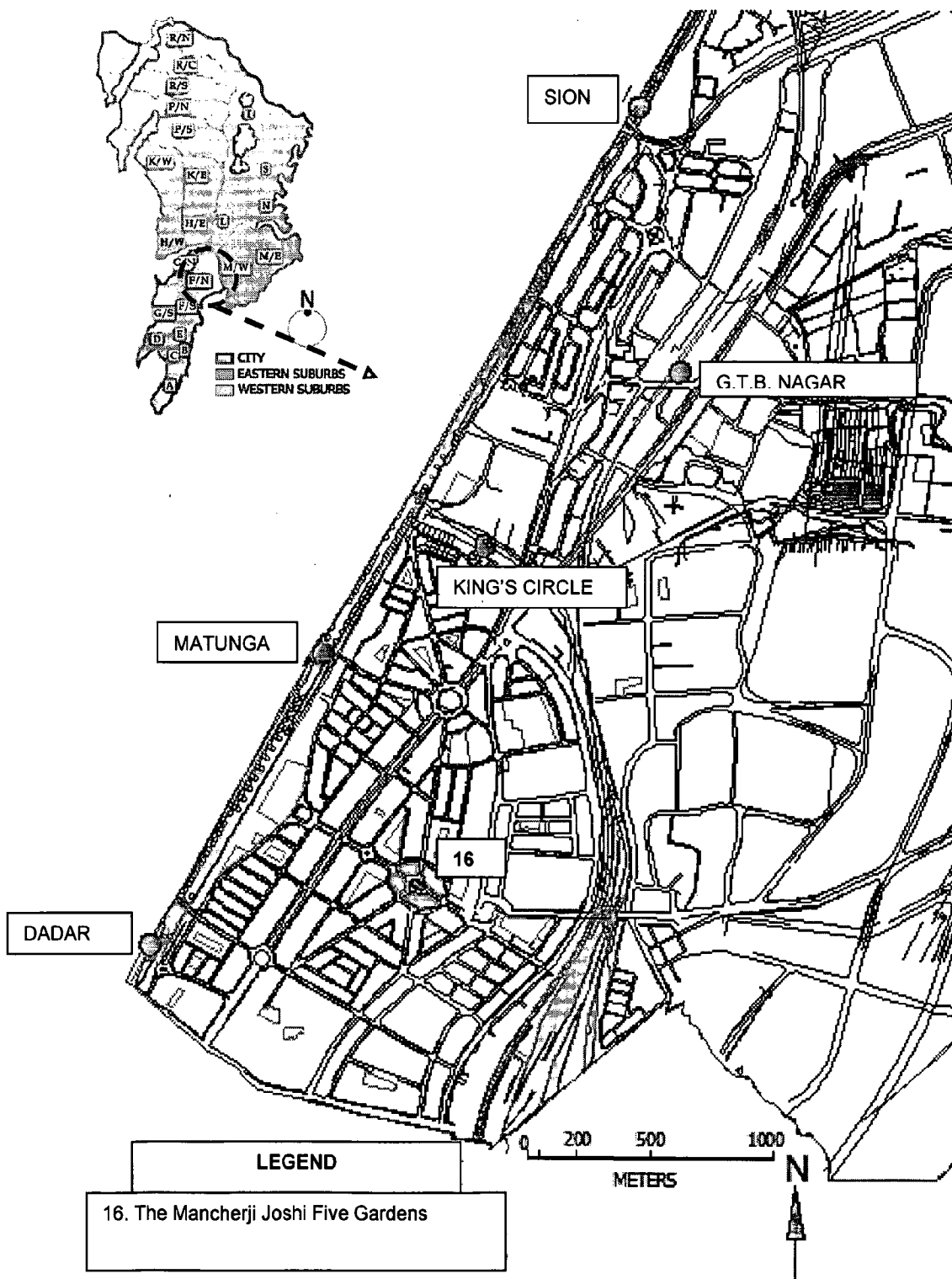
4.44 Location of surveyed public spaces in ward 'E':



4.10: Location of surveyed public spaces in ward 'E'

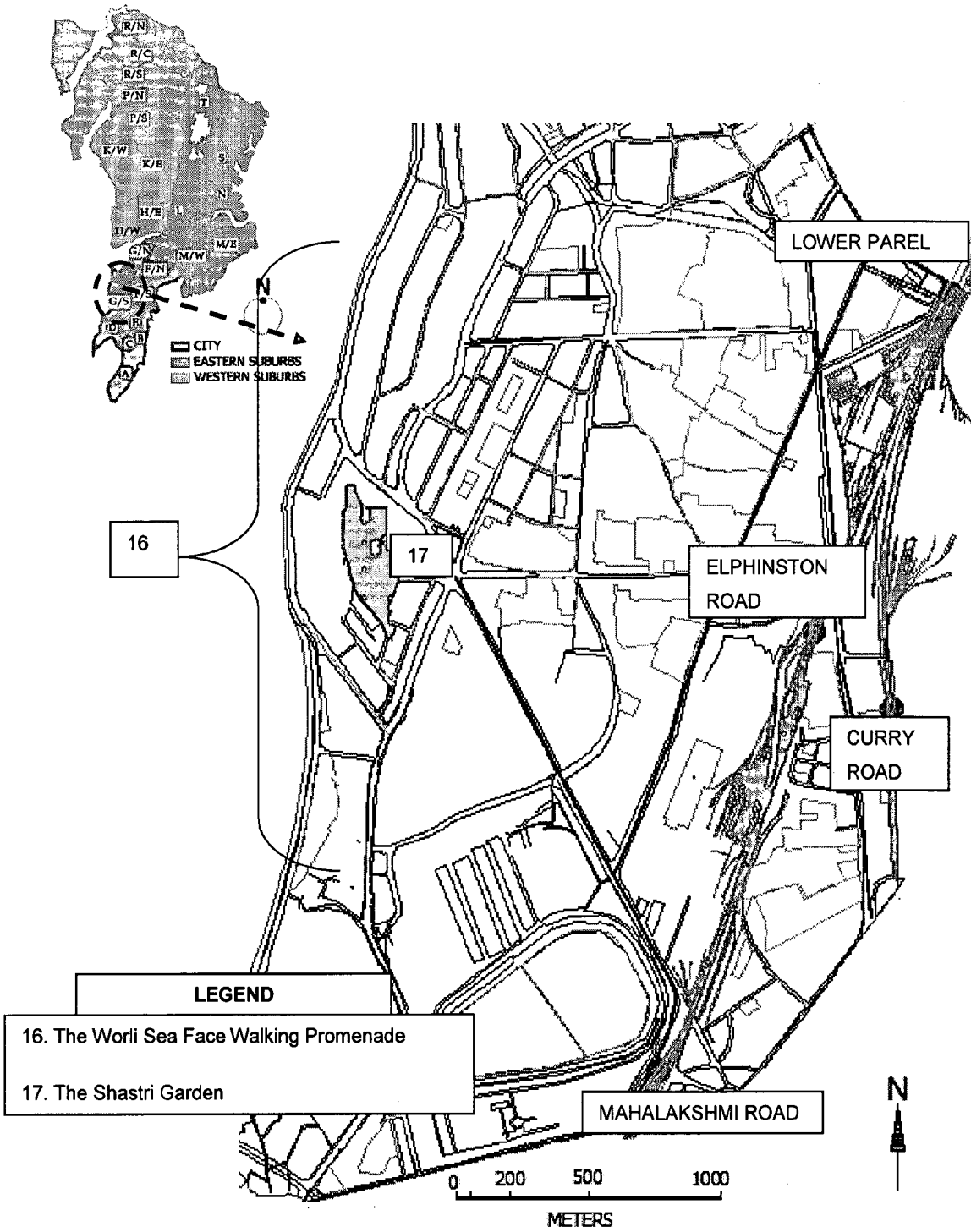


4.45 Location of surveyed public spaces in ward 'F/N':



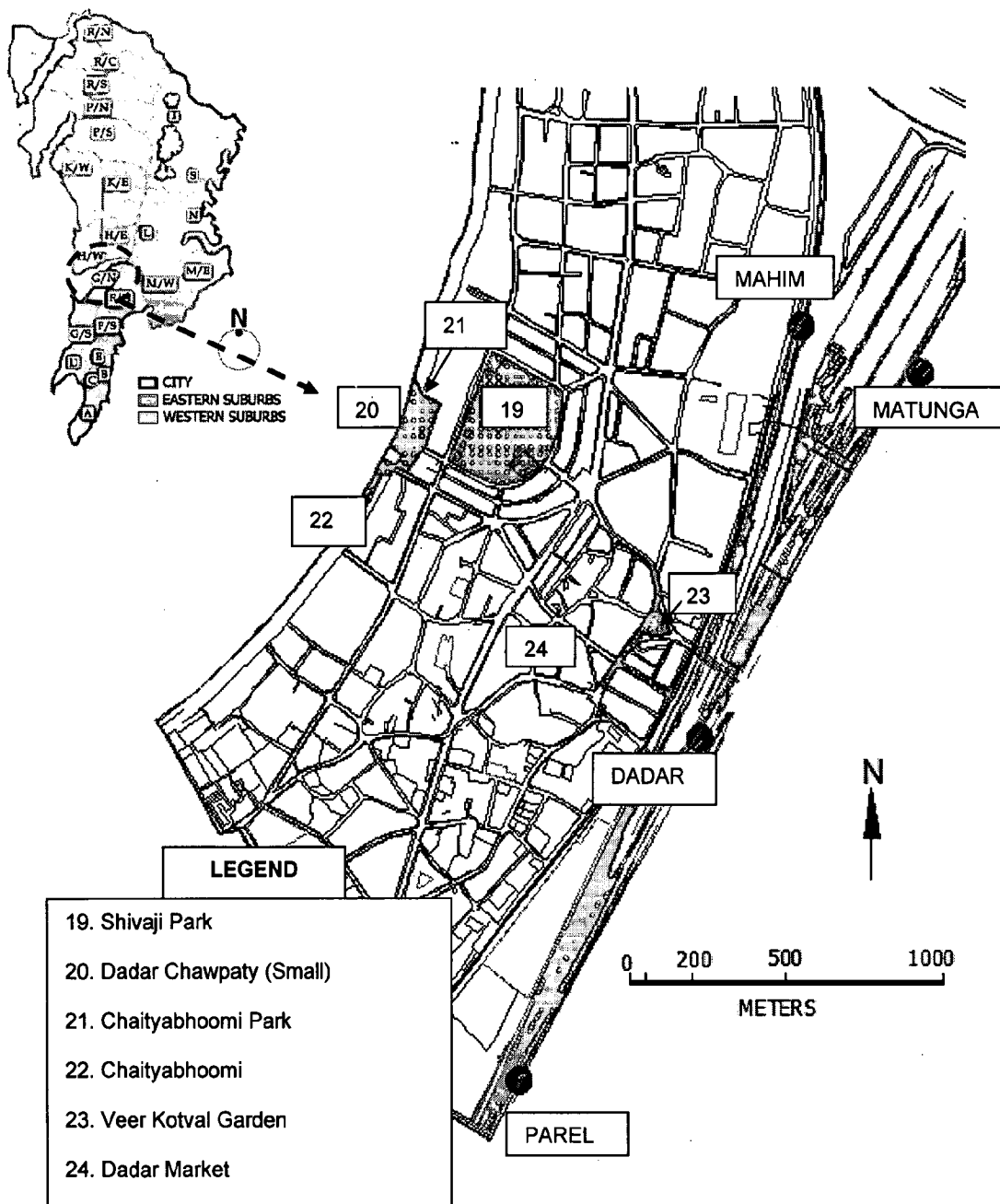
4.11: Location of surveyed public spaces in ward 'F/N'

4.46 Location of surveyed public spaces in ward 'G/S':



4.12: Location of surveyed public spaces in ward 'G/S'

4.47 Location of surveyed public spaces in ward 'G/N':

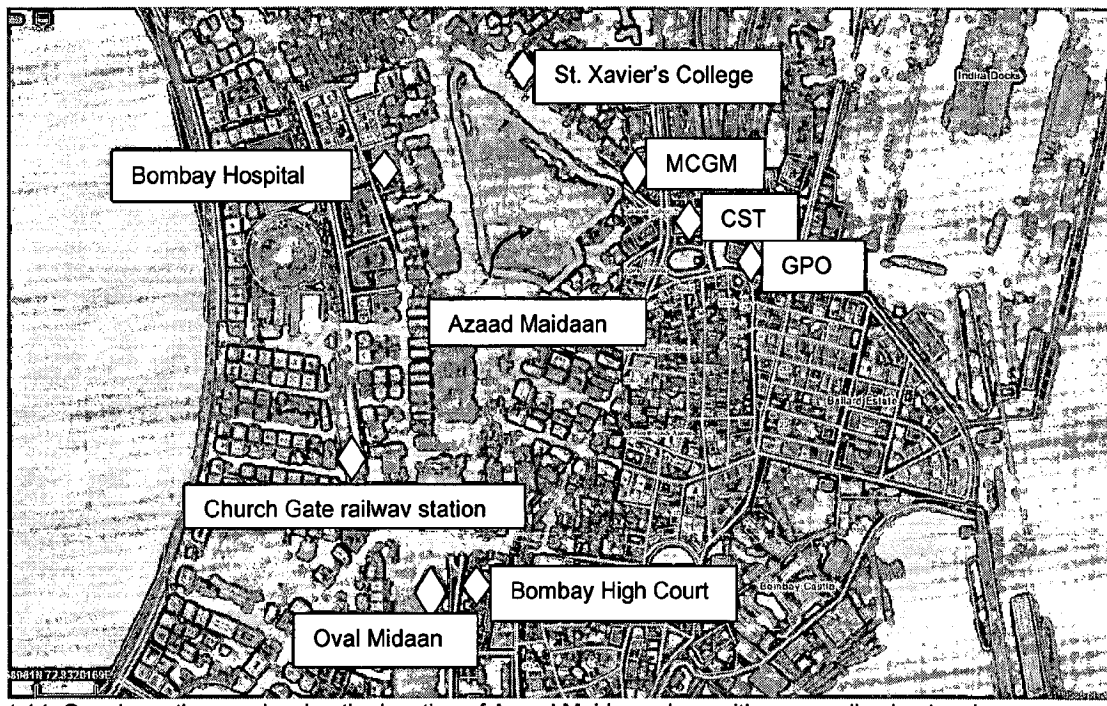


4.13: Location of surveyed public spaces in ward 'G/N'

4.5 Detailed review of the studied public spaces:

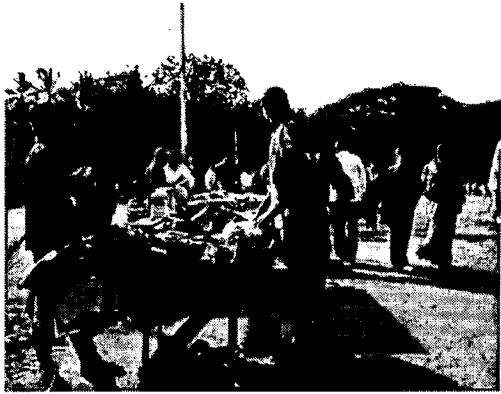
1. Azad Maidaan: Ref. Fig. 4.7 for Location in Ward 'A'

The playground is used extensively by cricket players ranging from kids of 10 years to students and office goers up to an age of 25 to 30 years except the monsoon period. Also there are no provisions of lights on this playground, which fails the ground to be used after sun shine. The pedestrian street along the edge of the playground is used rigorously by the people changing the railway lines from central railway to western railway between Churchgate and CST stations (Ref. Fig 4.15). They should be offered more comfort to use the pedestrian connection through better design. Also provision of lights on the ground can allow the games to be played in the late hours also which will not only improve the use extent of ground but also will provide a life in the area even after sun set.

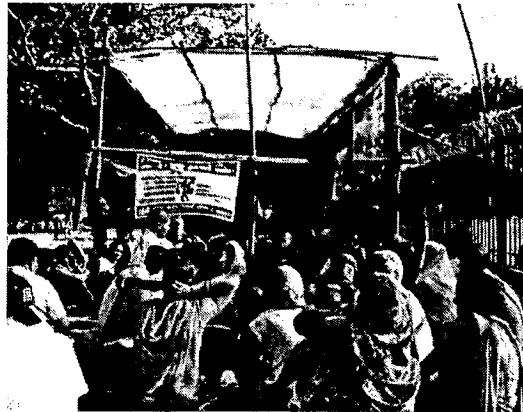


4.14: Google earth map showing the location of Azaad Maidaan along with surrounding landmarks

- **Shape:** Triangular
- **Predominant surrounding land use:** Commercial, recreational and institutional



4.15: Hawking taking place at the pedestrian way adjacent to the playground



4.16: The part of playground provides a platform for social and political demonstrations



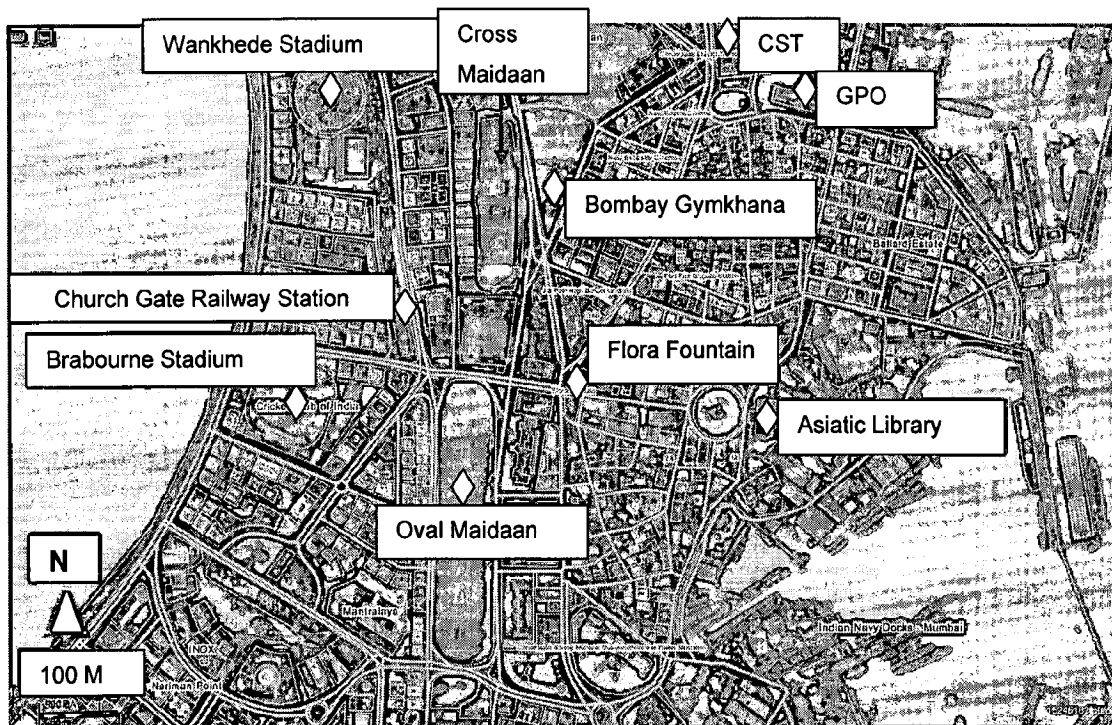
4.17: Panoramic view of the pedestrian street condition



4.18: Temporary tent structure in the playground and people passing by waiting to watch the game

2. Cross Maidaan: Ref. Fig. 4.7 for Location in Ward 'A'

The Cross Maidaan is another popular ground for cricket and football players. One end of the ground is reserved for football players which constitutes of the only one sixth of the total ground. On one side this playground is lined by a number of commercial buildings. The cricket ground is eight play fields for cricket, where a total of nine nets are provided. Club cricket and various institutions matches are organized on this playground.



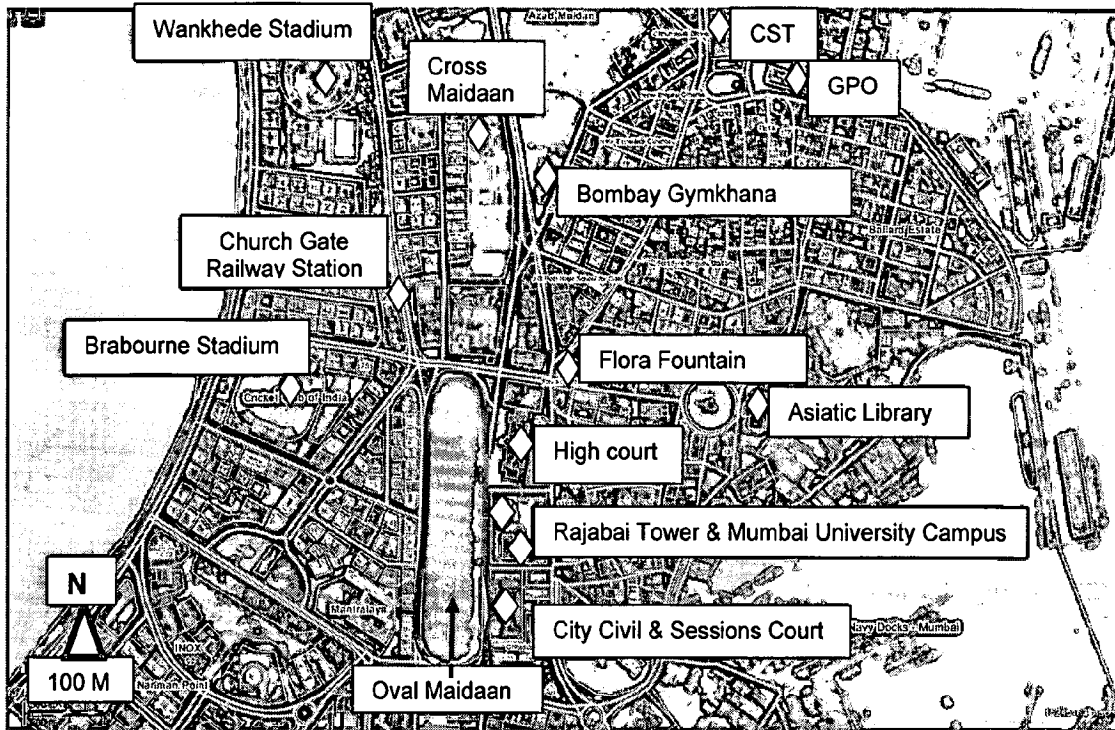
4.19: Google earth map showing location of Cross Maidaan along with surrounding landmarks

- **Shape:** Rectangular
- **Predominant surrounding land use:** Commercial and recreational



4.20: Panoramic view of the Cross Maidaan

3. **Oval Maidaan:** Ref. Fig. 4.7 for Location in Ward 'A'



4.21: Location of the Oval Maidaan in Google earth plan along with surrounding landmarks

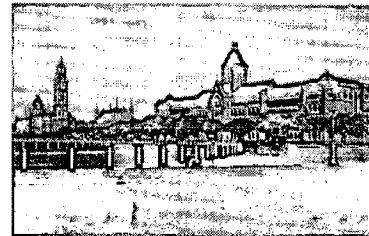
- **Shape:** Oval
- **Predominant surrounding land use:** Commercial and recreational



4.22: Commercial buildings lined on one side of the Oval Maidaan



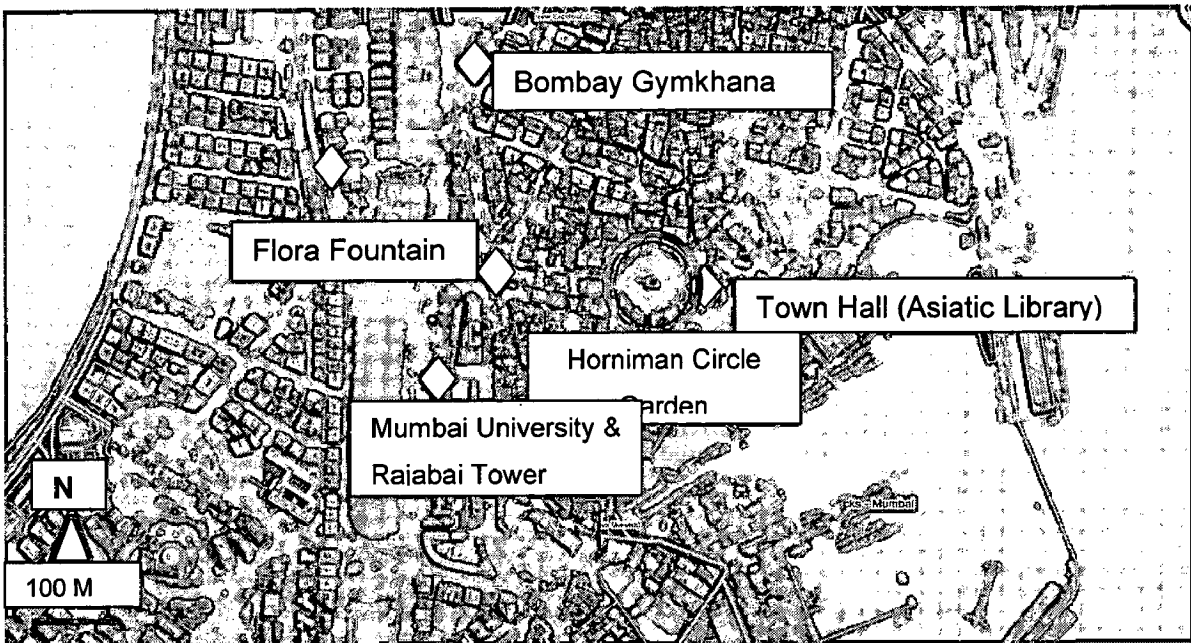
4.23: On other side of Oval, Mumbai Highcourt Building



4.24: Old photograph of Oval showing Rajabai Tower with University Building

Oval Maidaan is another important destination of the cricket players which has 16 nets for practising Cricket. The ground also has a small pedestrian way that provides an easy access for the people changing the railway stations from CST to the Church gate railway station of Western Railways. What makes the Oval so special is the wonderful backdrop of architecturally impressive Mumbai High Court, Mumbai University and the Rajabai Tower. The user group is by and large the male population ranging from nine to ten years up to an age of thirty years. The ground sleeps in the night due to no provision of lights in the night time, thus restricting its use in the dark times.

4. Horniman Circle Garden: Ref. Fig. 4.7 for Location in Ward 'A'



4.25: Google earth map showing the location of Horniman Circle Garden with important landmarks around

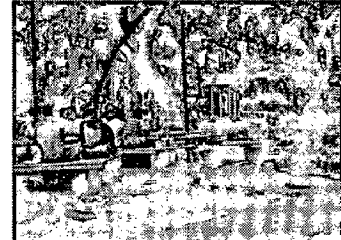
- **Shape:** Circular
- **Predominant surrounding land use:** Commercial



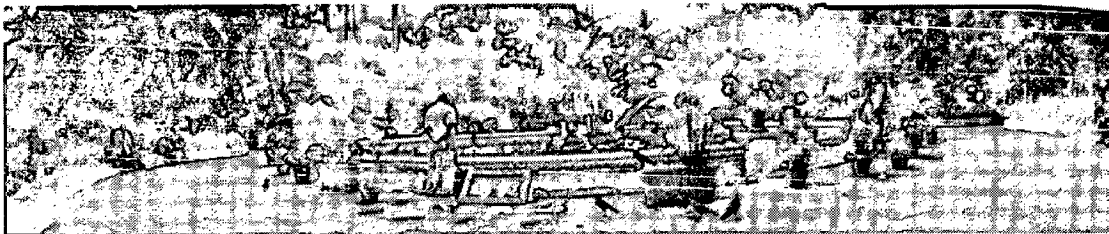
4.26: Children playing



4.27: People sitting, discussing and chatting



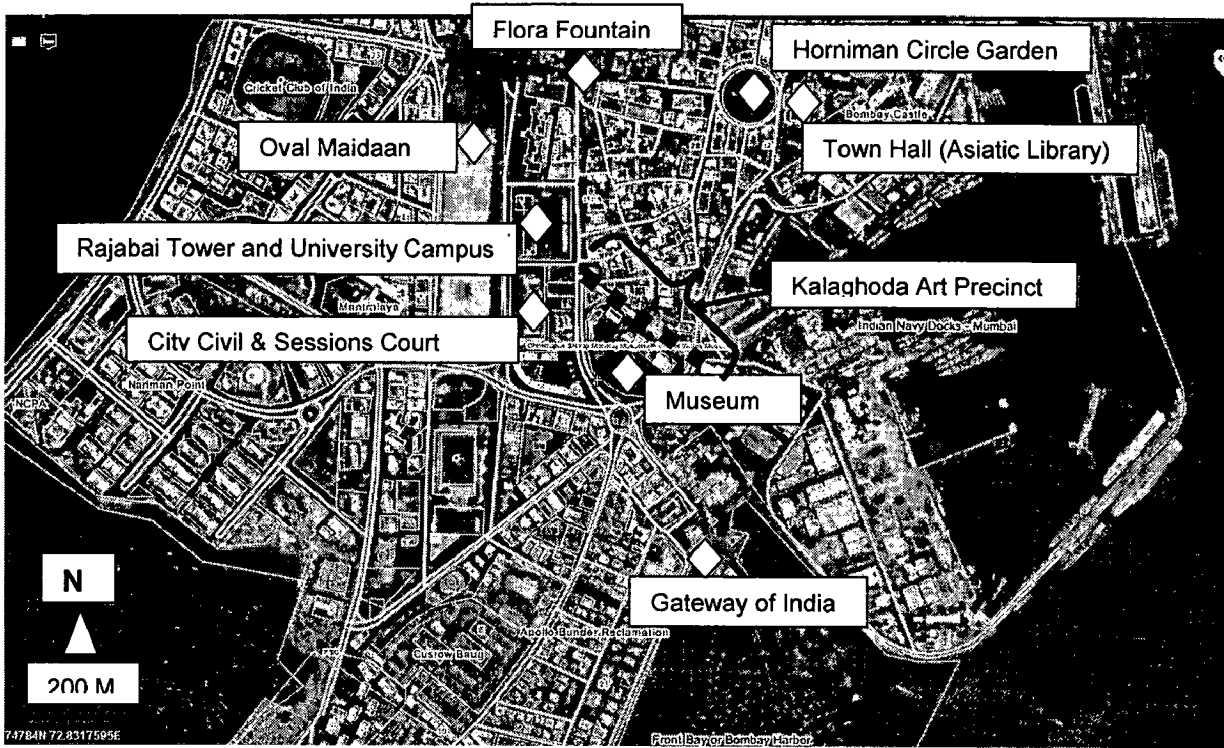
4.28: Studying children at the garden



4.29: The focal point of garden with a pond

The Horniman Circle garden is used extensively by the floating population of the area on week days rather than on weekends. The residential population which is merely present in surrounding areas also use the garden quite frequently. The garden also provides an opportunity for small events and meeting along with performances as a quarter of the garden is provided with small stage platform with open area for allowing sitting viewing the stage. The garden is a breathing space of the locality and has plush green areas.

5. Kalaghoda Art Precinct: Ref. Fig. 4.7 for Location in Ward 'A'



4.30: Google earth map showing the location of Kalaghoda Art Precinct with important landmarks around



4.31: Sitting full of visitors enjoying the Kalaaghoda Festival



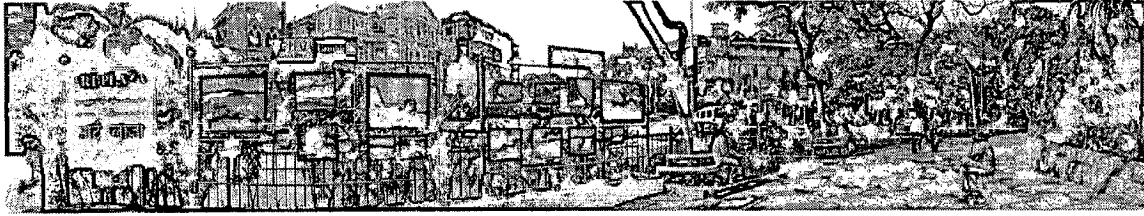
4.32: Other days while the precinct is used as a parking street and the sitting is empty



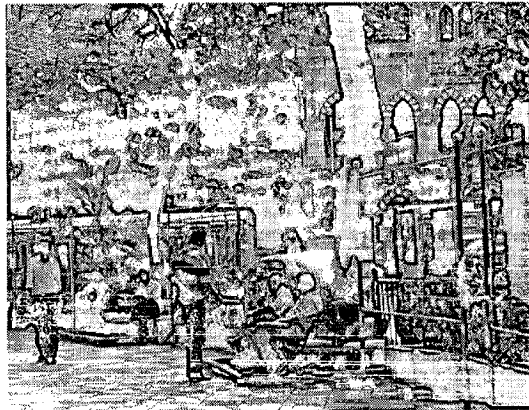
4.33: Temporary stalls in the festival



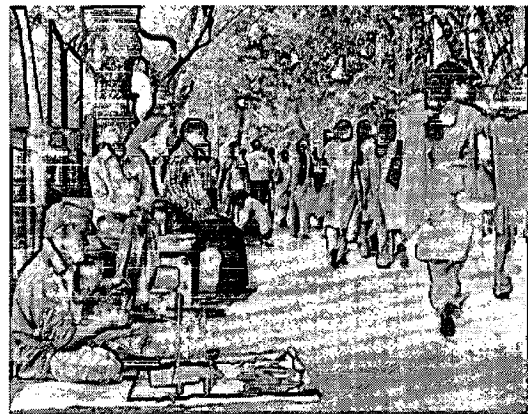
4.34: Same footpaths under bad conditions on other days



4.35: Panoramic view of the Art Plaza i.e. free platform for display of one's art at the Kalaghoda Art Precinct



4.36: People relaxing at the art precinct



4.37: An artist busy making artefacts

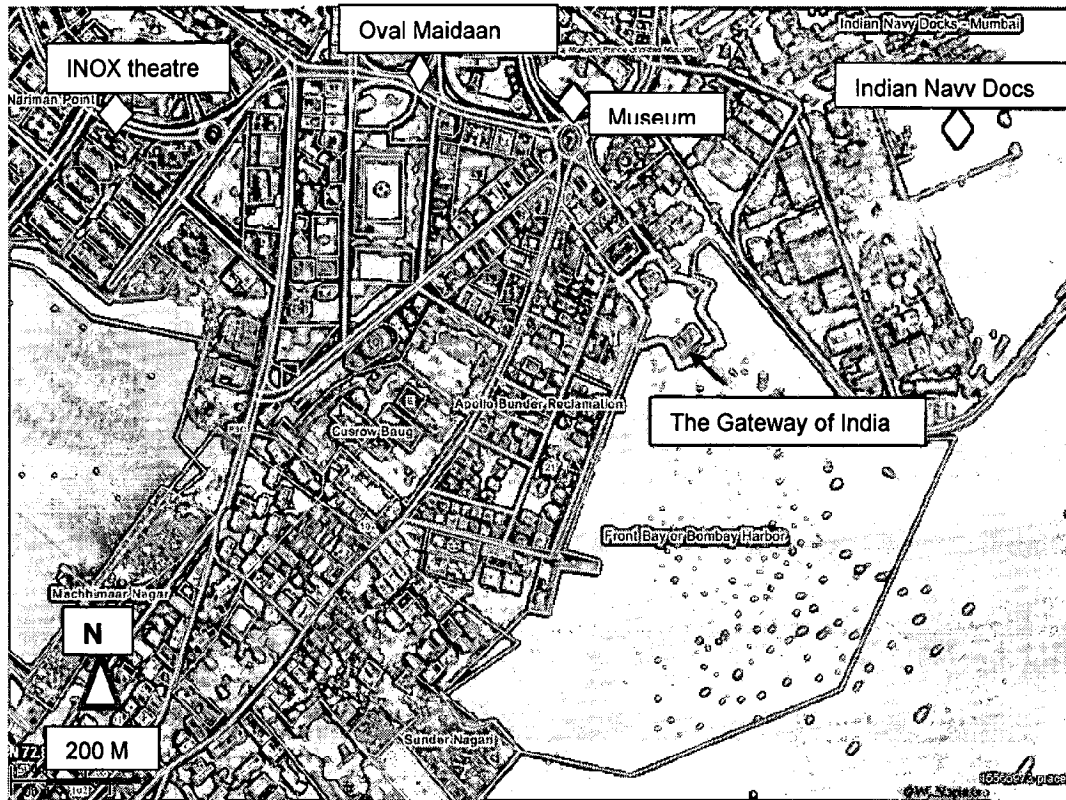
The art precinct has important buildings around like art galleries as well major commercial buildings like insurance offices, banks and some of the government offices. The art precinct is bustling with visitors in the period of the Kalaghoda Art Festival, which is an yearly festival for a fortnight. People come from all over the world to enjoy this festival of arts. On the other days, the precinct has a very limited activities related to the art display and creation of art, but is used as a large on street parking lot.

The precinct has a permanent sitting facility built which is extensively used only during the festival times. Students, visitors to the art galleries around as well the working population use these steps often but not to the full extent. Also the buildings around has nice heritage pattern of architecture. This precinct has a very good potential to become a city level public space by eliminating the parking lots on the streets and allowing permanent performances, art displays as well as cultural activities with appropriate facilities of cuisine for the visitors. Such a space when developed at a city level can provide bread and butter to a large population especially the informal sector that survives on a major part of public spaces.

With planning for public oriented activities, providing adequate infrastructure, giving platform to the local artists as well as artists from entire state and country, Kalaghoda art precinct can become an active public space for everyone in the city.

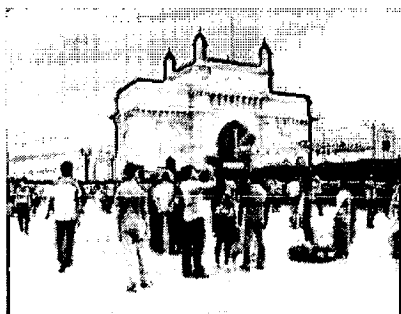
6. Gateway of India: Ref. Fig. 4.7 for location in ward 'A'

Mumbai's one of the must visit public space is Gateway of India. Being Mumbai's most famous monument, this is the starting point for most tourists who want to explore the city. It was built as a triumphal arch to commemorate the visit of King George V and Queen Mary, complete with four turrets and intricate latticework carved into the yellow basalt stone.

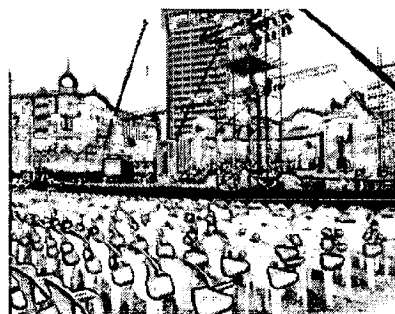


4.38 Google earth map showing the location of Gateway of India with important landmarks around

- **Shape:** Star shaped
- **Preominant surrounding landuse:** Commercial

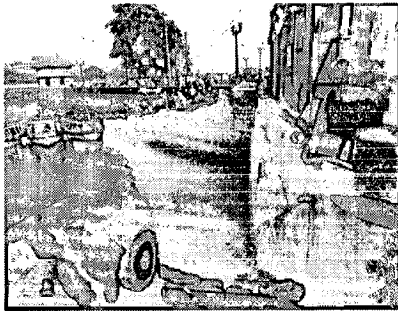


4.39 Plaza in front of the monument

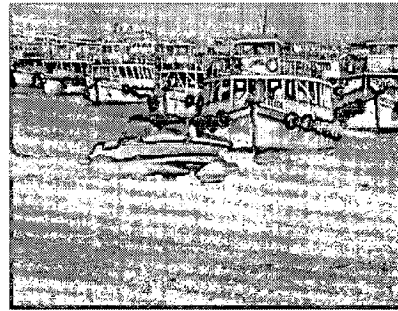


4.40 Plaza conducting a public performance

It is 26m high structures, complete with four turrets and intricate latticework carved into the yellow basalt stone. (Fig. 4.39) Ironically, when the British Raj ended in 1947, this colonial symbol also became a sort of epitaph: the last of the British ships that set sail for England left from the Gateway. Behind the arch, there are steps leading down to the water. Here, one can get onto one of the bobbing little motor launches, for a short cruise through Mumbai's splendid natural harbour. One can buy tickets for a short cruise on the motor launches from here.



4.41 People descending down for the rides of ferry



4.42 View of launches from Gateway of India

This is the place visited by 15 thousand people on an average per day. For every tourist, this is a must watch. Even the city people do visit this place to enjoy the sea breeze, a launch ride followed and a vibrant and exciting public space.



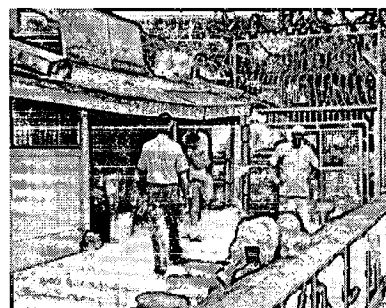
4.43 Plaza full of hawkers near the entrance to Gateway of India



4.44 People enjoying a horse cart ride



4.45 Stalls at the entrance ruin the visual quality of the space



4.46 The ticketing and food stalls need immediate improvement

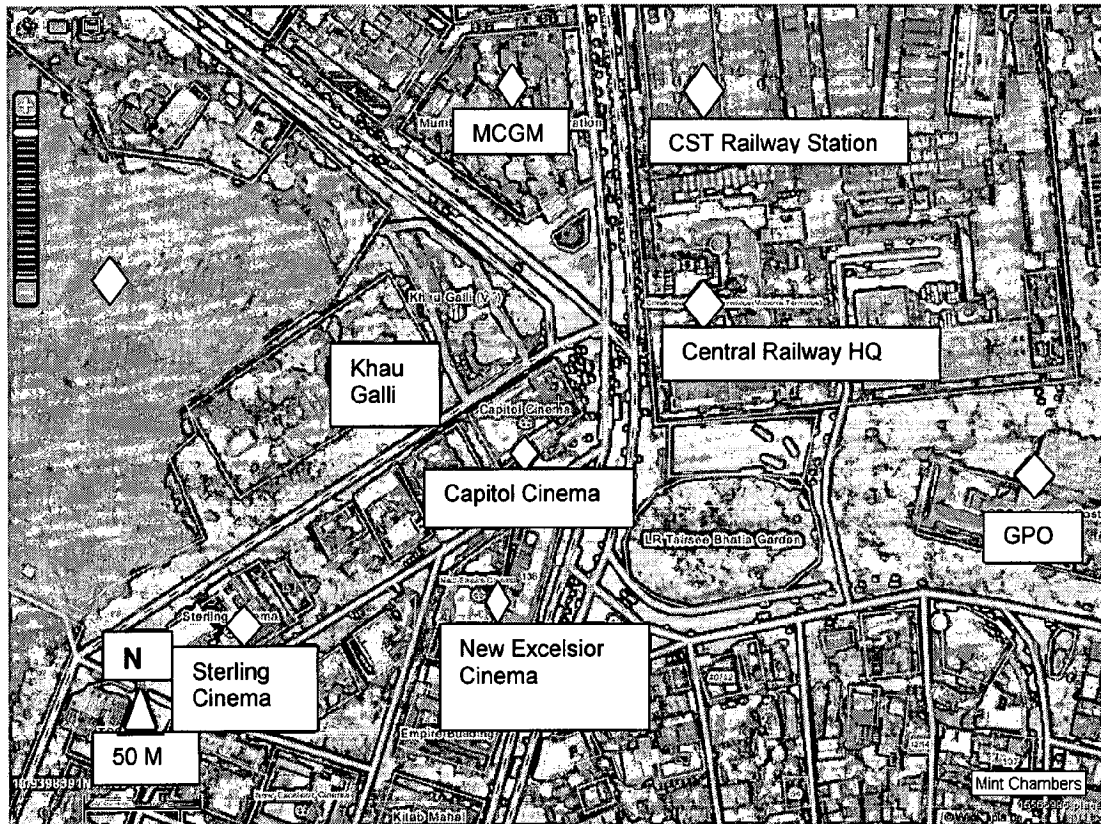
The space receives a huge advantage of being close to the sea. Its also a jetty for transport between south Mumbai and JNPT (Jawaharlal Nehru Port Trust), the Navi Mumbai Harbour and the famous Elephanta islands. The space is worth an experience in Mumbai. The stone pavement of the plaza complements the monument and holds it together. The parapet around it is formed into a continuous sitting platform which is never seen empty. People enjoy relaxing against the parapet, breathing the sea breeze and enjoying mouth-watering tasty food stuff from the vendors. The ferry rides, horse driven carriages taking a stroll and water sports add to the attraction of this space.

The plaza provides a platform for various collective activities like a music concert, a dance performance or a public address. This area is managed very effectively whenever required especially on the occasion of such events.

In spite being the most famous public space of Mumbai, there are many things which can be improved. The stalls of tickets for launches and the food vendors are in bad condition. They do not match with the rich ambience of the public space.

7. Khau Galli CST: Ref. Fig. 4.7 for location in ward 'A'

This is a very busy eatery in the premises. Khau Galli i.e. the Food Lane offers tasty and delicious food at an economical price. Its location is very strategic being situated bang opposite to the CST railway station. Majority of the working population in the surrounding area use this railway station for to and fro commutation between home and office.



4.47 Google map showing location of Khau Galli and surrounding landmarks

The location of this food lane is just perfect for having the maximum footfall of the people passing by. The sales are wonderful every day in this food lane. Being adjacent to the main Central Railway station CST, people after their travel or before the beginning of their travel tend to avail the services provided by this food lane. Besides food stalls there are certain other important services like a Xerox copy, typing and printing centre. It falls on the way to home as well as to work place (or the playgrounds for the players) of majority of the people.

The food lane is visually very well connected and is bustling with people all the times of day. This is a place where people do not wait longer but only to avail the facility. It works very well but has a lot of improvement potential to make this an active public space.



4.48 People having suppers at the Khau Galli



4.49 People sitting at the platforms near trees- the height of platform is inappropriate for both, sitting as well as for having food plates over it

The Khau Galli has a parking lot for MCGM car park adjacent to it. Removal of this parking lot can improve the premises significantly. Also, by adding sitting space, the comfort level of people can be improved upon.

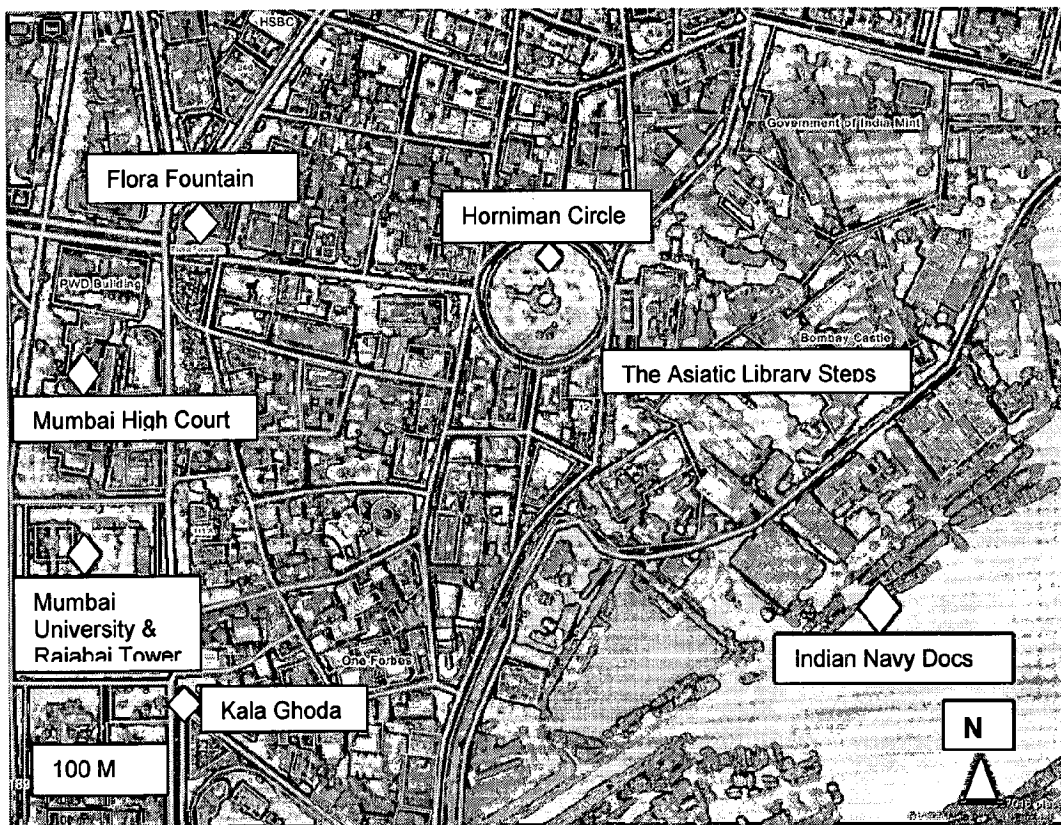


4.50 A panoramic view explaining the activities at Khau Galli, the parking lot and the people at the shops

8. The Asiatic Library Steps: Ref. Fig. 4.7 for location in ward 'A'

The Asiatic Library Building or also known as the Town Hall is an architectural landmark. The building houses one of the largest libraries of Mumbai, which is accessible to all the people free of cost. The library has many office buildings as well as navy docs nearby. The building comes on the way of number of people working in the nearby vicinity. People prefer sitting, meeting people and chatting at the steps of the library.

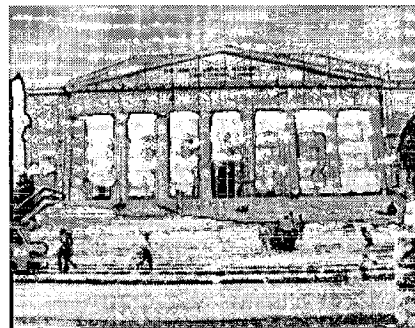
During the Kala Ghoda festival, these steps become an amphitheatre for various musical performances. This space has a potential to become such a platform on a frequent basis as there other road connections available around this space.



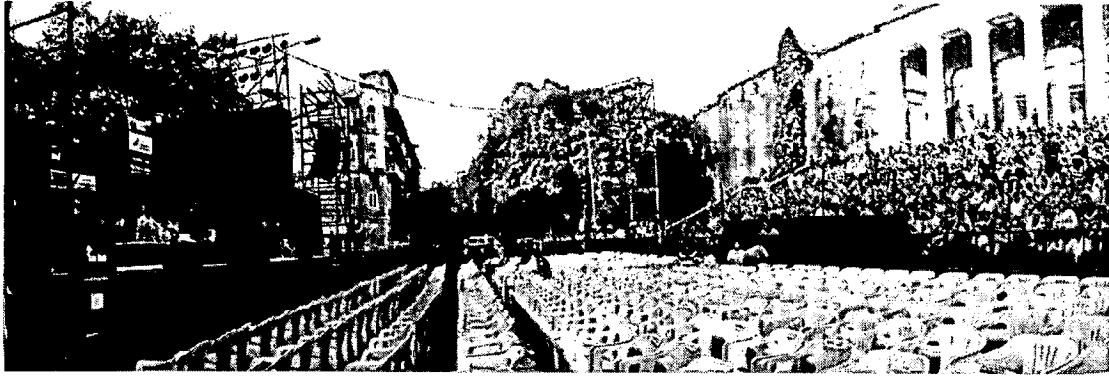
4.51 Google map showing the Asiatic Library Steps and surrounding landmarks



4.52 Person resting at the steps of Asiatic Library



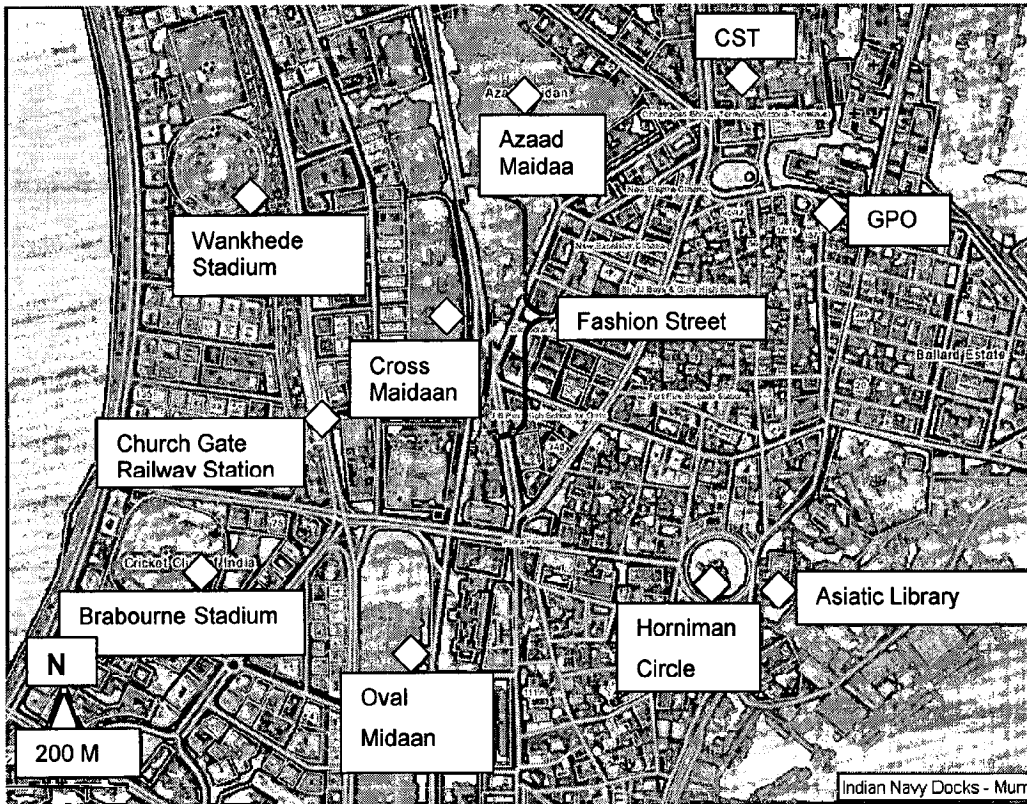
4.53 The view of the building



4.54 The Asiatic Library and the street in front during a performance in Kalaghoda Festival

9. Fashion Street: Ref. Fig. 4.7 for location in ward 'A'

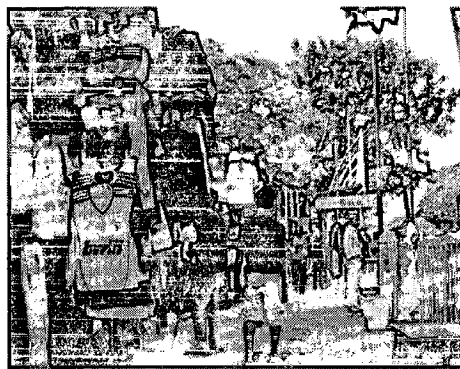
The Fashion Street is a street market full of clothes, shoes, bags, accessories and the rates are really great. Also people enjoy shopping at the fashion street as this shopping allows the buyers for bargaining. This is hawking zone officially permitted by the MCGM. Its location is its biggest advantage as people pass through this street to reach CST or Church gate railway station.



4.56 Google map showing the location of fashion Street and the surrounding landmarks

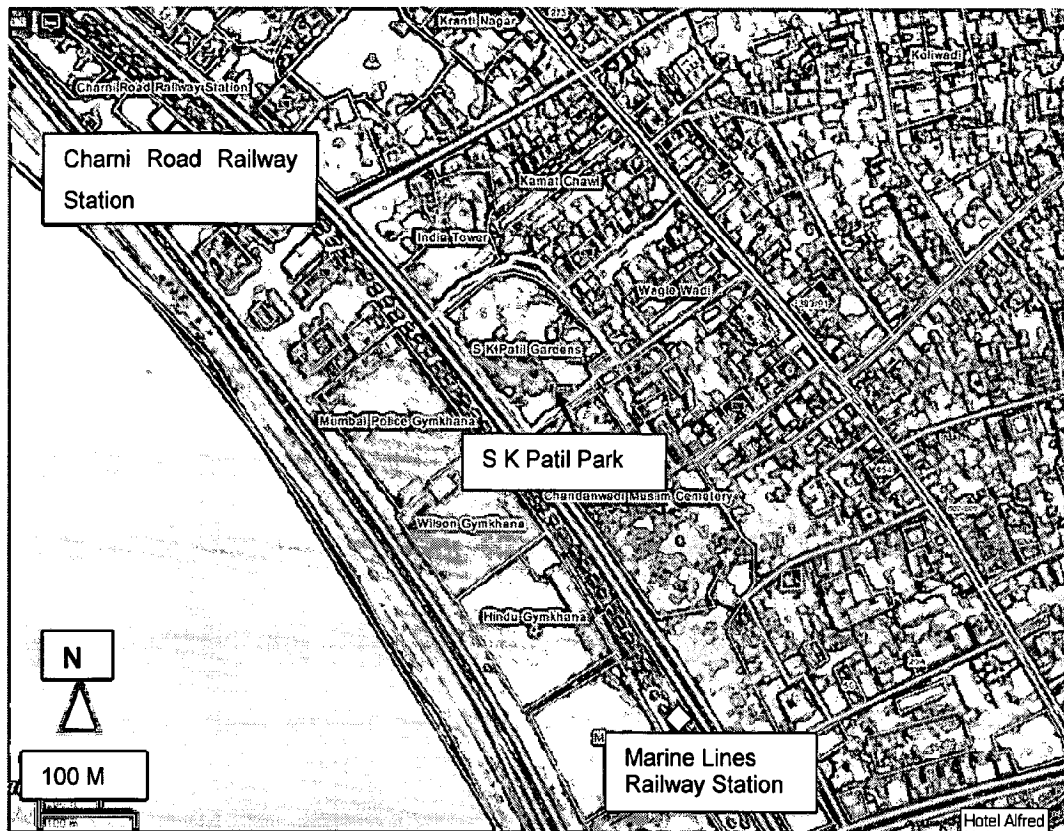


4.57 The hawking at the Fashion Street



4.58 Bus stop next to the Fashion Street showing the accessibility

10. S.K.Patil Park: Ref. fig. 4.8 for location in ward 'C'



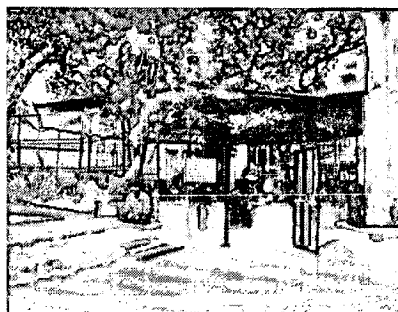
4.59 S.K. Patil park shown in the Google Map along with nearby railway stations

This is the only garden which brings life to the residents of ward C. the peculiar type of houses are chawls in this wards with typically small houses and little space to breath. The lanes are narrow with no or little spaces left for playing after the space occupied by parked cars.

S. K. Patil garden provides major platform for recreational activities as well it serves as very calm and quite study area for the students. This is more like a ward level space and does not attract tourists. But for the local people it serves as an interaction space, a study area, it has provision for cultural performances, it is provided with a food joint inside, and also it works as an active meeting space for all age groups of people.



4.60 The food joint in the park



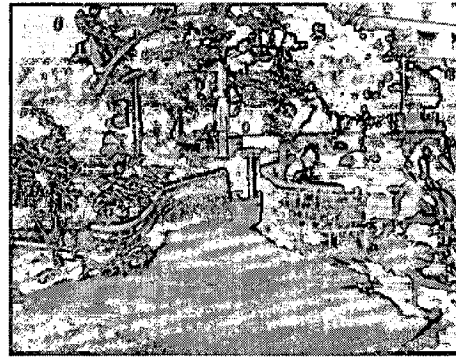
4.61 The study centre for students inside the park area

This space is very well connected by suburban railway as well as buses. People can walk down to this garden as it well connected through the narrow lanes which are shaded most of the times. The people here can definitely use bicycles to reach the garden but they are not used extensively.

This park is provided an additional study lounge for the benefit of the students. There is provision of government subsidised food joint in the garden premises that caters to the visitors of the park as well as the residents in the nearby vicinity.



4.62 People resting in the park

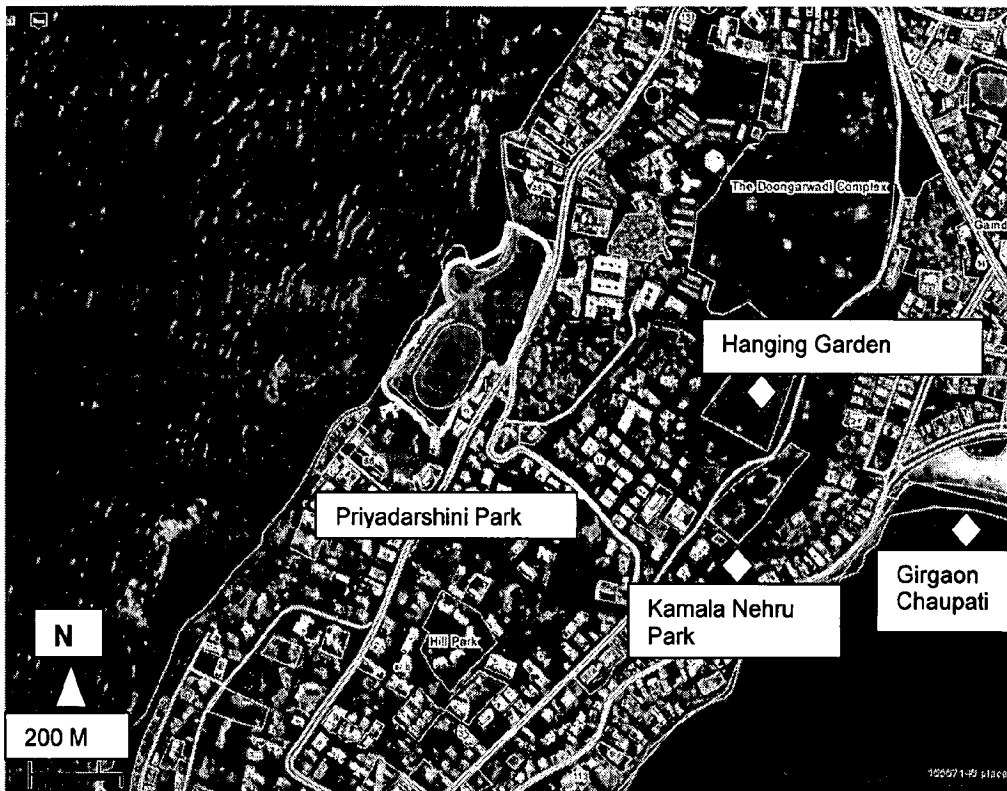


4.63 Ramp at the entrance allowing access to the park for disables

Currently the park is undergoing a major water works which has affected the usage of park. As soon as the works would be over, the park will get its realm back.

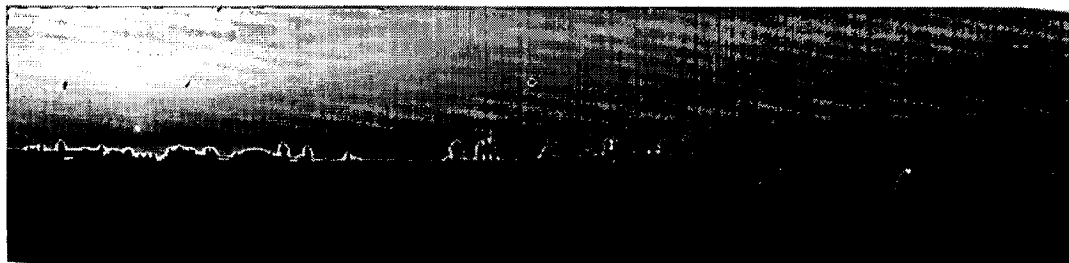
11. The Priyadarshini Park: Ref. fig. 4.9 for location in ward 'D'

If you want to feel the untrammled sea, sun and wind and experience a few hours of bliss, it is here, at Priyadarshini park and Sports Complex, on Napean Sea Road. Priyadarshini is 20 acres of a beautiful green belt on the sea front, with one-third of the park developed for the activities of the Priyadarshini Sports Complex.



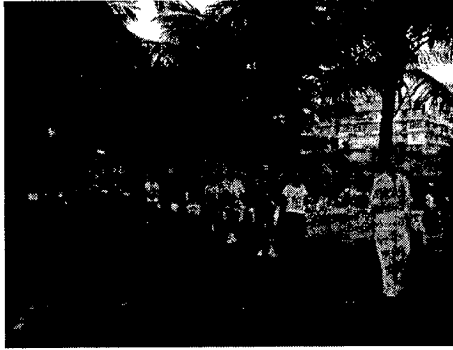
4.64 Google map showing the location of Priyadarshini park with other major public spaces nearby

- **Shape:** Irregular
- **Predominant surrounding land use:** Residential



4.65 One side of the park is lined by sea

Priyadarshini park has a large ground of many acres and the only Synthetic Track in Mumbai. It also conducts Athletics, Kathak, Gymnastics, Gymnasium, Tennis, Golf, Aerobics, Karate, Taekwondo and many more activities in Mumbai.



4.66 Walking and jogging people at the rammed earth path in park

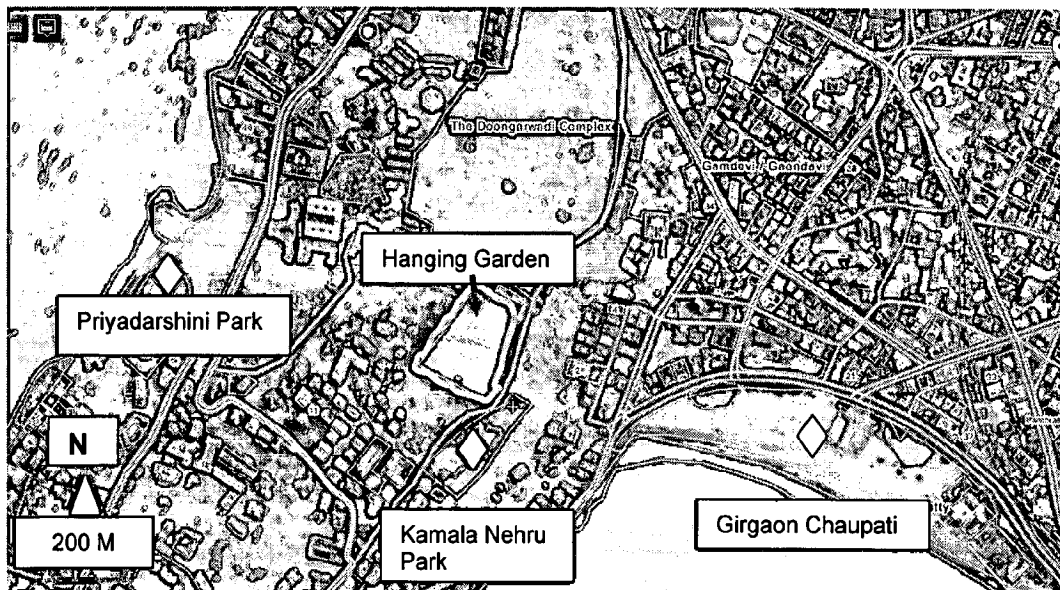


4.67 Children playing in the park

12. Hanging Gardens: Ref. fig. 4.9 for location in ward 'D'

The Hanging Gardens, Mumbai, in Mumbai, India, also known as Ferozeshah Mehta Gardens, are terraced gardens perched at the top of Malabar Hill, on its western side, just opposite the Kamala Nehru Park. They provide sunset views over the Arabian Sea and feature numerous hedges cut into the shapes of animals.

This garden was laid out in 1881 over Bombay's main reservoir. It is one of the major tourist's destinations in Mumbai. It is very well connected by the public transport modes. Children, youngsters, working people as well as old age people are found using this space for leisure.



4.68 Location of Hanging garden with other major public spaces around shown in a Google map

- **Shape:** Irregular
- **Predominant surrounding land use:** Residential and recreational



4.69 Hedges cut in shapes of animals



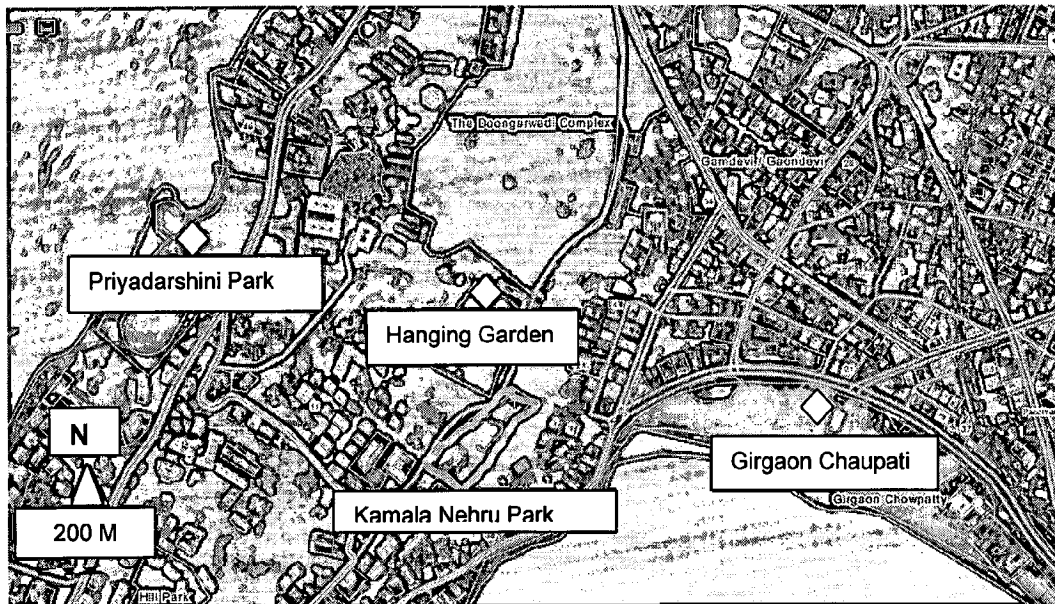
4.70 Sittings provided under the trellis in Hanging garden

13. Kamala Nehru Park: Ref. fig. 4.9 for location in ward 'D'

This is another important public park located in the southern Mumbai, which is in the list of tourists' destinations. As it falls opposite to the Hanging Gardens, people tend to visit both the spaces at the same time.

This park is an exciting destination for children due to its unique feature- 'the old lady's shoe'. There is also large green area provided for children to play along with a sand pit. This park provides a magnificent view of the Mumbai sea coast from the hill.

- **Shape:** Irregular
- **Predominant surrounding land use:** Residential & recreational



4.71 Location of Kamala Nehru Park with other public spaces nearby in Google image



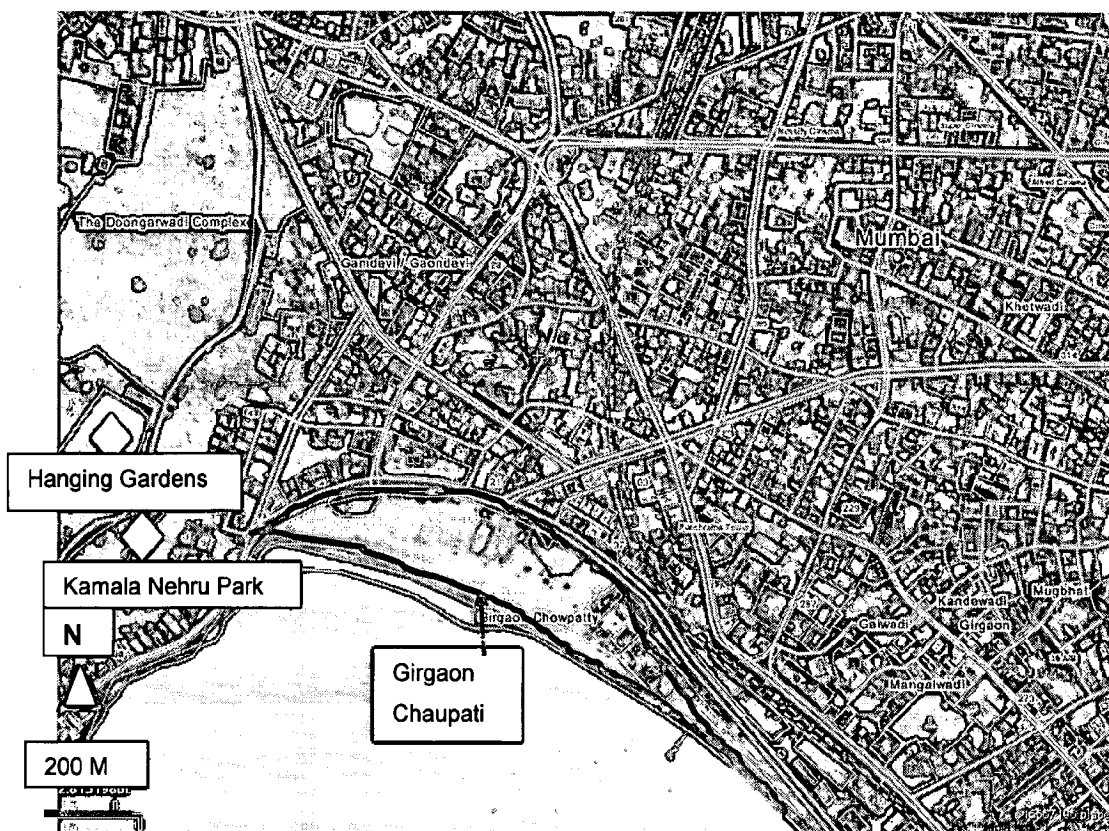
4.72 The old lady's shoe at the Kamala Nehru Park



4.73 View of the Mumbai coast

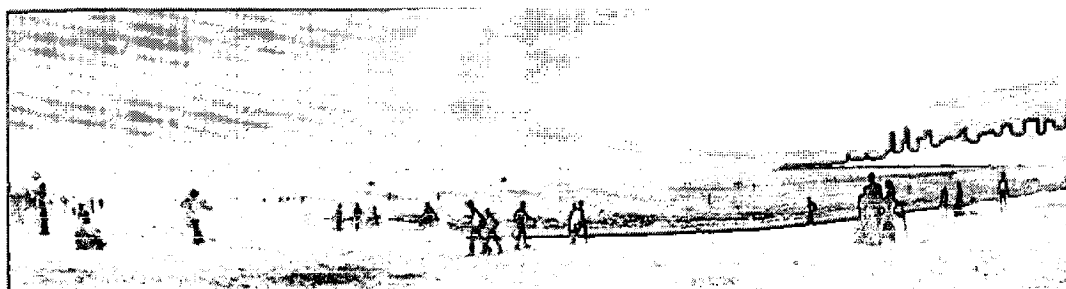
14. Girgaon Chaupati: Ref. fig. 4.9 for location in ward 'D'

This is one of the major public spaces in Mumbai, which allows people of all the social strata to come together. It lies at the well nit network of roads, suburban railway and is connected with public transport to the main transit stations like the Railway stations of Charni Road, Marine lines and Churchgate. So the location of beach gives many options for people to reach this place.



4.74 Google map showing the location of Girgaon Chaupati

The people are engaged in activities like playing, eating, sitting in groups as well as alone, looking at the seashore and the buildings along. The entire space is used and the users are from different age groups.

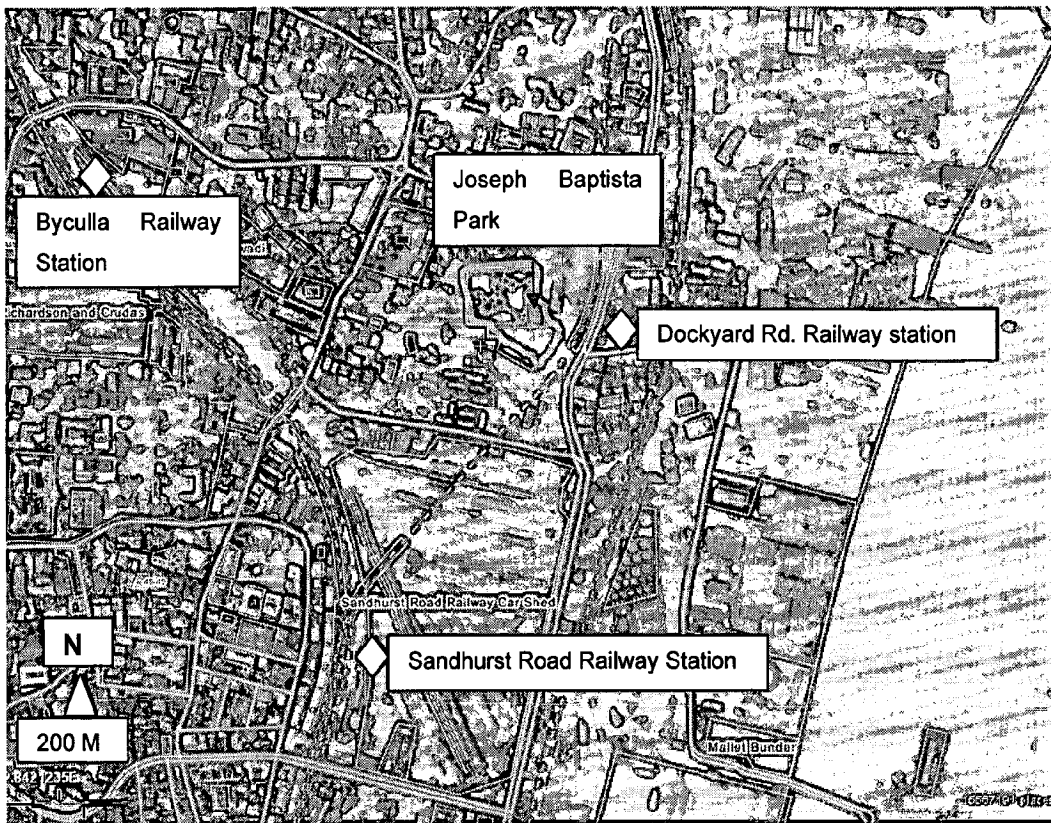


4.75 Panoramic view of Girgaon Chaupati

15. Joseph Baptista Park: Ref. fig. 4.10 for location in ward 'E'

The Joseph Baptista Gardens, locally known as the Mazagaon Gardens, is a 1.5 acres (0.6 ha) park in south Mumbai in Mazagon. It lies atop a hill, the Bhandarwada Hill, and offers a panoramic view of the Mumbai harbour and the southern business district of the city.

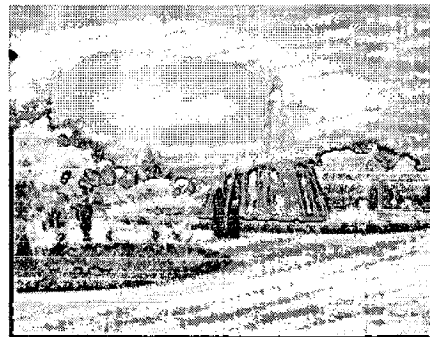
The park being situated at a height on a reservoir is difficult to be reached by physically challenged and old aged people. The park is very well designed activity area for children to play, for people to sit, for students to study as well for joggers and walkers. The landscape features are very well designed in the park.



4.76 Google map showing location of Joseph Baptista Park



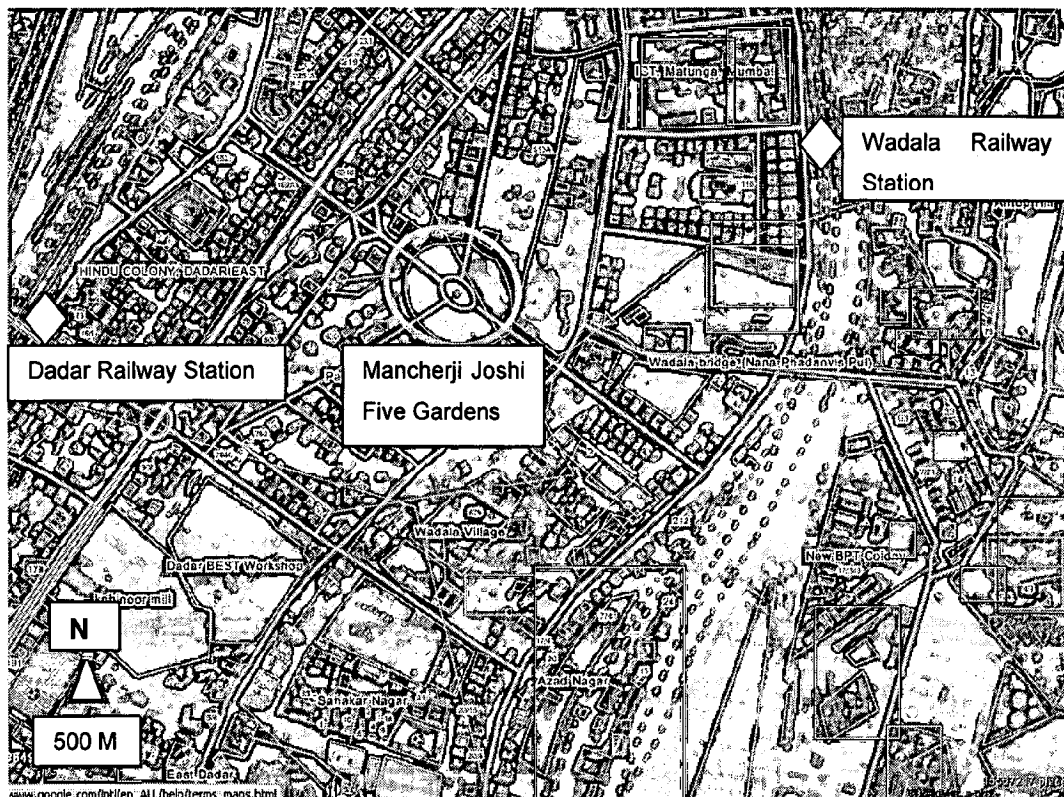
4.77 Artificial water fall created in the park



4.78 The walkway with water fountain

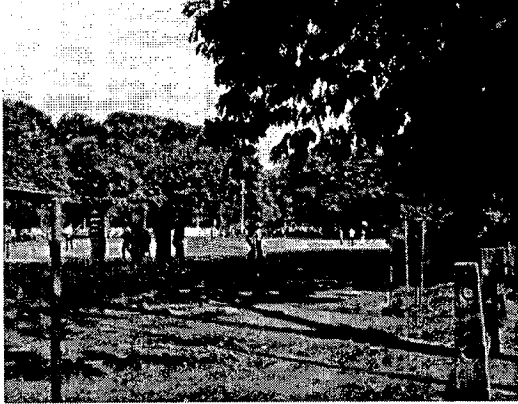
16. The Mancherji Joshi Five Gardens: Ref. fig. 4.11 for location in ward 'F/N'

As the name suggests, this is a group of five gardens in circular shape, divided in sectors by the road. These gardens are located in an area named Parsi Colony. It's one of the greenest localities in Mumbai city. It allows all age groups' activities and is frequented by the local residents, kids attending schools in the locality as well as college going students of Dadar & Matunga area.



4.79 Google map showing the location of the Mancherji Joshi Five Gardens

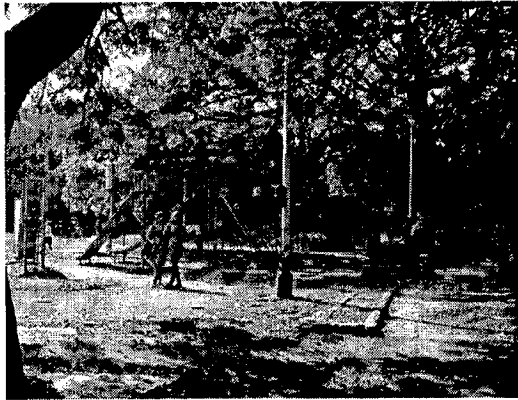
One of the sectors is a playground for active recreation. (fig.4.80) Two of the sectors are parks with landscape where people can sit quiet, hang around and relax.(fig. 4.83) Another sector is a park for kids to play with swings, slides and other instruments. (fig. 4.82) The central part of the Five Gardens is a thickly wooded traffic island. One can see people from all around walking here in the mornings and evenings. There are vehicles parked and people come from some distance to enjoy the tall trees and ambience. Informal sector activity is found at the footpaths selling snacks. (fig. 4.81)



4.80 The playground



4.81 The food vendors at the footpath



4.82 The play area for children

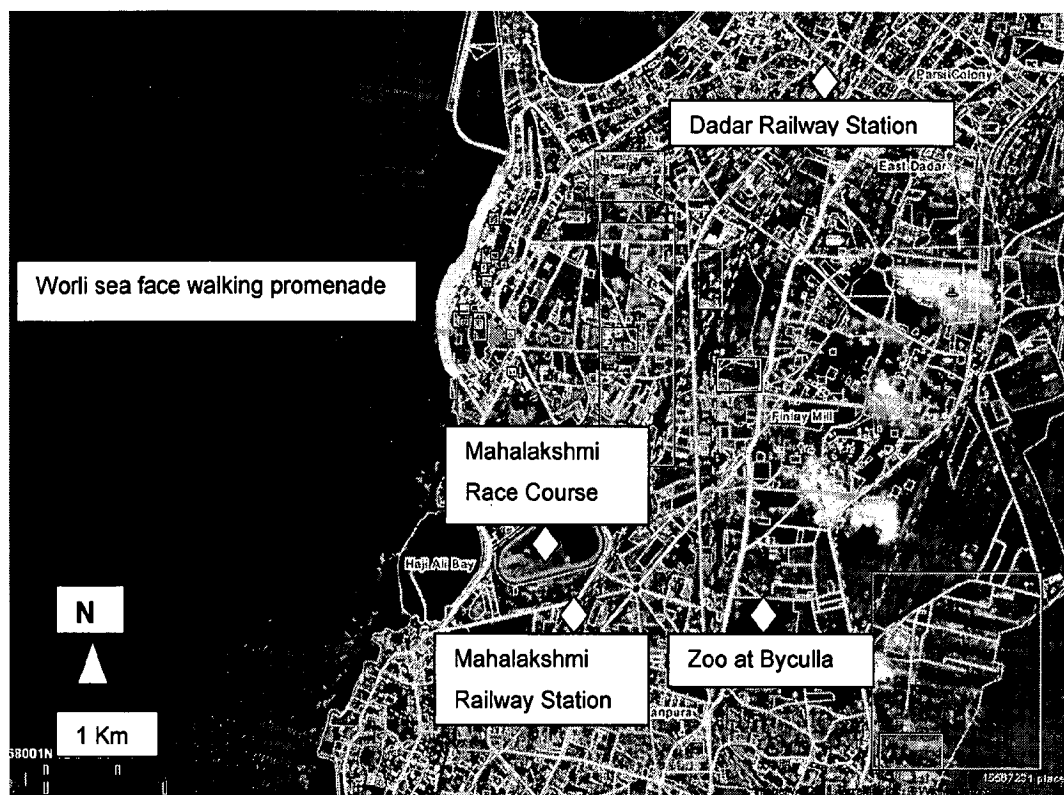


4.83 One of the sectors of the five gardens

17. The Worli Sea Face Walking Promenade: Ref. fig. 4.12 for location in ward 'G/S'

The Worli sea face is lined by a walking promenade. It is a six meter wide paved path running along sea on one side and Khan Abdul Gafaar Khan Road on the other side. This road meets the Bandra Worli Sea Link as travelled towards north along the sea face. (Fig. 4.85)

This promenade is use by the local residents for their walking and jogging regime. College students and other people come to the promenade to sit, enjoy the sea breezes and the view of sun-set. (Fig. 4.86) The promenade provides sitting spaces at regular intervals. To make it an active public space, this area should be introduced with interesting activities.



4.24 Google map showing location of the walking promenade at Worli sea face



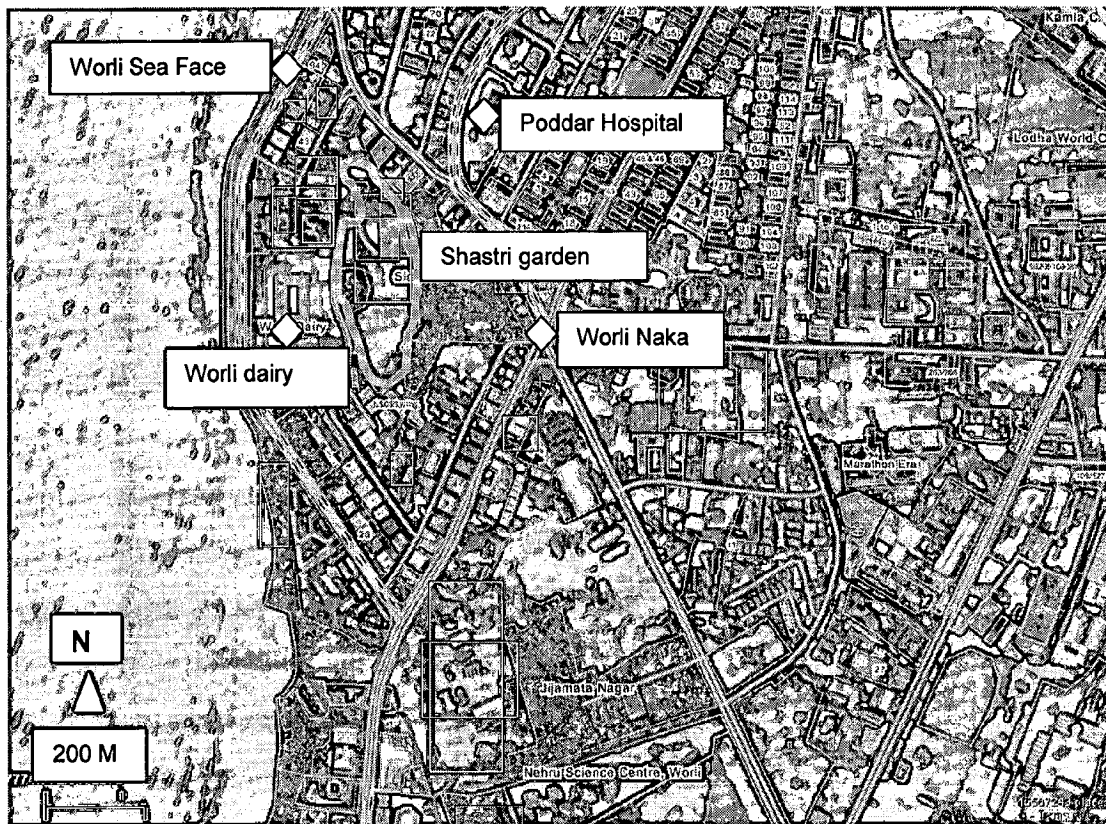
4.85 View of the promenade



4.86 College students enjoying at the parapet of promenade

18. The Shastri Garden: Ref. fig. 4.12 for location in ward 'G/S'

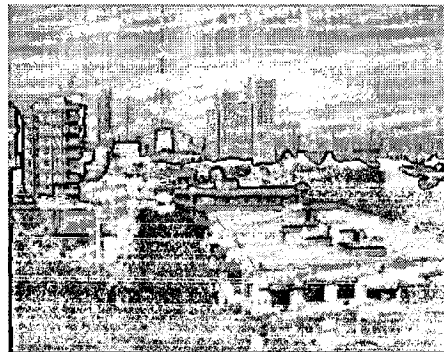
The Shastri Garden is situated on the Worli water reservoir of Mumbai. It is a protected area to avoid contamination of water. This garden is not accessed by all the people and only locals are allowed to avail the space. There is no proper entrance or gateway to the park. Being situated at a hill, it is accessible by a flight of steps. The stairway does not provide any idea about the park being located above on the hill. (Fig 4.88) The surrounding development can be seen from the garden. (Fig 4.89) The surrounding development can be seen from the garden.



4.87 Google map showing location of Shastri Garden



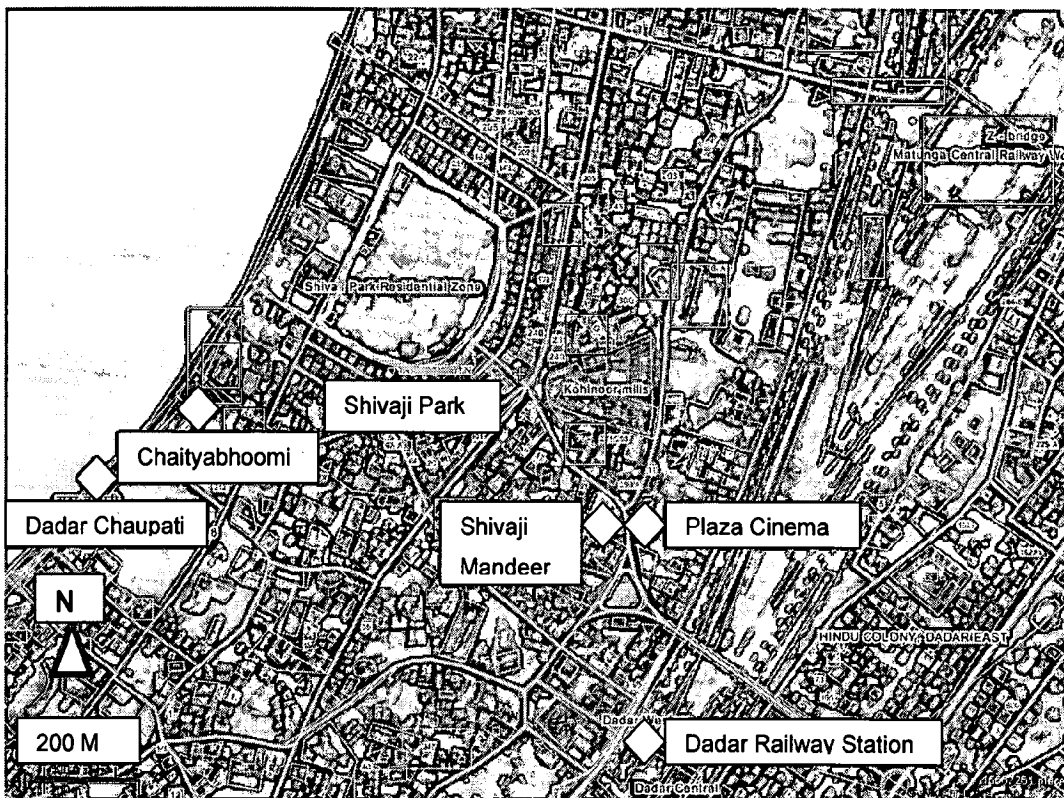
4.88 The stairway towards garden



4.89 View of surroundings from the garden

19. Shivaji Park: Ref. fig. 4.13 for location in ward 'G/N'

The ground is flanked around its edge by a *katta* (*parapet*), which is a popular hangout for young and old Mumbaikars alike. On a typical weekend evening it is difficult to get a place to sit on the *katta*.

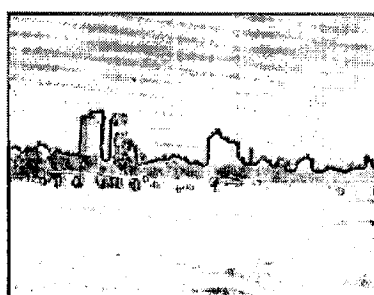


4.90 Location of Shivaji Park

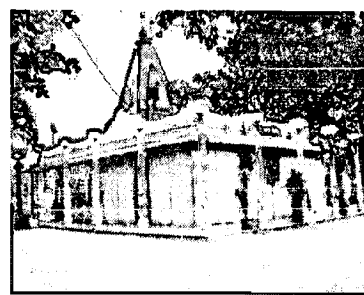
The walkway around the perimeter is crowded with people taking walks. The ground is busy with young cricket players. Various attractions are spread over the grounds, including the Samarth Vyayam Mandir (gymnasium), Shivaji Park Nagarik Sangh (established in 1947), Shivaji Park Gymkhana (club), Children's Park, Nana-Nani Park, Scout's Pavilion (which is a popular venue for marriages), Udhyan Ganesh Mandir (Ganesh temple), The Bengal Club and a library. The walkway is lined with huge rain trees.



4.91 The walkway around the park



4.92 the playground

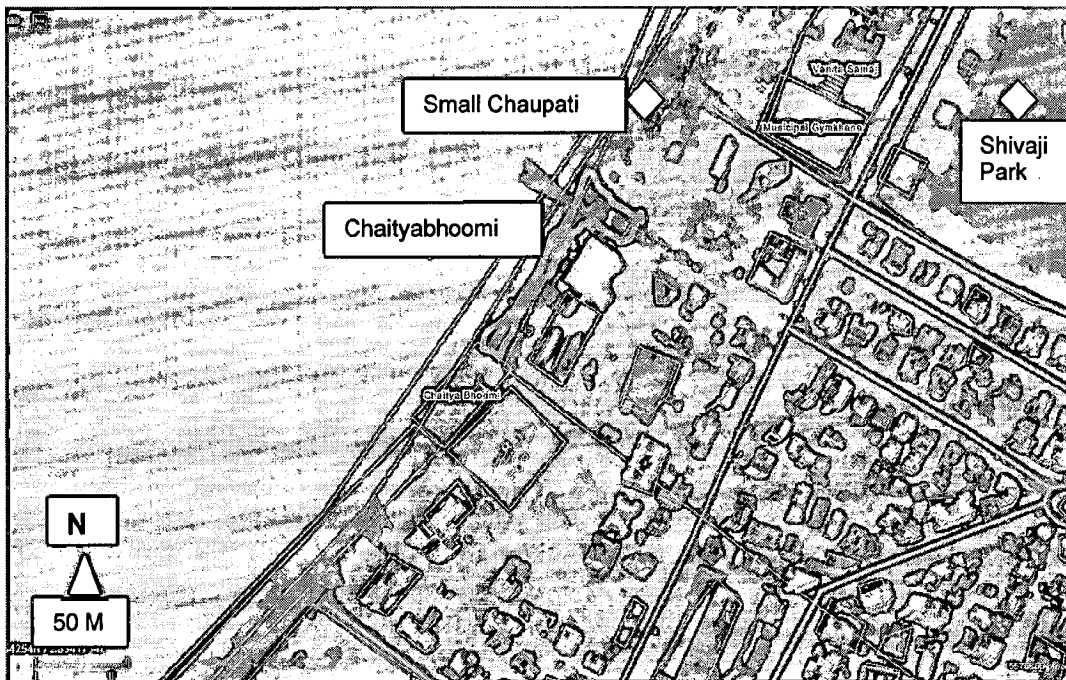


4.93 The Ganesh Temple

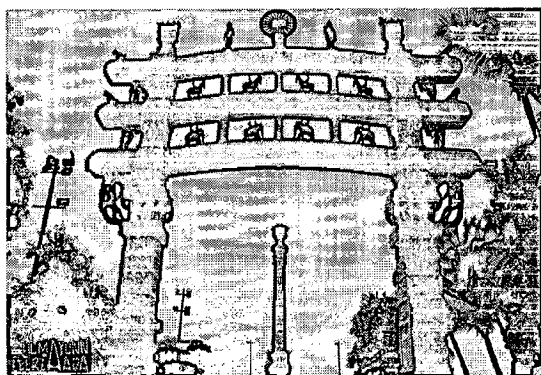
20. Chaityabhoomi: Ref. fig. 4.13 for location in ward 'G/N'

Dr. Babasaheb Ambedkar, architect of Indian Constitution, was cremated here after his death on 6th December, 1956. This place was later converted into Chaitya Bhoomi which is a National Monument.

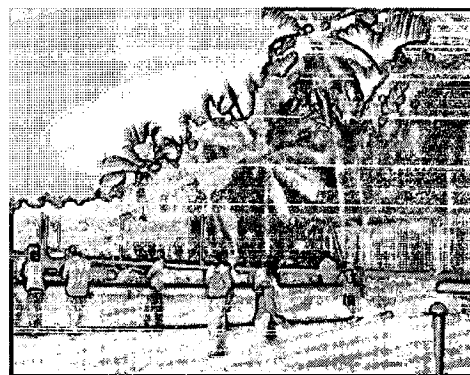
The space has stone paved plaza with pillar and an intricate Buddhist style gateway. (Fig. 4.95) The plaza juts into the sea. From the plaza one can see the sun set, shinning Mumbai in the evenings as well as the newly constructed Bandra Worli Sea Link. There are number of stalls selling souvenirs of Dr. Babasaheb Ambedkar. They are shack like structures and must be redesigned in order to improve the visual quality of the plaza. (Fig. 4.97)



4.94 Google map showing location of the Chaityabhoomi at the Dadar Chaupati

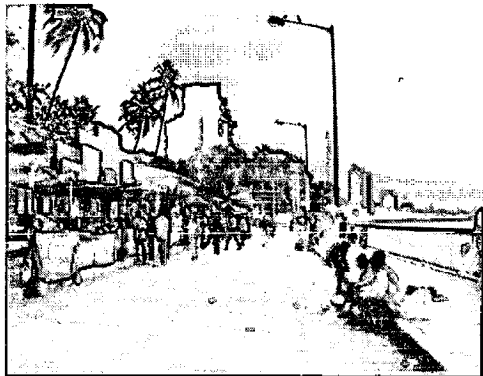


4.95 Well defined entrance of the Chaityabhoomi monument



4.96 People standing at the plaza parapet, with no place to sit.

The plaza needs to be provided descent sitting spaces for people to wait at plaza and the watch sea. (Fig. 4.96) The food vendors can be shifted to the plaza area and the small chaupati, which can be accessed by a descending ramp from the plaza (fig. 4.98) can be maintained cleaner with only play and other sorts of activities.



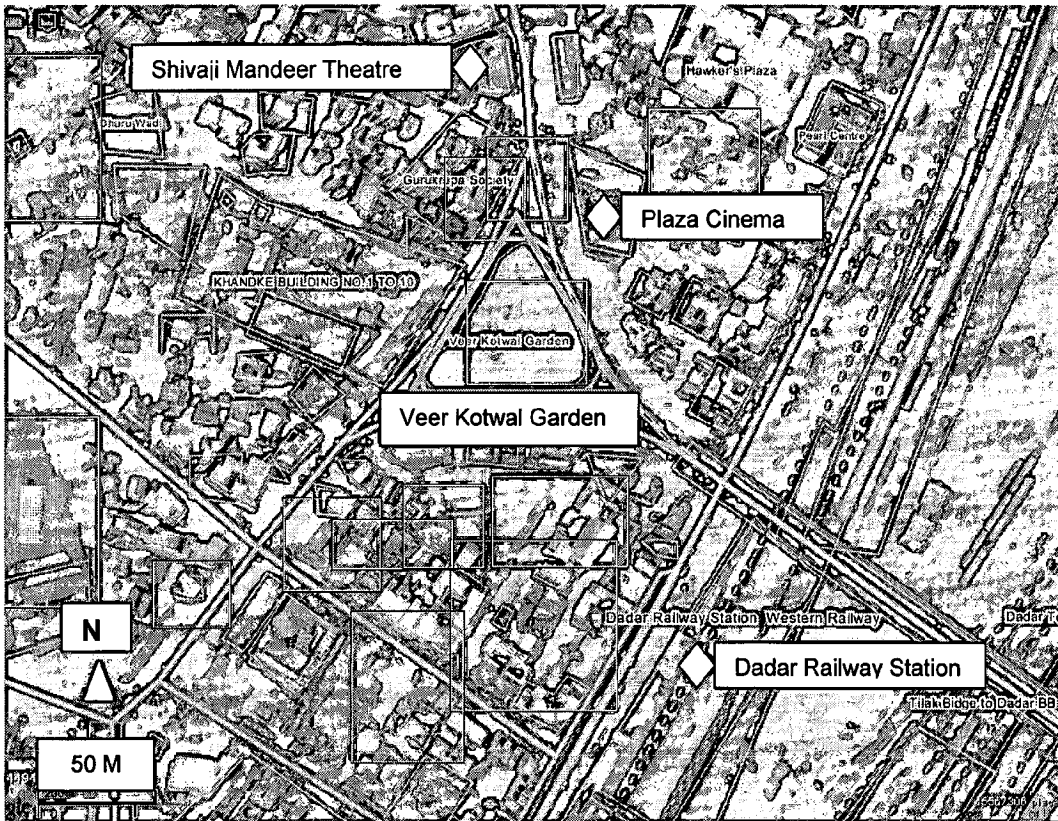
4.97 The stalls need to be redesigned, and sittings should be provided at the plaza



4.98 The walkway to the beach needs improvement and the chaupati needs to be cleaned

21. Veer Kotwal Garden: Ref. fig. 4.13 for location in ward 'G/N'

The Veer Kotwal garden has always been a platform for public meetings and discussions. It was in ruins a few months back which has received a facelift recently by MCGM. The garden which also doubles up as a traffic island is levelled with red sand, a walking track, seating arrangements, a play area for children, bollard lighting, a gazebo and fencing. (Fig. 4.101 and 4.102)



4.100 The Google map showing location of Veer Kotwal Garden along with the landmarks nearby



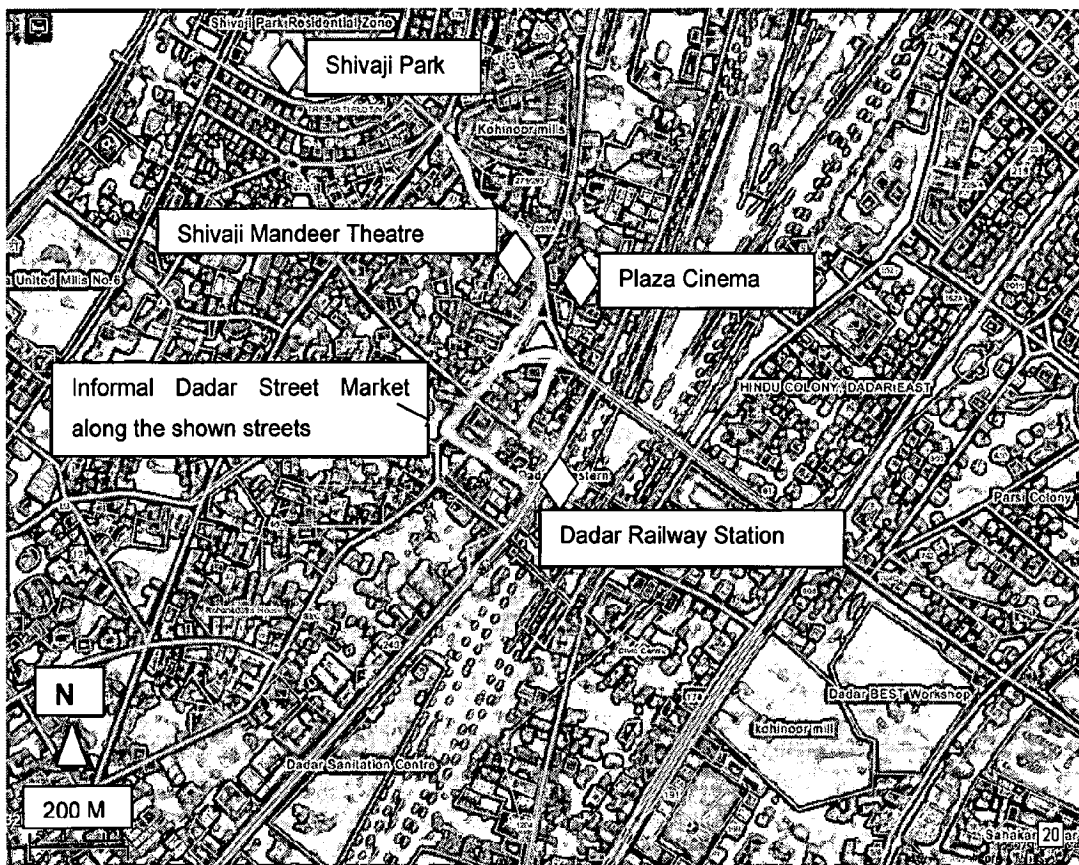
4.101 The OAT integrated in the landscapes of the garden



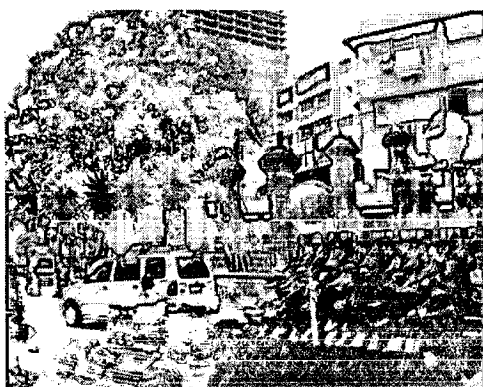
4.102 The Gazebo for holding meetings and discussions

22. Dadar Market: Ref. fig. 4.13 for location in ward 'G/N'

Dadar market is a very popular shopping destination for residents of central Mumbai, the suburbs, and distant satellite towns. The pavements in this area are full of vendors. This is one of the largest areas covered by informal sector in Mumbai city. The market sells anything and everything at unbelievably cheaper costs. This market flourishes especially during the time of festivals like Deewali, Christmas, Eid etc. (Fig 4.104)



4.103 Google map showing location and stretch of Dadar Street Market



4.104 View of market in festive season



4.105 Mehandi artist at the market area

4.6 Evaluation and comparative analysis of the surveyed public spaces:

Each of the surveyed public space was evaluated with help of the prepared scheduled. (For schedule, ref. Annexure 1)The schedule is common for evaluation of all the public spaces on the basis of four most important parameters which are accessibility, activities in the space, comfort and image of the space and the publicness or sociability. The public spaces thus compared give an overall idea about the public realm of Mumbai city wards, their user groups, success rates, activities that help a public space famous, as well as the famous typology of the public spaces.

This chapter comprises of the evaluation matrix used for evaluating the performance of the surveyed public spaces and their comparison to each other. The total scores achieved by each of the space are stated in the chapter along with the correlation analysis of total scores to individual parameters.

4.61 The evaluation matrix:

The following table explains the evaluation matrix for Gateway of India. The qualitative parameters are quantified as one point for bad or low quality, two points for having good or moderate quality mentioned and three points for the very good or high quality of the parameter.

Sr. No.	Parameter	Poor/ Absence (0)	Unsatisfactory/ Low (1)	Good/ Moderate (2)	Very Good/High (3)
A.	Access & Linkages				
1	Can people use a variety of transportation options to reach the space?				√
2	Are transit stops conveniently located next to the space?				√
3	Is the space visible from a distance?				√
4	Is its interior visible from the outside?/ Visual linkage				√
5	Is there a good connection between the space and the adjacent buildings?				√
6	Does the space has view from all around or has blank walls?				√

7	Can people easily walk to the space?				√
8	Do sidewalks lead to and from the adjacent areas?			√	
9	Is the space universally accessible?				√
10	Do the roads and paths through the space take people where they actually want to go?				√
	Points			2	27
A.	Access & Linkages			Total	29

Sr. No.	Parameter	Poor/ Absence (0)	Unsatisfactory/ Low (1)	Good/ Moderate (2)	Very Good/High (3)
B.	Comfort & Image				
11	Does the space make a good first impression?				√
12	Are there more women than men?				√
13	Are seats conveniently located?			√	
14	Do people have a choice of places to sit?			√	
15	Is the space clean and free of litter, open drains & insanitary conditions?			√	
16	Is the space maintained well?			√	
17	Does the area feel safe?				√
18	Are people taking pictures?				√
19	Are there many photo opportunities available?				√
20	Is the space free from danger of vehicles and other activities/elements?				√
21	is the space free from sources of irritation/ nuisance?				√
	Points			8	21
B.	Comfort & Image			Total	29

Sr. No.	Parameter	Poor/ Absence (0)	Unsatisfactory/ Low (1)	Good/ Moderate (2)	Very Good/High (3)
C.	Uses & Activities				
22	Is the space intensely used?				√
23	Is it used by people of different ages?				√
24	Are people in groups, apart from singles and pairs?				√
25	Are diverse activities occurring?				√
26	Are all parts of the space used?				√
27	Is the space managed well whenever required?				√
28	Are activities and uses spontaneous and varying with time and season?			√	
	Points			2	18
C.	Uses & Activities			Total	20

Sr. No.	Parameter	Poor/ Absence (0)	Unsatisfactory/ Low (1)	Good/ Moderate (2)	Very Good/High (3)
D.	Sociability or Publicness and Belongingness				
29	Is this a place where people would choose to meet their friends?				√
30	Are people engaged in activities/talking with one another?				√
31	Can strangers or visitors feel comfortable?				√
32	Do people bring their friends and relatives to see the place?				√
33	Are people smiling/friendly/ at ease?				√

34	Does it have a presence of a mix of age, gender and ethnic as well as economic groups?				√
35	Are people involved in the maintenance of the space?				√
	Points			1	18
D.	Uses & Activities			Total	19
Total Score A+B+C+D					97

The above matrix is applied to each of the surveyed public space.

4.62 Grading the public spaces, based on their scores:

The above matrix shows that the maximum points to be achieved in the survey schedule are hundred and five whereas the minimum points achieved can be zero. Then the scored points are graded as given below:

Table 4.16 Grading based on score

Sr. No.	Score Range	Rank	Quality
1	105-84	1	Very Good
2	84-63	2	Good
3	63-42	3	Satisfactory
4	42-21	4	Unsatisfactory
5	21-0	5	Poor

4.63 Evaluation of the surveyed public spaces:

Table 4.17 Scores of surveyed Public Spaces

Sr. No.	Name	Classification	Area (SQMTRS)	Ward	Access & Linkages Out of 30	Comfort & Image Out of 33	Uses & Activities Out of 21	Sociability or Publicness or Belongingness out of 21	Total Out of 105
1	Horniman Circle Garden	Park	12021	A	23	22	17	17	79
2	Azad Maidan	Playground	128820	A	26	7	9	3	45
3	Khau Galli CST	Hawking zone	1973	A	28	11	16	13	68
4	The Asiatic Library Steps	Frontage of Public Building	543	A	23	26	10	12	71
5	Kalaghoda Art Precinct	Street Precinct	10390	A	23	22	12	12	69

6	Fashion Street	Street Market	4015	A	20	18	10	12	60
7	Gateway of India	Monument with Plaza	19620	A	29	29	20	19	97
8	Cross Maidaan	Playground	64530	A	13	9	9	3	34
9	Oval Maidan	Playground	89030	A	26	7	9	3	45
10	S. K. Patil Garden	Park	11516	C	20	20	18	19	77
11	Hanging Gardens	Garden	28247	D	15	27	16	18	76
12	Priyadarshini Park	Park	65000	D	16	22	16	14	68
13	Girgaon Chaupati	Beach	83627	D	24	24	19	19	86
14	Kamala Nehru Park	Park	29195	D	21	29	20	20	90
15	Joseph Baptista Park	Park	6070	E	12	24	13	17	66
16	Mancherji Joshi, Five Gardens	Park	28394	F/N	25	14	12	12	63
17	Shastri Garden	Park	15480	G/S	4	16	10	9	39
18	Worli Sea Face	Walking Promenade	30368	G/S	16	24	14	14	68
19	Shivaji Park	Playground	112937	G/N	25	24	20	19	88
20	Dadar Chaupati	Beach	3800	G/N	12	12	7	7	38
21	Chaityabhoomi Park	Park	5417	G/N	16	29	19	17	81
22	Chaityabhoomi	Monument with Plaza	3500	G/N	15	18	9	8	50
23	Veer Kotwal Garden	Park	2240	G/N	20	26	18	17	81
24	Dadar Market	Street Market	13844	G/N	27	15	13	9	64

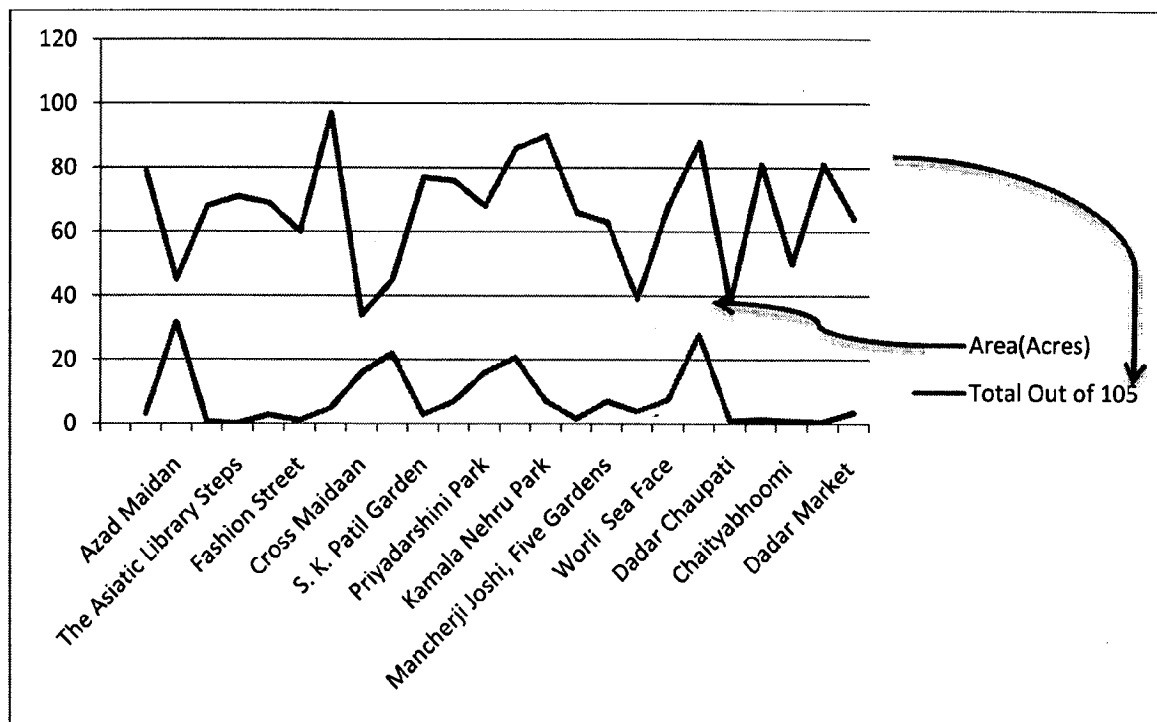
The above table gives the scores of each of the surveyed public spaces. These spaces are arranged as per their classifications in the following table, thus giving an idea of the variety of public spaces available in the city wards.

To understand the relation of success of a public space to its area, the above twenty four surveyed public spaces are arranged with increasing areas, with their total scores. Following table shows the relationship of area of a public space to its success.

The following graph explain that there is no relation of how a public space is successful to the area of that public space. The public space does require specific area for the various activities it can hold together, but, there are evidences where the areas of the spaces are really small, and the space is better successful than other spaces where the area

of the public space much larger. For eg. Area of the Veer Kotwal Park is much smaller (2240 sqmt.) but it scores a total score of 81 points whereas the Oval Miadaan is much larger and ranks as third largest in terms of area, the score of the Oval Miadaan is just 35, which second last in terms of points.

The graph below explains this better as the lines expressing the total score and the area of the public space are not parallel to each other whereas they are completely against each other at many points.



4.106 Graph of the public spaces' score against their area

Table 4.18 Classification of surveyed public spaces

Sr. No.	Classification	Nos.
1	Playground	4
2	Park	9
3	Garden	1
4	Monument with Plaza	2
5	Hawking zone	1
6	Street Market	2
7	Street Precinct	1
8	Walking Promenade	1
9	Frontage of Public Building	1
10	Beach	2
	Total	24

The above breakup of the available surveyed public spaces in the city wards of Mumbai shows clearly, that there are public spaces in forms of parks and playgrounds. Whereas not much development is found in form of gardens, street markets, front spaces of public buildings. Majority of the boundary of the city is sea, but there are a few beaches to experience in the city due reasons like safety and security of the navy area, the port trust and major shipping activities. The city seriously lacks in having public squares, public plazas and pedestrian street precincts as public spaces for the common people. Such spaces should be carved out along the existing activities of the city and integrated with the city to have a better quality of life for common people.

Table 4.19 Public spaces arranged in increasing score w.r.t. access and linkages

Sr. No.	Name	Classification	Area(SQMTS)	Total Out of 105	Access & Linkages Out of 30
1	Shastri Garden	Park	15480	39	4
2	Joseph Baptista Park	Park	6070	66	12
3	Dadar Chaupati (Small)	Beach	3800	38	12
4	Cross Maidaan	Playground	64530	34	13
5	Hanging Gardens	Garden	28247	76	15
6	Chaityabhoomi	Monument with Plaza	3500	50	15
7	Priyadarshini Park	Park	65000	68	16
8	Worli Sea Face	Walking Promanade	30368	68	16
9	Chaityabhoomi Park	Park	5417	81	16
10	Fashion Street	Street Market	4015	60	20
11	S. K Patil Garden	Park	11516	77	20
12	Veer Kotwal Garden	Park	2240	81	20
13	Kamala Nehru Park	Park	29195	90	21
14	Horniman Circle Garden	Park	12021	79	23
15	The Asiatic Library Steps	Frontage of Public Building	543	71	23
16	Kalaghoda Art Precinct	Street Precinct	10390	69	23
17	Girgaon Chaupati	Beach	83627	86	24
18	Mancherji Joshi, Five Gardens	Park	28394	63	25
19	Shivaji Park	Playground	112937	88	25
20	Azad Maidan	Playground	128820	45	26
21	Oval Maldan	Playground	89030	45	26
22	Dadar Market	Street Market	13844	64	27

23	Khau Galli CST	Hawking zone	1973	68	28
24	Gateway of India	Monument with Plaza	19620	97	29

In the above table, the points scored by the space are arranged in ascending order to analyse the total score against the score in the category of access and linkages. The above table puts forward clearly that the success of a public space is directly proportional to the accessibility to the space. Not only physical connectivity but also visual connectivity and accessibility become the major factor in deciding fate of a public space. Public space like the Gateway of India, Dadar street market, Shivaji park etc. are used extensively as they are very easy to reach by people with the use of public transport and intermediate public transport services.

Table 4.20 Public spaces arranged in increasing score w.r.t. uses and activities

Sr. No.	Name	Classification	Area(SQMTS)	Total Out of 105	Uses & Activities Out of 21
1	Dadar Chaupati	Beach	3800	38	7
2	Azad Maidan	Playground	128820	45	9
3	Cross Maldaan	Playground	64530	34	9
4	Oval Maidan	Playground	89030	45	9
5	Chaityabhoorni	Monument with Plaza	3500	50	9
6	The Asiatic Library Steps	Frontage of Public Building	543	71	10
7	Fashion Street	Street Market	4015	60	10
8	Shastri Garden	Park	15480	39	10
9	Kalaghoda Art Precinct	Street Precinct	10390	69	12
10	Mancherji Joshi, Five Gardens	Park	28394	63	12
11	Joseph Baptista Park	Park	6070	66	13
12	Dadar Market	Street Market	13844	64	13
13	Worli Sea Face	Walking Promenade	30368	68	14
14	Khau Galli CST	Hawking zone	1973	68	16
15	Hanging Gardens	Garden	28247	76	16
16	Priyadarshini Park	Park	65000	68	16
17	Horniman Circle Garden	Park	12021	79	17
18	S. K. Patil Garden	Park	11516	77	18
19	Veer Kotwal Garden	Park	2240	81	18

20	Girgaon Chaupati	Beach	83627	86	19
21	Chaityabhoomi Park	Park	5417	81	19
22	Gateway of India	Monument with Plaza	19620	97	20
23	Kamala Nehru Park	Park	29195	90	20
24	Shivaji Park	Playground	112937	88	20

Activities are the main building blocks of the public spaces as we can see that the total success of a public space is directly proportional to the variety and range of activities available at a public space. One must plan and juxtapose a wide possibility of various activities or a collage of multiple activities in a public space to make it a success.

The other two important parameters are also responsible to make a public space successful. Image and sociability of a space is more important to make a space an appeal to women users. Women users find it extremely important to have a public space sociable, presentable, clean as well as safe both physically and psychologically.

4.6 Summary:

Mumbai city is the most densely populated city of India. It has grown in terms of population, per capita income, and availability of wages as well as the number of homeless people, people staying with no or mere infrastructure services also. The public spaces in Mumbai are mere and do not satisfy the requirements of a good public realm for a large city like Mumbai.

The city has number of public spaces, which are not equally distributed in the various wards of city. The total per capita availability of public spaces, in the city wards comes to be 0.57 square meters. This statistics are worked out on the basis of available public parks, gardens, playgrounds, recreational grounds, botanical gardens, as well as other built spaces like museums and aquariums which are accessible to common public either free of cost or at a very minimal token money for maintaining the space.

The evaluation matrix, used to compare the surveyed public spaces, also gives a common ground for ranking the public spaces. The surveyed twenty four public spaces are ranked as follows:

Sr. No.	Score Range	Rank	Quality	Nos.
1	105-84	1	Very Good	5
2	84-63	2	Good	13
3	63-42	3	Fair	5
4	42-21	4	Unsatisfactory	3
5	21-0	5	Poor	0

The entire analysis of the existing public realm of the city wards of Mumbai, makes it clear, that while planning for a public space in urban areas, firstly the planner should consider the wide possibility of activities that the space can handle. Immediate next important parameter of a public space in achieving success is the accessibility criterion. With these two major parameters, the space must have good image and comfort. The space should allow people from various social and economic backgrounds to come together and mingle.

This study gives an opportunity for finding the plus points as well as loopholes in the planning practices especially for public spaces which should be available to all the people in spite of their differences in social class, economical level, gender and age groups.

Also, the shortfalls in the existing public places are found out through this study. By understanding the spaces' behaviour, a comprehensive scheme could be identified and improvement proposals shall be made with help of this survey.

Chapter 5: ANALYSIS OF POTENTIAL BROWN FIELD SITES

- 5.1 *Introduction*
- 5.2 *Mill land in Mumbai*
- 5.3 *Study report of Charles Correa study group*
- 5.4 *Redevelopment possibilities as per Development Control Regulation (DCR 58)*
- 5.5 *Current scenario in MCGM for redevelopment of mill sites for public purposes*
- 5.6 *Parameters for selection of site*
- 5.7 *Selected sites*
- 5.8 *Overall development taking place around the potential sites
Development potential of the above discussed sites as public*
- 5.9 *Development potential of discussed sites as public spaces*

5. Analysis of potential brown field sites

5.1 Introduction

The Cotton Textile Mills in the Island city of Mumbai were India's first modern industry and show case to the external world of its capability to come out with one of the finest cotton at that point of time. The mills were located on lucrative stretches of lands in Central Mumbai, which were given to the mill owners at concessional rates by the colonial Bombay Government in order to promote industrial production. Mumbai's development as an economic hub was greatly enhanced by these very mills.

5.2 Mill land in Mumbai

Till the late Seventies, the Cotton Textile Mills were booming with activity but in 1982 things changed. The unorganized power looms sector had taken over and it was becoming uneconomical to maintain large scale industrial units within the city limits on account of high power and octroi costs. Moreover, the 18 month long crippling strike by the mill workers proved to be the final nail in the coffin. All this led to huge losses and the running of the Cotton Textile Mills became unviable. Several mills were declared sick and a few even shut down their operations. Only a few managed to survive. It is important to note that the textile mills constituted an important component of the manufacturing industry in Mumbai, which was the backbone of Mumbai's economy till eighties. There were 58 cotton textile mills in Mumbai. Of these, 26 were deemed 'sick' and, therefore, taken over by the Government of India. The remaining 32 mills continued in the private sector.

The sick textile mills were proposing to sell off part or whole of their land for quite some years, allowing the redevelopment of the land. At the same time, the Development Control Regulations (DCRs) of 1991 sought regulating the redevelopment of cotton textile mill lands so as to generate open spaces and public housing for the city, in a manner which would create coherent urban form. However, contrary to these intentions, several mills have closed down their operations, resulting in insecurity among labour on one hand, and piecemeal redevelopment of land on the other. In short, wherever the redevelopment of land has taken place in mill area, it has proved to be haphazard and totally commercial basis.

Against this backdrop, the Government of Maharashtra issued a notification on 29th February 1996 setting up a Study Group to prepare an integrated development plan for the textile mills land on the basis of certain principles specified therein. Essentially, these include:

- prepare an overall development plan and strategy to create coherent urban form;
- provide housing for low income groups;
- allocate land for civic amenities and infrastructure; and
- Generate new employment opportunities for the workers displaced by the closure of mills.

5.3 Study report of Charles Correa study group

The report is submitted way back in August 1996. Some key features of the Report are as follows:

- As a first step, the Study Group had appointed teams of architects, engineers and conservations to visit the mill lands and appraise as well as document the various structures and other prominent features in each of them. The Study Group then strategised the development of disposable textile mill land by dividing into three equal parts i.e., (one-third each to public housing to be developed by MHADA, open spaces and public amenities, and the textile mills themselves).
- The report gave detailed plans (including drawings) for the redevelopment of land in textile mills in the case of 28 mills under the NTC. These mills were visited by the Study team and the structures have been graded by the suitability or adaptability of buildings as well as the structural conditions of the buildings.
- It identified a triangular area between Matulya, Paragaon and Mumbai Mills, a sort of 'GoldenTriangle', for mutually beneficial redevelopment of the mill area. Since three major arterial roads – Senapati Bapat marg, N. M. Joshi Marg and Dr. Ambedkar Road – were located in the area, the redevelopment of the area would provide scope for improving the capacity of road as well as rail network. Similarly, it proposed the development of pedestrian plazas in front of the railway stations, shopping arcades for pedestrians along road lines, and also development of inter-modal junctions.
- Several old existing mill structures were not only memorable and valuable to be included in the 'Heritage' list, but were also found to be robust enough to be recycled for modern services like studios and offices. The recycling of such mill lands will lead to the creation of a city centre with distinctive character, vitality and ambience, which adds another dimension to this vital metropolis. Therefore, the committee

Heritage structures), and (iii) land allocation for the three purposes mentioned earlier along with an outline of the built form. This plan would be reviewed by a committee specially appointed by the Government for this purpose. The directives for the Committee should be mandatory for developing the ODP into a detailed proposal.

- In the outlook for more comprehensive redevelopment of the urban land, the Study Group also suggested large scale pooling up of land and its allocation to appropriate uses. The private sector mills could be encouraged to form a financial umbrella organization that would allow such regeneration. It also sought addressing of the other problem areas like chawl reconstruction, housing of shelter less, parking of inter-city buses, repairs and reconstruction of old buildings (while avoiding provisions under Rent Control Act and MHADA Act). It essentially outlined the need for comprehensive urban renewal plan for the Byculla-Parel- Dadar area.
- The Study Group also noted that the key factor in the process of achieving this comprehensive redevelopment is the availability of finance. It identified the immediate financial needs of the textile mills to:
 - Pay compensation to the mill workers who would be laid off;
 - Purchase land and machinery at alternate site where the mill would be shifted; and
 - Pay-off financial obligations.
- It sought facilitation of land laws that act as encumbrances for the free movement of industries and sought provision of finance to the mills through creation of corpus. The corpus was sought to be prepared through a consortium of banks and financial institutions. Further, it suggested advance trading on FSI may be allowed to facilitate the generation of funds for this purpose; alternatively, a separate financial institution could be set up for the purpose of fund generation.

5.4 Redevelopment possibilities as per Development Control Regulation 58 (DCR 58):

A huge amount of land within the island city had become available on account of either complete or partial closure of the textile mills. The fate of these unused mills began to be spelt out with the new Development Control Rules (DCR) for the city, framed in 1991. These rules permitted the sale of a portion of the mill land in order to channel funds into the revival of the mills. These funds were to be used for clearing off financial liabilities of the mill owners like workers' wages, VRS, retiring loans etc.

According to the DCR 58, in the case of redevelopment, entire mill land (either open or after demolition of existing structures) has to be distributed as follows:

- One third to the BMC for open spaces
- One third to the MHADA for public housing
- The rest to be used by the owner/developer for commercial development

Most of the private mills found the regulations of the DCR 58(1991) onerous and refused to go that way. Modifications to the original DCR were sought and in 2001 the government tabled an amendment to the DCR 58 (1991). According to the new rules, only the 'open land' on which there was no construction was to be distributed in the manner laid down in the DCR 58(1991). As a result of this policy change, a number of defunct private mill owners made a beeline to the civic authorities to have their plans for redevelopment passed and approved. The development of the sprawling mill lands in Central Mumbai momentum with BMC officially giving the green signal for the redevelopment plans of more than 15 private mills.

Further redevelopment of mill lands was also sought by the NTC who looked at selling 17 of its 25 mills in Mumbai and a proposal for the same was put forward to the BMC. In principle, the State Government policy (DCR 58 2001) regarding the mill lands sale seeks to divide the land equally for commercial purposes, low-income housing and open spaces so that two – thirds is handed over for public interest.

But in actuality, this policy failed to achieve its purpose. This became quite clear when NTC put forward its proposal to dispose its mills in Central Mumbai. According to the new provision, the NTC mill land coming to BMC and MHADA is a mere 38 acres when the total area of all the NTC mills combined is approximately 300 acres. Civic activists and architects tried to block the proposal as they believed that the city was entitled to a higher share of the mill lands. Mills have been seen as a rare and exciting opportunity for planned development in the city and few were ready to let it go. After a gap of more than a year (late 2004), NTC was granted the permission by BMC for sale of seven NTC units in Mumbai and NTC decided to go ahead with the same. Shortly thereafter, a public body approached the government saying that the ongoing mill land development was leading to overcrowding, hap-hazard planning and reduction of open space in the city. There was a general demand to re-look the DCR 58 (2001) and bring changes accordingly. Ensuing this controversy and chiefly to defer the sale of NTC and other private mill lands, a Public Interest Litigation (PIL) challenging the legality of the 2001 amendment to the DCR 58 (2001) was filed in the Bombay High Court in February 2005. A stay was sought on permissions being granted for further development under this rule and those pending clearances. The main contention was that the amendment is a major modification, which must be preceded by proper study and planning.

NTC has also got an approval for development of seven of its mills from the Supreme Court. All clearances had been obtained by NTC from the Maharashtra Government and BMC for the sale and redevelopment of seven of its mill lands. In an interesting move, the BMC and the State Government have accepted the seven mills as consolidated property when calculating the reservation for open spaces and public housing. While five are to be sold, the remaining two are to be handed over to the government authorities. The sale of five NTC mills will provide an additional development potential of approximately 3 million sq ft of space in the Central Mumbai real estate market.

It has been argued that the release of textile mill land has created a positive environment for development and reduced uncertainty in property markets, both of which led to improved performance of local markets in the border of CBD and suburbs. The property markets started functioning better as evident from property vacancies and this made other economic agents to react in a positive manner. Also larger changes in national and local economies after liberalization led to emergence of Mumbai's new position of financial hub that led to investment inflows – FDI and FII. These economic forces have been driving local demand for property, which has the properties of both investment and consumption good. Such strong forces of demand would have led to optimism in the outcomes and hence made a strong case for possessing property, which would give both consumption benefit and any expected surplus returns over and above the costs of holding it. Therefore, the changes in industrial land redevelopment is not only changing the physical and landscape contours of city but also underlying changes in property values, local economy and values.

5.5 Current scenario in MCGM for redevelopment of mill sites for public purposes:

From the above note, it is very much clear that the area of land that would be handed over to the MCGM, is really scarce as per the new DCR. Following is the list showing the lands handed over to MCGM, by November, 2009.

Table 5.1 Site areas handed over to MHADA and MCGM for redevelopment of mill lands in Mumbai according to DCR

Sr. No.	Name of the Mill	C.S.No. / Div. / Ward	Plot area (Sq.Mt.)	Proposal approved under D.C. Regn.	Proposed share to be handed over		Handed over to		Remark
					M.C.G. M. Area (Sq.Mt)	MHADA Area (Sq.Mt.)	M.C.G. M. Area (Sq.Mt.)	MHADA Area (Sq.Mt.)	

1	Apollo Mills	63 and 64 Lower Parel	56327.34 SqM.	Regn. 58(1)	7509.01	8419.19	I.D.S. for 1 to 7 mills are approved as per I.D.S. Entire MHADA share of 7 mills is earmarked in New Hind Mill. M.C.G.M. R.G. share is earmarked in United Mil No.2 and 3 (total mill area adm. 61,056.00 sq.mts. handed over in advance.)		
2	Mumbai Mills (Sukseria Mills)	464 Lower Parel	65723.17	Regn. 58(1)	10193.07	11428.59			
3	Jupiter Mill	841 and 882 of Lower Parel	48806	Regn. 58(1)	1095.8	1228.63			
4	Elphinstone Mills	612-613 T.P.S. IV Mahim	35215.35 (incl. chawl)	Regn. 58(1)	2562.6	2873.22			
5	Kohinoor Mill No.3	F.P.No.46, TPS III	19859.04	Regn. 58(1)	2852.69	2895.74			
6	India United Mills No.2 & 3	831 Mazgaon	64947.34 SqM.	Regn. 58(1)	7069.48	7926.88			
7	New Hind Textile Mills	749 and 8/716 Mazgaon Division	33727.65 SqM.	Regn. 58(1)	1961.63	2199.41			
8	Bombay Dyeing Mfg. Co. Ltd. (Lower Parel Unit)	C.S. No. 4/799, 807 and 809 of Lower Parel Division, P.B. Marg	1,00,498.74 SqM.	Regn. 58(2)	7052.86	5770.52	Nil	Nil	The proposal is for modernization Sharing is not attracted at this stage
9	Century Spg. & Wvg. Mills	C.S. No. 794, 1545 & 1546 of Lower Parel Div.	40,180.46* <u>79,834.36</u> 1,20,023.82	Regn. 58(1)	4744.99* <u>13,668.62</u> 18413.61	4888.78* <u>14,082.82</u> 18971.6	Nil	Nil	*Leasehold plot, no dev. Permission granted.
10	Dawn Mills	C.S. No. 243 of Lower Parel Div.	27,551.68 SqM.	Regn. 58(1)	1136.08 (Swan Sewree & Morarji)	929.51 (Swan Sewree)	1136.08 (648.00 +488.00)	929.51 (Swan Sewree)	
11 & 12	Hindustan Spg. & Wvg. Mills 1 & 2	1903 (pt), 1904 (pt), 1905, 1/1905, 2/1905 of Byculia Division Near Jacob Circle, San e Guruji Road.	61,520.36 SqM.	Regn. 58(1)	662.61 SqM.	542.13 SqM.	662.61 SqM.	542.13 SqM.	

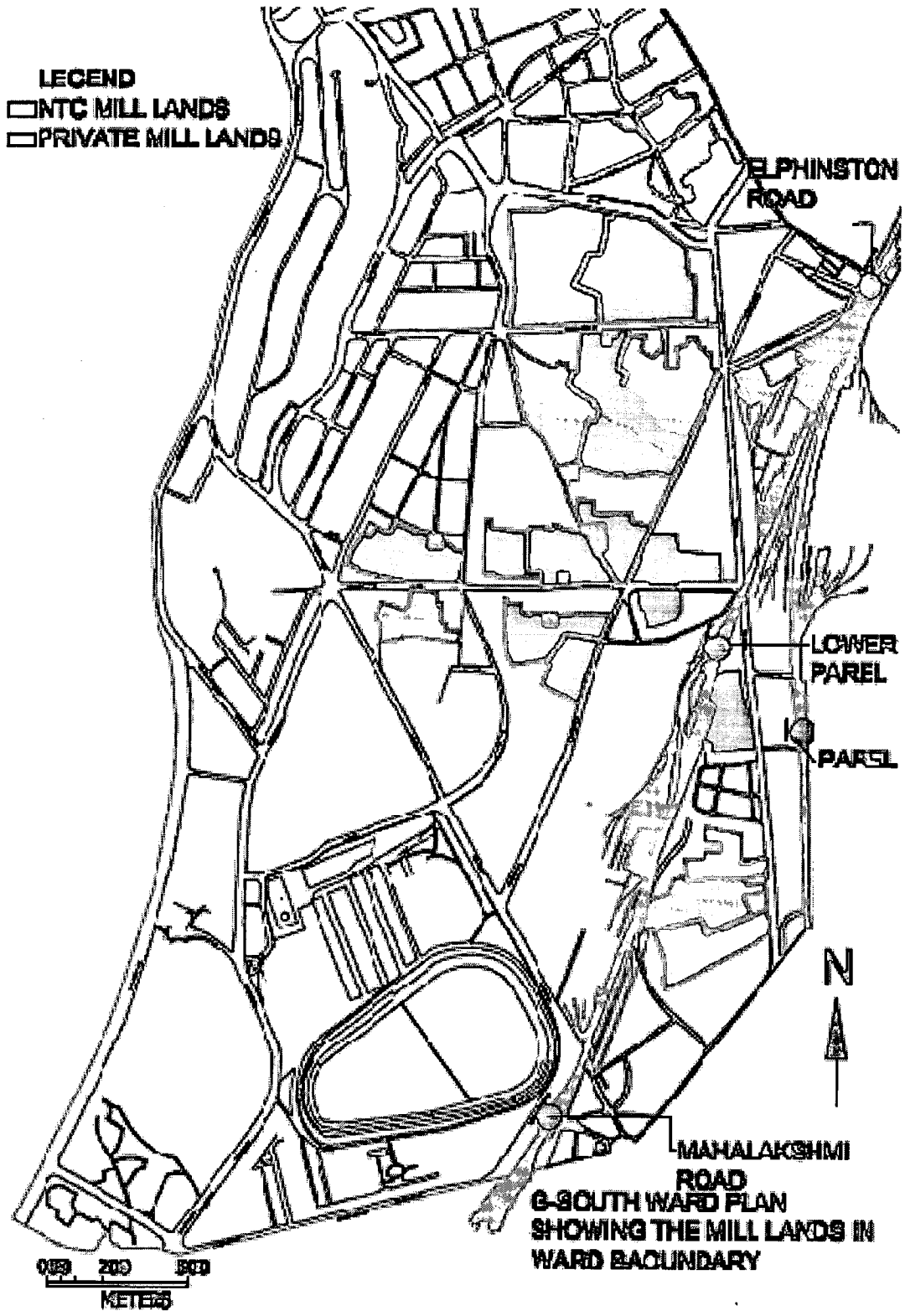
13	Hindustan Spg. & Wvg. Mills (3) & Process House	C.S.No.12 11, TPS IV, Mahim G/North	21489.3	Regn. 58(1)	735.99 sq.mt.	602.11 sq.mts.	735.99 sq.mt.	602.11 sq.mts.	
14	Maftal Mills Unit No.3	C.S. No. 166 Lower Parel Division. G/South	27,163.38	Regn. 58(1)	588.41	481.43	588.41	481.43	
15	Matulya Mills	C.S. No. 249 of Lower Parel Div.S.B.M arg	20,510.57 SqM.	OldReg.58 Regn. 58(1)	5641.40 * 474.68	4616.46 * 388.32	5641.40 * 474.68	4616.46 * 388.32	Handed over as per old DCR 58.
16	Modern Mills	C.S. No. 1895 (part) Byculla Division, Keshavrao Khadye Marg	49599.00 SqM.	Old Regn. 58	8626.56 SqM.	7058.12 SqM.	*8626.5 6 SqM.	*7058.1 2 SqM.	*(Hande d over as per old DCR 58.
17	Piramal Spg. & Wvg. Mills	C.S. No. 2/142, of Lower Parel Division.	34,749.78 SqM.	Regn. 58(1)	1741.10 SqM.	1424.58 Sq.Mt.	1741.10 SqM.	1424.58 Sq.Mt.	
18	Prakash Cotton Mills	C.S. No. 1/433, 434, 435,1/435, 470, 471,& 472 of Lower Parel Division.	52,400.89 SqM.	Regn. 58(2)	6193.68 . SqM.	5067.56 SqM.	-	-	
19	Ruby Mills	C.S.No.29 , TPS III, Mahim G/North	26082.15	Modified Regn.58(2)	667.06	545.77	-	-	The proposal is for moderni zation Sharing is not attracted at this stage.
20	Sriram Mills	C.S. No. 288,289,3 09,310 1/1540, 2/1540, 3/1540, 1547 etc. of Lower Parel Division.	68,304.60	Regn. 58(1)	2512.96 SqM.	2056.56 SqM.	2512.96 Sq.Mt.	2056.56 Sq.M.	
21	Simplex Mills	C.S. No. 1960, Byculla Division, Keshavrao Khadye Marg	36,553.80 SqM.	Regn. 58(1)	1376.28 SqM.	1126.00 SqM.	1376.28 SqM.	1126.00 SqM.	

22	Victoria Mills	C.S. No. 465 of Lower Parel Div. P.B. Marg	46,571.00 SqM.	Regn. 58(1)	1038.92 Sq.Mt	850	1038.92 Sq.Mt	850	
23 A	Western India Spg. & Wvg. Mills	2/126, Parel Sewree Division in F/South Ward	11084.16	Regn. 58(1)	1234.24	1009.83	966.29	Nil	
23 B	Western India Spg. & Wvg. Mills (MSTC)	126, Parel Sewree Division	28924.14	Regn. 58(1)	3607.83	2951.8	Nil	Nil	
24	Bombay Dyeing Mfg. Co.Ltd. (Dadar-Naigaon Unit)	223, 1/983, 1/128 of Dadar Naigaon Division	138255.77	Regn. 58(2)	25775.04	26556.1	Nil	Nil	The proposal is for modernization Sharing is not attracted at this stage
25	Gokuldas Morarji Mills No.1.	C.S.No.63 /74, 101 of Parel Sewree	77711.31	Regn. 58(1)	5221.83	5682.3	5221.83	6096.97	
26	Gokuldas Morarji Mills No.2	265, 266, 4/267, 5/267 of Lower Parel Division	49951.89	Regn. 58(1)	2374.12	1942.46	2374.12	1942.46	
27	Standard Mills No.1	C.S.No.5/ 209, 210 of Parel Sewree	29958.44	Regn. 58(1)	1525.14	1247.84	1525.14	1247.84	
28	Standard Mills No.2	F.P.No.10 90, 1092 TPS V Mahim	40792.06	Regn. 58(1)	1247.8	1020.93	1247.8	1020.93	
29	Swadeshi Mills, Kurla			Old Reg 58 Regn. 58(1)	15,414.80 15,414.80	12612.1 12612.1	15,414.80* 15,414.80	12612.1* 12612.1	*Handed over as per old DCR 58
30	Swan Mills, Sewree	C.S.No.18 0, 188, 206, 1/207, 2/207 Parel Sewree	48927.28	Regn. 58(1)	4526.75	4103.03	4526.75	4103.03	
31	Swan Mills, Kurla	C.S.No. 81 & 83 of KUrla Village	44782	Regn. 58(1)	3967.48	3246.12	3967.48	3246.12	

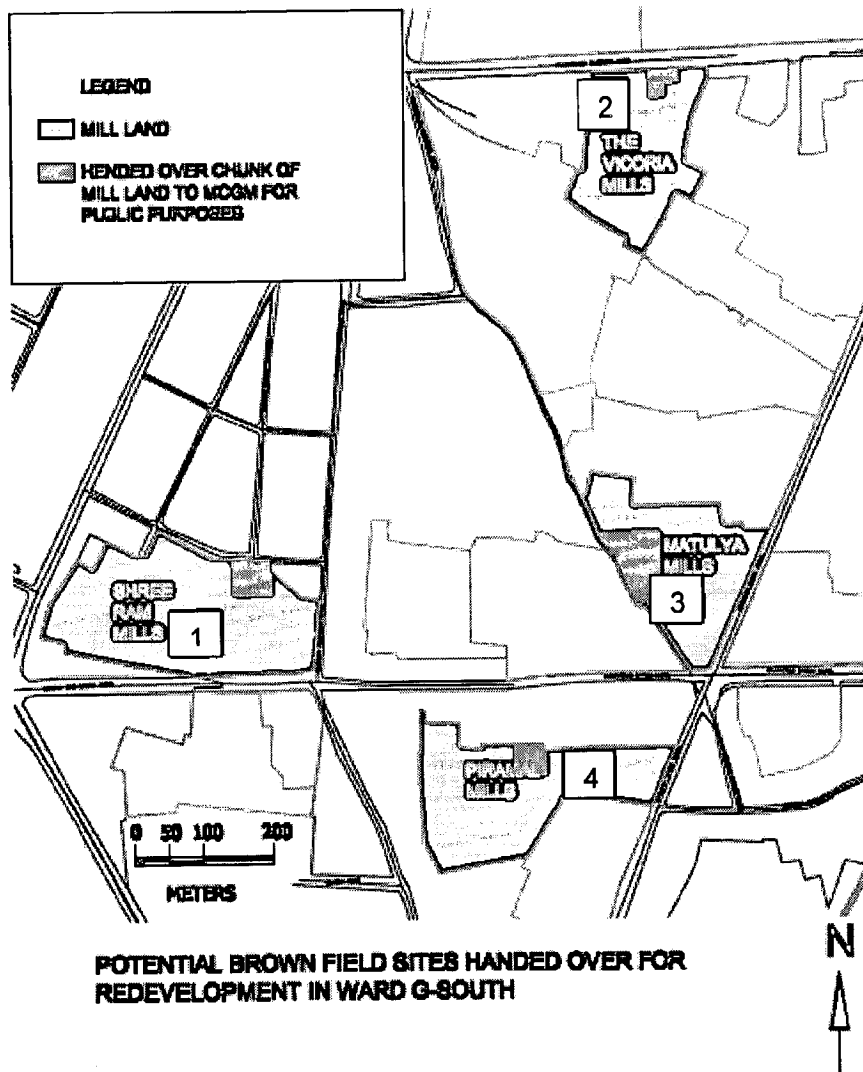
5.6 Parameters for selection of site

- Area of Site
- Location of the site
- Limitations for the survey
- Availability of Information

From the above parameters ward G-South is identified as the study area for proposal. The officials of the building proposal department of the MCGM, could readily provide the information of sites coming in the boundaries of G-South. Also, being in the same ward, onsite survey could be done. There are following sites which are already handed over to the MCGM for their development for public purpose.



5.1 Map showing location of mill sites in ward G- South



5.2 Map showing the potential sites handed over to MCGM for development for public purpose

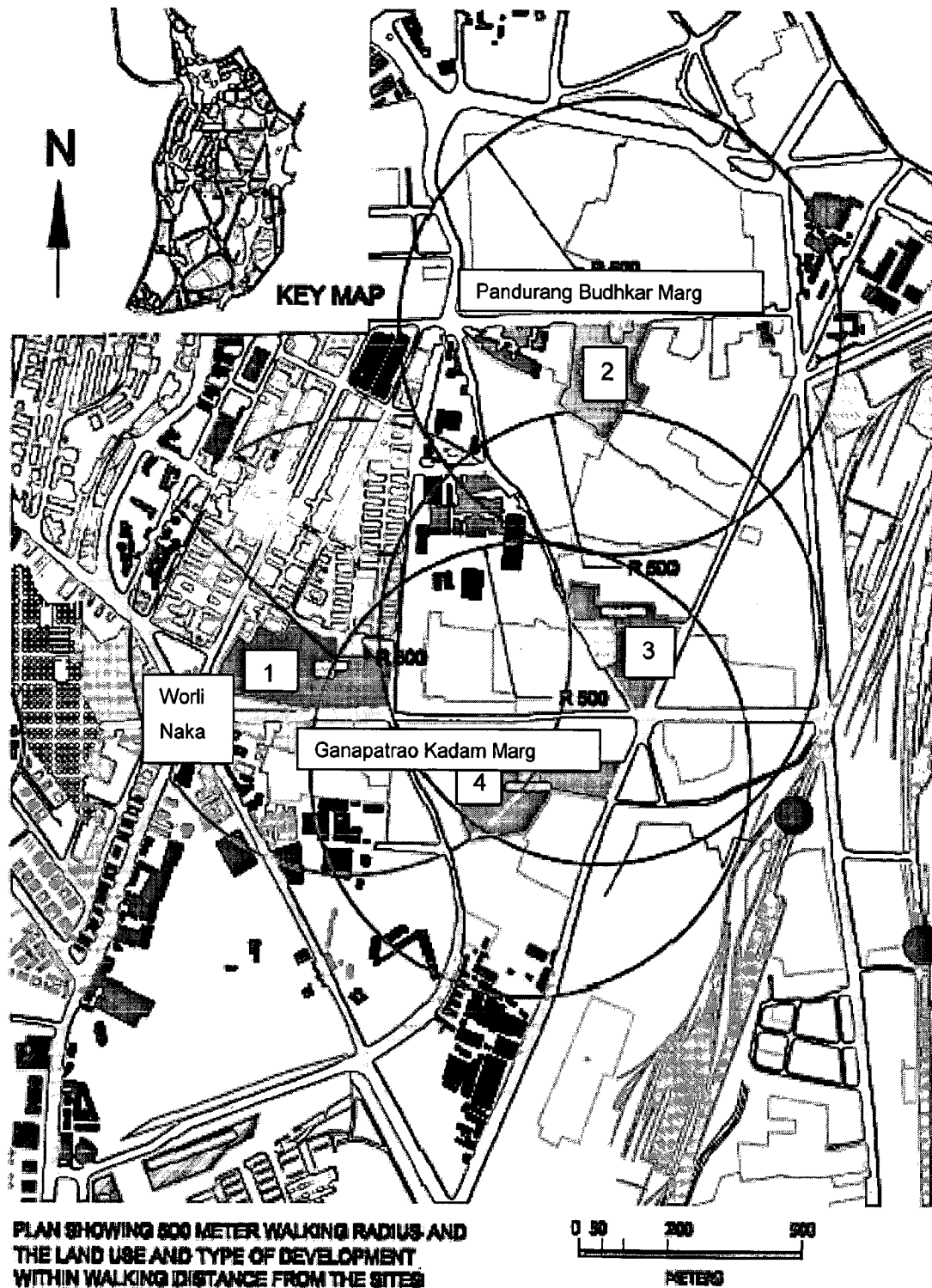
5.7 Selected sites

1. Sri Ram Mills: 2512 Sq. Mt.
2. Victoria Mills: 1038 Sq. Mt.
3. Matulya Mills: 5641 Sq. Mt.
4. Piramal Mills: 1741 Sq. Mt.

5.8 Overall development taking place around the potential sites:

The G-South ward is undergoing a major urban renewal on the sites of the mill lands. Most of the development is commercial or high end residential. This makes it clear that the future population of the ward would be much more than the existing population and huge employment generation will be taking place at the end of this decade or so.

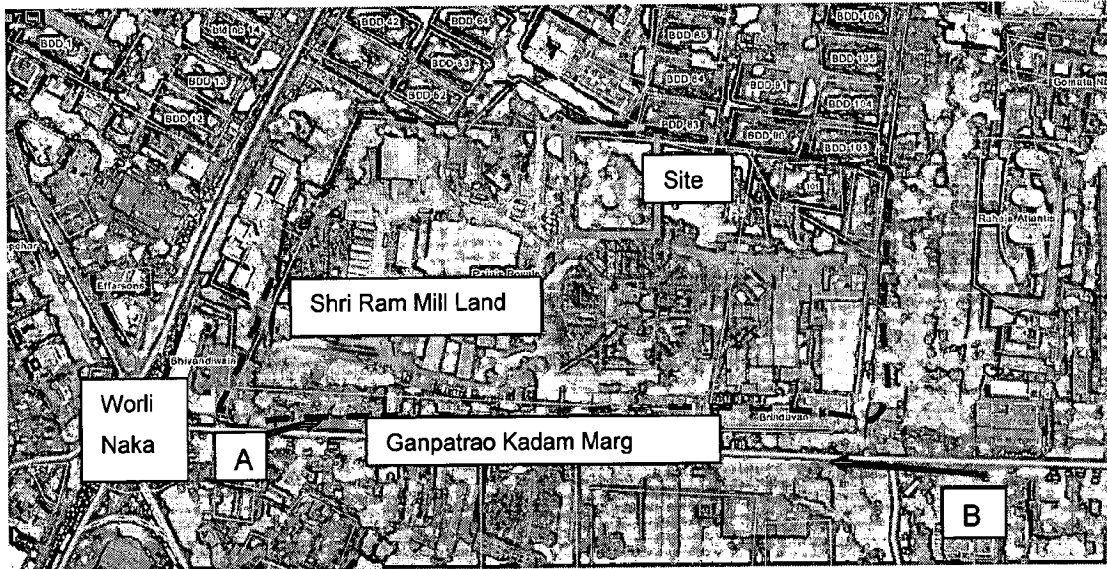
The above selected sites are considered for proposing public spaces based on the considerations drawn from the literature and the detail survey carried to analyse the existing public realm of Mumbai city. The plan below explains the type of development and activity pattern along with the accessibility of a site by means of public transport and by walk.



5.3 Map showing the land use and type of development within 500 meters i.e. walking distance from the potential site

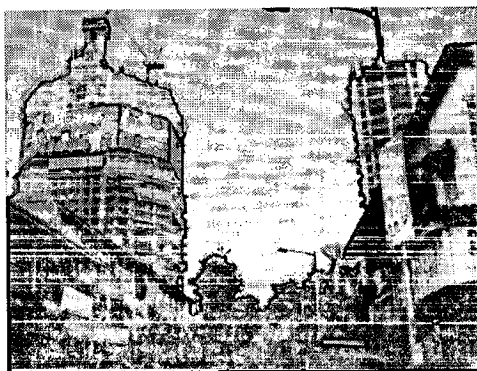
1. Shri Ram Mills: 2512 Sq. Mt.:

Shri Ram Mills is located on the Ganapatrao Kadam Marg. It is next to a major traffic junction Worli Naka.



5.4 Google image showing the site and surrounding development

The development around this site is mainly middle income and lower income residential. Large area of BDD chawls, housing middle class people with really small houses fall in the walking distance from this site location. While designing a proposal for this site, major user group will be residing in the above mentioned area. There is large commercial development taking place in the surroundings which will be attracting large population for living and working to this area.



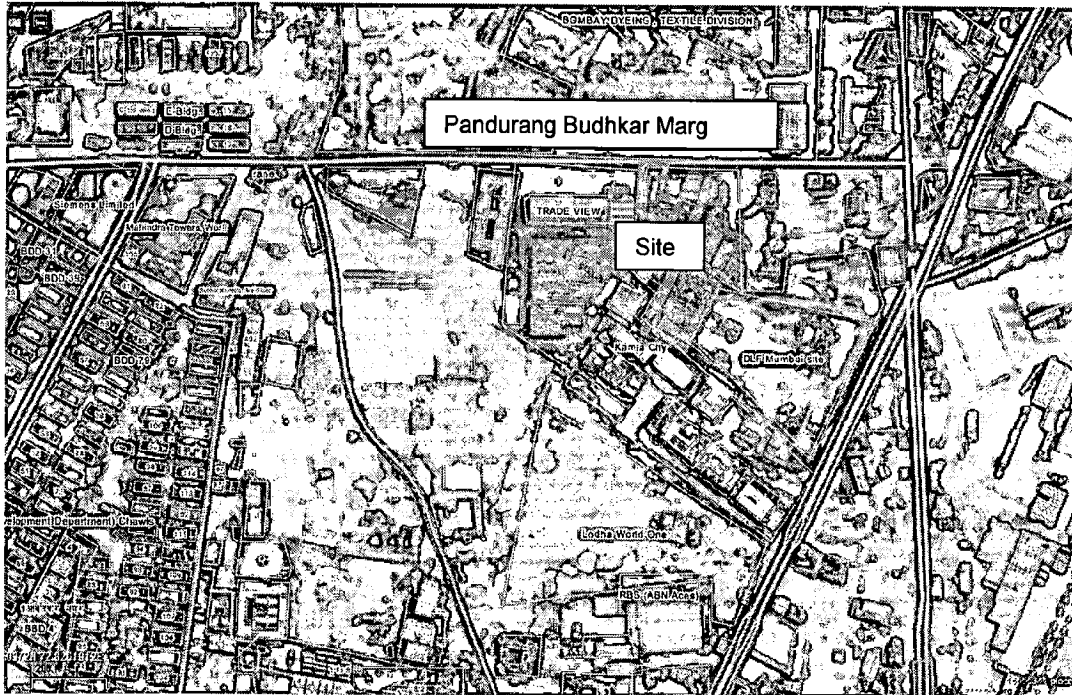
5.5 View from location 'A'



5.6 View from location 'B'

2. Victoria Mills: 1038 Sq. Mt.

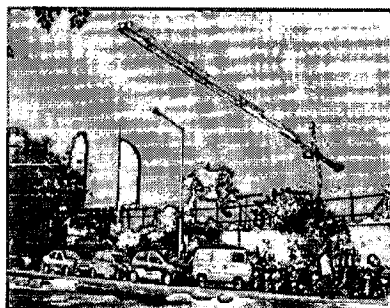
The Victoria Mill is located along a major traffic route Pandurang Budhkar Marg. The potential site is also having an access from the main road. The surrounding development of this site is mainly commercial with some industrial units and offices. This place is near from the Elphinston Road railway station and can be reached on foot within 10 minutes. It falls within 600 meters from the railway station. Majority of the people working in the surrounding areas walk from the railway station to the working place.



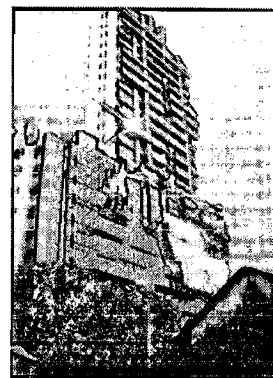
5.7 Google image showing location of potential site on the Pandurang Budhkar Marg



5.8 Footpath dwellers along Pandurang Budhkar Road



5.9 Parking at the Pandurang Budhkar Road

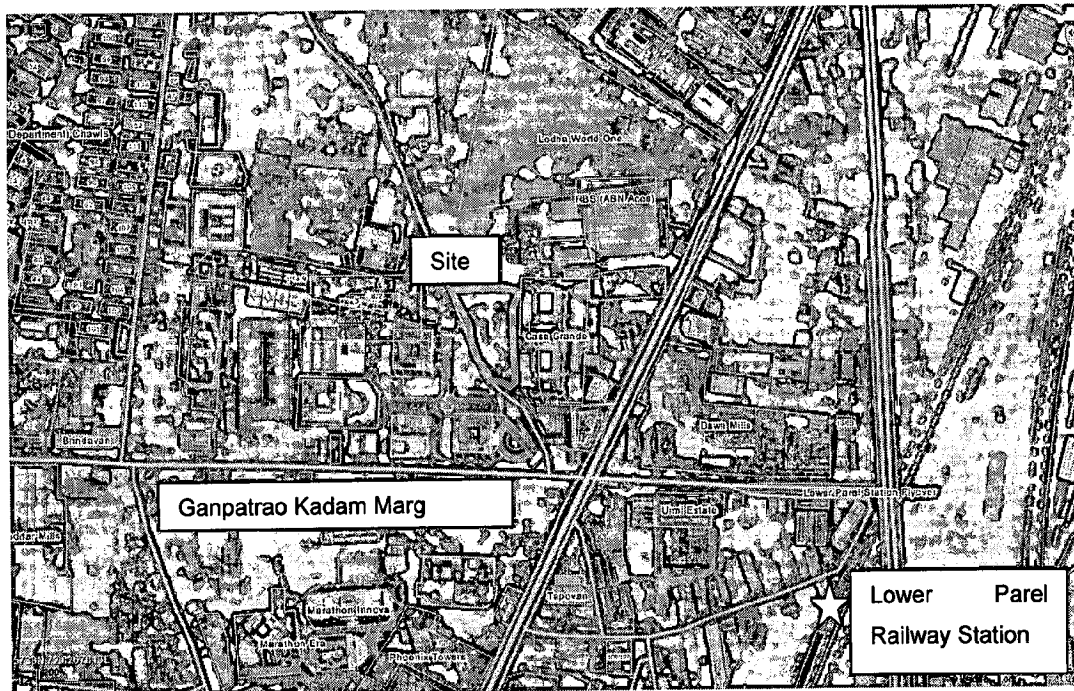


5.10 Redevelopment projects in the nearby vicinity

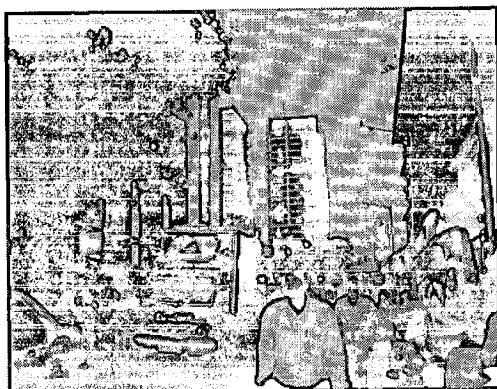
3. Matulya Mills: 5641 Sq. Mt.:

Matulya Mill is located at an important road junction connecting the major Western Railway stations, Elphinston Road and the Lower Parel. Huge commercial development has taken place already in the range of 500 meters from the site. Also large scale high end residential development is found nearby. There are a lot of low income residential localities, which are having high density of population can be found in surrounding of the site. Suburban railway station Lower Parel is within 600 meters from the potential site.

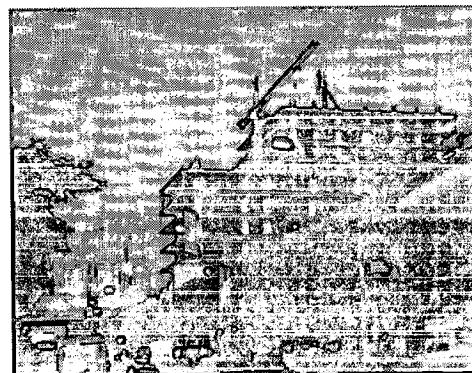
This site has great potential for becoming a city level public space with the high connectivity and accessibility and having user groups from all the social and economic groups.



5.11 Google image showing location of the potential site and the surrounding land use with the accessibility by public transport



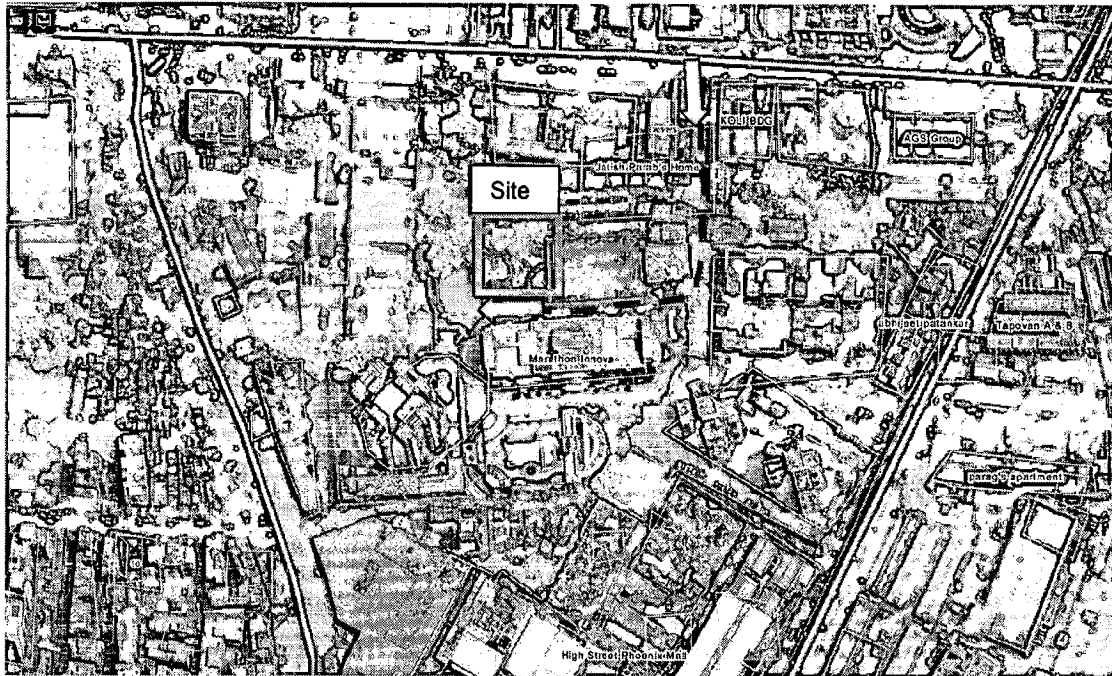
5.13 Development around the Matulya mill site



5.12 Ongoing development for high end commercial and residential development with existing low end residential development

4. Piramal Mills: 1741 Sq. Mt.:

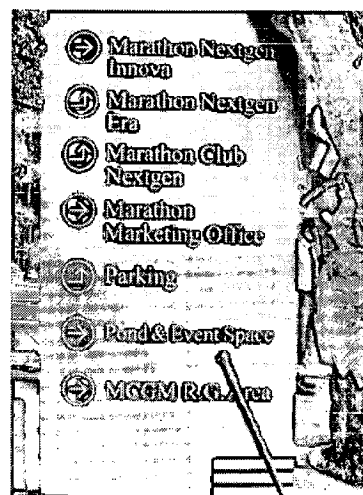
The location of this potential site questions the accessibility, as the site is comes in the boundary of a completely private premise. It is not visible from any of the main streets and is approachable by a private road, which is guarded by security personnel. The people staying nearby are aware of this space and can use this space at certain time of a day. A large water pond is located next to the site which provides an opportunity for development of an exciting public space along it.



5.16 Google image showing the location of the potential site and the access road to the site



5.14 The low end residential locality nearby the site



5.15 The signage pointing the MCGM park area inside the private complex

5.9 Development potential of the above discussed sites as public spaces:

The sites are having varying sizes and different surrounding land uses. This enables planners and designers to understand potential of each of the space to be developed as a public space based on various parameters as discussed in the literature review. Site like one at the Matulya Mill has high benefit of accessibility, whereas the one at the Shri Ram Mill has large population group of same economic and social level. The users of the space at the Vicotoria Mills will be mainly from the working age while the ones at the Piramal Mill site will be more of local residents.

The sites available for the development of the public spaces would be catering to different user groups i.e. from the local residents to the working population in the area. The development in G south ward is taking place through redevelopment of mill sites, as the sky high commercial and residential complexes are coming up. The location and area of the sites available for proposals give an opportunity to develop a hierarchy of public spaces in ward starting from a neighborhood public space to a ward or city level public space.

Note:

While surveying the above sites and analysing their potential, it was found that out of the above four sites two sites located at the Piramal Mill and the Matulya Mill are already developed as public spaces by MCGM. These spaces are surveyed and critically analysed for their usage in the chapter of the proposals for integrating public spaces.

Chapter 6: PROPOSALS FOR PLANNING PUBLIC SPACES

6.1 *Objective*

6.2 *Proposals*

6. Proposals for Planning Public Spaces

This chapter explains the detail proposals on the select mill sites, improvement schemes to improve the usage intensity of the selected public spaces out of the twenty four surveyed public spaces; estimating the population of the selected G/S ward, after the redevelopment and land use change, thus enabling to understand the future need of public space in the ward as well the general policies and guidelines to be considered while planning for public spaces in urban areas in order to cater the population of various social and economic classes. All the policies and guidelines can be applied to the entire city as well as other cities in the country depending on the parameters like the available area, the target population or the user group, surrounding land uses and last but not the least the connectivity to these spaces.

Thus the chapter is mainly divided in four parts, three being as the policies and guidelines for planning public spaces, improvement schemes for the surveyed public spaces and the proposals of appropriate public spaces in the select mill sites. The last part of the proposal discusses the need of a large city level public space and the possibility to provide in the potential brown field site of the selected ward G/S.

6.1 Objective:

The main objective of the proposal is to improve overall public realm of the city in the identified locations by retrofitting the existing conditions of the public spaces with improvement schemes. To achieve the same, four of the surveyed public spaces are selected on the basis of their classification and total scores achieved by them. These spaces are planned for the desired activities in an organized way, to become successful public spaces. The improvement schemes are worked out in detail and three dimensional modelling is executed.

In order to integrate more public spaces as per the policies of MCGM, the mill sites (handed over to MCGM as per DCR 58, for development for public purpose) in the selected G/S ward are analysed on the basis of their area, the surrounding land uses and the available physical connectivity by means of the public transport options to plan the necessary public spaces.

After studying the development pattern in the ward G/S, the total built up area creation on various mill sites in the ward is projected with help of the DCR and population rise expected due to this redevelopment in the ward is worked out. These figures are then analysed with the average per capita availability of public space and the deficiencies are

checked out. Considering the percentage increase in population, the percentage increase in public spaces by the way of redevelopment of handed over mill sites to MCGM as per DCR 58, is calculated. With this comparison, a need for a city level public space is established and an apt site from the mill sites is proposed to house the city level public space.

The general guidelines and planning policies which should be considered while planning public spaces in the cities are written in detail based on the literature reviewed, case studies and surveyed public spaces.

6.2 Proposal:

6.21 Improvement of Existing Public Spaces:

The surveyed public spaces can be improved by addition or deletion of certain features and activities. Also many of the spaces need an overall face lift to make the spaces successful. After the detailed analysis, following public spaces are given improvement measures and various aspects to make the public space even more successful are worked out in detail -

1. Azaad Maidaan
2. Kalaghoda art precinct
3. Chaityabhoomi
4. Khau Galli (CST)

The above improvement schemes are discussed in detail with visuals explaining the existing and future conditions of the public spaces.

1. Azaad Maidaan:

This is the largest playground in the surveyed public spaces in the city wards of the Mumbai city. The playground is primarily used for playing cricket. To improve the activity on the playground and the use intensity certain improvements are proposed as follows.

Existing activities:

- Playing: Cricket and little part used for playing football
- Small portion of the playground is dedicated to have political as well as religious demonstrations by people.
- The small pedestrian pathway is used by thousands of commuters to reach their work places as well as to interchange the local railway lines i.e. from Western Railway to Central Railway.
- Unauthorised hawking takes place at this pedestrian connection.

The user age group:

- The players playing cricket come from an age group of 10 yrs. to 30 yrs. The players are regular visitors of the playground for availing the best possible cricket coaching at the ground. These all are men.
- The pedestrians using the walkway are working people ranging from 20 yrs. old to 60 yrs. old people which are inclusive of women.
- Hawkers and shoppers at the pedestrian connection are also from the working population age group.

Problems identified:

- The playground can be used only in the day light.
- The pedestrian connection is exposed to the weather conditions and the monsoon period makes it very difficult to be used. (Fig. 6.2)
- The hawkers are unauthorised and create obstructions to the pedestrians.
- There is no provision for people walking to wait and enjoy the game taking place at the playground. (fig. 6.1)



6.1: A panoramic view of Azaad Maidaan, showing the pedestrian walkway with no weather protection and people waiting to watch the game for a while



6.2: Bad condition of the pedestrian walkway with hawkers along with

Proposed improvements:

a. Provision of high masts in the playground:

Light on playground will allow the players to play till late nights. Matches and games can be organized even during the night times, thus the use intensity of the playground can be increased twice. Majority of the days, the coaching takes place in three sessions viz. the early morning i.e. from 8.00 to 10.00 am, morning session from 11.00am to 1.00 pm and the evening session from 3.00 pm to 5.00pm. With lights on the ground, the play can start as early as 6.30 am – 7.00am and it can go on till 9.00pm in the nights. Also the club matches, college tournaments and office tournaments can be played in the late nights as night matches.

This will not only improve the playground, but the surrounding areas will become safer even after the regular office hours.

b. Developing the pedestrian walkway with hawking zone:

The walkway which crosses the ground is destination oriented. People, who use the path, are everyday users of the walkway. They need to reach their destinations in minimum possible time with utmost possible comfort. Such small and simple pedestrian connectors help in day to day commutation of the working population of Mumbai.

The pedestrian walkway needs to be paved and should be provided with shade/ shadow of trees to make the walk a pleasurable activity. Also the hawkers must be allotted certain area along the walkway in such a way that both the pedestrians and the hawkers with their buyers can co-exist without being hassles for each other. These will be the vendors having selling items which do not dirty the area like food stalls. For e.g. books, bags, footwear, flowers, etc. can be made available at this stretch. The sketches given below explain the possibility of allowing the hawkers to be lined along one edge of the walkway and keeping the other edge free to allow visual connectivity to the players. There should be sittings provided on the other edge of the walkway to allow people to wait and watch the game and hang around in the space making it not only an important destination for players but also to other common people and the working population in the area.

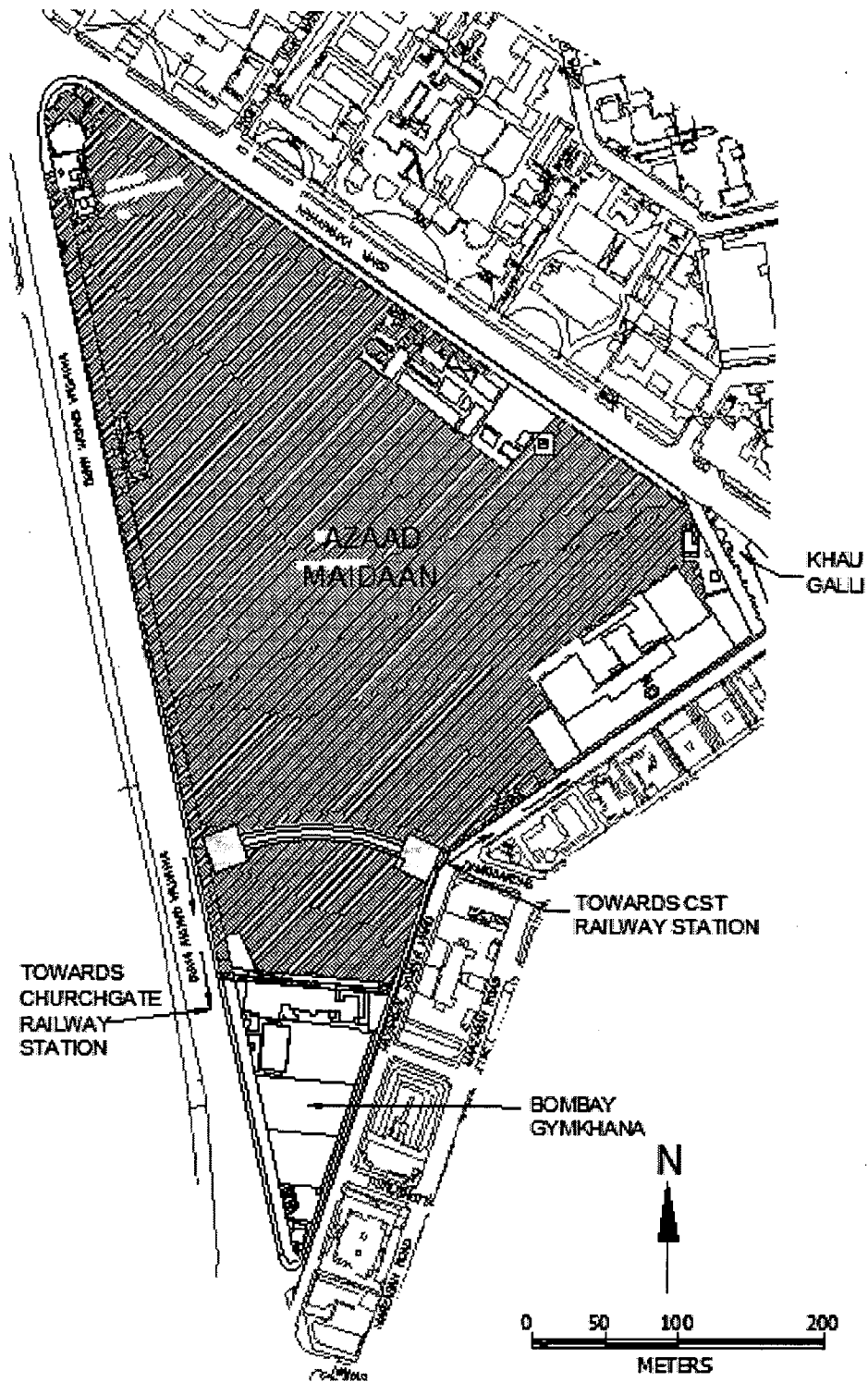
At the ends of the walkway a small pedestrian plaza should be created in order to provide public conveniences. These plazas will not only become activity nodes for the people but they will also become meeting points and informal sector activity will flourish. Certain food stalls will attract people and people will attract more people in order to make it a successful public space.

To shade the hawking zone, the sittings as well as the stalls in the plaza light weight steel and tensile structures should be used. These help defining the public space and weather protection partially if not complete. Installation of light fixtures is an inevitable component in making the walkway safe and friendly for all the people at all the times.

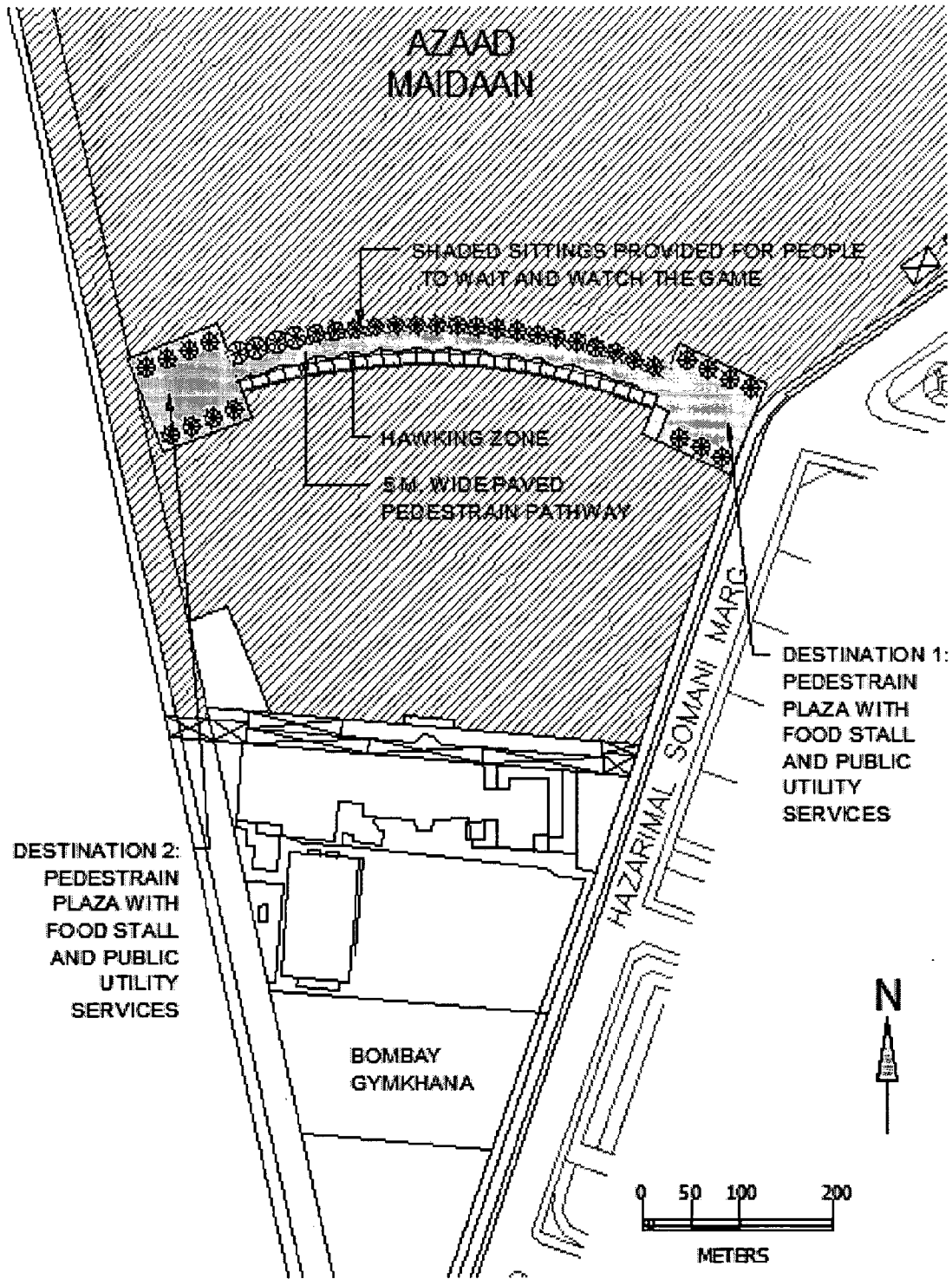
c. Demonstration area development:

Various public demonstrations, meetings as well as political addresses take place at corner of the Azaad Maidaan. The area is extremely untidy and is a dark spot in the surrounding urban landscape. Due to the activities this area is always guarded by police. There are no facilities either for the guards or for the gathered people. The guards should be provided with better waiting area and better sitting arrangements. The people gathering for demonstrations should be made available with appropriate sitting facility and public addressing facility. Public conveniences are utmost important to be provided.

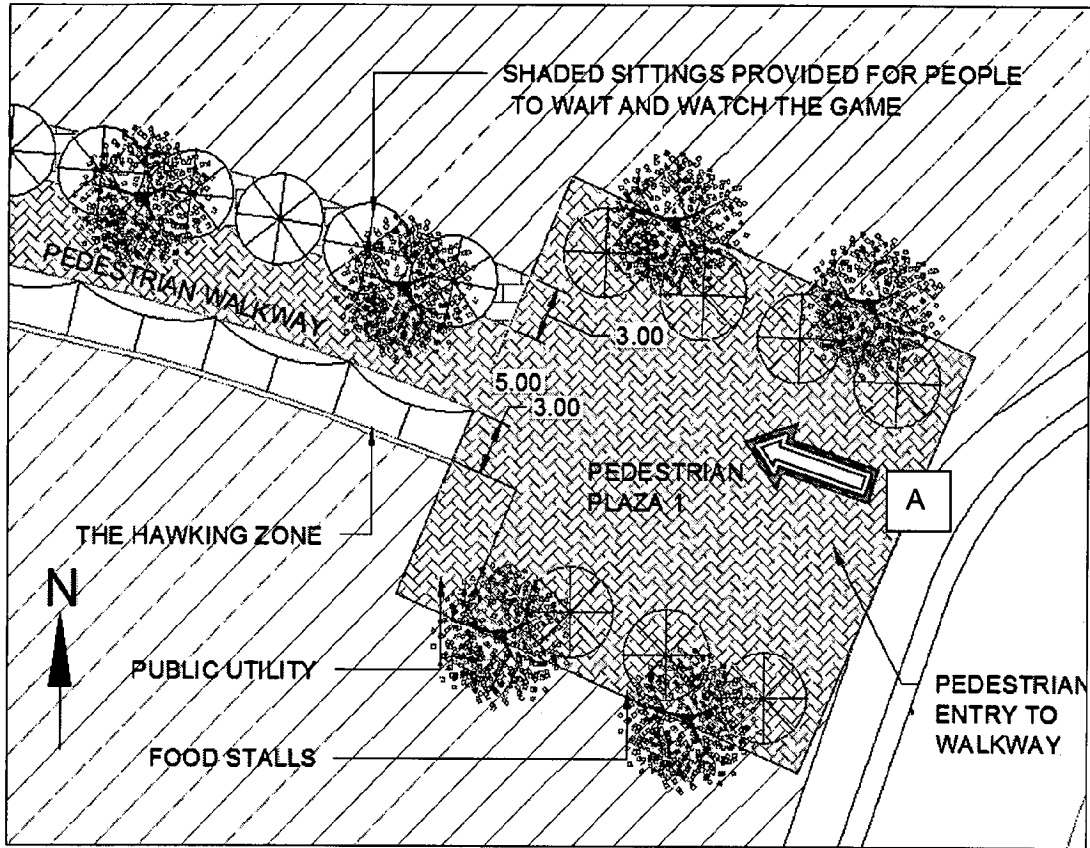
This part of the playground is not an active public space but is frequently used by people for various causes like protest march, public demonstrations and addresses.



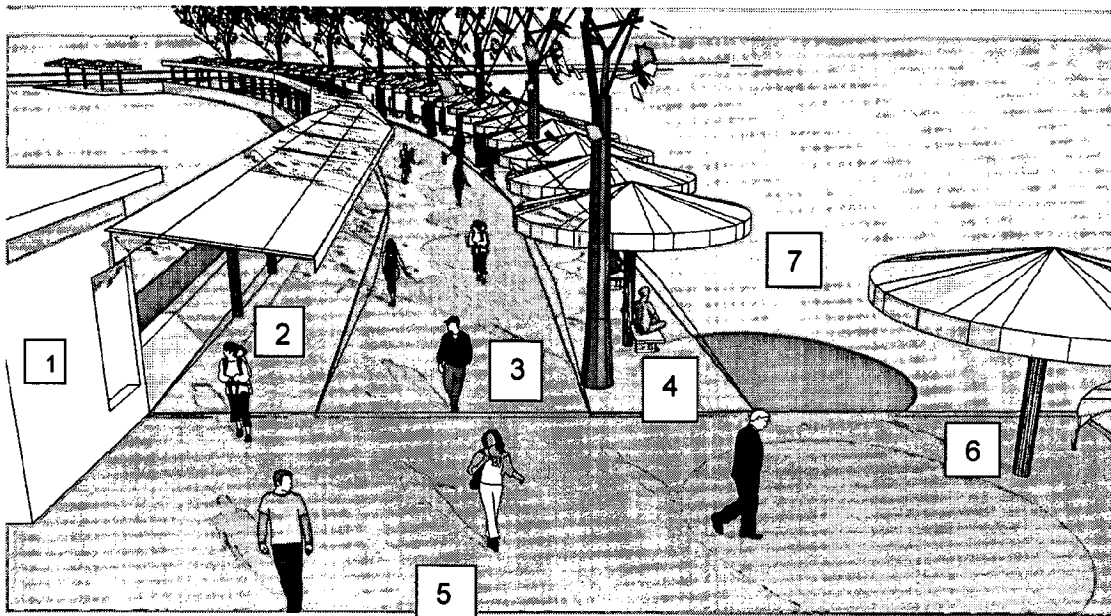
6.3 Layout showing the pedestrian connection passing through the Azaad Maidaan connecting the CST railway station and Church gate railway station



6.4 Plan showing the pedestrian walkway design with providing two destination plazas with food stall and public utility, a 5 m. wide paved walkway, shaded sitting for the people to wait and watch the game and a hawking plaza along pathway



6.5 Plan showing details of the walkway and destination plaza, Scale 1:500



6.6 Improvement design scheme for the Azaad Maidaan pedestrian walkway, A view from 'A'

Legend:

- 1-Public toilets, 2-Shaded hawkers' zone, 3- 5 meters wide pedestrian walkway, 4- sittings provided for people to wait and watch the game at playground, 5- pedestrian plaza at the entry of the walkway, 6- Shades for the food stalls

2. *Kalaghoda Art Precinct:*

This is one of its kinds a precinct having great potential for becoming a very successful public space. It is named after the monument at the precinct “*Kalaghoda*” meaning black horse. This precinct has art galleries, commercial buildings as well some offices along it. The attraction of this place is the annual ‘*Kalaghoda Art Festival*’, which takes place for duration of fifteen days in the Spring Season.

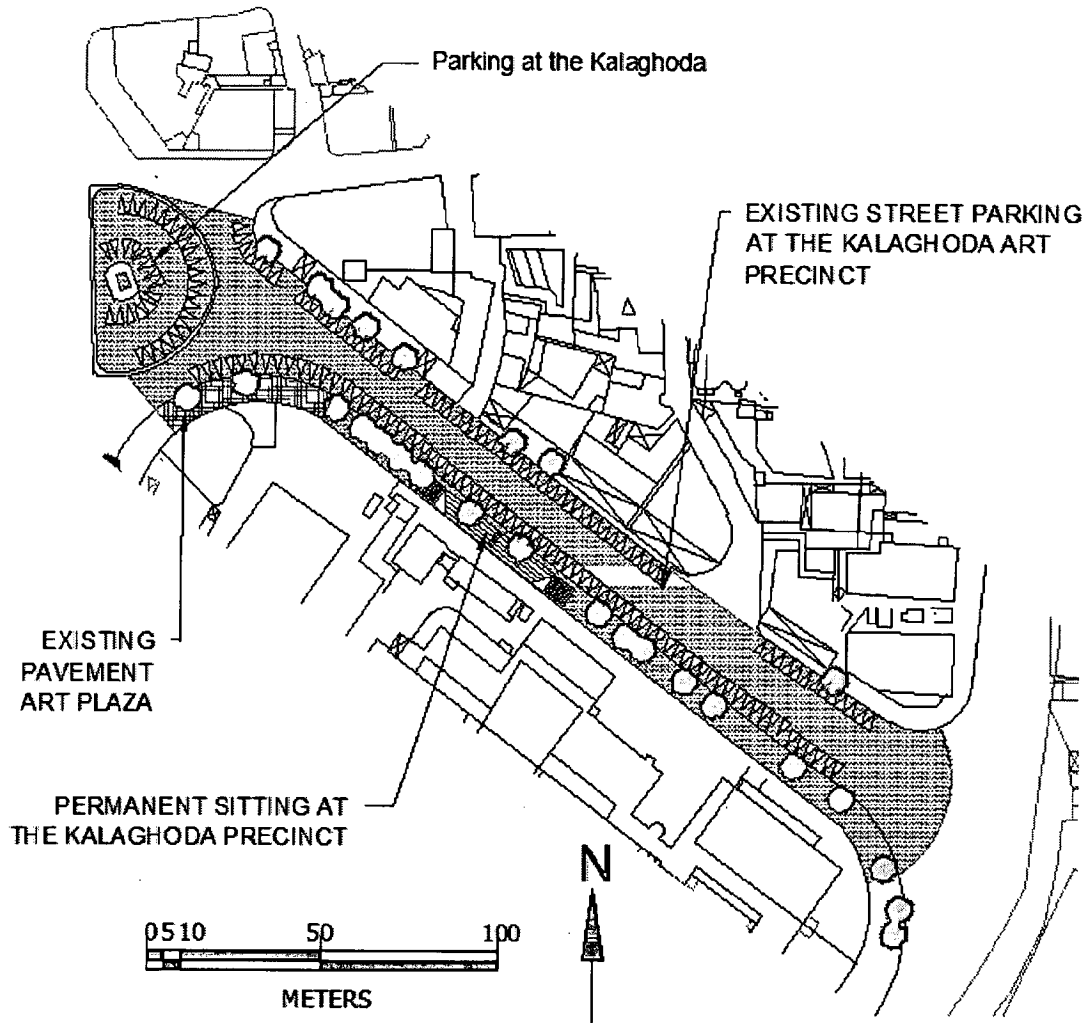
Around the year, this space is more or less is idle. Largely it’s used as a parking lot for the cars of the working people in the neighbouring areas. The permanent sitting is used by college students, working people and visitors of the space to wait, have conversations, and spend some time freely. With the surrounding activities, the space has great possibilities to handle large population with number of activities.

Existing activities:

- The *Kalaghoda Art Festival* (15 days every year): the entire precinct is full of art installations, stalls of artefacts, food stalls as well as theatre activities.
- Rest of the year the entire road is used for roadside parking on both the sides.
- The students of various institutes, working population in the nearby areas use the permanent sitting steps for leisure.
- Major portion around the road is used for MCGM activities like storage and dumping of the maintenance materials. This makes the space look ugly.
- Near the *Jehangeer art gallery* and *Museum art gallery*, there is a footpath art gallery called *Art Plaza* which is open for artists to install their work and use the footpath itself as their studio. People find it interesting to come across various paintings on their way. Also the sittings at the plaza are used by the people to sit, rest and have an interaction among them.

The user age group:

- The art festival is attended by people irrespective of their social classes, economic backgrounds, gender and age groups.
- The art galleries are visited by people of age groups.
- The sitting steps at the precinct are used by college crowd and working population.
- Parking is a pay and park facility used by working population having offices nearby.



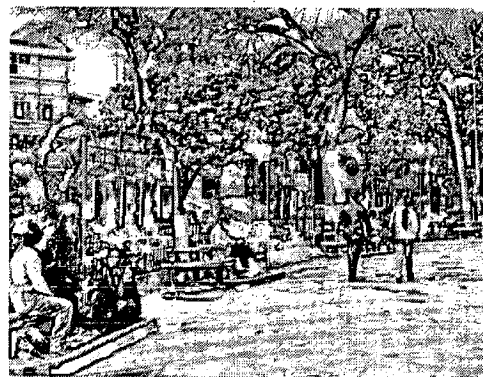
6.7 The plan showing existing activity at the Kalaghoda Art Precinct

Problems identified:

- The art plaza at the footpath is spread for a very small and cannot be used effectively in the months of monsoon. (Fig. 6.7,6.9,6.10)
- The parking dominated the entire street and does not allow any room for other activities. (Fig. 6.8)

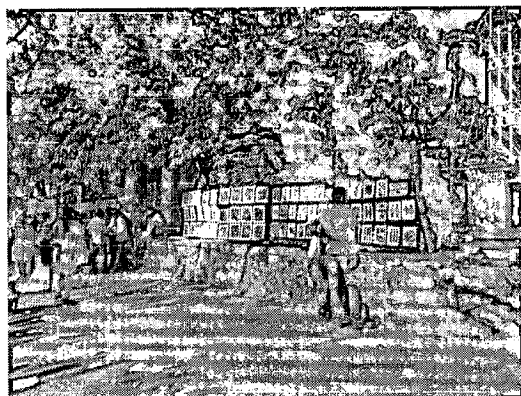


6.8 View of the street dominated by cars parking from the permanent sitting area

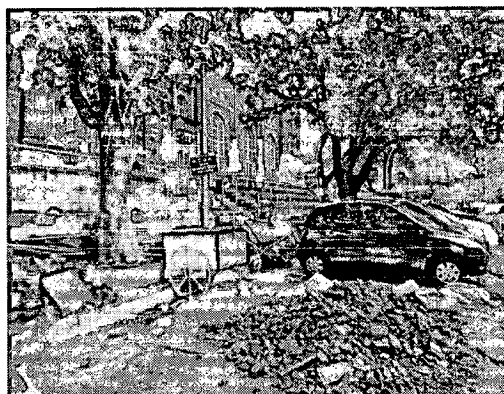


6.9 The pavement art gallery

- The permanent sitting created at the footpath is only utilised to its maximum extent during the festival. Whereas it has the potential to be used around the year for various activities like meetings, demonstrations, and when no group activity is conducted, it can become a very good street library.
- The dumped maintenance instruments of MCGM, make the precinct dirty and does not allow interesting activities to take place. (Fig. 2.11)



6.11 The pavement art gallery cannot be used during monsoons



6.10 Municipal maintenance instruments dumped at the site

Proposed improvements:

The overall improvement scheme is expressed in the sketches graphically to make the proposal a clear picture. The *Kalaghoda* art precinct can become a city level public space with the suggested improvements.

a. Extensions to the existing art plaza:

The current art plaza is stretched for a very short length. It should be spread further to allow more artists to put their works on display. Also the pavement gallery is exposed to the weather directly. Innovative light weight shades should be designed to cut off the direct sunlight as well as rains. The art plaza should be stretched across the opposite footpaths.

b. Removal of parking from the site:

This is an utmost necessary step to evacuate the parking from the space to have an uninterrupted public activity precinct. Vehicles parked on both sides of the roads eat a lot of space as well as block the visual connectivity. According to the case studies as well as literature review having vehicular movement in the public space kills the charm of the public space.

c. Restriction on vehicular entry:

The precinct is a two way road, with roadside parking on both sides. Though the road is wide enough, vehicular entry should be restricted to certain times. Private vehicles should not be allowed on this road, while MCGM vehicles should be allowed only between 9pm and 9am. This will ensure complete pedestrian safety in the space, with complete secure arena for skating.

d. Permanent performance area:

The sitting at the art precinct is a permanent one. It provides a very good view of the stage which is temporarily built for the art festival. But the sitting has a good view of the street as well as the building opposite. While the vehicles are kept off the site, the street part itself will act as a permanent stage for activities like performances, street plays, street acrobats and groups of performers. This stage can be reserved by the performers by advance notice and accordingly the space and time can be shared. Whenever people visit this place, they will get to see some or the other performance. (Fig 6.12, 6.17, 6.19)

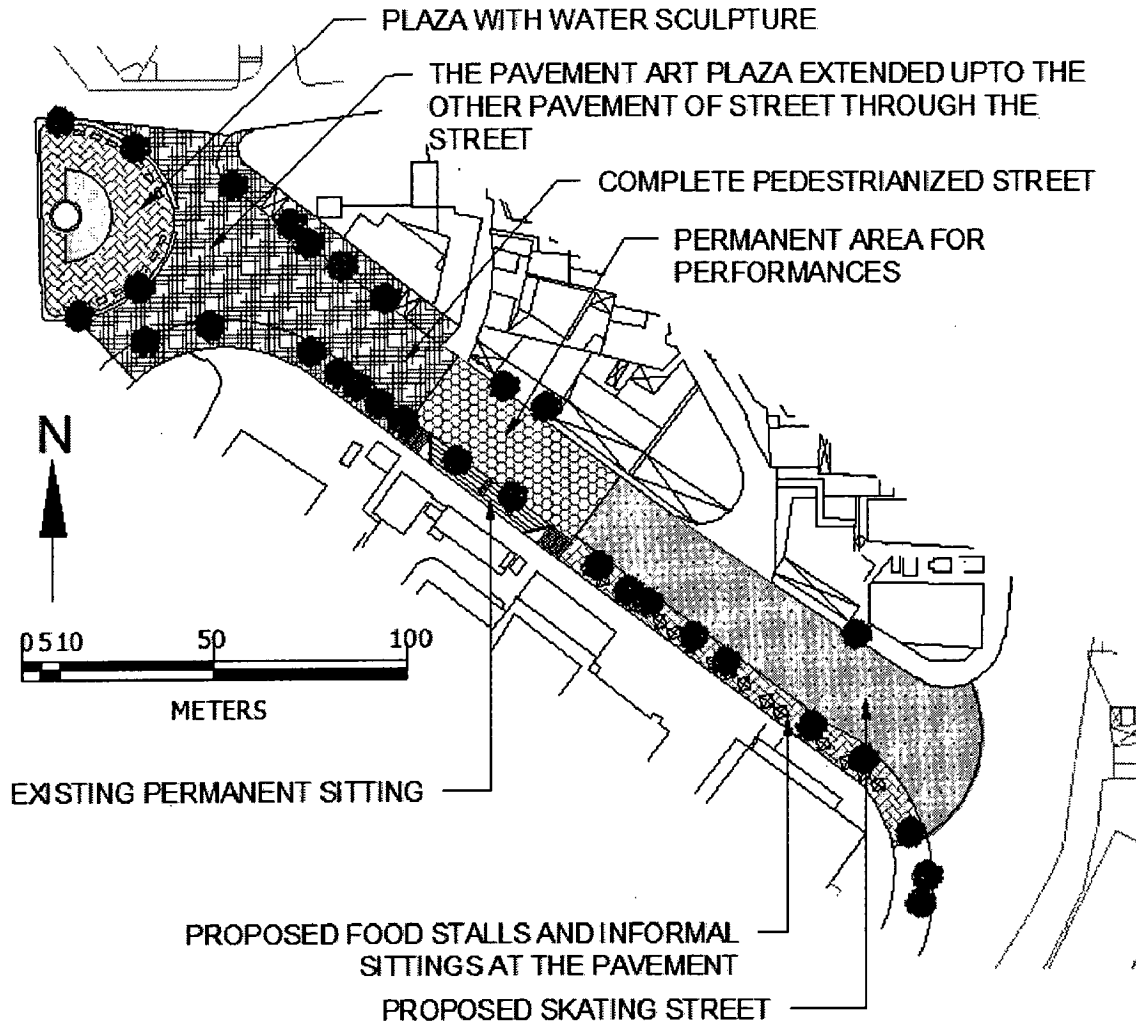
e. Hawking zone for food stalls and art objects:

According to the case studies and the literature studies, it is clear that, food stalls are integral part of a public space. With regulations and quality control, such food stalls become a great destination for people of all the age groups.

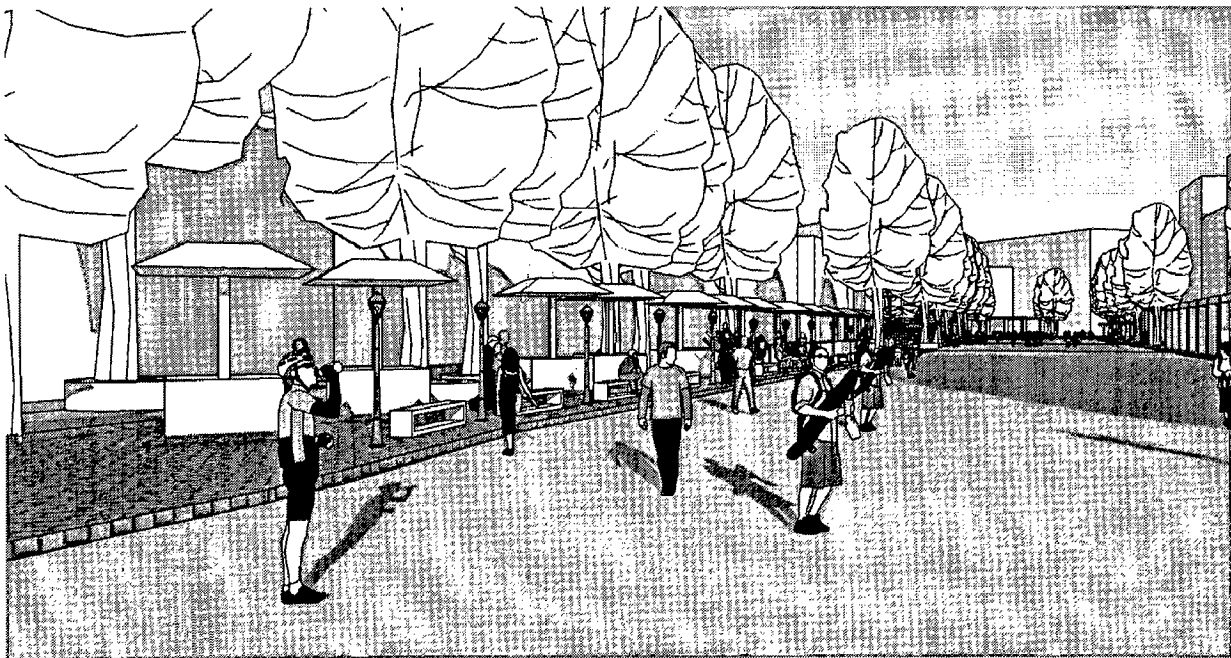
The footpaths are wide enough to house many such food stalls and stalls of artefacts. This will encourage the informal sector activity in the precinct area, thus providing a chance to the people to earn better. (Fig. 6.21, 6.23)

f. Skating zone:

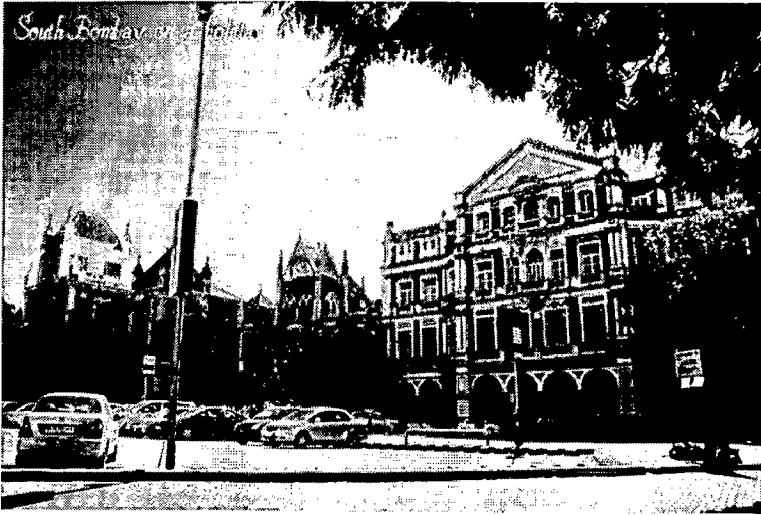
On one side of the stage and the permanent sitting area, the street should be made available for an activity like skating. This will offer a platform for the local residents as well as the people of the entire city to explore skating. There is no such activity available for common people in the entire city. This will also provide the visitors a reason to wait and watch the people. This is possible only after removal of the vehicles from the site. (Fig. 6.13)



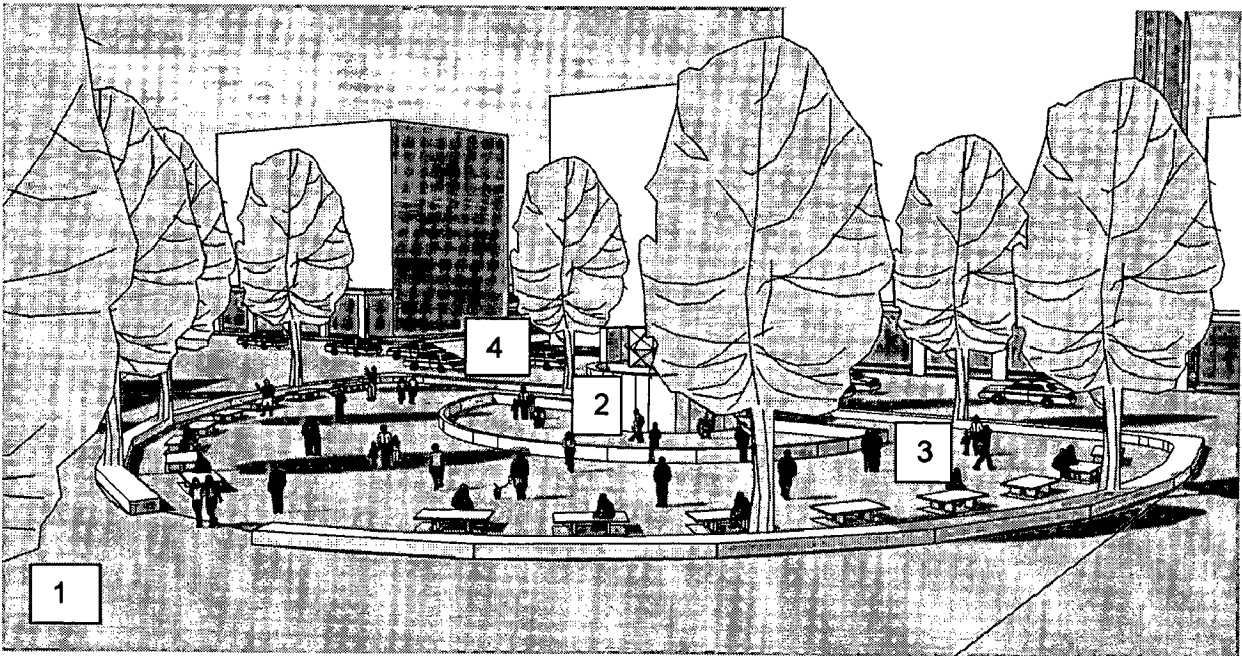
6.12 Plan showing the proposed activities at the Kalaghoda Street Precinct



6.13 The view of the Skating Street with food stalls at the footpath



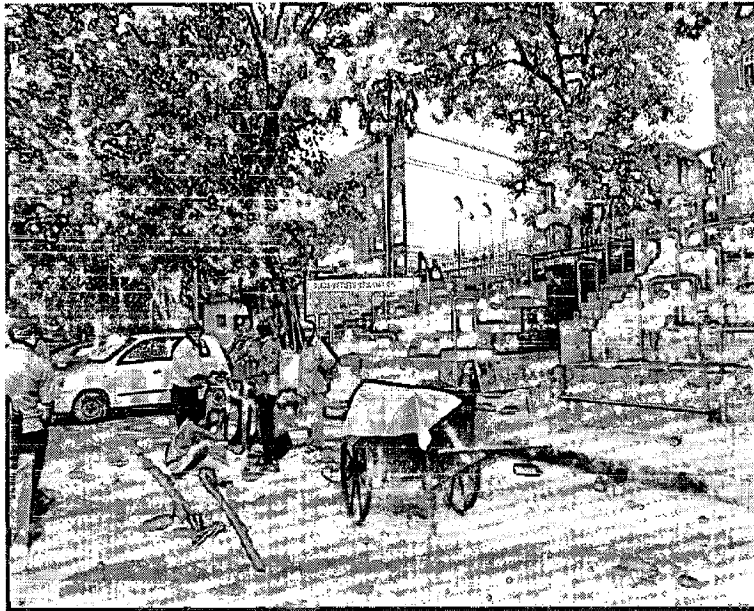
6.14 View of the parking at one end of precinct



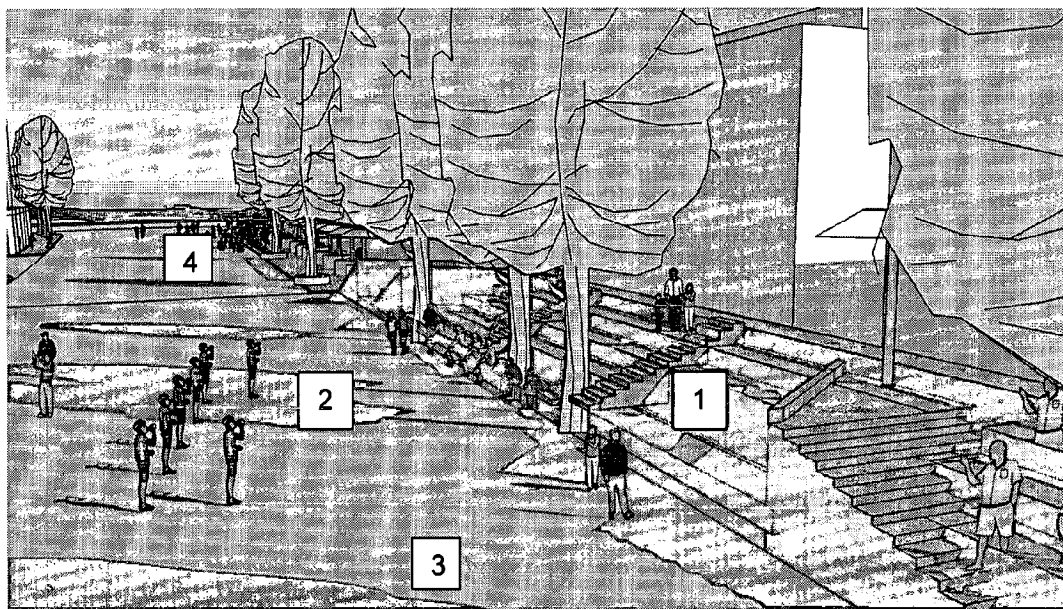
6.15 After removal of parking, introducing water fountain as activity space, with a plaza and sittings surrounding

Legend:

- 1- Continuous open art plaza, 2- Water sculpture and 3- Plaza around with sittings provided, 4- Road behind with vehicular traffic



6.16 Existing condition at the permanent sitting at Kalaghoda Precinct



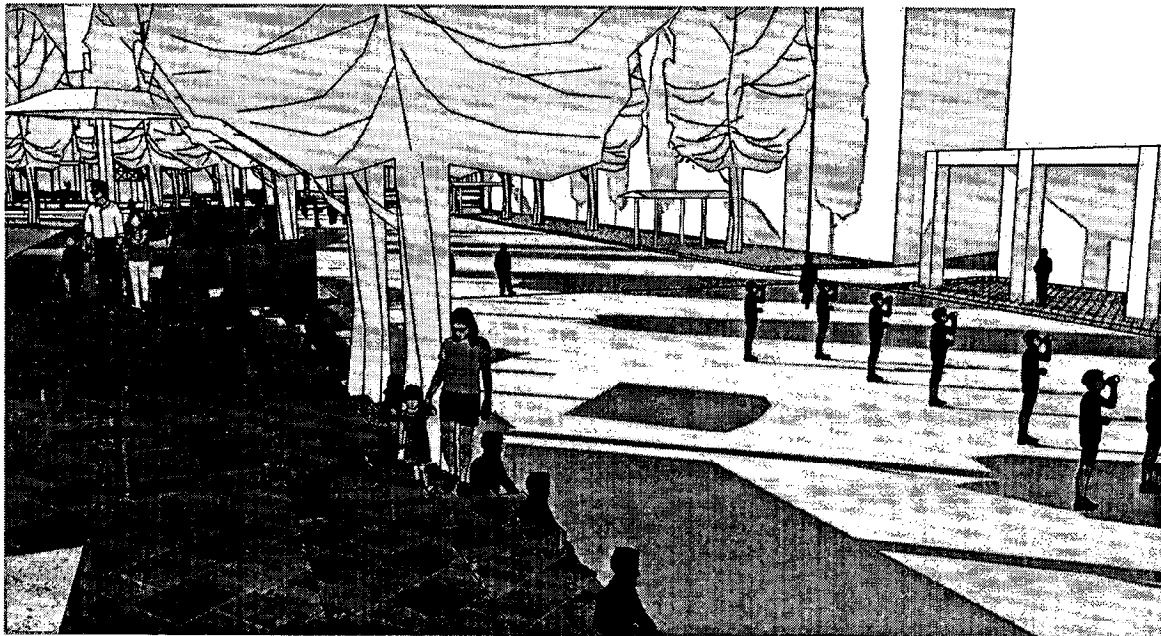
6.17 View of the permanent sitting at Kalaghoda Art Precinct, allowing a permanent street platform for various activities after removal of vehicular parking and MCGM dumped instruments

Legend:

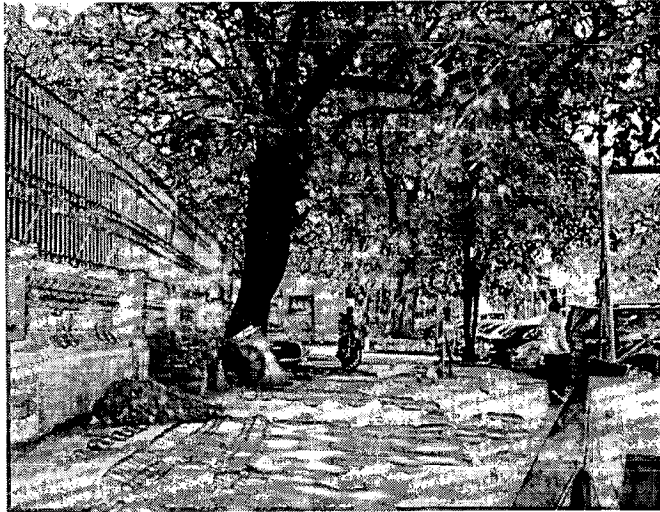
1-Permanent sitting at the Kalaghoda Art Precinct, 2-Street becoming an activity platform, 3-Continuous open street art plaza, 4- Skating street on the other end of precinct



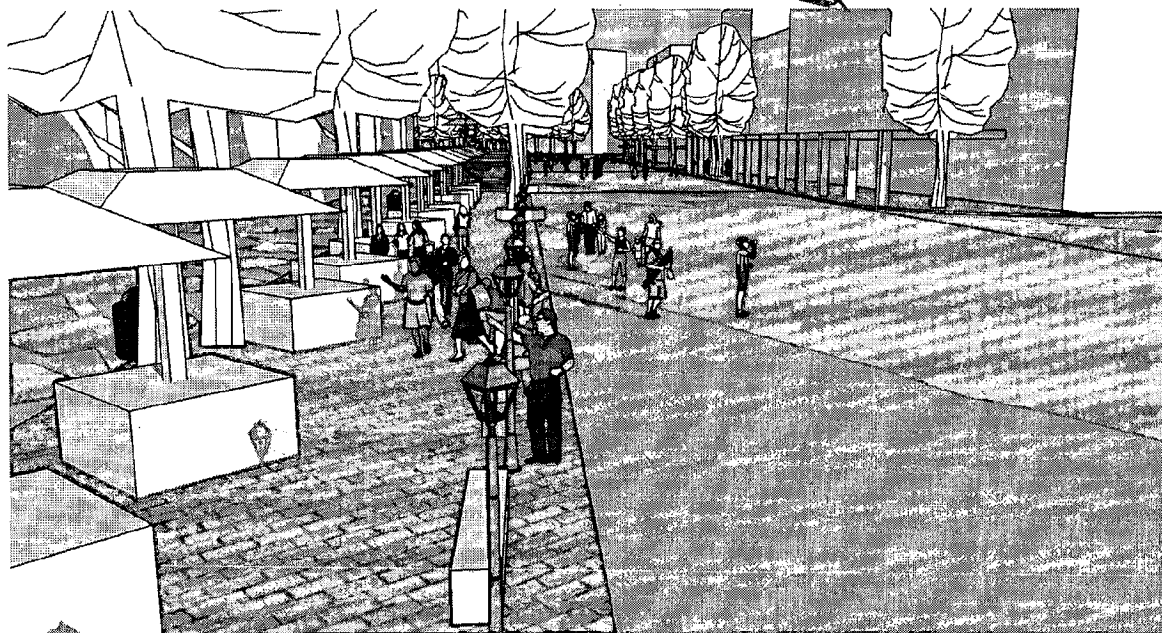
6.18 Existing view of permanent sitting with both side parking on street and the dumped instruments of MCGM



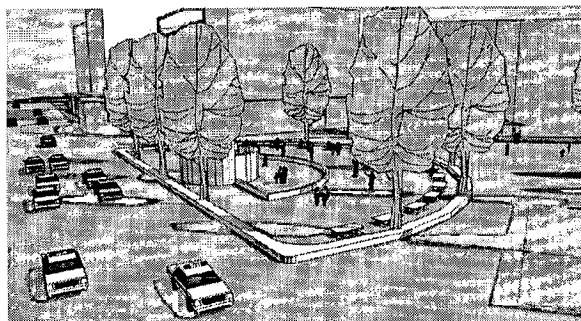
6.19 Proposed view of the precinct from the sittings looking at the street and buildings opposite



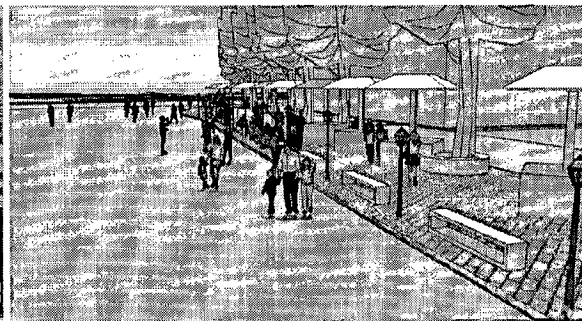
6.20 The existing pavement condition



6.21 Pavement after proposing food kiosks, sittings, dust-bins etc. on the footpath along the skating street



6.23 View of the water fountain plaza from road



6.22 The pavement becoming an active public space

3. *Chaityabhoomi*:

Chaityabhoomi indeed can become an active public space if it's integrated well with the small chaupati and the large park nearby. It boasts a decent size of plaza with a monument. It is famous for the religious activities as it has the memorial of Dr. Babasaheb Ambedkar, who advised *dalits* to follow Buddhism as their religion rather than following Hinduism. For the celebration of birthday of him as well as his death anniversary there is huge crowd gathered on the venue from all over the state Maharashtra. On other days, people do visit this place, but are much lesser in numbers.

With little modifications in the existing public space, the Chaityabhoomi can become a grand city level public space.

Existing activities:

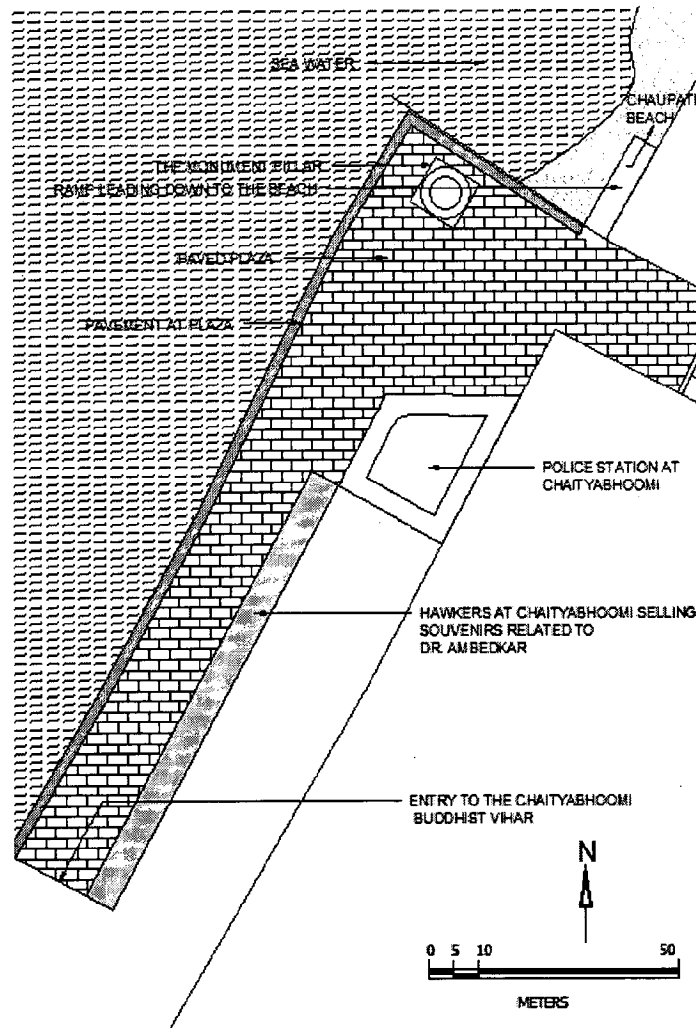
- Hawking of souvenirs related to life of Dr. Babasaheb Ambedkar.
- Large scale celebration of birth and death anniversary of Dr. Babasaheb Ambedkar takes place every year.

User age groups:

- Tourists of various age groups irrespective of their gender visit this place.

Problems identified:

- The plaza and the monument is a very sensitive space being related to religious and political issues, which brings a lot of restrictions on usage of this space.
- Also in order to maintain law and order the police station is located just at the site. Thus regulating the space makes it little uneasy for usage of people.
- The nearby park, chaupati and the plaza at the Chaityabhoomi are not integrated as a public space. Which keeps the three spaces segregated which deprives the visitors from having a wholesome experience of a public space.
- The plaza has poor looking stalls selling which disturb the ambience completely.
- There is no provision of any sitting space, at the plaza which provides spectacular views of the sea, sunset along with the Bandra-Worli Sea link.
- Vending of food items is not allowed at the plaza.



6.24 Existing layout of the Chaityabhoomi

Proposed improvements at the Chaityabhoomi Plaza:

To publicise this plaza is a prime necessity in order make the space regulated actively. When the plaza becomes an active space, eventually it will be control the ill activities like anti-religious or harmful acts for the plaza.

a. Design of the stalls:

The stalls at the plaza are shack like structures. They mess up the look of the plaza. The stalls should be well designed to have protection from sun as well as rains.

b. Permanent (fixed) sitting:

The wall at the sea side is of a height, which does not allow people to enjoy sitting over it. People sit using the height of the footpath along the boundary wall which makes people face in opposite direction as that of the sea. Thus they cannot enjoy the view. Also the view from

here is magnificent and people do enjoy it. By lowering the height of the wall and constructing fixed sittings the view can be enjoyed.

c. Cleaning the chaupati and providing a proper access to the chaupati:

The current access given to reach the chaupati (small beach) adjacent to the plaza is a ramp of concrete which is not in good conditions. The chaupati is a very narrow area over which number of stalls, horse driven carts and merry go rounds and other play rides for kids are crowded. With food stalls coming at the plaza level, the chaupati will have larger space for people to enjoy sea and it will also help in maintaining the cleanliness at the chaupati.

d. Allotting space for food vendors at the plaza:

As written in the earlier point, the food vendors must be vacated from the chaupati and allotted some space at the plaza. The design of the food stalls should match the design of the stalls selling souvenirs.

e. Removal of the strays at the plaza:

The stray dogs at the area cause nuisance to the visitors. They must be removed from the site.

The above improvements will change the Chaityabhoomi plaza into a very active public space as well as the park nearby and the chaupati provide even more options for people to spend time.

4. Khau Galli at CST:

This informal food court is located at a very strategic location. It comes on the way to office or to home for most of the people. The shops located here provide something or the other to everyone at very reasonable costs. This is a real public space with no discrimination of age group, gender and social or economic cost.

Existing activities at the Khau Galli:

- Numbers of people have their breakfast, lunch, evening snacks and even dinner at the food shops of Khau Galli.
- Xerox shop is used rigorously by people coming for paperwork in various offices.
- This is a usual meeting point for many people.
- The people coming for demonstrations to the Azaad maidaan also depend for their refreshments and food on the Khau Galli.
- The MCGM vehicles are parked adjacent to the Khau Galli.
- Some vendors are found at the parking lot.

User age group:

- Majority of the people are working people in nearby offices who avail this food facility.
- People coming from the CST railway station as well as the people going for their journey have their meals at the Khau Galli.
- Cricket players coming to practice at the Azaad Maidaan also are frequently found in the users of the Khau Galli.
- Students studying in the colleges nearby eat at the Khau Galli.
- The police and traffic police are also seen frequently having their short meal breaks at the Khau Galli.
- People from all the age groups are found using the Khau Galli except very young children and too old people.

Problems identified at the Khau Galli:

- The Khau Galli is very narrow to cater to all the people who use it, and thus it always looks very crowded.
- There is no option for people to sit and have food.
- The platforms around the trees are at such a height that people cannot sit over it, neither can they put their plates on the platform and eat peacefully.
- The vendors should not be allowed as there is already a shortage of space for the people to stand and eat the food at leisure.

- The parking lot next to the Khau Galli disturbs the space by its noise and smoke.

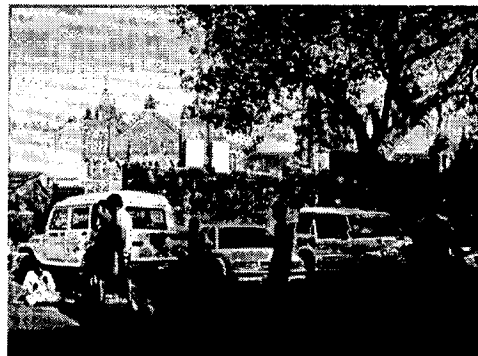


6.25 The parking lot and vendors disturb the activity at Khau Galli

- The monument with small landscape feature around which is built adjacent to the existing parking lot breaks the vision of people and the view of magnificent railway building and the MCGM office building.
- The dust bins provided near the shops are disturbing the view. They also are at such locations which harm the movement of people in the area.



6.28 Inappropriate height of the platform around trees - difficult to sit



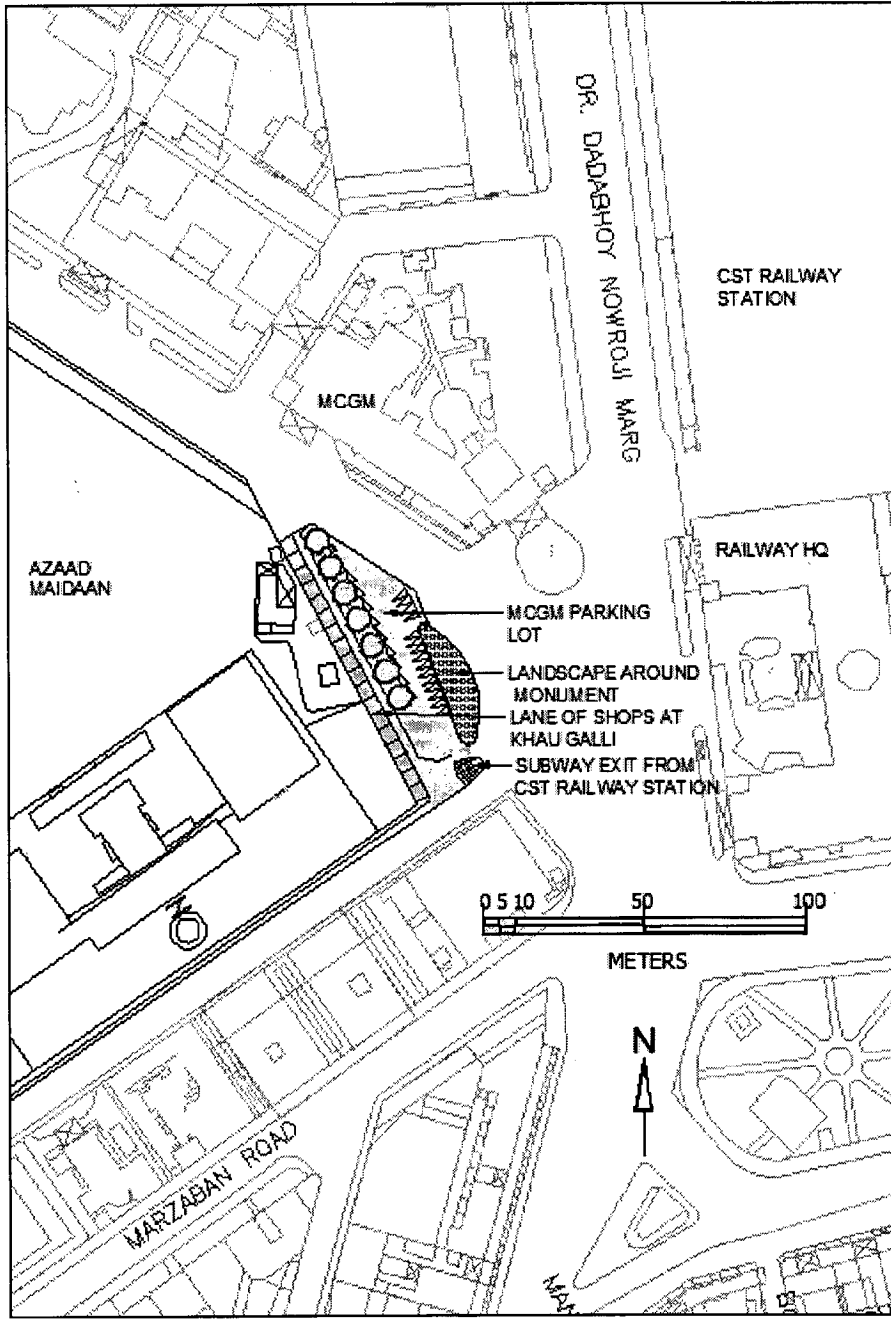
6.27 The wall behind the monument and landscape feature cuts the view around



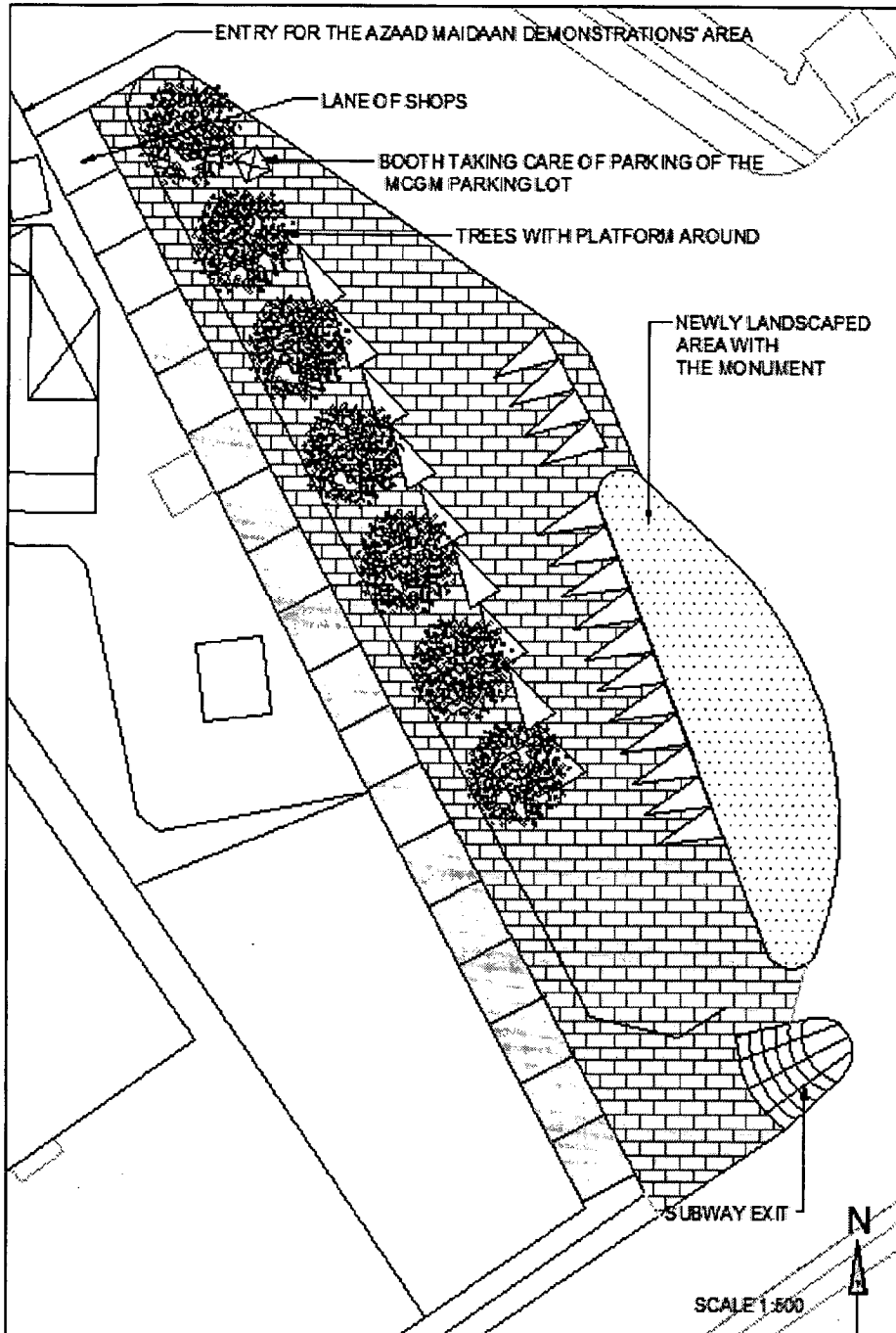
6.29 The dustbins ruin the visual quality



6.26 view of the monument and landscaper feature



6.30 Location of Khau Galli



6.31 Existing layout of Khau Galli

Proposed improvements at the Khau Galli:

The score of the Khau Galli is best on parameter of access and linkages i.e. the connectivity criterion. But it fails becoming an uncomfortable food court and with not so inviting image. With following improvements the Khau galli can become most successful informal food court in the area.

a. Removal of the MCGM parking lot:

This will add a larger area into the Khau Galli, which can take care of the users. With this area even the visual connectivity to the Khau Galli from the station will be improved. Removing the parking can provide a cleaner environment for a food court.

b. Opening up the Monument with landscape from the Khau Galli :

The monument created in the front of the Khau Galli, is seen from the station as well from the MCGM office building. But it has black wall facing the Khau Galli. Also this wall cuts the view of the magnificent buildings of the railway and MCGM office. The tourists, who happen to click photographs of the old British period buildings, click it in the evening hours as the sun light falls directly on these buildings. They capture the images by standing at the newly built landscape feature, but the feature does not catch any attention as such in front of the historically important and architecturally wonderful buildings.

If the monument and the landscape are made visually accessible to the users of the Khau Galli, it will improve the public space by allowing the users to have a great view of the surrounding buildings. Also with proper urban design solutions, the Khau Galli will also be visible from the station and nearby buildings, thus attracting more people to use it.

c. Provision of sittings as well as standing eating desks:

Currently there is no possibility for people to sit and eat food. People prefer carrying take-aways or stand at the stalls and eat. For people carrying baggage or women carrying their kids, it becomes very difficult to have the food standing nearby. It is very much essential to have proper sitting space or standing desks to give minimum comfort to people.

d. Proper awnings and shades for the shops at Khau Galli:

This is required for allowing the people to use the space in times sun shine as well during rains. Retractable awnings can be a best option to maintain the flexibility of the space. Also the sittings can be provided with individual shades or umbrellas.

e. Lowering the height of the platform around the trees:

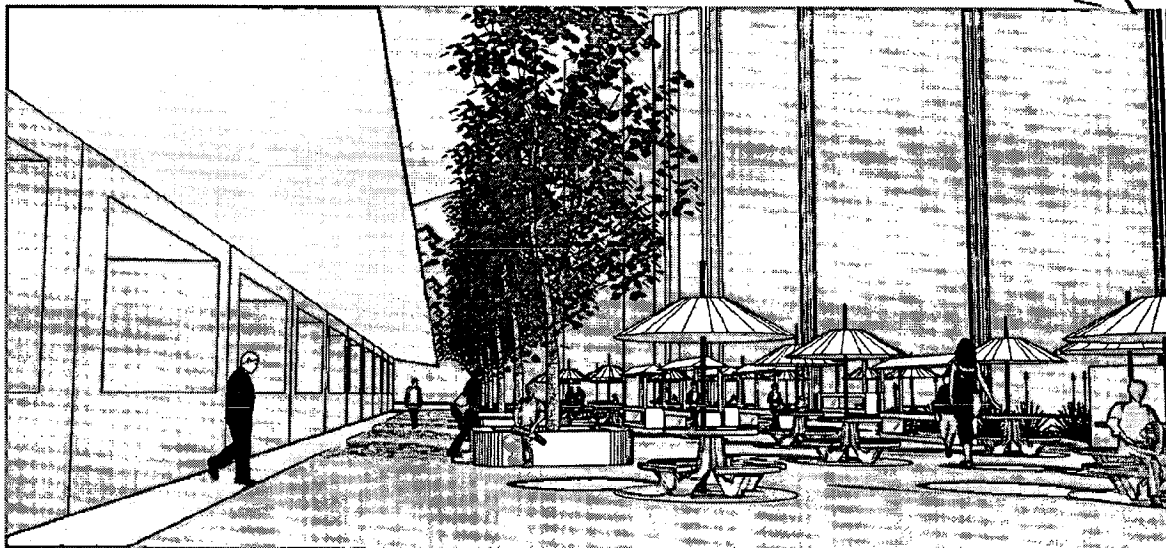
The platform built at the trees is of an odd height. The platform does not allow people to sit over it easily, and even keeping the plates for having their food. Men manage to sit and spend time reading newspaper or chatting with friends, but not everyone can sit over the platform. If the height of the platforms around the trees is lowered all the people can make use of the platform. This will add comfort to the space.

f. Providing better dust-bins at better locations:

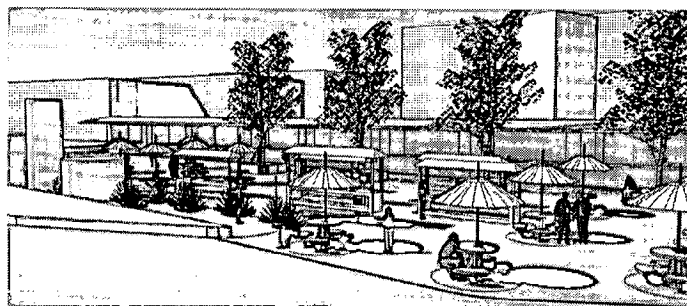
The dust bins are used at a higher rate. They are emptied regularly too. But most of the dust bins are ugly looking plastic barrels which have a small capacity and are open. Their location is also such that it disturbs the movement of the people. Well-designed higher capacity dust bins must be installed at the site and certain locations such that the cleanliness is maintained by the people and the image of the public space is also retained.



6.32 Existing Khau Galli with parking lot adjacent and no place for sittings



6.33 Khau Galli after removal of the parking lot and above discussed improvements



6.34 View of Khau Galli from the MCGM building

6.22 Proposal for public spaces on the selected mill sites:

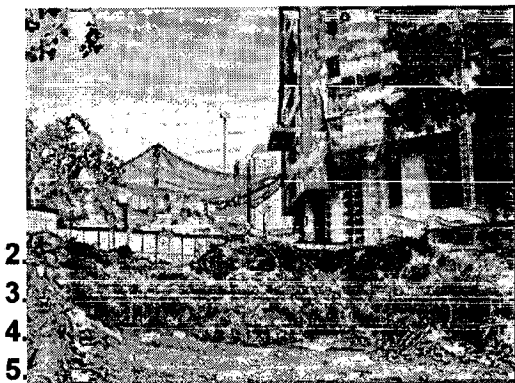
The sites handed over to MCGM, in ward G- South are considered for proposing public spaces to improve the public realm of the ward and city eventually. Two out of the four sites, having varying areas, locations as well as their surrounding land uses, are compared to the other surveyed public spaces and the best possible type of public space is proposed on each of the site. Out of the four the remaining two spaces which are already developed into public spaces by the MCGM, are analysed critically and a few improvements and additional activities are planned in the spaces according to the behaviour of the space and the surrounding land uses and probable user groups of the spaces.

1. Site at Shri Ram Mills (2512 Sq. Mt.) (Ref. fig. 5.2)

From the analysis of the site it is clearly visible that, the user group for this public space, within walking radius is mostly the local residents staying in the BDD chawls. Also the people coming to work in surrounding commercial areas will be availing this space.

The site is square site having an approach at the northern side. From the study carried out on Mumbai's twenty four public spaces, it can be seen that size of the plot and surrounding land use, a park should be proposed on this site.

Currently the site is lying vacant and is used by the MCGM Solid Waste Disposal Department, for throwing cut trees. Following are the images explaining current situation of the site:



2. 6.36 Image showing the trees dumped and construction going on in the neighbouring site



3. 6.35 The trees dumped to reduce their volume

Proposal: A Garden: Neighbourhood level public space**Activities:****a. Gazebo:**

There are no places for having small social gatherings and functions as well as public addresses and meetings in the nearby vicinity. A gazebo can provide such opportunity as well as a platform for neighbourhood level performances.

b. Study Centre:

The residential area in the radius of walking distance i.e. 500 meters is largely lower income group. The houses in the locality are small with large families. There are slum dwellers that stay in shacks. The children of such houses do not have a calm and quiet place to study. A study centre will become a ray of hope for the studying children.

c. Children's' play area with sand pit:

A typical sand pit with swings, ladders, slides and sea saw, merry go round shall become an activity area for kids.

d. Sittings:

Variety of sittings allowing people to sit alone, in pairs as well in groups shall be taken care in the park for youngsters, working people as well as old aged people.

e. Jogging/walking track:

This track shall become a daily hit for the health conscious people in the area, allowing regular exercise with no expenditure.

f. Nursery for plants:

A nursery shall take care of the landscape needs of the garden.

g. Daily newspaper library:

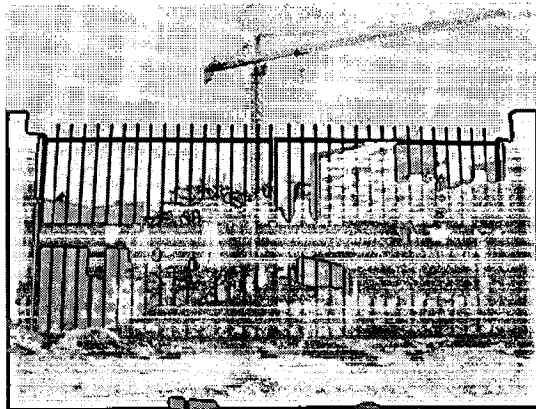
Such library with newspapers and magazines shall benefit people by letting them spending time outside home, in open environment reading more than one newspaper and magazines. Such joints when are used by people, children also are motivated to read.

2. Site at Victoria Mills (1038 Sq. Mt.) (Ref. fig. 5.2)

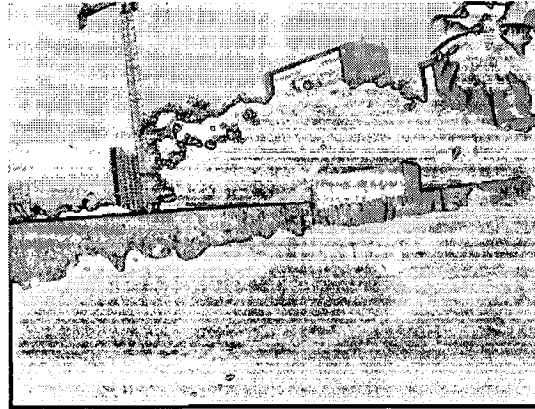
This is comparatively a smaller area, with tremendous potential to be developed as a food court. This site has a lot of offices around in the walking distance radius. There are no formal stalls for providing snacks and refreshment in the area in spite a few small food joints/hotels.

Majority of the working people cannot carry their tiffin due to various reasons. A healthy and economical food court is a very good option for meals and refreshments. Such a space will also provide an activity area where people can meet other people, have interactions, and have a social life in-between the breaks of office hours. Also, this will provide an opportunity for the informal sector to earn their bread and butter.

The site is lying vacant and is in conditions as seen in the images below:



6.38 The access to the site from the Pandurang Budhkar Marg



6.37 The site lying vacant

Proposal: A Khau Galli/ Food Court: Neighbourhood level public space

Activities:

a. Food stalls:

Food stalls shall be designed to accommodate cooking, pantry area and an interface for transactions.

b. Utility areas:

The food court shall be provided with toilets, wash-rooms, wash basins and shall be maintained.

c. Sitting areas:

The food court shall provide options for people having their food in groups, in pairs and even alone. The arrangements shall be made for having a quick meal as well as for small treats and group meals.

d. Dust-bins and other disposal areas:

To maintain the space clean and tidy, disposal of wastes is a major concern. Well-designed bins shall be located at suitable locations. Waste food can be thrown separately in order to make other uses of it.

e. Landscaping – hardscape and softscape:

This is an integral part of making a space attractive and user friendly. Also this created an image of the space in the users' mind. The landscaping shall be done in a manner to maintain the space clean and fresh.

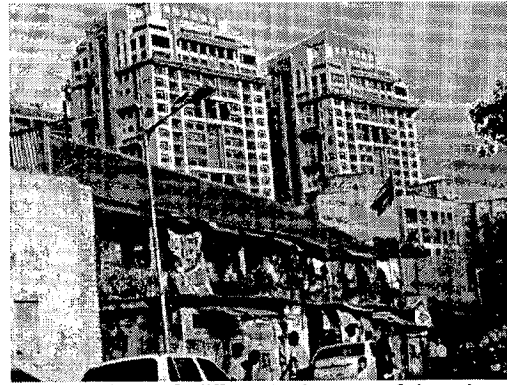
3. Site at Matulya Mills (5641 Sq. Mt.) (Ref. fig. 5.2 for location)

This site is already developed by MCGM as a park and is open for public since 16th April, 2011. The park was visited in the same week and was found a very active public space at a sub-city/ward level.

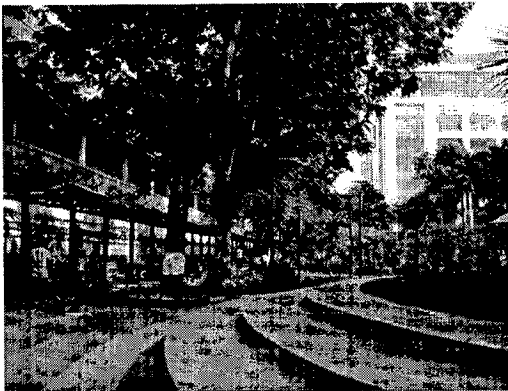
Following are a few visuals of the park, explaining the design and activities:



6.42 The play area for children with artificial flex instead of a sand pit



6.41 A view of different classes of housings which shall avail the park



6.40 View of open and covered sittings



6.39 Walking track and the semi open sitting area

4. Site at Piramal Mills (1741 Sq. Mt.) (Ref. fig. 5.2 for location)

From the site analysis it was found that this site is located in a private premise and is not freely accessible to all the people. Being in a private property, it does not have visual connectivity. People are unaware of such a space developed as a public space. This is major drawback of the site.

This site is also already developed as a garden by MCGM. The children staying nearby use this space for recreation. There is no provision for active recreation, but the park is densely landscaped with provision of a few seats. There is a water pond from the mill's functioning times, which is made accessible to the users of the park. Following are the images of the park-



6.43 The access to the pond from the developed garden



6.44 landscaped park with a walkway and a few benches to sit

The pond should have been exploited in better ways by providing a water fountain, a water sculpture or having a few birds in it. In such ways the space would act like a destination for people to spend leisure time.

The main drawback of the access needs major policy making for developing such public spaces. Such space should be made aware about by various public notifications as well as publicity mediums.

The other way for developing such spaces somewhere else in publically owned premise needs amendments in the DCR, planning guidelines as well as byelaws. This would enable the public authority to seek another space of same area, in a publically accessible premise from the respective developer for the very apt intention of developing a public space.

6.23 Proposal for a city level public space:

From the study of public spaces done so far in the Mumbai city wards, it is seen that major city level public spaces are located in the ward 'A'. The central city area lacks an positive city level public space. The width of city area being the narrowest, it has the best connectivity through public transport modes. Considering the context of redevelopment of mill lands, and the change in land use which is taking place through various development proposals by private developers, there is an opportunity to allocate larger area for proposing a city level public space, rather than developing small neighbourhood public space in various pieces of mill sites.

The study below estimates the total built up area which will come in existence after redevelopment at all the mill sites in ward G/S and the population which is likely to be accommodated at these sites being residents or permanent users of the space or being floating population using the spaces in the commercial areas. This study also compares the growth in population after the redevelopment against the growth of ward's public spaces' area.

From the development trends in the wards, it is seen that the commercial and residential development is taking place in the ward at the mill sites. The percentage of both types of development is 50-50. The population is estimated with help of the occupancy loads stated in the DCR.

A. Estimation of total built up area on the mill sites in ward G/S and therefore the increase in population:

Sr. No.	Name of Mill	Total Plot Area (Sq. Mts.)	Permissible F.S.I.	Total Built up Area
1	Jupiter Mills	44164	1.33	58738
2	Madhusudan Mills	73248	1.33	97420
3	Sitaram Mills	52408	1.33	69703
4	Mumbai Mills (Sakseria Mills)	67378	1.33	89613
5	Bharat Mills	33882	1.33	45063
6	Apollo Mills	56308	1.33	74890
7	Podar Processors	9664	1.33	12853
8	Standard Mills	30312	1.33	40315
9	Matulya Mills	51875	1.33	68994

10	Swadeshi Mills	25000	1.33	33250
11	Hindustan Mills No. 3(Crown Mills)	41250	1.33	54863
12	Victoria Mills	37812	1.33	50290
13	Mafatal Mills	21250	1.33	28263
14	Century Spng & Wvng Mills	121606	1.33	161736
15	Bombay Dyeing	100000	1.33	133000
16	Prakash Cotton Mills	48125	1.33	64006
17	Shriniwas Mills	42500	1.33	56525
18	Kamala Mills	23000	1.33	30590
19	Shri Ram Mills	46250	1.33	61513
20	Goculdas Morarjee Mills	32812	1.33	43640
21	Dawn Mills	25625	1.33	34081
22	Piramal Mills	17562	1.33	23357
23	Raghuwanshi Mills	62000	1.33	82460
24	Podar Mills	24471	1.33	32546
	Total	1088502	1.33	1447708

Sr. No.	Name of Mill	Total Built up Area	Resident-ial Area & Commercial Area (50% & 50%)	Residential Occupancy Load- Per 100 sq.Mt. of Plinth or covered area	Total possible residenti-ial occupanc-y	Commerci-al Occupanc-y Load- Per 100 sq.Mt. of Plinth or covered area	Total possibl-e commerc-ial occupa-ncy	Estima-ted Popula-tion Growth after Redevelo-pme-nt
1	Jupiter Mills	58738	29369	8	2350	16.6	4875	7225
2	Madhusudan Mills	97420	48710	8	3897	16.6	8086	11983
3	Sitaram Mills	69703	34851	8	2788	16.6	5785	8573
4	Mumbai Mills (Sakseria Mills)	89613	44806	8	3585	16.6	7438	11022
5	Bharat Mills	45063	22532	8	1803	16.6	3740	5543
6	Apollo Mills	74890	37445	8	2996	16.6	6216	9211
7	Podar Processors	12853	6427	8	514	16.6	1067	1581
8	Standard Mills	40315	20157	8	1613	16.6	3346	4959
9	Matulya Mills	68994	34497	8	2760	16.6	5726	8486

10	Swadeshi Mills	33250	16625	8	1330	16.6	2760	4090
11	Hindustan Mills No. 3 (Crown Mills)	54863	27431	8	2195	16.6	4554	6748
12	Victoria Mills	50290	25145	8	2012	16.6	4174	6186
13	Mafatlal Mills	28263	14131	8	1131	16.6	2346	3476
14	Century Spng & Wvng Mills	161736	80868	8	6469	16.6	13424	19894
15	Bombay Dyeing	133000	66500	8	5320	16.6	11039	16359
16	Prakash Cotton Mills	64006	32003	8	2560	16.6	5313	7873
17	Shriniwas Mills	56525	28263	8	2261	16.6	4692	6953
18	Kamala Mills	30590	15295	8	1224	16.6	2539	3763
19	Shri Ram Mills	61513	30756	8	2461	16.6	5106	7566
20	Goculdas Morarjee Mills	43640	21820	8	1746	16.6	3622	5368
21	Dawn Mills	34081	17041	8	1363	16.6	2829	4192
22	Piramal Mills	23357	11679	8	934	16.6	1939	2873
23	Raghuwanshi Mills	82460	41230	8	3298	16.6	6844	10143
24	Podar Mills	32546	16273	8	1302	16.6	2701	4003
	Total	1447708	723854	8	57908	16.6	120160	178068

B. Comparison of public space and population, after and before redevelopment

WARD NAME	LOCATION	AREA (Km ²)	POPULATION	POPULATION DENSITY	Total No. of Public space	No. of city level public spaces	No. of sub-city/ward level public spaces	AREA (Km ²)	% of Public Space of total ward area	Per Capita Public Space in SQMT
G/S	ELPHINSTONE	10.15	5,21,094	51333.05	33	3	30	0.283	2.08	0.54

The population according to census of 1991, will increase by 1,78,068 only by the way of redevelopment. This is approximately 34% increase. While the public spaces after addition of the handed over sites at the above discussed potential sites, will be increasing by only 14181 sq. mts. This increase is of utter 5%.

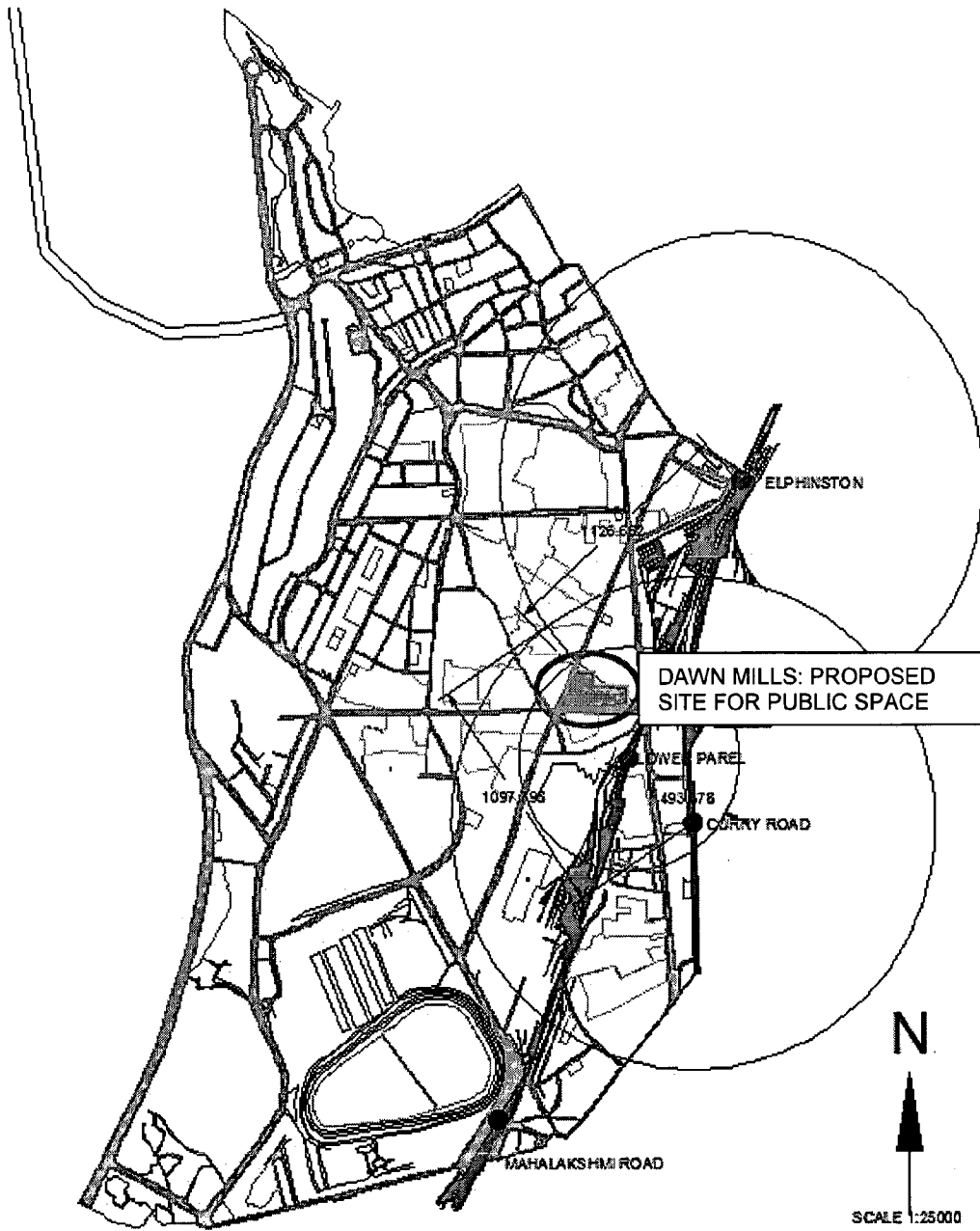
The total ward area is 10.15 square kilometres, whereas, the area under mill sites in the ward, which is getting redeveloped or is about to be redeveloped is 1.08 square kilometres. This area is approximately 10% of the total ward area. When such area is put under redevelopment, it is essential to allow part of it to be used as public purpose development through effective policies and regulations.

Also, as per the existing situation a total of 14181 square meters of area is handed over to MCGM in bits and pieces. This does not contribute to the city level or a ward level public space. With such small plots, no doubt, a few chunks of neighbourhood level public spaces can be developed, but the user group in such cases is very limited.

Instead a single plot of the same area i.e. 14181 square meters shall be proposed for developing a large city level public space having variety of activities. This space shall then become a destination for people. This ward is very much apt for providing such a public space, as it has very well connectivity by means of public transport modes like central railway and western railway, BEST buses and IPT modes like cabs.

Hence the site of Dawn Mills is proposed for such a large public space, with best possible connectivity. The site is within walking distance (400 meters) from the Western Railway's Lower Parel Railway Station. It can also be reached from the Elphinston Road, Parel and Curry Road Railway Station by BEST buses or cabs, within 15 minutes as it lies within 1.2 kilometres from both the stations.

Following is the map location of the Dawn Mill premises in ward G/S.



6.45 Location of Dawn Mills as proposed city level public space

6.24 General recommendations and policy guidelines for planning public spaces in cities

Following are a set of policies and guidelines applicable in general while developing public realm of a city.

Connectivity:

The public space should be connected to variety of transport modes so that it is accessible to public from any nook or corner of the city.

Accessibility:

The public space must be universally accessible. Special efforts should be made in order to provide assistance for the physically challenged people.

Timings:

The public space in a city must be ideally open for all the people on twenty four hour basis. For the purpose of safety and security, the public space can be closed down for visitors during the night hours.

Charges:

All the public spaces in a city should be free for the visitors. For maintenance purpose and to impart a sense of responsibility towards the public space token amount can be charged by the in charge agency.

Hierarchy of public spaces:

In order to provide the people with better living quality, the city should have a series of well distributed public spaces mainly at three levels- 1. City level public spaces, 2. Ward/ sub-city level public spaces, and 3. Neighbourhood level public spaces.

Maintenance of the public spaces:

All the public spaces should be maintained by the respective agencies like the city government or respective departments of the corporation/ council. The public spaces should be surveyed periodically to understand their condition, extent of activity as well as if any maintenance work is necessary. People's participation becomes important in surveying and maintaining the public spaces. People should be made involved in the policy decisions regarding the public spaces that they use.

Planning standards for public spaces:

The dissertation studies the urban public spaces, their classification, their characteristics and need of such spaces in urban setting. In order to understand the condition of public realm, detail survey was carried out for the city wards of Mumbai. Data collected from the various departments of MCGM and the findings of the survey were processed to arrive at conclusions about the per capita availability of public spaces, their distribution and extent of use. The planning practices in cities like Delhi, Chandigarh, Ahmedabad, Chennai and Mumbai were compared by reviewing the respective cities' plan documents. With all the effort, it was found that, there are no standards provided for planning of public spaces, in the plan documents regarding the distribution of public spaces, minimum available per capita public space, and the distance within which a public space should be accessible from a residential locality, a neighbourhood or a town. With the review of literature, statistical analysis and case studies, this dissertation discusses certain planning standards and guidelines for planning, developing and improving urban public spaces.

The population and the social infrastructure of which public realm is a vital part should be in appropriate proportions. While Indian cities like Delhi and Chennai have per capita open space (which constitutes a major part of public spaces in the form of recreational grounds, parks, playgrounds, open spaces and gardens) availability as 4 sq.mt., Mumbai lags behind at per capita open space availability with 1.8 sq.mt. (Dinesh Naik). There is a severe need to improve the existing open spaces and add more to the area by means of various strategies and policies. Strict regulations regarding redevelopment, change of land use should be done and implemented successfully.

Looking at the current development trends, by ways of redevelopment of Mumbai Mills's land and overall redevelopment taking place in the city is in bits and pieces. Also, this is a well-knit strategy of real estate developers, to earn enormous money by developing the land for higher income group people. This is driving the common man away and out of the city limits. The plans should be prepared in such a way that, the common man is in the centre of all policies and developments. The better off people are capable to take care of their lifestyles with their earnings, while it is the common man who needs attention to survive with a decent standard of life. Thus, while planning public spaces, care should be taken to have these public spaces within reach of the common man- physically, socially as well as economically.

Each of the cities must possess certain public spaces to be availed by its citizens for no cost at all. A city having population more than a million should have a botanical garden, an aquarium, a stadium, a zoological park, number of parks and gardens at various sub city

level and neighbourhood level. The city needs to have a public library with best possible facilities. To avail such possibilities, the eligibility criteria should be just an identity card or a smart card provided by the city government which would identify the citizen of the city.

The city centre is a prime area to be taken care while planning public spaces. The CBD or city centre in majority of the cities, is found to be consumed by the motor vehicles with very less or no activity spaces except for work. Every city centre depending upon its area must have pedestrianized plazas and public squares as main civic spaces where people can relax and rejuvenate right next to their work places. Also, city centre being the most accessible area in the city, care should be taken to connect it to various parts of the city by means of public transport. This would help in avoiding extra traffic in the city thus making the city user friendly. Such policies are being implemented in many European cities to give the cities back their charm of public realm.

Public spaces are running wheels of economy. They have tremendous potential to generate employment. The informal sector accounts for 66.7% of total employment in Delhi and 68% in Mumbai. (Rahul Srivastava) Workers engaged in this urban informal sector form the bulk of the urban poor. The public spaces are the places where informal sector has an opportunity to earn a living. While planning for public spaces, conscious efforts are to be made in order to include the informal sector. The planning agencies and development authorities tend to eliminate the informal sector, which is harmful for the economy of the city as well as the nation in turn. When the informal sector is allowed to flourish in an orderly manner and a systematic way, by providing them basic amenities and infrastructure, a record of the vendors/hawkers should be maintained. This will not only provide a concrete database about the population based on informal sector, but will also help them survive better.

With the above considerations, a city government should work at grass root level to improve the public realm of the city.

6.3 In conclusion:

The principles and the dos and don'ts regarding the planning, design and management of the public spaces give a platform to evaluate and compare various public spaces that are being used in cities. The western countries in general and the European countries in particular are very sensitive to follow the good practices to maintain and improve the public realms, where as we in India appear to have lost our sensitivity and priority towards public spaces in cities which is evidenced by the near absence of imaginatively designed public

spaces in our city extensions and new cities. Even the existing public spaces of our historic cities, some of which are potentially very outstanding, are ill managed and allowed to be blighted, polluted by vehicles or simply vandalized. To improve the social health of cities and allow people to enjoy better lives, and visitors to have memorable experience, it is imperative to reintroduce public spaces as focal points in our cities and city extensions and bring fresh life and vigour to our cities. With the growing economic disparities and living conditions of people in our cities, it is important that architects and urban planners are engaged to create, renew and revitalize public spaces in our cities to make life more cheerful and more liveable for every citizen.

The above dissertation study underlines the shortage of public spaces in Mumbai city. The distribution of available public spaces is not uniform. Some areas are blessed with large and vibrant public spaces, while some areas have poor public space both in number as well as quality.

During the study and surveys, it was found that the available public space in the city is not used up to its fullest limit. The existing public spaces have a long way to become successful public spaces by certain additions, alterations as well as removal certain activities.

To maintain a better public realm in a city, it is a must to survey the public spaces periodically and improvements should be made in the spaces accordingly. The people should be asked for feedback about the feedback of the public spaces that they use.

The opportunities like development of brown field sites should be tapped in serious manner by the way of planning policies, guidelines and development control regulations to improve city's public realm and to integrate more public spaces in the urban fabric. Last but not the least, while planning for the public spaces, a common man must be aimed at and not a specific social class of the community.

References:

Books, Research papers and Journals:

Asha Jadeja, *Urban Open Spaces; A case study of Ahmedabad City*, 1984, Unpublished thesis work CEPT

Banerjee, Tridib(2001) 'The Future of Public Space: Beyond Invented Streets and Reinvented Places', *Journal of the American Planning Association*, 67: 1, 9 — 24

Carr S., Francis M., Rivlin, L.G. & Stone, A.M. (1992), *Public Space*

Charles Correa and other members, *A report on Mumbai Mill Lands*, 1996

Charles Correa and other members, *A report on Mumbai Mill Lands*, 1996

Development Control Regulations of Mumbai, Urban Development Department, Govt. of Maharashtra

Francis Tibbalds, *Making people friendly towns*, Spon Press, 2001

Gauri Shitole, *Reinventing the Mumbai Mills*, Unpublished B. Arch. Thesis, 2009

George Varna and Steve Tiesdell, *Assessing the publicness of public space: The Star Model of Publicness*, *Journal of Urban Design*, (Vol 15, No4) 2010

Gerald A. Porterfield and Kenneth B. Hall , *A concise guide to community planning*

GOM, *Development Control Regulations of Mumbai*, Urban Development Department

Helen Wooley, *Urban Open Spaces*, Spon Press, 2003

Jan Gehl & Lars Gemzoe, *Public Spaces- Public Life*, The Danish Architectural Press, Edition 1999.

Jane Jacobs & William H Whyte, *Urban Theorist*

John Ormsbee Simonds, *Garden Cities 21*, The Kingsport Press

Ken Worpole, *The social dimensions of urban design*, *Urban Design Structures*

Matthew Carmona, *Contemporary Public Space Part 1 & 2* , *Journal of Urban Design*, (Vol 15, No1 & 2) 2010

Matthew Carmona, Tim Health, Taner OC and Steven Tiesdell, *Public Places – Urban Spaces The dimension of urban design*, 2003

Prajakta Bhurke, *MURP*, IIT Roorkee

MMRDA (1996), *Regional Plan for Mumbai Metropolitan Region 1996-2011*, Mumbai Metropolitan Region Development Authority, Mumbai

Nallathiga R., *REDEVELOPMENT OF INDUSTRIAL LAND IN URBAN AREAS: OPPORTUNITIES AND CONSTRAINTS. A CASE STUDY OF TEXTILE MILL LAND REDEVELOPMENT IN MUMBAI*, 2010, A research paper

Paul Zucker, *Town & Square*, New York: Columbia University Press, 1959

Peter Nijkamp & Piet Reitveld, *Cities in Transition: Problems & Policies*

Rahul Srivastava, *The informal sector and urban poverty*, Infochange and Urban India, 2011

Vineet Gupta, *Human aspects of open public spaces: A case study of Ahmedabad*, 1978, Unpublished thesis work CEPT

Websites:

<http://www.planning.org>

<http://www.pps.org>

<http://en.wikipedia.org>

<http://jnnurm.nic.in>

<http://chandigarhonline.in>

<http://www.mcgm.gov.in/>

Annexures:

Annexure I:

Survey Schedule for evaluation of public spaces:

Public Spaces: Survey Schedule

- a. Name of the public space: _____
- b. Classification: _____ c. Area (Ha): _____
- d. Location: _____ e. Ward: _____
- f. Features: _____
- g. Predominant land use/s in surrounding areas: _____
- h. Shape: Rectangle [], Circle [], Triangle [], Oval [], Irregular []

1. Connectivity:

- I. Connecting transport modes to reach the public space:
 Bus [], Suburban Train [], Taxi [], Auto [], Private vehicles [], Walk []
- II. Proximity of the space from the transit station:
 a. Railway station: < 500M [], 500M-1000M [], >1000 M []
 b. Bus stop: <200M [], 200M – 500M [], > 500M []
 c. Taxi/ auto stand: <200M [], 200M – 500M [], > 500M []
- III. Availability of parking: Yes [], No []
 d. Proximity of the space from parking: <200M [], 200M – 500M [], > 500M []

2. Landscape features :

- I. Natural: Sea [], Any other: _____
- II. Manmade: Water body [], Flower beds [], Trellis [], Hedges & Shrubs [], Tree plantation [], Any other _____

3. Physical characteristics:

- I. How are the boundaries defined?
 Enclosed by:
 Fence: [], All [], 3 [], 2 [], 1 [] Sides
 Wall: [], All [], 3 [], 2 [], 1 [] Sides
 Hedge: [], All [], 3 [], 2 [], 1 [] Sides
 Parapet/Bund wall: [], All [], 3 [], 2 [], 1 [] Sides
- II. What are the activities taking place at/near boundaries?
 No activity [], Hawking [], People sitting and meeting other people [], Other _____
- III. Kind of development around the space:
 Commercial [], Residential LIG [], Residential MIG [], Residential HIG [],
 Institutional [], Other _____
- IV. Air Pollution: Nil [], Low [], Moderate [], High []
- V. Noise Pollution: No [], Low [], Moderate [], High []

4. Social characteristics:

- I. Frequency of local residents visiting/ using the space:
 Regularly [], Frequently [], Occasionally []

II. Frequency of visitors/non-residents visiting the space:
 Regularly [], Frequently [], Occasionally []

III. Time spent by people in space on an average:

	Early Morning	Morning	Afternoon	Evening	Night	<1 Hr	1-2Hrs	>2 Hrs
Children								
Youngsters								
Working people								
Senior citizens								
Women								

IV. Hierarchy of the public space:
 Neighbourhood Level [], Ward Level [], City Level []

V. Events occurring at the public space:
 Meetings [], Public addresses [], Performances, Music [], Theatre [], Dance [], Any other _____

VI. Festivals occurring at the space:
 Ganeshotsav [], Govinda [], Food festivals [], any other _____

5. Built form around the public space:

- a. Do the buildings around form a character/ style? Yes [], No []
- b. Do the buildings have continuity? Yes [], No []
- c. Are buildings of historic importance around? Yes [], No []
- d. Do they need conservation? Yes [], No []
- e. Do buildings with their frontage are facing the public space? Yes [], No []

6. Quality of Public realm:

- I. Is the space overlooked by buildings? Yes [], No []
- II. Furniture in the space:

Sr. No.		Nil	Inadequate	Adequate	Ordinary	Decorative art form	Any other special feature
1	Sittings						
2	Dust bins						
3	Lamp posts						
4	Kiosks						
5	Food stalls						
6	Covered sitting spaces						

- a. Sittings: Single seats [], single seats in pairs [], collective single seats [], benches in singles [], collective benches [], continuous platform []
- b. Material of Seating: Wooden [], Iron [], Stone [], Concrete [], Steel [], Any other _____

III. Jogging/ walking track: Yes [], No []

IV. Availability of music on the jogging/walking track: Yes [], No []

7. Legibility:

I. Vistas are made or not: Yes [], No []

II. Are nodal points of activities and routes easily identified? Yes [], No []

8. Ideas/ Suggestions for improvement:

Annexure II:

Occupant Load -Development Control regulations for Greater Mumbai, 1991 :

TABLE 17
Occupant Load

Serial No. (1)	Type of Occupancy (2)	Occupant load per 100 sq.m. of plinth or covered area (3)
1	Residential	8
2	Educational	25
3	Institutional	6.6*
4	Assembly : (a)With fixed or loose seats and dance floor (b)without seating facilities including dining rooms	166.6** 66.6**
5	Mercantile : (a)Street floor and sales basement (b)Upper sale floors	33.3 16.6
6	Business and Industrial	10
7	Storage	3.3
8	Hazardous	10

PLANNING FOR PUBLIC SPACES IN INDIAN CITIES, A CASE OF MUMBAI

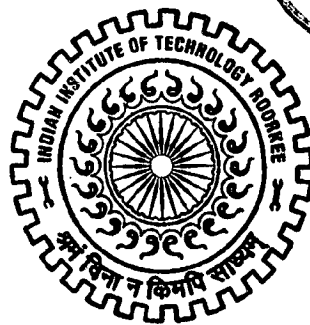
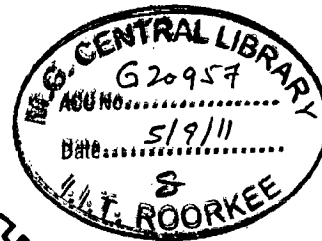
A DISSERTATION

*Submitted in partial fulfillment of the
requirements for the award of the degree
of*

MASTER OF URBAN AND RURAL PLANNING

By

BHURKE PRAJAKTA SURYAKANT SUJATA



DEPARTMENT OF ARCHITECTURE AND PLANNING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
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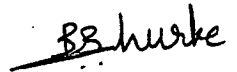
JUNE, 2011

CANDIDATE'S DECLARATION

I hereby certify that the work, which is being presented in the dissertation, entitled **"PLANNING FOR PUBLIC SPACES IN INDIAN CITIES, A CASE OF MUMBAI"**, is partial fulfilment of the requirement for the award of the degree of Master of Urban and Rural Planning, submitted to the Dept. of Architecture and Planning, Indian Institute of Technology Roorkee, Roorkee is an authentic record of my own work carried out during the period from July 2010 to June 2011 under the supervision of Prof. R. Shankar, Dept. of Architecture and Planning, Indian Institute of Technology Roorkee, Roorkee.

The matter embodied in this dissertation has not been submitted by me for the award of any other degree.

Dated: 28th June'2011

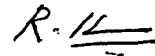


Place: Roorkee

(Bhurke Prajakta Suryakant Sujata)

This is to certify that the above statement made by the candidate Miss. Bhurke Prajakta Suryakant Sujata is correct to the best of my knowledge.

Dated: 28th June'2011



Place: Roorkee

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EXECUTIVE SUMMARY

Cities are engines of the economy of the country. Cities are organic. They grow in terms of population, infrastructure, their physical size and economy. It is the people, who work and live in city are responsible for the success of the city. It is the duty of the city government to provide the people with best possible infrastructure services, facilities and amenities. The rank of a city depends upon the quality of life it can give to its citizens. It is in this context, that a good public realm, improves the standard of living of the citizens eventually making the city work better.

To have good quality of life recreation is inevitable part of life. The public spaces in the city are responsible for providing people with leisure and recreation. The public spaces that are available to all the users of the city at all the time having bustling environment and variety of activities to perform are responsible for making the cities more liveable.

The dissertation report starts with introduction to the problem with the aim, objectives, scope of work, limitations for the study and methodology followed for the dissertation. This chapter has explored the possible areas for study in relation with the topic.

A comprehensive literature survey has been done beginning with the definition of public space, followed by its classification by various authors, benefits of public spaces in an urban scenario, parameters for evaluation of a public space and factors responsible for the failure and success of the public space. Public spaces in the historical period have been briefly discussed in the chapter. This chapter also gives an idea of the development control regulations for the redevelopment of the Mumbai mill land. A comparative note on the planning policies and plan documents like master plans, city development plans and byelaws with building control regulations regarding planning for public realm in major Indian cities, has been written in the same chapter of literature review.

The third chapter consists of the case studies covering international as well as Indian examples of successful public spaces. The public realm of the two cities namely Chandigarh and Copenhagen has been studied in the chapter of case studies. The study area being CBD of the Mumbai city, city centres are primarily considered for case studies. The city centres of Chandigarh and Copenhagen have been compared on certain parameters to draw inferences.

With the help of reviewed literature and case studies a detail survey schedule has been prepared to analyse the public realm of Mumbai city. Considering the limitations of time span and available information, out of the twenty one wards in the limits of MCGM boundary,

total nine wards lying in the limits of Mumbai City District have been selected for conducting the detail survey of the public spaces. The fourth chapter discusses the entire survey methodology, analysis of the select public spaces and the findings from survey.

After completion of the analysis of public spaces in the city wards of Mumbai, the current scenario of development in the selected ward has been expressed with help of maps and visuals in the fifth chapter. This chapter covers the analysis of the potential brown field sites, which have been handed over to MCGM in order to develop them as spaces for public purpose. This chapter has been written to give a background of the available sites, the regulations for the redevelopment of these sites along with the possible site locations for the planning of the public spaces in the city of Mumbai. With the availability of data and drawings regarding the locations, a site/number of sites have been finalised for preparing an urban planning and design proposal for public spaces.

The sixth chapter is the last chapter of the report having four parts. From the survey carried out for analysis of public spaces in the Mumbai city, four sites have been identified and have been provided with an improvement scheme for improving those public spaces. These detail improvement schemes are explained in writing as well as with three dimensional model making in the sixth chapter. The next part of chapter has been written to explain the proposals on the selected and analysed mill sites in the fifth chapter. The need for planning a city level public space with necessary facts and figures has been established in the third part of the chapter with proposing a suitable mill site for such a public space. In the fourth part of the chapter planning guidelines, recommendations and standards for planning public spaces in urban areas have been discussed concluding the chapter with a note about the planning and maintenance of the public spaces to achieve a better public realm in cities.

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List of Abbreviations:

MCGM	Municipal Corporation of Greater Mumbai
DP	Development Plan
DCR	Development Control Regulations, 1991
FSI	Floor Space Index
GoM	Government of Maharashtra
MMRDA	Mumbai Metropolitan Regional Development Authority
MHADA	Maharashtra Housing and Development Authority
BEST	Brihanmumbai Electric Supply & Transport
sq.mt.	square meter
sq.km.	square kilometre
sq.ft.	square feet
MPD	Master Plan Delhi
CST	Chhatrapati Shivaji Terminus (Victoria Terminus earlier)

Chapter 1: INTRODUCTION

1.1. *Background to the study*

1.2. *Need for the study*

1.3. *Aim*

1.4. *Objectives*

1.5. *Scope*

1.6. *Limitations*

1.7. *Methodology*

1. Introduction

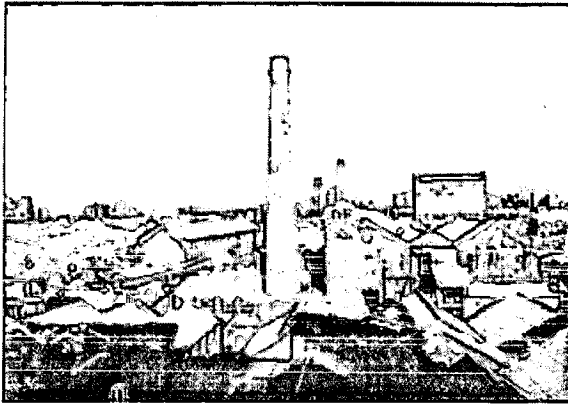
Indian cities are growing fast and are the engines of the development of the nation as a whole. Mumbai is the economic capital of India as well as the state capital of Maharashtra. The city has seen tremendous growth and development over years since the British Period. On the one hand Mumbai stands as an example of public transport oriented growth and on the other, a testing ground for many innovative land management and urban development practices. It also, in a very exemplary way, responds quickly and spontaneously to disasters, both natural and man-made. How should and would Mumbai respond to the multitude of complex challenges of the 21st century is something that the planners, designers, architects and technologists, along with other experts of India from diverse related fields should be concerned about.

This dissertation study tries to understand the significance of public spaces in the urban context with respect to the cities in India and in particular case of Mumbai. To understand the public realm in the city better, the study tries to classify the public spaces as they appear all around the world, what their characteristics are, what activities are taking place at such places, what can be the parameters to judge the success of a public space and last but not the least, the availability of public spaces in the major cities of India and the way to address the public spaces in the planning and development process. Making planning activity more effective and people oriented and how the deficiency should be dealt with is realized through various case studies within the country and from abroad. The dissertation gives an opportunity to deal comprehensively with the planning and design of public spaces in the cities to maintain the cultural and social milieu.

1.1. Background to the study

The impetus towards the founding of a cotton industry in Mumbai came from Indian entrepreneurs. Cowasji Nanabhai Davar opened the Indian cotton mills, "the Bombay spinning mill", in 1854 in Bombay. In 1870 there were 13 mills in Bombay and employed 15,000 people.

This laid a foundation of a strong industrial base, which was consolidated later by about 85 textile mills. Cotton exports grew during the American civil war, when supplies from the U.S. were interrupted. At the end of 1895 there were 70 mills; growing to 83 in 1915. A period of stagnation set in during the recession of the 1920's.



1.1 Aerial view of textile mill of Mumbai



1.2 Dilapidated non-functioning textile mill

In 1925 there were 81 mills in the city. By this time India was the second largest producer and the third largest exporter in the world. The aftermath of World War II brought about several changes in the city. Under strong competition from Japan, the mills declined. By 1950, the looms were sold off and the labour was retrenched under the pretence of modernisation and rationalisation of labour, which never took place. In 1953 there remained only 53 mills in the city. In 1970's faulty land use policies of the state resulted in a boom in the real estate prices of the island city. Many industries sold their land to make huge profits. However due to restrictions on change of land use, of the mill, the textile industry could not exploit the boom in the real estate market except by surreptitious means.

Through the 1980's, the mill owners continued the selling of looms and retrenchment of workers, while production was being subcontracted. At the same time, leading textile houses started engineering and petrochemical industries by diverting the profits from the textile industry. This confirmed the status of Bombay as a leading industrial city, through the textile industry was declining and the city of Mumbai from a colonial port city, grew as a trading city, and later developed as the economical capital for the country.

1.2.Immediate study context

In 1991, the mill owners, under the pretence of modernising the sick mills finally secured the permission from the state government to sell in the speculative market, two million sq.ft. of land lying under the textile village. In 1996, the GoM, set up a study group to prepare an integrated development plan for the development of textile mills land under the architect and designer Charles Correa, following certain principles.

It is in this context, that a study of the public realm of Mumbai City (public spaces including streets, squares, open spaces and public places) which this dissertation deals with, is meaningful. An integral part of the context is availability of 26 "sick" textile mill premises taken over by the government and available in central Mumbai for urban development, giving an opportunity for the people of Mumbai to experience a better city in the coming years which is what is attempted by the dissertation study.

1.3.Aim

To integrate planning of public spaces with the urban fabric of Mumbai city

1.4.Objectives

- a) To study the morphology, function and importance of urban public spaces in the context of urban planning and design.
- b) To study select examples of well-planned public spaces in cities outside India and draw useful guidelines.
- c) To have an overview of historical and recent examples of public spaces in Indian cities.
- d) To study the existing public realm of Mumbai and analyze its performance and future needs.
- e) To analyze the development potential of select brown field sites available in Mumbai in the light of development plan proposals.
- f) To make an urban development proposal integrating public spaces with land use for the select brown field sites of Mumbai in terms of plan, design, development control regulations and 3D form.
- g) To formulate planning and design guidelines for integrating public spaces in urban planning in general and in the context of brown field sites of Mumbai in particular.

1.5.Scope

- a) Though study of public realm has been based on the context of Mumbai city, application of plan proposals and guidelines drawn from this study are relevant in the context of urban renewal in other metropolitan cities of India.
- b) The plan proposals, design details and standards as well as the methodology evolved for the redevelopment of brown field sites is applicable in similar urban development studies for other Indian cities.

1.6.Limitations

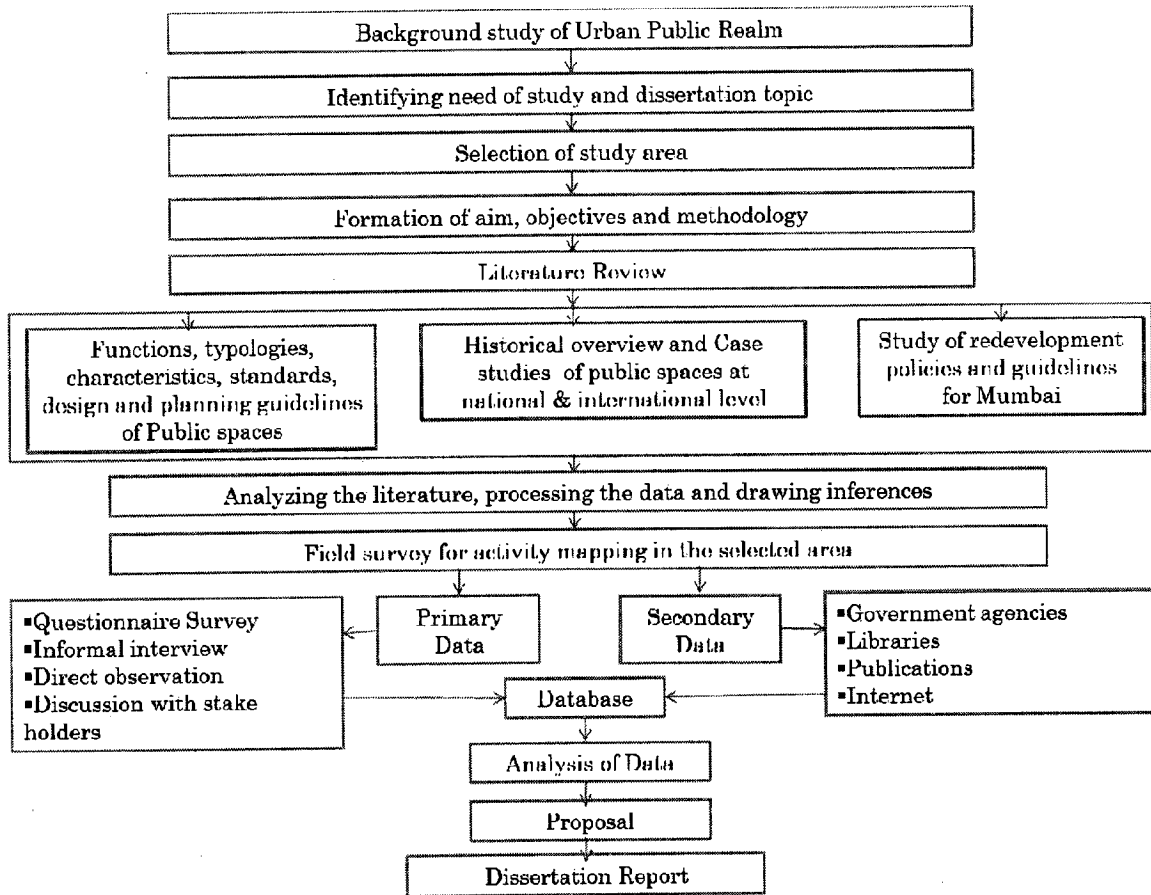
- a) The study has been mainly based on the availability secondary sources in the selected wards of the city.

- b) Inaccessibility to the brown fields has limited data and depth of the field surveys about the brown fields.
- c) The depth of field study was limited by the time frame and paucity of the information.
- d) Case studies of various public spaces in and outside the country was based on available on internet and literature.

1.7.Methodology

In order to achieve the above stated objectives (ref. fig. 1.3):

- a) The first stage formulates the need for study, identification of the problem, formulation of aim, objectives, the scope of study and its limitations along with background study of public realm.
- b) In the next stage detailed study of the available data from secondary sources and literature regarding the functions, typology, characteristics, standards etc. for design of the public spaces and case studies has been done.
- c) Analyzing the literature and data and drawing inferences with projections of required data would be the next step of work.
- d) In the next stage the data gathered through field surveys of the selected area is processed.
- e) The database thus created is further processed for drawing policies and recommendations for proposals.
- f) The final stage consists of preparation of the proposals, improvement schemes and guidelines for select studied public spaces, general recommendations and policies guidelines for designing of public spaces in urban scenario with reference to the redevelopment potential of sites and eventually the report writing.



1.3 The figure explaining methodology

Chapter 2: LITERATURE REVIEW

- 2.1 *What is 'public space'?*
- 2.2 *Classification of public spaces:*
- 2.3 *Benefits of great public spaces in cities:*
- 2.4 *Factors responsible for making a public space successful:*
- 2.5 *Reasons for failing of public spaces:*
- 2.6 *Historic Public Spaces of India*
- 2.7 *Critical Comparison of planning practices regarding public realm in the Indian cities:*

2. Literature Review

To understand and analyse the public spaces, a variety of literature is available in terms of books approaching the public realm in the classical way, and those discussing the cities, various research papers, technical journals, critical comments, essays and so considerable information available on the internet through a number of websites. For the dissertation, mainly classical books, research papers and publications in journals, explaining the development of cities from the context of urban design were referred and reviewed, along with information and visuals available through the internet.

The literature reviewed can be categorised into:

- Nature and typologies of public spaces, classifications
- The qualities or attributes required by the public spaces in order to become successful
- Functions/uses of public spaces in an urban scenario
- Evaluation of the public spaces based on certain parameters
- Overview of historic public spaces in India
- Planning practices in Indian cities with respect to public spaces

2.1 What is 'public space'?

Many authors have defined the "public space" in number of ways on the basis of parameters like ownership, accessibility criteria, the user groups, activity patterns seen in the spaces etc. Majority of the authors accept the universal accessibility and vitality of social interaction provided by the public space. It goes unquestioned that in the current community the range of public spaces is varying and all of them are needed to be addressed in a more responsible way to achieve better urban public spaces.

A public space is social space such as a town square that is open & accessible to all, regardless of gender, race, ethnicity, age or socio-economic level. Public spaces are part of urban life, offering excitement and repose, markets and public ceremonies, a place to meet friends and watch the world go by. (Michael Webb) The coming together of people in space in time facilitates an important social dimension which has subsequently been taken as an essence of the "urban" in a cultural sense. (Oldenburg, 1999) Public space is spatial location or venue of activities where through face to face human contact, social interaction takes place in Public Realm. (Vineet Gupta, 1978) An attractive public realm is very important to a

feeling of well-being and comfort (Fransic Tibbalds). Public spaces provide recreation to the citizens. Recreation need not be something one must go somewhere to find. At best it is the part of daily living experience. Although specific types of recreation – such as sports and court games – may need their own specialized areas, recreation may also be no more than a jog or walk down a pleasant path or a visit while minding the kids at the playground. A proper community abounds with enjoyable things to see and do- “a fun place in which to live” (John Ormsbee Simonds) Successful public places are the places which belong to all and are easily accessible. These are the places where people can go out to participate in a collective identity, be excited, silent & anonymous all at once! (Rahul Mehrotra,1999).

Number of critics comment about the lost public realm in cities due to automotives, communication technologies and personalized entertainment gadgets. With this changing lifestyle of people, actually the essentials of public spaces have gone higher. (Matthew Carmona, 2010) The concept of public space is not new. It has been present in the human civilizations from ages. The Athenian Agora, Roman Fora are very expressive examples of this. We have to admit that the forms of public space are changing with the generations. And we have to understand them as per their functions, user groups, management, and behavioural aspects.

2.2 Classification of public spaces:

Public spaces can be categorised on the basis of shapes or ground plans of spaces in cities, ownership and activities taking place in and around these spaces. Spiro Kostof has elaborated the classification of squares on their physical forms i.e. their plans (1992). Flusty (1997) categorises the public spaces into five types based on people’s experience. Matthew Carmona (2010) defines a new typology of urban public spaces in which they are categorised into positive, negative, ambiguous and private spaces. B.V.Doshi has classified the Indian public spaces as street bazaars, local activity streets, activity nodes, and public greens, all having important characteristic of presence of hawkers.

2.21 According to Carr et. al.(1992), there are following eleven functional types of public spaces-

- i. Public parks
- ii. Squares and plazas
- iii. Memorials
- iv. Markets
- v. Streets
- vi. Playgrounds

- vii. Community open spaces
- viii. Greenways and parkways
- ix. Atria and indoor markets
- x. Found spaces/ everyday spaces
- xi. Waterfronts

2.22 The way users engage with space also forms the basis of a typology suggested by Dines and Cattell (2006) who classify the spaces based on the human behavioral pattern in public spaces-

- i. **Everyday places:** the range of everyday neighborhood spaces that make up much of the public realm and the everyday venues for interaction
- ii. **Places of meaning:** that differ from person to person and that relate to particular associations and meanings attached to particular spaces, both positive and negative
- iii. **Social environments:** that through their design and uses actively encourage social encounters like between users, both fleeting and more meaningful
- iv. **Places of retreat:** to offer a chance to people to be alone with their thoughts or to socialize in small group of friends
- v. **Negative spaces:** where some experience aspects of antisocial behaviour, including racism and disruptive activities that are often perceived as threatening.

In reality none of these categories are mutually exclusive. Spaces may at the same time be everyday, social and places of meaning. Thus this categorization tends to be overlapping and fluid.

2.23 Flusty (1997) categorises explicit exclusionary tactics, by distinguishing between five types of spaces, each designed to exclude to different degrees.

- a) **Stealthy space:** is the space which is camouflaged or obscured by level changes or intervening objects, and which therefore cannot be changed
- b) **Slippery space:** this is difficult to reach because of contorted, protracted means of access or missing paths
- c) **Crusty space:** to this kind of spaces access is denied due to obstructions such as walls, gates and checkpoints
- d) **Prickly space:** is difficult and uncomfortable to occupy, for example seats designed to be uncomfortable, lingering
- e) **Jittery space:** it is the one that is actively monitored and which is cannot be used without being observed

It can be clearly seen that even in the above stated characteristics of the public spaces, there are certain types of spaces which can execute one or more than one features. They are not all exclusive.

2.24 Matthew Carmona (2010) defines a new typology of urban public spaces in which they are categorised into of positive, negative, ambiguous and private spaces. They are as follows:

Sr. No.	Space type	Distinguishing characters	Examples	In MUMBAI
POSITIVE SPACES				
1	Natural/semi natural urban space	natural and semi natural features within urban areas, typically under state ownership	Rivers, natural features, sea fronts, canals	Sanjay Gandhi National Park, Kanheri caves, sea fronts at Dadar, Girgaon, Worli
2	Civic Space	The traditional forms of urban space, open and available to all and catering to a wide variety of functions	Streets, squares, promenades	Kalaghoda art precinct, arcaded walkways at the D N Road
3	Public open space	Managed open space, typically green and available and open to all, even if temporarily controlled	Parks, gardens, commons, urban forests, cemeteries	Shivaji park, Hanging gardens, five gardens
NEGATIVE SPACES				
4	Movement space	Transport stops and interchanges, whether internal or external	Main roads, motorways, railways, underpasses	Suburban railway stations, bus depots, bus stops
5	Service space	Space dominated by modern servicing requirements needs	Car parks, service yards	Car parks below the flyovers
6	Left over space	Space left over after development,	SLOAP'(Space left over after planning), Modernist open	

designed without function space

- | | | | | |
|---|-----------------|---|---|------------------------|
| 7 | Undefined space | Undeveloped space, either abandoned or awaiting development | Redevelopment space, abandoned space, transient space | Mills' lands of Mumbai |
|---|-----------------|---|---|------------------------|

AMBIGUOUS SPACES

- | | | | | |
|----|-----------------------------|--|--|--|
| 8 | Interchange space | Transport stops and interchanges, whether internal or external | Metros, bus interchanges, railway stations, bus/tram stops | Suburban railway stations, bus stops, bus depots |
| 9 | Public 'private' space | Seemingly public external space, in fact privately owned and to greater or lesser degrees controlled | Privately owned 'civic' spaces, business parks, church grounds | IT parks, public halls attached to religious institutions like temples, churches, mosques etc. |
| 10 | Conspicuous space | Public spaces designed to make strangers feel conspicuous and potentially unwelcome | Cul-de sacs, dummy gated enclaves | |
| 11 | Internalized 'public' space | Formally public and external uses internalised and often privatized | Shopping/ leisure malls, introspective mega structures | Malls, art galleries |
| 12 | Retail space | Privately owned but publically accessible exchange space | Shops, covered markets, petrol stations | Road side shops |
| 13 | Third place spaces | Semi-public meeting and social spaces, public and private | Cafes, restaurants, libraries, town halls, religious buildings | Asiatic library, haji ali durgah, various restaurants and cafes |
| 14 | Private 'public' space | Publically owned but, functionally and user determined spaces | Institution grounds, housing estates, university campuses | Parks attached to residential societies |

15	Visible private spaces	Physically private, but visually public space	Front gardens, allotments, squares	front gardens of gated offices
16	Interface spaces	Physically demarked but publically accessible interface between public and private space	Street cafes, private pavement space	Food stalls on the pavements, shops extended by spill over at the footpaths
17	User selecting spaces	Spaces for selected groups, determined (and sometimes controlled) by age or activity	Skate parks, playgrounds, sports fields/ grounds, courses	Mahalaxmi race course, cricket and football stadia, hockey fields attached to gymkhanas

PRIVATE SPACES

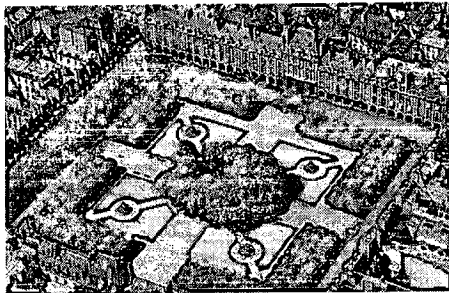
18	Private open space	Physically private open space	urban agricultural remnants, woodlands	N.A.
19	External private space	Physically private spaces, grounds and gardens	Gated streets/enclaves, private gardens, private sports clubs, parking courts	gardens and parks in residential communities, housing societies, private sports clubs and their grounds
20	Internal private space	Private or business space	Offices, houses etc.	Office premises not accessible to people other than employees, eg. Godrej Campus at Vickroli

Out of the above categories as given by Matthew Carmona, the study will consider the spaces that fall under the category of the Positive public spaces, public open spaces and specially the civic spaces. These are the spaces which need to be taken care of in planning guidelines and designing of the cities. The types of spaces especially the private spaces and many of the ambiguous spaces are not accessible to all and everyone but people meeting with the certain criteria laid down for entering such spaces. But the positive public spaces

are the domain of the governing agencies and the development machinery in the city and are for all the citizens.

2.25 Paul Zucker's taxonomy of squares, based on the physical forms; in his book, *Town & Squares: From the Agora to Village Green*, 1959, is given as,

- i. **The closed square:** where the space is static and self-contained like Place des Vosges 2.1)
- ii. **The dominated square:** where the space is dynamic, that is directed toward a terminal object which can be a church, a gate or an arch, a fountain, or a view 2.2)
- iii. **The nuclear square:** where space is formed around the a central statue, fountain, or other vertical accent (Fig 2.3)
- iv. **The grouped square:** the combination of spatial units for eg. St. Petersburg 2.4)
- v. **The amorphous square:** Times Square in New York 2.5)



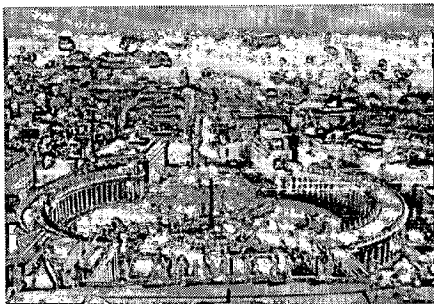
2.1 Place des Vosges, Paris, A closed square



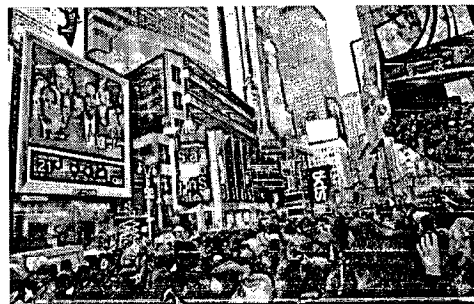
2.2: Nottingham old market square, England, A dominated square



2.3: The Louvre, Paris, A nuclear square



2.4 The Petersburg, Russia, grouped square



2.5 Times Square, New York, an amorphous square

2.26 Spiro Kostof has elaborated the classification of squares on their **physical forms** i.e. **their plans**. The six form based classifications are-

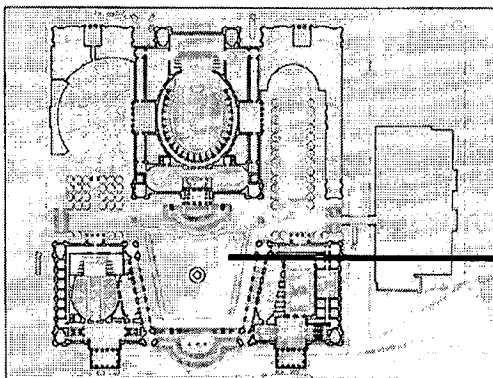


2.6: Place Dauphine, Paris

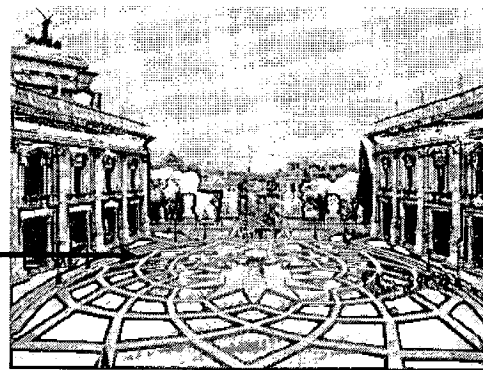


2.7: Place Dauphine, Paris Plan of location

The triangle: The triangular public place of "organic" towns is almost always the inflated crossroads, the characteristic setting for open-air markets. The feature is a commonplace of English medieval towns; it is likely to appear at the foot of the castle where three important roads come together. The shape is flexible: the sides tend to give, bulging or receding in gentle curves; the "points," where the converging roads open into the square, are loosely defined. Though, in geometrical form, a triangle is rare. (Fig.2.6 & 2.7)



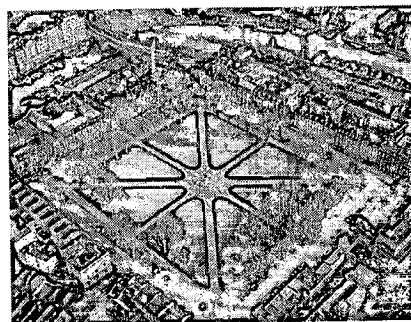
2.8: Plan Michaelangelo's Campidoglio, Rome, Italy



2.9: Michaelangelo's Campidoglio, trapezoidal square

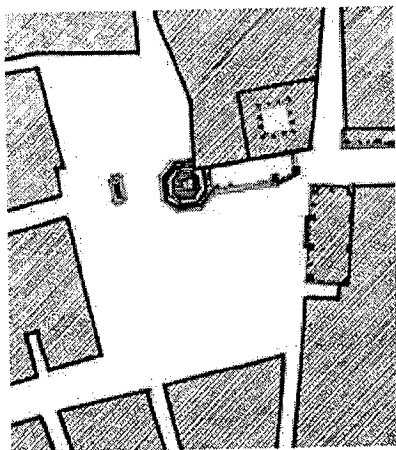
The trapezoid: The principle here might be said intrusion of a climactic façade on one of the points of a triangular plaza. The schematic reproduction of a perspective box so simulated might account for the identification of the type with the Italian Renaissance. The telltale sequence, which some scholars consider deliberate, consists of Bernardo Rossellino's square at Pienza (1459), Michelangelo's Campidoglio (1537), and the small unit in front of the basilica in Bernini's Piazza of St. Peter's (1656).(Fig. 2.8, 2.9)

The rectangle: This form is relatively rare being a perfect square in plan. Two famous examples are the Place des Vosges in Paris & Queen Square at Bath. Because of the equality of the sides, this type does not easily lend itself to architectural emphasis directing attention onto the open space. County and state capitals in the United States, which devote one of the checkers of the urban grid to the town square, commemorate this fact by placing the courthouse or capitol on a slight eminence in the middle of the space. The common rectangle, on the other hand, is possibly the most frequently used shape for the public place. One of its advantages is precisely that it allows a directional axis toward a culminating monument. . 2.10)

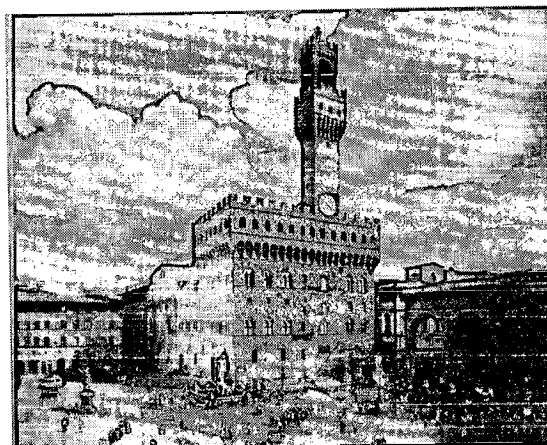


2.10: Queen's Square at Bath, England

The L-shaped Square: Normally, this is a combination of two separate adjacent rectangular spaces, as with the monumental case of the Piazza and Piazzetta S. Marco in Venice. The corner of the L-shaped square becomes a critical point of emphasis for the visual cohesion of the space.



2.11: Plan, Piazza del Signoria, Florence, Italy



2.12: Piazza Del Signoria, Florence, Italy

The corner of the L-shaped square becomes a critical point of emphasis for the visual cohesion of the space. In Venice this corner is stabilized with S. Marco's free standing

campanile. The Renaissance prefers sculpture, like the Gattamelata of Donatello in Padua at the northwest corner of Saint Antonio, Giambologna's Neptune Fountain in Bologna, and the statue of Cosimo I at the Piazza della Signoria in Florence, also by Giambologna. (Fig.2.11 & 2.12)

The circular & elliptical squares: In antiquity, these forms, though infrequent, were not unknown. The renaissance revived these curvilinear types for its public places, as it did in its architecture.

Hemicycle form: The natural progenitor of this type is the concave recession in the building line across from an important public building like a church. The earliest examples seem to come in the first half of the 13th century, and the arrangement is widespread enough in Europe to suggest the northern rather than a Mediterranean origin. Never very deep, the concavity merely expands the street running along the public building and dignifies its façade, without interrupting the spatial flow. There can be further two types of such squares based on whether the plaza breaks the line of the curve to collect the traffic forming an open form of hemicycle or keeps this line intact making a closed form of hemicycle.

Public spaces are the heart of civic life in a city. The physical environment of these spaces must encourage and accommodate the diverse activities that the citizens, young and old, indulge in.

2.27 According to B. V. Doshi (1976) in the Indian cities, **Street Bazaars** are the most preferred behaviour settings for public activities. Even though this trait of human behaviour is well recognized by most, our planning standards have failed to respond to these in a meaningful manner. Next to main bazaars, **local activity streets** and squares are the other important public spaces. Their location and physical character must enhance their role in the residential areas. Activity streets are the more local versions of the street bazaar. An activity street supports the relatively local, non residential activities like shops and workshops to social services like schools, health services and institutional uses like temples and libraries. These activities may occur in different compatible groups, either around small chowks or preferably along linearly along major residential streets. They are ideally suited as informal meeting places for children, teenagers, women and elderly. The next in the classification come the **activity nodes**. These are the very common sites in India where a number of activities are concentrated along apparently crowded streets. This takes place due to potential of certain activities to generate larger volumes of activities. Some such places are the open spaces between the colonnaded walkways in southern Mumbai on the D N Road. **Public Greens** are a major category of public spaces and are the elitist need for the green space. Parks are essential in the cities to maintain the green areas as well to allow

comfortable play and use. The fifth category mentions the **hawkers in public spaces**. Hawkers are integral to the nature of our economy characterized by large informal sector activities and the design of public spaces must respond to their needs.

The literature reviewed to understand the concept and nature of the term “public space” is a cluster concept and it has multiple & sometimes contradictory definitions.

2.3 Benefits of great public spaces in cities:

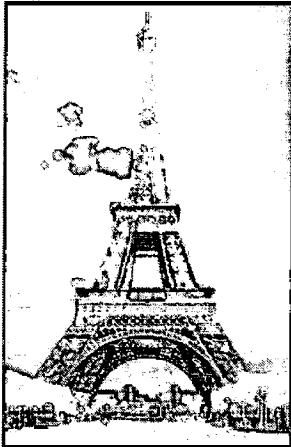
Great public places contribute to community health – whether socially, economically, culturally or environmentally. They add enhancement to the civic realm – not only visually, but also in providing a sense of character and a forum for public activities. They can be anchors for downtowns and communities, acting as focal points for definition and foundations for healthy growth. All of these assets, as well as the opportunity these places offer for people to relax and enjoy themselves, add up to greater community liveability.

Great public places benefit all kinds of communities, from dense urban neighbourhoods and downtowns to small towns and suburbs, and from diverse communities to those with a single ethnic group. The following benefits focus primarily on the importance of these places to cities, but they are applicable to every community.

- i. Give identity to cities
- ii. Benefit cities economically
- iii. Help the environment
- iv. Provide settings for cultural and social activities

i. Giving an identity to cities:

Without great public places, there would be no great cities. For example, the skating rink and the other public spaces around Rockefeller Centre are one of the most-visited tourist attractions in New York City. Thousands gather there for the annual lighting of the holiday tree or to stand in the street outside the “Today Show” studios, hoping to be on television. These public spaces represent New York the way the Eiffel Tower represents Paris (Fig.2.13). While people travel thousands of miles to experience such revered places as the Piazza San Marco in Venice, the Champs Elysee in Paris, Las Ramblas in Barcelona, Central Park in New York, Miami’s beaches, or Riverwalk in San Antonio, others need only to walk down the street to find places they cherish. Indeed, great public spaces can be world-renowned, or they can be important because the people in a particular neighbourhood value them.



2.13: Eiffel Tower, the image of Paris



2.14: Farmers' green market Union Square, providing economic boost to the city

ii. Economic boosting of cities by public spaces:

Public spaces that are great places have many real and measurable economic benefits. For example, parks can contribute significantly to the land values in a city. In New York, the real estate values around Bryant Park, Central Park, Prospect Park and Riverside Park are the highest in the city. Minneapolis' prime residential areas are located along the extensive park and trail system surrounding its numerous lakes. California's Pacific Coast beaches and parks provide the setting for some of the most expensive homes in the country.

In New York, the Greenmarket on the north end of Union Square has been a major catalyst in revitalizing the surrounding neighbourhood and providing opportunities for small-scale entrepreneurship (Fig 2.14). Upscale restaurants in the area buy produce at the Greenmarket and develop their menus around what is fresh seasonally. Following the example of Union Square, 26 additional greenmarkets are now helping to revitalize neighbourhoods all over New York City. Little Rock, Arkansas' River Market has helped bring the city's downtown to life, spurring development of residential apartments, a museum, the relocation of the city's library, and a sports arena. Seattle's Pike Place Market is a major tourist attraction, supporting more than 600 businesses with sales of over \$100 million.

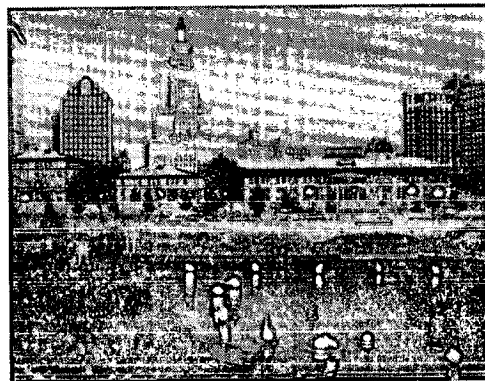
Revitalizing streets for walking, gathering, and shopping is perhaps the most direct example of how public spaces can benefit a city or town economically. Too many towns suffer from streets dedicated to moving high volumes of traffic quickly – a goal that effectively eliminates foot traffic, parking and other features necessary for healthy street life and economic activity. In New Haven, Connecticut, a new streetscape that incorporated wider sidewalks, large trees, enhanced parking, and a community-inspired leasing and development program, helped bring Chapel Street back to life, rejuvenating an important neighbourhood in that city.

iii. Helping the environment:

Great public places also have environmental benefits because they give relief to urban living. Not only do they reduce the need for and dependence on the automobile, but parks and other “green” public spaces, such as waterfronts and wildlife areas, increase people’s appreciation for and stewardship over the natural environment, and also provide habitats for animals – for example, Brooklyn’s Prospect Park is home to more than 200 species of birds (Fig.2.15). What is more, the trees and other greenery so characteristic of these places filter out pollutants and freshen the air.



2.15: Prospect Park, Brooklyn



2.16: Rhode Island's WaterFire

iv. Providing settings for cultural and social activities

Often, public places offer free, open forums for people to encounter art, to enjoy performances, and to participate in other cultural activities. From “Shakespeare in the Park” festivals to string quartets at a downtown plaza, good places foster and enhance a city’s cultural life. Providence, Rhode Island’s WaterFire, an award winning fire and music installation, has had an impressive cultural and economic impact, attracting hundreds of thousands of visitors to the downtown riverfront on summer and fall evenings. A symbol of the city’s renaissance, WaterFire brings people and events to a central urban area that had been typically deserted after dark. These events also bring a great variety of people together and set the stage for positive social interaction. (Fig.2.16)

v. Other major benefits of the public spaces:

- i. Support local economies and informal sector of market: Eg. Streets markets, informal portable vending booths etc.(Fig.2.17)
- ii. Attract business investments: Eg. The railway station areas of suburban stations in Mumbai (Ref. fig.2.18)
- iii. Attract tourism
- iv. Provide cultural opportunities
- v. Encourage volunteerism
- vi. Reduce crime

- vii. Improve pedestrian safety
- viii. Increase use of public transportation
- ix. Improve public health



2.17: Fashion Street, a street market in south Mumbai



2.18: Suburban Railway station area, Mulund

2.4 Factors responsible for making a public space successful:

The various kinds of public spaces that are discussed in this study form a major part of the interactive communities in the city. Some of the spaces are used extensively while some are not. The reason behind this is the quality of the public spaces. Some spaces are used willingly by the people while some are used forcefully, for example the spaces fall on the ways to certain destinations. The publicness of space is understood at two levels viz, conceptual and practical. (George Varna and Steve Tiesdell, 2010).

The spaces can be generally evaluated on how well they perform their functions, to what degree they invite participation of different user groups and how compatible they are with surrounding activity systems. Compatibility is again reflected by how conveniently people can use the spaces and how symbiotic is the use of that space along with the dominant activity in that area. (Asha Jadeja, 1984)

The public are meant to be for common people and are the vibrant centres of the city. People want to use these spaces if they are accessible to all; they hold the various activities that can be participated by number of people, and on an overall level of sociability of the space. Following are the parameters that make the public space successful:

- 2.41 Access & Linkages
- 2.42 Comfort & Image
- 2.43 Uses & Activities
- 2.44 Sociability

2.41 Access & Linkages:

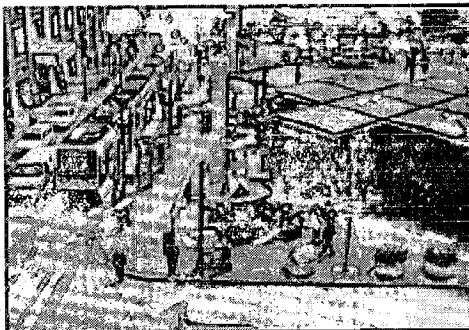
We can judge the accessibility of a place by its connections to its surroundings, both visual and physical. A successful public space is easy to get to and get through; it is visible both from a distance and up close. The edges of a space are important as well: For instance, a row of shops along a street is more interesting and generally safer to walk by than a blank wall or empty lot. Accessible spaces have a high parking turnover and, ideally, are convenient to public transit.

Questions to consider on Access & Linkages:

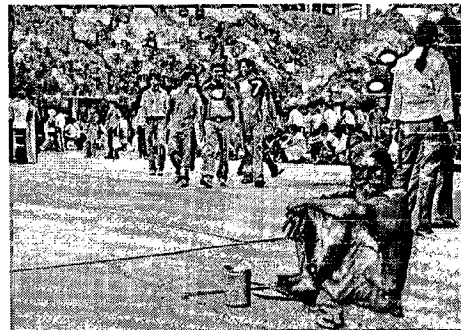
- i. Can you see the space from a distance? Is its interior visible from the outside?
- ii. Is there a good connection between the space and the adjacent buildings, or is it surrounded by blank walls? Do occupants of adjacent buildings use the space?
- iii. Can people easily walk to the place? For example, do they have to dart between moving cars to get to the place?
- iv. Do sidewalks lead to and from the adjacent areas?
- v. Does the space function for people with special needs?
- vi. Do the roads and paths through the space take people where they actually want to go?
- vii. Can people use a variety of transportation options – bus train, car, bicycle, etc. – to reach the place?
- viii. Are transit stops conveniently located next to destinations such as libraries, post offices, park entrances, etc.?

Guiding Principles:

- i. Make public spaces universally accessible
- ii. Make these spaces accessible through different modes of transport, especially public transport (Fig.2.19).
- iii. Provide better visual connectivity with adjoining areas.



2.19: Pioneer Courthouse Square, Portland, Oregon, having very well connectivity both visual and physical



2.20: City centre, Sector 17, Chandigarh, comfort of the place

2.42 Comfort & Image:

Whether a space is comfortable and presents it well – has a good image – is key to its success. Comfort includes perceptions about safety, cleanliness, and the availability of places to sit – the importance of giving people the choice to sit where they want is generally underestimated. Women in particular are good judges on comfort and image, because they tend to be more discriminating about the public spaces they use.

Questions to consider on Comfort & Image:

- i. Does the place make a good first impression?
- ii. Are there more women than men?
- iii. Are there enough places to sit? Are seats conveniently located? Do people have a choice of places to sit, either in the sun or shade?
- iv. Are spaces clean and free of litter? Who is responsible for maintenance? What do they do? When?
- v. Does the area feel safe? Is there a security presence? If so, what do these people do? When are they on duty?
- vi. Are people taking pictures? Are there many photo opportunities available?
- vii. Do vehicles dominate pedestrian use of the space, or prevent them from easily getting to the space?

Guiding Principles:

- i. Enable people to use the space round the clock with no hesitation or fear. (Fig. 2.20)
- ii. Provide for physical comfort as well as choice of places to sit or to gather.
- iii. Make the place look warm and welcoming with careful design of elements.
- iv. Enable people of different age groups and gender to find their niches in public spaces.

2.43 Uses & Activities:

Activities are the basic building blocks of a public space. Having something to do give people a reason to come to a place – and return. (Fig. 2.21 & 2.22) When there is nothing to do, a space will be empty and that generally means that something is wrong.

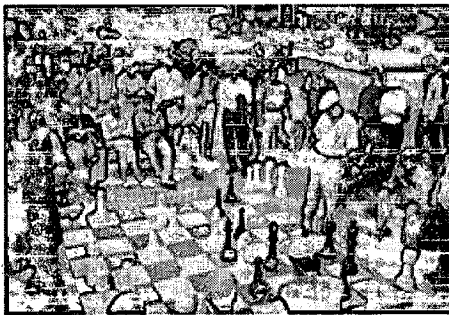
Questions to consider on Uses & Activities:

- i. Are people using the space or is it empty?
- ii. Is it used by people of different ages?
- iii. Are people in groups?
- iv. How many different types of activities are occurring – people walking, eating, playing baseball, chess, relaxing, reading?

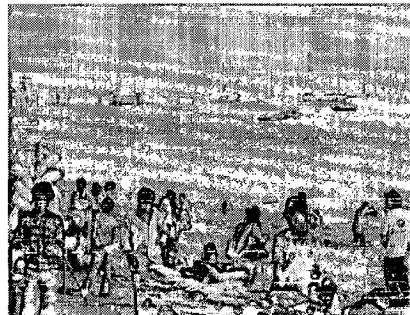
- v. Which parts of the space are used and which are not?
- vi. Are there choices of things to do?
- vii. Is there a management presence, or can you identify anyone is in charge of the space?

Guiding principles:

- i. Make provisions for more activities and the more people to participate.
- ii. Ensure a good balance between men and women and between different age groups.
- iii. Make design provisions and offer opportunities for both singles and people in groups for better socializing, and more fun.



2.21: Kungstradgarden, Stockholm, Sweden, showing interesting activity



2.22: Girgaon Chaupati, Mumbai, expressing the variety of activities to perform on the beach

2.44 Sociability:

This is a difficult quality for a place to achieve, but once attained it becomes an unmistakable feature. When people see friends, meet and greet their neighbours, and feel comfortable interacting with strangers, they tend to feel a stronger sense of place or attachment to their community – and to the place that fosters these types of social activities.

Questions to consider on Sociability:

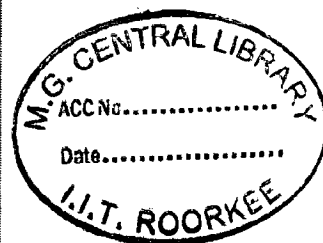
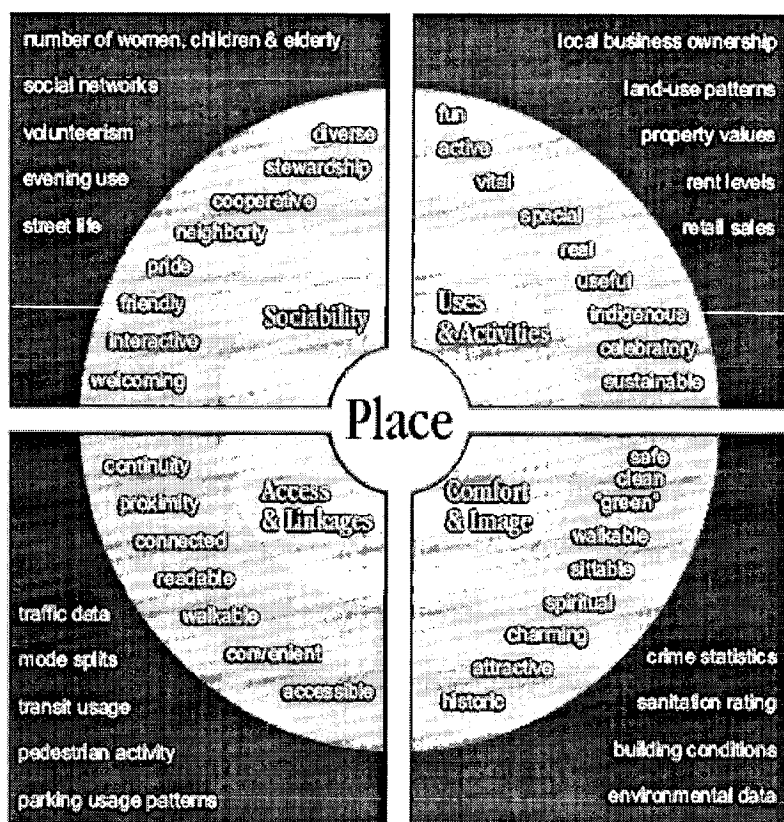
- i. Is this a place where you would choose to meet your friends? Are others meeting friends here or running into them?
- ii. Are people in groups? Are they talking with one another?
- iii. Do people seem to know each other by face or by name?
- iv. Do people bring their friends and relatives to see the place or do they point to one of its features with pride?
- v. Are people smiling? Do people make eye contact with each other?
- vi. Do people use the place regularly and by choice?
- vii. Does a mix of ages and ethnic groups that generally reflect the community at large?
- viii. Do people tend to pick up litter when they see it?

Guiding principles:

- i. Design the space to be inviting and interesting not only to people of the community but also to the visitors.
- ii. Make provisions for holding regular, organized as well as spontaneous activities with equal ease.

These are the questions that give a platform for understanding the quality of any public space. These parameters question the success of the public space qualitatively and quantitatively.

The following diagram provides a better idea of evaluation of the public spaces in the cities:



2.23: The format for evaluation of public space

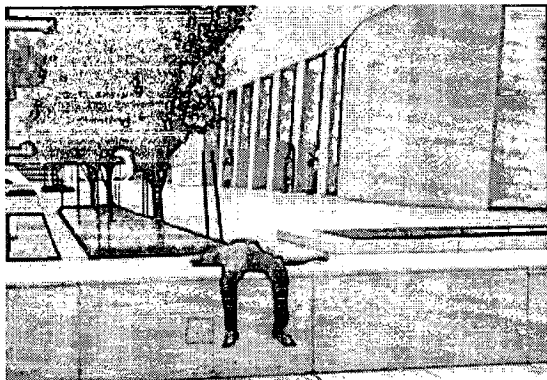
Imagine that the centre circle on the diagram is a specific place that you know: a street corner, a playground, a plaza outside a building. You can evaluate that place according to four criteria in the red ring. In the ring outside these main criteria are a number of **intuitive or qualitative** aspects by which to judge a place; the next outer ring shows the **quantitative aspects** that can be measured by statistics or research.

2.5 Reasons for failing of public spaces:

William H. Whyte once said, "It is difficult to design a space that will not attract people – what is remarkable is how often this has been accomplished." Today, many public spaces seem to be intentionally designed to be looked at but not touched. They are neat, clean, and empty – as if to say, "no people, no problem!" But to us, when a public space is empty, vandalized, or used chiefly by undesirables, this is generally an indication that something is very wrong with its design, or its management, or both. Seven factors which are discussed below are considered responsible for the failure of public spaces.

2.51 Lack of places to sit:

Many public spaces do not even provide a place to sit. So, in their protracted quest just to be comfortable, people are often forced to adapt to the situation in their own way. (Fig.2.24)



2.24: Failure: No proper places to sit



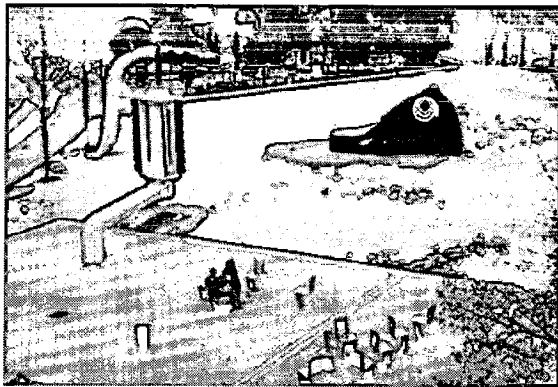
2.25: Success with lots of sitting options

On the other hand, a choice of seats in sun or shade can make all the difference in a place's success, depending on its climate and location (Fig.2.25). Allowing people to sit near a playground or within view of other activities is also crucial.

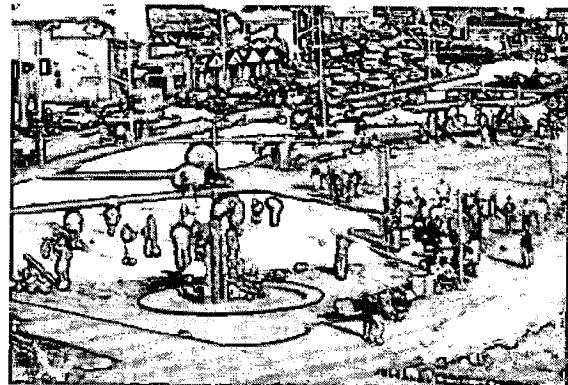
2.52 Lack of gathering points

This includes features people want or need, such as playgrounds, or places where varying elements—bus stop, vending cart, outdoor seating—combine to create a gathering point. Food is often a critical component of a successful gathering point.

Paris' Parc de la Villette (Fig.2.26) has seats that force people to sit in unsociable ways, and signs that ask them *not* to climb on the sculpture. Though located along a stretch of the Pacific Coast Highway, this park at Laguna Beach has loads of activities, food, and places to sit. It is a busy, healthy gathering place (Ref. fig.2.27).



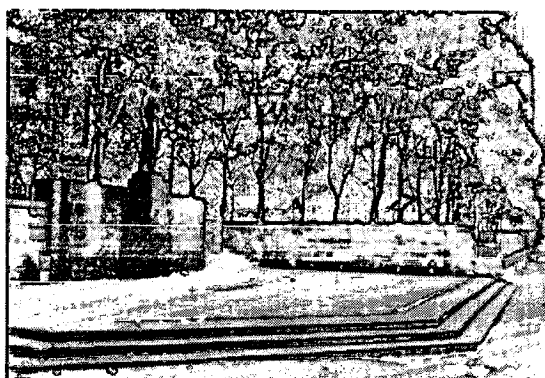
2.26: Failure: No proper gathering space or activity: Paris' Parc de la Villette



2.27: Success: various gathering spots: Park at Laguna Beach, California

2.53 Poor entrances and visually inaccessible spaces

If a space is to be used, people need to see it and they need to be able to get to it. A dark or narrow entrance such as those that used to be at New York City's Bryant Park (Fig.2.28) keeps people out instead of inviting them in. The same entrance was redesigned to be more inviting and open, has kiosks that sell coffee and sandwiches, and the interior of the park is visible from the street. (Fig. 2.29)



2.28: Failure: Old entrance of Byrant Park, New York

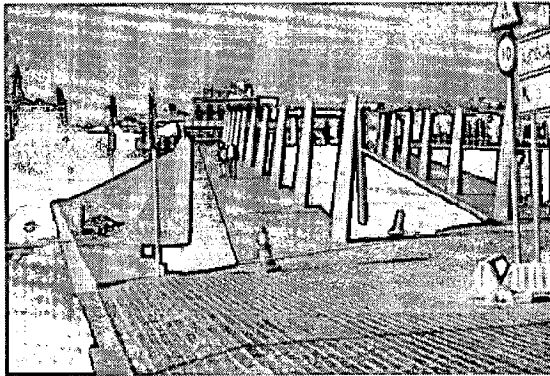


2.29: Success: New design for entrance of Byrant park, New York

2.54 Presence of dysfunctional features

Oftentimes features are designed simply to punctuate the space, serving a use more visual than functional, instead of encouraging activity to occur around them – as at this waterfront park in Barcelona, below. (Fig.2.30)

Good features, such as the old lady's shoe at the Kamala Nehru Garden, Mumbai, encourage activity to occur around them. (Fig.2.31)



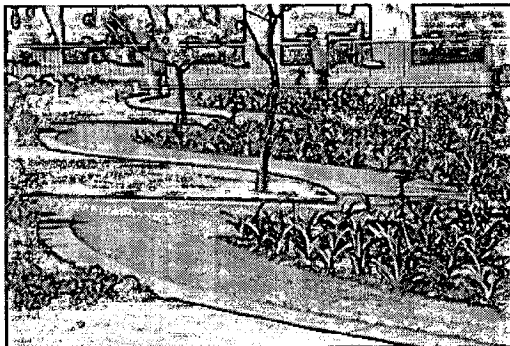
2.30: Failure: waterfront park in Barcelona



2.31: Success: good features like old lady's shoe

2.55 Paths that don't go where people want to go

Paths that lead to nowhere are useless. Also the paths need to show the destinations or at least glimpses of the destination, so that they excite people to reach there and at the same time allow people to relax alongside. (Fig.2.32)



2.32: Failure: Paths that don't go anywhere



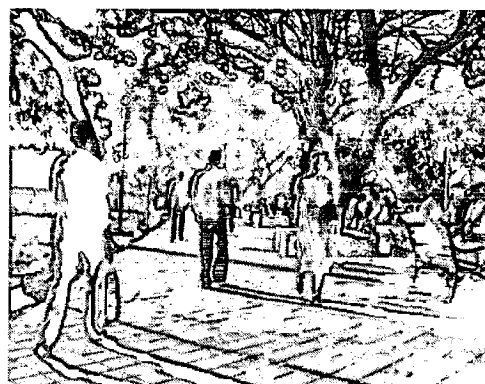
2.33: Failure: domination of space by vehicles, George street, Australia

2.56 Domination of a space by vehicles

There may be a lack of crosswalks, or streets that are too wide, or lacking sidewalks. A main street is not a highway. One should not fear crossing the street so much that the activity needs to occur in groups, as on George Street in Sydney, Australia.(Fig.2.33) Crossing the street should be an easy, comfortable activity. Even if people have to wait.



2.34: Blank walls along do not contribute to spaces and leave the spaces mundane



2.35: The open edges of a space add life to them

2.57 Blank walls or dead zones around the edges of a space

The area around a space is as important to its success as the design and management of the space itself. (Fig.2.34 & 2.35)

2.6 Historic Public Spaces of India

In the Indian cities public spaces have been present through history till date. Such spaces have their own functions and their own identities to people. They can be identified as religious buildings, maidans or open grounds, residential courtyards as well as the common water sources which are visited on a daily basis.



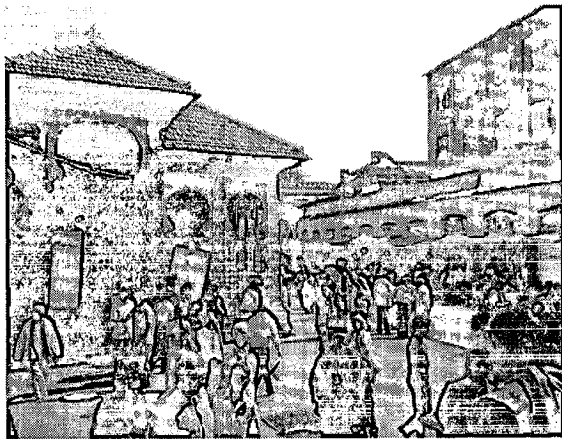
2.36 Entrance of Fatehpur Sikkri with a water fountain



2.37 Meenakshi Temple Mandapa

The planned settlement like Fatehpur Sikkri provides a good example of integration of the public spaces in the residential areas by means of open courts, places for public addresses, common water fountains, and of course monuments and mosques. (Fig. 2.36) In almost all the Hindu towns, large temples are found. The temple complex consisting of a womb-chamber, in which the idol is housed, circumambulation, a congregation hall, and

possibly an antechamber with porch that becomes a public space. The temple thus becomes a bustling public space visited by people often and also becomes a centre of attraction for other activities. Meenakshi Temple of Madurai, Chennai (Fig. 2.37) and the Mahalakshmi Temple at Kolhapur, Maharashtra (Fig. 2.38) are very good examples of this. The market areas are all surrounding such town centres. (Fig. 2.39)



2.38 The courtyard full of public activity around the Mahalakshmi Temple, Kolhapur

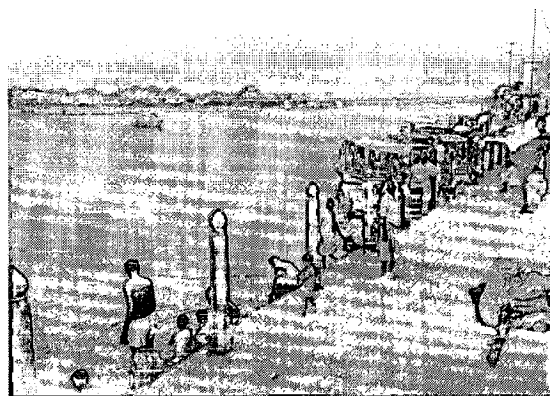


2.39 The bustling market area around the Mahalakshmi Temple, Kolhapur

There have been water fountains, lakes and community wells which served the purpose of public spaces as they allowed congregational spaces on a daily basis. (Fig. 2.40) The river *ghats* are the best examples of such public spaces which even are related to religious spaces and rituals in India. (Fig. 2.41)



2.40 A community well in residential locality



2.41 Vishraam Ghaat of Mathura

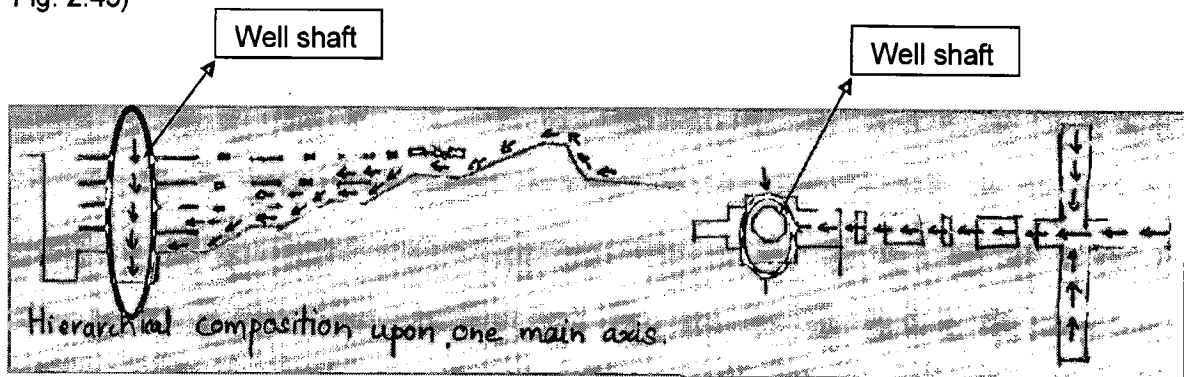
Following are the good examples of how public spaces have always been there in India through the historic times:

- 2.61 "Wavs" – i.e. stepped wells of Gujarath
- 2.62 Temple complex: Kolhapur, Mahalakshmi Temple
- 2.63 Chowks of Jaisalmer

2.61 "Wavs"- i.e. stepped wells of Gujarath:

Gujarath has a dry and hot climate, which makes it difficult for the people to have a good water supply. This is where the community wells come to serve the population.

These community wells or wavs are not merely erections over the well shafts but took the form of extensive subterranean galleries of a highly architectural order. (Fig. 2.42 & Fig. 2.43)



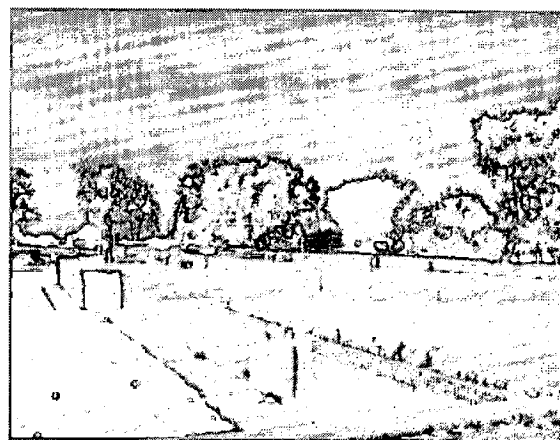
2.42: Section showing the movement of people reaching the well shaft through descending stairways and galleries, Stepped well of Adalaj, Guarat

2.43: Plan showing the axial movement of people in the stepped well of Adalaj, Gujarat

These wavs or bawlis consists of two parts, a vertical well shaft (Fig 2.47)from which the water is drawn from with help of rope in usual manner and the other one as a commodious inclines passage way descending by means of flights of steps in regular stages to the level of water.

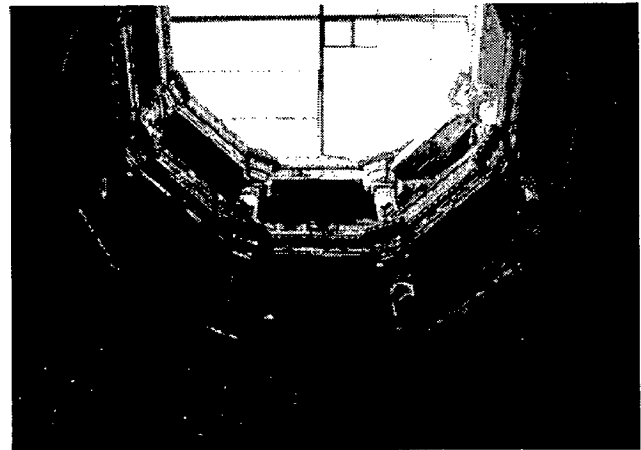
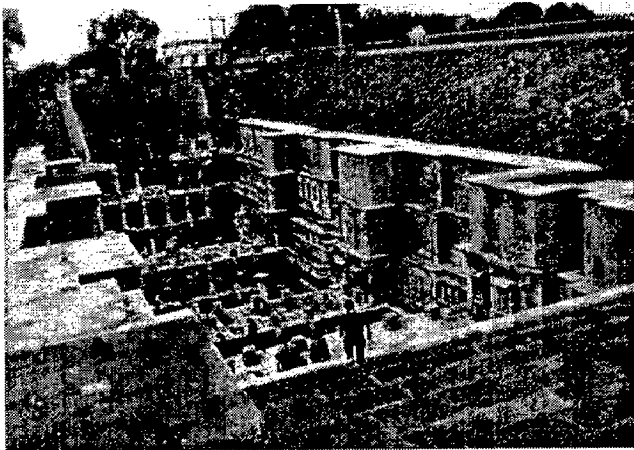


2.44: The galleries with descending stairways becoming a place of retreat, Stepped well of Adalaj, Gujarat



2.45: The superstructure of the stepped well of Adalaj

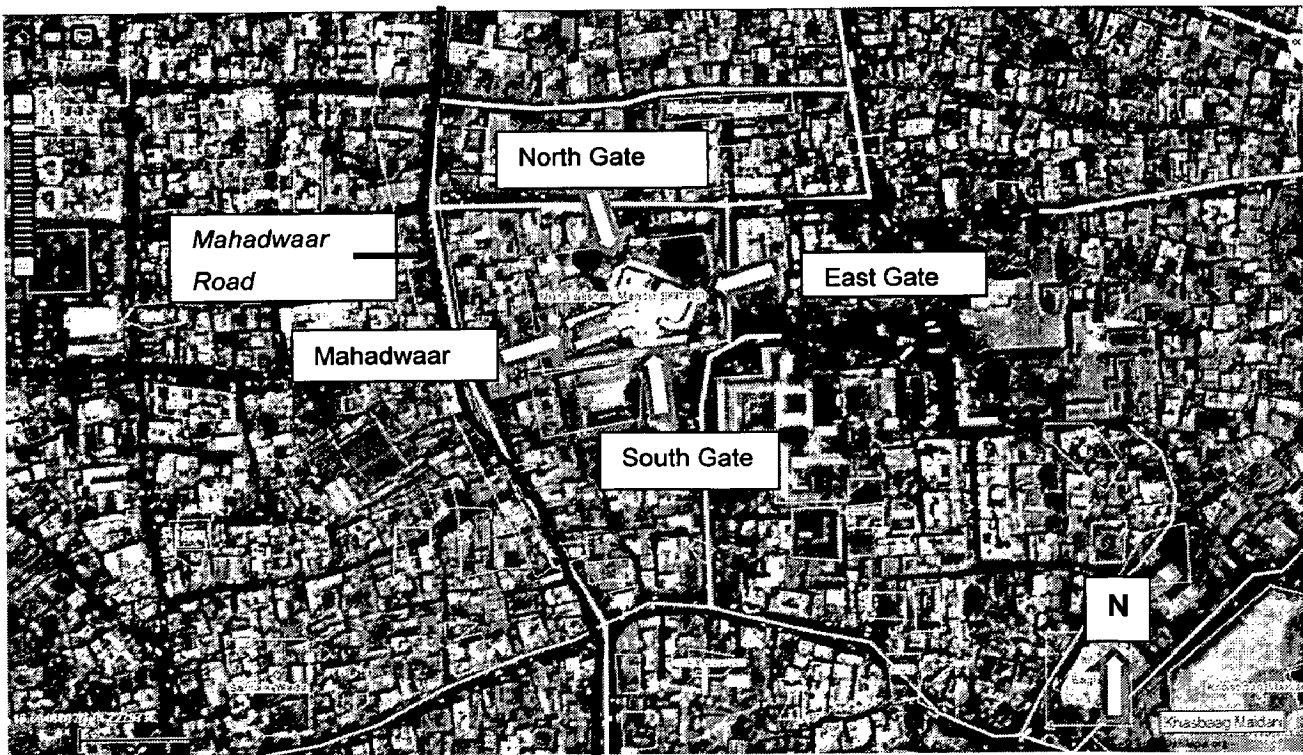
The only part of the structure above the ground level is the kiosks at each end of the scheme, the whole of the reminder being underground.(Fig. 2.45) The subterranean passageway takes the form of a series of galleries connected by stairways in three pillared stories (Fig. 2.44), so that a system of supercolumniation is an outstanding characteristic of the main composition. (Fig. 2.46) For around each compartment are balconies, and thus each storey becomes a cool and quiet retreat converting the well into a place for public to come together, interact in a desirable cooler temperature condition.



2.46: The descending steps to the water shaft of Rani ki Wav, Patan, a world heritage site

2.47: The main water shaft of the Adalaj stepped well

2.62 Temple complex: Mahalakshmi Temple, Kolhapur



2.48 Google map showing Mahalakshmi Temple Complex

Kolhapur is located in Kolhapur district and is well connected with Pune, 240 km north. It is on the national highway between Bangalore and Pune. It is situated on the banks of the Panchganga river and is full of ancient temples and shrines.

The temple complex is surrounded by large market area. Outside the complex, there are various shops selling clothes, footwear, food items as well as jewellery. The market is always bustling with activity. There are many informal stalls around the temple. (Fig. 2.49)

The main entrance or *Mahadwara* of the temple is the western entrance. (Fig. 2.48, 2.51) Upon entering the *Mahadwara* one is confronted with several *deepamaalas* on either side, and enters the Garuda mandap with square pillars and foliated arches of wood, characteristic of Maratha temples. This mandap dates back to the 18th century. An image of garuda faces the sanctum. Another stone mandap, on a raised platform enshrining Ganesh, also faces the sanctum. Following this is the mandap with three shrines facing west. The central one is that of Mahalakshmi and the two on either side are those of Mahakali and Mahasaraswathi.



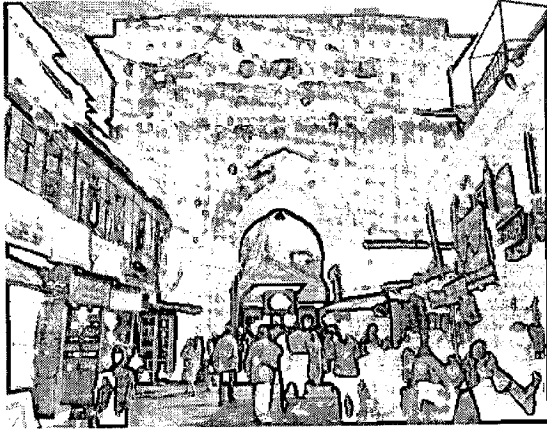
2.49: The 'Mahadwaar Road', i.e. the road leading to the main gate of temple complex is a street market



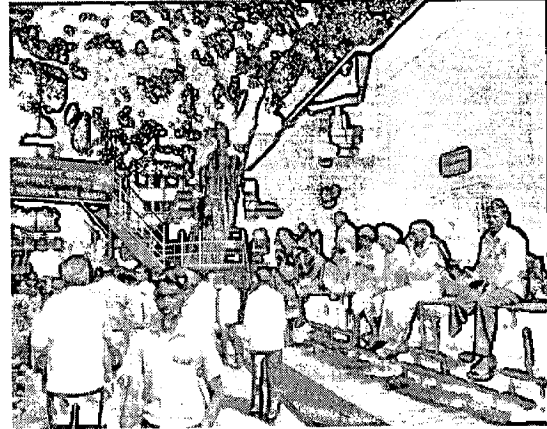
2.50: The vendors in the temple complex, with a line of shops bordering the *Pradaksina Path*

The area surrounding the mandapa is the pradakshina path, as well as a platform for various activities like, those related to the rituals and the informal sector shopping. (Fig 2.50) People enjoy sitting and chatting around the various small shrines, tree platforms and steps of temples. (Fig. 2.52)

Thus the temple complex becomes a busy and active public space of the city which a city level space due to its religious identity.



2.51: The 'Mahadwaar' i.e. the main gate of temple complex

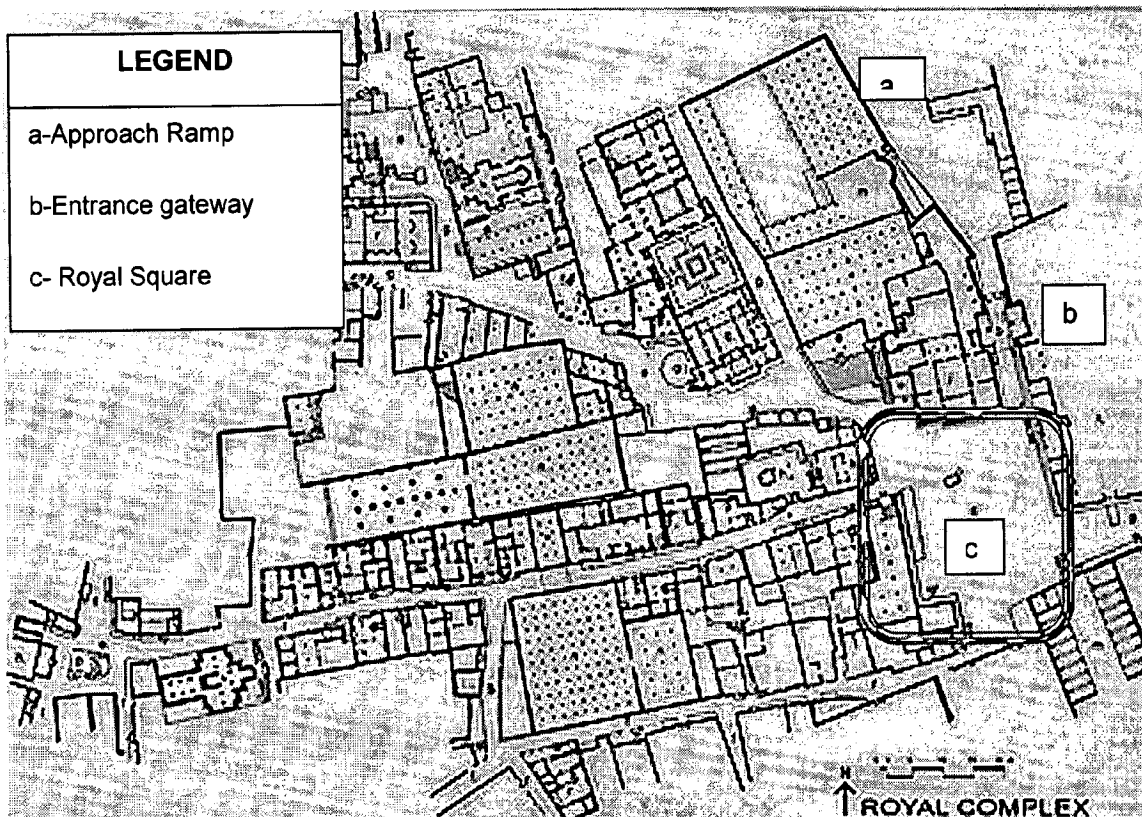


2.52: People relaxing in a corner of Pradakshina Path

2.63 Chowks of Jaisalmer

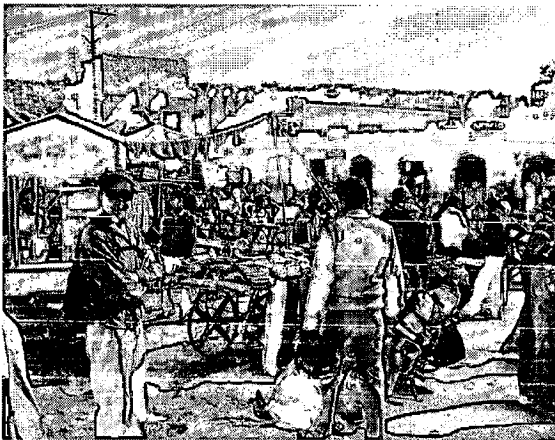
Jaisalmer is located in the arid plains of west Rajasthan in the midst of the vast Thar Desert.

Public spaces in Jaisalmer may be classified according to their types. The major categories are: The Royal Square in the center of the upper city; public spaces like Gandhi chowk and Gopa chowk as well as community spaces at the level of residential clusters.



2.53: The Plan of Royal Complex with location of the Royal Square earmarked

The Royal Square (Fig. 2.53) is a very well conceived space forming the core of the upper city as well as the Royal quarters. It has a high quality of architectural order. On reaching the entrance to the square through a winding and well guarded path, one sees very few buildings; actually one views the horizon just above the fort wall. Only on turning around does one find the richly ornamented Royal Palace and the temple exhibiting exquisite craftsmanship. Visitors and traders met the king and the community in this square. The king's throne occupies one corner of the square at a diagonal, overlooking the square. The square acts as a key linking element and as a nucleus in the upper city thus holding it together. Market squares, such as Gandhi Chowk, Gopa Chowk etc. are all located in the lower city. (Fig. 2.54) These squares build part of a sequence of spaces and streets forming the main bazaar. Starting with Gandhi Chowk, just inside the western wall of the lower city, one is lead through the main bazaar with Jindani Chowk along the way to Gopa Chowk, the latter being the main market square.



2. 54 : Gandhi Chowk, A market square of Jaiselmer



2.55 : A street performer playing musical instrument at Royal Square

With reviewed literature, it is clear that the public spaces are perceived and defined in various ways throughout world. The literature draws light upon the best practices as well as the dos and don'ts regarding the planning and execution of the public spaces. Some cities, countries follow the good practices to maintain and improve the public realms, while some are still fumbling in their approaches. Reviewing the master plans and/or city development plans along with the development control regulations or building byelaws of the select Indian cities, the practices for the planning policies and guidelines for development and maintenance of the public realm of the Indian cities are understood in this dissertation study.

For reviewing the current practices in Indian cities, Delhi, Mumbai, Ahmedabad, Chennai and Chandigarh were selected being the former four being the metro cities and later being the first planned city of India.

2.7 Critical Comparison of planning practices regarding public realm in the Indian cities:

Being a country reflecting varied cultures and lifestyle, India today is redefined by its upmarket cities, leading a momentous existence. With the four metros guiding the way, other Indian cities have come up fast with improvisations and a sophisticated outlook to a people-friendly living whilst boasting their copious heritage.

Ahmedabad CDP (2006-2012), Chandigarh CDP (2006-2036), Chennai CDP (2026), master plan of Delhi (2021) and Mumbai CDP (2005-2025) along with respective city's development control regulations are studied in a comparative manner to understand the public realm and related provisions and existing situation of the same. They give an overall view about the concerns of planning authority regarding development of public spaces in the cities.

The master plans and city development plans of the select cities are compared on the basis of land use break ups, spaces covered under the terminology of recreational spaces, amenities and public facilities and the various provisions in the plans for them.

2.71 Land use comparison:

Table 2.1. Land use comparison of select Indian cities

Sr. No.	Landuse	% of land use				
		Delhi	Ahmedabad	Chennai	Mumbai	Chandigarh
1	Residential and Commercial	45-55	38.42	49.14	28	68.82
2	Industrial	4to 5	15.79	5.1	6	5.04
3	Recreational	4to 5	N.M.	5.25	6	N.M.
4	Circulation	15-20	9.68	N.M.	19	1.12
5	Public- Semi Public and institutional	8to10	2.84	17.38	4	8.92

6	Forest, agriculture & water bodies	10to12	4.58	N.M.	37	19.61
7	Other	N.M.	28.69	23.13	0	0

Note: In the Ahmedabad land use Other land uses consists of village site/gramtal and open/vacant land. N.M. means the category of the land use is not mentioned in the respective CDP or master plan.

Source: Ahmedabad CDP (2006-2012), Chandigarh CDP (2006-2036), Chennai CDP (2026), master plan of Delhi (2021) and Mumbai CDP (2005-2025)

2.72 Recreational Spaces:

All the selected cities' plans viz. Ahmedabad CDP, Chandigarh CDP, Chennai CDP, master plan of Delhi and Mumbai CDP describe the recreational spaces as vital area though Ahmedabad and Chandigarh CDP does not include the category of Recreational land use in the provided land use table. In the Delhi master plan 2021, it is stated that the urban extension of the city has 6 land use categories and have green/recreation as their part. It also envisages the green/recreational areas while discussing the chapter of 'environment', which includes the following use types:

- Formal parks for community
- Incidental greens for balancing the environment
- Amusement parks
- The plan proposes to provide green cover in the urban extension at the rate of 15% of total land excluding the regional park
- To improve the environment, development of specialized parks like bio-diversity parks, plantation along the roads, drains, riverbanks is also considered

Though Ahmedabad CDP does not have a category of land use for recreational uses, it gives broad classification of existing open and recreational spaces as open, garden, playground, green belt & recreational area. As per the plan document 100 parks are maintained by the private agencies like Mother dairy, Amul and Dairy Den on lease hold basis with corporation. In the periphery of the city AUDA(Ahmadabad Urban Development Authority) has developed 50 parks over an area of 27 Ha. According to the existing statistics in the city there is just 0.37 sq. mt. of open space per person is available. The plan document notes on the reducing amount of open spaces. There is clear lack of community play/park areas. The green belts seen in the past are put to various urban land uses and the gardens & parks in the city are very less to cater the recreational needs of the increased population of the city.

The CDP of Chennai also discusses the “green areas” under the chapter of ‘environment’. In the Development Control Regulations for city, the land use pattern and the various activities permitted under the land uses are discussed in detail. Under “Recreation and Open space” following activities/uses are mentioned which form a part of public spaces:

- All public and semi public recreational uses
- open spaces
- parks
- play grounds
- zoological and botanical gardens
- nurseries
- waterfront developments
- museums
- memorials
- theme parks
- amusement parks
- open air theatre
- exhibition grounds
- fairs and circuses
- festival grounds

The CDP of Mumbai has an entire chapter dealing with the “Gardens and Public spaces” which form a major part of public spaces. This chapter gives an overview of various classified open spaces/gardens considered and maintained by MCGM. They are:

- Neighbourhood parks/ Garden R.G. upto 5000 sq. mt.
- Theme Park/Garden/R.G. 5000 to 20000 sq. mt.
- Non theme park garden/ R.G. more than 20000 sq. mt.
- City level park above 20000 sq. mt (Veer Jijamata Udyan with proposed extension)
- Play grounds
- Area under green cover other than above reservations

In the environment chapter of CDP, development of open spaces is considered and reservations are mentioned for playground, recreational ground, public libraries which are part of public spaces.

The Development Control Regulations of the city prescribes the activities permitted in “assembly and recreation” use which are as follows:

- Cinema theatre
- Open air theatre
- drama theatre
- children’s theatre,
- public hall,
- museum,
- gymnasium,
- club,
- stadium,
- swimming pool,
- recreation ground,
- playground, garden,
- park,
- sports complex cum shopping centre,
- library,
- tourist complex/centre,
- art galleries

Recreational open spaces in the residential and commercial layouts are also discussed in the DCR.

Chandigarh CDP does not envisage the recreational land use and considers the recreation as part of the commercial and residential neighbourhoods as per the earlier reservation by Le Corbusier as mixed land use. Chandigarh has leisure valley, gardens, sector parks and open courtyards as important public spaces for citizens.

2.73 Amenities and community facilities:

Many of the public spaces are often considered under the sector of 'community facilities'. The Delhi Master Plan has defined a city as an assemblage of buildings & streets, systems of communication and utilities, places of work, transportation leisure and meeting places forming a part of public spaces and certain other facilities which do not form a part of public spaces. While mentioning the development hierarchy of the urban development, public spaces are provided as per the size of population in the settlements. These spaces are part of community facilities which include religious buildings, housing area playgrounds, and neighbourhood area playgrounds at community and neighbourhood levels. Also in the chapter of 'urban design' under the sub title of 'public amenities there is consideration of public spaces though no further characteristics, types, or their locations are specified. Under the 'social infrastructure', the following socio-cultural facilities are considered.

- Banquet hall
- Multipurpose community hall which may include provision for marriages, small public gatherings, functions
- Eating joint
- Library
- Community recreational club
- Auditorium
- Music, dance and drama centre
- Meditation and spiritual centre
- Science centre
- International convention centre
- Exhibition cum fair ground

In the Ahmedabad City Development Plan, the chapter 'social amenities' takes care of a part of public realm under 'open spaces'. These amenities include means roads, streets, open space, parks, recreational grounds, play grounds, gardens, and they form a major part of public spaces in a city.

According to the Chennai City Development plan, open spaces and green areas fall under the 'social facilities'.

In the Mumbai City Development plan, public spaces are not considered under the amenities. As per the Development Control Regulations of Mumbai amenity means roads,

streets, open spaces, parks, recreational grounds, gardens which are forming part of public spaces.

In the Chandigarh City Development Plan, the various public spaces are not addressed under the title of amenities or social facilities.

2.74 Public spaces as a result of commercial activities:

The importance of commercial spaces in the Indian scenario of public spaces has been discussed earlier, which admits the very necessity of the same. The Delhi Master Plan vision addresses the problem of informal sector which dominates the public spaces the most. While advocating the infrastructure requirement for the layout of a neighbourhood, in the context of public realm, "informal bazaar" under shopping sector is mentioned. Under the chapter of "trade & commerce" the plan defined scope of a "Community Centre". as per the plan the community centres should be conceived as shopping and business centres, which may have retail shopping, commercial and government offices, local body/public sector undertaking offices, cinema/Cineplex, hotels, restaurants, banquet halls & guest houses, nursing homes, dispensary, clinical laboratory, clinic and polyclinic facilities with other facilities (as per the five tier system of commercial development) thus forming majority of the public spaces. With reference to commercial areas the plan takes into consideration the "informal sector" which is an important part of "public realm" in any city. The plan also envisages the "organized informal sector" places which would be strategically located in the city at certain places at certain locations. Informal bazaars, weekly markets are strategic forms of informal trade allowing vibrant activity in the public places. Reference is made to the pedestrianization of certain area of the Connaught place and extensions, which is a commercial area and is a vibrant public space. Also while discussing the mix land use in the city "commercial streets and area" are broadly discussed in the plan.

Ahmedabad City Development Plan, Chennai City Development Plan as well as Chandigarh City Development plan do not make any mention of the commercial areas as a part of major public space.

Mumbai City Development Plan, though not paying any attention to the informal sector of market and other major commercial areas as a part of public spaces, it gives a thought to the number of tourists visiting the city. The CDP speaks of cashing the 'Bollywood Industry' for new tourism potential and 'Cruise Tourism'. Though the city has a number of tourists' spots, developing the public realm around such spaces in order to facilitate more tourist activities is completely sidelined.

2.75 Planning provisions and different approaches for development of public spaces:

The plans provide different approaches in addressing the public spaces in the cities. Various proposals or provisions are mentioned in the plans in order to integrate more public spaces in the city as all the cities lack in the terms of providing them.

Delhi master plan envisages the urban design development provisions of the following areas which are important public spaces:

- Historical Monuments and Gardens.
- Exhibition grounds, Zoo etc.
- Areas along entry routes and other important routes in Delhi.
- Republic day parade route.
- Road and Rail, MRTS corridors, entries, and terminals.
- Central Vista and the areas in its North and South, Lutyen's Bungalow Zone.

While discussing the mix land use in plan, 'commercial streets and area' are broadly discussed in the plan.

The Ahmedabad City Development plan focuses on the reducing amount of open spaces. There is clear lack of community play/park areas. In the Sabarmati riverfront development, there are plans for various parks, gardens, promenades, amusement park, and road development along the river. All these form a larger part of public realm of the city. Plan has given a summary of sector wise investment requirement in AMC (Ahmadabad Municipal Corporation), where Environment & River Front Development is given nearly one fourth share. This is the sector which is largely related to public realm. In the development of land, the plan addresses the development/redevelopment of closed textile mills in the city. The GDCR enforce the owners to give the 20% of the land to the authority for provision of public amenities/public purpose in that area. Land use zoning is discussed in detail in the GDCR and it has given the specific types of development permissible in the recreation zone and garden and open spaces.

Chennai CDP vision aims at planned development of various activities considering "recreation" as one of it. Annexure XX is about reservation of land for community recreational purpose in case of special buildings/group developments/ multi storied building development.

Mumbai CDP encourages private participation for development and maintenance of playgrounds, recreational grounds, parks and gardens which will ensure a reasonable access to the common Mumbaikar to such places. The CDP gives the Emerging City Development Strategy in which tourism promotion and city beautification would take care the public realm of the city by designing, developing and maintaining the places of tourists' interests.

In the Chandigarh CDP, The various key factors identified in the plan have sections dealing with the environment & physical infrastructure but it does not relate to public spaces and social amenities for general public. In the chapter of Urban Environment and Heritage, the plan envisages the proposals for sustainable urban environment, which contain certain components of environmental interventions like urban greening with urban parks and open spaces. These spaces fall under the public realm of the city but are not discussed in the way of developing public realm for the citizens but to provide a better environmental quality. Urban parks and open spaces are briefly discussed later for guidance of their planning. For Urban Greening of the city major forestation is proposed at macro level and at micro level in the form of personal nurseries, neighbourhood and residential community parks. These spaces are related to the city's public realm and can perform as great public spaces.

2.76 Conclusions:

The Indian cities are provided with guidelines for development in terms of plans, which lack in an overall collective approach. The plan documents of major cities of India are lacking in a vision to provide wholesome social infrastructure in terms of public spaces.

The terminologies used in the different city plans are not uniform but varying. Even there is not enough attention to the provisions related to public realm and out of the above studied planning procedures in five cities, Chandigarh and Ahmedabad lack in it. Though the plans are broader guidelines for development machinery in the city, either do not guide the development at all in the area of public realm or up to the expected level of detail. Chandigarh CDP does not mention anything about planning, designing and maintenance of public spaces and the city continues to have the spaces envisioned by Le Corbusier while planning the city.

The plan documents do not envisage all the types of public spaces and they address the public spaces with varying definitions. The new plans of the cities lack in order to achieve a better public realm through upgradation of the existing public spaces and creation of new ones to deal with the shortage of public spaces. The plans fail to discuss the design aspects and approach to urban design for such public spaces. Only Delhi Master Plan has some provisions for the urban design proposals for certain identified areas to give them the glory of

people friendly, well designed, and better used public spaces. Other plan documents do not go much beyond the public gardens, parks, playground and recreational grounds. Maintenance aspect of the public space is not discussed at all in the plan documents, which has a larger practical value in Indian cities, where there is a tendency of such spaces being ill maintained or not maintained at all.

2.8 Summary & useful findings:

2.81 Summary:

A public space must be freely accessible to all the people despite the biases of their social and economic class, age and gender. The literature reviewed provides an idea of the morphology of the public spaces, their characters and the successful practices in the world wide cities. The literature makes us aware about the significance of public space in an urban context. It also draws light upon the reasons for success and failure of public spaces.

Public spaces have been all over the world and also in Indian towns since historical times. These spaces still hold their significance in the society along with evolution of new public spaces as per the changing lifestyle of people.

The old public spaces in a city or town must be maintained while new public spaces must be made available for people with the growing population, in order to provide them with better quality of life. The five plan documents studies for cities Ahmedabad, Chandigarh, Chennai, Delhi and Mumbai give an idea of the planning practices regarding the public space planning in these cities. There are very little or no efforts are taken to improve the public realm of these and such other cities.

2.82 Findings:

- Public spaces are immensely important in urban set up.
- Out of the many classifications provided by various authors, those spaces, which are freely available to all, should be concentrated to improve the public realm of the city.
- The success of a public space can be measured on the basis of certain parameters like accessibility, linkages, variety of activities available in the public space, the image and comfort provided by the space to the users and the sociability of the space.

Chapter 3: CASE STUDIES

- 3.1 *Introduction*
- 3.2 *Copenhagen city centre:*
- 3.3 *Chandigarh City Centre:*
- 3.4 *Comparative analysis:*

3. Case Studies

3.1 Introduction:

Public spaces are certainly the spaces that attract people from all over the world. There are invariable cases of successful public spaces particularly in foreign countries. There are bustling public spaces in the American cities like New York, Washington D.C., Seattle etc. and in the European cities like London, Italy, Amsterdam and Munich.

For the dissertation a foreign case study has been selected on the basis of the diversity of public spaces available in one city. One internationally known example for such a city is Copenhagen as it has done conscious efforts to convert car traffic dominated city centre into a pedestrian friendly one. In India, in the contemporary context and being a planned effort the city of Chandigarh is selected as a case study. These two cases allow analysing the qualities of public spaces, their user friendliness and the characters that provide success to the public spaces.

Along with the city centres' cases, this chapter also analyses other successful public spaces in India as well as in foreign countries. These public spaces are studied on the basis of available literature in books and information available on internet.

3.2 Copenhagen City Centre:

3.21 Introduction:

This is the capital city and the largest city of Denmark. Copenhagen is a major regional centre of culture, business, media, and science, as indicated by several international surveys and rankings. Life science, information technology and shipping are important sectors and research & development plays a major role in the city's economy. Its strategic location and excellent infrastructure with the largest airport in Scandinavia located 14 minutes by train from the city centre, has made it a regional hub and a popular location for regional headquarters as well as conventions.

Copenhagen has repeatedly been recognized as one of the cities with the best quality of life. It is also considered one of the world's most environmentally friendly cities.

3.22 Geography & Location:

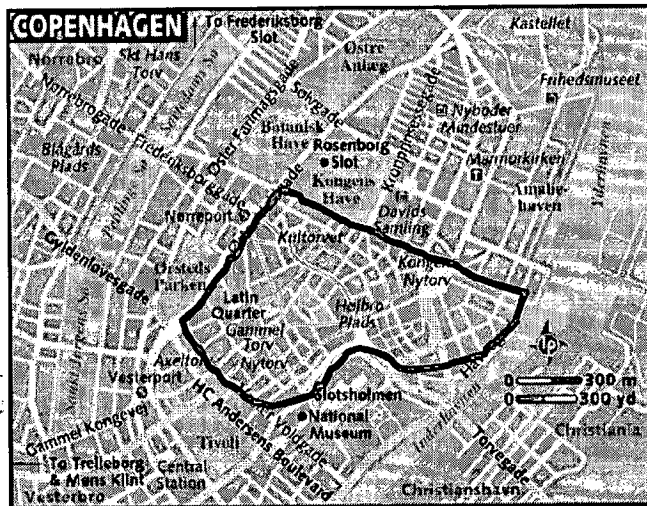
Copenhagen is located on the eastern shore of the island of Zealand, partly on the island of Amager and on a number of natural and artificial islets in between the two.

Copenhagen faces the Oresund to the east, the strait of water that separates Denmark from Sweden, and which connects the North Sea with the Baltic Sea. On the Swedish side of the sound directly across from Copenhagen, lies the towns of Malmo and Landskrona. (fig. 3.1, 3.2)

Copenhagen is also a part of the Oresund region, which consists of Zealand, Lolland-Falster and Bornholm in Denmark and Scania in Sweden.



3.1 Location of Copenhagen in Denmark



3.2 Map of Copenhagen with the city centre marked

3.23 Climate:

Copenhagen is in the oceanic climate zone, bordering on a humid continental climate. The main reason for warmth in the city is the Atlantic Gulf Stream, which pushes warm water from around the Sargasso towards the northwest, and the low-pressure systems follow with the oceanic stream. (table 3.1)

Table 3.1 Climate Data for Copenhagen

Climate data for Copenhagen (1961–1990)													[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high °C (°F)	1.9 (35.4)	2.0 (35.6)	4.8 (40.6)	9.5 (49.1)	15.0 (59)	19.2 (66.6)	20.4 (68.7)	20.3 (68.5)	16.7 (62.1)	12.1 (53.8)	7.1 (44.8)	3.7 (38.7)	11.1 (52)
Average low °C (°F)	-2.0 (28.4)	-2.4 (27.7)	-0.6 (30.9)	2.3 (36.1)	7.2 (45)	11.3 (52.3)	12.9 (55.2)	12.6 (54.7)	9.8 (49.6)	6.7 (44.1)	2.7 (36.9)	-0.5 (31.1)	5.0 (41)
Precipitation mm (inches)	46 (1.81)	39 (1.54)	39 (1.54)	39 (1.54)	42 (1.65)	52 (2.05)	68 (2.68)	64 (2.52)	60 (2.36)	56 (2.2)	61 (2.4)	58 (2.2)	613 (24.13)
Avg. rainy days	17	16	16	16	16	11	16	16	16	16	17	16	163
Sunshine hours	63	67	110	168	217	218	202	193	133	90	63	12	1,539

Source #1: Danmarks Meteorologiske Institut
 Source #2: World Weather Information Service^[31]

Precipitation is moderate throughout the year, with a small peak during June to August. Snowfall occurs mainly from late December until early March, but snow cover seldom lasts for long. Rain during January and February is as common as snow, and the average temperatures for these two winter months is almost exactly on the freezing point.

Spring is comparable to continental Europe, but delayed about a week because of the cold surrounding water. On the other hand, in late autumn Copenhagen is kept milder due to the same factor, but reversed. In late November and December, water temperatures are generally higher than the air with wind-chill conditions. In the period from mid-October to February, one or two storms (or even hurricanes) occur. Storms in the summertime are very rare.

Summer is, like the other seasons, a mixture of south-western mild, windy and rainy low pressure systems, and periods of stable high pressures. In summer, high pressure systems usually bring sunny and fairly warm weather. But these warm periods, which can occur anytime from late April until mid-September, usually last no longer than ten days.

3.24 Numerical facts:

Total Population of city: 531,199

City area: 88.25 km² (34.1 sq mi)

Population Density: 6,019.3/km² (15,589.8/sq mi)..... (Estimated 2010 population)

3.25 Economy:

Copenhagen is the economic and financial centre of Denmark and also strong business and economic centre in the Scandinavian-Baltic region. In 2008, Copenhagen was ranked 4th by Financial Times-owned FDI magazine on their list of *Top 50 European Cities of the Future* after London, Paris and Berlin. In the 2008 *Worldwide Centres of Commerce Index*, published by MasterCard, Copenhagen was ranked 14th in the world and 1st in Scandinavia.

Copenhagen has a service oriented economy. An important sector is life science and research & development plays a major role in the economy of the city. Copenhagen has some of the highest gross wages in the world. Copenhagen is however also among the most expensive cities in Europe.

3.26 Public Realm of Copenhagen:

Copenhagen has been lucky. The city centre still has medieval street pattern and is dominated by aged buildings at a good human scale. The city centre of the Copenhagen has been spared the large scale reconstruction, destruction from war and traffic adaption that have dramatically transformed many other large cities in Europe, and other parts of world.

Copenhagen has followed a policy targeted to reduce the impact of traffic on the city centre, to improve conditions for users. In the process it has become less polluted, more beautiful and friendlier which gives affine reception. The city is now used by more people and in new ways. It has pedestrianized plazas and street squares that allow very interesting activities for all the citizens. With the strong policies Copenhagen step by step has become an attractive city having excellent public realm.

Copenhagen is a green city well-endowed with open spaces. It has an extensive and well-distributed system of Parks that act as venues for a wide array of events and urban life. As a supplement to the regular parks, there are a number of congenial public gardens and some cemeteries doubling as parks. It is official municipal policy in Copenhagen that all citizens by 2015 must be able to reach a park or beach on foot in less than 15 minutes.

3.27 History of public realm in the city centre of Copenhagen:





Up till 1962, all the streets in the city centre were filled with car traffic, and all the squares were used as car parks. The post war increase in the city centre car traffic rapidly deteriorated conditions for pedestrians.

Following plan explains the network of car free streets and squares along with mass transit system nodes in 1996. (fig. 3.3)



3.3. Location of pedestrian streets, squares and major traffic interchanges in the city centre of Copenhagen

Legend:

- Pedestrian streets
-  Pedestrian squares
- Pedestrian priority streets
-  Ferry service to Sweden
-  Suburban and regional railway stations
-  Major bus interchanges

It was on 17th November 1962, Copenhagen's main street Stroget was turned into a pedestrian street. Although scepticism was rampant, the new car free environment proved extremely popular with Copenhageners right from the very first day.

In due course of time, Copenhagen addressed the issue of quality of public realm in the city critically by making the city centre pedestrian friendly. Car traffic gradually pushed out of the city centre, one by one, city squares have been converted from car parks to the

attractive and well-used people space. The Copenhagen story combines two things, i.e. taming and controlling traffic and creating quality spaces for popular use.

3.28 Major Public spaces of Copenhagen city centre: (fig. 3.6)

- A. Pedestrian Streets:** Stroget, Fiolstraede, Kobemagergade and Stradet
- B. Major city squares:** Gammeltorv & Nytorv, Amagertorv
- C. Other city squares:** Grabrodtorv and Kultorvet
- D. At the waterfront:** Along the canals
- E. Little friendly streets**
- F. Parks and squares just outside the city centre**

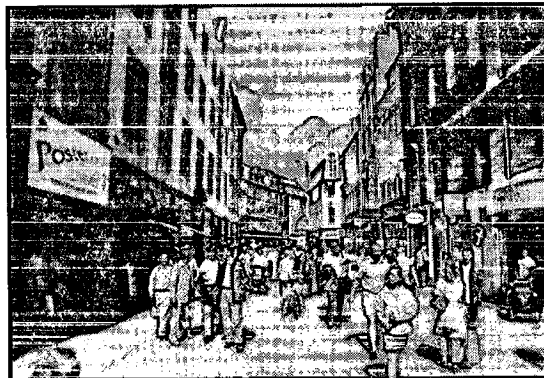
A. Pedestrian Streets:

i. Stroget:

It is the first pedestrianized street in the city of Copenhagen in 1962. This change was welcomed by all the citizens as they could receive the benefits of traffic less pedestrian friendly environment. Stroget is without a doubt the main link in the pedestrian system handling east-west connections in the city centre. It has always been and still is Copenhagen's main shopping street. However it serves as the important public space of the city, a place to be, a place to see and a place to be seen. This is major city promenade.



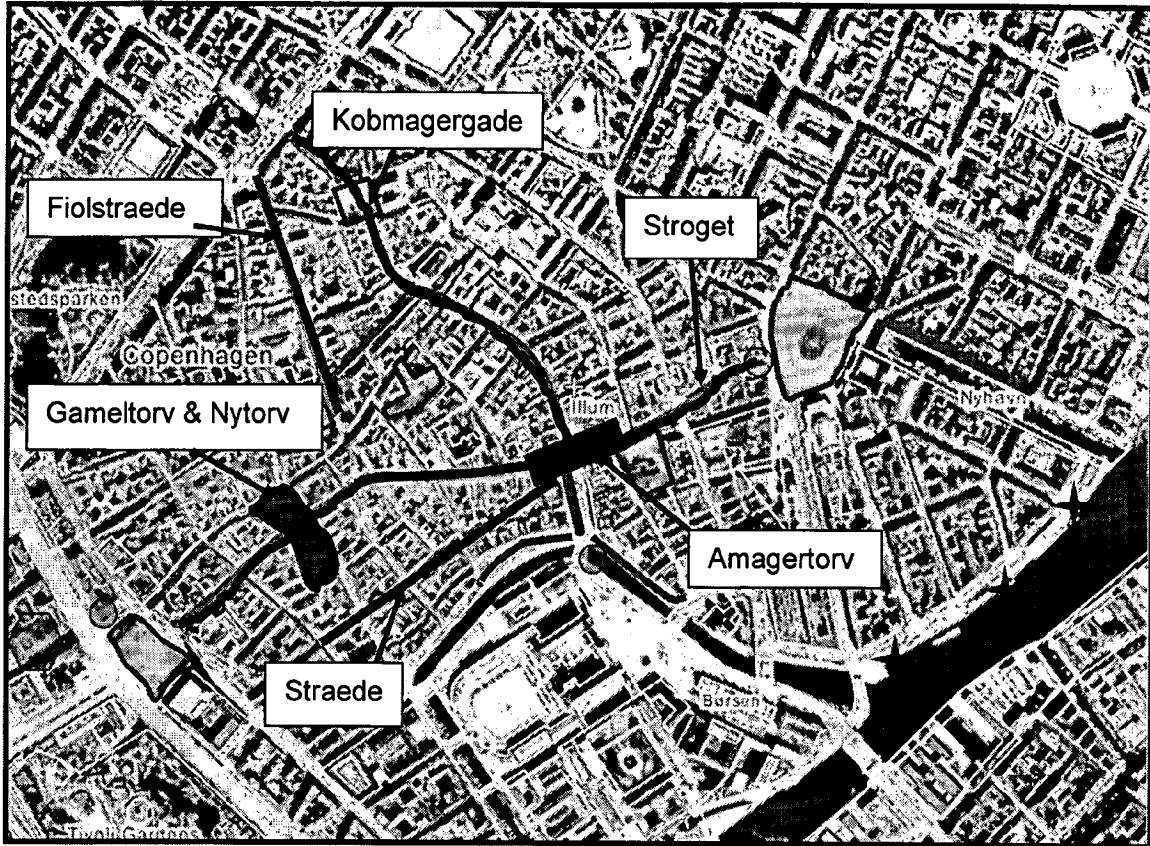
3.4: Stroget, the main pedestrian street of Copenhagen



3.5: Stroget, a pedestrian street with commercial activity aligned

With the width of 10 to 12 meters, Stroget can handle 145 pedestrians per minute. Especially in the summer season, the main parts of the street are seen carrying 145 pedestrians per minute. This explains that the street is carrying the people at its maximum capacity and there is no space for more. This has been the situation for some 30 years now. On ordinary winter days, Stroget carries some 25,000 people per day between the 10.00 to

18.00 hrs. On the summer days the pedestrian traffic reaches up to 55,000 people between the same hours of time. (fig 3.4, 3.5)



3.6: Copenhagen city centre, Pedestrian streets marked

ii. Fiolstraede:

This was pedestrianized in 1968 after the success of Stroget. This is an 8 meter wide street which is unique street that carries almost the equal numbers of pedestrians in the summer as well winters i.e. nearby 11 thousand to 12 thousand people in a day from 10.00 to 18.00 hrs. The reason for it is its location in the middle of university quarter. Once the summer traffic is over and tourists have gone, the students come here for the autumn term. Though, this street is calm and quiet in the evening on weekends and holidays. (Fig. 3.7)



3.7: Fiolstraede



3.8: Kobmagergade

iii. Kobmagergade:

It is the second most important pedestrian shopping street in Copenhagen. In addition this street links to the transport node of Norreport with the heart of the city: Amagertorv. Traffic is peculiarly heavy and brisk both early and late times of the day many people use this as connector between the railway station and the central working parts of the city. (Fig. 3.8)

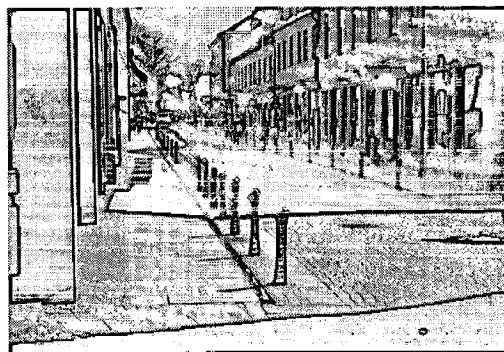
The daily pedestrian traffic does not change drastically season to season on this street. The summer traffic is about 33,000 people a day whereas the same in winters falls to 24,000 on an average.

iv. The Straedet:

This is the street on which the principle of pedestrian priority has been applied. This means that the street will have a priority for the pedestrians and the bicycles over motor vehicles. This was done in 1989 by dividing the street into short one way sections and allowing the vehicles at a lower speed on the street and the through traffic was completely cut off. Earlier bus routes that used to pass through this street were relocated to the streets at the age of the city centre area. (Fig. 3.9, 3.10)



3.9 Straedet, the pedestrian priority street at night



3.10 Straedet, the pedestrian priority street at day time

The street is now shared by pedestrians, bicycles and a few cars, which have satisfied the public as a better space.

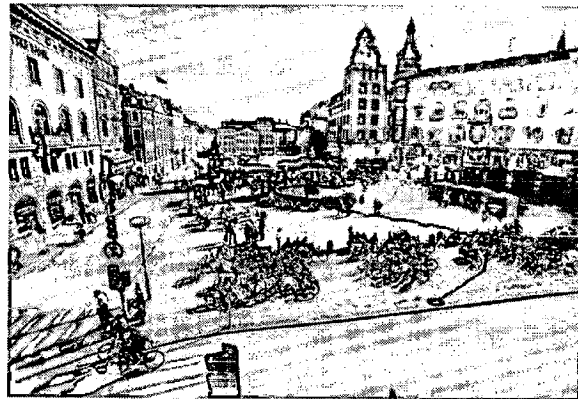
B. Major city squares:

i. Gammeltorv & Nytorv:

Today they serve as a single public space but earlier they were two different spaces, two squares. Both of them were serving as major parking lots till the 1962. After pedestrianization of the Stroget, the first part of Gammeltorv was freed of parking and later Nytorv part was reclaimed in 1973. (Fig. 3.11, 3.12)



3.11: Gammeltorv, having demonstration

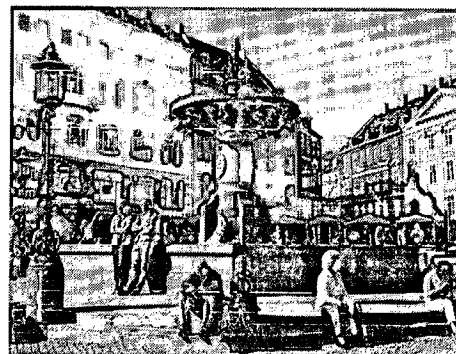


3.12 : Gammeltorv, showing the connection of street and square with parking lot for bicycles

The renovation included putting up a set of much criticized 'walls' that framed the pedestrian areas. In 1992, the remaining part of Nytorv was cleared of parking and both the squares were completely repaved and refurbished. An interesting element in the repaving project was the light colour granite stone demarcation of the location of the old town halls that used to divide the space. (Fig. 3.13, 3.14)



3.13: Street cafes at Nytorv



3.14: The Caritas Fountain and relaxing people

Gammeltoiv is a much popular square and is used well around the year. People like to relax near the famous Caritas fountain which offers a fine view of the crowds passing by on Stroget. Nytorv is quieter although it provides a backdrop of several outdoor cafes during the summer months. The squares serve for various functions around the year.

ii. Amagertov:

Amagertov is the heart of Copenhagen. The main street of Stroget widens at Amagertov thus creating a large trumpet shaped square. (fig. 3.15)

Amagertov was partly cleared of traffic in 1962, when Stroget was closed to traffic, although an extensive taxi stand remained for several years. The square was further transformed in several stages. Fruit and vegetable stands, as well as outdoor cafes, settled in the square. In the middle, the stairs to an underground toilet were partially camouflaged by a raised planted area.



3.15 : Amagertov : Redesigned pavement



3.16: Grabrodtov square in a sunny afternoon

In 1993, Amagertov was redesigned and splendidly repaved in a fine patterned granite floor designed by sculptor Bjørn Nørgrd. The project was initiated by businesses in the area, which also acted as main sponsors. (Re. fig. 3.15)

Amagertov is busy at all times of the day, year round. It is the meeting place for Copenhageners, and its new elegant pavement has enhanced its popularity. On summer evenings, the square teems with people and happenings. It provides a stunning outdoor stage for the city, and is the favourite haunt of street theatre groups and street musicians. The square is at its liveliest on a summer evening. A rainy day is the best time to enjoy the fine granite paving.

C. Other city squares:

i. Grabrodetorv:

Grabrødretorv was the first of the many remote city square to be converted to pedestrian use. In 1968, the square was cleared of parked cars and the air-raid shelters hastily erected during World War II. Dominated by a beautiful, solitary plane, this square with its renewed cobblestone pavement a new fountain by sculptor Soren Georg Jensen soon became one of the finest, most popular squares in the city. The elegant, quiet square, is somewhat removed from bustling streets and almost exclusive.

For the first four or five years after renovation, the square was extremely quiet, as if Copenhageners had not quite found yet, or were not quite sure what a square like this could be used for. Gradually, the square began attracting more and more people. Outdoor cafes sprung up in increasing number and students from the nearby University of Copenhagen other young people started to meet at Gråbrodetorv habitually, sitting around the square during the day or evening. The mid-1980's, the square was crowded almost beyond capacity, throughout the outdoor season. (Ref. fig. 3.16) Some of the spontaneous use of the square has faded away in more recent years. Other city space - notably Nyhavn - Amagertorv with its fine new pavement - appears to have attracted some of the crowds of young people who use gather in Gråbrødretorv. However, the cafes are more r than ever, and for obvious reasons, the square continues to be a much loved place, as well as a fine stage for performances, concerts and city events.

ii. Kultorvet:

Købmagergade runs across Kultorvet diagonally, so when the Street was closed to traffic in 1973, the square was closed as well, cleared of parked cars and transformed into a square for pedestrians.



3.17 Kultorvet having music play



3.18: Kultorvet having demonstration

The square is characterized by the heavy pedestrian traffic that crosses it diagonally. The streams of people make Kultorvet a popular place for all kinds of people-oriented activities. The square has many stalls and kiosks and quite a number of outdoor cafes.

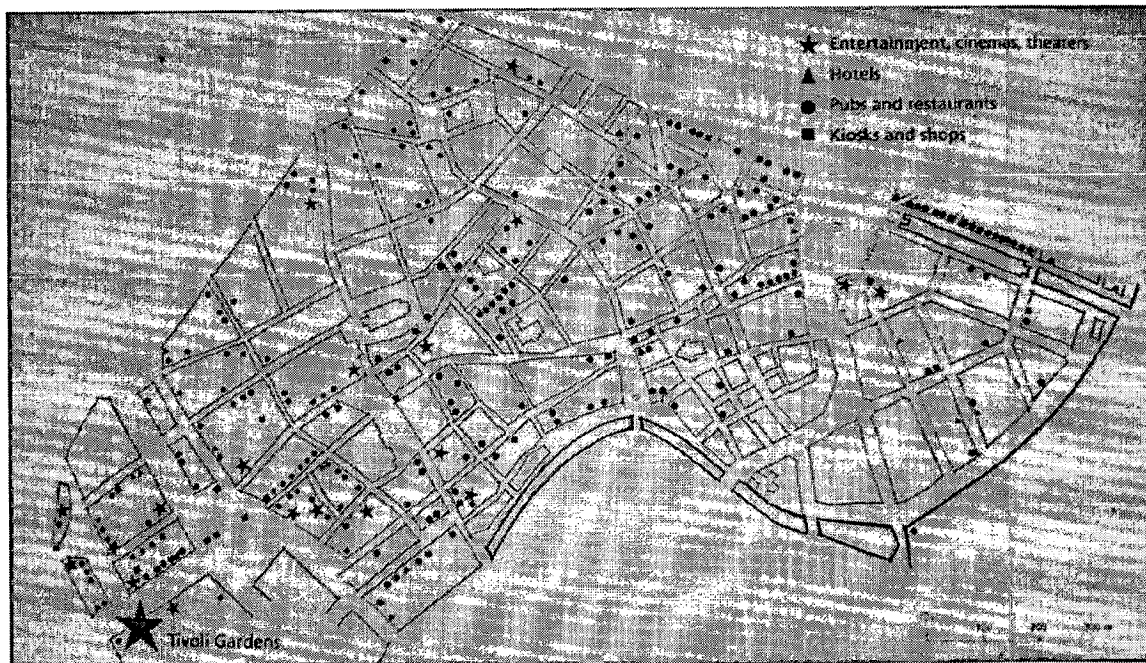
The square is also the place for political and ideological demonstrations, for handing out flyers and pamphlets, and for contact with passersby through activities like Street music; street performances, parades and lottery ticket sales. (Fig. 3.17, 3.18)

All in all, Kultorvet is rather a mixture in terms of activities as well as spatially. Over the years, the square has provided space for many different elements: stalls, kiosks, cafes and pavilions. Kultorvet is one of the few “early” pedestrian projects that has not yet been renovated, and it has started to acquire a tired look.

D. Locations of entertainment centres, pubs, kiosks, hotels etc.:

The following image explains the location of entertainment centres, cinemas, theatres, hotels, pubs and restaurants, kiosks and shops etc. (Fig. 3.19)

These activities are located all along the pedestrian squares and streets which enhance the publicness of the area.

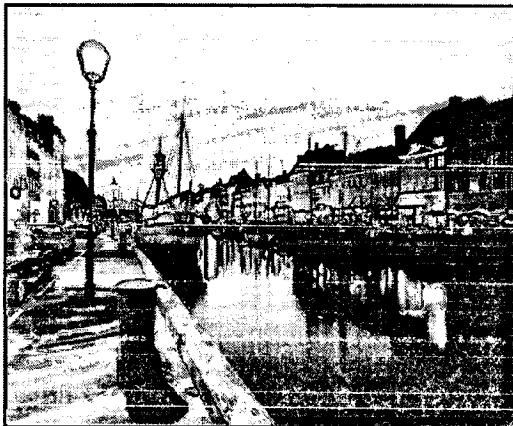


3.19. Location of Important activities in Copenhagen City Centre

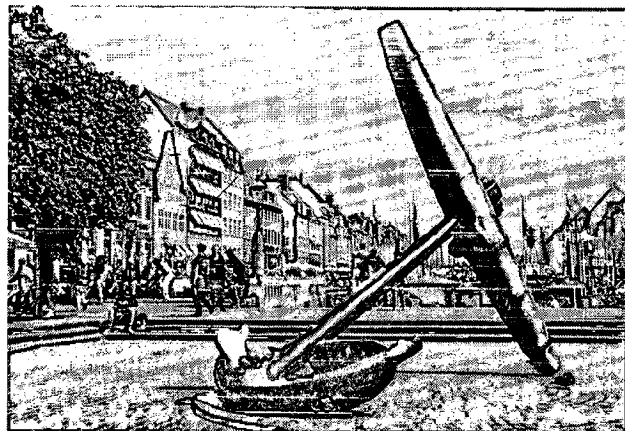
E. At the waterfront: Nyhavn

Nyhavn used to be a busy part of Copenhagen harbor and a favorite pub crawl for seamen. As harbour activities dwindled, this place, like so many others, became a parking area, yet still the place managed to hang on housing quite a few pubs and cafes. In 1980, this picturesque quay with a southern exposure was cleared of traffic and parked cars, and turned into a pedestrian area.

Some people might even call this quay a pedestrian Street. However, given that it carries almost no pedestrian traffic, for all practical purposes, the space serves as a square, an oasis in the city — a place to go to rather than a street to walk through. Nyhavn's location is perfect. Whenever there is a ray of suns shine in Copenhagen, Nyhavn enjoys it. The quay is lined with old sailing ships, which are offered almost free berth. In summary, cars and traffic are gone, the climate is good, the view of the water and ships is great, and the scale is right — a 100% successful public place. As icing on the cake, a cobblestone renovation of the pavement was carried out in 1996.



3.20: Nyhavn at the night times



3.21 : Memorial at Nyhavn

So there are plenty of good reasons why Nyhavn has acquired enormous popularity with Copenhageners and visitors to the city over the years. From the first days of spring in early April until late October, the place is filled to capacity by people out promenading or taking refreshment in the many cafes and restaurants. (Fig. 3.20) Summer evenings are especially popular. In June, the activity level increases throughout the day, peaking just before midnight. A beloved city space indeed. (Fig. 3.21)

3.29 Lessons learnt from the Copenhagen City Centre:

- A. Value of pedestrianization
- B. Accessibility's role in vibrant public spaces
- C. Scale and language of the built around
- D. The activities to be permitted
- E. Climate's role in success of the public spaces

A. *Value of pedestrianization:*

The streets and squares of Copenhagen have been successful by strong policy making towards pedestrianization in the city centre. Without elimination of car traffic this would not have been successful to the extent which Copenhagen has achieved.

Absence of car traffic provides a mental security to the people, which enables people to visit such places again and again for leisure with friends and family.

B. *Accessibility's role in vibrant public spaces:*

To have footfall in the public spaces, it is must to have accessibility to all age groups, social groups as well as differently able people. the access to such spaces must be provided by the way of public transport systems in the form of LRTS, MRTS, BRTS, metro rails, intermediate public transports etc., which will allow the public to enter such public spaces at various nodes.

To eliminate the vehicular traffic becomes successful with the availability of safe mass transit systems in the city centres.

C. *Scale and language of the built around:*

The built form along the public streets and squares are very interesting. They allow a greater interaction between the users. The facades are richly detailed with many niches to allow people to sit and stand and to discuss. This built performs extremely well with the public spaces as it creates splendid edges.



3.22: Scale of built and facades lining streets



3.23: Scale of built and facades lining streets

With its medieval city structure, Copenhagen is blessed by a fine scale to which people can relate directly. Streets are narrow and squares are relatively small, providing attractive relationships between building heights and ground floor areas. When space is limited, it brings everyone closer to each other and to building facades, resulting in an environment rich in sensory stimulation. (Fig. 3.22 & 3.23) Narrow buildings have the fine effect of making streets more interesting, because narrow units mean many doors and many different functions to look at, even on a short walk through town.

The many narrow buildings also have a predominately vertical facade structure, which has the important visual effect of making distances feel shorter. This makes it more pleasant and comfortable to walk around in the city. In addition, Copenhagen buildings have many niches, stairs, stones and recesses. These small places give people opportunities to sit and stand.

Other fine attributes resulting from the scale and structure are the attractive ground floor facades that dominate the city center of Copenhagen. Good ground floor facades are an important city feature. They make the city interesting to walk through, interesting to look at, to touch and to stand next to. Activities inside buildings and those on the street can enrich each other. In the evenings, friendly light shines out through the windows of shops and other ground floor activities, contributing to a feeling of security as well as to genuine safety. Interesting ground floor facades also provide good reasons for walking around in the city in the evenings and on Sunday, engaging in the age-old pastime of window-shopping. In contrast, blank walls underline the futility of visiting the city outside working hours.

Copenhagen is lucky to be blessed with a fine scale, and interesting ground floor facades in nearly all parts of the city center. A few streets and buildings break seriously with this overall pattern, making certain parts of the city rather unattractive, boring and – at night – even scary.

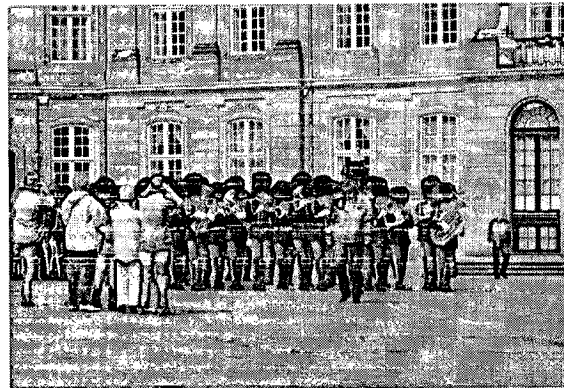
D. The activities to be permitted:

The city centre becomes a vibrant activity centre with shops aligned along the public spaces, cafes, restaurants, pubs and various kiosks and stalls. The public spaces in the city centre allow people to take just a stroll with a passive interaction with the surroundings by just watching the world go by and some of the activities like street performances, music shows, shopping, and appreciation of art and so on. (Fig. 3.24 & 3.25)

These activities also foster a sense of responsibility in the people and the value of civic spaces.



3.24 People enjoying painting at pavement



3.25 People enjoying a march

E. Climate's role in success of the public spaces:

The difference between the seasons is a key to understanding Danish outdoor behavior. Because of the long, dark winter, the sun and summer are cherished, and when the lovely summer days reappear, everyone wants to enjoy them to the utmost. Sun, summer, light and leafy green trees and plants are treasured features of Scandinavian culture.

As might be expected, life in the public spaces of Copenhagen differs drastically between the winter season and the outdoor season. In the winter, people walk and even stop occasionally, but their stride is generally brisk and purposeful, and their stops are few, brief and of necessity.

During the summer, people still walk, of course, but now in greater numbers. More people are outside, and the city draws many visitors. Walking strides are slower and more leisurely than in the winter.

However, the striking contrast to the winter pattern is that city spaces are now used widely for recreational purposes. People have stopped walking and started to sit down to enjoy the summer, the city and each other.

In numbers, twice as many people walk in the city center in the summer, while eight times more people can be found spending time in the city: standing, seated or otherwise enjoying themselves. This is why winter streets and squares seem rather quiet, while in the summer, the whole city teems with people. While there are only twice as many pedestrians present they spend four times more time in public spaces on average.

This explains the power of the weather on the behavioral pattern of citizens in a city. While allowing the public spaces to be open, they must be made comfortable to the users too. There should be maximum usage time achieved on the time scale of the day and season by creating proper scale of space and related features.

3.3 Chandigarh City Centre:

3.31 Introduction:

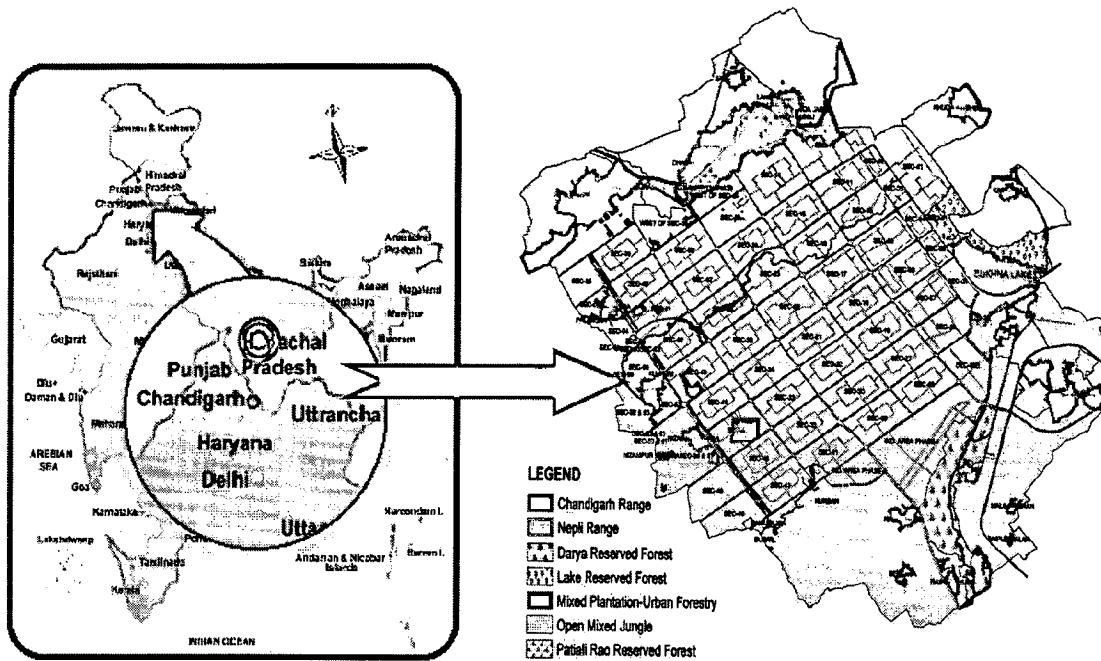
Chandigarh is India's first planned city built in the early 1950s by the internationally renowned architect Le Corbusier. This pulsating city provides an ample of tourist destinations. It was the dream city of Pt. Jawaharlal Nehru who had proclaimed Chandigarh to be "unfettered by the traditions of the past, a symbol of the nation's faith in the future." The city is in stark contrast with the modern generation and rapid industrial development. It is strategically divided into 57 blocks or sectors. The main complex is the "Capitol Complex" which includes the State Secretariat, Assembly and High Court building.

Chandigarh city boasts of several beautiful gardens which are treat to the eye. The famous Rose and Rock garden of the city are the foremost destinations for tourists to have scenic beauty. The art and culture of the city is incredible in the nation. The city is also a destination for thousands of devotees of Hindu and Sikh religions.

The city's pollution-free air, the short distance, the wide tree lined boulevards and avenues, lakes contribute to making Chandigarh a charming place for residents and visitors. The Nehruvian idealism at its core is in stark contrast to the industrial development on the outskirts.

3.32 Geography and location:

Chandigarh is located near the foothills of the Shivalik range of the Himalayas in Northwest India. It covers an area of approximately 44 sq mi or 114 km². and shares its borders with the states of Haryana in the east and Punjab in the north, west and south.



3.26. Location of Chandigarh in India 7 Chandigarh Plan

3.33 Climate:

Chandigarh has a humid subtropical climate characterized by a seasonal rhythm: very hot summers, mild winters, unreliable rainfall and great variation in temperature (-1°C to 41.2°C). In winter, pieces of snow sometimes occur during December and January. The average annual rainfall is 1110.7 mm. The city also receives occasional winter rains from the west.

- **Spring:** The climate remains quite pleasant during the spring season (from mid-February to mid-March and then from mid-September to mid-October). Temperatures vary between (max) 16°C to 25°C and (min) 9°C to 18°C .
- **Autumn:** In autumn (from Mid-March to April), the temperature may rise to a maximum of 36°C . Temperatures usually remain between 16° to 27° in autumn. The minimum temperature is around 11°C .
- **Summer:** The temperature in summer (from Mid-May to Mid-June) may rise to a maximum of 45°C (rarely). Temperatures generally remain between 35°C to 40°C .
- **Monsoon:** During monsoon (from mid-June to mid-September), Chandigarh receives moderate to heavy rainfall and sometimes heavy to very heavy rainfall (generally during the month of August or September). Usually, the rain bearing monsoon winds blow from south-west/ south-east. Mostly, the city receives heavy rain from south (which is mainly a persistent rain) but it generally receives most of its rain during

monsoon either from North-west or North-east. Maximum amount of rain received by the city of Chandigarh during monsoon season is 195.5 mm in a single day.

- **Winter:** Winters (November to Mid-March) are mild but it can sometimes get quite chilly in Chandigarh. Average temperatures in the winter remain at (max) 7 °C to 15 °C and (min) -3 °C to 5 °C. Rain usually comes from the west during winters and it is usually a persistent rain for 2–3 days with sometimes hail-storms.

3.34 Numerical facts:

- Total Area of Chandigarh: 114 square kilometres.
- Total Population: 900,635
- Population Density of Chandigarh: 7,900 /km²..... (Census 2001 database)

3.35 Economy:

The government is a major employer in Chandigarh with three governments having their base here. A significant percentage of Chandigarh's population therefore consists of people who are either working for one of these governments or have retired from government service. For this reason, Chandigarh is often called a "Pensioner's Paradise". There are about 15 medium to large industrial including two in the Public sector. In addition Chandigarh has over 2500 units are registered under small scale sector. The important industries are paper manufacturing, basic metals and alloys and machinery. Other industries are relating to food products, sanitary ware, auto parts, machine tools, pharmaceuticals and electrical appliances. Yet, with a Per capita income (PCI) of ₹99,262, Chandigarh is the richest city in India. Chandigarh's gross state domestic product for 2004 is estimated at \$2.2 billion in current prices.

3.36 Public Realm of Chandigarh

Chandigarh boasts to be first planned city of India and is known internationally for its architecture and urban planning. Chandigarh is home to numerous architectural projects of Le Corbusier, Pierre Jeanneret, Matthew Nowicki, and Albert Mayer.



3.27 Rock Garden



3.28 Trail in the Leisure Valley



3.29 View of Rose Garden

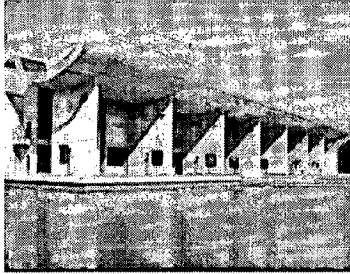
Chandigarh has gardens across the entire city. It is home to world famous Rock Garden, built from mostly from waste material. (Fig. 3.30) Another well-known garden is the Rose Garden.(fig. 3.28) Other gardens include Garden of Annuals, Fragrance Garden, Hibiscus Garden, Chrysanthemum Garden, Botanical Garden and Shanti Kunj. These gardens form a major part of public realm in the city.

Along with the gardens, leisure valley, Sukhana Lake, Capitol Complex and the open Hand Monument are major tourist destinations and active public spaces of the city. Leisure valley is the most beautiful and popular tourist attraction destination in Chandigarh. (Fig. 3.29) Chandigarh Leisure valley is like a garland of gardens that beautifies the entire city. It begins from Rajendra Park in Sector 1 that is basically used for long walks, yoga and other fitness workout activities and stretches till the Bougainvillea garden in Sector 3. It also covers the splendid garden of roses in Sector 16. Leisure valley takes a curvaceous turn, when it enters Sector 23. It is in the Leisure valley in Chandigarh, India that different kinds of theme gardens are set up.

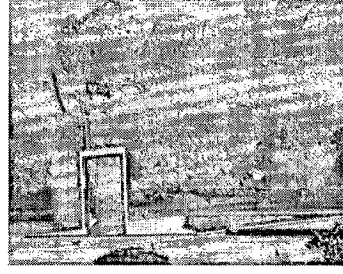
Sukhna Lake is a beautiful lake that lies in the foothills of Shivalik range. The unique thing about Sukhna is that it is a manmade lake. It is a 3 km long lake that was created in the year 1958. It was done by damming the Sukhna Choe, which is a seasonal stream flowing down from the Shivalik hills. Sukhana Lake of Chandigarh, India has become an integral part of the city. People visit this place in the morning to enjoy the cool breeze and the beauty of nature. Chandigarh Sukhna Lake serves as a great picnic spot and an apt place for pursuing water sport activities like boating, yachting and water skiing etc. The atmosphere over here is very serene and thus apt for meditating. Also, you can savour the melodious humming of birds. People come here in the evening time to forget their worries and relax for a while.

Open hand in Chandigarh, India is one of the most significant monuments of the city. The credit for laying down its plan goes to Le Corbusier. (Fig. 3.30)It is located in sector 1 in the Capitol Complex. The significance of open hand is that it conveys the social message of peace and unity that is "open to give & open to receive." Open hand is the city's official emblem.

The credit for the awesome designing of the Capitol complex goes to Le Corbusier. Located in Sector 1, capitol complex in Chandigarh, India consists of three main edifices, namely, the Secretariat, the Legislative Assembly and the High Court. The three buildings of the Capitol complex stand majestically representing themselves as the temples of democracy of free India. (Fig. 3.31 and 3.32)



3.30 The secretariat in Capitol Complex



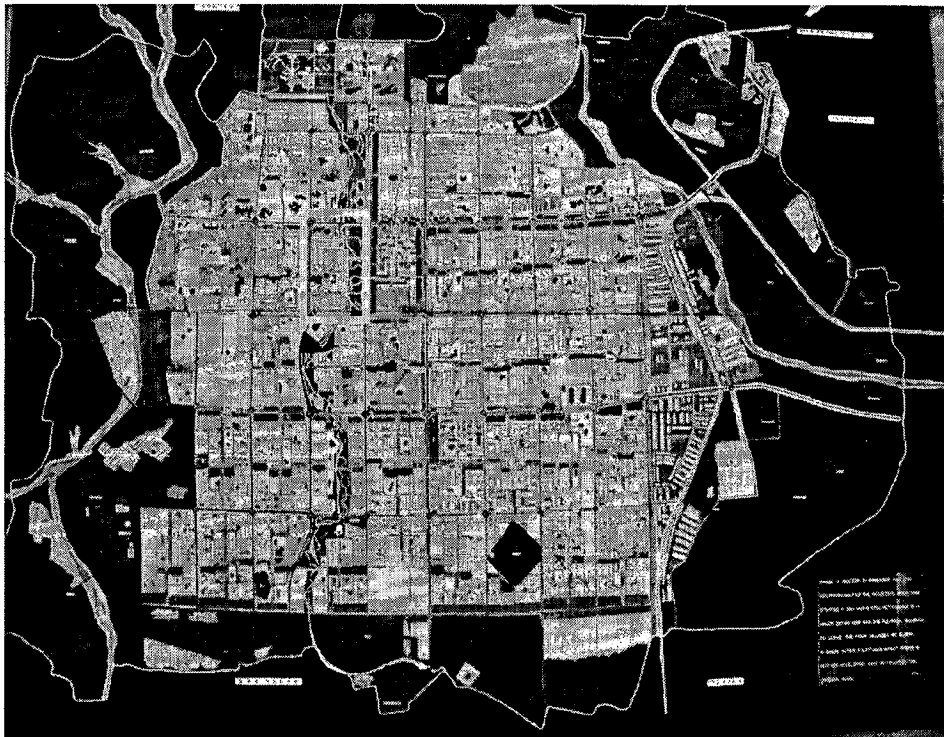
3.31 The Open Hand Monument



3.32 The Chandigarh high Court in Capitol Complex

In addition to the above public spaces, the city has a very well designed city centre. Sector seventeen is the C.B.D. of the city. Public realm of the city centre is discussed in detail below.

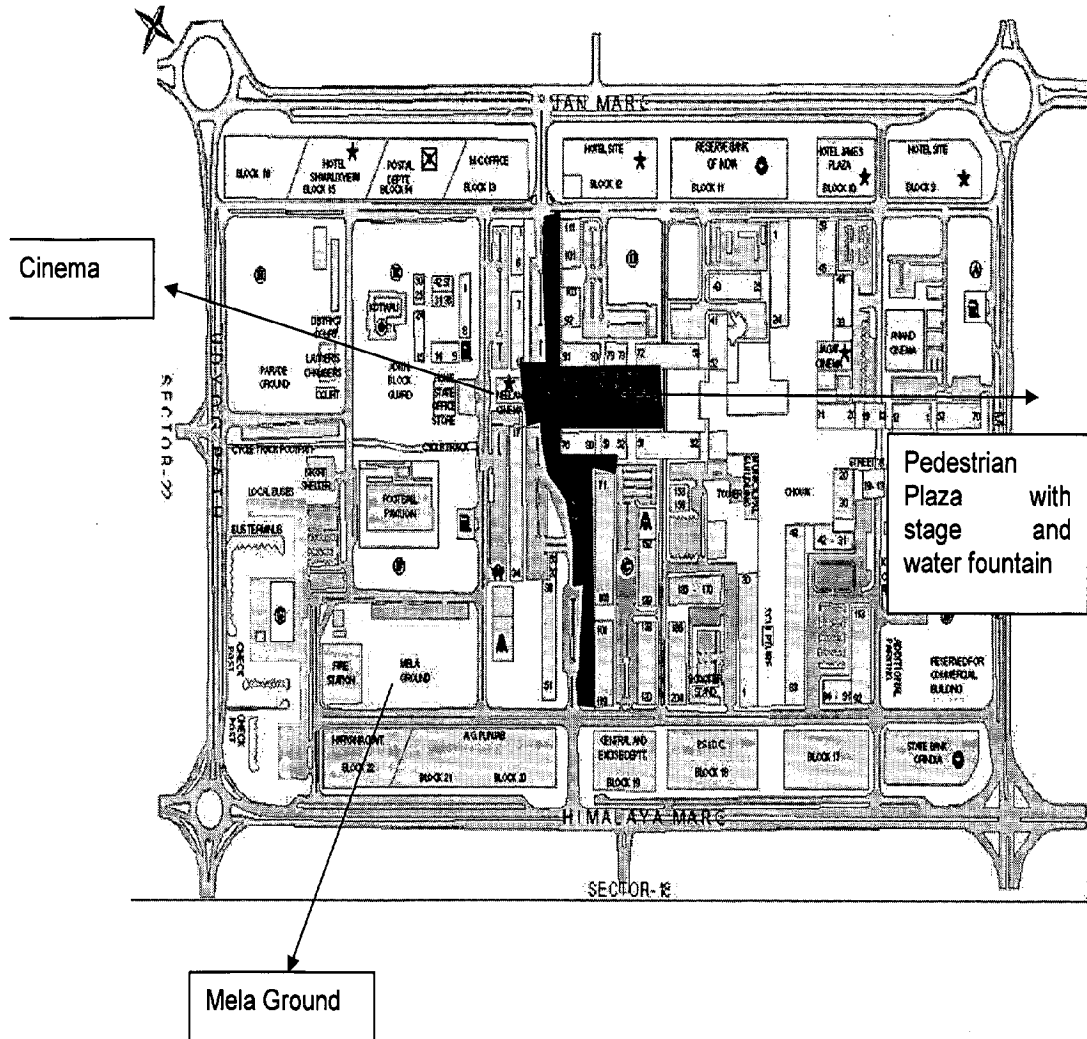
3.37 City Centre of Chandigarh:



3.33 Location of City Centre, sector 17 of Chandigarh

Spread Across the City Plaza (French word for Open Space) designed by Le Corbusier himself is the City Centre which is main shopping and commercial centre of Chandigarh in Sector 17. This vast commercial complex is partly pedestrianised. It is the favourite pass time for the residents of Chandigarh as everybody can find some reason to visit this place from hectic business activity to unhurried window shopping and even crowd

gazing in the vicinity of the fountain. Big showrooms and departmental stores cater to the needs of shoppers. Government Emporia, innumerable shops, eateries, coffee houses, bars & pubs keep the visitor completely occupied.



3.34 Chandigarh city centre detail plan

3.38 Public spaces:

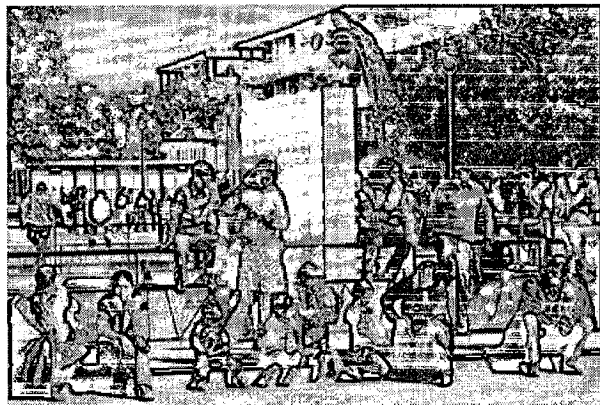
i. Pedestrian plaza:

The plaza in the city centre allows people to come together, interact, take a stroll and participate in community activities. Shopping becomes an interesting activity with availability of variety and diverse sections of shops ranging from international brands to local shops.

ii. Gathering places:



3.35 : Pedestrian plaza

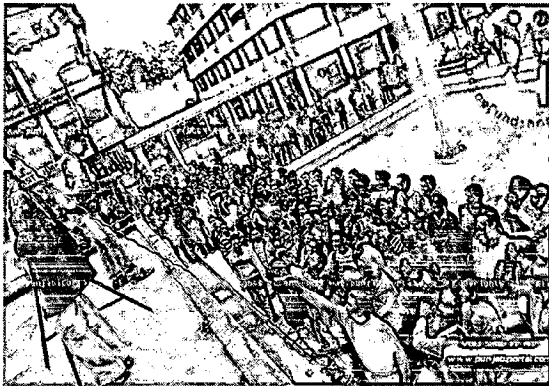


3.36: People of all age groups enjoying the sunshine

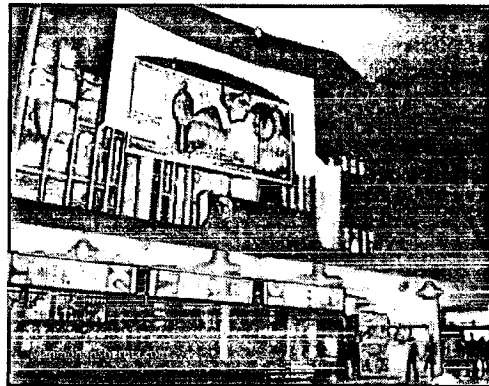
The plaza has number of gathering places like a fountain, a pond, trees with platform around which has been a typical community place in India from years. People enjoy the furniture of the plaza, which helps the plaza to get publicized more.(Fig. 3.35,3.36,3.37)

iii. Activities:

With a view to promote cultural life of the citizens of Chandigarh and to tourism, weekend cultural shows are organized on every Saturday and Sunday at various locations and gardens in the city. This not only makes the evening life of the city more happening and entertaining but also it gives a platform to the budding artists to showcase their talent. A talent bank is also compiled through these shows to be utilized in the annual tourism and cultural events of Chandigarh. Every Saturday and Sunday evening, people of Chandigarh enjoy the three-hour at the plaza in Sector 17, Sukkna Lake, Fragrance Garden, Terraced Garden, and Rose Garden. It intends to promote local artists from every field. The attractions vary every Saturday and it could be anything from dance, music, and magic show to painting display, sculpture display, acrobatics, or mimicry.



3.37: People enjoying a show at the Plaza



3.38: Cine theatre at the plaza

iv. The activities around:

The city centre is the commercial as well as entertainment and leisure centre of Chandigarh. The pedestrian plaza is surrounded by major office complexes. Thus people visit this place daily for their work and then have an opportunity to enjoy the environment in the evenings. City centre has major hotels lined along, which have access to the city centre plaza. Also there is cinema theatre at the plaza. (Fig. 3.38)

v. Access:

Chandigarh is the city in India which has the highest per capita number of vehicles in India. People in Chandigarh prefer their own vehicles over the public transport. This has resulted in dedicating lot of space for the parking of the vehicles. Also the streets are wide with dedicated parking lay bays, which hamper the environment from being pedestrian friendly.

3.39 Lessons learnt:

Chandigarh city centre is one of its kinds in India. It has a taste of modernism in India. The plaza and the buildings around are having a specific architectural language and the scale of Chandigarh is monumental. When compared to the scale of the squares and spaces in Copenhagen, Chandigarh looks less lively.

Chandigarh has grown with the time, but the city centre policies have not changed much. There is not much area for the informal sector. The plaza is huge and does not get enough shed in summers. There are absolutely no kiosks and stalls in the city centre. The city centre looks very attractive with the groups of people and lots of activities. But it does have certain dull hours when there are harsh weathers.

The pedestrianization has gone into only a small part and the city centre is not directly accessible walking. People generally take their vehicles to the city centre, park it at the parking lots and then take stroll of the plaza. The city centre is not directly visible from the main streets.

It goes without saying that Chandigarh has its own strengths to become a great public space in India, but it lags in many aspects when compared with other successful public spaces with respect to parameters like extent of pedestrianization, scale of the plaza and built around, climate and thermal comfort, and public space furniture etc.

3.4 Comparative analysis of the Copenhagen city centre & Chandigarh city centre:

Table 3.2 Comparison of public realm at city centres of Copenhagen and Chandigarh

Aspect	Copenhagen	Chandigarh
City Area	88.25 km ²	114 km ² .
City Centre Area	1.15 km ² .	0.96 km ² .
Pedestrianization extent	60%	5%
Climate	oceanic climate zone	humid subtropical climate
Temperature Variation	(-2) to 20 degree Celsius	(-1) degree to 41 degree celsius
Activities	shopping, performances, interaction, lousing, art, cultural events, demonstrations etc.	shopping, performances, interaction, lousing
Image	Vibrant with interesting facades with different colours and niches for accomodating peoples' activities	Monotonous facades of building blocks
Scale	Enclosing, Tangible	Monumental
Informal Sector	Present significantly	Hardly seen
Connectivity/ Accessibility	Excellent connectivity by public transport	No Public transport is used
Visibility	Visible	Cannot be experienced from away

Chapter 4: ANALYSIS OF EXISTING PUBLIC REALM OF MUMBAI CITY

- 4.1 *Introduction*
- 4.2 *Selected area for field survey*
- 4.3 *An overview of the public spaces, their per capita availability and the area covered*
- 4.4 *Location of the surveyed public spaces in the city limits*
- 4.5 *Detailed review of the surveyed public spaces*
- 4.6 *Comparative analysis of the surveyed public spaces*
- 4.7 *Summary*

4. Study of existing Public Realm of Mumbai City

4.1 Introduction:

Mumbai is a bustling metropolis with huge floating population from the surrounding cities like Thane, Nave Mumbai, Kalyan, Dombivali as well as Virar and Vasai. Also the city's population has grown over the time tremendously. The amenities, facilities and infrastructure have not coped up with the bulging population for years.

This chapter surveys the existing public realm of the city by listing out the available public spaces in the wards of the city limits, classifying them as city level, ward level and neighbourhood level public spaces in terms of their areas, number of users/ visitors, a total of the public spaces available in a ward and its availability per capita.

4.2 Survey methodology:

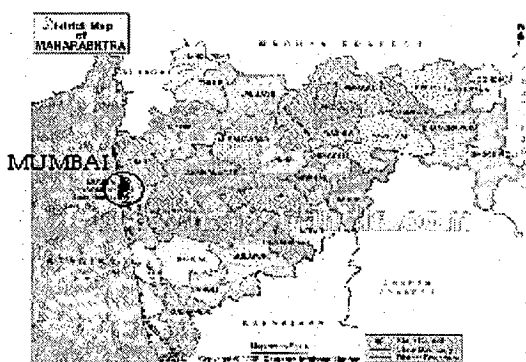
Out of the above listed public spaces of Mumbai, twenty four public spaces are selected in order to perform a detailed survey. The spaces were selected on the basis of the popularity of the space, the hierarchical level of the space, accessibility and the uses characteristics. Primarily the city and sub-city level public spaces were selected. The spaces were also selected on the basis of accessibility and opening hours of the spaces. The survey was carried out systematically and methodically to evaluate the public spaces on an equal platform of parameters namely (i) the accesses and linkages to the space, (ii) the variety of activities the space allows, (iii) the image and safety of the space and (iv) the sociability factor. The spaces were surveyed at different points of times, visually as well as verbally by asking the users and the maintenance staff certain questions about the public space. Every space was captured through the camera to make visual notes and illustrate the space's characteristics, pros and cons as well as activities performed in the space.

All the spaces thus studied were allotted points for various questions under the above mentioned four parameters. The total score achieved by the space is then analysed against the various parameters by the method of correlation. This analysis gives an overall idea of the success rate of the public spaces in Mumbai, and helps drawing guidelines and principles for planning of the public spaces in the urban areas of the country.

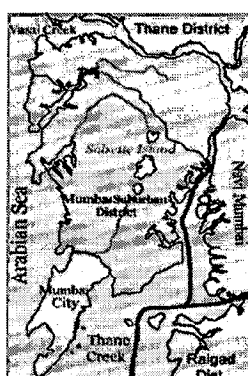
4.3 Selected area for field survey:

To study the public spaces in the Mumbai, the wards falling under the Mumbai city area limits (fig. 4.2 & 4.3) are selected as field. There are total nine wards in the city district and -- -- major public spaces are distributed in the area. Location of Mumbai in Maharashtra, Mumbai District map and the ward map of Mumbai is given below in

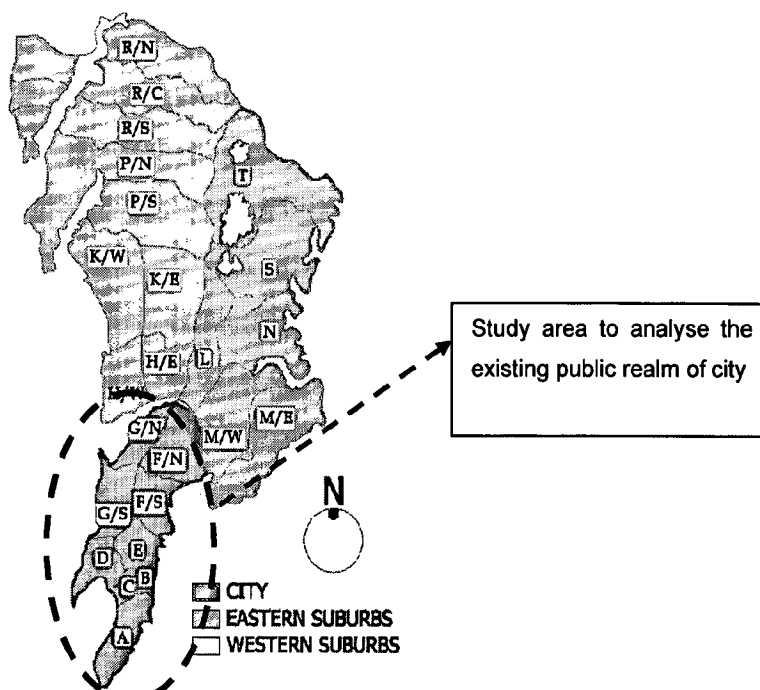
There are total nine wards in the city area having varying population densities, areas and physical features such as proximity to sea. (Table 4.1) The public spaces are in the sequence of their presence into the wards of the city area.



4.1: Location of Mumbai in Maharashtra



4.2: Mumbai District Map



4.3: Ward map of Mumbai

4.3 An overview of the public spaces, their per capita availability and the area covered:

Though a public space should be ideally free for the citizens, certain spaces charge a minimal amount for maintenance of the space as well as to make people responsible in availing the space. Botanical gardens, museums, certain parks, aquariums, are examples of such spaces. The overview of the available public spaces in city limits, discussed below, includes such spaces as they are available to common man on daily basis with even concessions on occasions. There are certain other types of spaces which are available to public only on certain events. These are the events like sport matches as well as music concerts which require people to pay an amount which is not easily affordable to common man. Though such spaces are listed below in the tourist destinations and other important public spaces in wards, they are not considered while analysing the total availability and distribution of public spaces. Such spaces allow the higher economic groups to avail the facilities at the venues like stadia and performance arena, thus reducing the pressure on the use of the other public spaces that can be used by common people all the time with no or very little money spent.

Table 4.1 Ward wise distribution of population, public spaces, and per capita availability of the public spaces

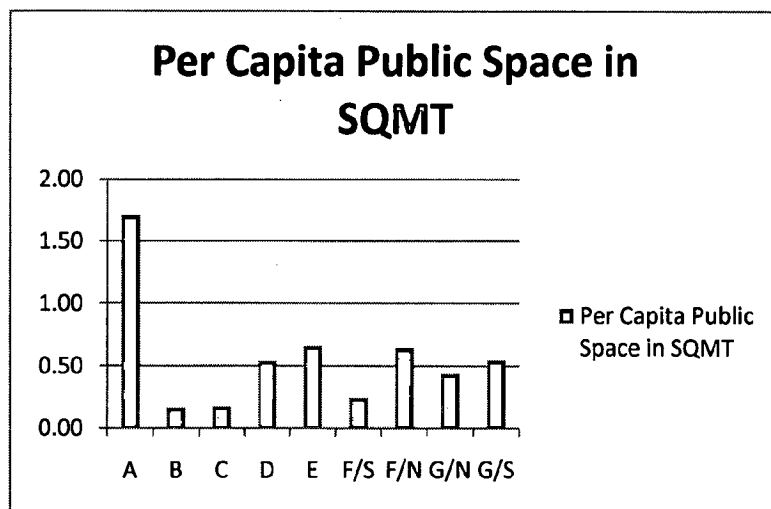
WARD NAME	LOCATION	AREA (Km ²)	POPULATION	POPULATION DENSITY	Total No. of Public space	No. of city level public spaces	No. of sub-city/ward level public spaces	AREA (Km ²)	% of Public Space of total ward area	Per Capita Public Space in SQMT
A	COLABA	10.61	1,94,844	18363.29	25	11	14	0.333	3.14	1.71
B	SANDHURST ROAD	2.14	1,17,722	55036.08	10	0	10	0.019	0.90	0.16
C	MARINE LINES	2.33	1,97,228	84811.01	18	1	17	0.034	1.44	0.17
D	GRANT ROAD	7.84	4,01,548	51186.82	32	4	28	0.216	2.75	0.54
E	BYCULLA	6.55	4,10,824	62761.99	30	1	29	0.270	4.12	0.66
F/S	PAREL	8.98	4,17,136	46475.09	33	0	33	0.101	1.13	0.24
F/N	MATUNGA	13.10	4,30,687	32872.69	43	0	43	0.278	2.12	0.64
G/N	DADAR/PLAZA	6.58	4,83,806	73553.32	30	1	29	0.211	4.3	0.44
G/S	ELPHINSTONE	10.15	5,21,094	51333.05	33	3	30	0.283	2.08	0.54

The above table gives us an idea about the number of public spaces, and their per capita availability considering the free public spaces and the ones charging token amount

but excluding the spaces that are not used by a common man cannot afford. The following table thus excludes sports stadia in wards, which are not freely available to common man.

Table 4.1 draws light on the overall scarcity of public spaces in one of the largest metro city of India, Mumbai. Being the place with highest density of population, city fails to provide a healthy environment and better opportunity for having a great public life in the city for its citizens especially the common man.

From the above figures it's clear that the per capita availability of public space in the city wards i.e. the nine wards is less than 0.52 square meters. This is the public space calculated considering the open maidaans, recreation grounds, public squares, plazas as well as public buildings. But major cities like Delhi and Chennai are having an open space consisting of parks, playgrounds, open maidaans as public greens as 4 square meters per capita each. (Dinesh Naik, Public Open Spaces, Unpublished thesis, CEPT.)

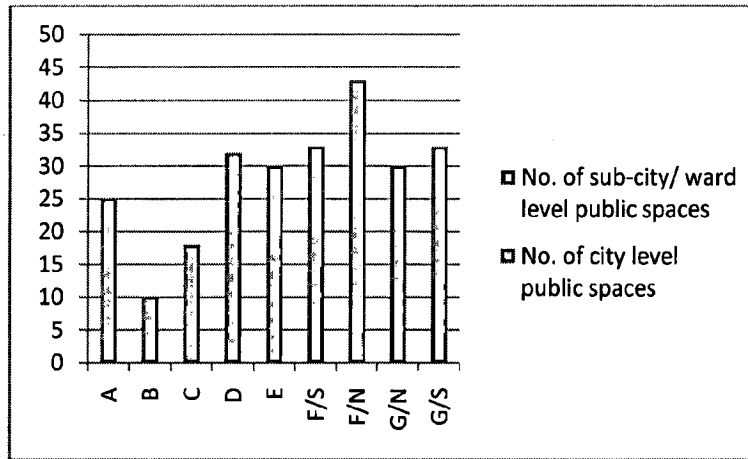


4.4 . Per Capita Public Space availability in city wards of Mumbai

In overall comparison between the city wards, ward 'A' fares better than all other wards reasonably. It's the only ward having per capita availability of the public space more than 1.5 square meters. Wards B, C, F/S and G/N are very deficient in terms of the same, which have less than 0.5 square meter public space per capita. Wards D, E, F/N and G/S are slightly better than wards B, C, F/S and G/N in terms of per capita availability of public space as they have per capita public space available more than 0.5 square meters.

When we compare the distribution and number of public space available according to their hierarchy, ward 'A' fares the best having large number of city level public spaces which are major tourist destinations. It has total twenty five public spaces out of which eleven are city level public spaces. Ward 'D' ranks next among the other wards as it has total thirty two

public spaces with four city level public spaces. Ward 'G/S' has thirty public spaces among which three are city level spaces. Ward 'E' and 'G/N' have equal number of public spaces (thirty) with equal number (one) of city level public spaces. Though considering the total number of public space, ward 'F/N' is at rank one, it has no city level public spaces. Wards 'F/S' has as many as thirty three public spaces all being ward level public spaces. Ward 'B' is the poorest ward in terms of both, total number of available public spaces as well as there is not a single city level public space out of the available ten public spaces in the ward.



4.5 Chart showing city and ward level public spaces in select wards

Looking at the locations and positions of the wards, it is clearly visible, that the southern city wards, A to D are having major city level public space, while the other major wards which constitute the central Mumbai are lacking in terms of the good city level public spaces.

Public spaces and tourist destinations in the ward 'A':

Mumbai is an important tourist destination. People from all over the world, travel to Mumbai city to have glimpses of the city. Following is a table listing the various vital public spaces and tourist destinations in ward 'A'.

Table 4.2 Important public spaces & tourist destinations in ward 'A'

Sr. No.	Name of centre or event with date	Classification	Number of people visiting daily or for the specific event	Area (SQMT)
1*	Gateway of India	Tourist destination	15,000	19620
2	Prince of Wales Museum	Tourist destination	15,000	12000
3	Hutatma Chowk (21st Nov. & 1st May)	Historical & Political Importance	5,000	2500
4#	Wankhede Stadium	Stadium Sports	50,000	25434
5#	C.C.I. (Brabourne Stadium)	Stadium Sports	20,000	28900
6#	Cooperage Grounds	Stadium Sports	5,000	16014
7*	Azad Maidan	Playground	N.A.	128820
8*	Cross Maidan	Playground	N.A.	64530
9*	Oval Maidan	Playground	N.A.	89030
10*	Khau Galli CST	Hawking zone	N.A.	1973
11*	The Asiatic Library Steps	Frontage of a public building	N.A.	543
12*	Kalaghoda Art Precinct	Street Precinct	N.A.	10390
13*	Fashion Street	Street Market	N.A.	4015
14*	Horniman Circle Garden	Garden	N.A.	12021

Note: * marked public spaces are selected for detailed survey and analysis, # marked spaces are not considered for the area analysis and per capita public space analysis.

The public spaces of ward 'A' given in table 4.2 are a mix of city level and ward level public spaces. This ward is comparatively rich in the available area as public space to people and total number of public spaces with respect to the population. Out of the total 28 public spaces, above 14 are major city level public spaces as well as tourist destinations.

Table 4.3 Public spaces listed by Garden dept. of MCGM in ward 'A'

Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	0	0
2	Play Grounds	0	0
3	Recreation Grounds	7	41821
4	Parks	1	31000
5	Open Spaces	8	29166
6	Total No. of Plots	16	101987

The breakup of public spaces which are listed by the Garden Dept. of MCGM, under the categories of playgrounds, parks, recreational grounds, open spaces and gardens are as given above in table 4.3.

Ward B is devoid of any major city level public spaces, but there are 10 nos. of public spaces maintained by the Garden dept. of MCGM, in the form of gardens, playgrounds and recreation grounds. They are as follows:

Table 4.4 Public spaces listed by Garden Dept. of MCGM in ward 'B'

Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	1	600
2	Play Grounds	7	13114
3	Recreation Grounds	2	5450
4	of Parks	0	-
5	Open Spaces	0	-
6	Total No. of Plots	10	19164

Public spaces and tourist destinations in the ward 'C':

Table 4.5 Important public spaces & tourist destinations in ward 'C'

Sr. No.	Name of centre or event with date	Type (historical, religious, tourist, sports, political centre)	Number of people visiting daily or for the specific event	Area (SQMT)
1	Taraporewalla Aquarium	Tourist Centre	Approximately 5,000 daily	4340
2*	S.K. Patil Graden	-	N.A.	11516

Note: * marked public spaces are selected for detailed survey and analysis

Taraporewalla Aquarium is one of its kinds in Mumbai. Its location is strategic as its situated against the Marine Drive. The S.K.Ptail garden in the above table is a very active ward level public space. The residences in this ward are more of small and chawli types, where children cannot get enough space and good environment to study. Thus this park become becomes a very popular destination for students in their exam times. Otherwise the park is full of people of all age groups, especially in the early mornings and evening times. People take a stroll even after their dinner. The other major public spaces listed by the Garden Dept. of MCGM are as follows in ward 'C':

Table 4.6 Public spaces listed by Garden Dept. of MCGM in ward 'C'

Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	0	-
2	Play Grounds	0	-
3	Recreation Grounds	15	17601
4	Parks	1	11516
5	Open Spaces	1	100
6	Total No. of Plots	17	29217

Public spaces and tourist destinations in the ward 'D':

Table 4.7 Important public spaces & tourist destination in ward 'D'

Sr. No.	Name of centre or event with date	Type (historical, religious, tourist, sports, political centre)	Number of people visiting daily or for the specific event	Area (SQMT)
1*	Kamala Nehru Park	Tourist	N.A.	29195
2*	Hanging Garden	Tourist	N.A.	28247
3	Mani Bhavan	Historical	N.A.	450
4*	Girgaon Chowpatty	Tourist	N.A.	83627
5*	Priyadarshini Park	-	N.A.	65000

Note: * marked public spaces are selected for detailed survey and analysis

Above given table explains that besides the public parks, gardens, playgrounds and recreational grounds which are maintained by MCGM Garden Dept., there are important city level tourist attractions in the ward. Following are the listed spaces by Garden Dept. of MCGM.:

Table 4.8 Public spaces listed by Garden Dept. of MCGM in ward 'D'

Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	0	0
2	Play Grounds	3	24865
3	Recreation Grounds	14	35059
4	Parks	1	65000
5	Open Spaces	10	6650
6	Total No. of Plots	28	131574

Public spaces and tourist destinations in the ward 'E':

Table 4.9 Important public spaces and tourist destinations in the ward 'E'

Sr. No. Ward E	Name of centre or event with date	Type (historical, religious, tourist, sports, political centre)	Number of people visiting daily or for the specific event	Area (SQMT)
1	Jijamata Bhosale Udyan & Zoo	Tourist	10,000	1,90,000
2	Bhau Daji Lad Museum	Tourist	1,500	In the campus of zoo
3*	Joseph Baptista Park	-	N.A.	6070

Note: * marked public spaces are selected for detailed survey and analysis

Jijamata Bhosale Udyan and Zoo is the only zoo and botanical garden in a city's municipal corporation's limits in India. This is a major tourist attraction. The Bhau Daji Lad Museum, situated in the same campus of the botanical garden and zoo, is the oldest museum of Mumbai. This museum houses a large number of archaeological finds, maps and historical photographs of Mumbai, clay models, silver and copper ware and costumes.

Apart from the above major public spaces in the ward E, there are following playgrounds, parks, recreational grounds, gardens and open spaces as follows:

Table 4.10 Public spaces listed by Garden Dept. of MCGM in ward 'E'

Sr. No.	Type of Public Space	Nos.	Area (SQMT)
1	Gardens	0	0
2	Play Grounds	3	6805
3	Recreation Grounds	19	59618
4	Parks	0	0
5	Open Spaces	5	7507
6	Total No. of Plots	27	73930

There are no city level public spaces in the ward F/S. following are the play grounds, gardens, recreation gardens as well as open spaces listed by Garden Dept. of MCGM which fall under public spaces:

Table 4.11 Public spaces listed by Garden Dept. of MCGM in ward 'F/S'

Sr. No.	Type of Public Space	Nos.	Area (SQMT)
1	Gardens	1	612
2	Play Grounds	7	30743
3	Recreation Grounds	24	61137
4	Parks	0	0
5	Open Spaces	1	6000
6	Total No. of Plots	33	98492

The ward F/N is another ward having no city level famous public space or any of the tourists' attraction, but this ward is richer in the number of public spaces under the category of gardens, playgrounds, parks, open spaces as well recreation grounds as listed by the Garden Dept. of MCGM. Following table gives the breakup of the above mentioned spaces and their number and areas under each of the category.

Table 4.12 Public spaces listed by Garden Dept. of MCGM in ward 'F/N'

Sr. No. Ward F/N	Type of Public Space	Nos.	Area (SQMT)
1	Gardens	3	69366
2	Play Grounds	10	47083
3	Recreation Grounds	26	121548
4	Parks	0	0
5	Open Spaces	4	39552
6	Total No. of Plots	43	277549

Public spaces and tourist destinations in the ward 'G/S':

Table 4.13 Important public spaces and tourist destinations in the ward 'G/S'

Sr. No. Ward G/S	Name of centre or event with date	Type	Number of people visiting daily or for the specific event	Area
1	Nehru Planetarium	Tourist	350	5884
2	Nehru Science Centre	Tourist	200	73860
3	Worli Dairy	Tourist	100	71498
5*	Worli Sea Face Promenade	Tourist	N.A.	30368
6*	Shastri Garden	-	N.A.	15480

Note: * marked public spaces are selected for detailed survey and analysis

The Nehru Planetarium, Science centre and Worli Dairy are major tourist destinations. These are the spaces where many of the school picnics are arranged and study visits for various students are organised free of cost or at a very little entry fee. The sea face is a large walking promenade with very few vendors. Shastri garden is a garden build around the water reservoir and has safety issues as the water contamination is a serious problem and high security is required at this garden. This garden is mostly used by the local residents.

Apart from the above listed important public spaces, following is a list of gardens, parks, recreation grounds and playgrounds which are listed by the Garden Dept. of MCGM.

Public spaces and tourist destinations in the ward 'G/N':

Table 4.14 Important public spaces and tourist destinations in the ward 'G/N'

Sr.No. Ward G/N	Name of centre	Type	Number of people visiting	Area (SQMT)
1*	Chaitya Bhoomi, Dadar Chowpati	Religion	6.00 Lakhs on Occasion	3500
2*	Shivaji Park Maidan	Religious, Political, Sports.	2.00 Lakhs daily	112937
3*	Chaityabhoomi Park	-	N.A.	5417
4*	Veer Kotwal Garden	-	N.A.	2240
5*	Dadar Market	Tourist	N.A.	13844
6*	Dadar Chaupati	-	N.A.	3800

Note: * marked public spaces are selected for detailed survey and analysis

All the above public spaces in ward G/N are used by local people as well as floating population. With the above spaces following are the playgrounds, recreation grounds, parks and open spaces as listed by the Garden Dept. of MCGM.

Table 4.15 Public spaces listed by Garden Dept. of MCGM in ward 'G/N'

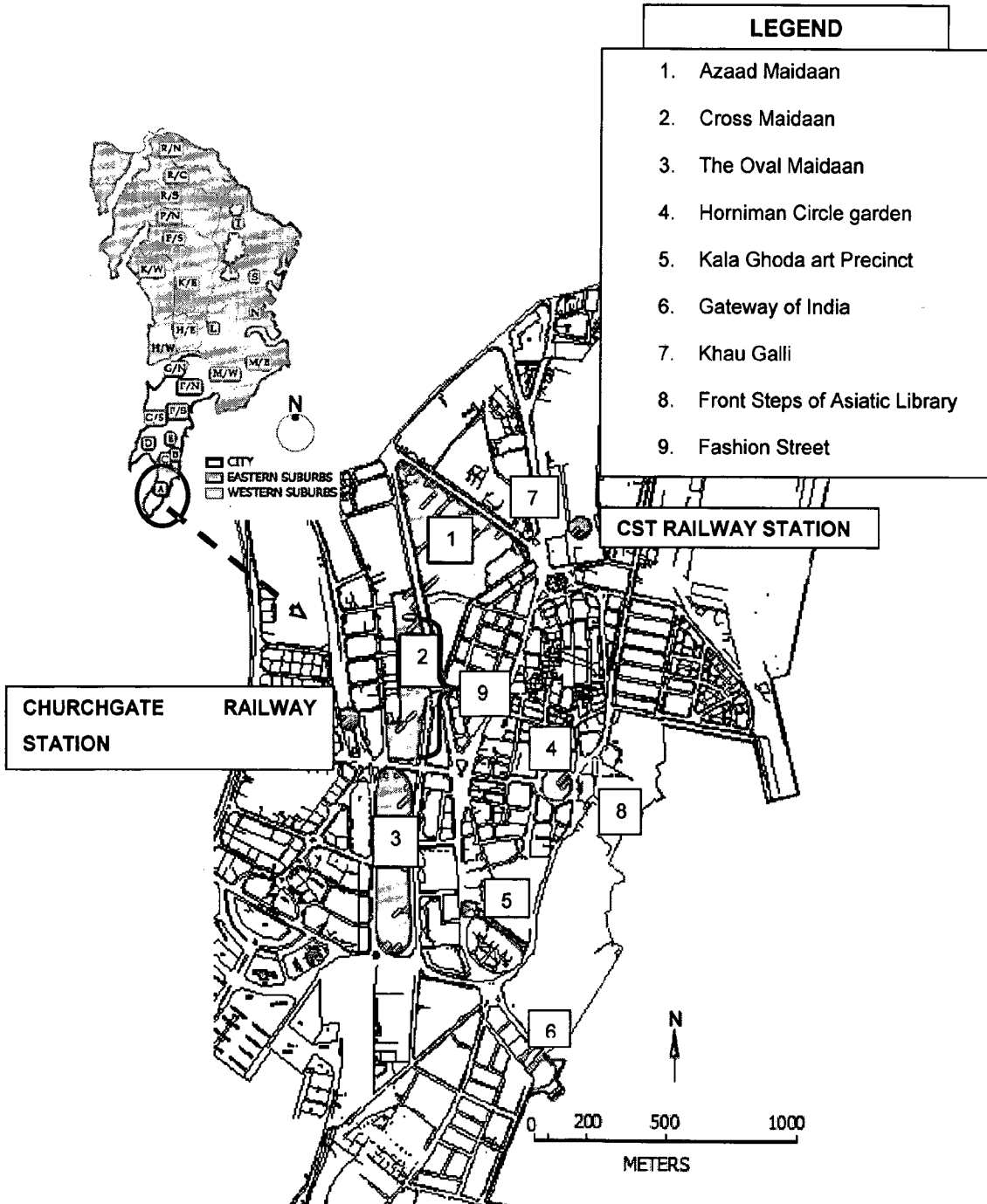
Sr. No.	Type of Public Space	Nos.	Area
1	Gardens	7	17765
2	Play Grounds	7	17772
3	Recreation Grounds	15	41621
4	Parks	2	3010
5	Open Spaces	2	8190
6	Total No. of Plots	33	88358

These statistics are used for calculating per capita available space in the wards under city limits. The accuracy of the calculations completely depends on the data provided by the garden dept. of MCGM.

4.4 Location of the surveyed public spaces in the city limits

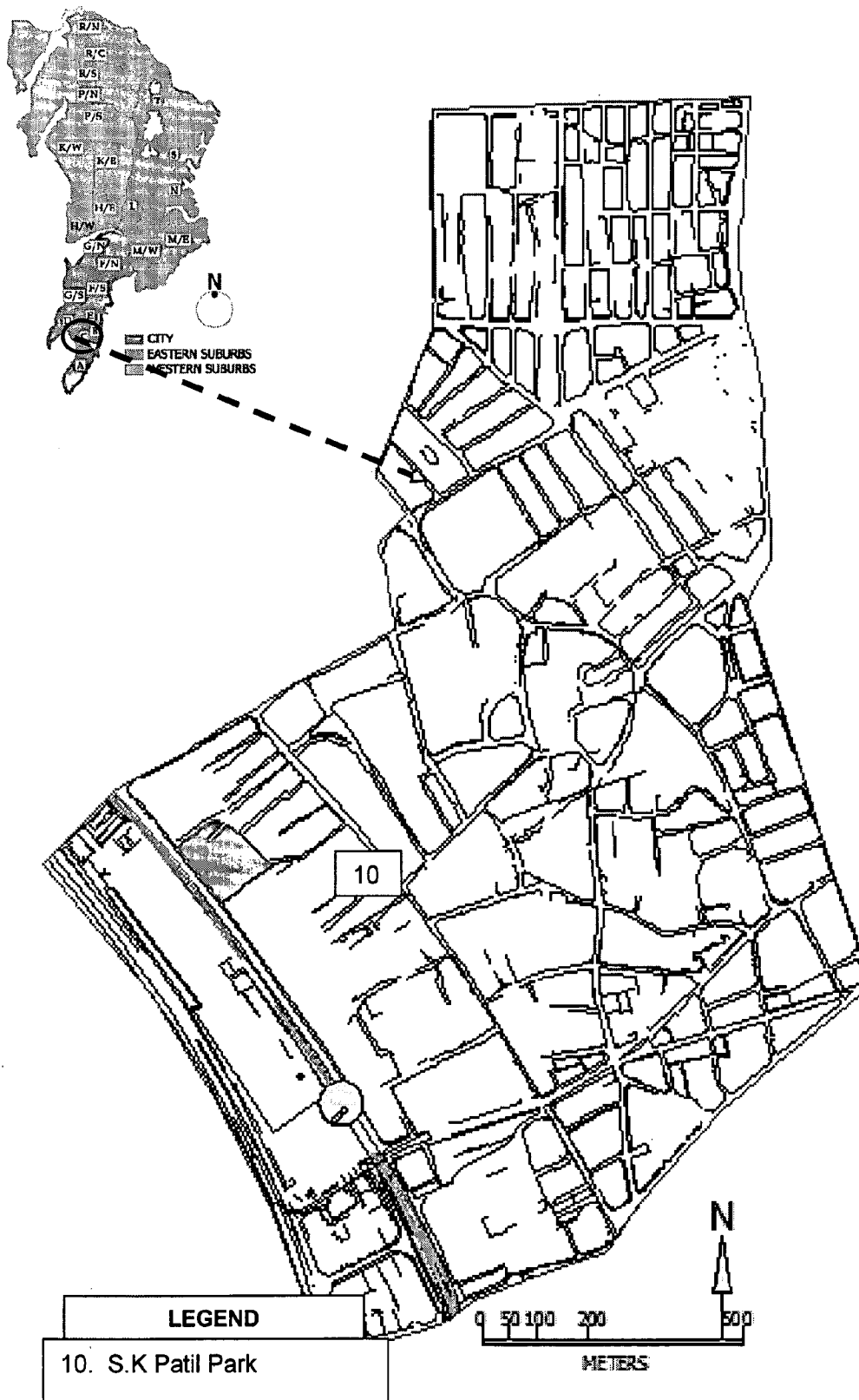
Out of the city's thirty seven most famous and extensively used public spaces mentioned in the above sub-chapter 4.3; twenty four public spaces are selected on the basis of their location, the typology of the public space and their extent of use. The most important factor for the selected public spaces is that, they are accessible to all the people, all the time or the regulated time with no entry fee.

4.41 Location of surveyed public spaces in Ward 'A':



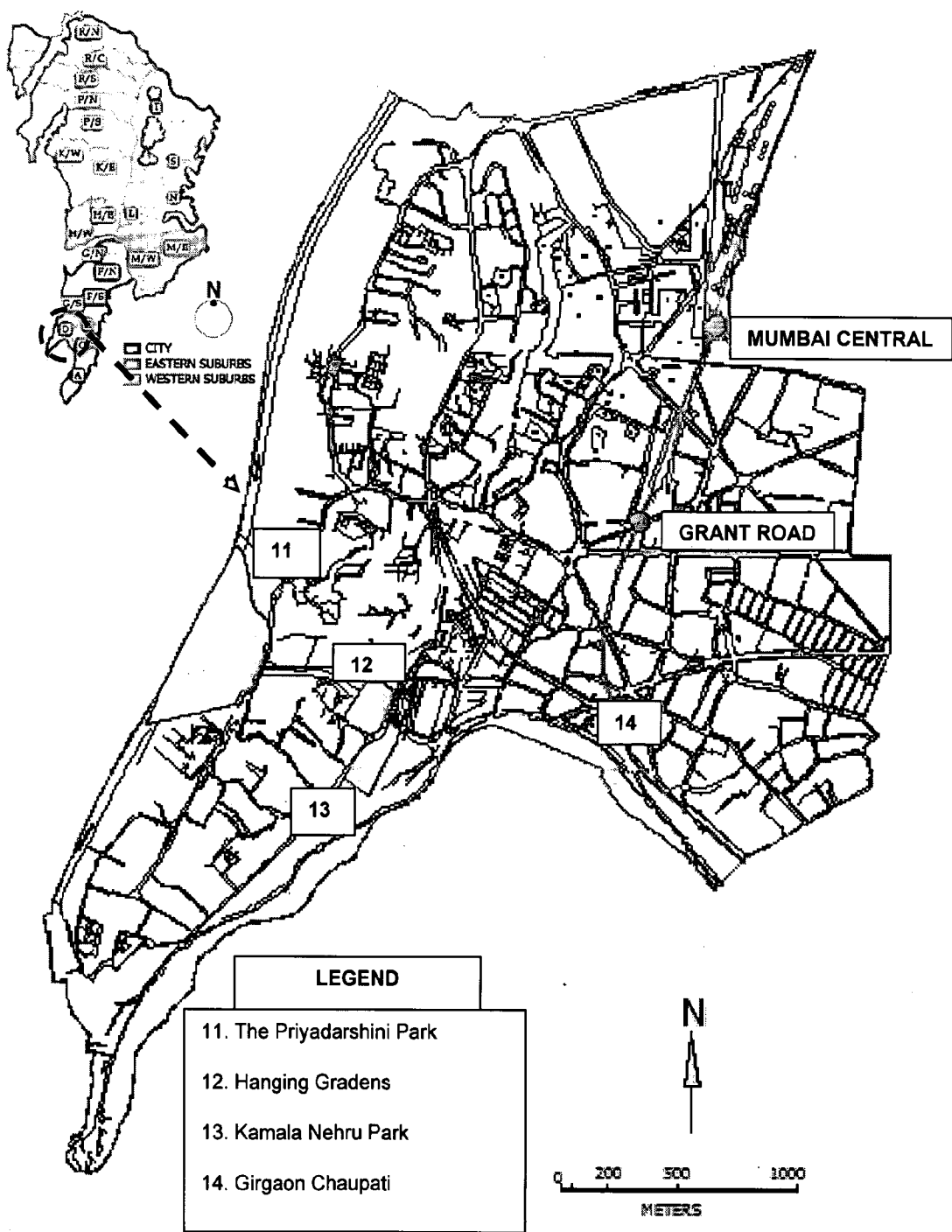
4.6 Location of surveyed public spaces in ward 'A'

4.42 Location of surveyed public spaces in Ward 'C':



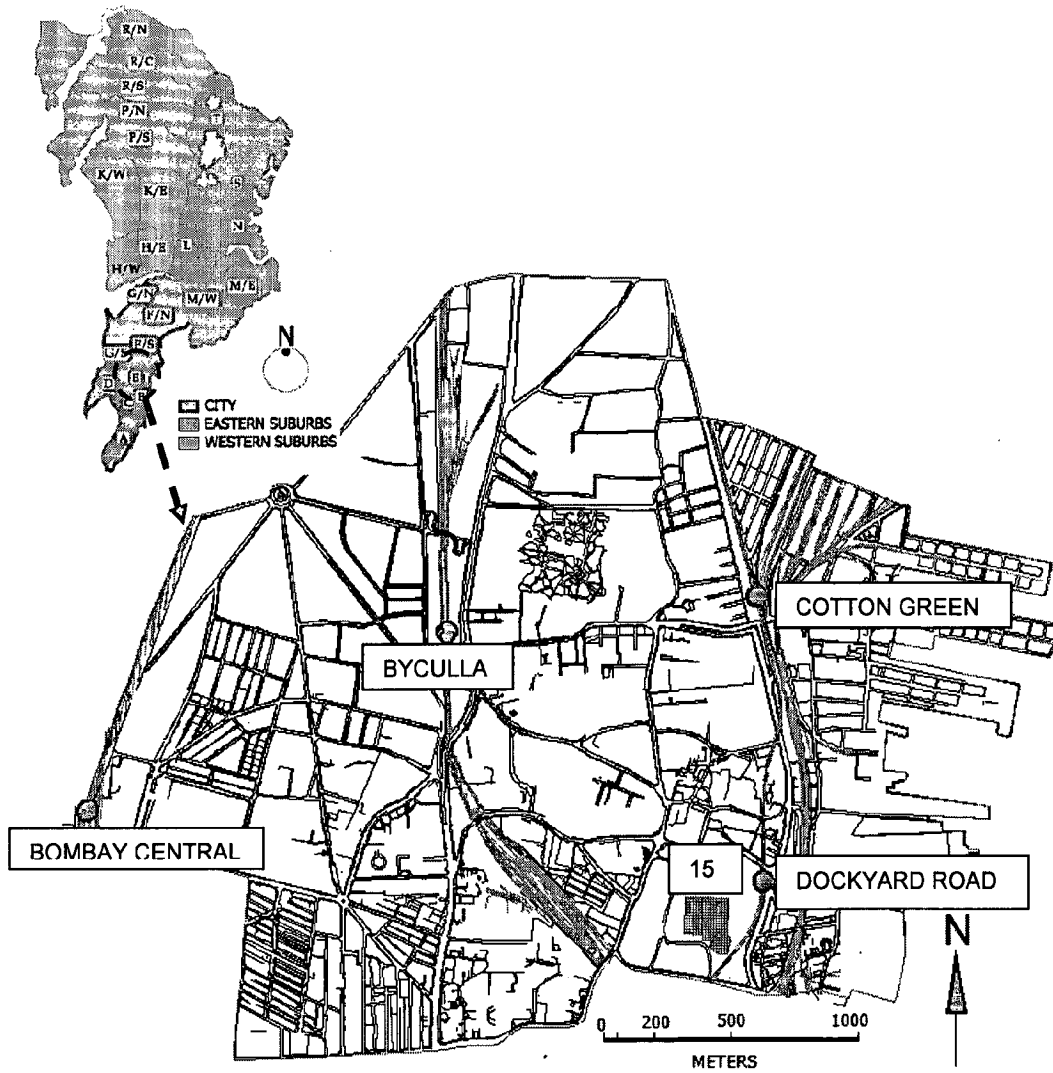
4.7 Location of surveyed public spaces in ward 'C'

4.43 Location of surveyed public spaces in ward 'D':

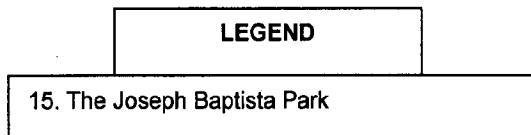


4.9: Location of surveyed public spaces in ward 'D'

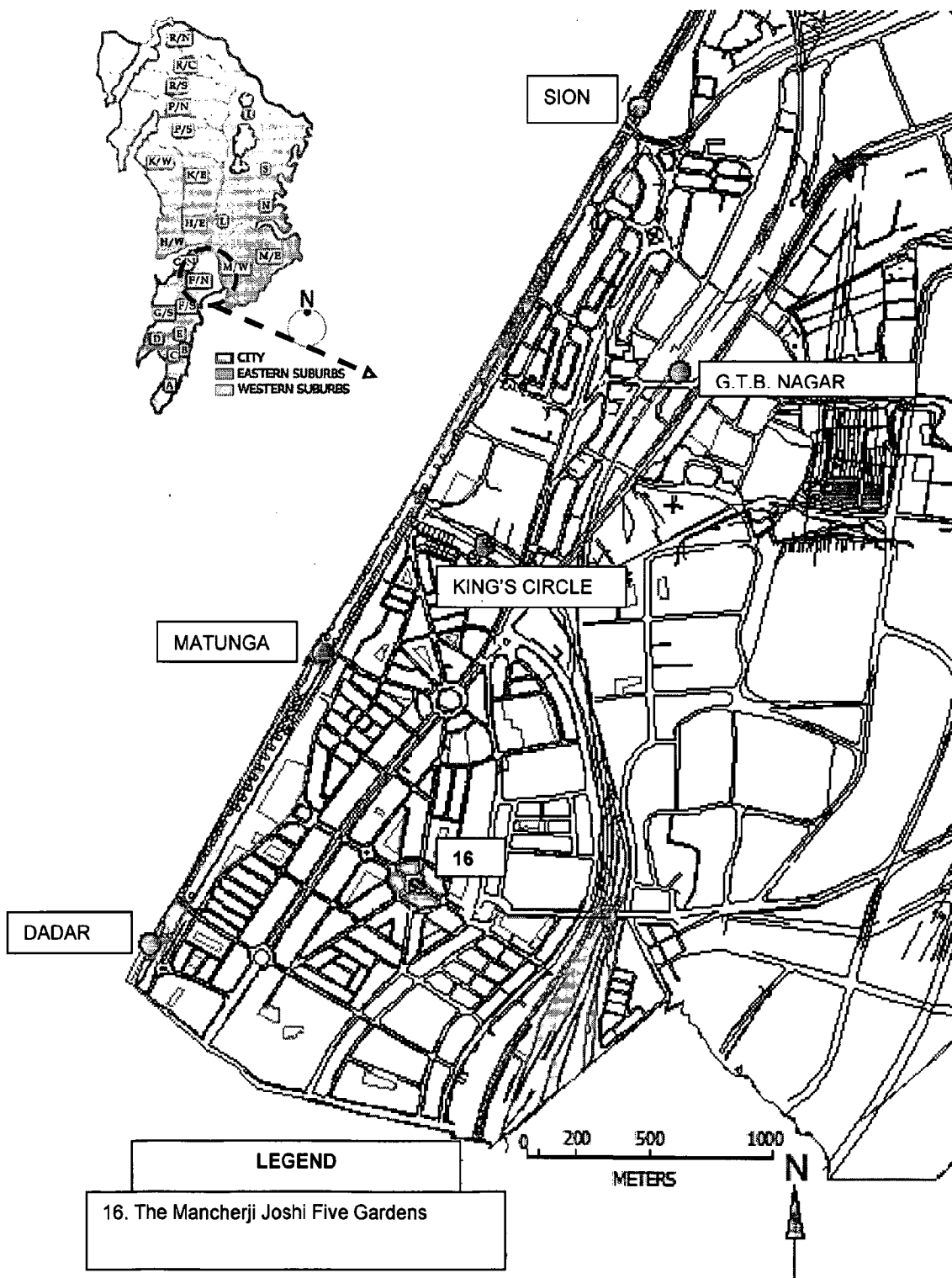
4.44 Location of surveyed public spaces in ward 'E':



4.10: Location of surveyed public spaces in ward 'E'

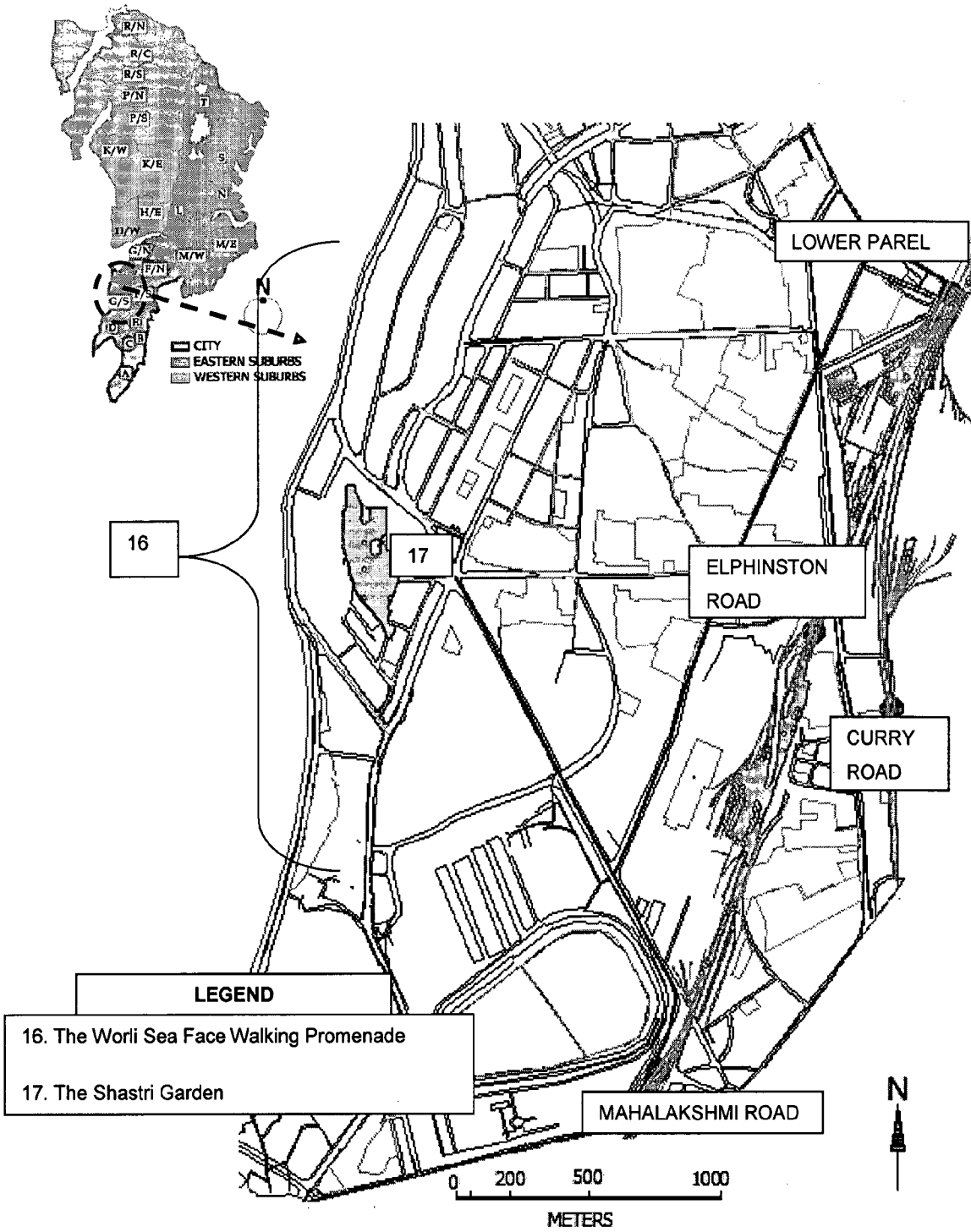


4.45 Location of surveyed public spaces in ward 'F/N':



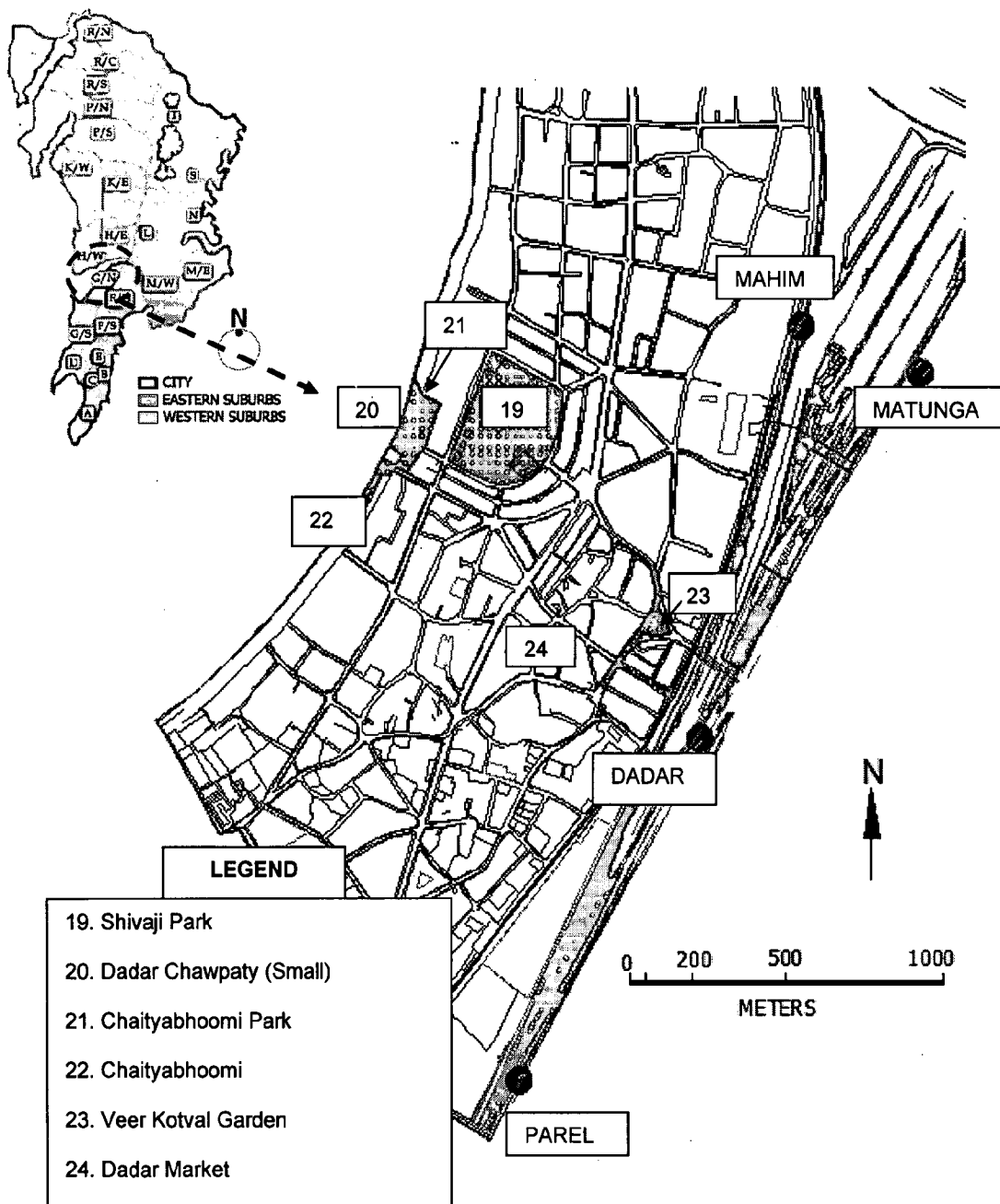
4.11: Location of surveyed public spaces in ward 'F/N'

4.46 Location of surveyed public spaces in ward 'G/S':



4.12: Location of surveyed public spaces in ward 'G/S'

4.47 Location of surveyed public spaces in ward 'G/N':

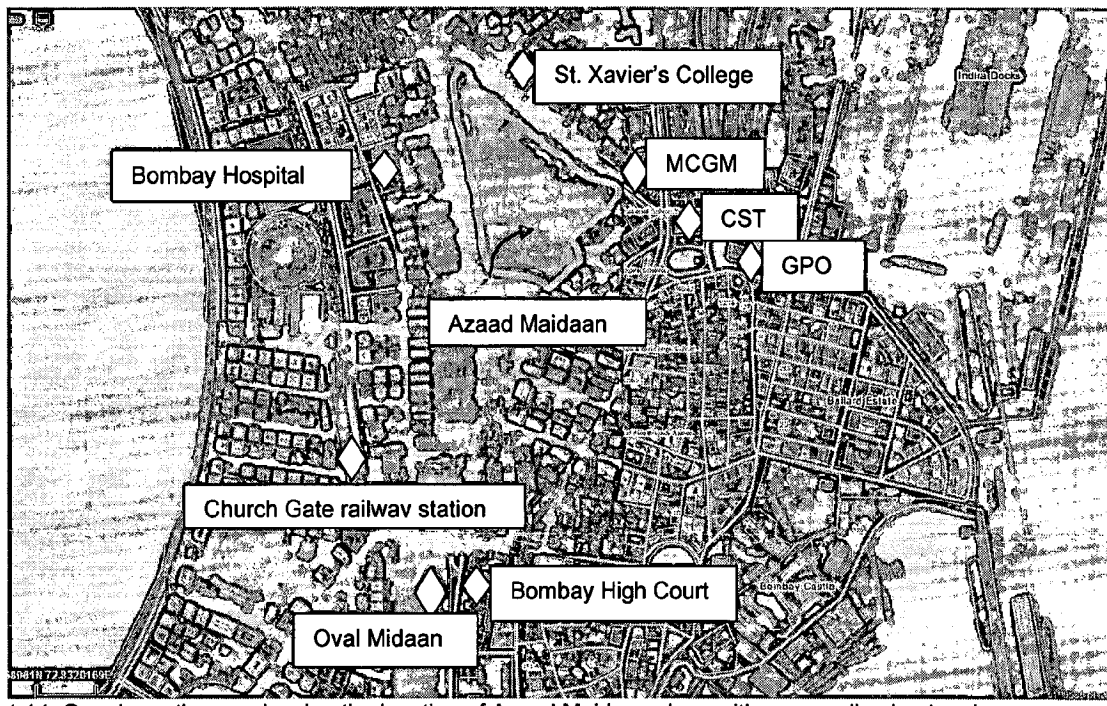


4.13: Location of surveyed public spaces in ward 'G/N'

4.5 Detailed review of the studied public spaces:

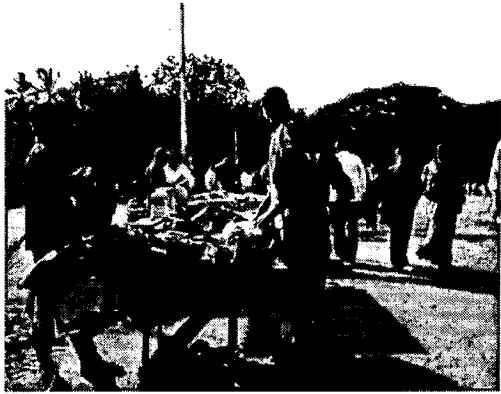
1. Azad Maidaan: Ref. Fig. 4.7 for Location in Ward 'A'

The playground is used extensively by cricket players ranging from kids of 10 years to students and office goers up to an age of 25 to 30 years except the monsoon period. Also there are no provisions of lights on this playground, which fails the ground to be used after sun shine. The pedestrian street along the edge of the playground is used rigorously by the people changing the railway lines from central railway to western railway between Churchgate and CST stations (Ref. Fig 4.15). They should be offered more comfort to use the pedestrian connection through better design. Also provision of lights on the ground can allow the games to be played in the late hours also which will not only improve the use extent of ground but also will provide a life in the area even after sun set.

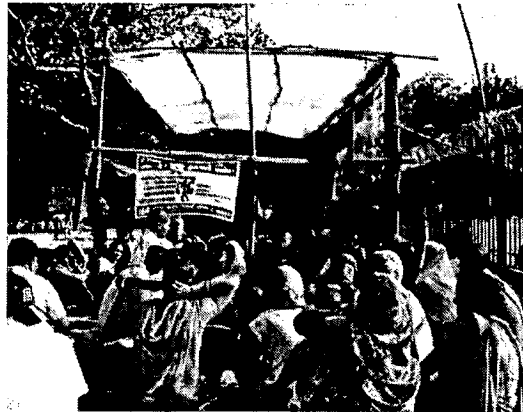


4.14: Google earth map showing the location of Azaad Maidaan along with surrounding landmarks

- **Shape:** Triangular
- **Predominant surrounding land use:** Commercial, recreational and institutional



4.15: Hawking taking place at the pedestrian way adjacent to the playground



4.16: The part of playground provides a platform for social and political demonstrations



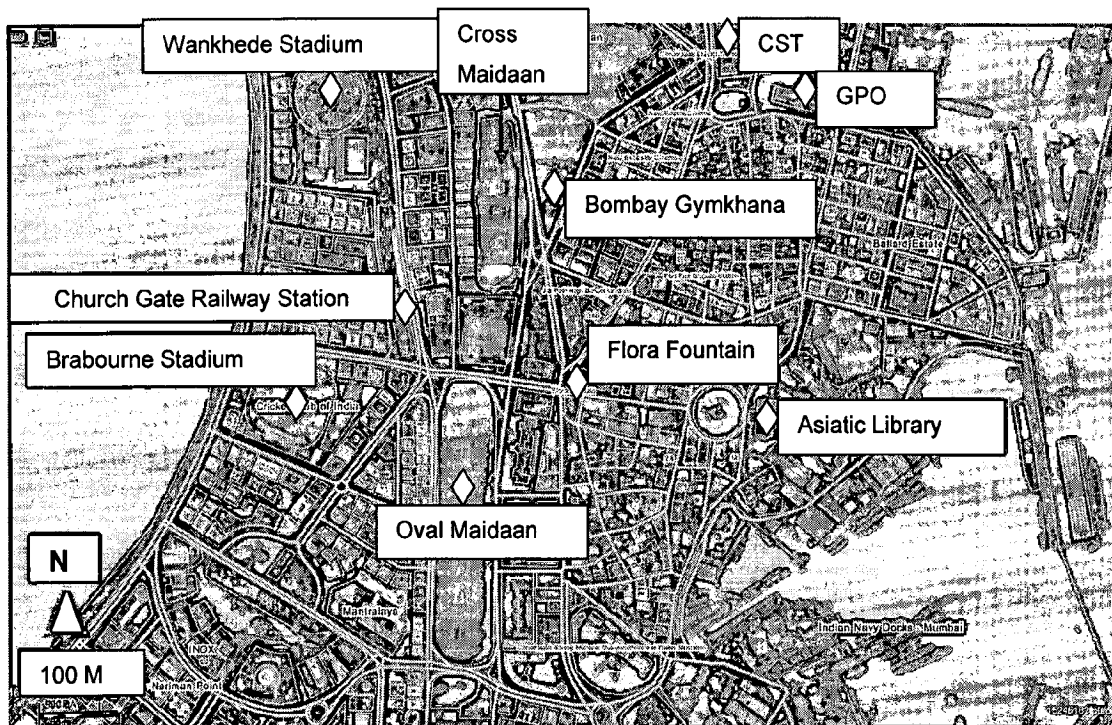
4.17: Panoramic view of the pedestrian street condition



4.18: Temporary tent structure in the playground and people passing by waiting to watch the game

2. Cross Maidaan: Ref. Fig. 4.7 for Location in Ward 'A'

The Cross Maidaan is another popular ground for cricket and football players. One end of the ground is reserved for football players which constitutes of the only one sixth of the total ground. On one side this playground is lined by a number of commercial buildings. The cricket ground is eight play fields for cricket, where a total of nine nets are provided. Club cricket and various institutions matches are organized on this playground.



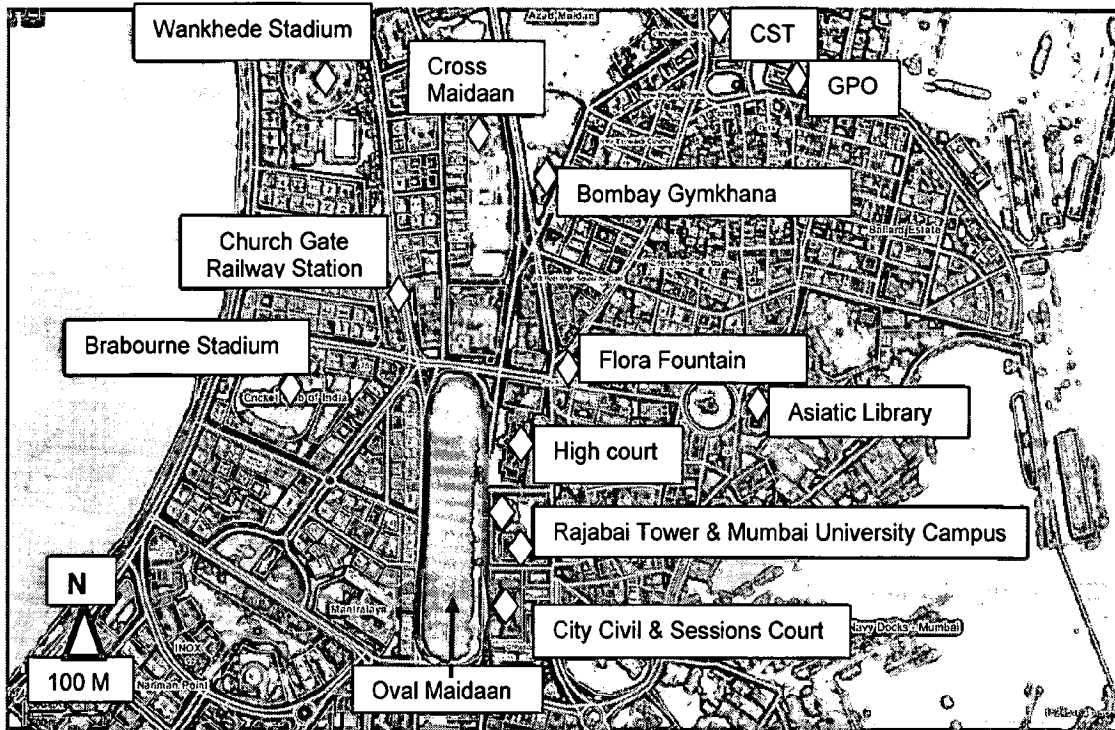
4.19: Google earth map showing location of Cross Maidaan along with surrounding landmarks

- **Shape:** Rectangular
- **Predominant surrounding land use:** Commercial and recreational



4.20: Panoramic view of the Cross Maidaan

3. **Oval Maidaan:** Ref. Fig. 4.7 for Location in Ward 'A'



4.21: Location of the Oval Maidaan in Google earth plan along with surrounding landmarks

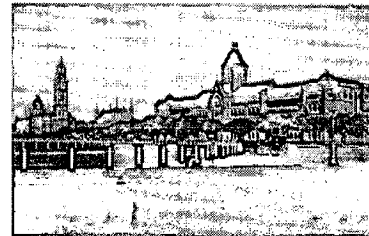
- **Shape:** Oval
- **Predominant surrounding land use:** Commercial and recreational



4.22: Commercial buildings lined on one side of the Oval Maidaan



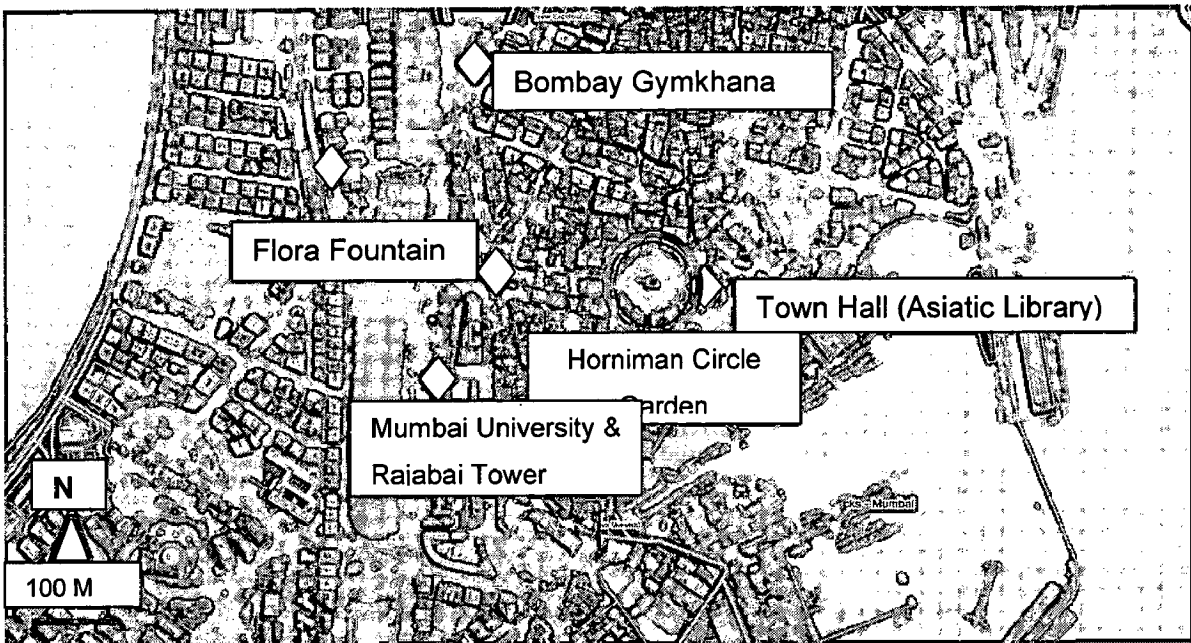
4.23: On other side of Oval, Mumbai Highcourt Building



4.24: Old photograph of Oval showing Rajabai Tower with University Building

Oval Maidaan is another important destination of the cricket players which has 16 nets for practising Cricket. The ground also has a small pedestrian way that provides an easy access for the people changing the railway stations from CST to the Church gate railway station of Western Railways. What makes the Oval so special is the wonderful backdrop of architecturally impressive Mumbai High Court, Mumbai University and the Rajabai Tower. The user group is by and large the male population ranging from nine to ten years up to an age of thirty years. The ground sleeps in the night due to no provision of lights in the night time, thus restricting its use in the dark times.

4. Horniman Circle Garden: Ref. Fig. 4.7 for Location in Ward 'A'



4.25: Google earth map showing the location of Horniman Circle Garden with important landmarks around

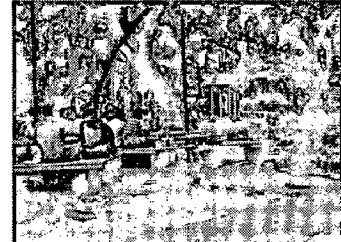
- **Shape:** Circular
- **Predominant surrounding land use:** Commercial



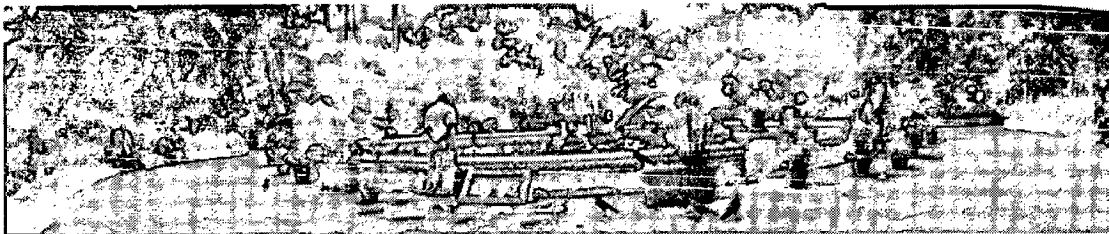
4.26: Children playing



4.27: People sitting, discussing and chatting



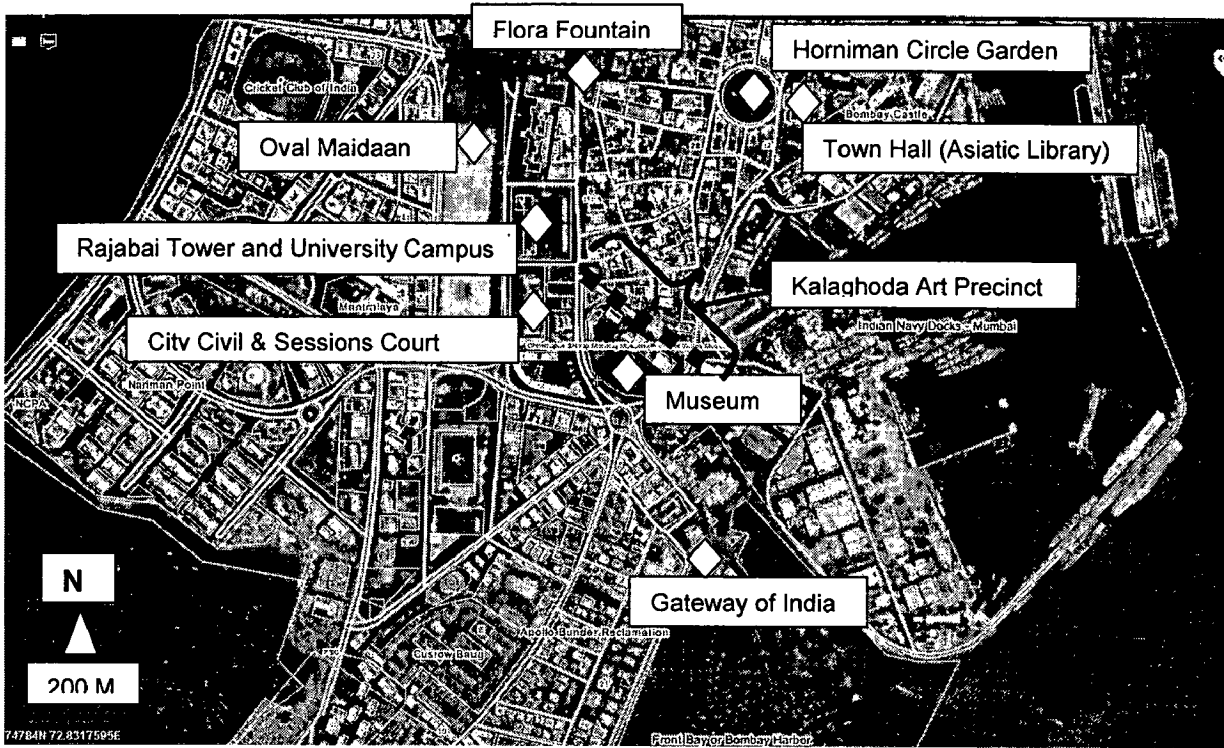
4.28: Studying children at the garden



4.29: The focal point of garden with a pond

The Horniman Circle garden is used extensively by the floating population of the area on week days rather than on weekends. The residential population which is merely present in surrounding areas also use the garden quite frequently. The garden also provides an opportunity for small events and meeting along with performances as a quarter of the garden is provided with small stage platform with open area for allowing sitting viewing the stage. The garden is a breathing space of the locality and has lush green areas.

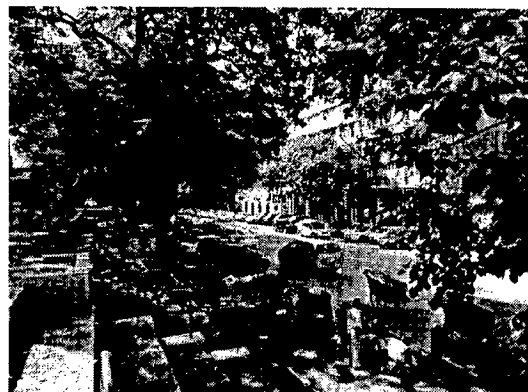
5. Kalaghoda Art Precinct: Ref. Fig. 4.7 for Location in Ward 'A'



4.30: Google earth map showing the location of Kalaghoda Art Precinct with important landmarks around



4.31: Sitting full of visitors enjoying the Kalaaghoda Festival



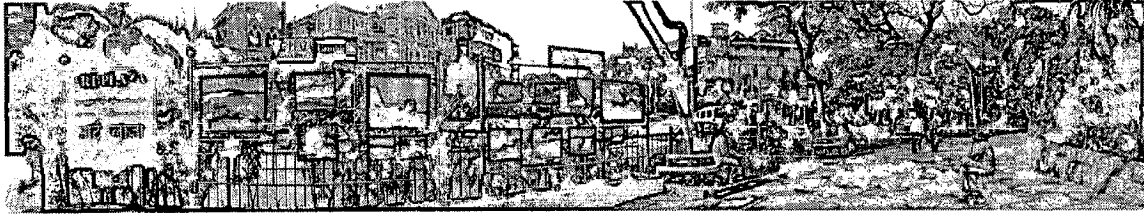
4.32: Other days while the precinct is used as a parking street and the sitting is empty



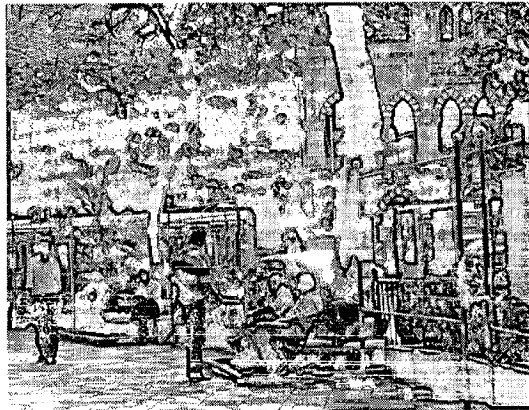
4.33: Temporary stalls in the festival



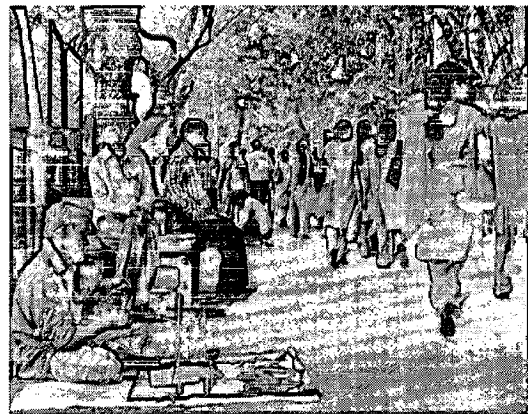
4.34: Same footpaths under bad conditions on other days



4.35: Panoramic view of the Art Plaza i.e. free platform for display of one's art at the Kalaghoda Art Precinct



4.36: People relaxing at the art precinct



4.37: An artist busy making artefacts

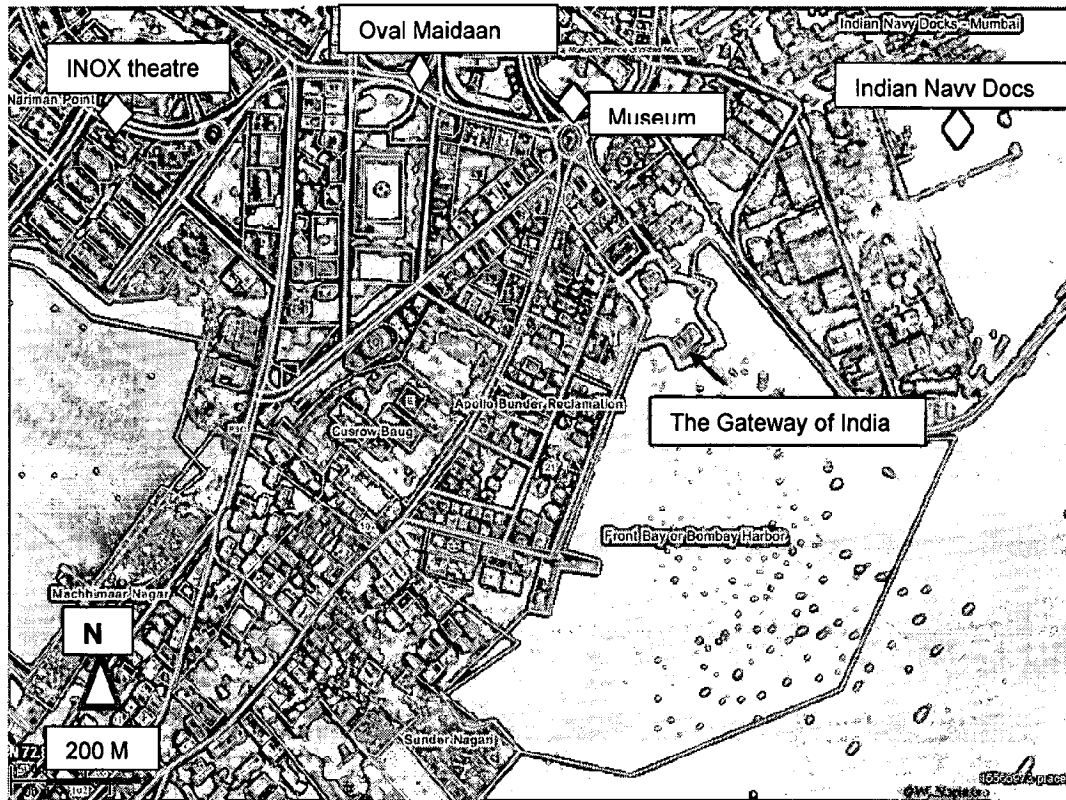
The art precinct has important buildings around like art galleries as well major commercial buildings like insurance offices, banks and some of the government offices. The art precinct is bustling with visitors in the period of the Kalaghoda Art Festival, which is an yearly festival for a fortnight. People come from all over the world to enjoy this festival of arts. On the other days, the precinct has a very limited activities related to the art display and creation of art, but is used as a large on street parking lot.

The precinct has a permanent sitting facility built which is extensively used only during the festival times. Students, visitors to the art galleries around as well the working population use these steps often but not to the full extent. Also the buildings around has nice heritage pattern of architecture. This precinct has a very good potential to become a city level public space by eliminating the parking lots on the streets and allowing permanent performances, art displays as well as cultural activities with appropriate facilities of cuisine for the visitors. Such a space when developed at a city level can provide bread and butter to a large population especially the informal sector that survives on a major part of public spaces.

With planning for public oriented activities, providing adequate infrastructure, giving platform to the local artists as well as artists from entire state and country, Kalaghoda art precinct can become an active public space for everyone in the city.

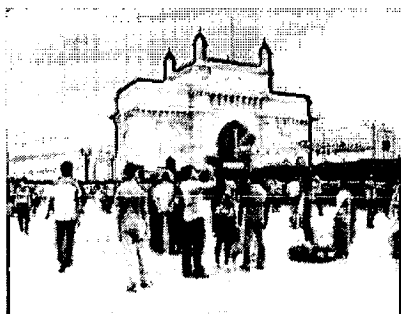
6. Gateway of India: Ref. Fig. 4.7 for location in ward 'A'

Mumbai's one of the must visit public space is Gateway of India. Being Mumbai's most famous monument, this is the starting point for most tourists who want to explore the city. It was built as a triumphal arch to commemorate the visit of King George V and Queen Mary, complete with four turrets and intricate latticework carved into the yellow basalt stone.

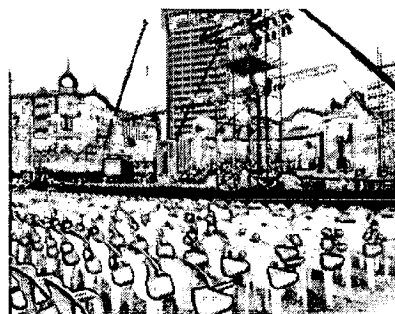


4.38 Google earth map showing the location of Gateway of India with important landmarks around

- **Shape:** Star shaped
- **Preominant surrounding landuse:** Commercial

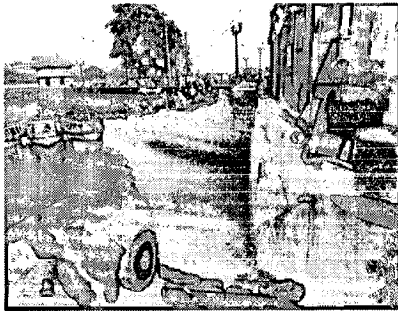


4.39 Plaza in front of the monument

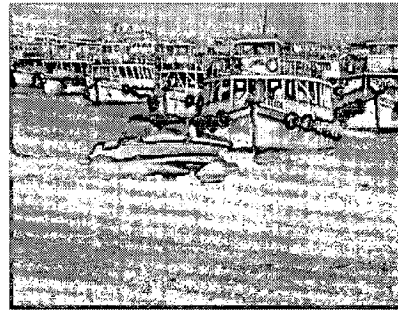


4.40 Plaza conducting a public performance

It is 26m high structures, complete with four turrets and intricate latticework carved into the yellow basalt stone. (Fig. 4.39) Ironically, when the British Raj ended in 1947, this colonial symbol also became a sort of epitaph: the last of the British ships that set sail for England left from the Gateway. Behind the arch, there are steps leading down to the water. Here, one can get onto one of the bobbing little motor launches, for a short cruise through Mumbai's splendid natural harbour. One can buy tickets for a short cruise on the motor launches from here.



4.41 People descending down for the rides of ferry



4.42 View of launches from Gateway of India

This is the place visited by 15 thousand people on an average per day. For every tourist, this is a must watch. Even the city people do visit this place to enjoy the sea breeze, a launch ride followed and a vibrant and exciting public space.



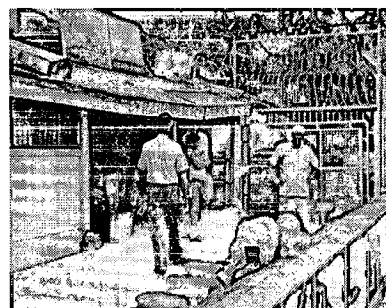
4.43 Plaza full of hawkers near the entrance to Gateway of India



4.44 People enjoying a horse cart ride



4.45 Stalls at the entrance ruin the visual quality of the space



4.46 The ticketing and food stalls need immediate improvement

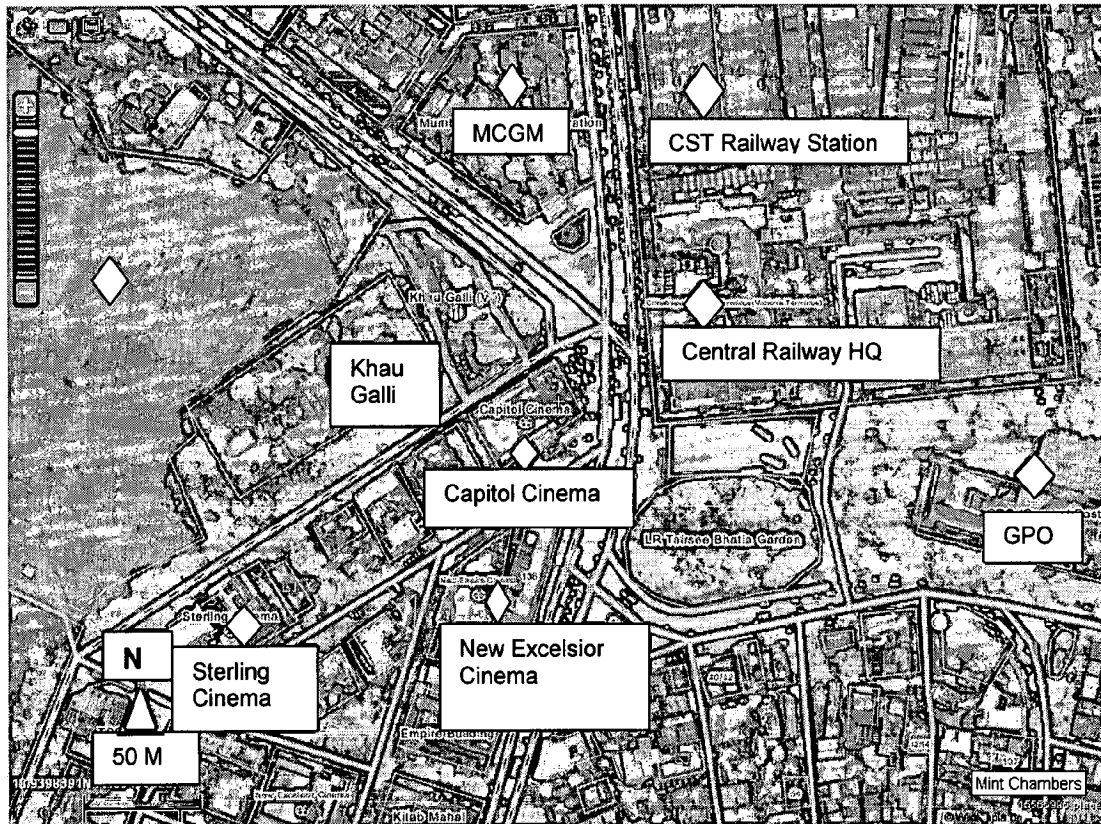
The space receives a huge advantage of being close to the sea. Its also a jetty for transport between south Mumbai and JNPT (Jawaharlal Nehru Port Trust), the Navi Mumbai Harbour and the famous Elephanta islands. The space is worth an experience in Mumbai. The stone pavement of the plaza complements the monument and holds it together. The parapet around it is formed into a continuous sitting platform which is never seen empty. People enjoy relaxing against the parapet, breathing the sea breeze and enjoying mouth-watering tasty food stuff from the vendors. The ferry rides, horse driven carriages taking a stroll and water sports add to the attraction of this space.

The plaza provides a platform for various collective activities like a music concert, a dance performance or a public address. This area is managed very effectively whenever required especially on the occasion of such events.

In spite being the most famous public space of Mumbai, there are many things which can be improved. The stalls of tickets for launches and the food vendors are in bad condition. They do not match with the rich ambience of the public space.

7. Khau Galli CST: Ref. Fig. 4.7 for location in ward 'A'

This is a very busy eatery in the premises. Khau Galli i.e. the Food Lane offers tasty and delicious food at an economical price. Its location is very strategic being situated bang opposite to the CST railway station. Majority of the working population in the surrounding area use this railway station for to and fro commutation between home and office.



4.47 Google map showing location of Khau Galli and surrounding landmarks

The location of this food lane is just perfect for having the maximum footfall of the people passing by. The sales are wonderful every day in this food lane. Being adjacent to the main Central Railway station CST, people after their travel or before the beginning of their travel tend to avail the services provided by this food lane. Besides food stalls there are certain other important services like a Xerox copy, typing and printing centre. It falls on the way to home as well as to work place (or the playgrounds for the players) of majority of the people.

The food lane is visually very well connected and is bustling with people all the times of day. This is a place where people do not wait longer but only to avail the facility. It works very well but has a lot of improvement potential to make this an active public space.



4.48 People having suppers at the Khau Galli



4.49 People sitting at the platforms near trees- the height of platform is inappropriate for both, sitting as well as for having food plates over it

The Khau Galli has a parking lot for MCGM car park adjacent to it. Removal of this parking lot can improve the premises significantly. Also, by adding sitting space, the comfort level of people can be improved upon.

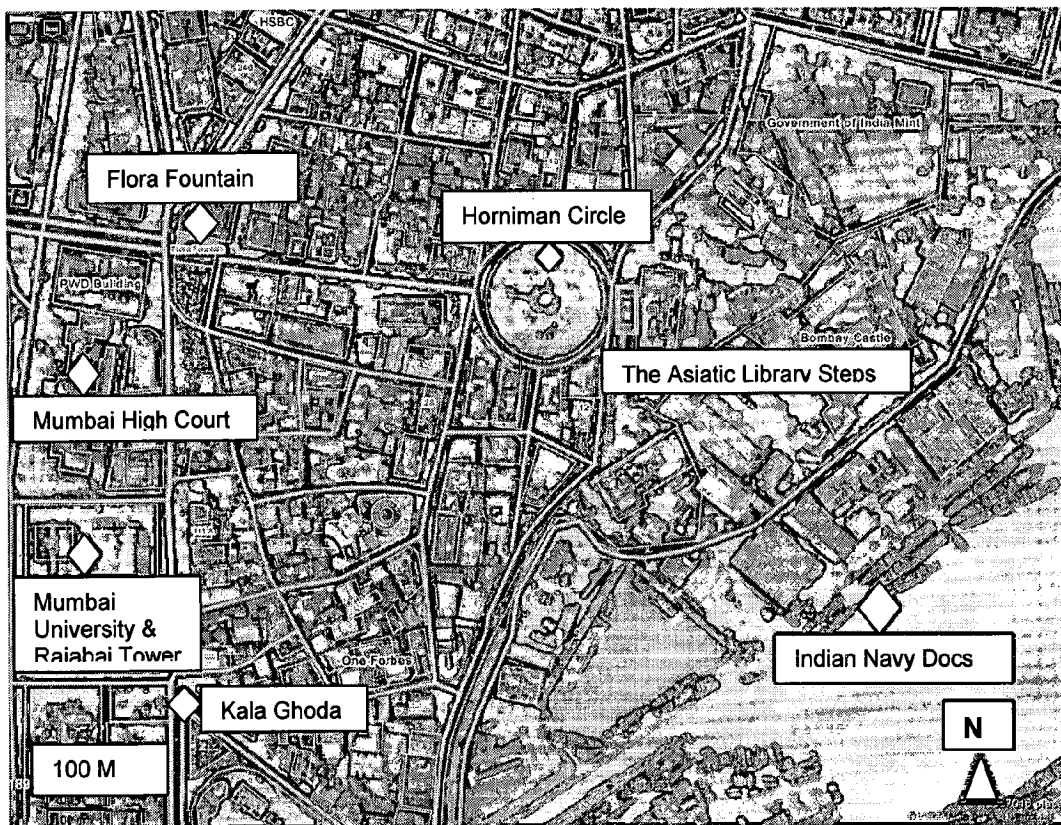


4.50 A panoramic view explaining the activities at Khau Galli, the parking lot and the people at the shops

8. The Asiatic Library Steps: Ref. Fig. 4.7 for location in ward 'A'

The Asiatic Library Building or also known as the Town Hall is an architectural landmark. The building houses one of the largest libraries of Mumbai, which is accessible to all the people free of cost. The library has many office buildings as well as navy docs nearby. The building comes on the way of number of people working in the nearby vicinity. People prefer sitting, meeting people and chatting at the steps of the library.

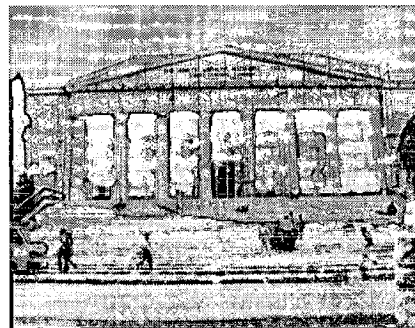
During the Kala Ghoda festival, these steps become an amphitheatre for various musical performances. This space has a potential to become such a platform on a frequent basis as there other road connections available around this space.



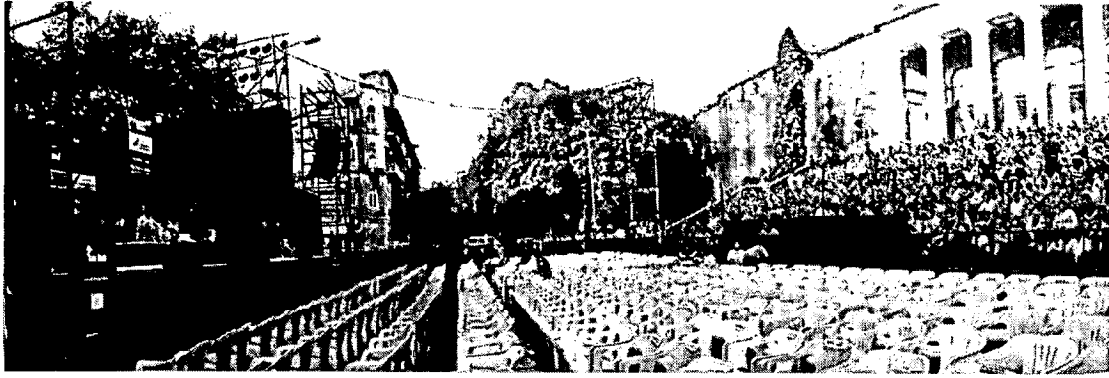
4.51 Google map showing the Asiatic Library Steps and surrounding landmarks



4.52 Person resting at the steps of Asiatic Library



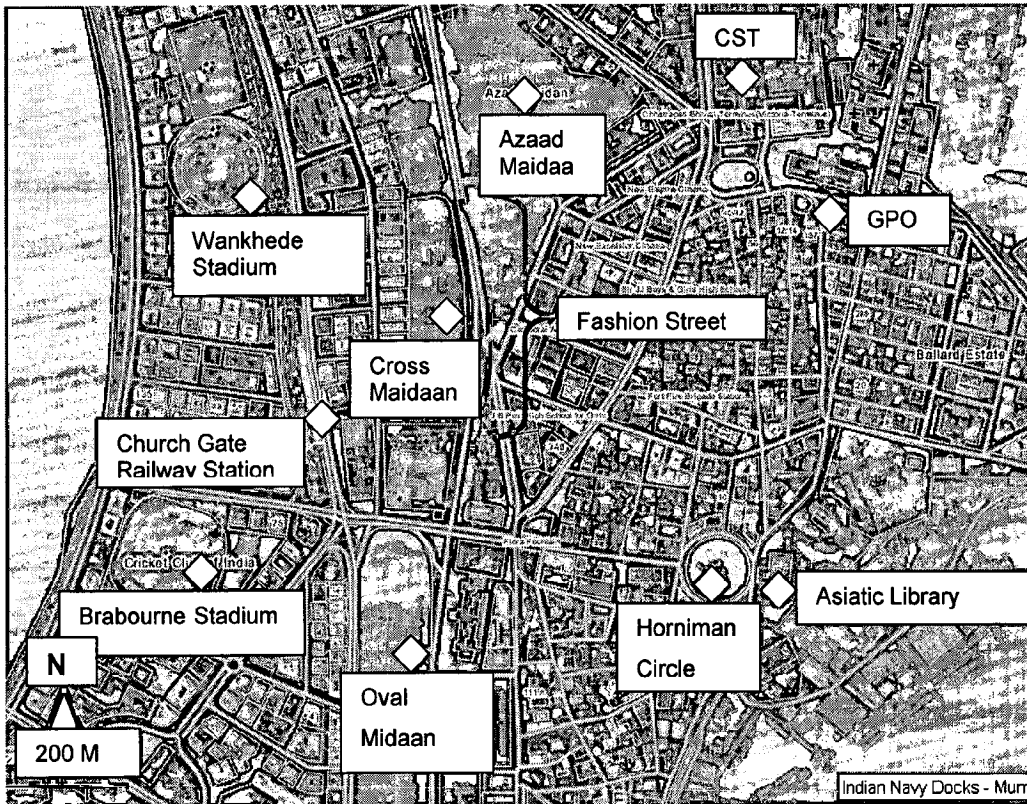
4.53 The view of the building



4.54 The Asiatic Library and the street in front during a performance in Kalaghoda Festival

9. Fashion Street: Ref. Fig. 4.7 for location in ward 'A'

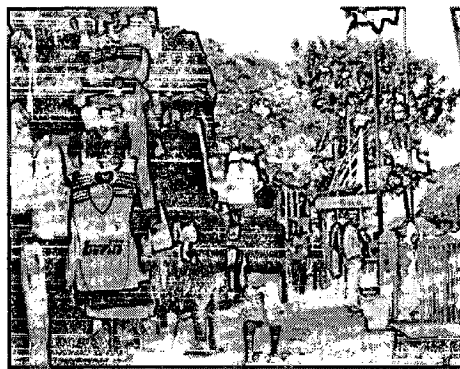
The Fashion Street is a street market full of clothes, shoes, bags, accessories and the rates are really great. Also people enjoy shopping at the fashion street as this shopping allows the buyers for bargaining. This is hawking zone officially permitted by the MCGM. Its location is its biggest advantage as people pass through this street to reach CST or Church gate railway station.



4.56 Google map showing the location of fashion Street and the surrounding landmarks

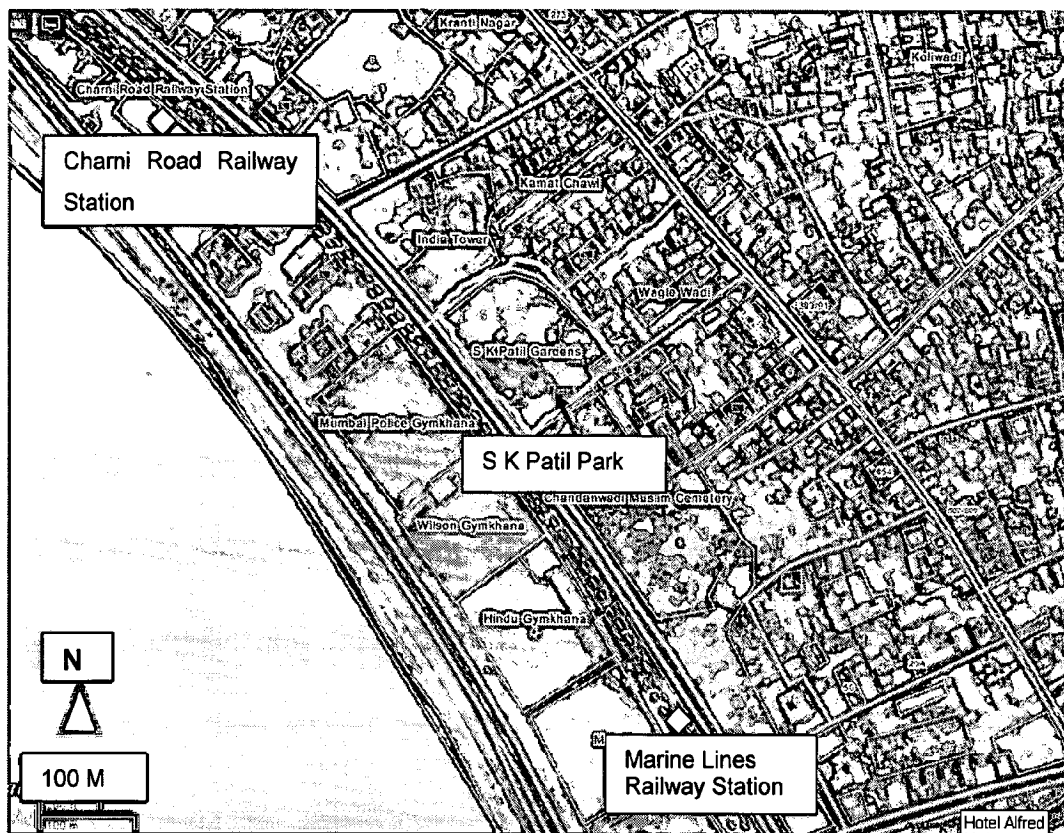


4.57 The hawking at the Fashion Street



4.58 Bus stop next to the Fashion Street showing the accessibility

10. S.K.Patil Park: Ref. fig. 4.8 for location in ward 'C'



4.59 S.K. Patil park shown in the Google Map along with nearby railway stations

This is the only garden which brings life to the residents of ward C. the peculiar type of houses are chawls in this wards with typically small houses and little space to breath. The lanes are narrow with no or little spaces left for playing after the space occupied by parked cars.

S. K. Patil garden provides major platform for recreational activities as well it serves as very calm and quite study area for the students. This is more like a ward level space and does not attract tourists. But for the local people it serves as an interaction space, a study area, it has provision for cultural performances, it is provided with a food joint inside, and also it works as an active meeting space for all age groups of people.



4.60 The food joint in the park



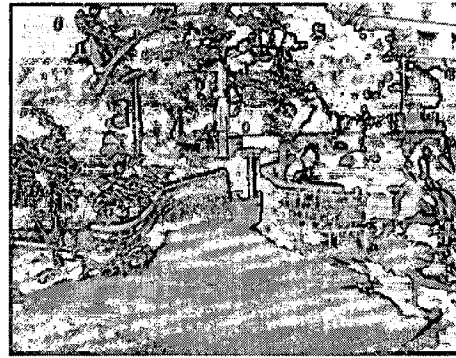
4.61 The study centre for students inside the park area

This space is very well connected by suburban railway as well as buses. People can walk down to this garden as it well connected through the narrow lanes which are shaded most of the times. The people here can definitely use bicycles to reach the garden but they are not used extensively.

This park is provided an additional study lounge for the benefit of the students. There is provision of government subsidised food joint in the garden premises that caters to the visitors of the park as well as the residents in the nearby vicinity.



4.62 People resting in the park

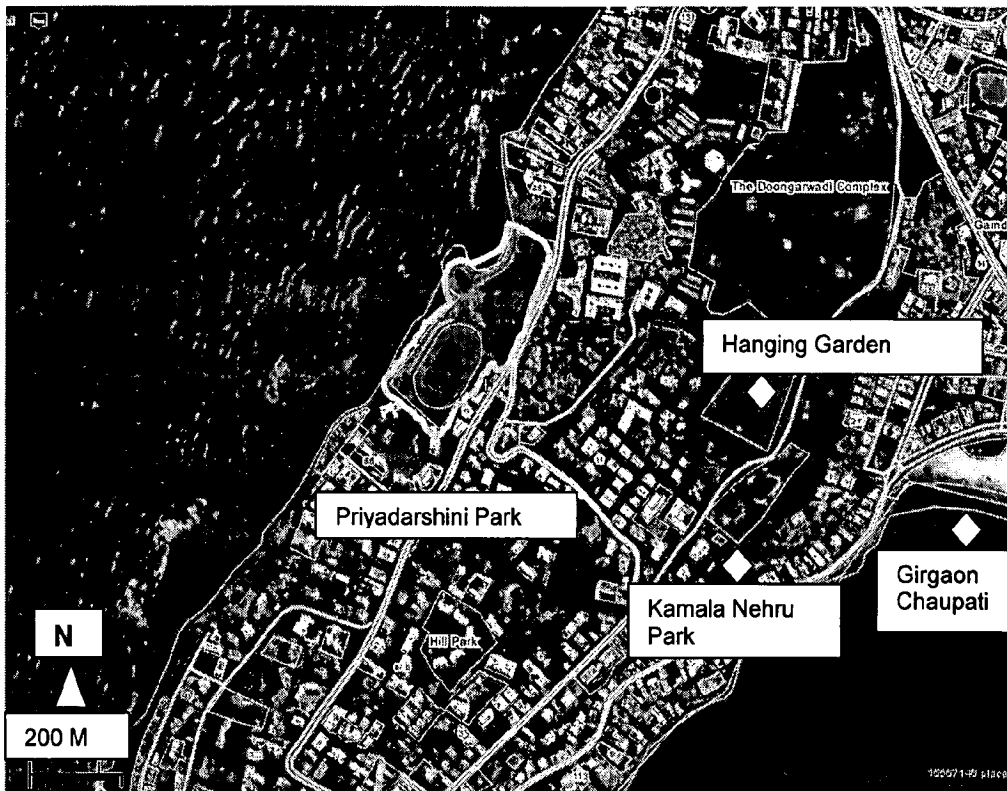


4.63 Ramp at the entrance allowing access to the park for disables

Currently the park is undergoing a major water works which has affected the usage of park. As soon as the works would be over, the park will get its realm back.

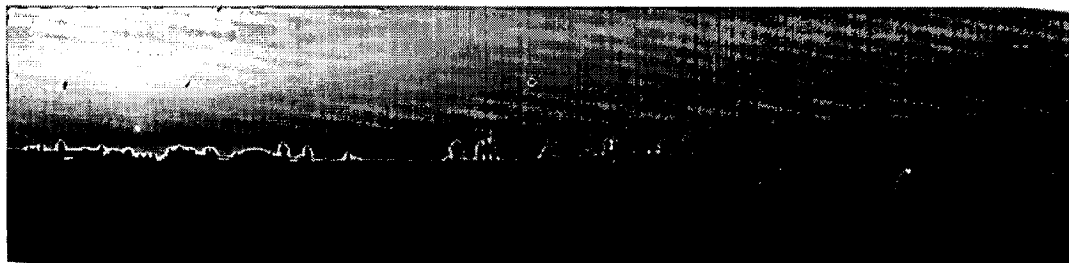
11. The Priyadarshini Park: Ref. fig. 4.9 for location in ward 'D'

If you want to feel the untrammled sea, sun and wind and experience a few hours of bliss, it is here, at Priyadarshini park and Sports Complex, on Napean Sea Road. Priyadarshini is 20 acres of a beautiful green belt on the sea front, with one-third of the park developed for the activities of the Priyadarshini Sports Complex.



4.64 Google map showing the location of Priyadarshini park with other major public spaces nearby

- **Shape:** Irregular
- **Predominant surrounding land use:** Residential



4.65 One side of the park is lined by sea

Priyadarshini park has a large ground of many acres and the only Synthetic Track in Mumbai. It also conducts Athletics, Kathak, Gymnastics, Gymnasium, Tennis, Golf, Aerobics, Karate, Taekwondo and many more activities in Mumbai.



4.66 Walking and jogging people at the rammed earth path in park

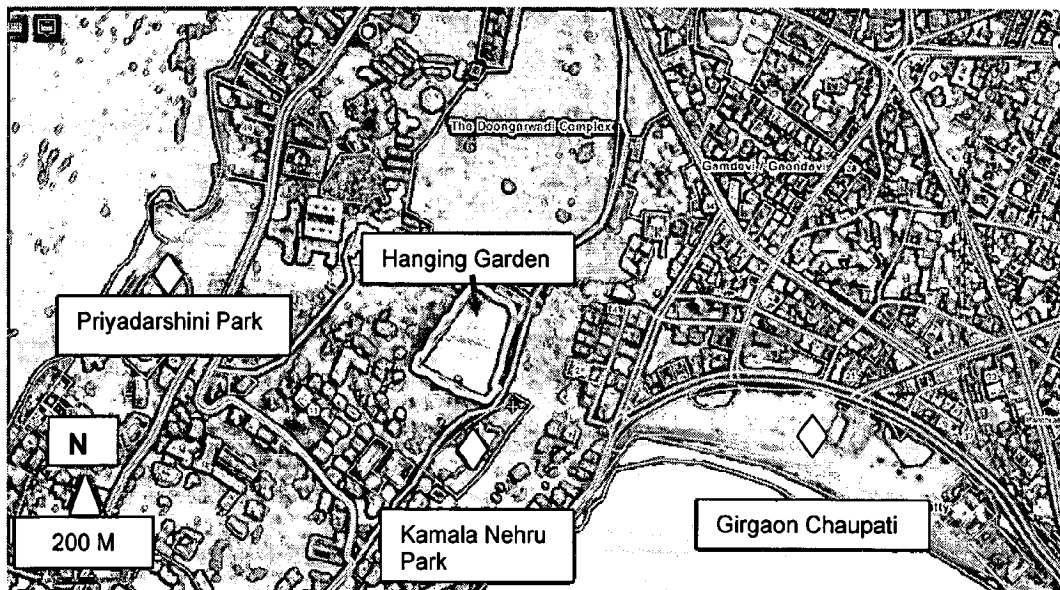


4.67 Children playing in the park

12. Hanging Gardens: Ref. fig. 4.9 for location in ward 'D'

The Hanging Gardens, Mumbai, in Mumbai, India, also known as Ferozeshah Mehta Gardens, are terraced gardens perched at the top of Malabar Hill, on its western side, just opposite the Kamala Nehru Park. They provide sunset views over the Arabian Sea and feature numerous hedges cut into the shapes of animals.

This garden was laid out in 1881 over Bombay's main reservoir. It is one of the major tourist's destinations in Mumbai. It is very well connected by the public transport modes. Children, youngsters, working people as well as old age people are found using this space for leisure.



4.68 Location of Hanging garden with other major public spaces around shown in a Google map

- **Shape:** Irregular
- **Predominant surrounding land use:** Residential and recreational



4.69 Hedges cut in shapes of animals



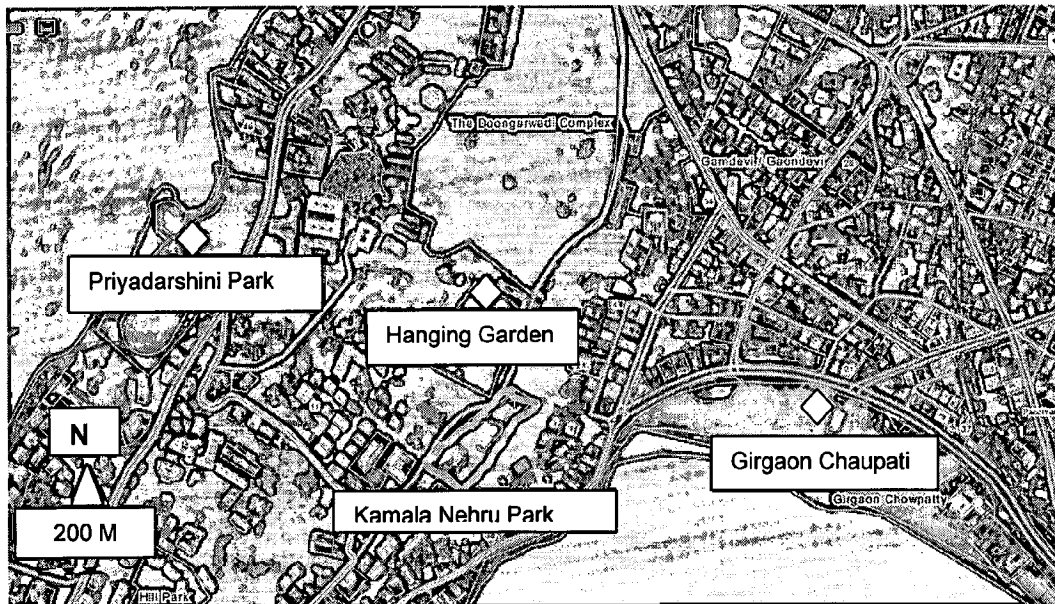
4.70 Sittings provided under the trellis in Hanging garden

13. Kamala Nehru Park: Ref. fig. 4.9 for location in ward 'D'

This is another important public park located in the southern Mumbai, which is in the list of tourists' destinations. As it falls opposite to the Hanging Gardens, people tend to visit both the spaces at the same time.

This park is an exciting destination for children due to its unique feature- 'the old lady's shoe'. There is also large green area provided for children to play along with a sand pit. This park provides a magnificent view of the Mumbai sea coast from the hill.

- **Shape:** Irregular
- **Predominant surrounding land use:** Residential & recreational



4.71 Location of Kamala Nehru Park with other public spaces nearby in Google image



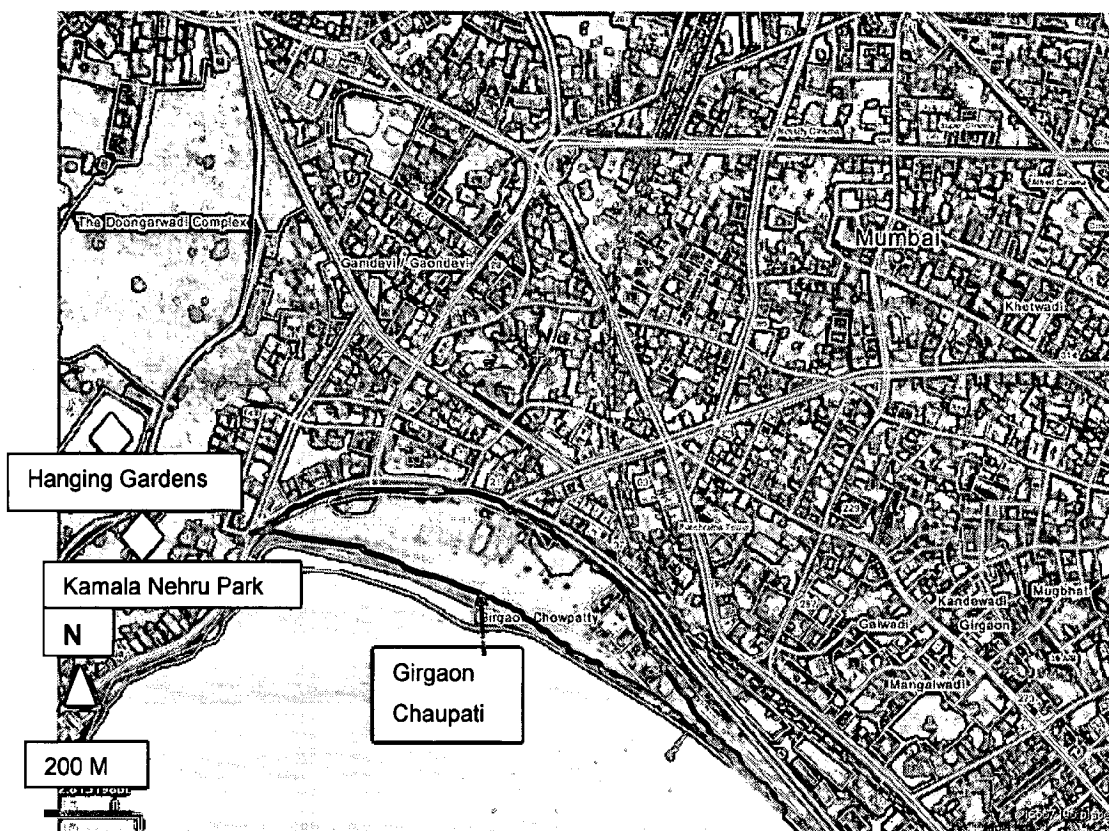
4.72 The old lady's shoe at the Kamala Nehru Park



4.73 View of the Mumbai coast

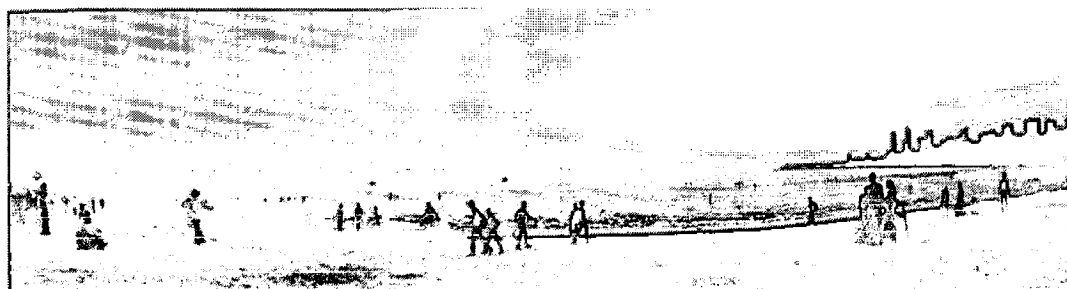
14. Girgaon Chaupati: Ref. fig. 4.9 for location in ward 'D'

This is one of the major public spaces in Mumbai, which allows people of all the social strata to come together. It lies at the well nit network of roads, suburban railway and is connected with public transport to the main transit stations like the Railway stations of Charni Road, Marine lines and Churchgate. So the location of beach gives many options for people to reach this place.



4.74 Google map showing the location of Girgaon Chaupati

The people are engaged in activities like playing, eating, sitting in groups as well as alone, looking at the seashore and the buildings along. The entire space is used and the users are from different age groups.

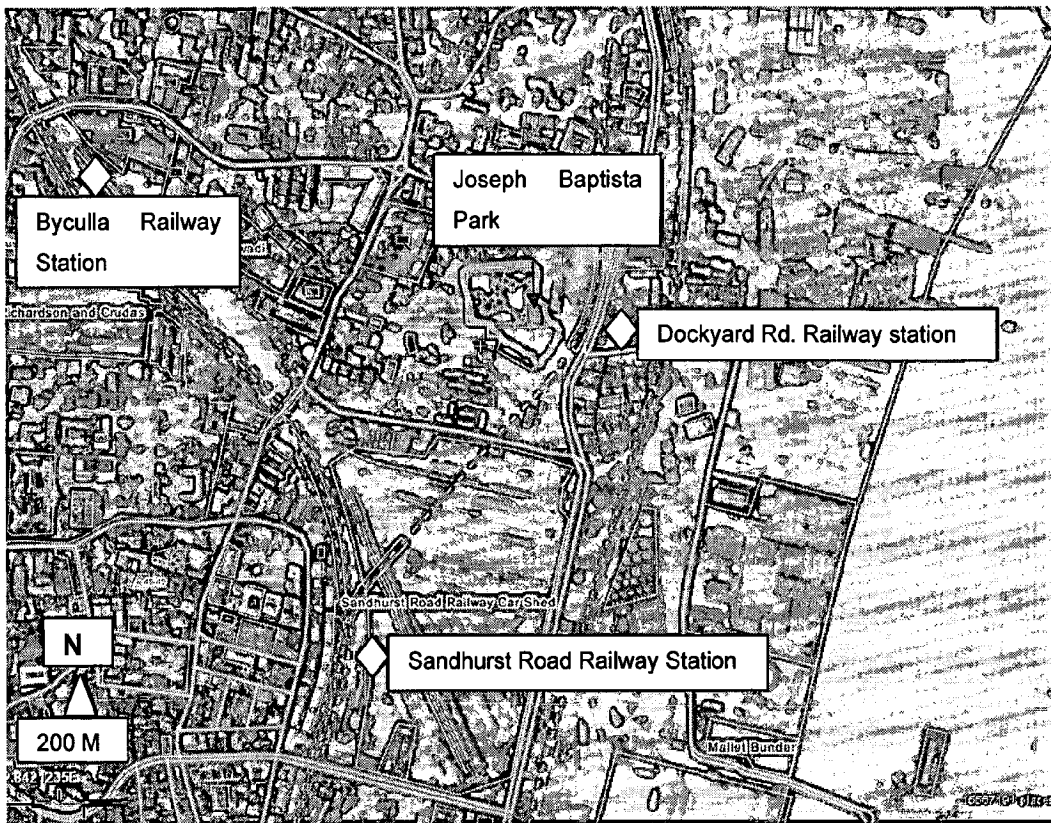


4.75 Panoramic view of Girgaon Chaupati

15. Joseph Baptista Park: Ref. fig. 4.10 for location in ward 'E'

The Joseph Baptista Gardens, locally known as the Mazagaon Gardens, is a 1.5 acres (0.6 ha) park in south Mumbai in Mazagon. It lies atop a hill, the Bhandarwada Hill, and offers a panoramic view of the Mumbai harbour and the southern business district of the city.

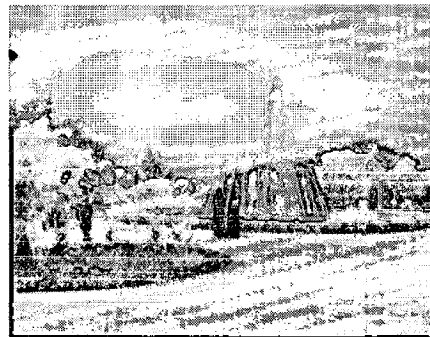
The park being situated at a height on a reservoir is difficult to be reached by physically challenged and old aged people. The park is very well designed activity area for children to play, for people to sit, for students to study as well for joggers and walkers. The landscape features are very well designed in the park.



4.76 Google map showing location of Joseph Baptista Park



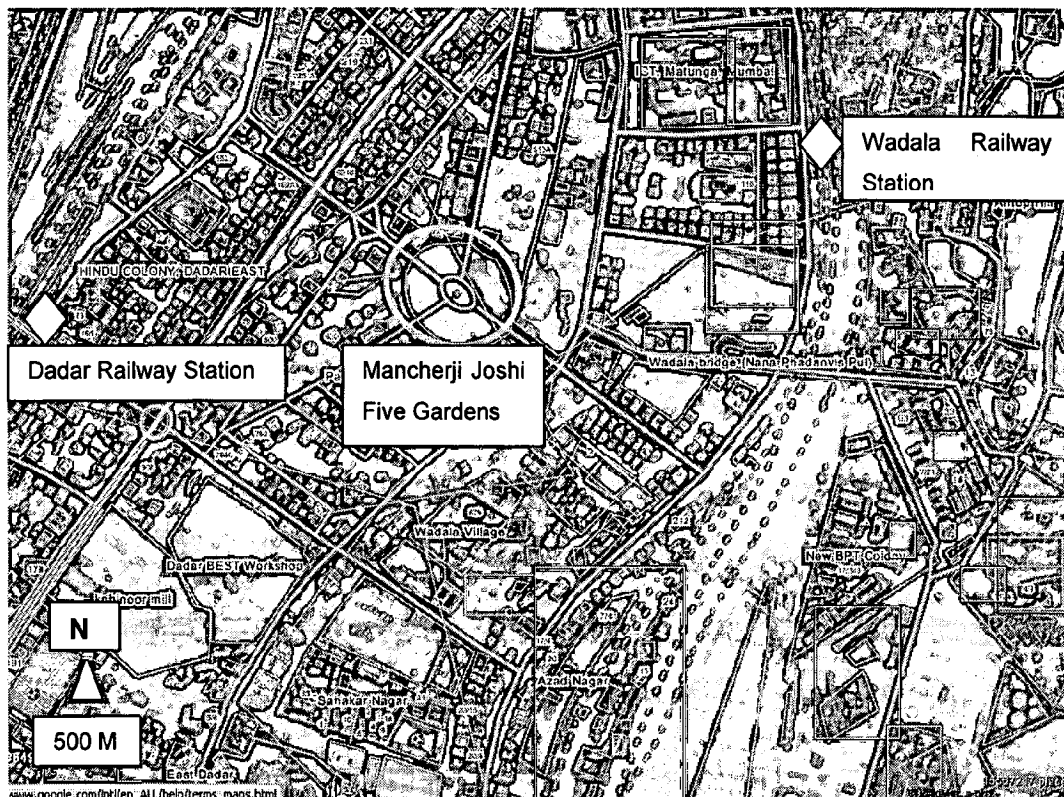
4.77 Artificial water fall created in the park



4.78 The walkway with water fountain

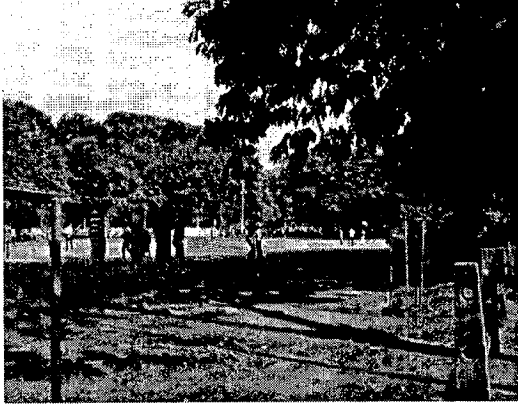
16. The Mancherji Joshi Five Gardens: Ref. fig. 4.11 for location in ward 'F/N'

As the name suggests, this is a group of five gardens in circular shape, divided in sectors by the road. These gardens are located in an area named Parsi Colony. It's one of the greenest localities in Mumbai city. It allows all age groups' activities and is frequented by the local residents, kids attending schools in the locality as well as college going students of Dadar & Matunga area.



4.79 Google map showing the location of the Mancherji Joshi Five Gardens

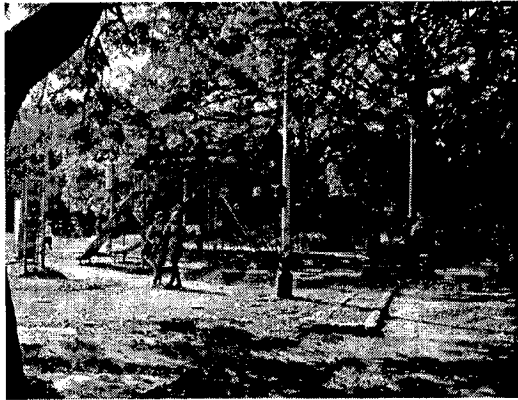
One of the sectors is a playground for active recreation. (fig.4.80) Two of the sectors are parks with landscape where people can sit quiet, hang around and relax.(fig. 4.83) Another sector is a park for kids to play with swings, slides and other instruments. (fig. 4.82) The central part of the Five Gardens is a thickly wooded traffic island. One can see people from all around walking here in the mornings and evenings. There are vehicles parked and people come from some distance to enjoy the tall trees and ambience. Informal sector activity is found at the footpaths selling snacks. (fig. 4.81)



4.80 The playground



4.81 The food vendors at the footpath



4.82 The play area for children

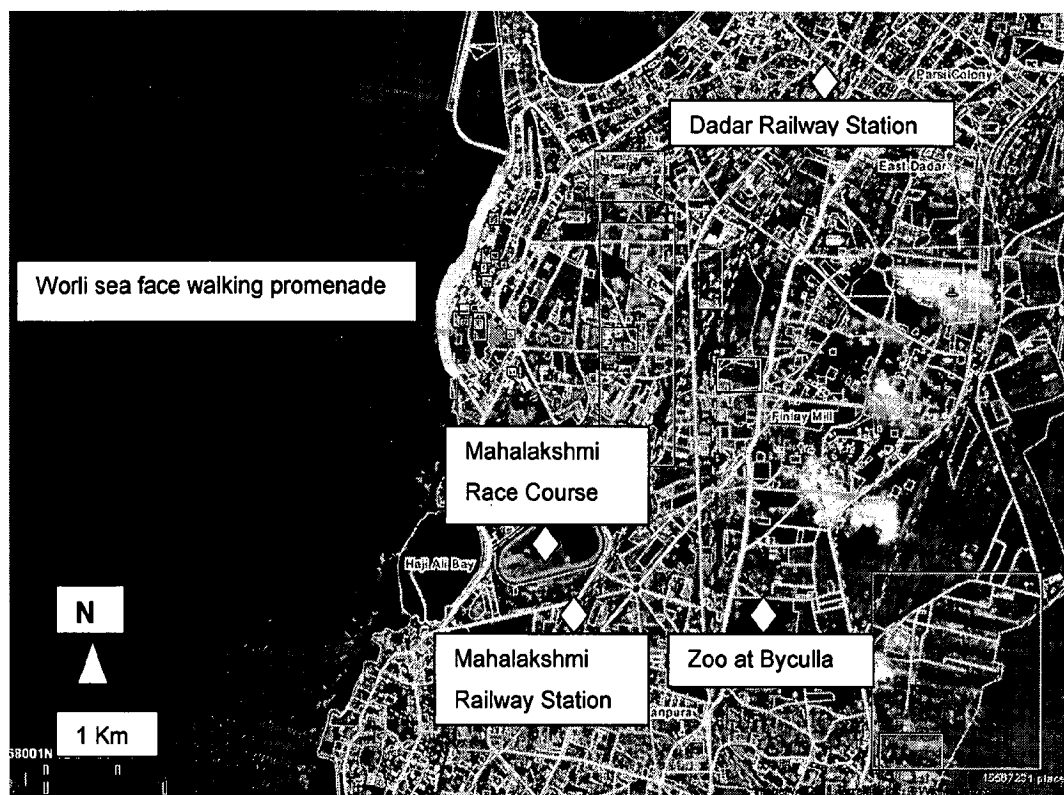


4.83 One of the sectors of the five gardens

17. The Worli Sea Face Walking Promenade: Ref. fig. 4.12 for location in ward 'G/S'

The Worli sea face is lined by a walking promenade. It is a six meter wide paved path running along sea on one side and Khan Abdul Gafaar Khan Road on the other side. This road meets the Bandra Worli Sea Link as travelled towards north along the sea face. (Fig. 4.85)

This promenade is use by the local residents for their walking and jogging regime. College students and other people come to the promenade to sit, enjoy the sea breezes and the view of sun-set. (Fig. 4.86) The promenade provides sitting spaces at regular intervals. To make it an active public space, this area should be introduced with interesting activities.



4.24 Google map showing location of the walking promenade at Worli sea face



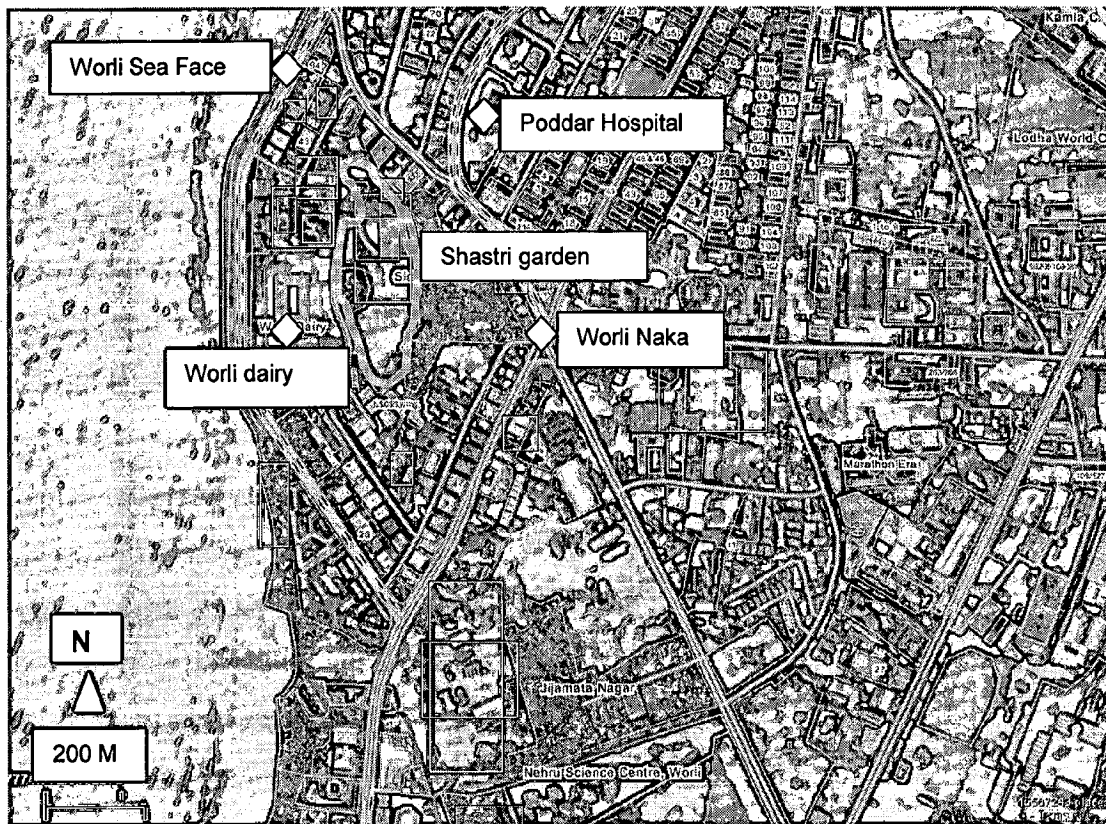
4.85 View of the promenade



4.86 College students enjoying at the parapet of promenade

18. The Shastri Garden: Ref. fig. 4.12 for location in ward 'G/S'

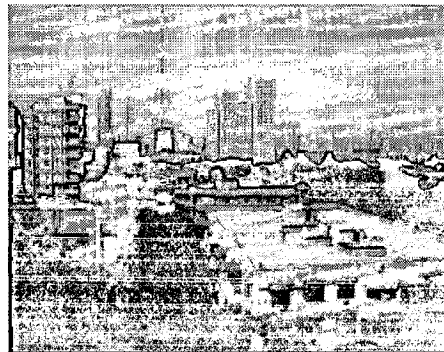
The Shastri Garden is situated on the Worli water reservoir of Mumbai. It is a protected area to avoid contamination of water. This garden is not accessed by all the people and only locals are allowed to avail the space. There is no proper entrance or gateway to the park. Being situated at a hill, it is accessible by a flight of steps. The stairway does not provide any idea about the park being located above on the hill. (Fig 4.88) The surrounding development can be seen from the garden. (Fig 4.89)



4.87 Google map showing location of Shastri Garden



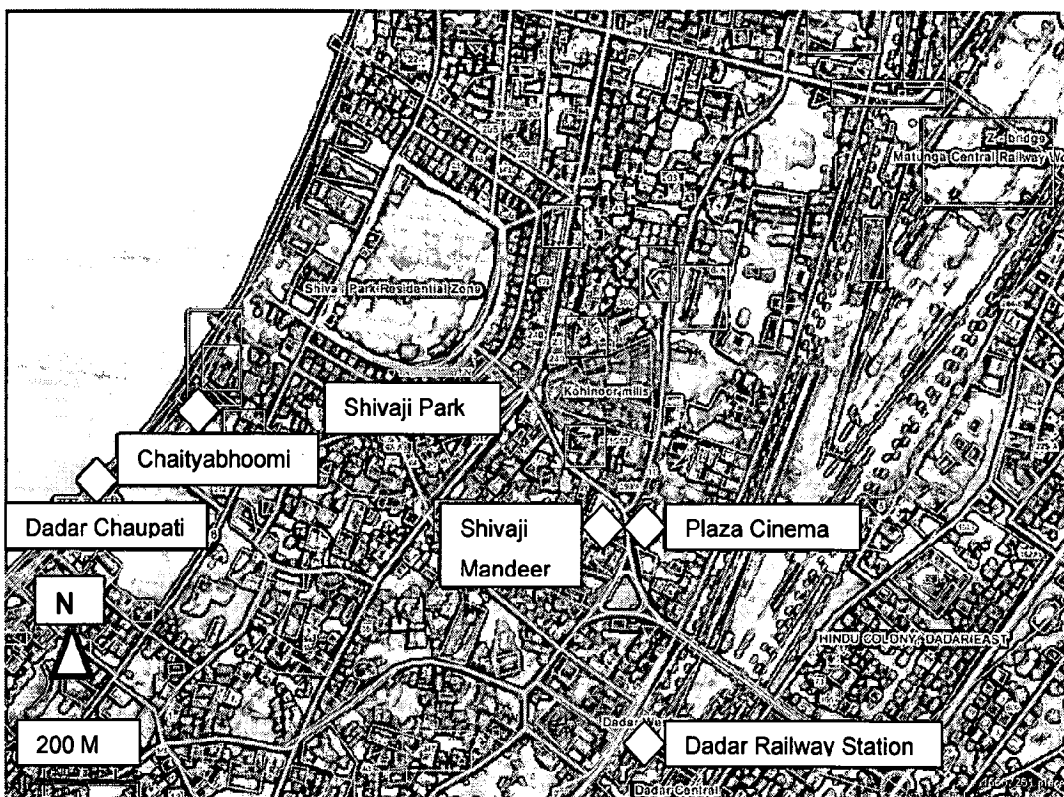
4.88 The stairway towards garden



4.89 View of surroundings from the garden

19. Shivaji Park: Ref. fig. 4.13 for location in ward 'G/N'

The ground is flanked around its edge by a *katta* (*parapet*), which is a popular hangout for young and old Mumbaikars alike. On a typical weekend evening it is difficult to get a place to sit on the *katta*.

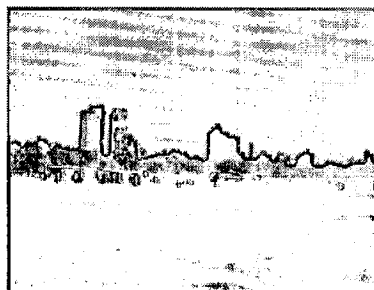


4.90 Location of Shivaji Park

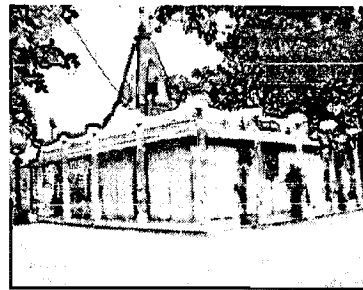
The walkway around the perimeter is crowded with people taking walks. The ground is busy with young cricket players. Various attractions are spread over the grounds, including the Samarth Vyayam Mandir (gymnasium), Shivaji Park Nagarik Sangh (established in 1947), Shivaji Park Gymkhana (club), Children's Park, Nana-Nani Park, Scout's Pavilion (which is a popular venue for marriages), Udhyan Ganesh Mandir (Ganesh temple), The Bengal Club and a library. The walkway is lined with huge rain trees.



4.91 The walkway around the park



4.92 the playground

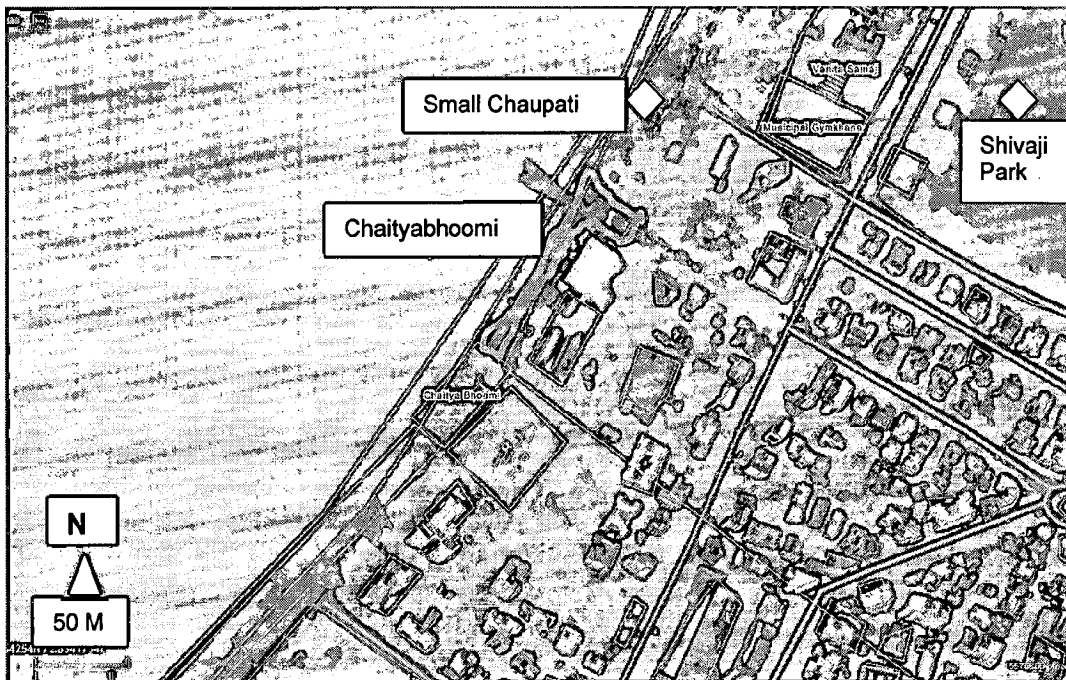


4.93 The Ganesh Temple

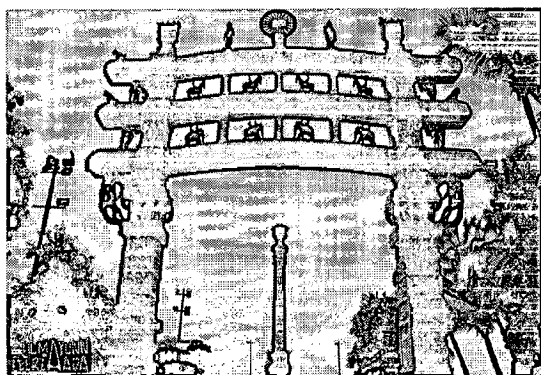
20. Chaityabhoomi: Ref. fig. 4.13 for location in ward 'G/N'

Dr. Babasaheb Ambedkar, architect of Indian Constitution, was cremated here after his death on 6th December, 1956. This place was later converted into Chaitya Bhoomi which is a National Monument.

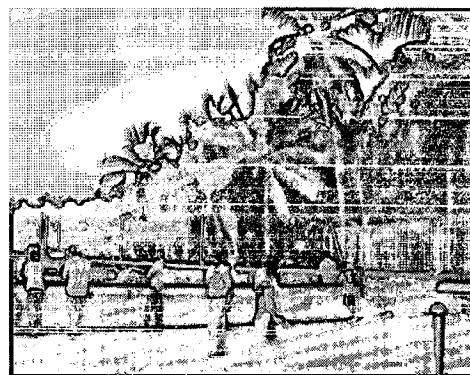
The space has stone paved plaza with pillar and an intricate Buddhist style gateway. (Fig. 4.95) The plaza juts into the sea. From the plaza one can see the sun set, shinning Mumbai in the evenings as well as the newly constructed Bandra Worli Sea Link. There are number of stalls selling souvenirs of Dr. Babasaheb Ambedkar. They are shack like structures and must be redesigned in order to improve the visual quality of the plaza. (Fig. 4.97)



4.94 Google map showing location of the Chaityabhoomi at the Dadar Chaupati

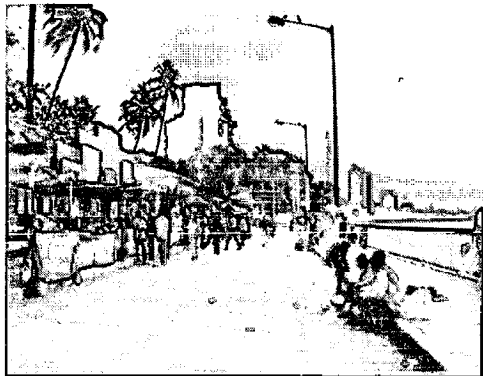


4.95 Well defined entrance of the Chaityabhoomi monument



4.96 People standing at the plaza parapet, with no place to sit.

The plaza needs to be provided descent sitting spaces for people to wait at plaza and the watch sea. (Fig. 4.96) The food vendors can be shifted to the plaza area and the small chaupati, which can be accessed by a descending ramp from the plaza (fig. 4.98) can be maintained cleaner with only play and other sorts of activities.



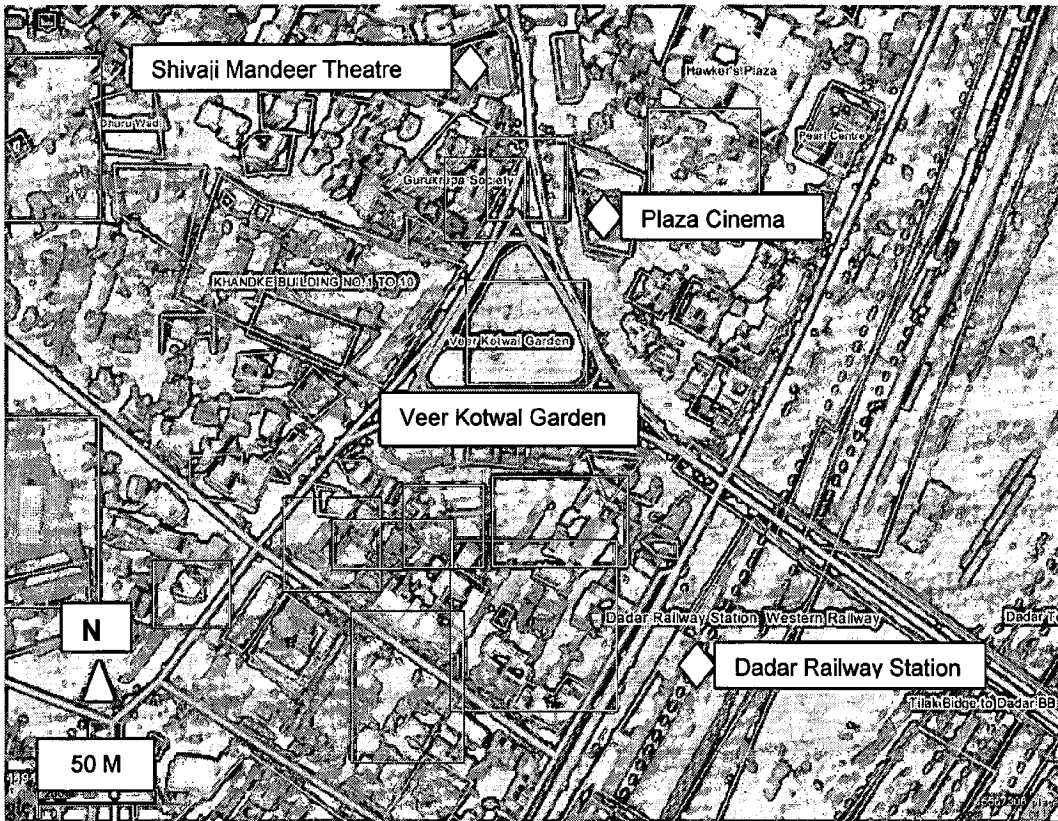
4.97 The stalls need to be redesigned, and sittings should be provided at the plaza



4.98 The walkway to the beach needs improvement and the chaupati needs to be cleaned

21. Veer Kotwal Garden: Ref. fig. 4.13 for location in ward 'G/N'

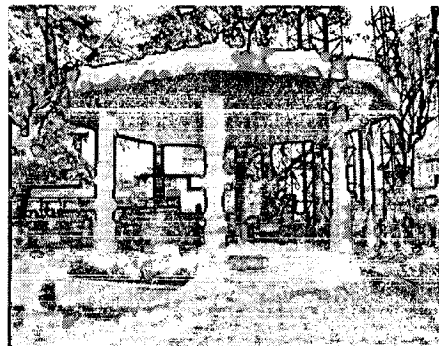
The Veer Kotwal garden has always been a platform for public meetings and discussions. It was in ruins a few months back which has received a facelift recently by MCGM. The garden which also doubles up as a traffic island is levelled with red sand, a walking track, seating arrangements, a play area for children, bollard lighting, a gazebo and fencing. (Fig. 4.101 and 4.102)



4.100 The Google map showing location of Veer Kotwal Garden along with the landmarks nearby



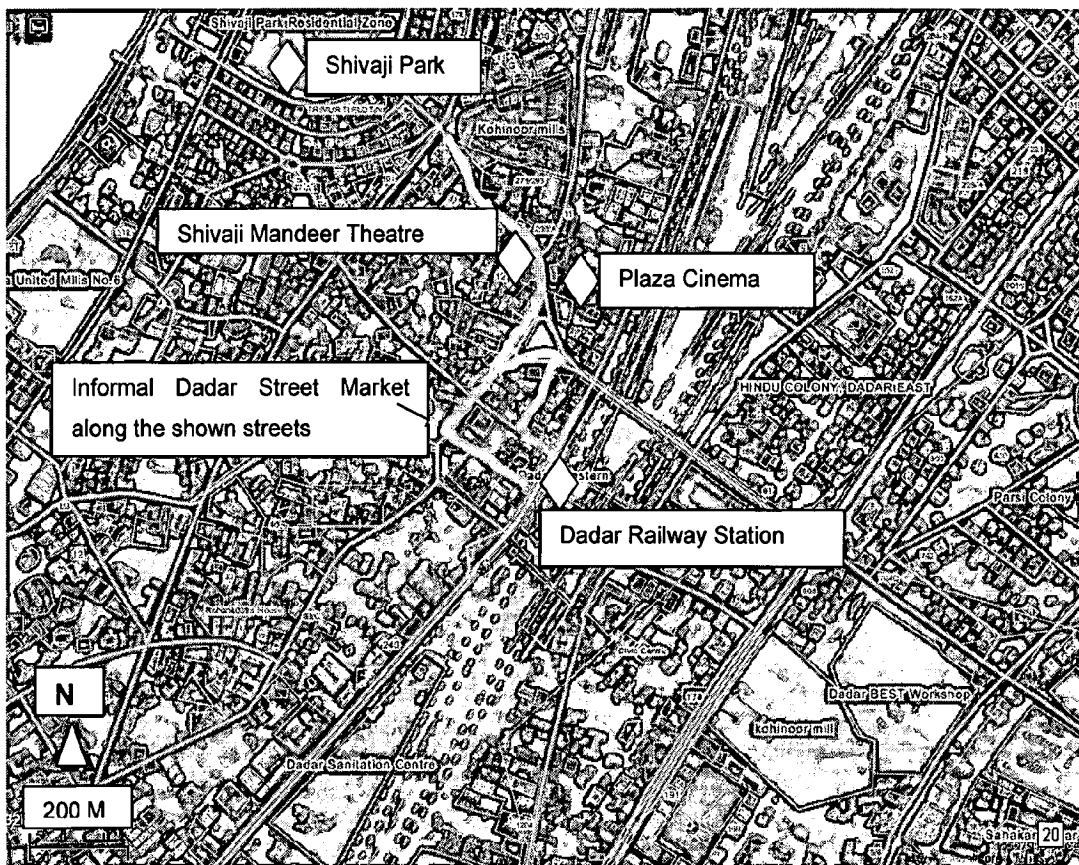
4.101 The OAT integrated in the landscapes of the garden



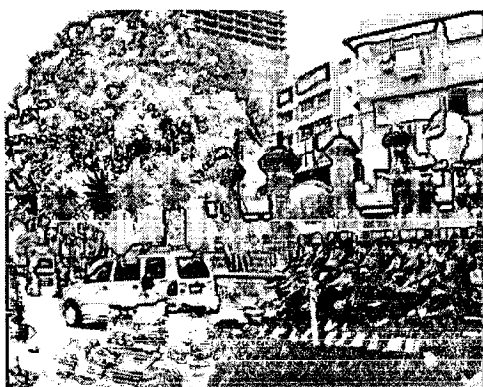
4.102 The Gazebo for holding meetings and discussions

22. **Dadar Market:** Ref. fig. 4.13 for location in ward 'G/N'

Dadar market is a very popular shopping destination for residents of central Mumbai, the suburbs, and distant satellite towns. The pavements in this area are full of vendors. This is one of the largest areas covered by informal sector in Mumbai city. The market sells anything and everything at unbelievably cheaper costs. This market flourishes especially during the time of festivals like Deewali, Christmas, Eid etc. (Fig 4.104)



4.103 Google map showing location and stretch of Dadar Street Market



4.104 View of market in festive season



4.105 Mehandi artist at the market area

4.6 Evaluation and comparative analysis of the surveyed public spaces:

Each of the surveyed public space was evaluated with help of the prepared scheduled. (For schedule, ref. Annexure 1)The schedule is common for evaluation of all the public spaces on the basis of four most important parameters which are accessibility, activities in the space, comfort and image of the space and the publicness or sociability. The public spaces thus compared give an overall idea about the public realm of Mumbai city wards, their user groups, success rates, activities that help a public space famous, as well as the famous typology of the public spaces.

This chapter comprises of the evaluation matrix used for evaluating the performance of the surveyed public spaces and their comparison to each other. The total scores achieved by each of the space are stated in the chapter along with the correlation analysis of total scores to individual parameters.

4.61 The evaluation matrix:

The following table explains the evaluation matrix for Gateway of India. The qualitative parameters are quantified as one point for bad or low quality, two points for having good or moderate quality mentioned and three points for the very good or high quality of the parameter.

Sr. No.	Parameter	Poor/ Absence (0)	Unsatisfactory/ Low (1)	Good/ Moderate (2)	Very Good/High (3)
A.	Access & Linkages				
1	Can people use a variety of transportation options to reach the space?				√
2	Are transit stops conveniently located next to the space?				√
3	Is the space visible from a distance?				√
4	Is its interior visible from the outside?/ Visual linkage				√
5	Is there a good connection between the space and the adjacent buildings?				√
6	Does the space has view from all around or has blank walls?				√

7	Can people easily walk to the space?				√
8	Do sidewalks lead to and from the adjacent areas?			√	
9	Is the space universally accessible?				√
10	Do the roads and paths through the space take people where they actually want to go?				√
	Points			2	27
A.	Access & Linkages			Total	29

Sr. No.	Parameter	Poor/ Absence (0)	Unsatisfactory/ Low (1)	Good/ Moderate (2)	Very Good/High (3)
B.	Comfort & Image				
11	Does the space make a good first impression?				√
12	Are there more women than men?				√
13	Are seats conveniently located?			√	
14	Do people have a choice of places to sit?			√	
15	Is the space clean and free of litter, open drains & insanitary conditions?			√	
16	Is the space maintained well?			√	
17	Does the area feel safe?				√
18	Are people taking pictures?				√
19	Are there many photo opportunities available?				√
20	Is the space free from danger of vehicles and other activities/elements?				√
21	is the space free from sources of irritation/ nuisance?				√
	Points			8	21
B.	Comfort & Image			Total	29

Sr. No.	Parameter	Poor/ Absence (0)	Unsatisfactory/ Low (1)	Good/ Moderate (2)	Very Good/High (3)
C.	Uses & Activities				
22	Is the space intensely used?				√
23	Is it used by people of different ages?				√
24	Are people in groups, apart from singles and pairs?				√
25	Are diverse activities occurring?				√
26	Are all parts of the space used?				√
27	Is the space managed well whenever required?				√
28	Are activities and uses spontaneous and varying with time and season?			√	
	Points			2	18
C.	Uses & Activities			Total	20

Sr. No.	Parameter	Poor/ Absence (0)	Unsatisfactory/ Low (1)	Good/ Moderate (2)	Very Good/High (3)
D.	Sociability or Publicness and Belongingness				
29	Is this a place where people would choose to meet their friends?				√
30	Are people engaged in activities/talking with one another?				√
31	Can strangers or visitors feel comfortable?				√
32	Do people bring their friends and relatives to see the place?				√
33	Are people smiling/friendly/ at ease?				√

34	Does it have a presence of a mix of age, gender and ethnic as well as economic groups?				√
35	Are people involved in the maintenance of the space?				√
	Points			1	18
D.	Uses & Activities			Total	19
Total Score A+B+C+D					97

The above matrix is applied to each of the surveyed public space.

4.62 Grading the public spaces, based on their scores:

The above matrix shows that the maximum points to be achieved in the survey schedule are hundred and five whereas the minimum points achieved can be zero. Then the scored points are graded as given below:

Table 4.16 Grading based on score

Sr. No.	Score Range	Rank	Quality
1	105-84	1	Very Good
2	84-63	2	Good
3	63-42	3	Satisfactory
4	42-21	4	Unsatisfactory
5	21-0	5	Poor

4.63 Evaluation of the surveyed public spaces:

Table 4.17 Scores of surveyed Public Spaces

Sr. No.	Name	Classification	Area (SQMTS)	Ward	Access & Linkages Out of 30	Comfort & Image Out of 33	Uses & Activities Out of 21	Sociability or Publicness or Belongingness out of 21	Total Out of 105
1	Horniman Circle Garden	Park	12021	A	23	22	17	17	79
2	Azad Maidan	Playground	128820	A	26	7	9	3	45
3	Khau Galli CST	Hawking zone	1973	A	28	11	16	13	68
4	The Asiatic Library Steps	Frontage of Public Building	543	A	23	26	10	12	71
5	Kalaghoda Art Precinct	Street Precinct	10390	A	23	22	12	12	69

6	Fashion Street	Street Market	4015	A	20	18	10	12	60
7	Gateway of India	Monument with Plaza	19620	A	29	29	20	19	97
8	Cross Maidaan	Playground	64530	A	13	9	9	3	34
9	Oval Maidan	Playground	89030	A	26	7	9	3	45
10	S. K. Patil Garden	Park	11516	C	20	20	18	19	77
11	Hanging Gardens	Garden	28247	D	15	27	16	18	76
12	Priyadarshini Park	Park	65000	D	16	22	16	14	68
13	Girgaon Chaupati	Beach	83627	D	24	24	19	19	86
14	Kamala Nehru Park	Park	29195	D	21	29	20	20	90
15	Joseph Baptista Park	Park	6070	E	12	24	13	17	66
16	Mancherji Joshi, Five Gardens	Park	28394	F/N	25	14	12	12	63
17	Shastri Garden	Park	15480	G/S	4	16	10	9	39
18	Worli Sea Face	Walking Promenade	30368	G/S	16	24	14	14	68
19	Shivaji Park	Playground	112937	G/N	25	24	20	19	88
20	Dadar Chaupati	Beach	3800	G/N	12	12	7	7	38
21	Chaityabhoomi Park	Park	5417	G/N	16	29	19	17	81
22	Chaityabhoomi	Monument with Plaza	3500	G/N	15	18	9	8	50
23	Veer Kotwal Garden	Park	2240	G/N	20	26	18	17	81
24	Dadar Market	Street Market	13844	G/N	27	15	13	9	64

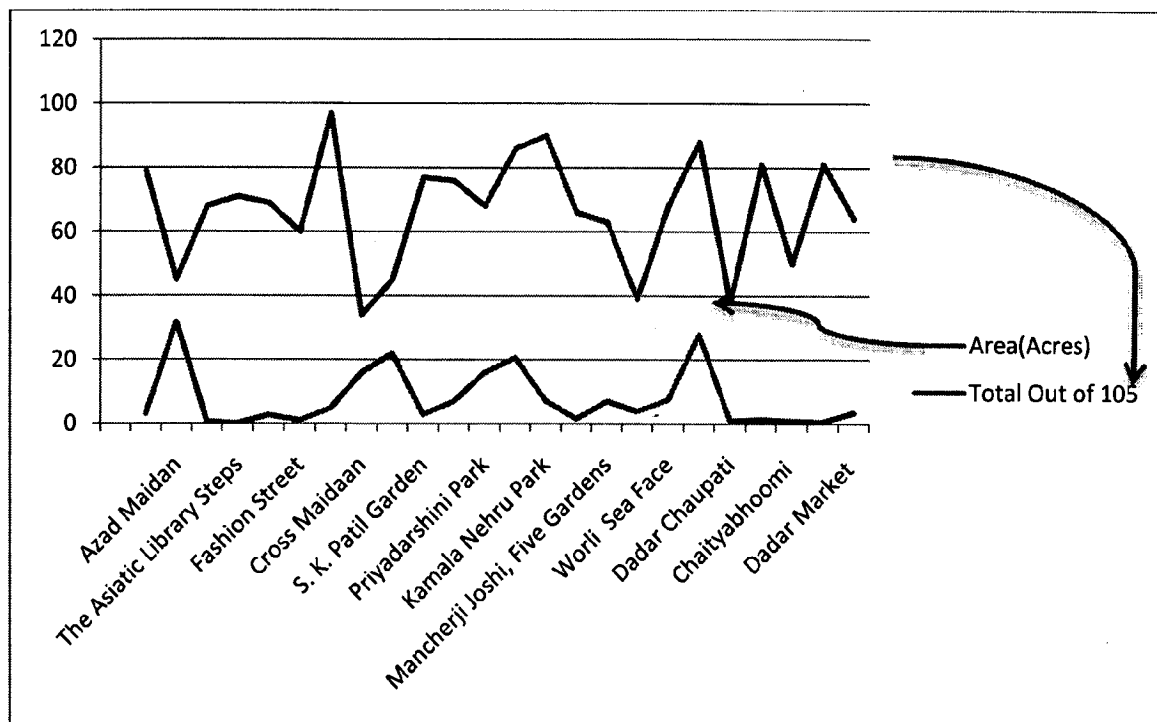
The above table gives the scores of each of the surveyed public spaces. These spaces are arranged as per their classifications in the following table, thus giving an idea of the variety of public spaces available in the city wards.

To understand the relation of success of a public space to its area, the above twenty four surveyed public spaces are arranged with increasing areas, with their total scores. Following table shows the relationship of area of a public space to its success.

The following graph explain that there is no relation of how a public space is successful to the area of that public space. The public space does require specific area for the various activities it can hold together, but, there are evidences where the areas of the spaces are really small, and the space is better successful than other spaces where the area

of the public space much larger. For eg. Area of the Veer Kotwal Park is much smaller (2240 sqmt.) but it scores a total score of 81 points whereas the Oval Miadaan is much larger and ranks as third largest in terms of area, the score of the Oval Miadaan is just 35, which second last in terms of points.

The graph below explains this better as the lines expressing the total score and the area of the public space are not parallel to each other whereas they are completely against each other at many points.



4.106 Graph of the public spaces' score against their area

Table 4.18 Classification of surveyed public spaces

Sr. No.	Classification	Nos.
1	Playground	4
2	Park	9
3	Garden	1
4	Monument with Plaza	2
5	Hawking zone	1
6	Street Market	2
7	Street Precinct	1
8	Walking Promenade	1
9	Frontage of Public Building	1
10	Beach	2
	Total	24

The above breakup of the available surveyed public spaces in the city wards of Mumbai shows clearly, that there are public spaces in forms of parks and playgrounds. Whereas not much development is found in form of gardens, street markets, front spaces of public buildings. Majority of the boundary of the city is sea, but there are a few beaches to experience in the city due reasons like safety and security of the navy area, the port trust and major shipping activities. The city seriously lacks in having public squares, public plazas and pedestrian street precincts as public spaces for the common people. Such spaces should be carved out along the existing activities of the city and integrated with the city to have a better quality of life for common people.

Table 4.19 Public spaces arranged in increasing score w.r.t. access and linkages

Sr. No.	Name	Classification	Area(SQMTS)	Total Out of 105	Access & Linkages Out of 30
1	Shastri Garden	Park	15480	39	4
2	Joseph Baptista Park	Park	6070	66	12
3	Dadar Chaupati (Small)	Beach	3800	38	12
4	Cross Maidaan	Playground	64530	34	13
5	Hanging Gardens	Garden	28247	76	15
6	Chaityabhoomi	Monument with Plaza	3500	50	15
7	Priyadarshini Park	Park	65000	68	16
8	Worli Sea Face	Walking Promanade	30368	68	16
9	Chaityabhoomi Park	Park	5417	81	16
10	Fashion Street	Street Market	4015	60	20
11	S. K Patil Garden	Park	11516	77	20
12	Veer Kotwal Garden	Park	2240	81	20
13	Kamala Nehru Park	Park	29195	90	21
14	Horniman Circle Garden	Park	12021	79	23
15	The Asiatic Library Steps	Frontage of Public Building	543	71	23
16	Kalaghoda Art Precinct	Street Precinct	10390	69	23
17	Girgaon Chaupati	Beach	83627	86	24
18	Mancherji Joshi, Five Gardens	Park	28394	63	25
19	Shivaji Park	Playground	112937	88	25
20	Azad Maidan	Playground	128820	45	26
21	Oval Maldan	Playground	89030	45	26
22	Dadar Market	Street Market	13844	64	27

23	Khau Galli CST	Hawking zone	1973	68	28
24	Gateway of India	Monument with Plaza	19620	97	29

In the above table, the points scored by the space are arranged in ascending order to analyse the total score against the score in the category of access and linkages. The above table puts forward clearly that the success of a public space is directly proportional to the accessibility to the space. Not only physical connectivity but also visual connectivity and accessibility become the major factor in deciding fate of a public space. Public space like the Gateway of India, Dadar street market, Shivaji park etc. are used extensively as they are very easy to reach by people with the use of public transport and intermediate public transport services.

Table 4.20 Public spaces arranged in increasing score w.r.t. uses and activities

Sr. No.	Name	Classification	Area(SQMTS)	Total Out of 105	Uses & Activities Out of 21
1	Dadar Chaupati	Beach	3800	38	7
2	Azad Maidan	Playground	128820	45	9
3	Cross Maidaan	Playground	64530	34	9
4	Oval Maidan	Playground	89030	45	9
5	Chaityabhoorni	Monument with Plaza	3500	50	9
6	The Asiatic Library Steps	Frontage of Public Building	543	71	10
7	Fashion Street	Street Market	4015	60	10
8	Shastri Garden	Park	15480	39	10
9	Kalaghoda Art Precinct	Street Precinct	10390	69	12
10	Mancherji Joshi, Five Gardens	Park	28394	63	12
11	Joseph Baptista Park	Park	6070	66	13
12	Dadar Market	Street Market	13844	64	13
13	Worli Sea Face	Walking Promenade	30368	68	14
14	Khau Galli CST	Hawking zone	1973	68	16
15	Hanging Gardens	Garden	28247	76	16
16	Priyadarshini Park	Park	65000	68	16
17	Horniman Circle Garden	Park	12021	79	17
18	S. K. Patil Garden	Park	11516	77	18
19	Veer Kotwal Garden	Park	2240	81	18

20	Girgaon Chaupati	Beach	83627	86	19
21	Chaityabhoomi Park	Park	5417	81	19
22	Gateway of India	Monument with Plaza	19620	97	20
23	Kamala Nehru Park	Park	29195	90	20
24	Shivaji Park	Playground	112937	88	20

Activities are the main building blocks of the public spaces as we can see that the total success of a public space is directly proportional to the variety and range of activities available at a public space. One must plan and juxtapose a wide possibility of various activities or a collage of multiple activities in a public space to make it a success.

The other two important parameters are also responsible to make a public space successful. Image and sociability of a space is more important to make a space an appeal to women users. Women users find it extremely important to have a public space sociable, presentable, clean as well as safe both physically and psychologically.

4.6 Summary:

Mumbai city is the most densely populated city of India. It has grown in terms of population, per capita income, and availability of wages as well as the number of homeless people, people staying with no or mere infrastructure services also. The public spaces in Mumbai are mere and do not satisfy the requirements of a good public realm for a large city like Mumbai.

The city has number of public spaces, which are not equally distributed in the various wards of city. The total per capita availability of public spaces, in the city wards comes to be 0.57 square meters. This statistics are worked out on the basis of available public parks, gardens, playgrounds, recreational grounds, botanical gardens, as well as other built spaces like museums and aquariums which are accessible to common public either free of cost or at a very minimal token money for maintaining the space.

The evaluation matrix, used to compare the surveyed public spaces, also gives a common ground for ranking the public spaces. The surveyed twenty four public spaces are ranked as follows:

Sr. No.	Score Range	Rank	Quality	Nos.
1	105-84	1	Very Good	5
2	84-63	2	Good	13
3	63-42	3	Fair	5
4	42-21	4	Unsatisfactory	3
5	21-0	5	Poor	0

The entire analysis of the existing public realm of the city wards of Mumbai, makes it clear, that while planning for a public space in urban areas, firstly the planner should consider the wide possibility of activities that the space can handle. Immediate next important parameter of a public space in achieving success is the accessibility criterion. With these two major parameters, the space must have good image and comfort. The space should allow people from various social and economic backgrounds to come together and mingle.

This study gives an opportunity for finding the plus points as well as loopholes in the planning practices especially for public spaces which should be available to all the people in spite of their differences in social class, economical level, gender and age groups.

Also, the shortfalls in the existing public places are found out through this study. By understanding the spaces' behaviour, a comprehensive scheme could be identified and improvement proposals shall be made with help of this survey.

Chapter 5: ANALYSIS OF POTENTIAL BROWN FIELD SITES

- 5.1 *Introduction*
- 5.2 *Mill land in Mumbai*
- 5.3 *Study report of Charles Correa study group*
- 5.4 *Redevelopment possibilities as per Development Control Regulation (DCR 58)*
- 5.5 *Current scenario in MCGM for redevelopment of mill sites for public purposes*
- 5.6 *Parameters for selection of site*
- 5.7 *Selected sites*
- 5.8 *Overall development taking place around the potential sites
Development potential of the above discussed sites as public*
- 5.9 *Development potential of discussed sites as public spaces*

5. Analysis of potential brown field sites

5.1 Introduction

The Cotton Textile Mills in the Island city of Mumbai were India's first modern industry and show case to the external world of its capability to come out with one of the finest cotton at that point of time. The mills were located on lucrative stretches of lands in Central Mumbai, which were given to the mill owners at concessional rates by the colonial Bombay Government in order to promote industrial production. Mumbai's development as an economic hub was greatly enhanced by these very mills.

5.2 Mill land in Mumbai

Till the late Seventies, the Cotton Textile Mills were booming with activity but in 1982 things changed. The unorganized power looms sector had taken over and it was becoming uneconomical to maintain large scale industrial units within the city limits on account of high power and octroi costs. Moreover, the 18 month long crippling strike by the mill workers proved to be the final nail in the coffin. All this led to huge losses and the running of the Cotton Textile Mills became unviable. Several mills were declared sick and a few even shut down their operations. Only a few managed to survive. It is important to note that the textile mills constituted an important component of the manufacturing industry in Mumbai, which was the backbone of Mumbai's economy till eighties. There were 58 cotton textile mills in Mumbai. Of these, 26 were deemed 'sick' and, therefore, taken over by the Government of India. The remaining 32 mills continued in the private sector.

The sick textile mills were proposing to sell off part or whole of their land for quite some years, allowing the redevelopment of the land. At the same time, the Development Control Regulations (DCRs) of 1991 sought regulating the redevelopment of cotton textile mill lands so as to generate open spaces and public housing for the city, in a manner which would create coherent urban form. However, contrary to these intentions, several mills have closed down their operations, resulting in insecurity among labour on one hand, and piecemeal redevelopment of land on the other. In short, wherever the redevelopment of land has taken place in mill area, it has proved to be haphazard and totally commercial basis.

Against this backdrop, the Government of Maharashtra issued a notification on 29th February 1996 setting up a Study Group to prepare an integrated development plan for the textile mills land on the basis of certain principles specified therein. Essentially, these include:

- prepare an overall development plan and strategy to create coherent urban form;
- provide housing for low income groups;
- allocate land for civic amenities and infrastructure; and
- Generate new employment opportunities for the workers displaced by the closure of mills.

5.3 Study report of Charles Correa study group

The report is submitted way back in August 1996. Some key features of the Report are as follows:

- As a first step, the Study Group had appointed teams of architects, engineers and conservations to visit the mill lands and appraise as well as document the various structures and other prominent features in each of them. The Study Group then strategised the development of disposable textile mill land by dividing into three equal parts i.e., (one-third each to public housing to be developed by MHADA, open spaces and public amenities, and the textile mills themselves).
- The report gave detailed plans (including drawings) for the redevelopment of land in textile mills in the case of 28 mills under the NTC. These mills were visited by the Study team and the structures have been graded by the suitability or adaptability of buildings as well as the structural conditions of the buildings.
- It identified a triangular area between Matulya, Paragaon and Mumbai Mills, a sort of 'GoldenTriangle', for mutually beneficial redevelopment of the mill area. Since three major arterial roads – Senapati Bapat marg, N. M. Joshi Marg and Dr. Ambedkar Road – were located in the area, the redevelopment of the area would provide scope for improving the capacity of road as well as rail network. Similarly, it proposed the development of pedestrian plazas in front of the railway stations, shopping arcades for pedestrians along road lines, and also development of inter-modal junctions.
- Several old existing mill structures were not only memorable and valuable to be included in the 'Heritage' list, but were also found to be robust enough to be recycled for modern services like studios and offices. The recycling of such mill lands will lead to the creation of a city centre with distinctive character, vitality and ambience, which adds another dimension to this vital metropolis. Therefore, the committee

Heritage structures), and (iii) land allocation for the three purposes mentioned earlier along with an outline of the built form. This plan would be reviewed by a committee specially appointed by the Government for this purpose. The directives for the Committee should be mandatory for developing the ODP into a detailed proposal.

- In the outlook for more comprehensive redevelopment of the urban land, the Study Group also suggested large scale pooling up of land and its allocation to appropriate uses. The private sector mills could be encouraged to form a financial umbrella organization that would allow such regeneration. It also sought addressing of the other problem areas like chawl reconstruction, housing of shelter less, parking of inter-city buses, repairs and reconstruction of old buildings (while avoiding provisions under Rent Control Act and MHADA Act). It essentially outlined the need for comprehensive urban renewal plan for the Byculla-Parel- Dadar area.
- The Study Group also noted that the key factor in the process of achieving this comprehensive redevelopment is the availability of finance. It identified the immediate financial needs of the textile mills to:
 - Pay compensation to the mill workers who would be laid off;
 - Purchase land and machinery at alternate site where the mill would be shifted; and
 - Pay-off financial obligations.
- It sought facilitation of land laws that act as encumbrances for the free movement of industries and sought provision of finance to the mills through creation of corpus. The corpus was sought to be prepared through a consortium of banks and financial institutions. Further, it suggested advance trading on FSI may be allowed to facilitate the generation of funds for this purpose; alternatively, a separate financial institution could be set up for the purpose of fund generation.

5.4 Redevelopment possibilities as per Development Control Regulation 58 (DCR 58):

A huge amount of land within the island city had become available on account of either complete or partial closure of the textile mills. The fate of these unused mills began to be spelt out with the new Development Control Rules (DCR) for the city, framed in 1991. These rules permitted the sale of a portion of the mill land in order to channel funds into the revival of the mills. These funds were to be used for clearing off financial liabilities of the mill owners like workers' wages, VRS, retiring loans etc.

According to the DCR 58, in the case of redevelopment, entire mill land (either open or after demolition of existing structures) has to be distributed as follows:

- One third to the BMC for open spaces
- One third to the MHADA for public housing
- The rest to be used by the owner/developer for commercial development

Most of the private mills found the regulations of the DCR 58(1991) onerous and refused to go that way. Modifications to the original DCR were sought and in 2001 the government tabled an amendment to the DCR 58 (1991). According to the new rules, only the 'open land' on which there was no construction was to be distributed in the manner laid down in the DCR 58(1991). As a result of this policy change, a number of defunct private mill owners made a beeline to the civic authorities to have their plans for redevelopment passed and approved. The development of the sprawling mill lands in Central Mumbai momentum with BMC officially giving the green signal for the redevelopment plans of more than 15 private mills.

Further redevelopment of mill lands was also sought by the NTC who looked at selling 17 of its 25 mills in Mumbai and a proposal for the same was put forward to the BMC. In principle, the State Government policy (DCR 58 2001) regarding the mill lands sale seeks to divide the land equally for commercial purposes, low-income housing and open spaces so that two – thirds is handed over for public interest.

But in actuality, this policy failed to achieve its purpose. This became quite clear when NTC put forward its proposal to dispose its mills in Central Mumbai. According to the new provision, the NTC mill land coming to BMC and MHADA is a mere 38 acres when the total area of all the NTC mills combined is approximately 300 acres. Civic activists and architects tried to block the proposal as they believed that the city was entitled to a higher share of the mill lands. Mills have been seen as a rare and exciting opportunity for planned development in the city and few were ready to let it go. After a gap of more than a year (late 2004), NTC was granted the permission by BMC for sale of seven NTC units in Mumbai and NTC decided to go ahead with the same. Shortly thereafter, a public body approached the government saying that the ongoing mill land development was leading to overcrowding, hap-hazard planning and reduction of open space in the city. There was a general demand to re-look the DCR 58 (2001) and bring changes accordingly. Ensuing this controversy and chiefly to defer the sale of NTC and other private mill lands, a Public Interest Litigation (PIL) challenging the legality of the 2001 amendment to the DCR 58 (2001) was filed in the Bombay High Court in February 2005. A stay was sought on permissions being granted for further development under this rule and those pending clearances. The main contention was that the amendment is a major modification, which must be preceded by proper study and planning.

NTC has also got an approval for development of seven of its mills from the Supreme Court. All clearances had been obtained by NTC from the Maharashtra Government and BMC for the sale and redevelopment of seven of its mill lands. In an interesting move, the BMC and the State Government have accepted the seven mills as consolidated property when calculating the reservation for open spaces and public housing. While five are to be sold, the remaining two are to be handed over to the government authorities. The sale of five NTC mills will provide an additional development potential of approximately 3 million sq ft of space in the Central Mumbai real estate market.

It has been argued that the release of textile mill land has created a positive environment for development and reduced uncertainty in property markets, both of which led to improved performance of local markets in the border of CBD and suburbs. The property markets started functioning better as evident from property vacancies and this made other economic agents to react in a positive manner. Also larger changes in national and local economies after liberalization led to emergence of Mumbai's new position of financial hub that led to investment inflows – FDI and FII. These economic forces have been driving local demand for property, which has the properties of both investment and consumption good. Such strong forces of demand would have led to optimism in the outcomes and hence made a strong case for possessing property, which would give both consumption benefit and any expected surplus returns over and above the costs of holding it. Therefore, the changes in industrial land redevelopment is not only changing the physical and landscape contours of city but also underlying changes in property values, local economy and values.

5.5 Current scenario in MCGM for redevelopment of mill sites for public purposes:

From the above note, it is very much clear that the area of land that would be handed over to the MCGM, is really scarce as per the new DCR. Following is the list showing the lands handed over to MCGM, by November, 2009.

Table 5.1 Site areas handed over to MHADA and MCGM for redevelopment of mill lands in Mumbai according to DCR

Sr. No.	Name of the Mill	C.S.No. / Div. / Ward	Plot area (Sq.Mt.)	Proposal approved under D.C. Regn.	Proposed share to be handed over		Handed over to		Remark
					M.C.G. M. Area (Sq.Mt.)	MHADA Area (Sq.Mt.)	M.C.G. M. Area (Sq.Mt.)	MHADA Area (Sq.Mt.)	

1	Apollo Mills	63 and 64 Lower Parel	56327.34 SqM.	Regn. 58(1)	7509.01	8419.19	I.D.S. for 1 to 7 mills are approved as per I.D.S. Entire MHADA share of 7 mills is earmarked in New Hind Mill. M.C.G.M. R.G. share is earmarked in United Mil No.2 and 3 (total mill area adm. 61,056.00 sq.mts. handed over in advance.)		
2	Mumbai Mills (Sukseria Mills)	464 Lower Parel	65723.17	Regn. 58(1)	10193.07	11428.59			
3	Jupiter Mill	841 and 882 of Lower Parel	48806	Regn. 58(1)	1095.8	1228.63			
4	Elphinstone Mills	612-613 T.P.S. IV Mahim	35215.35 (incl. chawl)	Regn. 58(1)	2562.6	2873.22			
5	Kohinoor Mill No.3	F.P.No.46, TPS III	19859.04	Regn. 58(1)	2852.69	2895.74			
6	India United Mills No.2 & 3	831 Mazgaon	64947.34 SqM.	Regn. 58(1)	7069.48	7926.88			
7	New Hind Textile Mills	749 and 8/716 Mazgaon Division	33727.65 SqM.	Regn. 58(1)	1961.63	2199.41			
8	Bombay Dyeing Mfg. Co. Ltd. (Lower Parel Unit)	C.S. No. 4/799, 807 and 809 of Lower Parel Division, P.B. Marg	1,00,498.74 SqM.	Regn. 58(2)	7052.86	5770.52	Nil	Nil	The proposal is for modernization Sharing is not attracted at this stage
9	Century Spg. & Wvg. Mills	C.S. No. 794, 1545 & 1546 of Lower Parel Div.	40,180.46* <u>79,834.36</u> 1,20,023.82	Regn. 58(1)	4744.99* <u>13,668.62</u> 18413.61	4888.78* <u>14,082.82</u> 18971.6	Nil	Nil	*Leasehold plot, no dev. Permission granted.
10	Dawn Mills	C.S. No. 243 of Lower Parel Div.	27,551.68 SqM.	Regn. 58(1)	1136.08 (Swan Sewree & Morarji)	929.51 (Swan Sewree)	1136.08 (648.00 +488.00)	929.51 (Swan Sewree)	
11 & 12	Hindustan Spg. & Wvg. Mills 1 & 2	1903 (pt), 1904 (pt), 1905, 1/1905, 2/1905 of Byculia Division Near Jacob Circle, San e Guruji Road.	61,520.36 SqM.	Regn. 58(1)	662.61 SqM.	542.13 SqM.	662.61 SqM.	542.13 SqM.	

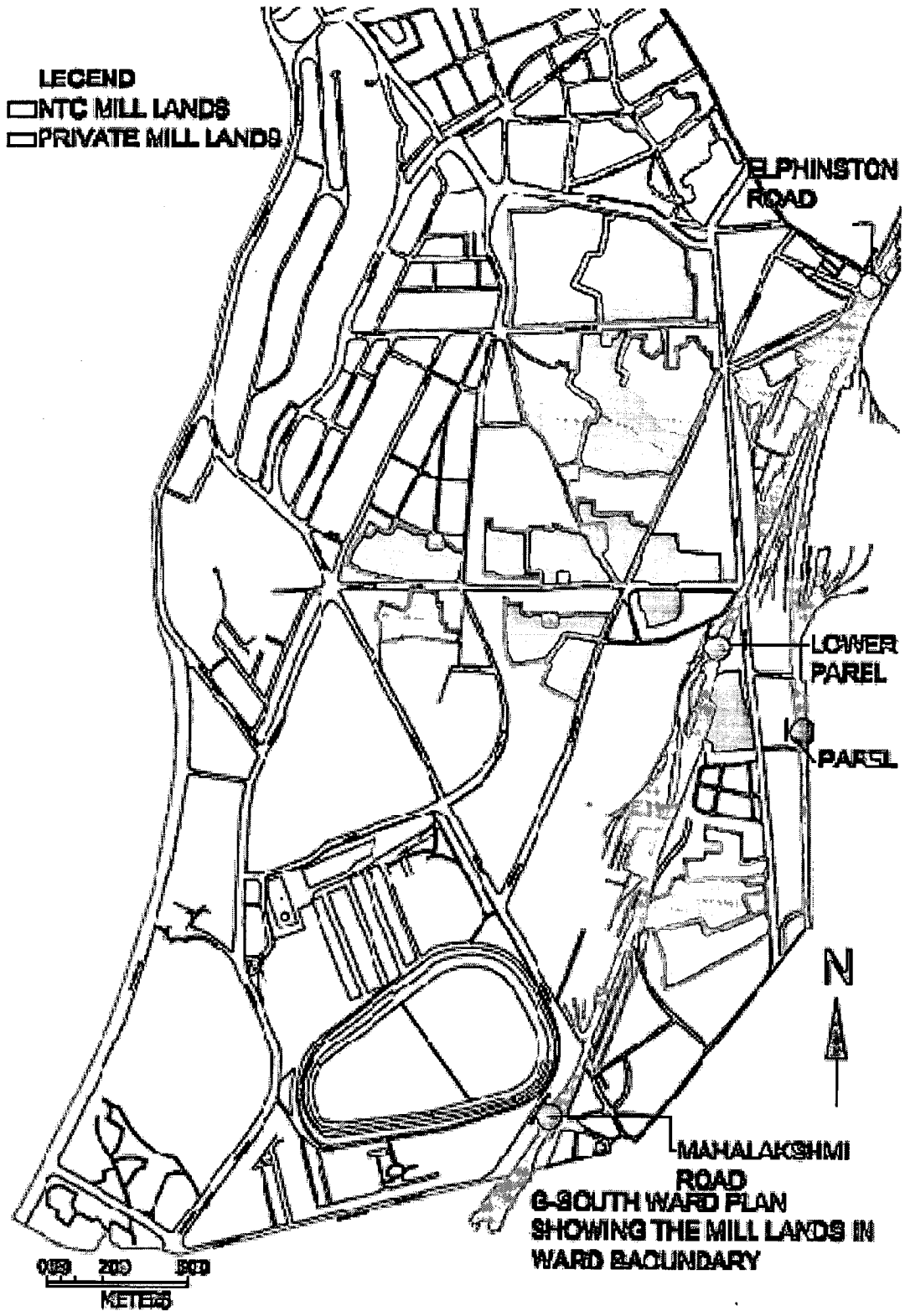
13	Hindustan Spg. & Wvg. Mills (3) & Process House	C.S.No.12 11, TPS IV, Mahim G/North	21489.3	Regn. 58(1)	735.99 sq.mt.	602.11 sq.mts.	735.99 sq.mt.	602.11 sq.mts.	
14	Maftal Mills Unit No.3	C.S. No. 166 Lower Parel Division. G/South	27,163.38	Regn. 58(1)	588.41	481.43	588.41	481.43	
15	Matulya Mills	C.S. No. 249 of Lower Parel Div.S.B.M arg	20,510.57 SqM.	OldReg.58 Regn. 58(1)	5641.40 * 474.68	4616.46 * 388.32	5641.40 * 474.68	4616.46 * 388.32	Handed over as per old DCR 58.
16	Modern Mills	C.S. No. 1895 (part) Byculla Division, Keshavrao Khadye Marg	49599.00 SqM.	Old Regn. 58	8626.56 SqM.	7058.12 SqM.	*8626.5 6 SqM.	*7058.1 2 SqM.	*(Hande d over as per old DCR 58.
17	Piramal Spg. & Wvg. Mills	C.S. No. 2/142, of Lower Parel Division.	34,749.78 SqM.	Regn. 58(1)	1741.10 SqM.	1424.58 Sq.Mt.	1741.10 SqM.	1424.58 Sq.Mt.	
18	Prakash Cotton Mills	C.S. No. 1/433, 434, 435,1/435, 470, 471,& 472 of Lower Parel Division.	52,400.89 SqM.	Regn. 58(2)	6193.68 . SqM.	5067.56 SqM.	-	-	
19	Ruby Mills	C.S.No.29 , TPS III, Mahim G/North	26082.15	Modified Regn.58(2)	667.06	545.77	-	-	The proposal is for moderni zation Sharing is not attracted at this stage.
20	Sriram Mills	C.S. No. 288,289,3 09,310 1/1540, 2/1540, 3/1540, 1547 etc. of Lower Parel Division.	68,304.60	Regn. 58(1)	2512.96 SqM.	2056.56 SqM.	2512.96 Sq.Mt.	2056.56 Sq.M.	
21	Simplex Mills	C.S. No. 1960, Byculla Division, Keshavrao Khadye Marg	36,553.80 SqM.	Regn. 58(1)	1376.28 SqM.	1126.00 SqM.	1376.28 SqM.	1126.00 SqM.	

22	Victoria Mills	C.S. No. 465 of Lower Parel Div. P.B. Marg	46,571.00 SqM.	Regn. 58(1)	1038.92 Sq.Mt	850	1038.92 Sq.Mt	850	
23 A	Western India Spg. & Wvg. Mills	2/126, Parel Sewree Division in F/South Ward	11084.16	Regn. 58(1)	1234.24	1009.83	966.29	Nil	
23 B	Western India Spg. & Wvg. Mills (MSTC)	126, Parel Sewree Division	28924.14	Regn. 58(1)	3607.83	2951.8	Nil	Nil	
24	Bombay Dyeing Mfg. Co.Ltd. (Dadar-Naigaon Unit)	223, 1/983, 1/128 of Dadar Naigaon Division	138255.77	Regn. 58(2)	25775.04	26556.1	Nil	Nil	The proposal is for modernization Sharing is not attracted at this stage
25	Gokuldas Morarji Mills No.1.	C.S.No.63 /74, 101 of Parel Sewree	77711.31	Regn. 58(1)	5221.83	5682.3	5221.83	6096.97	
26	Gokuldas Morarji Mills No.2	265, 266, 4/267, 5/267 of Lower Parel Division	49951.89	Regn. 58(1)	2374.12	1942.46	2374.12	1942.46	
27	Standard Mills No.1	C.S.No.5/ 209, 210 of Parel Sewree	29958.44	Regn. 58(1)	1525.14	1247.84	1525.14	1247.84	
28	Standard Mills No.2	F.P.No.10 90, 1092 TPS V Mahim	40792.06	Regn. 58(1)	1247.8	1020.93	1247.8	1020.93	
29	Swadeshi Mills, Kurla			Old Reg 58 Regn. 58(1)	15,414.80 15,414.80	12612.1 12612.1	15,414.80* 15,414.80	12612.1* 12612.1	*Handed over as per old DCR 58
30	Swan Mills, Sewree	C.S.No.18 0, 188, 206, 1/207, 2/207 Parel Sewree	48927.28	Regn. 58(1)	4526.75	4103.03	4526.75	4103.03	
31	Swan Mills, Kurla	C.S.No. 81 & 83 of KUrla Village	44782	Regn. 58(1)	3967.48	3246.12	3967.48	3246.12	

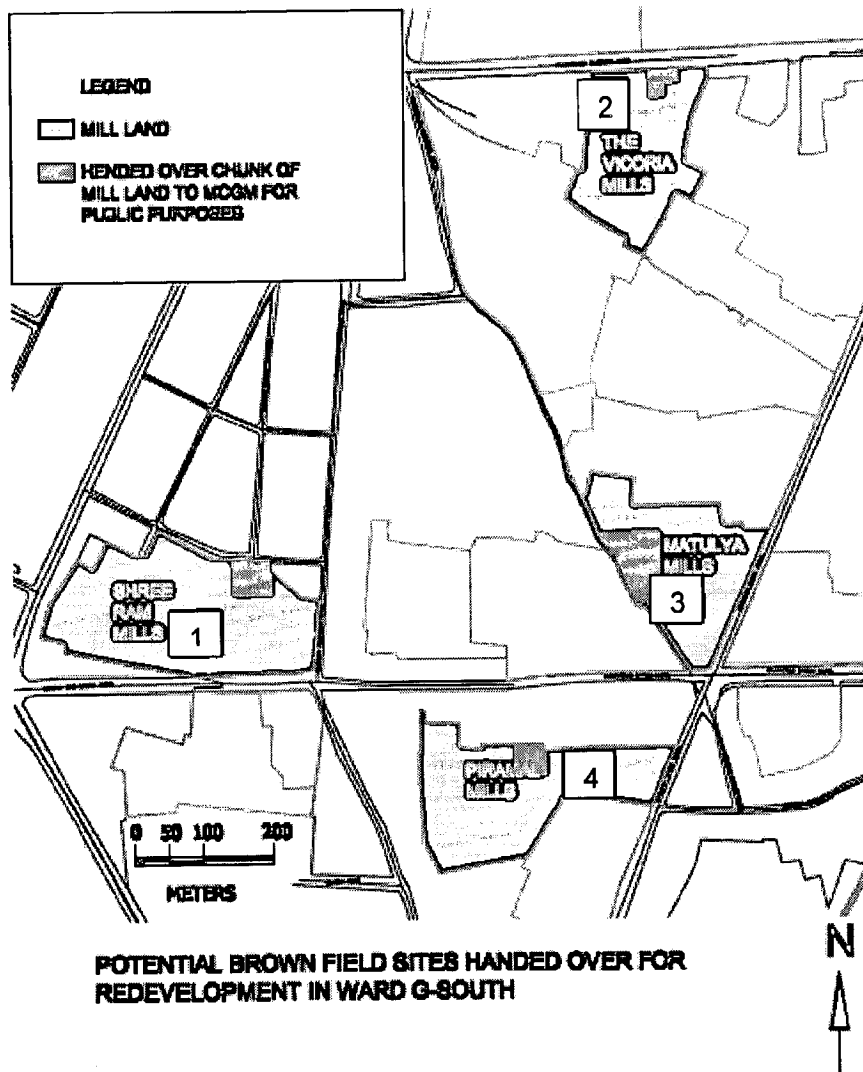
5.6 Parameters for selection of site

- Area of Site
- Location of the site
- Limitations for the survey
- Availability of Information

From the above parameters ward G-South is identified as the study area for proposal. The officials of the building proposal department of the MCGM, could readily provide the information of sites coming in the boundaries of G-South. Also, being in the same ward, onsite survey could be done. There are following sites which are already handed over to the MCGM for their development for public purpose.



5.1 Map showing location of mill sites in ward G- South



5.2 Map showing the potential sites handed over to MCGM for development for public purpose

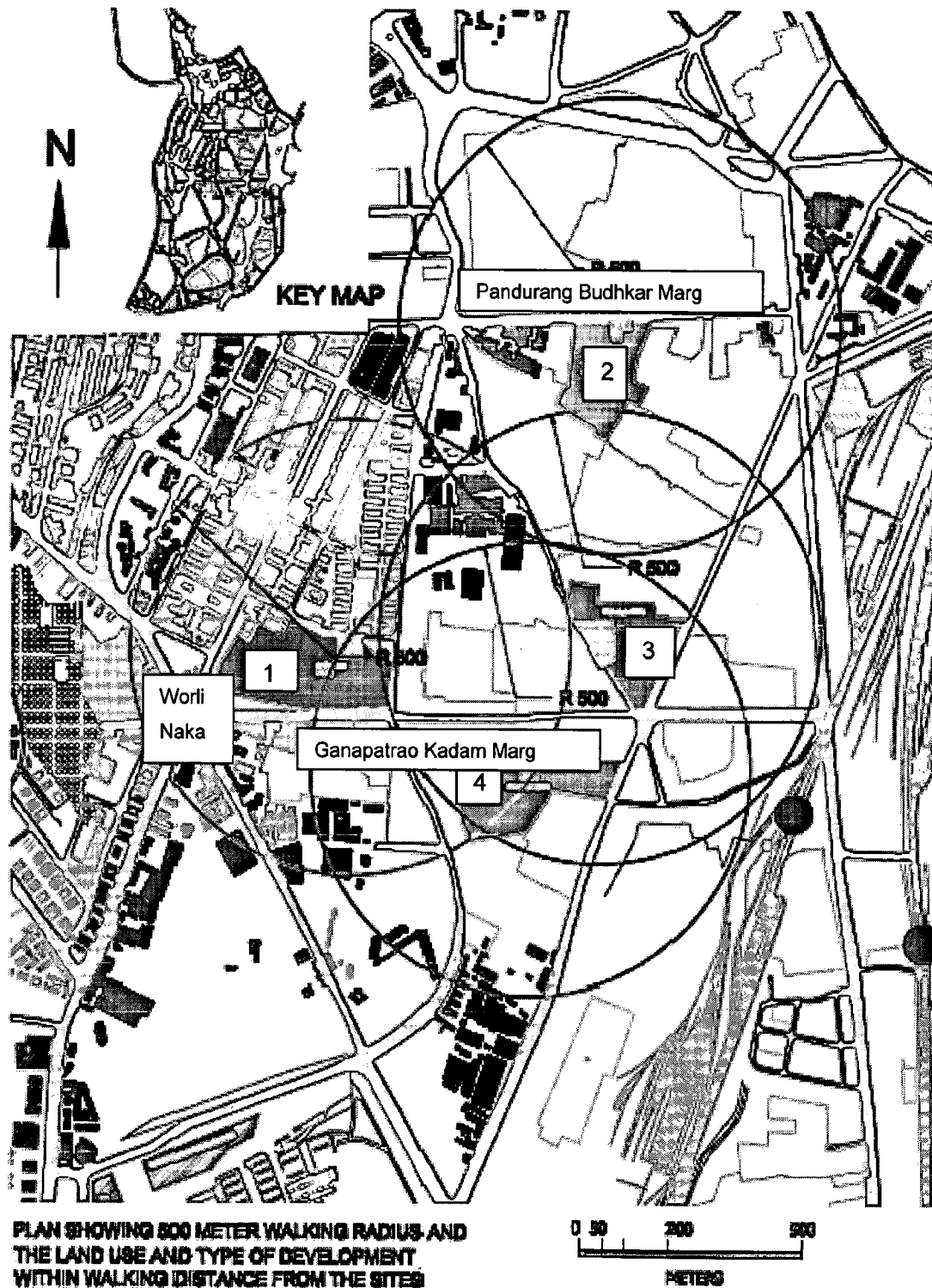
5.7 Selected sites

1. Sri Ram Mills: 2512 Sq. Mt.
2. Victoria Mills: 1038 Sq. Mt.
3. Matulya Mills: 5641 Sq. Mt.
4. Piramal Mills: 1741 Sq. Mt.

5.8 Overall development taking place around the potential sites:

The G-South ward is undergoing a major urban renewal on the sites of the mill lands. Most of the development is commercial or high end residential. This makes it clear that the future population of the ward would be much more than the existing population and huge employment generation will be taking place at the end of this decade or so.

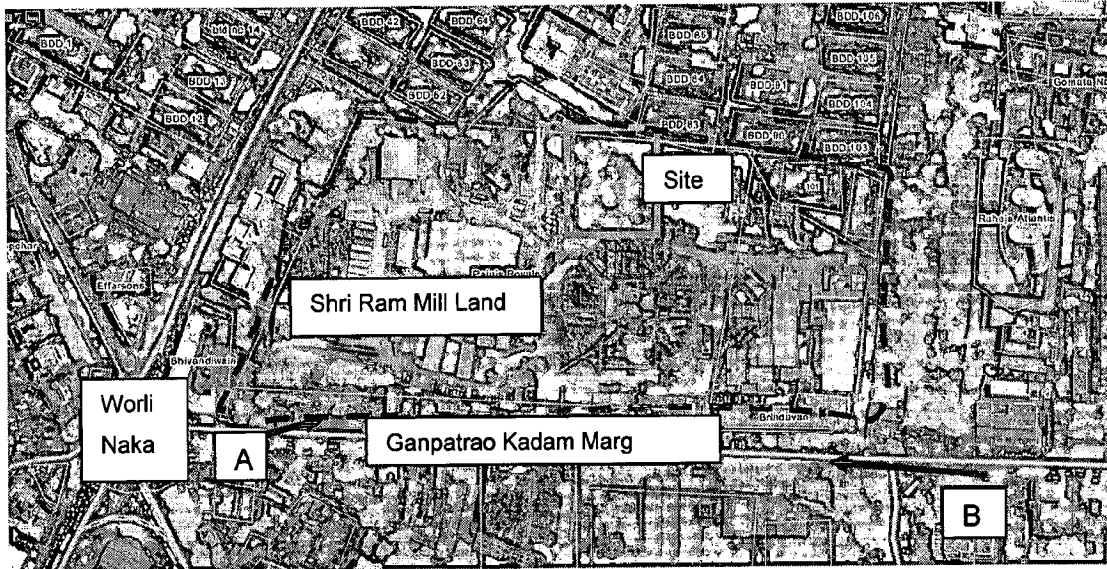
The above selected sites are considered for proposing public spaces based on the considerations drawn from the literature and the detail survey carried to analyse the existing public realm of Mumbai city. The plan below explains the type of development and activity pattern along with the accessibility of a site by means of public transport and by walk.



5.3 Map showing the land use and type of development within 500 meters i.e. walking distance from the potential site

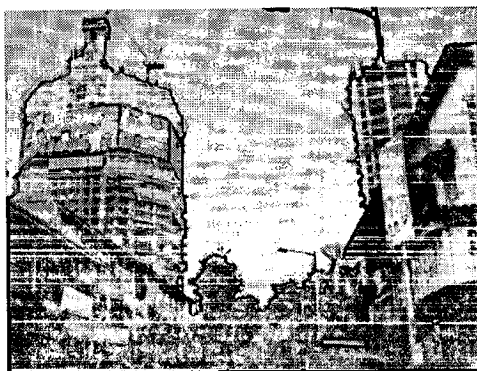
1. Shri Ram Mills: 2512 Sq. Mt.:

Shri Ram Mills is located on the Ganapatrao Kadam Marg. It is next to a major traffic junction Worli Naka.



5.4 Google image showing the site and surrounding development

The development around this site is mainly middle income and lower income residential. Large area of BDD chawls, housing middle class people with really small houses fall in the walking distance from this site location. While designing a proposal for this site, major user group will be residing in the above mentioned area. There is large commercial development taking place in the surroundings which will be attracting large population for living and working to this area.



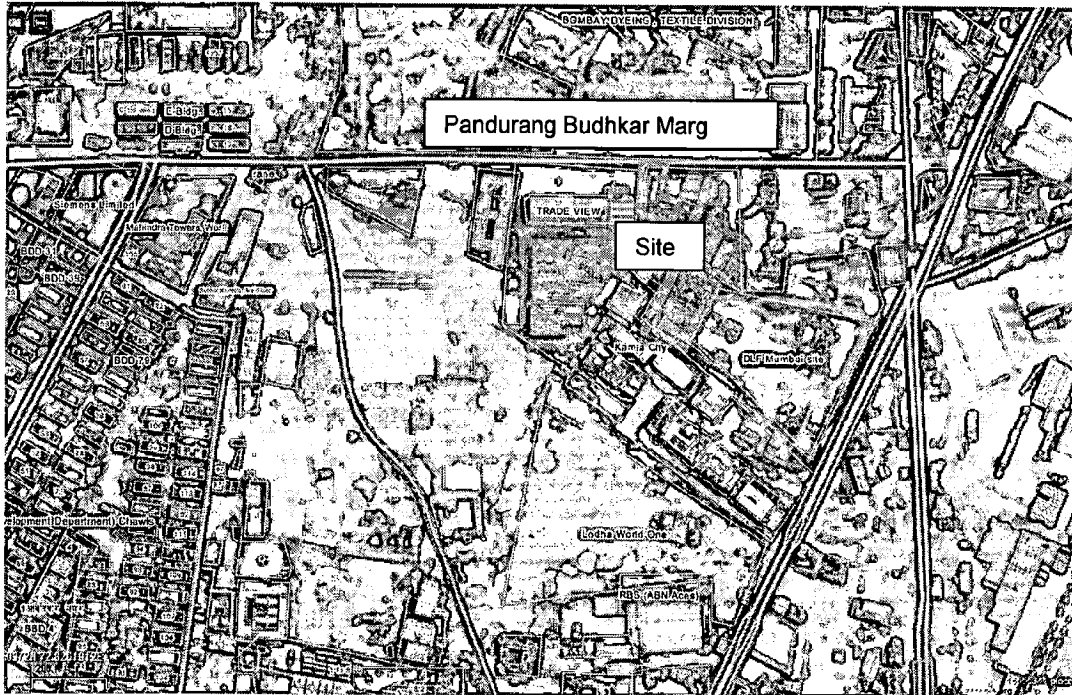
5.5 View from location 'A'



5.6 View from location 'B'

2. Victoria Mills: 1038 Sq. Mt.

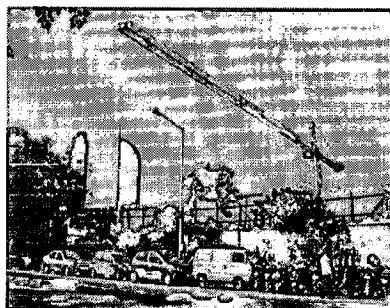
The Victoria Mill is located along a major traffic route Pandurang Budhkar Marg. The potential site is also having an access from the main road. The surrounding development of this site is mainly commercial with some industrial units and offices. This place is near from the Elphinston Road railway station and can be reached on foot within 10 minutes. It falls within 600 meters from the railway station. Majority of the people working in the surrounding areas walk from the railway station to the working place.



5.7 Google image showing location of potential site on the Pandurang Budhkar Marg



5.8 Footpath dwellers along Pandurang Budhkar Road



5.9 Parking at the Pandurang Budhkar Road

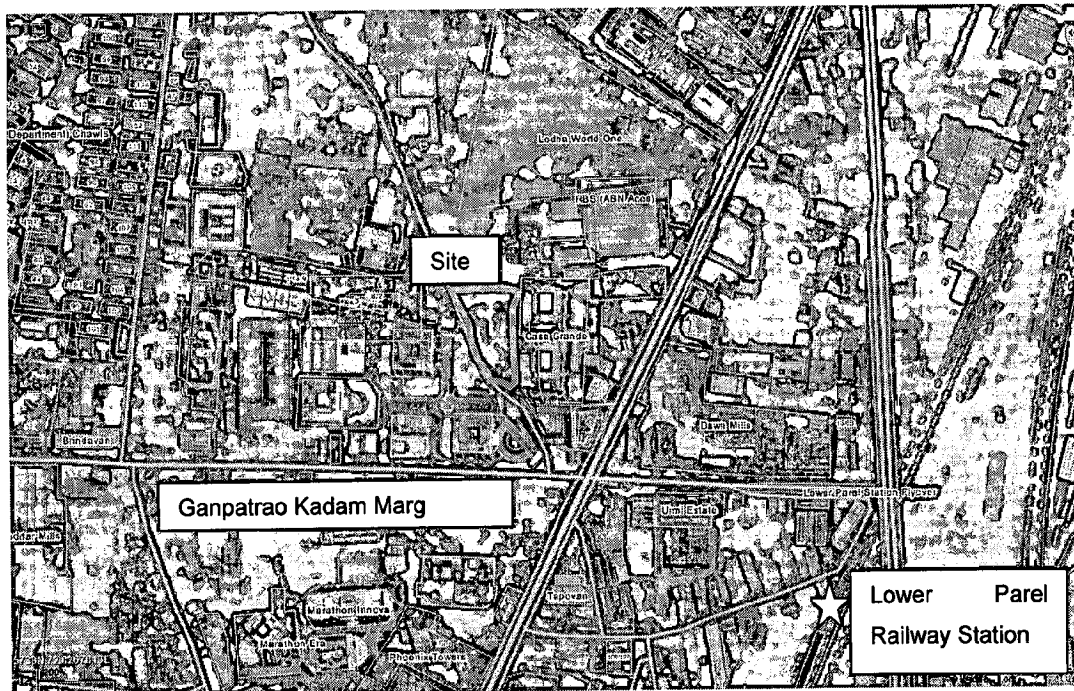


5.10 Redevelopment projects in the nearby vicinity

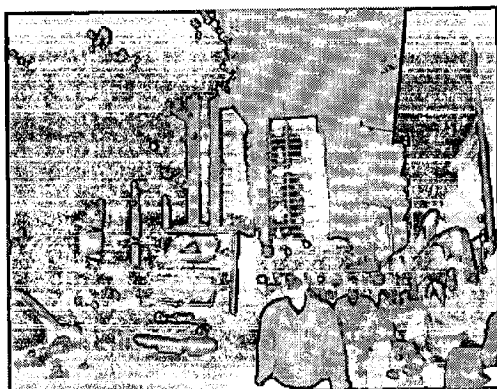
3. Matulya Mills: 5641 Sq. Mt.:

Matulya Mill is located at an important road junction connecting the major Western Railway stations, Elphinston Road and the Lower Parel. Huge commercial development has taken place already in the range of 500 meters from the site. Also large scale high end residential development is found nearby. There are a lot of low income residential localities, which are having high density of population can be found in surrounding of the site. Suburban railway station Lower Parel is within 600 meters from the potential site.

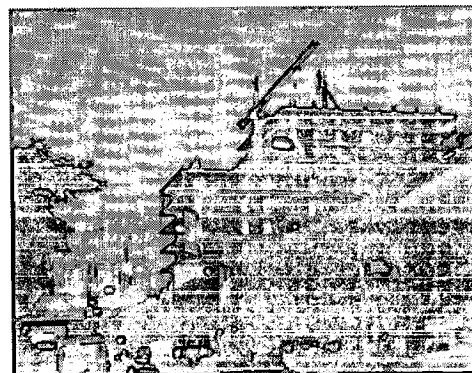
This site has great potential for becoming a city level public space with the high connectivity and accessibility and having user groups from all the social and economic groups.



5.11 Google image showing location of the potential site and the surrounding land use with the accessibility by public transport



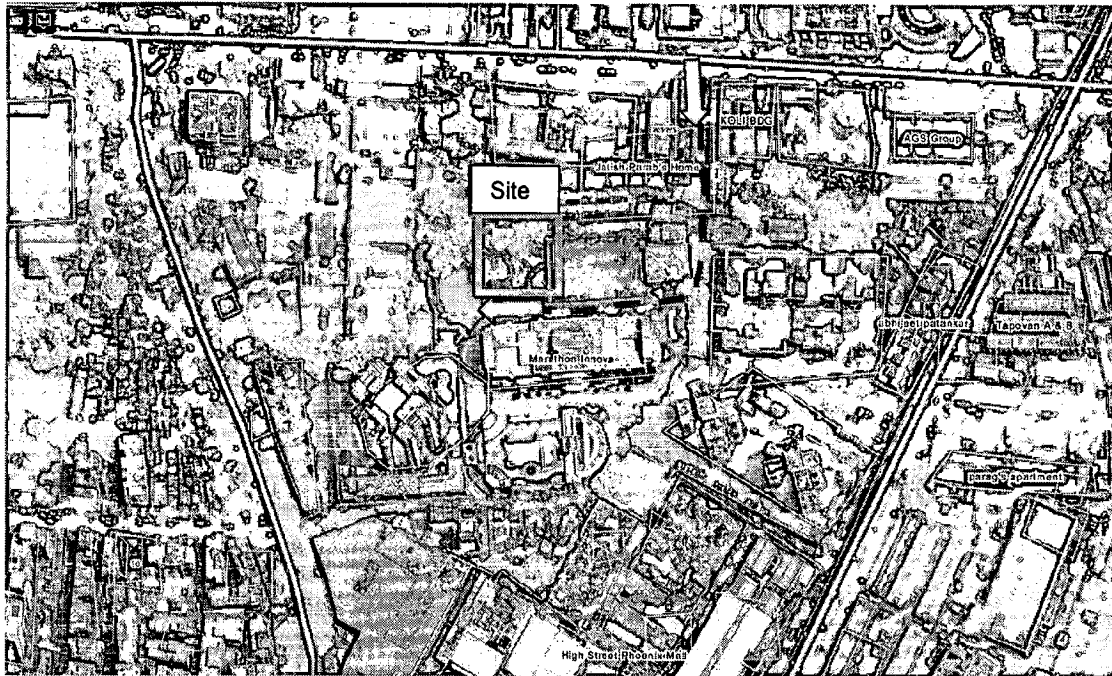
5.13 Development around the Matulya mill site



5.12 Ongoing development for high end commercial and residential development with existing low end residential development

4. Piramal Mills: 1741 Sq. Mt.:

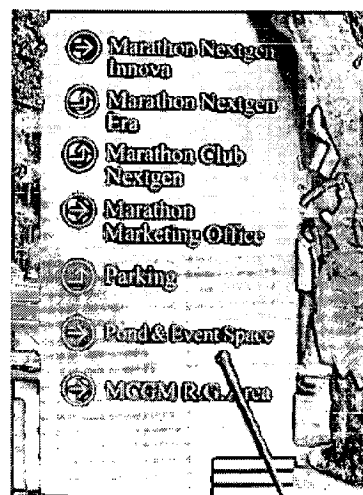
The location of this potential site questions the accessibility, as the site is comes in the boundary of a completely private premise. It is not visible from any of the main streets and is approachable by a private road, which is guarded by security personnel. The people staying nearby are aware of this space and can use this space at certain time of a day. A large water pond is located next to the site which provides an opportunity for development of an exciting public space along it.



5.16 Google image showing the location of the potential site and the access road to the site



5.14 The low end residential locality nearby the site



5.15 The signage pointing the MCGM park area inside the private complex

5.9 Development potential of the above discussed sites as public spaces:

The sites are having varying sizes and different surrounding land uses. This enables planners and designers to understand potential of each of the space to be developed as a public space based on various parameters as discussed in the literature review. Site like one at the Matulya Mill has high benefit of accessibility, whereas the one at the Shri Ram Mill has large population group of same economic and social level. The users of the space at the Vicotoria Mills will be mainly from the working age while the ones at the Piramal Mill site will be more of local residents.

The sites available for the development of the public spaces would be catering to different user groups i.e. from the local residents to the working population in the area. The development in G south ward is taking place through redevelopment of mill sites, as the sky high commercial and residential complexes are coming up. The location and area of the sites available for proposals give an opportunity to develop a hierarchy of public spaces in ward starting from a neighborhood public space to a ward or city level public space.

Note:

While surveying the above sites and analysing their potential, it was found that out of the above four sites two sites located at the Piramal Mill and the Matulya Mill are already developed as public spaces by MCGM. These spaces are surveyed and critically analysed for their usage in the chapter of the proposals for integrating public spaces.

Chapter 6: PROPOSALS FOR PLANNING PUBLIC SPACES

6.1 *Objective*

6.2 *Proposals*

6. Proposals for Planning Public Spaces

This chapter explains the detail proposals on the select mill sites, improvement schemes to improve the usage intensity of the selected public spaces out of the twenty four surveyed public spaces; estimating the population of the selected G/S ward, after the redevelopment and land use change, thus enabling to understand the future need of public space in the ward as well the general policies and guidelines to be considered while planning for public spaces in urban areas in order to cater the population of various social and economic classes. All the policies and guidelines can be applied to the entire city as well as other cities in the country depending on the parameters like the available area, the target population or the user group, surrounding land uses and last but not the least the connectivity to these spaces.

Thus the chapter is mainly divided in four parts, three being as the policies and guidelines for planning public spaces, improvement schemes for the surveyed public spaces and the proposals of appropriate public spaces in the select mill sites. The last part of the proposal discusses the need of a large city level public space and the possibility to provide in the potential brown field site of the selected ward G/S.

6.1 Objective:

The main objective of the proposal is to improve overall public realm of the city in the identified locations by retrofitting the existing conditions of the public spaces with improvement schemes. To achieve the same, four of the surveyed public spaces are selected on the basis of their classification and total scores achieved by them. These spaces are planned for the desired activities in an organized way, to become successful public spaces. The improvement schemes are worked out in detail and three dimensional modelling is executed.

In order to integrate more public spaces as per the policies of MCGM, the mill sites (handed over to MCGM as per DCR 58, for development for public purpose) in the selected G/S ward are analysed on the basis of their area, the surrounding land uses and the available physical connectivity by means of the public transport options to plan the necessary public spaces.

After studying the development pattern in the ward G/S, the total built up area creation on various mill sites in the ward is projected with help of the DCR and population rise expected due to this redevelopment in the ward is worked out. These figures are then analysed with the average per capita availability of public space and the deficiencies are

checked out. Considering the percentage increase in population, the percentage increase in public spaces by the way of redevelopment of handed over mill sites to MCGM as per DCR 58, is calculated. With this comparison, a need for a city level public space is established and an apt site from the mill sites is proposed to house the city level public space.

The general guidelines and planning policies which should be considered while planning public spaces in the cities are written in detail based on the literature reviewed, case studies and surveyed public spaces.

6.2 Proposal:

6.21 Improvement of Existing Public Spaces:

The surveyed public spaces can be improved by addition or deletion of certain features and activities. Also many of the spaces need an overall face lift to make the spaces successful. After the detailed analysis, following public spaces are given improvement measures and various aspects to make the public space even more successful are worked out in detail -

1. Azaad Maidaan
2. Kalaghoda art precinct
3. Chaityabhoomi
4. Khau Galli (CST)

The above improvement schemes are discussed in detail with visuals explaining the existing and future conditions of the public spaces.

1. Azaad Maidaan:

This is the largest playground in the surveyed public spaces in the city wards of the Mumbai city. The playground is primarily used for playing cricket. To improve the activity on the playground and the use intensity certain improvements are proposed as follows.

Existing activities:

- Playing: Cricket and little part used for playing football
- Small portion of the playground is dedicated to have political as well as religious demonstrations by people.
- The small pedestrian pathway is used by thousands of commuters to reach their work places as well as to interchange the local railway lines i.e. from Western Railway to Central Railway.
- Unauthorised hawking takes place at this pedestrian connection.

The user age group:

- The players playing cricket come from an age group of 10 yrs. to 30 yrs. The players are regular visitors of the playground for availing the best possible cricket coaching at the ground. These all are men.
- The pedestrians using the walkway are working people ranging from 20 yrs. old to 60 yrs. old people which are inclusive of women.
- Hawkers and shoppers at the pedestrian connection are also from the working population age group.

Problems identified:

- The playground can be used only in the day light.
- The pedestrian connection is exposed to the weather conditions and the monsoon period makes it very difficult to be used. (Fig. 6.2)
- The hawkers are unauthorised and create obstructions to the pedestrians.
- There is no provision for people walking to wait and enjoy the game taking place at the playground. (fig. 6.1)



6.1: A panoramic view of Azaad Maidaan, showing the pedestrian walkway with no weather protection and people waiting to watch the game for a while



6.2: Bad condition of the pedestrian walkway with hawkers along with

Proposed improvements:

a. Provision of high masts in the playground:

Light on playground will allow the players to play till late nights. Matches and games can be organized even during the night times, thus the use intensity of the playground can be increased twice. Majority of the days, the coaching takes place in three sessions viz. the early morning i.e. from 8.00 to 10.00 am, morning session from 11.00am to 1.00 pm and the evening session from 3.00 pm to 5.00pm. With lights on the ground, the play can start as early as 6.30 am – 7.00am and it can go on till 9.00pm in the nights. Also the club matches, college tournaments and office tournaments can be played in the late nights as night matches.

This will not only improve the playground, but the surrounding areas will become safer even after the regular office hours.

b. Developing the pedestrian walkway with hawking zone:

The walkway which crosses the ground is destination oriented. People, who use the path, are everyday users of the walkway. They need to reach their destinations in minimum possible time with utmost possible comfort. Such small and simple pedestrian connectors help in day to day commutation of the working population of Mumbai.

The pedestrian walkway needs to be paved and should be provided with shade/ shadow of trees to make the walk a pleasurable activity. Also the hawkers must be allotted certain area along the walkway in such a way that both the pedestrians and the hawkers with their buyers can co-exist without being hassles for each other. These will be the vendors having selling items which do not dirty the area like food stalls. For e.g. books, bags, footwear, flowers, etc. can be made available at this stretch. The sketches given below explain the possibility of allowing the hawkers to be lined along one edge of the walkway and keeping the other edge free to allow visual connectivity to the players. There should be sittings provided on the other edge of the walkway to allow people to wait and watch the game and hang around in the space making it not only an important destination for players but also to other common people and the working population in the area.

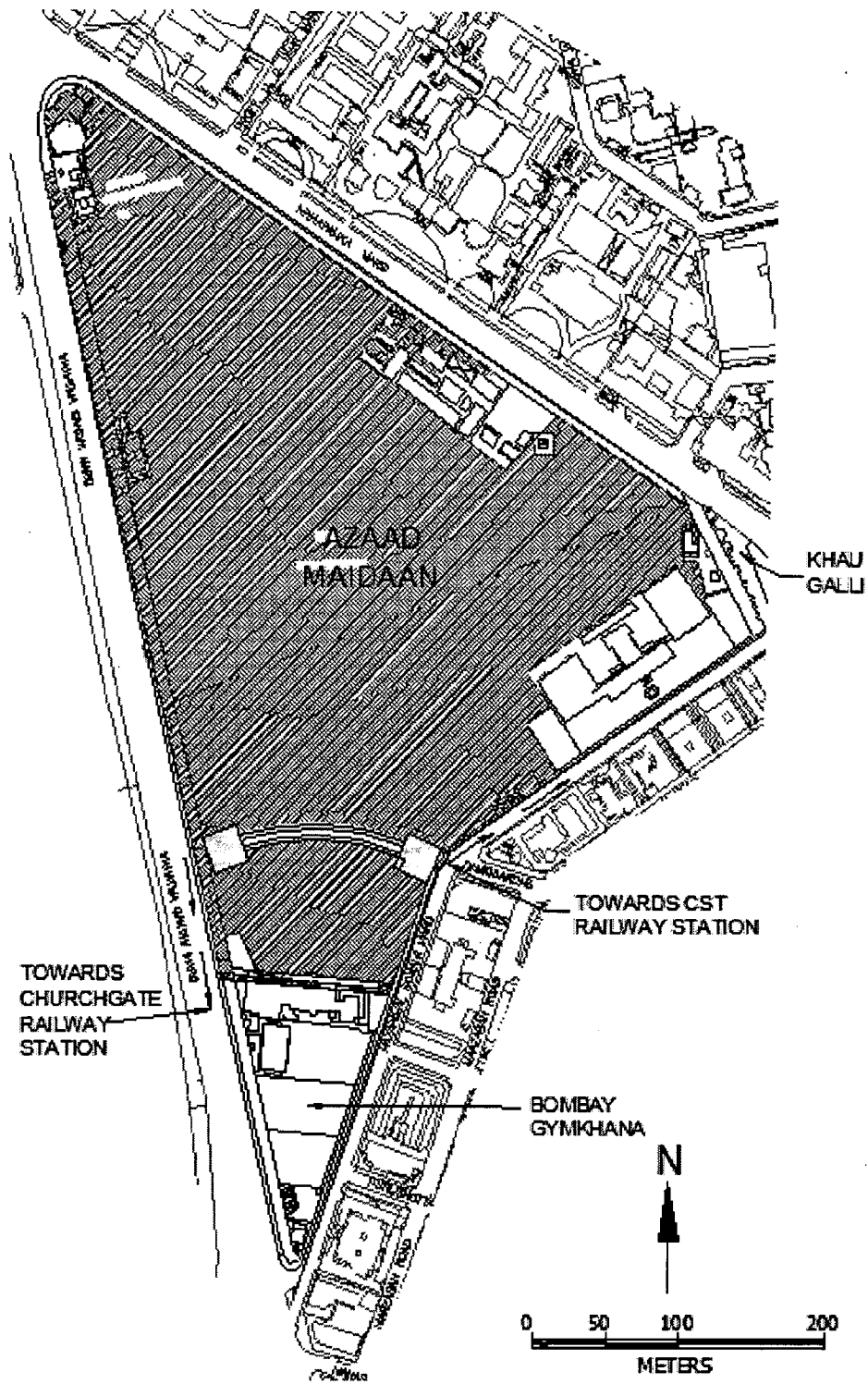
At the ends of the walkway a small pedestrian plaza should be created in order to provide public conveniences. These plazas will not only become activity nodes for the people but they will also become meeting points and informal sector activity will flourish. Certain food stalls will attract people and people will attract more people in order to make it a successful public space.

To shade the hawking zone, the sittings as well as the stalls in the plaza light weight steel and tensile structures should be used. These help defining the public space and weather protection partially if not complete. Installation of light fixtures is an inevitable component in making the walkway safe and friendly for all the people at all the times.

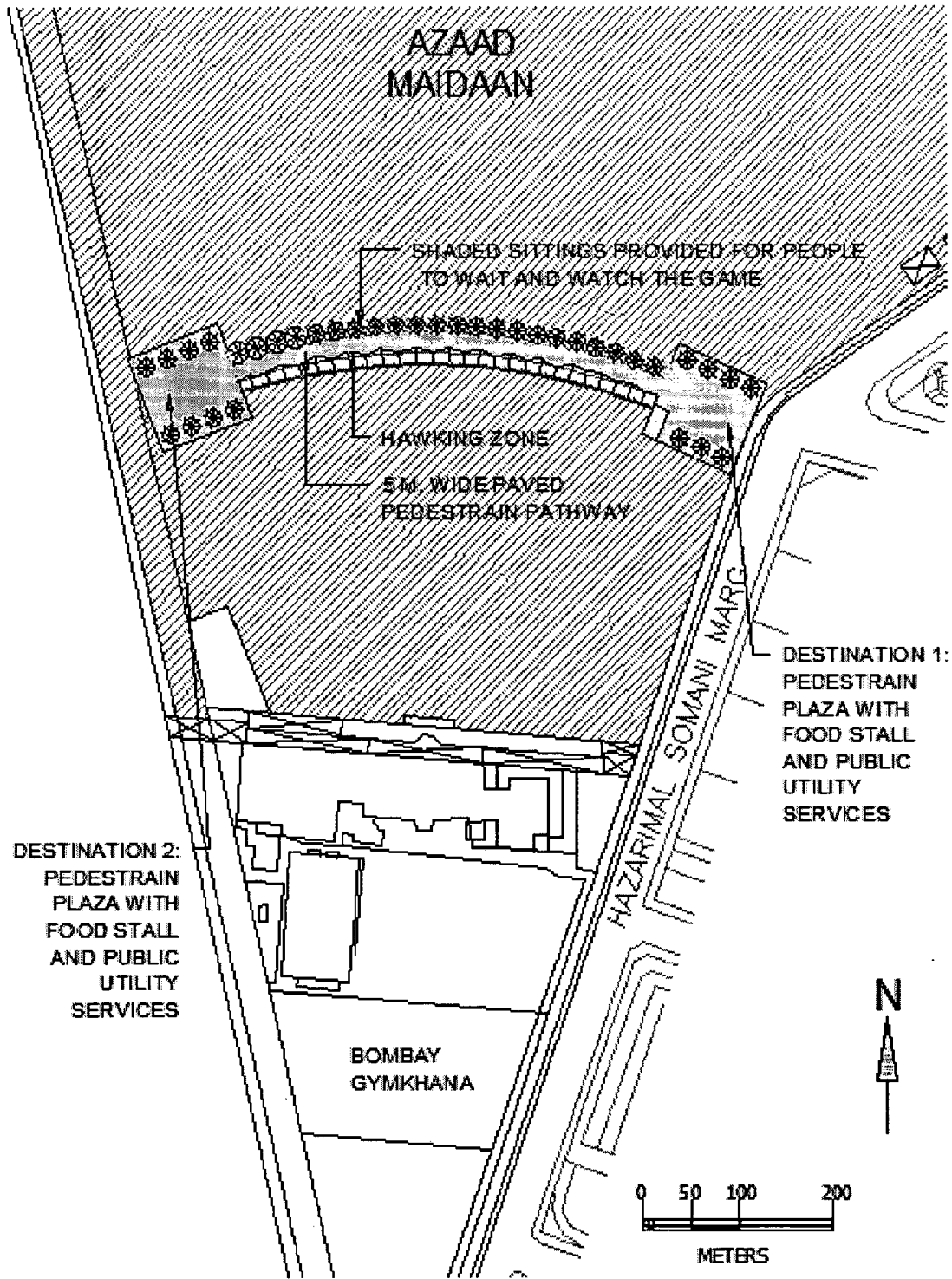
c. Demonstration area development:

Various public demonstrations, meetings as well as political addresses take place at corner of the Azaad Maidaan. The area is extremely untidy and is a dark spot in the surrounding urban landscape. Due to the activities this area is always guarded by police. There are no facilities either for the guards or for the gathered people. The guards should be provided with better waiting area and better sitting arrangements. The people gathering for demonstrations should be made available with appropriate sitting facility and public addressing facility. Public conveniences are utmost important to be provided.

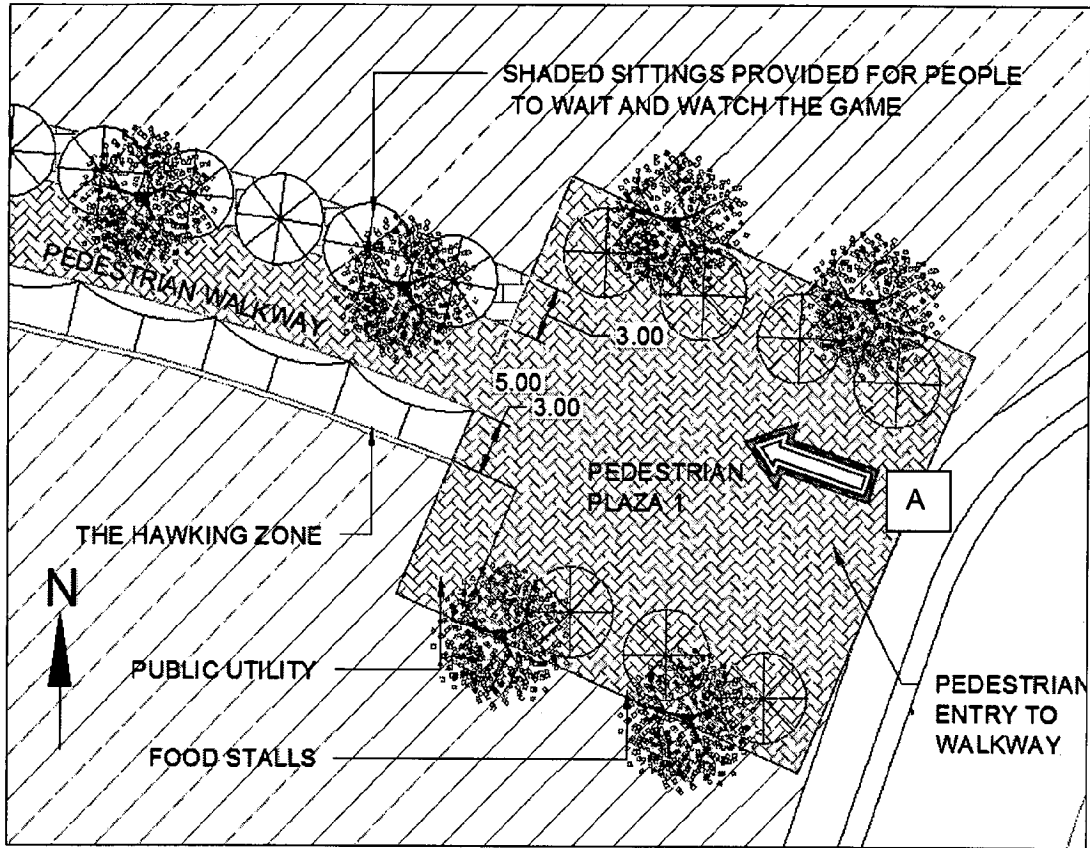
This part of the playground is not an active public space but is frequently used by people for various causes like protest march, public demonstrations and addresses.



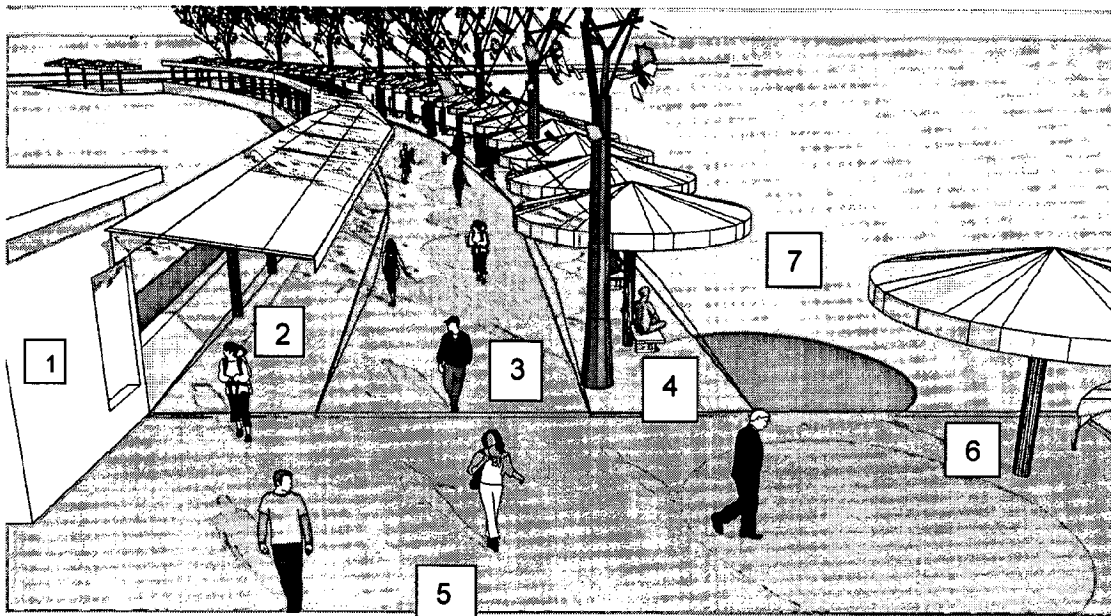
6.3 Layout showing the pedestrian connection passing through the Azaad Maidaan connecting the CST railway station and Church gate railway station



6.4 Plan showing the pedestrian walkway design with providing two destination plazas with food stall and public utility, a 5 m. wide paved walkway, shaded sitting for the people to wait and watch the game and a hawkking plaza along pathway



6.5 Plan showing details of the walkway and destination plaza, Scale 1:500



6.6 Improvement design scheme for the Azaad Maidaan pedestrian walkway, A view from 'A'

Legend:

- 1-Public toilets, 2-Shaded hawkers' zone, 3- 5 meters wide pedestrian walkway, 4- sittings provided for people to wait and watch the game at playground, 5- pedestrian plaza at the entry of the walkway, 6- Shades for the food stalls

2. *Kalaghoda Art Precinct:*

This is one of its kinds a precinct having great potential for becoming a very successful public space. It is named after the monument at the precinct “*Kalaghoda*” meaning black horse. This precinct has art galleries, commercial buildings as well some offices along it. The attraction of this place is the annual ‘*Kalaghoda Art Festival*’, which takes place for duration of fifteen days in the Spring Season.

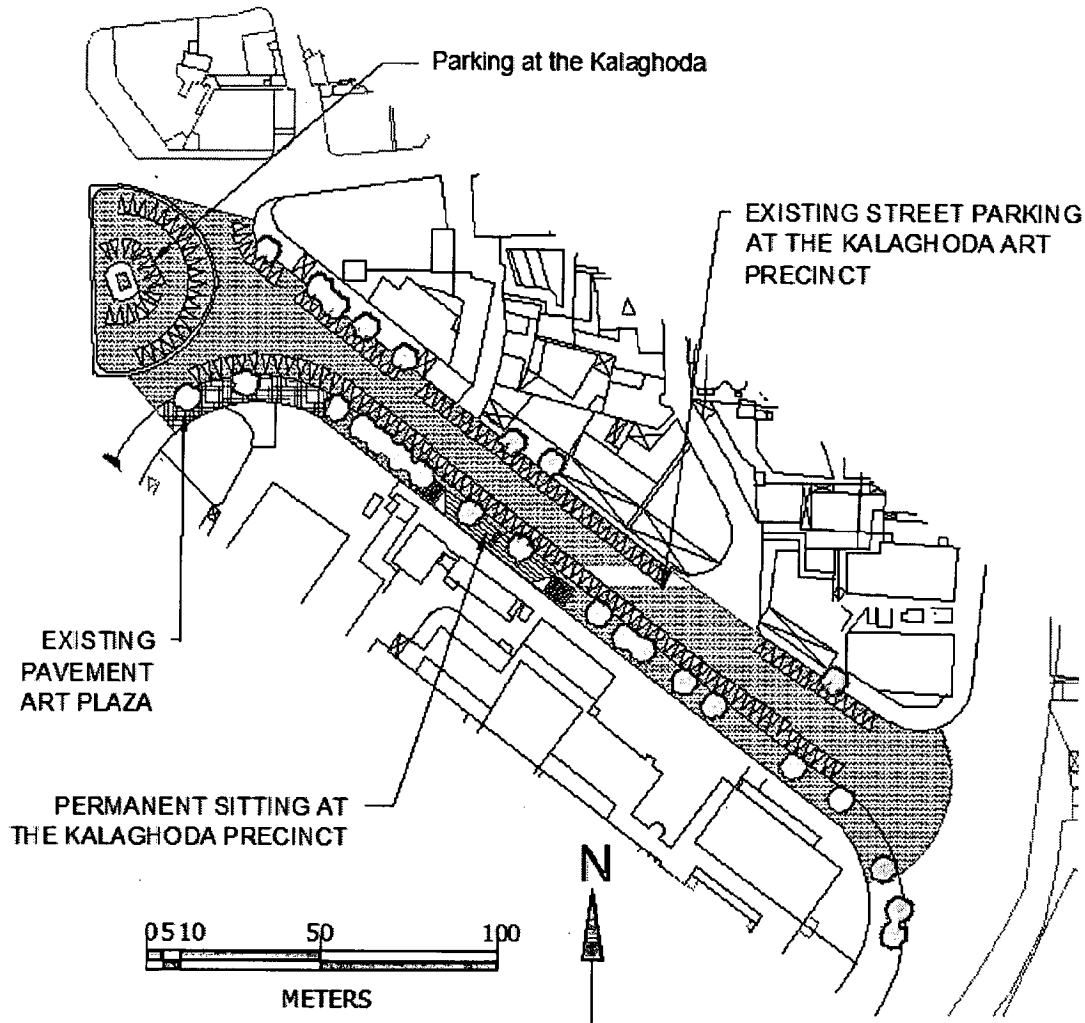
Around the year, this space is more or less is idle. Largely it’s used as a parking lot for the cars of the working people in the neighbouring areas. The permanent sitting is used by college students, working people and visitors of the space to wait, have conversations, and spend some time freely. With the surrounding activities, the space has great possibilities to handle large population with number of activities.

Existing activities:

- The *Kalaghoda Art Festival* (15 days every year): the entire precinct is full of art installations, stalls of artefacts, food stalls as well as theatre activities.
- Rest of the year the entire road is used for roadside parking on both the sides.
- The students of various institutes, working population in the nearby areas use the permanent sitting steps for leisure.
- Major portion around the road is used for MCGM activities like storage and dumping of the maintenance materials. This makes the space look ugly.
- Near the *Jehangeer art gallery* and *Museum art gallery*, there is a footpath art gallery called *Art Plaza* which is open for artists to install their work and use the footpath itself as their studio. People find it interesting to come across various paintings on their way. Also the sittings at the plaza are used by the people to sit, rest and have an interaction among them.

The user age group:

- The art festival is attended by people irrespective of their social classes, economic backgrounds, gender and age groups.
- The art galleries are visited by people of age groups.
- The sitting steps at the precinct are used by college crowd and working population.
- Parking is a pay and park facility used by working population having offices nearby.



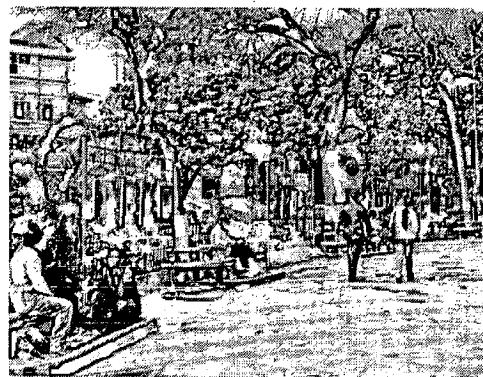
6.7 The plan showing existing activity at the Kalaghoda Art Precinct

Problems identified:

- The art plaza at the footpath is spread for a very small and cannot be used effectively in the months of monsoon. (Fig. 6.7,6.9,6.10)
- The parking dominated the entire street and does not allow any room for other activities. (Fig. 6.8)

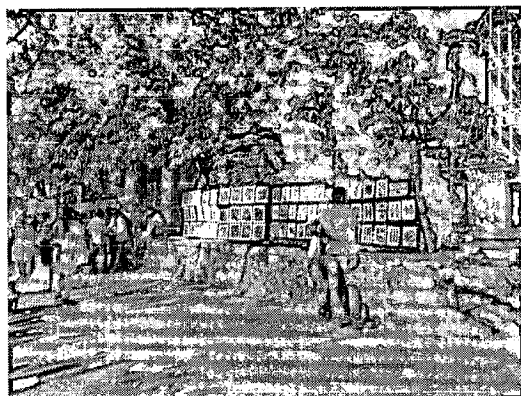


6.8 View of the street dominated by cars parking from the permanent sitting area

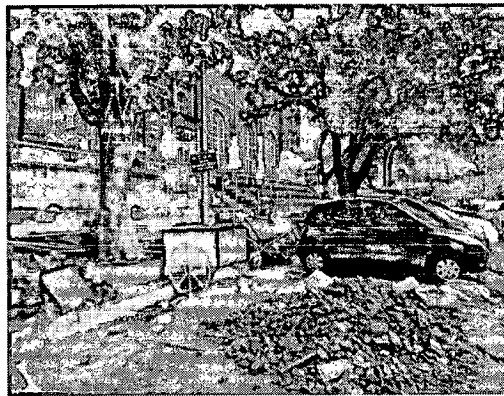


6.9 The pavement art gallery

- The permanent sitting created at the footpath is only utilised to its maximum extent during the festival. Whereas it has the potential to be used around the year for various activities like meetings, demonstrations, and when no group activity is conducted, it can become a very good street library.
- The dumped maintenance instruments of MCGM, make the precinct dirty and does not allow interesting activities to take place. (Fig. 2.11)



6.11 The pavement art gallery cannot be used during monsoons



6.10 Municipal maintenance instruments dumped at the site

Proposed improvements:

The overall improvement scheme is expressed in the sketches graphically to make the proposal a clear picture. The *Kalaghoda* art precinct can become a city level public space with the suggested improvements.

a. Extensions to the existing art plaza:

The current art plaza is stretched for a very short length. It should be spread further to allow more artists to put their works on display. Also the pavement gallery is exposed to the weather directly. Innovative light weight shades should be designed to cut off the direct sunlight as well as rains. The art plaza should be stretched across the opposite footpaths.

b. Removal of parking from the site:

This is an utmost necessary step to evacuate the parking from the space to have an uninterrupted public activity precinct. Vehicles parked on both sides of the roads eat a lot of space as well as block the visual connectivity. According to the case studies as well as literature review having vehicular movement in the public space kills the charm of the public space.

c. Restriction on vehicular entry:

The precinct is a two way road, with roadside parking on both sides. Though the road is wide enough, vehicular entry should be restricted to certain times. Private vehicles should not be allowed on this road, while MCGM vehicles should be allowed only between 9pm and 9am. This will ensure complete pedestrian safety in the space, with complete secure arena for skating.

d. Permanent performance area:

The sitting at the art precinct is a permanent one. It provides a very good view of the stage which is temporarily built for the art festival. But the sitting has a good view of the street as well as the building opposite. While the vehicles are kept off the site, the street part itself will act as a permanent stage for activities like performances, street plays, street acrobats and groups of performers. This stage can be reserved by the performers by advance notice and accordingly the space and time can be shared. Whenever people visit this place, they will get to see some or the other performance. (Fig 6.12, 6.17, 6.19)

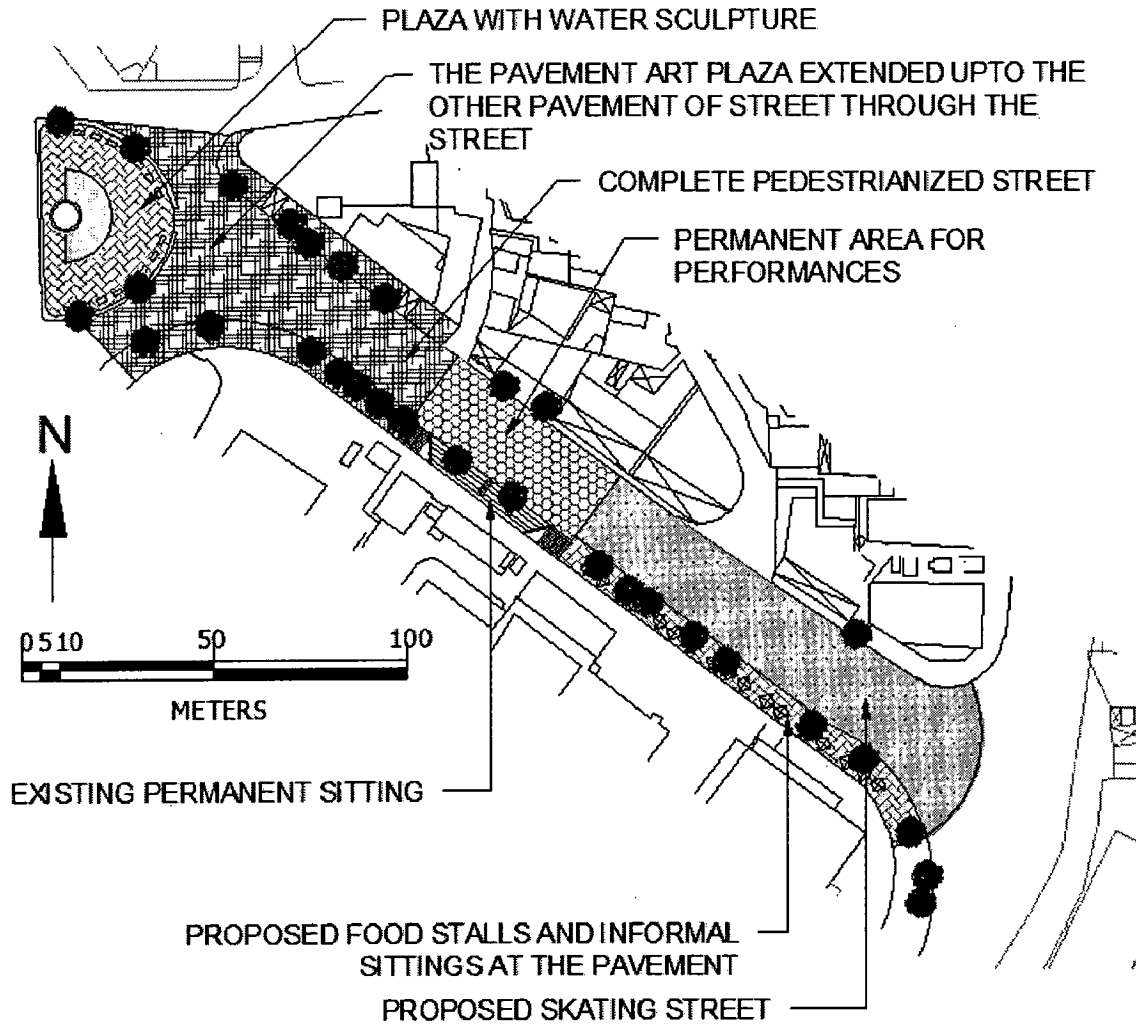
e. Hawking zone for food stalls and art objects:

According to the case studies and the literature studies, it is clear that, food stalls are integral part of a public space. With regulations and quality control, such food stalls become a great destination for people of all the age groups.

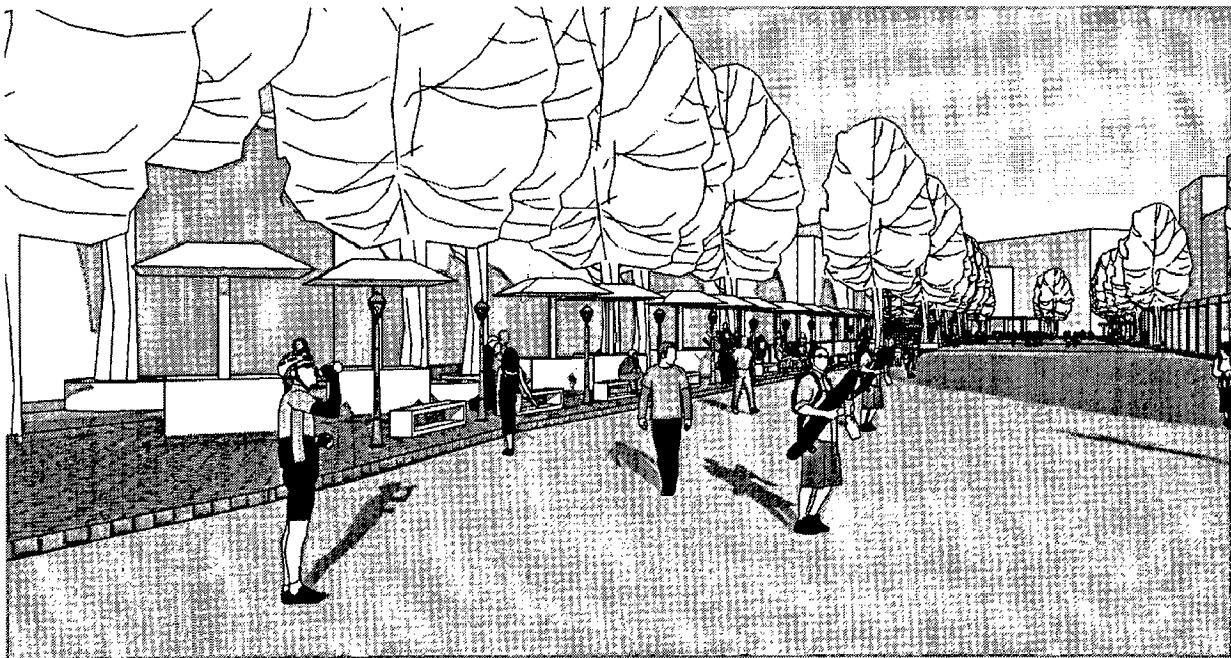
The footpaths are wide enough to house many such food stalls and stalls of artefacts. This will encourage the informal sector activity in the precinct area, thus providing a chance to the people to earn better. (Fig. 6.21, 6.23)

f. Skating zone:

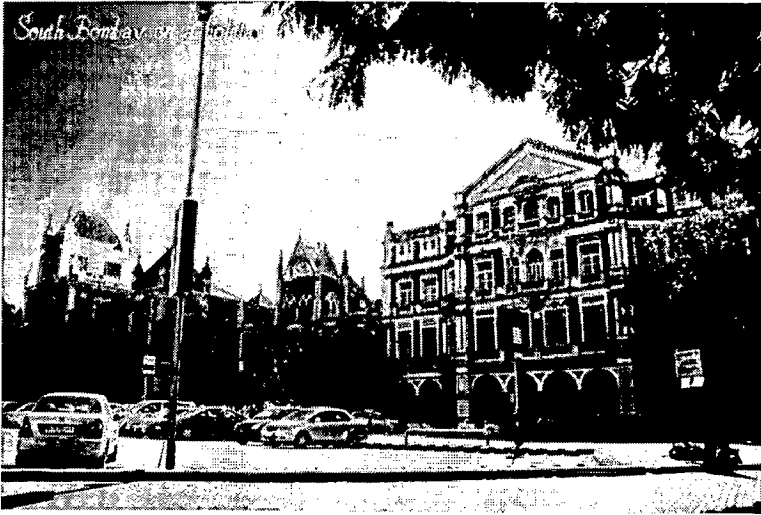
On one side of the stage and the permanent sitting area, the street should be made available for an activity like skating. This will offer a platform for the local residents as well as the people of the entire city to explore skating. There is no such activity available for common people in the entire city. This will also provide the visitors a reason to wait and watch the people. This is possible only after removal of the vehicles from the site. (Fig. 6.13)



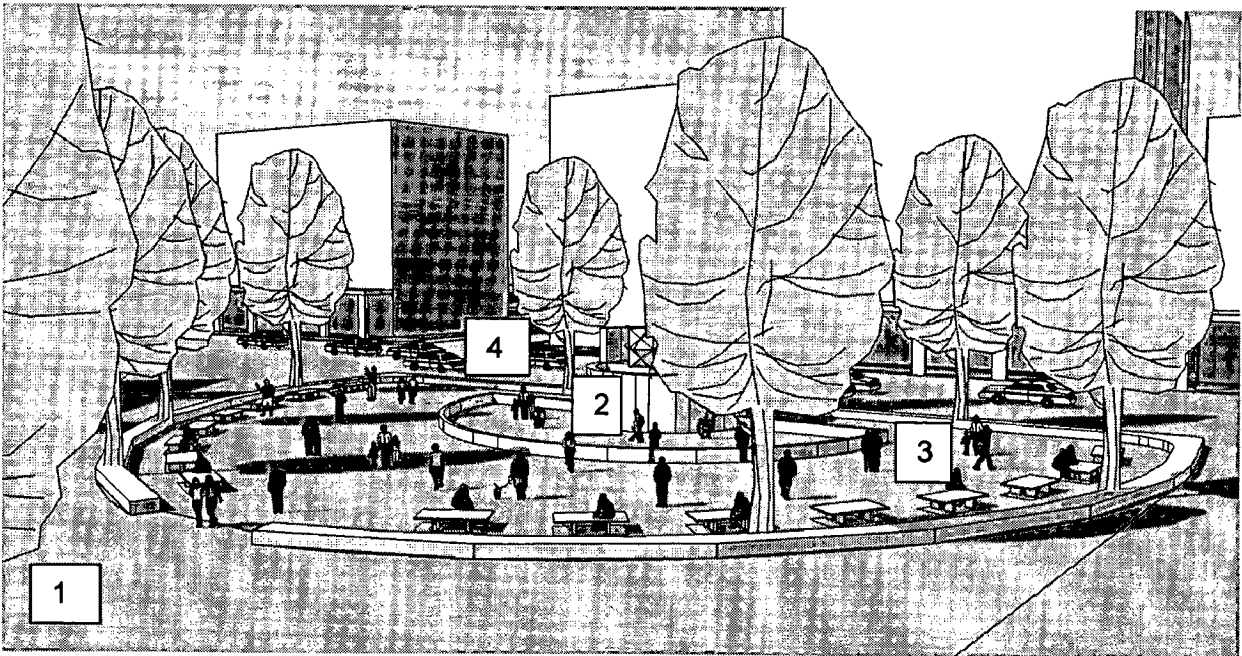
6.12 Plan showing the proposed activities at the Kalaghoda Street Precinct



6.13 The view of the Skating Street with food stalls at the footpath



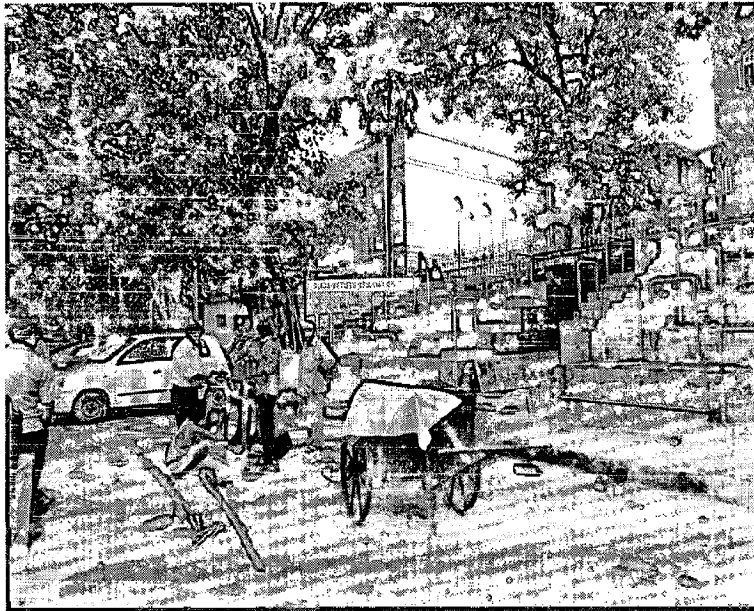
6.14 View of the parking at one end of precinct



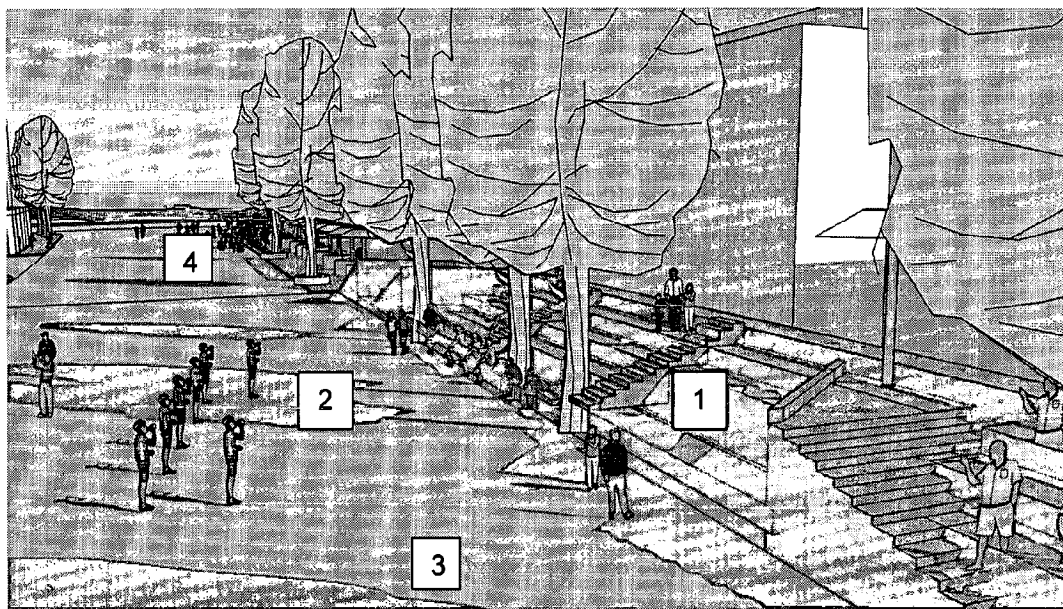
6.15 After removal of parking, introducing water fountain as activity space, with a plaza and sittings surrounding

Legend:

- 1- Continuous open art plaza, 2- Water sculpture and 3- Plaza around with sittings provided, 4- Road behind with vehicular traffic



6.16 Existing condition at the permanent sitting at Kalaghoda Precinct



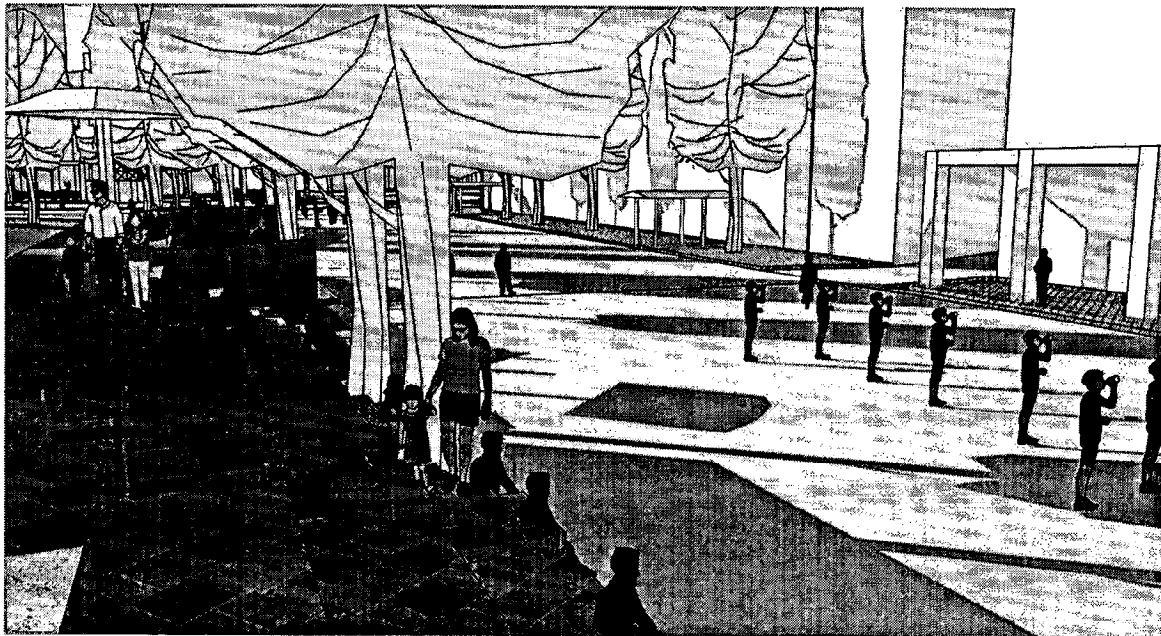
6.17 View of the permanent sitting at Kalaghoda Art Precinct, allowing a permanent street platform for various activities after removal of vehicular parking and MCGM dumped instruments

Legend:

1-Permanent sitting at the Kalaghoda Art Precinct, 2-Street becoming an activity platform, 3-Continuous open street art plaza, 4- Skating street on the other end of precinct



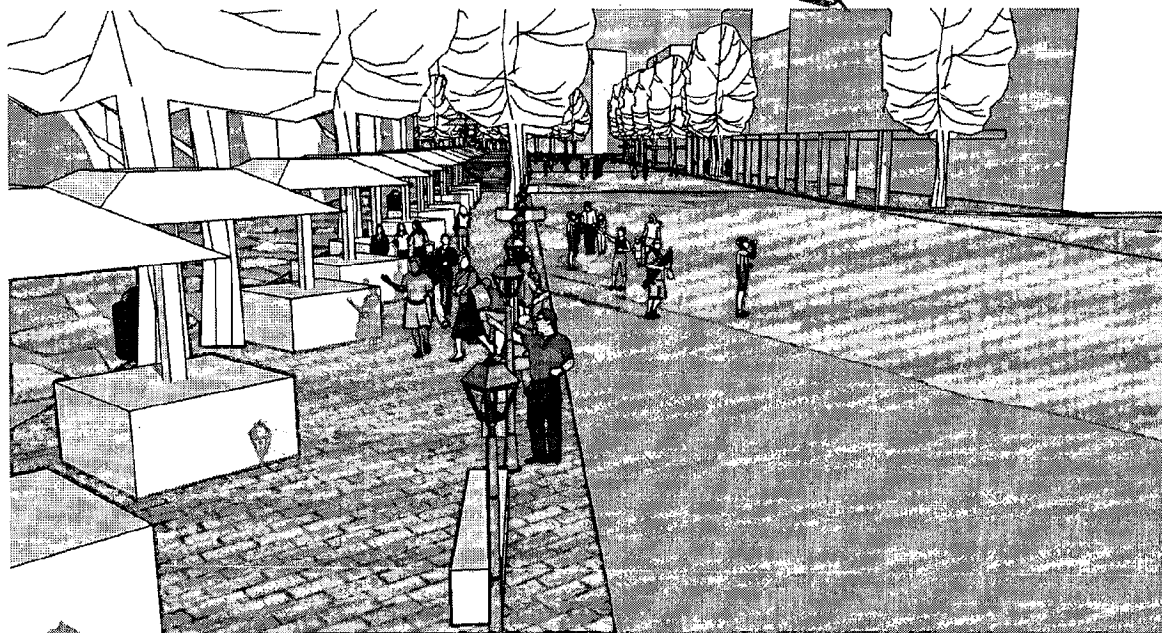
6.18 Existing view of permanent sitting with both side parking on street and the dumped instruments of MCGM



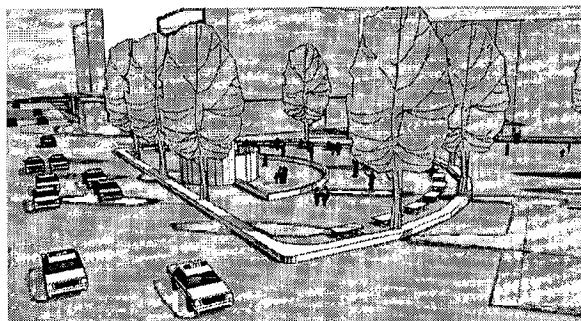
6.19 Proposed view of the precinct from the sittings looking at the street and buildings opposite



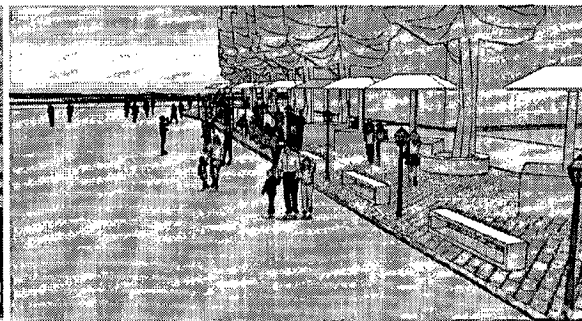
6.20 The existing pavement condition



6.21 Pavement after proposing food kiosks, sittings, dust-bins etc. on the footpath along the skating street



6.23 View of the water fountain plaza from road



6.22 The pavement becoming an active public space

3. *Chaityabhoomi*:

Chaityabhoomi indeed can become an active public space if it's integrated well with the small chaupati and the large park nearby. It boasts a decent size of plaza with a monument. It is famous for the religious activities as it has the memorial of Dr. Babasaheb Ambedkar, who advised *dalits* to follow Buddhism as their religion rather than following Hinduism. For the celebration of birthday of him as well as his death anniversary there is huge crowd gathered on the venue from all over the state Maharashtra. On other days, people do visit this place, but are much lesser in numbers.

With little modifications in the existing public space, the Chaityabhoomi can become a grand city level public space.

Existing activities:

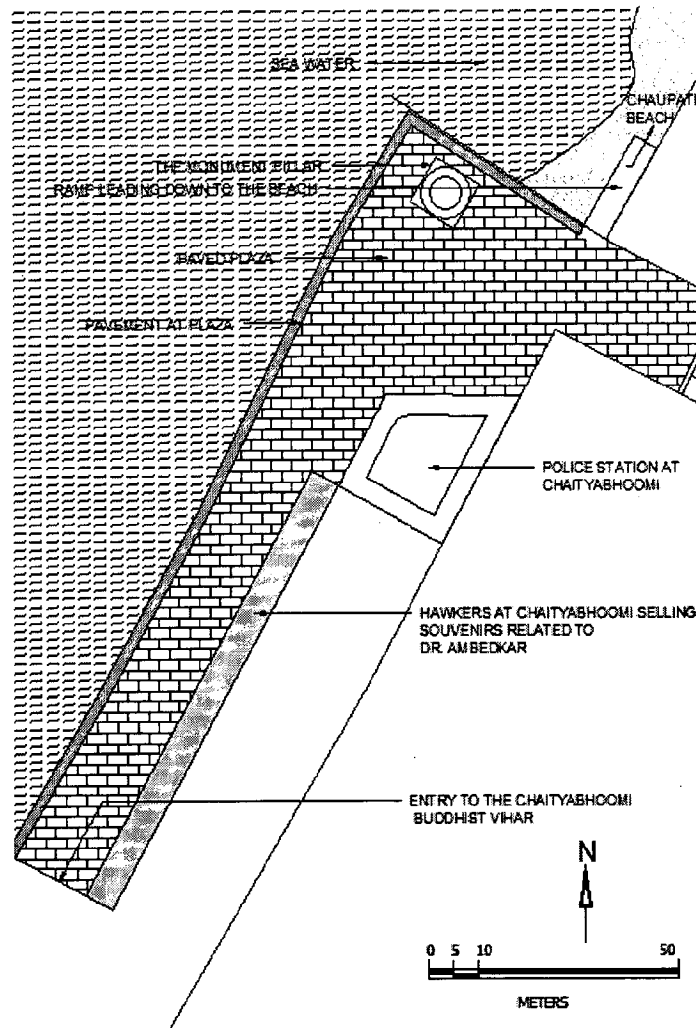
- Hawking of souvenirs related to life of Dr. Babasaheb Ambedkar.
- Large scale celebration of birth and death anniversary of Dr. Babasaheb Ambedkar takes place every year.

User age groups:

- Tourists of various age groups irrespective of their gender visit this place.

Problems identified:

- The plaza and the monument is a very sensitive space being related to religious and political issues, which brings a lot of restrictions on usage of this space.
- Also in order to maintain law and order the police station is located just at the site. Thus regulating the space makes it little uneasy for usage of people.
- The nearby park, chaupati and the plaza at the Chaityabhoomi are not integrated as a public space. Which keeps the three spaces segregated which deprives the visitors from having a wholesome experience of a public space.
- The plaza has poor looking stalls selling which disturb the ambience completely.
- There is no provision of any sitting space, at the plaza which provides spectacular views of the sea, sunset along with the Bandra-Worli Sea link.
- Vending of food items is not allowed at the plaza.



6.24 Existing layout of the Chaityabhoomi

Proposed improvements at the Chaityabhoomi Plaza:

To publicise this plaza is a prime necessity in order make the space regulated actively. When the plaza becomes an active space, eventually it will be control the ill activities like anti-religious or harmful acts for the plaza.

a. Design of the stalls:

The stalls at the plaza are shack like structures. They mess up the look of the plaza. The stalls should be well designed to have protection from sun as well as rains.

b. Permanent (fixed) sitting:

The wall at the sea side is of a height, which does not allow people to enjoy sitting over it. People sit using the height of the footpath along the boundary wall which makes people face in opposite direction as that of the sea. Thus they cannot enjoy the view. Also the view from

here is magnificent and people do enjoy it. By lowering the height of the wall and constructing fixed sittings the view can be enjoyed.

c. Cleaning the chaupati and providing a proper access to the chaupati:

The current access given to reach the chaupati (small beach) adjacent to the plaza is a ramp of concrete which is not in good conditions. The chaupati is a very narrow area over which number of stalls, horse driven carts and merry go rounds and other play rides for kids are crowded. With food stalls coming at the plaza level, the chaupati will have larger space for people to enjoy sea and it will also help in maintaining the cleanliness at the chaupati.

d. Allotting space for food vendors at the plaza:

As written in the earlier point, the food vendors must be vacated from the chaupati and allotted some space at the plaza. The design of the food stalls should match the design of the stalls selling souvenirs.

e. Removal of the strays at the plaza:

The stray dogs at the area cause nuisance to the visitors. They must be removed from the site.

The above improvements will change the Chaityabhoomi plaza into a very active public space as well as the park nearby and the chaupati provide even more options for people to spend time.

4. *Khau Galli at CST:*

This informal food court is located at a very strategic location. It comes on the way to office or to home for most of the people. The shops located here provide something or the other to everyone at very reasonable costs. This is a real public space with no discrimination of age group, gender and social or economic cost.

Existing activities at the Khau Galli:

- Numbers of people have their breakfast, lunch, evening snacks and even dinner at the food shops of Khau Galli.
- Xerox shop is used rigorously by people coming for paperwork in various offices.
- This is a usual meeting point for many people.
- The people coming for demonstrations to the Azaad maidaan also depend for their refreshments and food on the Khau Galli.
- The MCGM vehicles are parked adjacent to the Khau Galli.
- Some vendors are found at the parking lot.

User age group:

- Majority of the people are working people in nearby offices who avail this food facility.
- People coming from the CST railway station as well as the people going for their journey have their meals at the Khau Galli.
- Cricket players coming to practice at the Azaad Maidaan also are frequently found in the users of the Khau Galli.
- Students studying in the colleges nearby eat at the Khau Galli.
- The police and traffic police are also seen frequently having their short meal breaks at the Khau Galli.
- People from all the age groups are found using the Khau Galli except very young children and too old people.

Problems identified at the Khau Galli:

- The Khau Galli is very narrow to cater to all the people who use it, and thus it always looks very crowded.
- There is no option for people to sit and have food.
- The platforms around the trees are at such a height that people cannot sit over it, neither can they put their plates on the platform and eat peacefully.
- The vendors should not be allowed as there is already a shortage of space for the people to stand and eat the food at leisure.

- The parking lot next to the Khau Galli disturbs the space by its noise and smoke.

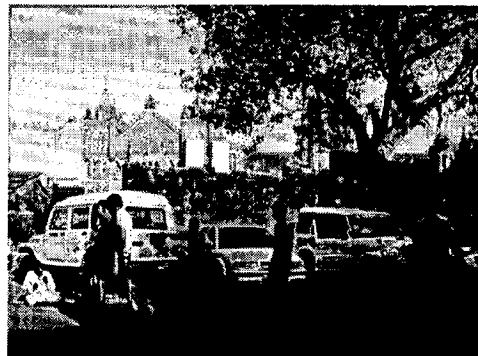


6.25 The parking lot and vendors disturb the activity at Khau Galli

- The monument with small landscape feature around which is built adjacent to the existing parking lot breaks the vision of people and the view of magnificent railway building and the MCGM office building.
- The dust bins provided near the shops are disturbing the view. They also are at such locations which harm the movement of people in the area.



6.28 Inappropriate height of the platform around trees - difficult to sit



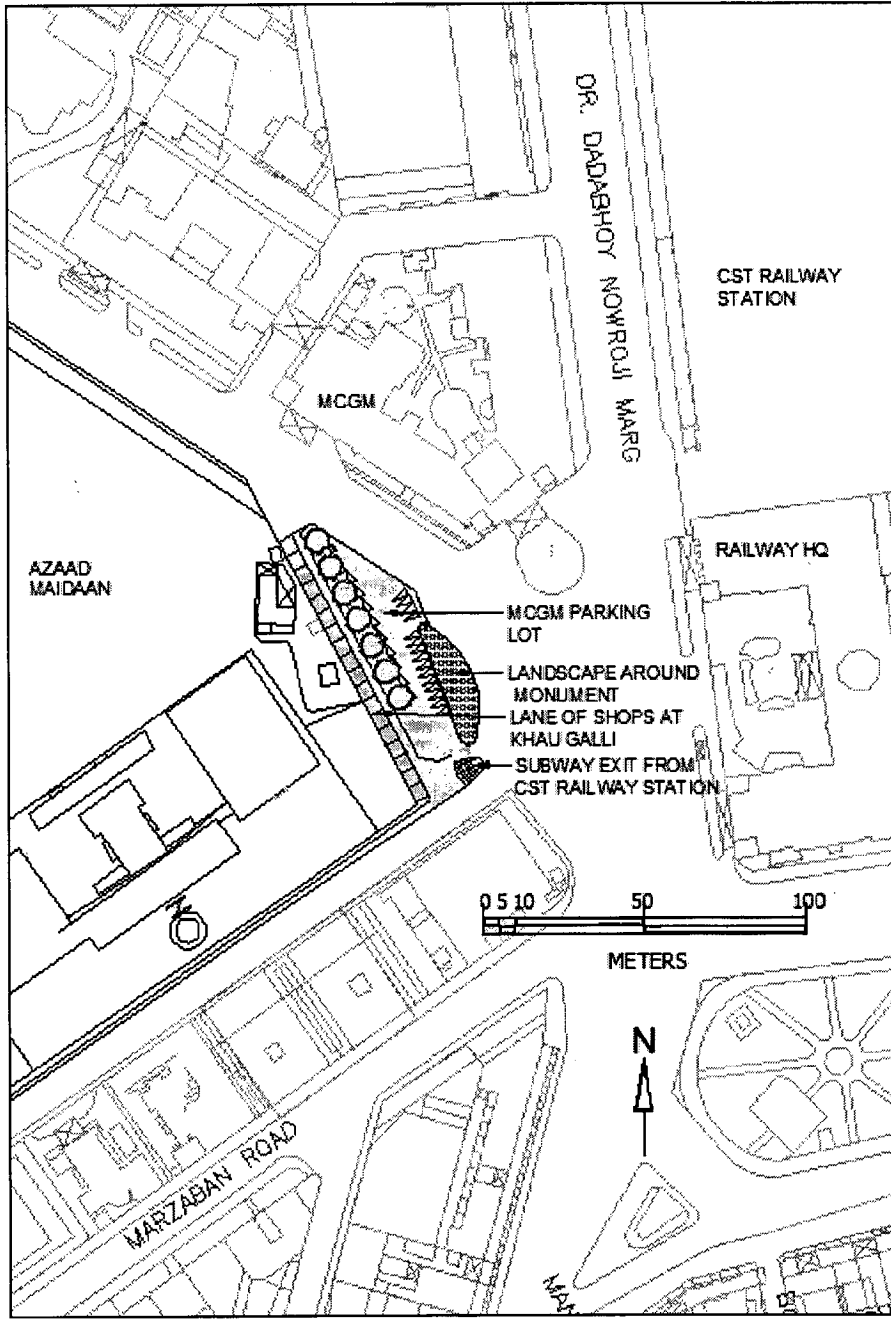
6.27 The wall behind the monument and landscape feature cuts the view around



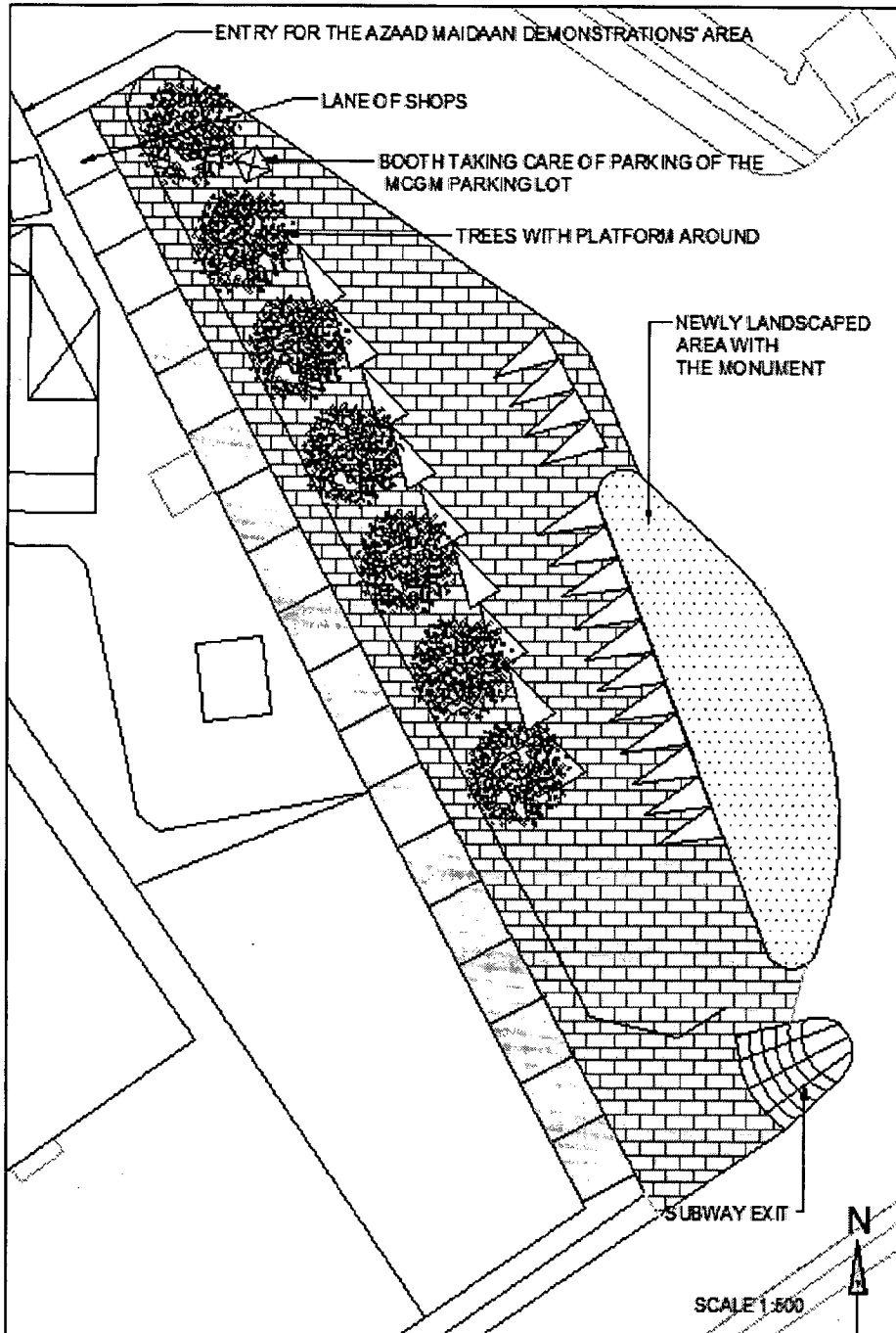
6.29 The dustbins ruin the visual quality



6.26 view of the monument and landscaper feature



6.30 Location of Khau Galli



6.31 Existing layout of Khau Galli

Proposed improvements at the Khau Galli:

The score of the Khau Galli is best on parameter of access and linkages i.e. the connectivity criterion. But it fails becoming an uncomfortable food court and with not so inviting image. With following improvements the Khau galli can become most successful informal food court in the area.

a. Removal of the MCGM parking lot:

This will add a larger area into the Khau Galli, which can take care of the users. With this area even the visual connectivity to the Khau Galli from the station will be improved. Removing the parking can provide a cleaner environment for a food court.

b. Opening up the Monument with landscape from the Khau Galli :

The monument created in the front of the Khau Galli, is seen from the station as well from the MCGM office building. But it has black wall facing the Khau Galli. Also this wall cuts the view of the magnificent buildings of the railway and MCGM office. The tourists, who happen to click photographs of the old British period buildings, click it in the evening hours as the sun light falls directly on these buildings. They capture the images by standing at the newly built landscape feature, but the feature does not catch any attention as such in front of the historically important and architecturally wonderful buildings.

If the monument and the landscape are made visually accessible to the users of the Khau Galli, it will improve the public space by allowing the users to have a great view of the surrounding buildings. Also with proper urban design solutions, the Khau Galli will also be visible from the station and nearby buildings, thus attracting more people to use it.

c. Provision of sittings as well as standing eating desks:

Currently there is no possibility for people to sit and eat food. People prefer carrying take-aways or stand at the stalls and eat. For people carrying baggage or women carrying their kids, it becomes very difficult to have the food standing nearby. It is very much essential to have proper sitting space or standing desks to give minimum comfort to people.

d. Proper awnings and shades for the shops at Khau Galli:

This is required for allowing the people to use the space in times sun shine as well during rains. Retractable awnings can be a best option to maintain the flexibility of the space. Also the sittings can be provided with individual shades or umbrellas.

e. Lowering the height of the platform around the trees:

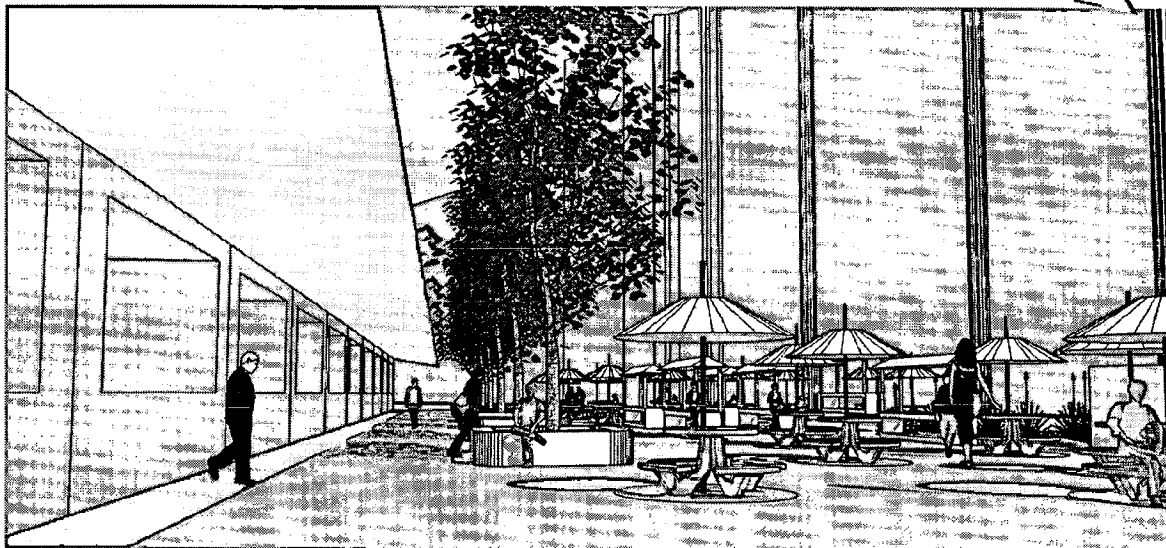
The platform built at the trees is of an odd height. The platform does not allow people to sit over it easily, and even keeping the plates for having their food. Men manage to sit and spend time reading newspaper or chatting with friends, but not everyone can sit over the platform. If the height of the platforms around the trees is lowered all the people can make use of the platform. This will add comfort to the space.

f. Providing better dust-bins at better locations:

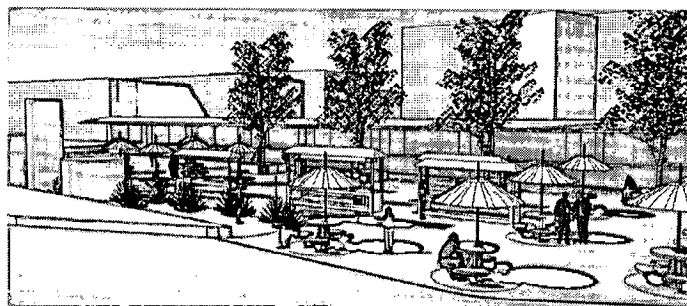
The dust bins are used at a higher rate. They are emptied regularly too. But most of the dust bins are ugly looking plastic barrels which have a small capacity and are open. Their location is also such that it disturbs the movement of the people. Well-designed higher capacity dust bins must be installed at the site and certain locations such that the cleanliness is maintained by the people and the image of the public space is also retained.



6.32 Existing Khau Galli with parking lot adjacent and no place for sittings



6.33 Khau Galli after removal of the parking lot and above discussed improvements



6.34 View of Khau Galli from the MCGM building

6.22 Proposal for public spaces on the selected mill sites:

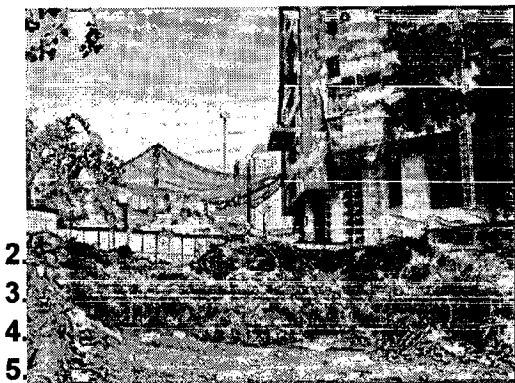
The sites handed over to MCGM, in ward G- South are considered for proposing public spaces to improve the public realm of the ward and city eventually. Two out of the four sites, having varying areas, locations as well as their surrounding land uses, are compared to the other surveyed public spaces and the best possible type of public space is proposed on each of the site. Out of the four the remaining two spaces which are already developed into public spaces by the MCGM, are analysed critically and a few improvements and additional activities are planned in the spaces according to the behaviour of the space and the surrounding land uses and probable user groups of the spaces.

1. Site at Shri Ram Mills (2512 Sq. Mt.) (Ref. fig. 5.2)

From the analysis of the site it is clearly visible that, the user group for this public space, within walking radius is mostly the local residents staying in the BDD chawls. Also the people coming to work in surrounding commercial areas will be availing this space.

The site is square site having an approach at the northern side. From the study carried out on Mumbai's twenty four public spaces, it can be seen that size of the plot and surrounding land use, a park should be proposed on this site.

Currently the site is lying vacant and is used by the MCGM Solid Waste Disposal Department, for throwing cut trees. Following are the images explaining current situation of the site:



2. 6.36 Image showing the trees dumped and construction going on in the neighbouring site



3. 6.35 The trees dumped to reduce their volume

Proposal: A Garden: Neighbourhood level public space**Activities:****a. Gazebo:**

There are no places for having small social gatherings and functions as well as public addresses and meetings in the nearby vicinity. A gazebo can provide such opportunity as well as a platform for neighbourhood level performances.

b. Study Centre:

The residential area in the radius of walking distance i.e. 500 meters is largely lower income group. The houses in the locality are small with large families. There are slum dwellers that stay in shacks. The children of such houses do not have a calm and quiet place to study. A study centre will become a ray of hope for the studying children.

c. Children's' play area with sand pit:

A typical sand pit with swings, ladders, slides and sea saw, merry go round shall become an activity area for kids.

d. Sittings:

Variety of sittings allowing people to sit alone, in pairs as well in groups shall be taken care in the park for youngsters, working people as well as old aged people.

e. Jogging/walking track:

This track shall become a daily hit for the health conscious people in the area, allowing regular exercise with no expenditure.

f. Nursery for plants:

A nursery shall take care of the landscape needs of the garden.

g. Daily newspaper library:

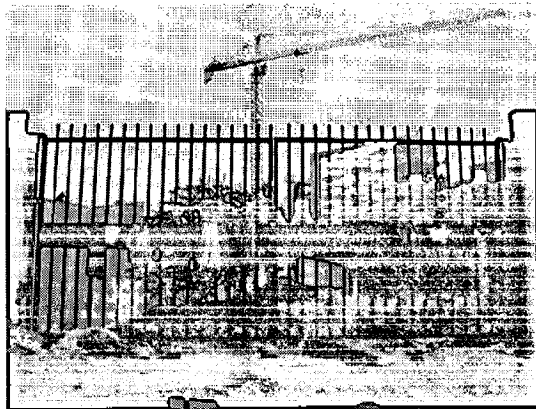
Such library with newspapers and magazines shall benefit people by letting them spending time outside home, in open environment reading more than one newspaper and magazines. Such joints when are used by people, children also are motivated to read.

2. Site at Victoria Mills (1038 Sq. Mt.) (Ref. fig. 5.2)

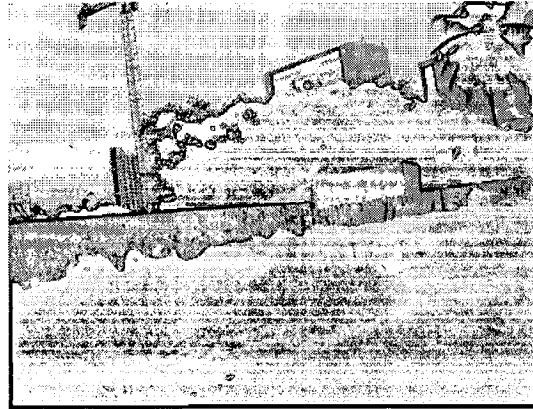
This is comparatively a smaller area, with tremendous potential to be developed as a food court. This site has a lot of offices around in the walking distance radius. There are no formal stalls for providing snacks and refreshment in the area in spite a few small food joints/hotels.

Majority of the working people cannot carry their tiffin due to various reasons. A healthy and economical food court is a very good option for meals and refreshments. Such a space will also provide an activity area where people can meet other people, have interactions, and have a social life in-between the breaks of office hours. Also, this will provide an opportunity for the informal sector to earn their bread and butter.

The site is lying vacant and is in conditions as seen in the images below:



6.38 The access to the site from the Pandurang Budhkar Marg



6.37 The site lying vacant

Proposal: A Khau Galli/ Food Court: Neighbourhood level public space

Activities:

a. Food stalls:

Food stalls shall be designed to accommodate cooking, pantry area and an interface for transactions.

b. Utility areas:

The food court shall be provided with toilets, wash-rooms, wash basins and shall be maintained.

c. Sitting areas:

The food court shall provide options for people having their food in groups, in pairs and even alone. The arrangements shall be made for having a quick meal as well as for small treats and group meals.

d. Dust-bins and other disposal areas:

To maintain the space clean and tidy, disposal of wastes is a major concern. Well-designed bins shall be located at suitable locations. Waste food can be thrown separately in order to make other uses of it.

e. Landscaping – hardscape and softscape:

This is an integral part of making a space attractive and user friendly. Also this created an image of the space in the users' mind. The landscaping shall be done in a manner to maintain the space clean and fresh.

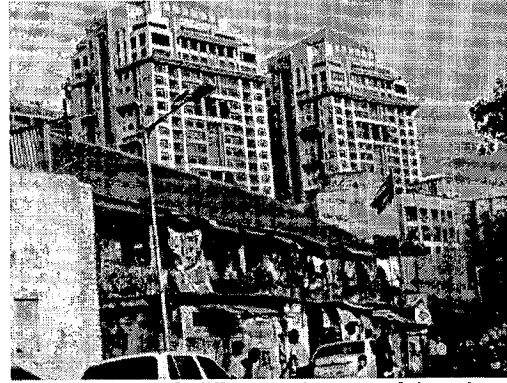
3. Site at Matulya Mills (5641 Sq. Mt.) (Ref. fig. 5.2 for location)

This site is already developed by MCGM as a park and is open for public since 16th April, 2011. The park was visited in the same week and was found a very active public space at a sub-city/ward level.

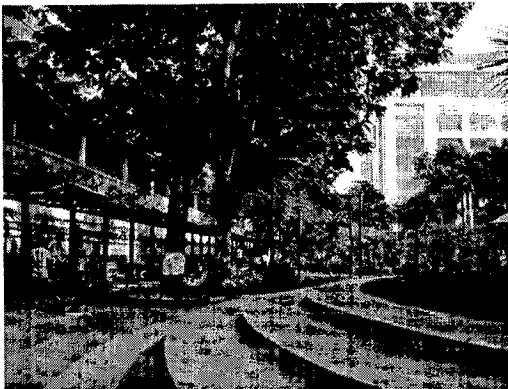
Following are a few visuals of the park, explaining the design and activities:



6.42 The play area for children with artificial flex instead of a sand pit



6.41 A view of different classes of housings which shall avail the park



6.40 View of open and covered sittings



6.39 Walking track and the semi open sitting area

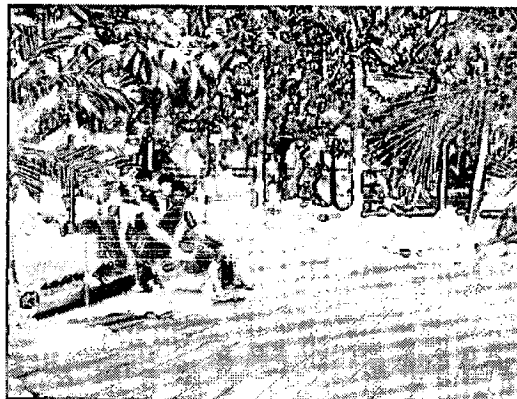
4. Site at Piramal Mills (1741 Sq. Mt.) (Ref. fig. 5.2 for location)

From the site analysis it was found that this site is located in a private premise and is not freely accessible to all the people. Being in a private property, it does not have visual connectivity. People are unaware of such a space developed as a public space. This is major drawback of the site.

This site is also already developed as a garden by MCGM. The children staying nearby use this space for recreation. There is no provision for active recreation, but the park is densely landscaped with provision of a few seats. There is a water pond from the mill's functioning times, which is made accessible to the users of the park. Following are the images of the park-



6.43 The access to the pond from the developed garden



6.44 landscaped park with a walkway and a few benches to sit

The pond should have been exploited in better ways by providing a water fountain, a water sculpture or having a few birds in it. In such ways the space would act like a destination for people to spend leisure time.

The main drawback of the access needs major policy making for developing such public spaces. Such space should be made aware about by various public notifications as well as publicity mediums.

The other way for developing such spaces somewhere else in publically owned premise needs amendments in the DCR, planning guidelines as well as byelaws. This would enable the public authority to seek another space of same area, in a publically accessible premise from the respective developer for the very apt intention of developing a public space.

6.23 Proposal for a city level public space:

From the study of public spaces done so far in the Mumbai city wards, it is seen that major city level public spaces are located in the ward 'A'. The central city area lacks an positive city level public space. The width of city area being the narrowest, it has the best connectivity through public transport modes. Considering the context of redevelopment of mill lands, and the change in land use which is taking place through various development proposals by private developers, there is an opportunity to allocate larger area for proposing a city level public space, rather than developing small neighbourhood public space in various pieces of mill sites.

The study below estimates the total built up area which will come in existence after redevelopment at all the mill sites in ward G/S and the population which is likely to be accommodated at these sites being residents or permanent users of the space or being floating population using the spaces in the commercial areas. This study also compares the growth in population after the redevelopment against the growth of ward's public spaces' area.

From the development trends in the wards, it is seen that the commercial and residential development is taking place in the ward at the mill sites. The percentage of both types of development is 50-50. The population is estimated with help of the occupancy loads stated in the DCR.

A. Estimation of total built up area on the mill sites in ward G/S and therefore the increase in population:

Sr. No.	Name of Mill	Total Plot Area (Sq. Mts.)	Permissible F.S.I.	Total Built up Area
1	Jupiter Mills	44164	1.33	58738
2	Madhusudan Mills	73248	1.33	97420
3	Sitaram Mills	52408	1.33	69703
4	Mumbai Mills (Sakseria Mills)	67378	1.33	89613
5	Bharat Mills	33882	1.33	45063
6	Apollo Mills	56308	1.33	74890
7	Podar Processors	9664	1.33	12853
8	Standard Mills	30312	1.33	40315
9	Matulya Mills	51875	1.33	68994

10	Swadeshi Mills	25000	1.33	33250
11	Hindustan Mills No. 3(Crown Mills)	41250	1.33	54863
12	Victoria Mills	37812	1.33	50290
13	Mafatal Mills	21250	1.33	28263
14	Century Spng & Wvng Mills	121606	1.33	161736
15	Bombay Dyeing	100000	1.33	133000
16	Prakash Cotton Mills	48125	1.33	64006
17	Shriniwas Mills	42500	1.33	56525
18	Kamala Mills	23000	1.33	30590
19	Shri Ram Mills	46250	1.33	61513
20	Goculdas Morarjee Mills	32812	1.33	43640
21	Dawn Mills	25625	1.33	34081
22	Piramal Mills	17562	1.33	23357
23	Raghuwanshi Mills	62000	1.33	82460
24	Podar Mills	24471	1.33	32546
	Total	1088502	1.33	1447708

Sr. No.	Name of Mill	Total Built up Area	Resident-ial Area & Commercial Area (50% & 50%)	Residential Occupancy Load- Per 100 sq.Mt. of Plinth or covered area	Total possible residenti-ial occupan-cy	Commerci-al Occupanc-y Load- Per 100 sq.Mt. of Plinth or covered area	Total possibl-e commerc-ial occupa-ncy	Estima-ted Popula-tion Growth after Redevelo-pme-nt
1	Jupiter Mills	58738	29369	8	2350	16.6	4875	7225
2	Madhusudan Mills	97420	48710	8	3897	16.6	8086	11983
3	Sitaram Mills	69703	34851	8	2788	16.6	5785	8573
4	Mumbai Mills (Sakseria Mills)	89613	44806	8	3585	16.6	7438	11022
5	Bharat Mills	45063	22532	8	1803	16.6	3740	5543
6	Apollo Mills	74890	37445	8	2996	16.6	6216	9211
7	Podar Processors	12853	6427	8	514	16.6	1067	1581
8	Standard Mills	40315	20157	8	1613	16.6	3346	4959
9	Matulya Mills	68994	34497	8	2760	16.6	5726	8486

10	Swadeshi Mills	33250	16625	8	1330	16.6	2760	4090
11	Hindustan Mills No. 3 (Crown Mills)	54863	27431	8	2195	16.6	4554	6748
12	Victoria Mills	50290	25145	8	2012	16.6	4174	6186
13	Mafatlal Mills	28263	14131	8	1131	16.6	2346	3476
14	Century Spng & Wvng Mills	161736	80868	8	6469	16.6	13424	19894
15	Bombay Dyeing	133000	66500	8	5320	16.6	11039	16359
16	Prakash Cotton Mills	64006	32003	8	2560	16.6	5313	7873
17	Shriniwas Mills	56525	28263	8	2261	16.6	4692	6953
18	Kamala Mills	30590	15295	8	1224	16.6	2539	3763
19	Shri Ram Mills	61513	30756	8	2461	16.6	5106	7566
20	Goculdas Morarjee Mills	43640	21820	8	1746	16.6	3622	5368
21	Dawn Mills	34081	17041	8	1363	16.6	2829	4192
22	Piramal Mills	23357	11679	8	934	16.6	1939	2873
23	Raghuwanshi Mills	82460	41230	8	3298	16.6	6844	10143
24	Podar Mills	32546	16273	8	1302	16.6	2701	4003
	Total	1447708	723854	8	57908	16.6	120160	178068

B. Comparison of public space and population, after and before redevelopment

WARD NAME	LOCATION	AREA (Km ²)	POPULATION	POPULATION DENSITY	Total No. of Public space	No. of city level public spaces	No. of sub-city/ward level public spaces	AREA (Km ²)	% of Public Space of total ward area	Per Capita Public Space in SQMT
G/S	ELPHINSTONE	10.15	5,21,094	51333.05	33	3	30	0.283	2.08	0.54

The population according to census of 1991, will increase by 1,78,068 only by the way of redevelopment. This is approximately 34% increase. While the public spaces after addition of the handed over sites at the above discussed potential sites, will be increasing by only 14181 sq. mts. This increase is of utter 5%.

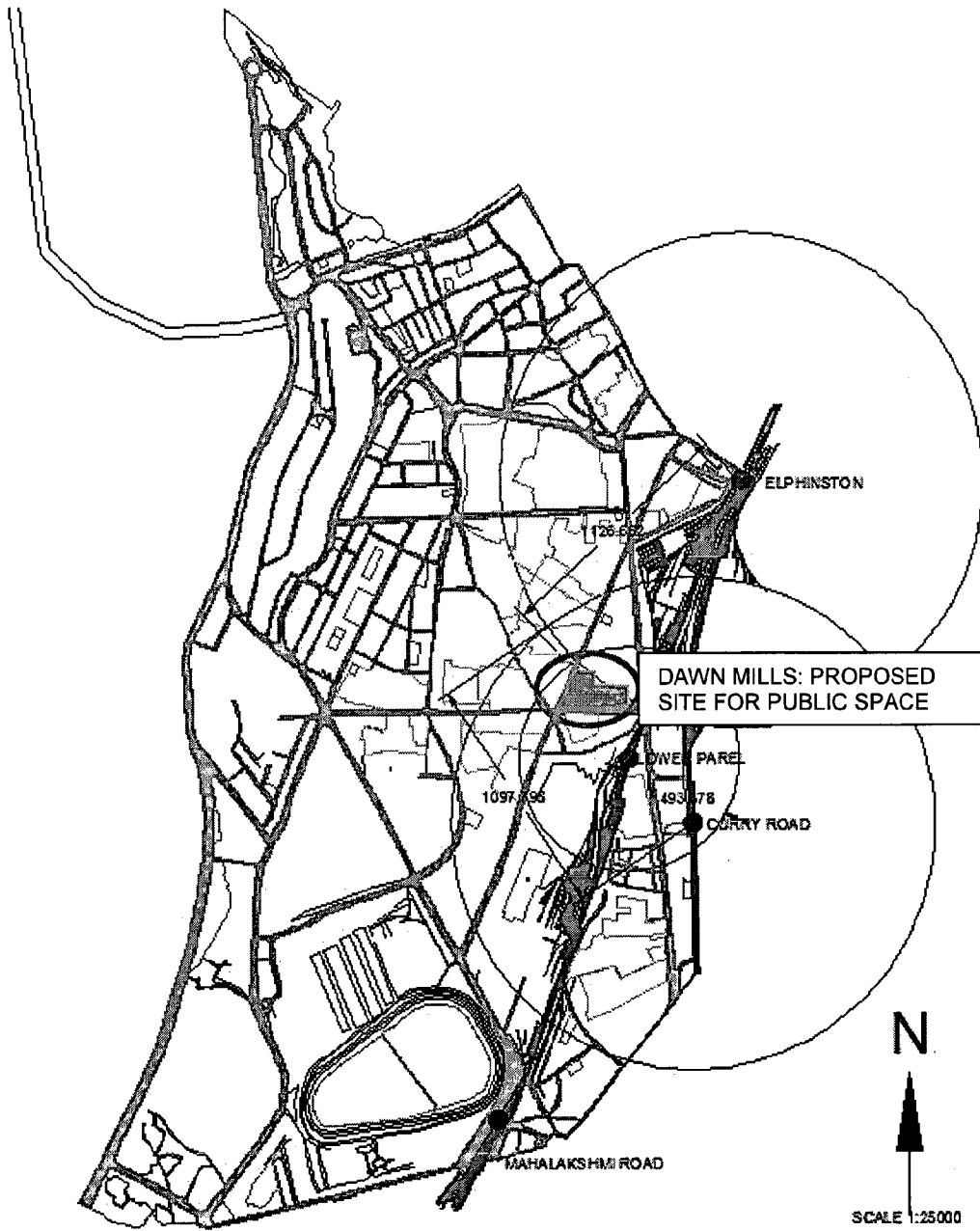
The total ward area is 10.15 square kilometres, whereas, the area under mill sites in the ward, which is getting redeveloped or is about to be redeveloped is 1.08 square kilometres. This area is approximately 10% of the total ward area. When such area is put under redevelopment, it is essential to allow part of it to be used as public purpose development through effective policies and regulations.

Also, as per the existing situation a total of 14181 square meters of area is handed over to MCGM in bits and pieces. This does not contribute to the city level or a ward level public space. With such small plots, no doubt, a few chunks of neighbourhood level public spaces can be developed, but the user group in such cases is very limited.

Instead a single plot of the same area i.e. 14181 square meters shall be proposed for developing a large city level public space having variety of activities. This space shall then become a destination for people. This ward is very much apt for providing such a public space, as it has very well connectivity by means of public transport modes like central railway and western railway, BEST buses and IPT modes like cabs.

Hence the site of Dawn Mills is proposed for such a large public space, with best possible connectivity. The site is within walking distance (400 meters) from the Western Railway's Lower Parel Railway Station. It can also be reached from the Elphinston Road, Parel and Curry Road Railway Station by BEST buses or cabs, within 15 minutes as it lies within 1.2 kilometres from both the stations.

Following is the map location of the Dawn Mill premises in ward G/S.



6.45 Location of Dawn Mills as proposed city level public space

6.24 General recommendations and policy guidelines for planning public spaces in cities

Following are a set of policies and guidelines applicable in general while developing public realm of a city.

Connectivity:

The public space should be connected to variety of transport modes so that it is accessible to public from any nook or corner of the city.

Accessibility:

The public space must be universally accessible. Special efforts should be made in order to provide assistance for the physically challenged people.

Timings:

The public space in a city must be ideally open for all the people on twenty four hour basis. For the purpose of safety and security, the public space can be closed down for visitors during the night hours.

Charges:

All the public spaces in a city should be free for the visitors. For maintenance purpose and to impart a sense of responsibility towards the public space token amount can be charged by the in charge agency.

Hierarchy of public spaces:

In order to provide the people with better living quality, the city should have a series of well distributed public spaces mainly at three levels- 1. City level public spaces, 2. Ward/ sub-city level public spaces, and 3. Neighbourhood level public spaces.

Maintenance of the public spaces:

All the public spaces should be maintained by the respective agencies like the city government or respective departments of the corporation/ council. The public spaces should be surveyed periodically to understand their condition, extent of activity as well as if any maintenance work is necessary. People's participation becomes important in surveying and maintaining the public spaces. People should be made involved in the policy decisions regarding the public spaces that they use.

Planning standards for public spaces:

The dissertation studies the urban public spaces, their classification, their characteristics and need of such spaces in urban setting. In order to understand the condition of public realm, detail survey was carried out for the city wards of Mumbai. Data collected from the various departments of MCGM and the findings of the survey were processed to arrive at conclusions about the per capita availability of public spaces, their distribution and extent of use. The planning practices in cities like Delhi, Chandigarh, Ahmedabad, Chennai and Mumbai were compared by reviewing the respective cities' plan documents. With all the effort, it was found that, there are no standards provided for planning of public spaces, in the plan documents regarding the distribution of public spaces, minimum available per capita public space, and the distance within which a public space should be accessible from a residential locality, a neighbourhood or a town. With the review of literature, statistical analysis and case studies, this dissertation discusses certain planning standards and guidelines for planning, developing and improving urban public spaces.

The population and the social infrastructure of which public realm is a vital part should be in appropriate proportions. While Indian cities like Delhi and Chennai have per capita open space (which constitutes a major part of public spaces in the form of recreational grounds, parks, playgrounds, open spaces and gardens) availability as 4 sq.mt., Mumbai lags behind at per capita open space availability with 1.8 sq.mt. (Dinesh Naik). There is a severe need to improve the existing open spaces and add more to the area by means of various strategies and policies. Strict regulations regarding redevelopment, change of land use should be done and implemented successfully.

Looking at the current development trends, by ways of redevelopment of Mumbai Mills's land and overall redevelopment taking place in the city is in bits and pieces. Also, this is a well-knit strategy of real estate developers, to earn enormous money by developing the land for higher income group people. This is driving the common man away and out of the city limits. The plans should be prepared in such a way that, the common man is in the centre of all policies and developments. The better off people are capable to take care of their lifestyles with their earnings, while it is the common man who needs attention to survive with a decent standard of life. Thus, while planning public spaces, care should be taken to have these public spaces within reach of the common man- physically, socially as well as economically.

Each of the cities must possess certain public spaces to be availed by its citizens for no cost at all. A city having population more than a million should have a botanical garden, an aquarium, a stadium, a zoological park, number of parks and gardens at various sub city

level and neighbourhood level. The city needs to have a public library with best possible facilities. To avail such possibilities, the eligibility criteria should be just an identity card or a smart card provided by the city government which would identify the citizen of the city.

The city centre is a prime area to be taken care while planning public spaces. The CBD or city centre in majority of the cities, is found to be consumed by the motor vehicles with very less or no activity spaces except for work. Every city centre depending upon its area must have pedestrianized plazas and public squares as main civic spaces where people can relax and rejuvenate right next to their work places. Also, city centre being the most accessible area in the city, care should be taken to connect it to various parts of the city by means of public transport. This would help in avoiding extra traffic in the city thus making the city user friendly. Such policies are being implemented in many European cities to give the cities back their charm of public realm.

Public spaces are running wheels of economy. They have tremendous potential to generate employment. The informal sector accounts for 66.7% of total employment in Delhi and 68% in Mumbai. (Rahul Srivastava) Workers engaged in this urban informal sector form the bulk of the urban poor. The public spaces are the places where informal sector has an opportunity to earn a living. While planning for public spaces, conscious efforts are to be made in order to include the informal sector. The planning agencies and development authorities tend to eliminate the informal sector, which is harmful for the economy of the city as well as the nation in turn. When the informal sector is allowed to flourish in an orderly manner and a systematic way, by providing them basic amenities and infrastructure, a record of the vendors/hawkers should be maintained. This will not only provide a concrete database about the population based on informal sector, but will also help them survive better.

With the above considerations, a city government should work at grass root level to improve the public realm of the city.

6.3 In conclusion:

The principles and the dos and don'ts regarding the planning, design and management of the public spaces give a platform to evaluate and compare various public spaces that are being used in cities. The western countries in general and the European countries in particular are very sensitive to follow the good practices to maintain and improve the public realms, where as we in India appear to have lost our sensitivity and priority towards public spaces in cities which is evidenced by the near absence of imaginatively designed public

spaces in our city extensions and new cities. Even the existing public spaces of our historic cities, some of which are potentially very outstanding, are ill managed and allowed to be blighted, polluted by vehicles or simply vandalized. To improve the social health of cities and allow people to enjoy better lives, and visitors to have memorable experience, it is imperative to reintroduce public spaces as focal points in our cities and city extensions and bring fresh life and vigour to our cities. With the growing economic disparities and living conditions of people in our cities, it is important that architects and urban planners are engaged to create, renew and revitalize public spaces in our cities to make life more cheerful and more liveable for every citizen.

The above dissertation study underlines the shortage of public spaces in Mumbai city. The distribution of available public spaces is not uniform. Some areas are blessed with large and vibrant public spaces, while some areas have poor public space both in number as well as quality.

During the study and surveys, it was found that the available public space in the city is not used up to its fullest limit. The existing public spaces have a long way to become successful public spaces by certain additions, alterations as well as removal certain activities.

To maintain a better public realm in a city, it is a must to survey the public spaces periodically and improvements should be made in the spaces accordingly. The people should be asked for feedback about the feedback of the public spaces that they use.

The opportunities like development of brown field sites should be tapped in serious manner by the way of planning policies, guidelines and development control regulations to improve city's public realm and to integrate more public spaces in the urban fabric. Last but not the least, while planning for the public spaces, a common man must be aimed at and not a specific social class of the community.

References:

Books, Research papers and Journals:

Asha Jadeja, *Urban Open Spaces; A case study of Ahmedabad City*, 1984, Unpublished thesis work CEPT

Banerjee, Tridib(2001) 'The Future of Public Space: Beyond Invented Streets and Reinvented Places', *Journal of the American Planning Association*, 67: 1, 9 — 24

Carr S., Francis M., Rivlin, L.G. & Stone, A.M. (1992), *Public Space*

Charles Correa and other members, *A report on Mumbai Mill Lands*, 1996

Charles Correa and other members, *A report on Mumbai Mill Lands*, 1996

Development Control Regulations of Mumbai, Urban Development Department, Govt. of Maharashtra

Francis Tibbalds, *Making people friendly towns*, Spon Press, 2001

Gauri Shitole, *Reinventing the Mumbai Mills*, Unpublished B. Arch. Thesis, 2009

George Varna and Steve Tiesdell, *Assessing the publicness of public space: The Star Model of Publicness*, *Journal of Urban Design*, (Vol 15, No4) 2010

Gerald A. Porterfield and Kenneth B. Hall , *A concise guide to community planning*

GOM, *Development Control Regulations of Mumbai*, Urban Development Department

Helen Wooley, *Urban Open Spaces*, Spon Press, 2003

Jan Gehl & Lars Gemzoe, *Public Spaces- Public Life*, The Danish Architectural Press, Edition 1999.

Jane Jacobs & William H Whyte, *Urban Theorist*

John Ormsbee Simonds, *Garden Cities 21*, The Kingsport Press

Ken Worpole, *The social dimensions of urban design*, *Urban Design Structures*

Matthew Carmona, *Contemporary Public Space Part 1 & 2* , *Journal of Urban Design*, (Vol 15, No1 & 2) 2010

Matthew Carmona, Tim Health, Taner OC and Steven Tiesdell, *Public Places – Urban Spaces The dimension of urban design*, 2003

Prajakta Bhurke, *MURP*, IIT Roorkee

MMRDA (1996), *Regional Plan for Mumbai Metropolitan Region 1996-2011*, Mumbai Metropolitan Region Development Authority, Mumbai

Nallathiga R., *REDEVELOPMENT OF INDUSTRIAL LAND IN URBAN AREAS: OPPORTUNITIES AND CONSTRAINTS. A CASE STUDY OF TEXTILE MILL LAND REDEVELOPMENT IN MUMBAI*, 2010, A research paper

Paul Zucker, *Town & Square*, New York: Columbia University Press, 1959

Peter Nijkamp & Piet Reitveld, *Cities in Transition: Problems & Policies*

Rahul Srivastava, *The informal sector and urban poverty*, Infochange and Urban India, 2011

Vineet Gupta, *Human aspects of open public spaces: A case study of Ahmedabad*, 1978, Unpublished thesis work CEPT

Websites:

<http://www.planning.org>

<http://www.pps.org>

<http://en.wikipedia.org>

<http://jnnurm.nic.in>

<http://chandigarhonline.in>

<http://www.mcgm.gov.in/>

Annexures:

Annexure I:

Survey Schedule for evaluation of public spaces:

Public Spaces: Survey Schedule

- a. Name of the public space: _____
- b. Classification: _____ c. Area (Ha): _____
- d. Location: _____ e. Ward: _____
- f. Features: _____
- g. Predominant land use/s in surrounding areas: _____
- h. Shape: Rectangle [], Circle [], Triangle [], Oval [], Irregular []

1. Connectivity:

- I. Connecting transport modes to reach the public space:
 Bus [] Suburban Train [], Taxi [], Auto [], Private vehicles [], Walk []
- II. Proximity of the space from the transit station:
 a. Railway station: < 500M [], 500M-1000M [], >1000 M []
 b. Bus stop: <200M [], 200M – 500M [], > 500M []
 c. Taxi/ auto stand: <200M [], 200M – 500M [], > 500M []
- III. Availability of parking: Yes [], No []
 d. Proximity of the space from parking: <200M [], 200M – 500M [], > 500M []

2. Landscape features :

- I. Natural: Sea [], Any other: _____
- II. Manmade: Water body [], Flower beds [], Trellis [], Hedges & Shrubs [], Tree plantation [], Any other _____

3. Physical characteristics:

- I. How are the boundaries defined?
 Enclosed by:
 Fence: [], All [], 3 [], 2 [], 1 [] Sides
 Wall: [], All [], 3 [], 2 [], 1 [] Sides
 Hedge: [], All [], 3 [], 2 [], 1 [] Sides
 Parapet/Bund wall: [], All [], 3 [], 2 [], 1 [] Sides
- II. What are the activities taking place at/near boundaries?
 No activity [], Hawking [], People sitting and meeting other people [], Other _____
- III. Kind of development around the space:
 Commercial [], Residential LIG [], Residential MIG [], Residential HIG [],
 Institutional [], Other _____
- IV. Air Pollution: Nil [], Low [], Moderate [], High []
- V. Noise Pollution: No [], Low [], Moderate [], High []

4. Social characteristics:

- I. Frequency of local residents visiting/ using the space:
 Regularly [], Frequently [], Occasionally []

II. Frequency of visitors/non-residents visiting the space:
Regularly [], Frequently [], Occasionally []

III. Time spent by people in space on an average:

	Early Morning	Morning	Afternoon	Evening	Night	<1 Hr	1-2Hrs	>2 Hrs
Children								
Youngsters								
Working people								
Senior citizens								
Women								

IV. Hierarchy of the public space:
Neighbourhood Level [], Ward Level [], City Level []

V. Events occurring at the public space:
Meetings [], Public addresses [], Performances, Music [], Theatre [], Dance [], Any other _____

VI. Festivals occurring at the space:
Ganeshotsav [], Govinda [], Food festivals [], any other _____

5. Built form around the public space:

- a. Do the buildings around form a character/ style? Yes [], No []
- b. Do the buildings have continuity? Yes [], No []
- c. Are buildings of historic importance around? Yes [], No []
- d. Do they need conservation? Yes [], No []
- e. Do buildings with their frontage are facing the public space? Yes [], No []

6. Quality of Public realm:

- I. Is the space overlooked by buildings? Yes [], No []
- II. Furniture in the space:

Sr. No.		Nil	Inadequate	Adequate	Ordinary	Decorative art form	Any other special feature
1	Sittings						
2	Dust bins						
3	Lamp posts						
4	Kiosks						
5	Food stalls						
6	Covered sitting spaces						

- a. Sittings: Single seats [], single seats in pairs [], collective single seats [], benches in singles [], collective benches [], continuous platform []
- b. Material of Seating: Wooden [], Iron [], Stone [], Concrete [], Steel [], Any other _____

III. Jogging/ walking track: Yes [], No []

IV. Availability of music on the jogging/walking track: Yes [], No []

7. Legibility:

I. Vistas are made or not: Yes [], No []

II. Are nodal points of activities and routes easily identified? Yes [], No []

8. Ideas/ Suggestions for improvement:

Annexure II:

Occupant Load -Development Control regulations for Greater Mumbai, 1991 :

TABLE 17
Occupant Load

Serial No. (1)	Type of Occupancy (2)	Occupant load per 100 sq.m. of plinth or covered area (3)
1	Residential	8
2	Educational	25
3	Institutional	6.6*
4	Assembly : (a)With fixed or loose seats and dance floor (b)without seating facilities including dining rooms	166.6** 66.6**
5	Mercantile : (a)Street floor and sales basement (b)Upper sale floors	33.3 16.6
6	Business and Industrial	10
7	Storage	3.3
8	Hazardous	10