



EXPANDING PUBLIC SPACES

Vision Juhu

EXPANDING PUBLIC SPACES VISION JUHU



Vision Juhu

Expanding Public Spaces
in Mumbai

Collaborators

Research and Design Cell: Kamla Raheja Vidyaniidhi Institute for Architecture (KRIVA)

P K Das and Associates - Planners, Architects, Designers

The Mumbai Waterfronts Centre

In consultation with the Residents of Juhu

Several meetings were held to discuss the plan, methodology and research data of 'Vision Juhu'. Many individuals and representatives of citizen organisations have attended them. Our idea now is to further this plan through wider public support in order to influence the government and decision-making authorities.

Participants

JVPD Housing Association Limited
 Gulmohar Area Society's Welfare Group (GASWG)
 Juhu Scheme Residents Association
 Gaothan Area Residents Association of Juhu (GARA)
 Juhu Residents Association
 Irla Residents Association
 Nagriksatta
 Rotary Club of Juhu
 Eminent Citizens

Research and Design Cell : Kamla Raheja Vidyaniidhi Institute for Architecture (KRIVA)

Jeet Data
 Namrata Kapoor
 Probuddha Mukhopadhyaya
 Siddharth Nadkarny
 Tara Paulose
 Neha Sabnis
 Aditya Sawant
 Nisha Nair
 Deval Shah
 Rohan Rathore

Benita Menezes - Head, **KRIVA Design Cell**

Megha Gupta - **P K Das and Associates**

Special thanks to Rafeeq Ellias for his support and suggestions.

Production: P.K. Das & Associates
 Editor: Nandini Bhaskaran
 Design: Manjiri Kelaskar
 Printing: Synergy Creations, Mumbai

Sponsors

ICICI Prudential - Research Support
 JVPD Housing Association Limited
 The Mumbai Waterfronts Centre
 P K Das and Associates

The document is for generating public participation in area development and hence is being widely distributed. All rights reserved. No part of this book may be reproduced, stored in retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying or recording, or otherwise, without the prior permission of the publisher.

Section I

Contents

The Way Ahead.....	5
Mumbai Wards.....	7
Juhu Landmarks.....	8
Vision Mumbai.....	9
Development Plan of Juhu (1991).....	11
Vision Juhu.....	12
Objectives.....	16
Methodology of the study.....	17
Land Development history of Juhu.....	18
Vision Plan Highlights.....	20
• Development of Public Space.....	20
• Irla Nala Development and Creation of Public Space.....	21
• Conservation of Juhu Beach and its Connectivity.....	22
• Locating the Metro Rail.....	23
• Roads Network and One-ways.....	23
• Integration of Social Amenities and Institutions.....	24
• Improvement of Amenities in Slums & conservation of Goathans.....	25
• The Final Blueprint.....	26
Juhugiri. Pyar Se - a campaign poster.....	27

The Way Ahead

We feel the need to prepare redevelopment plans for Mumbai because of absolute failure in planning by the government. Deteriorating quality of life, growth of the informal sector, degradation and deprivation of open spaces, destruction of the environment and the abuse of the ecological assets including waterfronts have rendered our city into a regrettable state. Also the high cost of urban transportation, lack of housing for a majority of the people, inadequate and costly amenities, fragile services, overwhelming real estate thrust, colonization of land and arbitrary decisions in urban development make Mumbai an arduous city to live in. Several earlier attempts at redevelopment, unfortunately, have frequently been fragmented, disparate, contradictory and almost always reactionary.

In response to crises and adversities, the government and development agencies have only looked at ways to exploit the real estate potential of the city. Real estate turnover, in fact, has been the single largest thrust of Mumbai's development even at the cost of social amenities, basic infrastructure appraisal and loss of open spaces. Historically too, the politics of the city has been influenced and even controlled by real estate agenda, for example, the Backbay Reclamation, destruction of mangroves, land filling of creeks and mud-flats, dumping along the coastline and unruly changes in land use and Development Control (D.C.) regulations which work against the public good.

A city where property values are among the highest in the world in spite of the growth, the shortfall in housing, amenities and all other social needs has, not surprisingly, only increased. Tragically, today over 75% of the city's population is employed in the informal sector. Simultaneously, lack of planning coupled with self-interest is only leading to slumming of our metropolis. Clearly, this is no way ahead in our efforts to improve the quality of life in the city.

There is a need for comprehensive planning with the thrust being on protecting and enhancing public spaces. We need to integrate open spaces for leisure, recreation, social and cultural activity. We need to include and improve several amenities like

education, health, markets, roadside stalls and hawkers, thus expanding our notion of the public realm. This expansion of the public realm will help enrich the quality of life and environmental conditions in both our natural and built surroundings.

In terms of physical planning, our aim is to develop contiguous open spaces by interconnecting various facets of areas open to the public. This would develop a green spine throughout our city and its various localities, nourishing community life, neighbourhood engagements and participation. With public space being the main planning criteria, we aim to bring about a social change i.e. promote collective culture and root out alienation and a false sense of individual gratification promoted by the market. By achieving intensive levels of citizens' participation we wish to influence governments to devise comprehensive plans and integrate disparate developments. The 'open and clear forever' public space policy will truly symbolize our democratic aspirations. This is a significant way to rebuild Mumbai as a humane and environmentally sustainable city, clearly enhancing the quality and dignity of public life.

In order to Re-Vision Mumbai and democratize its public space, we present 'Vision Juhu – Expanding Public Spaces in Mumbai' as a pilot project.



P K Das
Architect and Activist



Anirudh Paul
Principal- KRVIA

MUMBAI

24 WARDS IN ALL

Area: 437 sq.kms
 Population (2001 Census):
 11.9 million
 Density (2001 Census):
 27,209 people/sq.km
 Reserved Open Space:
 73.79 sq.km
 Ratio of Open Space:
 1.1 sq.m/person



Mumbai (Wards)

JUHU

PART OF K WEST WARD

Area: 3.86 sq.kms

Population
(estimated for 2008):
2,20,000

Density
(estimated for 2008):
56,995 people/sq.km

Reserved open space:
0.27 sq.km (2,70,825 sq.m)

Ratio of open space
(estimated for 2008):
1.23 sq.m/person



Juhu Landmarks

Vision Mumbai

Mumbai is one of the largest urban agglomerations, the financial capital of India and a global metropolis in the making. According to the World Bank, it is now the most crowded metropolis in the world. The city resembles a giant magnet attracting people from all walks of life and embraces its each visitor unconditionally.

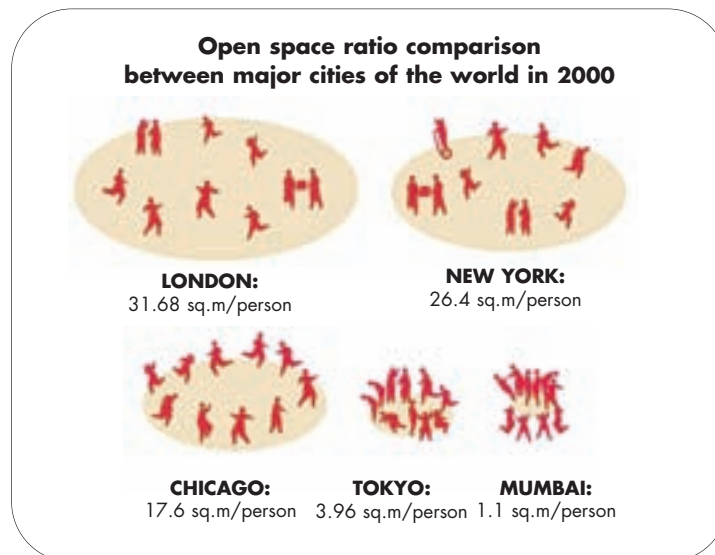
Home to 16 million people today, this city with an area of 437 sq.km is unquestionably a victim of unaffordable housing, high-cost transport, domination by real estate interests and land grab, resulting in lack of open space and absence of comprehensive planning. This has led to disparate and anarchic growth for the entire city. There is hardly any need to conclude that Mumbai is in need of urgent socioeconomic and physical restructuring.

The government in 1991 last amended the Development Plan (DP) for Mumbai. Previous Development Plans, which came into being since the 1960s, were rejected as they lacked 'public participation' and depended completely on the ruling bodies to generate funds. ('Foreword — Know Your Ward by BMC') The current DP (1991-2001) too has no guidance for public involvement and clearly champions the interests of private developers. In 2008, there is no plan for the city; the various governing bodies work independently of each other and no collective effort is visible for what is being grandiosely termed as 'the Mumbai Makeover'. Even though huge investments for better city infrastructure are now being contemplated, citizens remain spectators to the occurrence around them and are often at the receiving end of such projects while more and more people are losing opportunity and access to high-cost developments.

Our passive approach towards city 'upgradation' clearly needs to change. It is time to work proactively along with the various

government organizations to find solutions to daily problems relating to the city's infrastructure. Mumbai has evolved by itself and every area has typical challenges. Each neighbourhood has its own unique set of strengths, weaknesses and opportunities, best understood by the people who live and have an interest in it. Allowing citizens to utilize this awareness of their neighbourhood will result in a vision best suited to them and to this city. 'Neighbourhood Planning' keeping larger, city issues in mind is the way ahead. It will empower local residents and make them responsible for their area development. This will truly be our Vision, our desired future for our surroundings and our city.

To set a precedent for Mumbai, we initiate Vision Juhu as the pilot project. By involving members of every section of society, government organizations and experts from the urban planning sector, we aim to re-envision how the neighbourhood of Juhu can be alternatively planned.



REFERENCES

1. Municipal, Primary School
2. Private, Primary School
3. Secondary School
4. College
5. Hospital/Sanatorium
6. Municipal Hospital
7. Government Hospital
8. Municipal/Private Maternity Home
9. Municipal Health Centre/Clinic
10. Municipal Dispensary
11. Maternity Hospital
12. Municipal Office/Town Duty Office
13. Government Office
14. Public Sanitary Convenience
15. Library
16. Public Hall/Students Hostel
17. Open Air Theatre
18. Welfare Centre
19. Fire Brigade Station/Printing Press
20. Post Office/Post And Telegraph Office
21. Police Station
22. Cattle Pound
23. Telephone Exchange/Service Centre
24. Police Quarters/Railway Reservation
25. Municipal Chowky
26. Gymnasium
27. Municipal/Private/Rental Market
28. Municipal Open Market
29. Cinema Theatre
30. Drama Theatre
31. Shopping Centre
32. Municipal Wholesale Market
33. Children's Theatre And Museum
34. Industrial Estate/Fishing Industries
35. Service Industrial Estate/Rly Bldg
36. Municipal Laundry/Workshop/Store
37. Municipal/Private/Dhobi Ghat
38. Godown/Wholesale/Cold Storage
39. Sewage Purification Works
40. Reservoir
41. Cemetery/Cremation Ground
42. Pumping Station
43. Sanitary Refuse Shed
44. Refuse Transport Station
45. B.E.S.T Bus Depot/Station
46. Receiving Station
47. Parking Lot/Petrol Pump
48. Car Pound
49. Municipal Road Depot
50. Municipal Transport Garage
51. Truck Terminal
52. Park
53. Play Ground
54. Recreation Ground
55. Garden
56. Swimming Pool
57. Fish Drying Ground
58. Housing For Dishoused
59. Public Housing/Dhobi Housing
60. Municipal Housing
61. Government Housing
62. Residential Zone
63. Commercial Zone
64. Service Industrial Zone
65. General Industrial Zone
66. Special Industrial Zone
67. Urban Renewal Scheme
68. T P Scheme/Airport Boundary
69. No Development Zone
70. Shopline
71. District Centre/Commercial Complex
72. Existing Road
73. Proposed Road
74. Road To Be Widened
75. Retention Activity
76. Existing Amenity
77. Height Restriction Boundary
78. Special Planning Authority Boundary
79. Village Boundary
80. Ward Boundary
81. Boundary Of Array Milk Colony
82. Boundary Of Film City



Development Plan of Juhu 1991

Growth recorded in 1999 has not been in accordance with the development plan of 1991-2001

Vision Juhu

Juhu is a residential suburb in the western part of Mumbai and has an iconic image in the minds of millions of Indians where many of their favourite film stars live and an area with exclusive and premium real estate. The name is also synonymous with one of the most popular public spaces, the Juhu Beach. This dual identity of Juhu as a glamorous neighbourhood while also an accessible leisure destination for visitors sets up the matrix within which the democratic planning process can be initiated and 'Vision Mumbai' can make the first move.

A rich history of inhabitation stretching back at least four hundred years has ensured Juhu is home to different communities—fisherfolk and agriculturists, industrialists, businessmen and professionals, middle class families as well as economically disadvantaged ones. Juhu has amongst the largest density of educational institutions in the city, a number of religious attractions and is the centre for public festivals like Ganeshotsav, Chhat Pooja and Navratri; bringing in a



large floating population for which the suburb becomes a cultural hub. Many frictions and desires of this amalgam of residential and visitor communities in Juhu are reflected in the public spaces in this area. Hence, our central objective is to expand these spaces by creating their



network and interlinking them. Public space would thus include playgrounds, parks, market squares, waterfronts, creeks, mangroves, mudflats, public amenities and institutions and transportation. Thus the crux of Vision Juhu revolves around public spaces and the public realm of the neighbourhood.

The citizens of Juhu have been active in issues related to their existence. A number of ALMs (Advanced Locality Management groups) have been formed by residents in Juhu, undertaking the responsibility of providing many civic and social amenities at the local level. A hard battle was fought in the courts of law to free Juhu beach from encroachments and redevelop it, by citizen organizations and architect P K Das who had prepared the beach redevelopment plan. When the courts finally approved its implementation, MPs Shabana Azmi and Hema Malini contributed through the MP LAD fund. A first of its kind, the citizens of this area also elected an independent candidate Adolf D'Souza as their BMC corporator through collective consensus. A network of Area Sabha Representatives, working with the corporator, has also been active to address local issues at smaller levels within the ward.

Organizations representing the interests and desires of the inhabitants of historical settlements like Gaothans and Koliwadas have been instrumental in increasing awareness about the issues facing these

unique parts of the neighbourhood. Slum communities have also organized themselves efficiently to address the issues before them.



Initiatives by citizens to improve governance mechanisms at the ward level.

This existing democratic pattern in the area was the inspiration for the Design Cell at KRVIA, one of the premier architecture and planning schools in the city based in Juhu, and architect and activist P K Das, a resident of Juhu and chairperson of the Mumbai Waterfronts Centre, to come up with an area development plan. Vision Juhu

is a pragmatic proposal in consultation with many resident groups, elected representatives, government officials and eminent citizens. It has been prepared professionally and scientifically, to devise a strategy to make Juhu a congenial location to live in.

Vision Juhu has evolved, keeping the larger issues of Mumbai in mind. It includes conserving reserved open spaces and creating new ones, pedestrianization, significant solutions to flooding in Juhu, development of the Irla nala, improvement in transport



Development of the Irla nala is crucial to prevent flooding in Juhu



Conserving reserved playgrounds and re-developing them is an important part of 'Vision Juhu'

infrastructure by skilfully integrating the proposed Metro rail and re-planning traffic flow, opening up of several accesses to the beach, appraisal of social amenities like educational and health facilities and making them accessible to all, improvement in the standard of living in slums and gaothans, provision of space and security to hawkers and including them in mainstream development plans and networking this public realm.

It aims to protect the natural environment and the best features of the built environment, increase commercial viability, encourage tourist and leisure facilities, protect and support communities, create social inclusion, provide people with a voice in landscapes of rapid change and design urban places and spaces for people.

A firm partnership between the people of Juhu and the government can help bring about simple, pragmatic solutions to complex problems. With support from all its stakeholders, Vision Juhu can be a resounding success within a limited span of time.



Objectives

- Involve all stakeholders and initiate participation at neighbourhood level to address the city level development plan.
- Expand the notion of the public space and understand the lived public realm.
- Better utilization of public spaces including reserved green spaces, beach, footpaths thus creating recreational facilities and trouble-free pedestrian routes.
- Development of the Irla nala, turning it into a greenbelt, using it to address flooding problems and protecting the natural environment.
- Improving the transport infrastructure bearing in mind the proposal for the new Metro rail.
- Enriching and upgrading access to market areas and institutions to encourage leisure facilities and kinship in the neighbourhood.
- Opening up lesser-known accesses to Juhu beach for maximum utilization of this public space and protect it from encroachments.
- Inclusion of the informal sector — the slums, in mainstream planning and creating a better living environment for them and saving the traditional Gaothan areas from characterless development.
- Improvising public amenities and networking them with public spaces to enhance community development.
- Networking the public realm by connecting the various layers such as infrastructure, environmental system and public spaces to improve the experience for the public in the city.

Methodology of the Study

- ‘Vision Juhu’ has been prepared with a social and scientific bend and a thorough professional study has been undertaken to identify the strengths, weaknesses, opportunities and threats in the region.
- People from all walks of life that have stakes and common interest in the area were identified on the basis of various historical, social and economic criteria and the boundaries within which these stakeholders lie were identified.
- Interviews were conducted with the stakeholders to determine the usage of the public space and public realm and concerned maps and charts were created.
- Conflicts and dependencies across certain spaces that are spoken about by more than one stakeholder were identified and understood.
- Areas that form crucial part of public usage but not identified by the stakeholders were then introduced to understand their implications on the public realm.
- The research also involved studying cases from across the globe, relevant to our area and taking the positives from various innovative solutions adopted in the developed and the developing world.
- This layered study with detailed analysis was then assimilated into a proposal.

Land Development History of Juhu



SURVEY MAP OF BOMBAY, 1921

Three gaothans- Tara, Juhu and Mora (Gundaoli) exist along with farmland and large tracts of mudflats. Airport Authority of India's wireless station land is acquired. Bungalows along the beach have already been established. Natural drainage lines pass through the mudflats.



SURVEY MAP OF BOMBAY, 1933

Juhu Gaathan and St. Joseph's Church are seen clearly. Juhu Aerodrome land is identified. Isolated development is seen growing along the stretch of Juhu Beach. Theosophical Society is established. Most of the area is still marsh and farmland.



ROAD MAP OF BOMBAY, 1969

Shows most identifiable features of Juhu, including road layouts, JVPD Scheme and Gulmohar Road. The edges along the beach show hotels and residential development. Some educational institutions appear as well.

1700S

1800S

1920

1930

1940

1950

1960

1970

Early 1600s

Fishing villages of Mora and Tara are established on mudflats on the northern and southern ends of the suburb

Early 1700s

The agricultural settlement of Juhu gaathan is founded, along with Juhu Church. The residents carry out agriculture and related activities in small fertile patches of land adjoining the beach stretch.

Late 1800s

Jamshedji Tata purchased land in Juhu and built a bungalow. He planned to develop 1200 acres (5 km²) in Juhu Tara. This was to yield 500 plots of 4,000 m² each and a seaside resort.

1920

The areas around Juhu and Tara had developed sufficiently to warrant their own local government and municipal councils. They formed part of the so called Suburban District.

1925

Development took off near Juhu Tara villages by the late 1920s with the extension of the Western Trunk Route to Jogeshwari.

1928

By the 1930s Juhu had become a recreational centre. The richer classes of Bombay used the area for sports, bathing and motoring. Weekend cottages and bungalows mushroomed around this time.

1930

Juhu Aerodrome, serving Mumbai, was India's first civil aviation airport opening in 1928 as the then Vile Parle Flying Club. It served as the city's sole airport till the one at Santacruz took over in 1958.

1930

By the late 1930s the municipality of Vile Parle had absorbed the smaller bodies around it. Then with the formation of Greater Bombay in 1945, the areas came directly under the Bombay Municipal Corporation.

1966

The first large hotels in Juhu, King's Hotel and Hotel Horizon are established.

1945

With the formation of Greater Bombay in 1945, the areas of Juhu, Tara and Mora came directly under the Bombay Municipal Corporation.

1969

JVPD Scheme and Gulmohar Road, one of the last planned layouts in Mumbai are established. Many of the HIG plots in the JVPD scheme area are purchased by film actors of Mumbai's film industry, earning the suburb the misplaced moniker of 'Beverly Hills of Mumbai'

1961

Mithibai College is established. Utpal Sanghvi School and Jamnabai Narsee School are established by the early 1970s. Many more educational institutions come up subsequently, leading to the suburb having the highest density of educational institutions in the city

1980s

The growth in MIG and HIG population and a shortage of housing leads to the formation of slums in the suburb along the drainage channels and on the edges of the Airport Authority of India owned land. The residents of the slums are primarily service providers to the suburb's population.

1975

ISKCON is established in Juhu, adding another tourist attraction to the suburb.



ARABIAN SEA

JUHU

MIRA BHAYANDER

CITY BOUNDARY

THANE

1980

1990

2000

1991

Coastal Regulation Zone law is enacted by the Central government, covering a large part of Juhu's coastline and adjoining land. Stringent built form guidelines are placed on properties near the sea.

1992

Changes in Development Control Regulations accompanying the Mumbai Development Plan of 1991 allows the transfer of development rights (TDR) from one part of the city to another. The low FSI consuming, low rise, low density parts of JVPD and Gulmohar Road see another construction boom.

1995

Slum Rehabilitation Authority (SRA) is set up and formulates rehousing schemes for slum dwellers inviting private capital to take part in the process. Many slums undergo redevelopment under the SRA's aegis.

2000

A plan to restore Juhu Beach was prepared by architect P K Das and published by INTACH. With extensive support from local MPs, activists and the judiciary, the plan was sanctioned in 2004, gradually giving residents the idea of preparing 'Vision Juhu.'



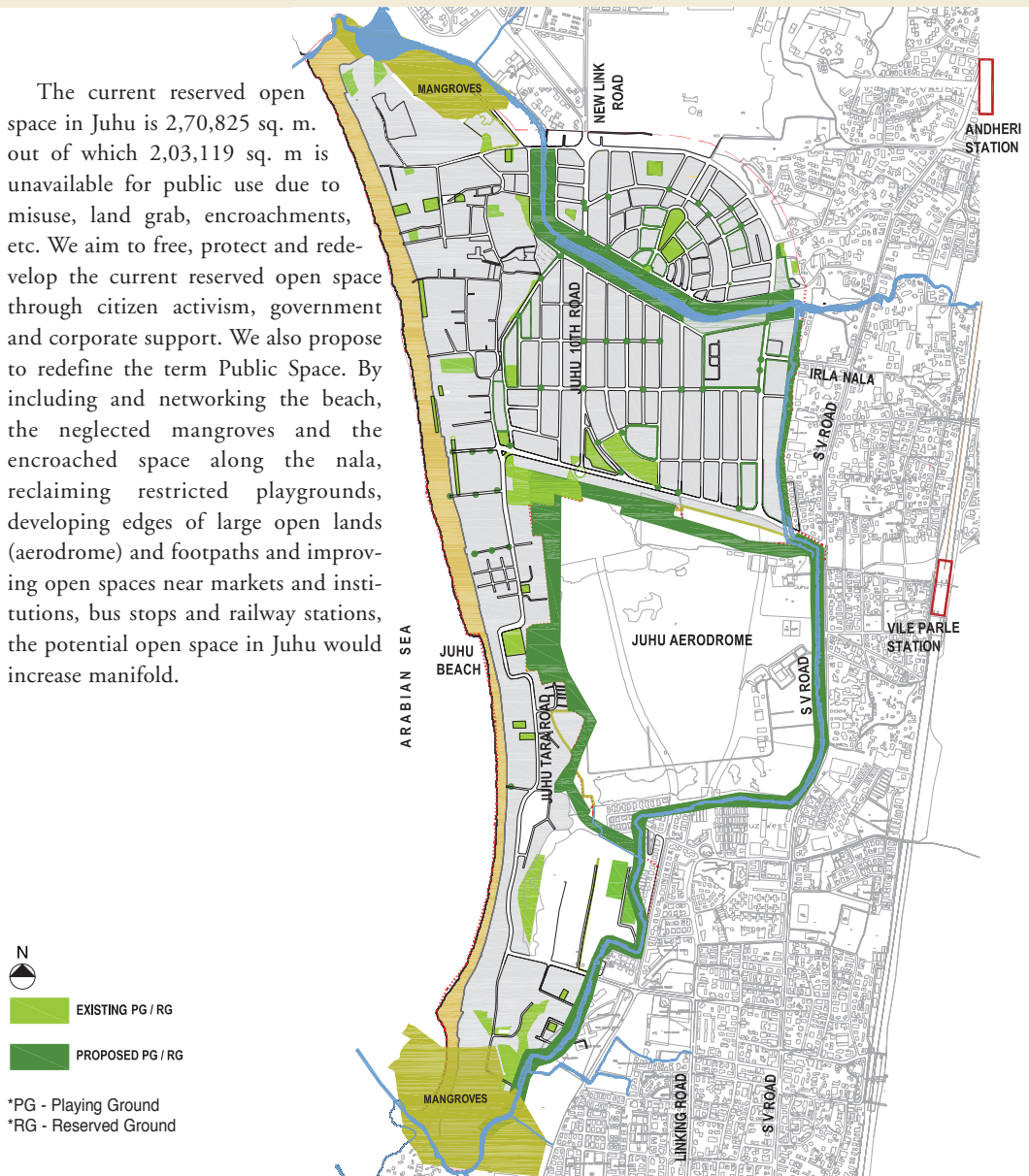
ARABIAN SEA

Vision Plan Highlights

Development of Public Space

- Conserving and redeveloping reserved open spaces
- Creating new open spaces for the public

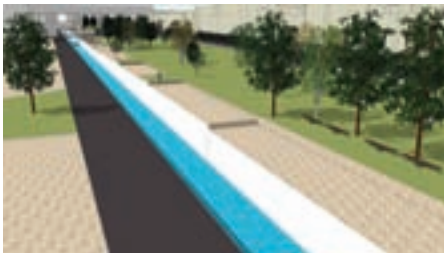
The current reserved open space in Juhu is 2,70,825 sq. m. out of which 2,03,119 sq. m is unavailable for public use due to misuse, land grab, encroachments, etc. We aim to free, protect and redevelop the current reserved open space through citizen activism, government and corporate support. We also propose to redefine the term Public Space. By including and networking the beach, the neglected mangroves and the encroached space along the nala, reclaiming restricted playgrounds, developing edges of large open lands (aerodrome) and footpaths and improving open spaces near markets and institutions, bus stops and railway stations, the potential open space in Juhu would increase manifold.



Irla Nala Development and Creation of Public Space

- Creating greenbelt along nala's edges
- Addressing flooding issues

Irla Nala dominates the geography of Juhu and runs approximately 7.5 kms, meeting the Arabian Sea at two points. The BRIMSTOWAD project by the BMC is under way which will create approximately 20 feet of open space on either side of the nala. The authorities propose to use this as a carriageway for service vehicles and maintenance machinery. Instead, we propose to install a self-cleaning system, develop it as a pedestrian route and link it with other public spaces in Juhu. The new porous greenbelt thus created will measure approximately 10 kms and serve as a flood plain during monsoons.



Proposed pedestrian pathway along the Irla Nala



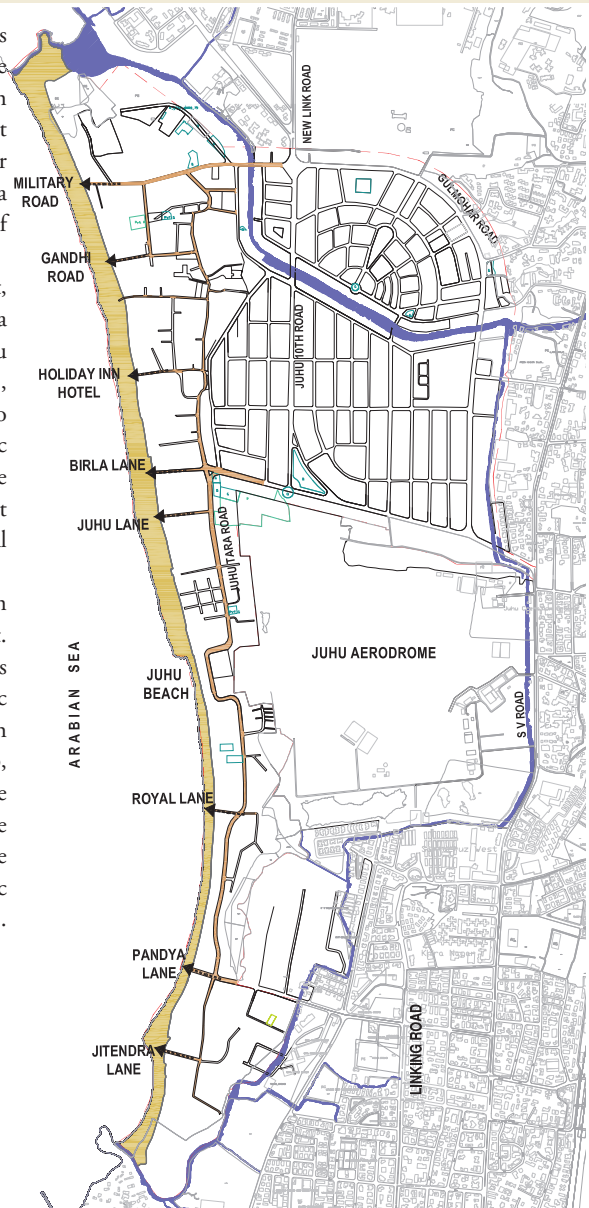
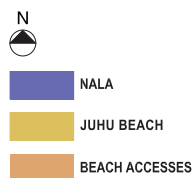
Conservation of Juhu Beach and its Connectivity

- Include Juhu beach in Mumbai's reserved spaces
- Opening up lesser-known accesses from Juhu Tara Road
- Integrating the beach with the neighbourhood of Juhu

Juhu Beach is one of the major tourist attractions of the city. It invites a lot of people who come for relaxation and recreation from everywhere in the city. In the Development Plan the beach has not been considered as a public space, leaving unclear who is responsible for its maintenance. Also there is a lack of access to the entire stretch of beach because of which it gets underutilized.

Conservation of Juhu beach is extremely important, as it is a crucial open space in the city. As a result of a long and hard fought battle in the courts of law, Juhu beach today is free of encroachments from builders, industrialists and even gangsters. Citizen activists, to save and restore the beach, had filed several public interest litigations and it is our duty now to conserve this stretch of public space. The best way to protect the entire four km beach is by maximum and equal utilization of all its entry and exit points.

Currently, the stretch near Santacruz police station is the most crowded because of an easier access point. This stretch also has the maximum number of facilities for the people, resulting in high amount of public activity. There are eight access points to Juhu beach from Juhu Tara Road. They all need to be opened up, strengthened and artistically designed to encourage public movement. This would activate the entire stretch of beach and make it a better public place. We also aim to link these accesses to the internal public spaces thus forming a larger network of public spaces.



Locating the Metro Rail

- Proposing underground metro rail
- Shifting proposed placements of Metro stations and integrating them with open spaces

Roads network and one-ways

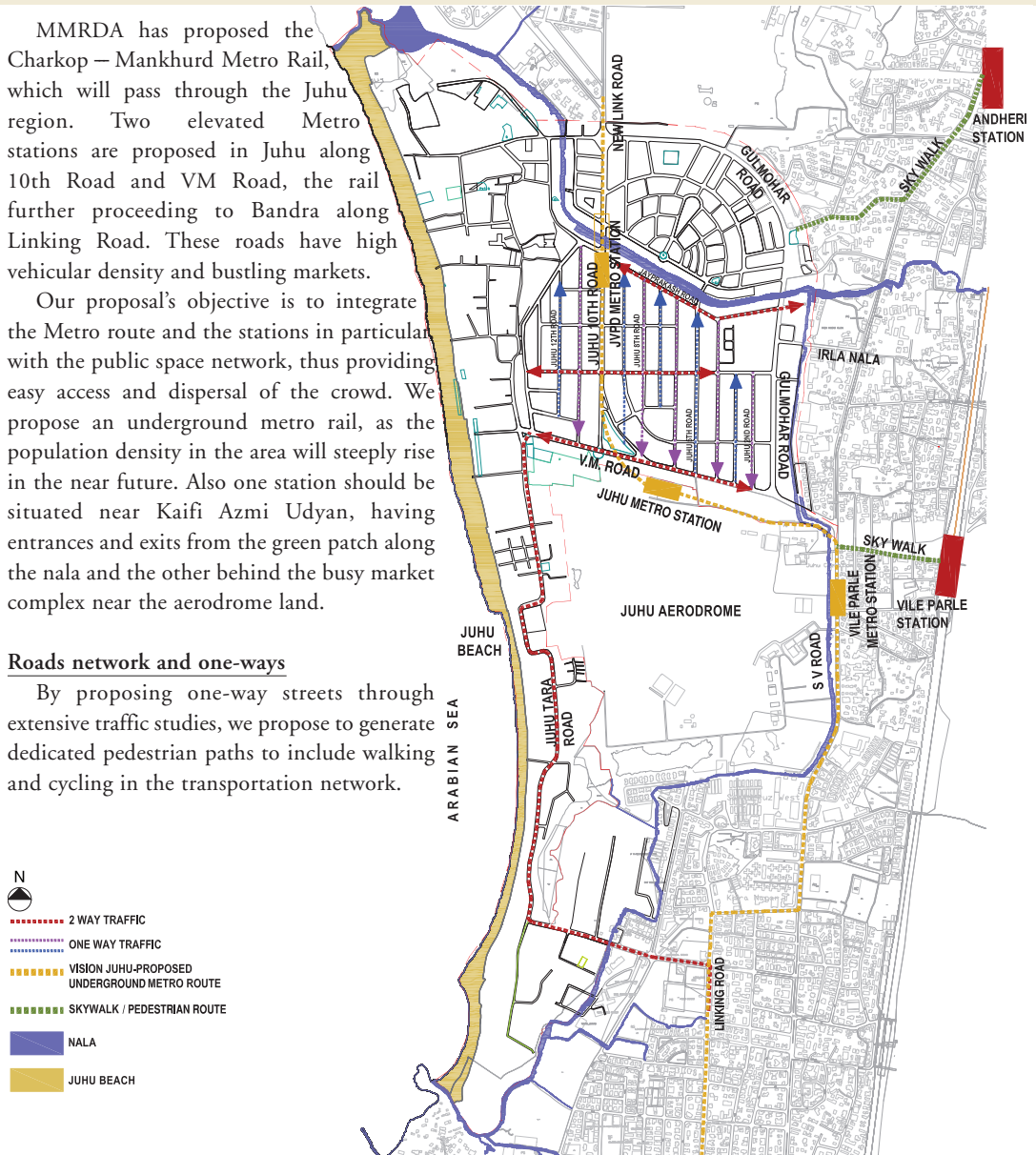
- Utilizing internal, low traffic density roads as pedestrian pathways and one-ways

MMRDA has proposed the Charkop – Mankhurd Metro Rail, which will pass through the Juhu region. Two elevated Metro stations are proposed in Juhu along 10th Road and VM Road, the rail further proceeding to Bandra along Linking Road. These roads have high vehicular density and bustling markets.

Our proposal's objective is to integrate the Metro route and the stations in particular with the public space network, thus providing easy access and dispersal of the crowd. We propose an underground metro rail, as the population density in the area will steeply rise in the near future. Also one station should be situated near Kaifi Azmi Udyan, having entrances and exits from the green patch along the nala and the other behind the busy market complex near the aerodrome land.

Roads network and one-ways

By proposing one-way streets through extensive traffic studies, we propose to generate dedicated pedestrian paths to include walking and cycling in the transportation network.



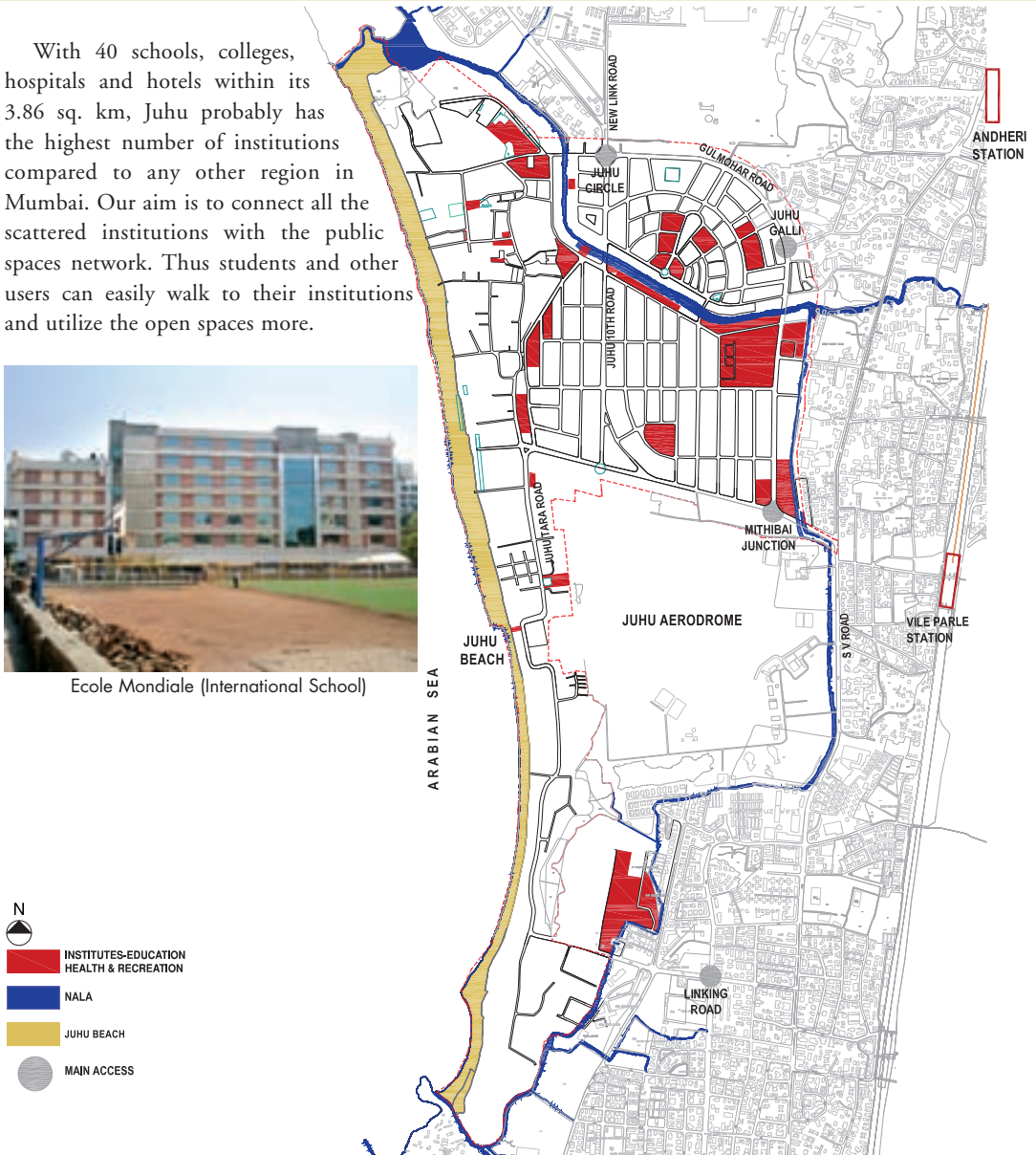
Integration of Social Amenities and Institutions

- Integrating them with the public space network

With 40 schools, colleges, hospitals and hotels within its 3.86 sq. km, Juhu probably has the highest number of institutions compared to any other region in Mumbai. Our aim is to connect all the scattered institutions with the public spaces network. Thus students and other users can easily walk to their institutions and utilize the open spaces more.



Ecole Mondiale (International School)



Section II

Study and Analysis

Improvement of amenities in Slums and conservation of Gaothans

- Including them in the redevelopment plans for the city

We propose to integrate the slums with the redevelopment plan by enhancing infrastructure and social amenities within the slums and connecting these areas with the public space network. The proposed green patch near Nehru Nagar and Shivaji Nagar will give these slums safer access to public amenities.



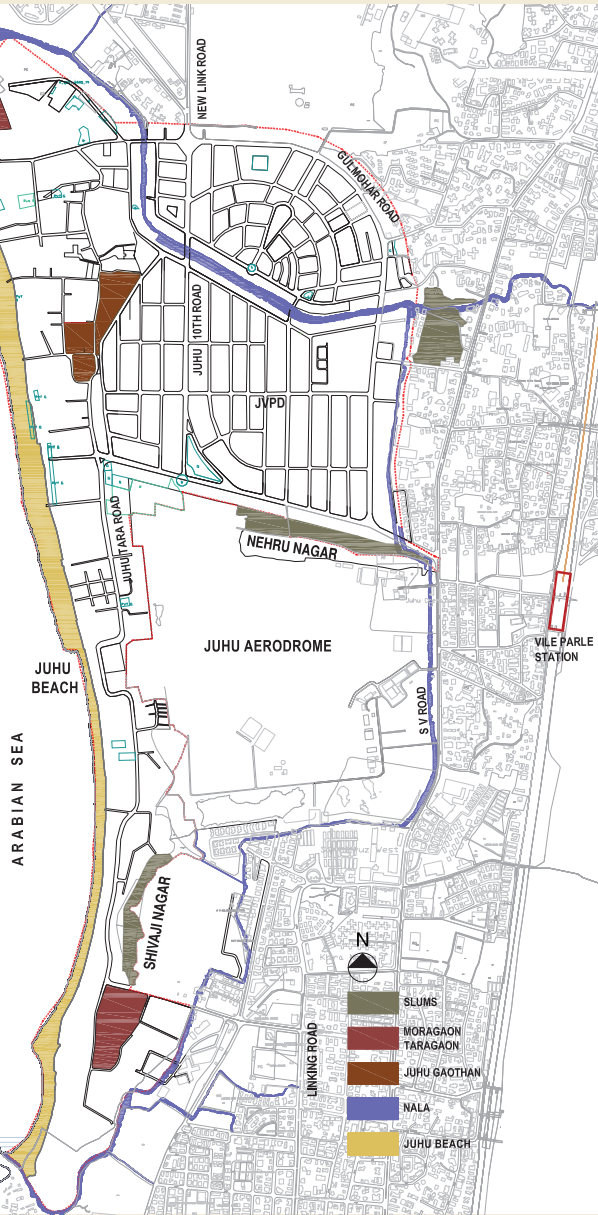
High density street in Nehru Nagar

Gaothans

The three gaothans in Juhu (Moragaon, Taragaon and Juhu Gaothan) are a vital part of the area's history and its important to protect their characteristic development. We propose to improve social amenities within the gaothans and guard its built environment by including it in the redevelopment plans for the area.



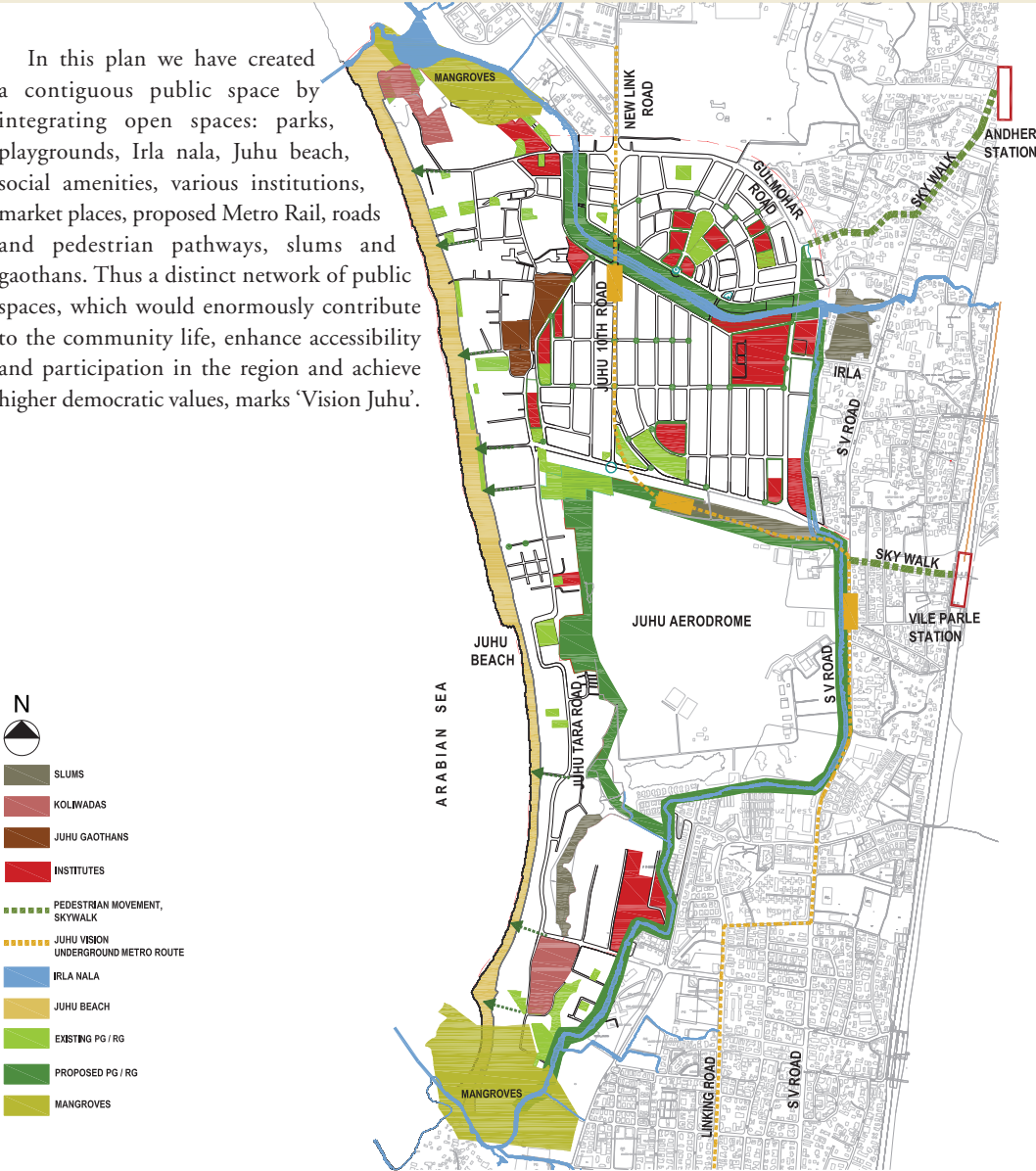
A typical street in a Gaothan dotted with grottos



The Final Blueprint - Draft proposal for public discussion

- Expanding Public Space in Juhu

In this plan we have created a contiguous public space by integrating open spaces: parks, playgrounds, Irla nala, Juhu beach, social amenities, various institutions, market places, proposed Metro Rail, roads and pedestrian pathways, slums and gaothans. Thus a distinct network of public spaces, which would enormously contribute to the community life, enhance accessibility and participation in the region and achieve higher democratic values, marks 'Vision Juhu'.



Juhugiri. Pyar se.

- Free open space: add almost 3 Oval maidans
- Create 10-km tree-lined, flood-free walkway along Irla nala
- Inter-connect open spaces with institutions & amenities
- Re-align & integrate Metro rail network with public spaces
- Protect beach, improve access, enhance facilities
- Provide civic amenities for gaothans, redevelop slums
- Form a model for neighbourhood planning, participation & governance

Vision Juhu *Expanding public space*

Kamala Raheja Vidyaniidhi Institute for Architecture • PK Das & Associates, Architects • Mumbai Waterfronts Centre

Research Sponsor: ICICI Prudential
Contacts: anirudh.paul@gmail.com • pkdas.arch@gmail.com • darryldmonte@gmail.com



Contents

Identifying Present Stakeholders.....	32
Evolving the Vision.....	36
• Development of Public Space.....	37
• Irla Nala Development and Creation of Public Space.....	50
• Locating Metro Rail	55
• Roads Network and One-ways	55
• Integration of Social Amenities and Institutions.....	58
• Improvement of Amenities in Slums & conservation of Goathans.....	62
Governance, Participation and Maintenance Model	66
Appendix.....	68
• Population Growth and Public Space Ratio	69
• Case Study For Nala- The Living Water Garden, China	74
• Case Study For Nala- Emerald Necklace, Boston, USA	74
• Case Study For Nala- Chonggyechun River System, South Korea.....	75
• Case Study For Transport- Las Ramblas, Barcelona, Spain.....	76
• Case Study For Transport- Big Dig, USA	77
List of Figures.....	78
Bibliography	78

JUHU STAKEHOLDERS



Identifying Present Stakeholders

With evidence dating back to 17th century, the suburb of Juhu has seen many periods and patterns of settlements. With migrations into this suburb, each group of inhabitants adapted to the existing built form and added to the culture and economy of the area. Today, due to different historical experiences, each of the residential stakeholders face unique sets of problems and difficulties in the present infrastructure.

In order to conduct the study effectively, it was necessary to identify and delineate the larger groups of residential stakeholders in the area. On the basis of history, time of settlement, culture and economy, five main groups of stakeholders were identified as follows:

1. The Fishing Villages
2. The Gaothans
3. The Beachfront Developments
4. JVPD and Gulmohar Road Residents
5. The Slums

The Fishing Villages:

Moragaon, located on the northern edge of Juhu and Taragaon (Koliwad) located at the southern edge of the study area are among the first communities, which set base in Juhu. These closely knit communities show some amount of fishing activity even today. As the settlements lie close to the natural drainage lines and





the sea, they are first to be affected by floods and heavy rainfall. Due to encroachments and haphazard developments, the living conditions here have deteriorated to significant levels.

The Gaithans

The Juhu Gaithan was set up around 18th century and their prime activity was agriculture. The compact typology of the settlement resulted in the formation of unique public spaces but redevelopment within the region has caused some of these spaces to get eliminated or lie unused.



The Beachfront Developments

Around the 1920s, weekend bungalows and small eateries started developing along the beachfront due to the popularity of the suburb as a holiday spot. In 1940s, with the absorption of the suburb within the municipal limits of Bombay, small apartment buildings emerged. In the

1960s and 1970s, independent apartment buildings started mushrooming along the beachfront. They incorporated recreational spaces within themselves. Some buildings formed larger units by enclosing private roads shared by a few buildings. The formulation of the Coastal regulation laws and the densities encountered due to a floating population accessing the beach, are the issues confronting these stakeholders.

JVPD and Gulmohar Road Residents

The Juhu-Vile Parle Development Scheme was planned in the 1970s, which incorporated high income housing in the JVPD layout and middle income housing apartments (MHADA plots) in the Gulmohar road layout. JVPD composed of single owner bungalow plots with 14 co-operative societies formed as agglomerations of bungalows. Both areas are affected by TDR and redevelopment, which have converted these low-rise, low-density areas into high-rise, medium-density areas. The changes in typology and density have caused deterioration of all infrastructure and amenities, including public space.



Slums

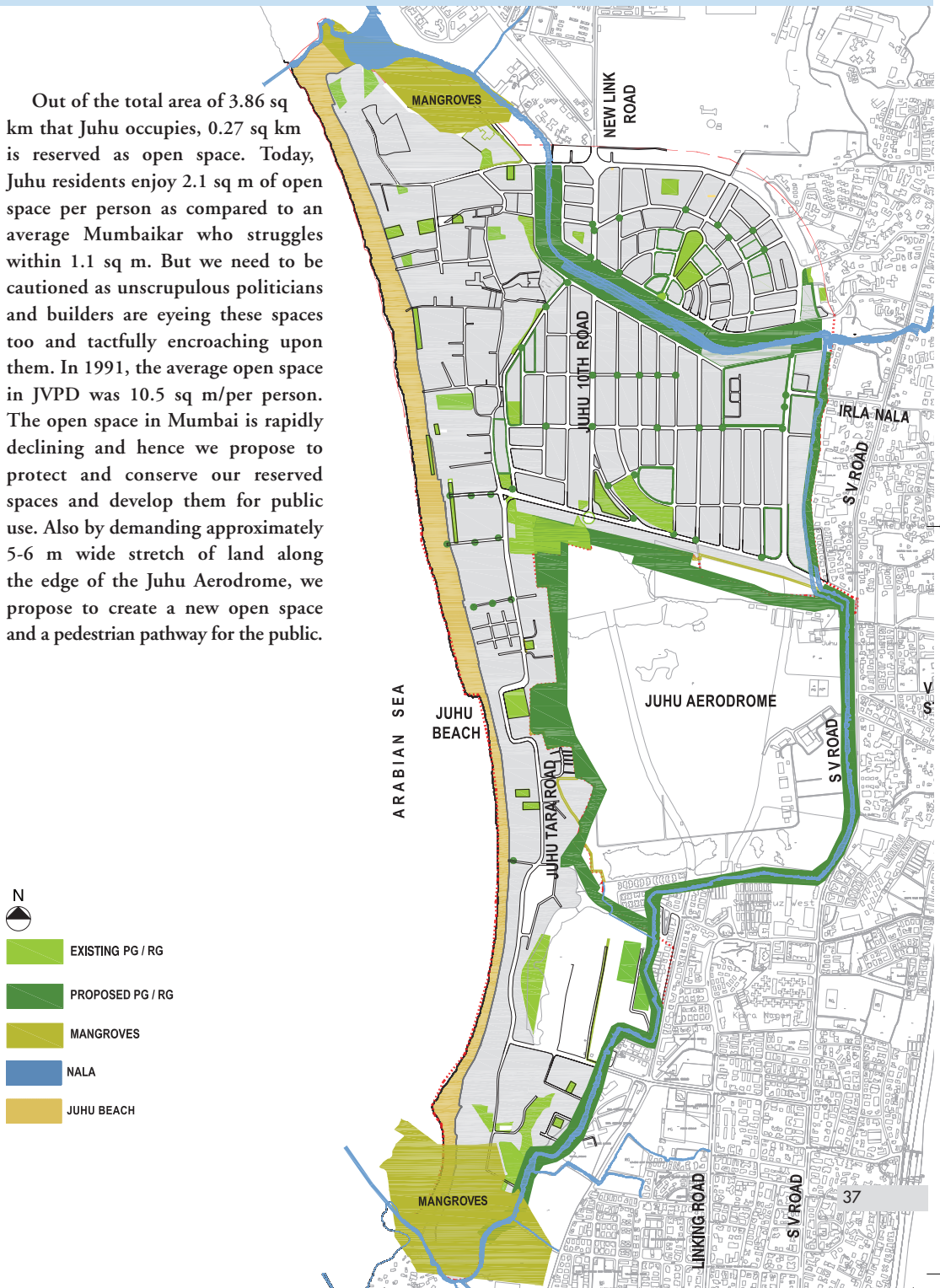
As there was a lack of low income housing in the area, slums began to emerge around the late 1970s. These areas are characterized by low public amenities and inferior infrastructure. Some of these slums are located on airport land, which makes them practically ineligible for state government formulated slum redevelopment schemes, thus resulting in no plans for their development.

Evolving the vision

Development of Public Space

- Conserving and redeveloping reserved open spaces
- Creating new open spaces for the public

Out of the total area of 3.86 sq km that Juhu occupies, 0.27 sq km is reserved as open space. Today, Juhu residents enjoy 2.1 sq m of open space per person as compared to an average Mumbaikar who struggles within 1.1 sq m. But we need to be cautioned as unscrupulous politicians and builders are eyeing these spaces too and tactfully encroaching upon them. In 1991, the average open space in JVPD was 10.5 sq m/per person. The open space in Mumbai is rapidly declining and hence we propose to protect and conserve our reserved spaces and develop them for public use. Also by demanding approximately 5-6 m wide stretch of land along the edge of the Juhu Aerodrome, we propose to create a new open space and a pedestrian pathway for the public.



Reserved public spaces are the spaces set aside by the government for social, cultural and recreational uses of the masses. It is a place where anyone has a right to come without being excluded because of economic or social conditions. The state norms assert that 4 acres of open space should be provided per 1000 people. But beleaguered Mumbaikars have only a meagre 0.03 acres of open space per 1000 people.

Reserved open space occupies only 7% of Juhu's total area.

Agency	Parks	Free	Enc.	Neg.	Res.	Potential Area
Government	7	3	0	3	1	67,156 sq.m
School	4	2	0	0	2	9,851 sq.m
Citizen groups	6	5	0	0	1	7,523 sq.m
Private trusts	2	2	0	0	0	0
Commercial	9	1	5	1	2	35,536 sq.m
Slums	0	0	6	0	0	32,240 sq.m
Private owners	0	0	3	0	0	9,085 sq.m
Parking (under airport authority)	2	0	2	0	0	41,728 sq.m
Total						2,03,119 sq.m

Tb.1

Research reveals that broadly 75% of the formally marked open space in Juhu is 'locked' space. We do not have access to this 75% of open space for the following reasons:

1. Encroachments — 36%

Reserved open spaces are encroached upon by certain agencies for purposes other than public recreation. Examples: Slum rehabilitation scheme near Rutumbura

College, Club Millennium, Ruia Gardens.

2. Restrictions on use — 10%

Reserved open spaces are restricted for public use due to misuse of caretaker policy,

Examples: Hasmukh R Playground (caretaker basis to Utpal Sanghvi School) Ground attached to Tilak Udyan (caretaker basis to Arya Vidya Mandir)

3. Neglect — 24%

Reserved open spaces are not in use due to little or no maintenance



Ground used by Vidyanidhi School



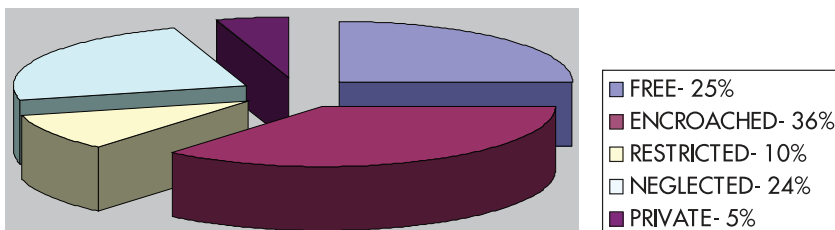
Vidyanidhi Circle

and lie in a complete state of abandonment. In most cases, land belongs to the BMC. Examples: Pushpa Narsee Park, Ground behind Gagandeep

4. Privatization – 5%

Reserved open spaces are allotted for private gardens and the public is absolutely not allowed to enter.

STATE OF RESERVED PUBLIC SPACES IN JUHU



Law allows us to reclaim this 75% of formally reserved open space and to 'unlock' this space, citizen activism is crucial. The remaining 25% of reserved public space is free for public use. Examples: Bhaidas Patel Udyan (Jamnabai Narsee PG), Krishna Rao Maidan (Iskcon), Kaifi Azmee Park.

The 25% of free open space in Juhu is mostly under the supervision of citizen groups. Citizen bodies and various trusts maintain 60% of these grounds, which suggest that involvement of the citizens is probably the best way to ensure proper public use.

Under the 'encroached' open space (36%) category, 40% of the area is maintained by the Airport Authority as a parking lot and 30% is encroached by slum rehabilitation schemes.

Under the 'restricted' open space (10%) category, 86% area is owned and maintained by the BMC out of which, schools under



Juhu Gymkhana Ground

Bhaidas Patel Udyan

the caretaker policy, maintain 34% area. The policy however states that, the ground, though maintained by the school, should allow public entry and use under 'a disciplined manner'.

The research further studies the utilization of these reserved public spaces with respect to gender and tries to comprehend their functionality. Figure 2 (page 42) indicates the relationship between the percentage distribution of males and females and the formal space in question. From the overview it is observed that the percentage of male distribution exceeds that of the female distribution.

According to the UDPFI guidelines, 12% of total plot area should be reserved for formal open spaces. However, in Juhu, only 7% of the plot area is reserved so.

Our study shows that Juhu has a little over 200,000 square



P.A. Mhatre Playground



Tilak Udyan



Cluttered Andheri Station



Underutilized bus depot

metres of potential open space. The bulk of it – 67,200 square metres is in government hands, 36,000 square metres in commercial hands, 32,000 square metres with slums and 41,000 square metres with the Juhu Aerodrome. This adds up to the equivalent of three Oval Maidans and 22 Wankhede Stadiums.

By redefining public spaces, identifying potential new open spaces and using them appropriately, the total public space in Juhu comes to approximately 13,75,000 sq. m. (fig.5).

Our study expands the definition of public spaces. 'The lived public realm' comprises sites like markets, infrastructural nodes, pre-courts of amenities, etc. These squares and courts, if well developed and maintained, have the potential to be counted as public space. For instance, the flower market just outside Dadar station bustles with commuters, the busiest public space within the precinct. The main ticket counter at Andheri station opens into a



Congested Dadar flower market

Gender-wise Use of Reserved Public Space



Fig.2

Males
 Females

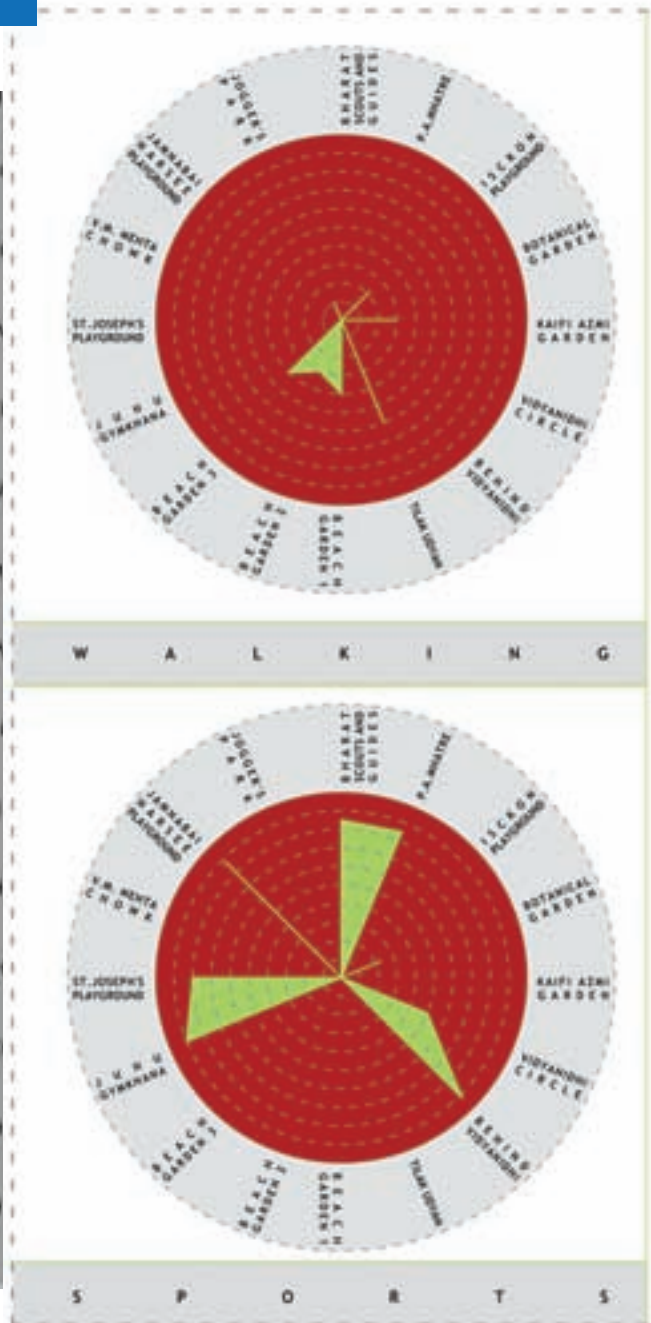
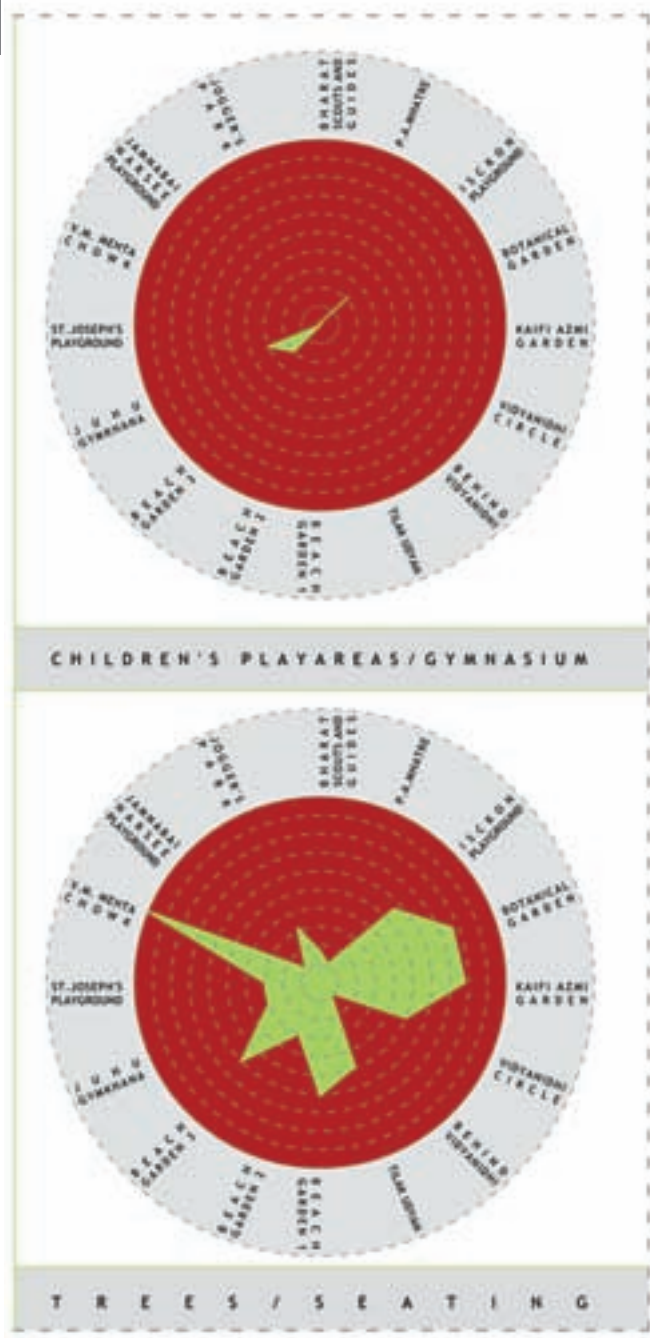


Fig.3

Activity-wise Use of Reserved Public Grounds

Percentage use of reserved public space for walking, children's activities, gymming, sports, trees and seating arrangements. Each inner circle in the above diagram represents 10% of the total space available in every ground.





Crammed pedestrian pathway

large public court with several retail counters and eateries. Bus depots typically occupy a huge footprint and are not used throughout the day. Nearer Juhu, the pavements outside colleges serve as informal meeting places for young people to congregate, in the absence of formal spaces, which all educational institutions ought to provide. The land along Irla nala, currently a dumping ground, can be developed into a greenbelt and pedestrian pathway.



Abused space near Irla nala

Also, the reserved open spaces count does not include the sprawling beach of Juhu, even though it is the most exploited public space in the area. Hence it is deprived of the benefits of the 'reserved spaces' and is being misused by people with vested interests. Bits of this Juhu beach were taken over by private owners who turned them into gardens and temples with the hope that



Conflicting market space

their encroachments would go unnoticed. Architect P.K. Das, local MPs Shabana Azmi and Hema Malini have been responsible for the recently restored beachfront, a public project funded by the MP's Local Area Development Fund. We aim to include the beach in the reserved public space category for its protection.

Space	Area Available (sq. m)
Reserved Public Open Space	2,70,825
Juhu Beach	3,24,486
Edges Of Institutions	41,354
Markets	17,189
Public Space Within Slums	989
Bus Depot	14,448
Edges Of Large Open Lands	17,968
Misused Collective Realm - Mangroves	4,89,588
Misused Collective Realm - Nallas / Garbage Dumps	2,01,124
Total	13,77,971

After conducting interviews with all stakeholders who use or aspire to use the reserved spaces or the lived public realm in Juhu, the estimation is that there are 270,000 square metres of reserved public open space available excluding 325,000 sq.m of beach, 41,000 sq. m at the edge of institutions, 17,200 sq. m in public markets, nearly 1,000 sq. m within slums, 15,000 sq. m within bus depots, 18,000 sq. m at the edges of large open lands

(ex. Juhu Aerodrome), 490,000 sq. m in the form of mangroves and another 200,000 sq. m similarly misused in nallas and garbage dumps.

Some of these potential spaces can be identified as follows:

Edges of the Institutions

Juhu has one of the highest number of institutions in the city. Cooper hospital, a major public health facility in the city is also located here. The floating population visiting these institutions creates a specific pattern of movement along the routes which connect Juhu to major transport nodes like Andheri Station, Vile Parle Station and Juhu Circle. The areas around these institutions become active public spaces. Hawkers and food stalls have set up shop near these institutions to cater to the floating population. But since adequate public spaces are not designed around these institutions, these activities take place on the road, which causes inconvenience to people. Such use of the footpath is seen as illegal but these activities are



Public Space (Pavements) near Mithibai Junction

an important part of the lived public realm and have to be protected. Hence, it is important to plan areas where such public activities can take place near much frequented institutions.

Bus Depots:

Juhu has three bus depots, which serve as infrastructural amenities, but there are still some differences in terms of their usage. Their location and the communities accessing these bus stops gives each of them a different typology. JVPD Bus Depot is located at the junction of two busy vehicular routes namely Gulmohar Road and Link Road and sees heavy traffic each day of the week. It has many routes leading to Andheri Station, which makes it a hub for students and office goers in the morning and evening. Shops activate the edges of the bus depot. It acquires a desolate look in the afternoons. It has a garden, which is not very visible, and which is mainly used by the BEST employees. Juhu Bus Depot has a couple of routes that bring in people who want to visit Juhu Beach. A part of this depot is used as parking space by the hotels that dot its edges. The depot is empty most of the day and seems surreal when compared to the activity on the beach just a few paces away. Only three bus routes run through this area, adding few routes from the railway stations and future metro station would activate this depot more. Due to its location it can also be imagined as a transport interchange as it will help address traffic problems near the beach.



Commercial hustle on the footpath



Juhu Bus Depot

Juhu Church Bus Depot lies close to a wide range of activities ranging from a busy market to a school and a church with a large parish. The food stall and newspaper kiosks keep the place active throughout the day but its existing built form is not very efficient for transport movement.

Slums

Nehru Nagar Main Road

It has a main road as a central spine, which becomes the main activity space of the area. Transport, recreation and commercial activity are centred along this main road. The main road in Nehru Nagar is connected to each by-lane, which contains co-operative housing societies. The

back road, which is perpendicular to these by lanes, is the airport edge with slums spread over it.



The central spine of Nehru Nagar



Public amenities in Moragaon

Fishing Village- Moragaon

Moragaon has two kinds of public spaces; the capillary road running through the village and the nodes of congregation. The different communities of Moragaon, namely the Kolis, the Maharashtrians and the Gujaratis have their own nodes for get-togethers and to celebrate festivals and functions. The capillary streets serve as an extension to the cramped houses. The houses in Moragaon have shared services. The water taps in the area are located in these streets. So washing clothes, filling water and cleaning

vegetables are common activities seen in these streets. The houses here have otas and verandahs. These become places for people to sit and meet passersby. The streets end in nodes of open space. These spaces are marked with amenities like toilets, a stage, community offices, etc. These amenities add value to the space. People in Moragaon have not been very supportive of this study as they fear that the land they use for drying fish will be taken up to build a garden. They have been victims of encroachment earlier by the Ruias and had to fight hard to get their land back. Hence they have not allowed us to continue our study here.



Public square in Moragaon



A public place for worship in Gaothan

The Juhu Gaothan

The land use plan shows residential quarters lined with shops. The East Indian community dominates this area and most people here are related to each other. The arterial roads become places for shops and markets while the inner roads become quieter pedestrian pathways. The Gaothan streets are dotted with grottos. These become places for people to pray. The verandahs encourage interaction with the neighbours and people passing by. The internal pedestrian streets are safe for children to play and cycle. Some of these are used to dry clothes, spices, or have a garden patch. The quadrangle is the space used by the people to congregate for prayers and monthly gaothan meetings are also held here.

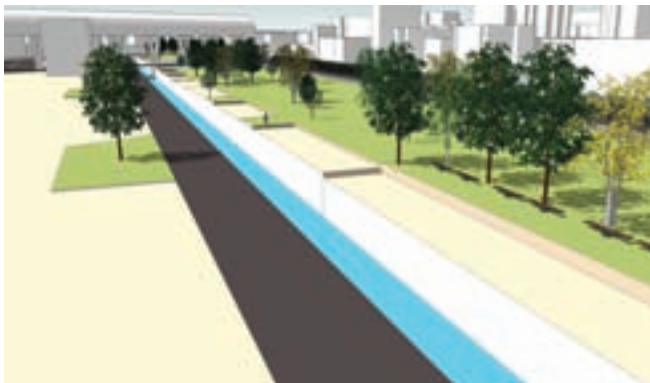
Thus, if these spaces are developed and well looked after, we can expand public space in the entire neighbourhood of Juhu and with a little re-imagination, reserved open space can increase to 3.36 sq. m per person from the current 2.1 sq. m.

Irla Nala Development and Creation of Public Space

- Creating greenbelt along nala's edges
- Addressing flooding issues



Current condition of the nala and its surroundings

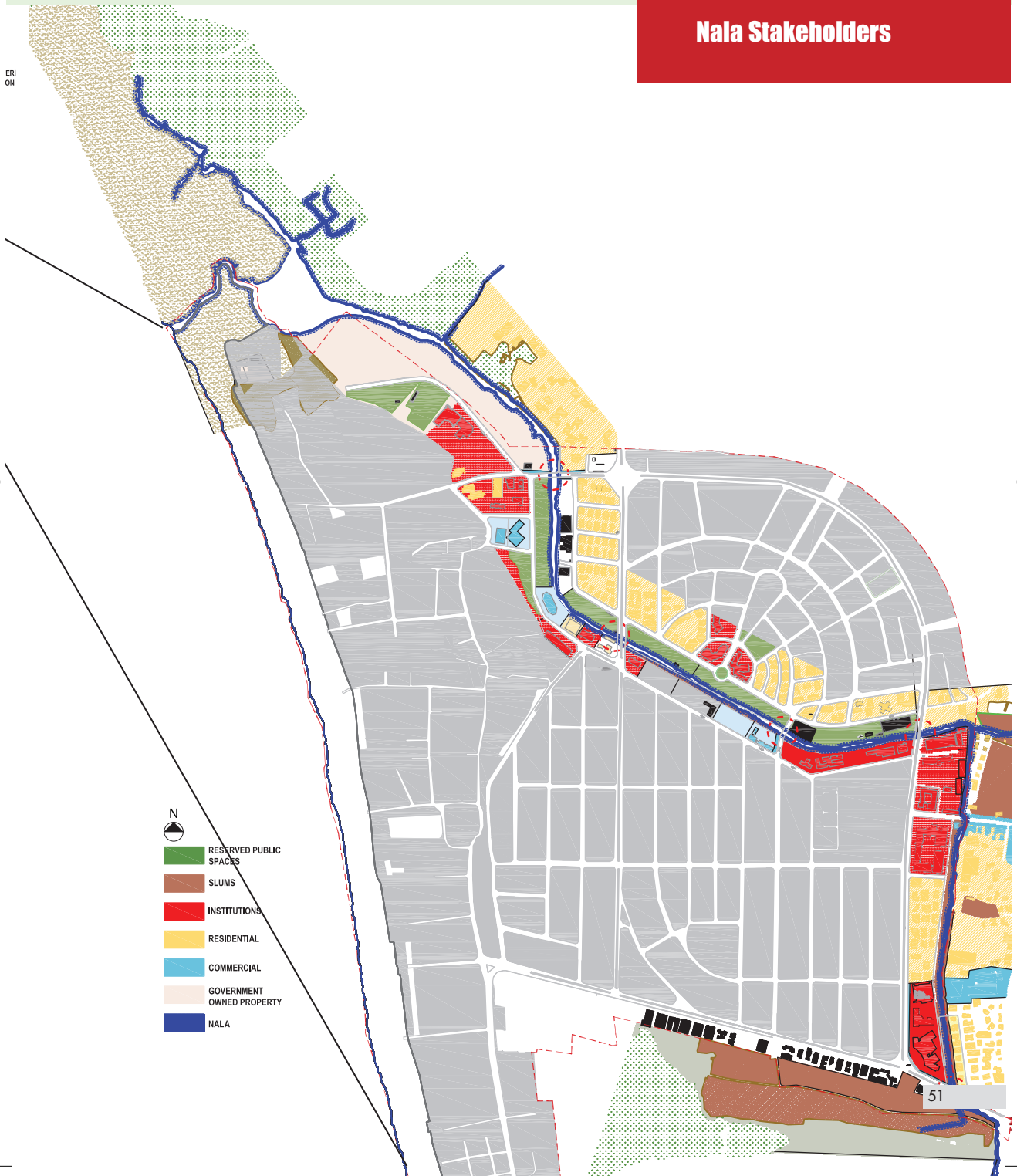


Proposed view of the nala after development



The Irla Nala meets the Sea at two points.

Nala Stakeholders



The Irla nala is presently being used as a backyard and a place to dump waste. Impermeable compound walls, squatters and raised ground levels block the smooth flow of the drain. It is subject to encroachment, hence indiscernible at some places and its obstruction is one of the reasons for flooding in the low-lying areas of Juhu.

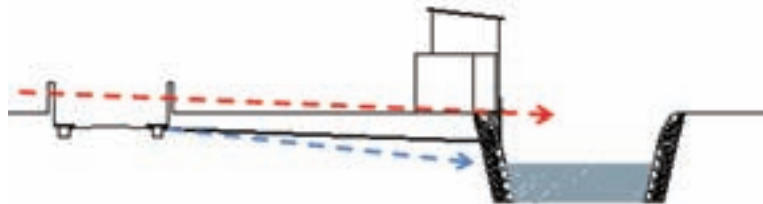


Fig.4. The natural slope of the surface drainage is blocked by impermeable compound walls, squatters and raised ground levels

We visualize the nala as an important spine connecting throughout Juhu, especially the educational institutes and hence, propose to develop it as a greenbelt, useful for pedestrians and cyclists. Our design would also ensure that it serves as a flood plain during monsoons and prevent scenarios witnessed during the 26th July 2005 deluge.

Our study examines Irla nala's potential to hold excessive rainfall, such as the downpour Mumbai witnessed in July 2005. On 26th July 2005, the rainfall recorded was upto 150 mm/hr. Hence the maximum expected volume of water to be drained by the Irla nala is 3,233,100 cu.m. The current capacity of the nala is 10,14,970 cu.m. Under the ongoing BRIMSTOWAD the nala will acquire a potential area of 2,02,994 sq m.

Thus if a 6 m stretch along the nala can be leveled and paved, it will allow permeability and enhance the ground water table. Also the walls can be constructed out of permeable material. The

retaining walls can be made of material such as stone, etc. The height of compound walls can also be lowered, so as to allow the excess surface runoff to flow into the nala instead of causing water-logging. The foundations shouldn't be very deep as it affects the natural absorption of the soil. Vegetation on this stretch will prevent soil erosion. A self-cleaning system can be installed to clean the filth from the nala. The existing institutions, communities, reserved public spaces can open out into this 6 m stretch; which then functions as an extension of the public space. During monsoons this area would serve as a flood plain.

Diagrammatic representation of the self-cleaning system for the nala.



Fig.5 Ref. from Hindustan Times article 'A drain that cleans itself' dated April 15, 2008 by Sayli U. Mankikar

Thus the nala is creatively and resourcefully used as public space and also provides for an important natural ecological system in the area.

Global case studies reveal that the above plan can be successfully put to practice in a relatively small duration of time. The Living Water Garden, a six-acre park on the Funan river in Chengdu, China installed a water treatment plant for chemical contaminants in its river and turned it into a vibrant education centre, a wildlife refuge and a wonderful space for people to congregate. (Appendix page 74: detailed study on the Living Water Garden, China)

South Korea too has done this with a drain in the centre of Seoul. By programming its edge, it has transformed the drain into an active urban public space. Similarly, Boston and Brooklyn have the Emerald

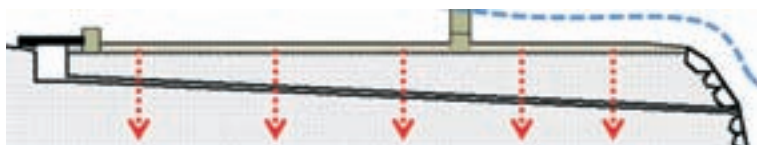


Fig.6. Paved surface will allow permeability

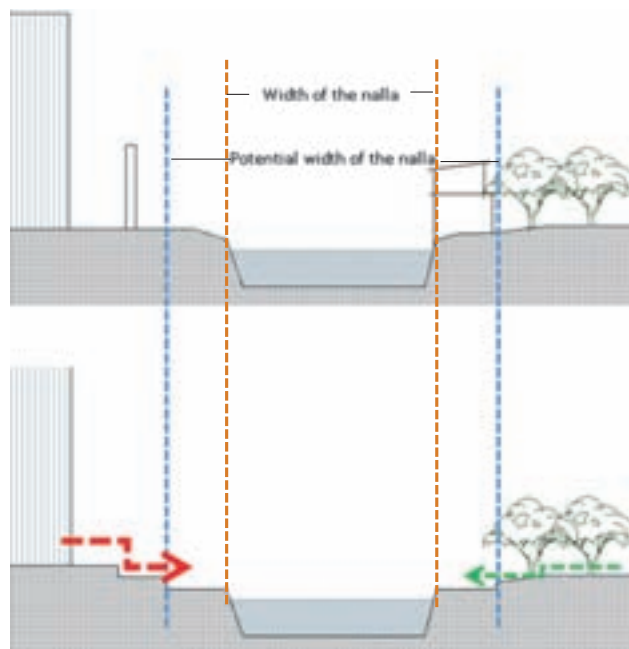
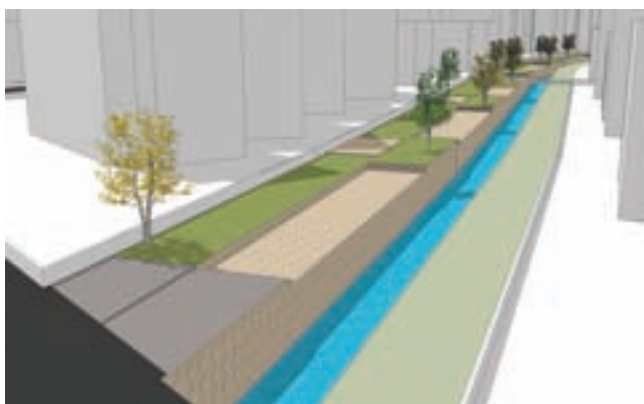


Fig.7



Proposed Pedestrian Pathway behind Mithibai college

Necklace, a 1,100-acre (4.5 sq.km) chain of parks linked by parkways and waterways. (Appendix page 74-75: detailed study on the Seoul drain, S. Korea and the Emerald Necklace, USA)

Irla Nala runs approximately 7.5 kms and a greenbelt on both sides would result in roughly 10 kms of public space. This patch would also link up various amenities and institutions in the region, making them easily accessible by foot. The green space will also see use by fitness freaks, mothers and toddlers, bystanders, etc enriching the community spirit in the neighbourhood.

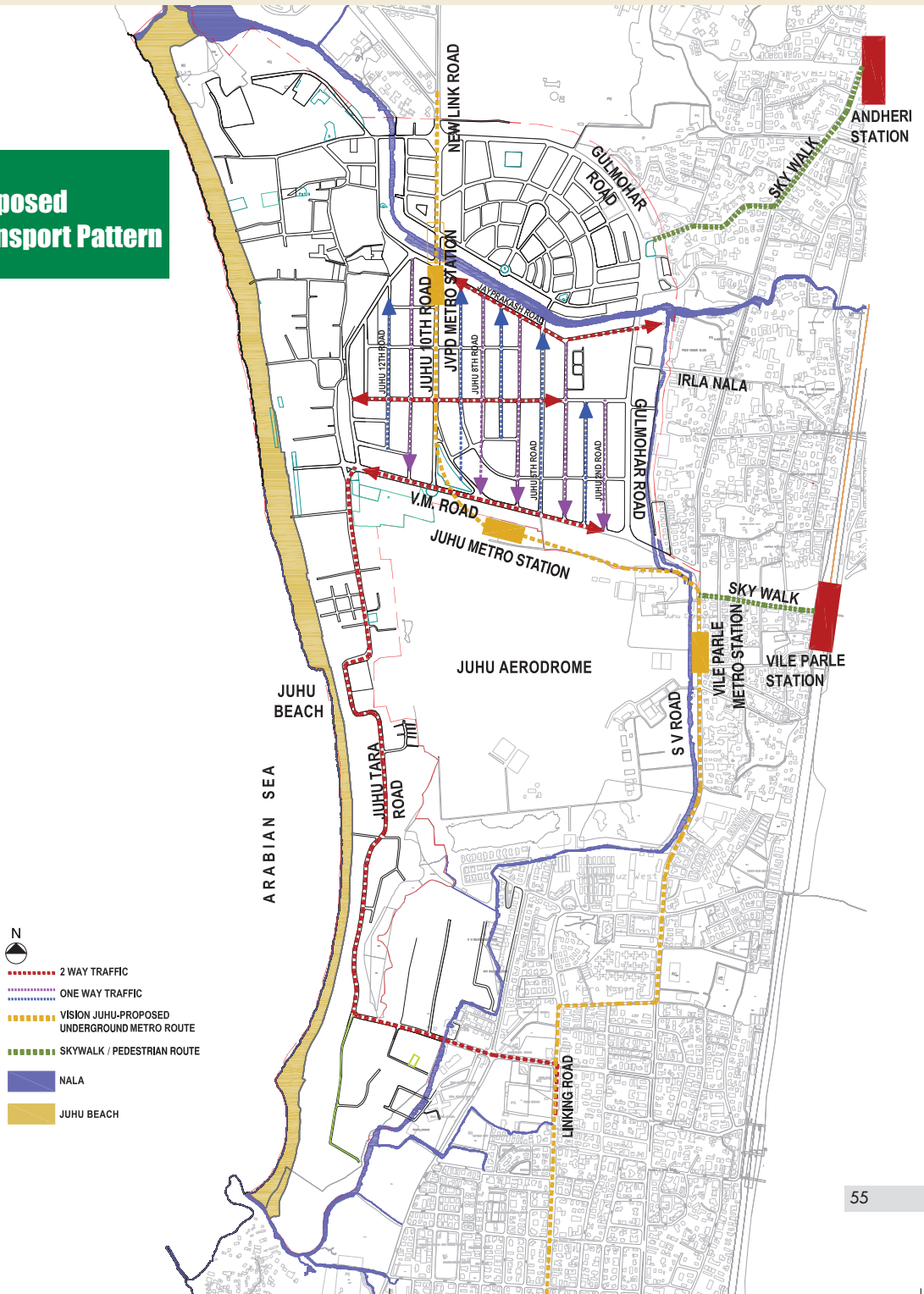
Locating the Metro Rail

- Proposing Underground Metro rail
- Shifting proposed placements of Metro stations

Roads network and one-ways

- Utilizing internal, low traffic density roads as pedestrian pathways

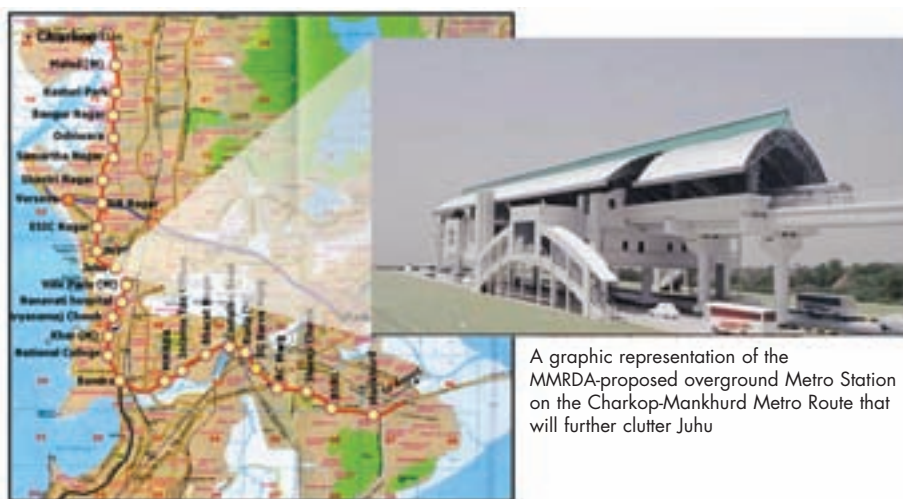
Proposed Transport Pattern



Research shows a disparity in the movement patterns in the planned and unplanned areas of Juhu. The roads in the planned areas suffer from underutilization, while the roads in the unplanned areas show high variation in use and activity. At the same time, the beach and various institutions in the area which are a magnet for a floating population do not seem to have been considered while determining traffic movements.

There are two main vehicular roads in the region: Juhu Tara Road – 10th Road – New Link Road stretch and the S.V. Road – Gulmohar road – New Link road stretch. While the latter shows road widths and routes that can manage the high traffic density, the former shows roads first used in the early 1900s that fall drastically short of the required widths to manage the high traffic density. Near the major institutions and market areas, the roads show high traffic density again. High pedestrian density is seen along the roads leading from the railway stations and along the beach. Most of the internal roads in the JVPD and Gulmohar Road areas seem over designed for traffic, considering the number of residents they serve. At the same time, the high volume of parking along these roads creates a problem for the pedestrians.

The eagerly awaited Metro rail will serve the Juhu region too. Three stations along the Charkop – Mankhurd Metro Rail line are relevant to this study area. The drawings and images provided by the MMRDA seem to indicate that the stations have been literally dropped on top of the roads, without considering the impact that the placement of the stations will have on the existing fabric. At the same time, having an elevated rail track running along these high vehicular density roads will severely impact the already thick traffic movement in the area. Residents of Juhu, Khar and Bandra have come together and raised objections to this plan. They have submitted an alternative



proposal for an underground metro for their sector, to the MMRDA for consultation.

Our proposal considers these various aspects of the traffic and pedestrian movement in the area and tries to re-imagine various forms of movement as part of a larger unified network

Opening up the D.P. road within the airport land connecting 10th Road to S.V. Road at Khira Nagar or a tunnel that runs below this land will solve the high vehicular densities along the narrow and crowded Juhu Tara Road. It will also help to efficiently manage the floating population that accesses Juhu beach and the hotels along it.

At the same time, certain access roads to the beach can be made one-way or pedestrian only to accommodate the throngs of people that access the beach along the weekends. A parallel road to the beach can be made pedestrian friendly to distribute the floating population.

We propose to create two wide pedestrian pathways along the nala and the edge of the airport land that work in conjunction with railway station pedestrian access routes. Skywalks can be constructed to tie up Vile Parle station to the greenbelt along the airport edge, while some roads near Juhu Lane can be pedestrianised and led into the greenbelt along the nala. The pedestrianisation can be extended to internal roads in JVPD and Gulmohar Road, where a system of alternate one way roads can allow half the road to be pedestrianised and begin to accommodate other activities as well, such as a hawker's plaza, children's play areas and street parking.

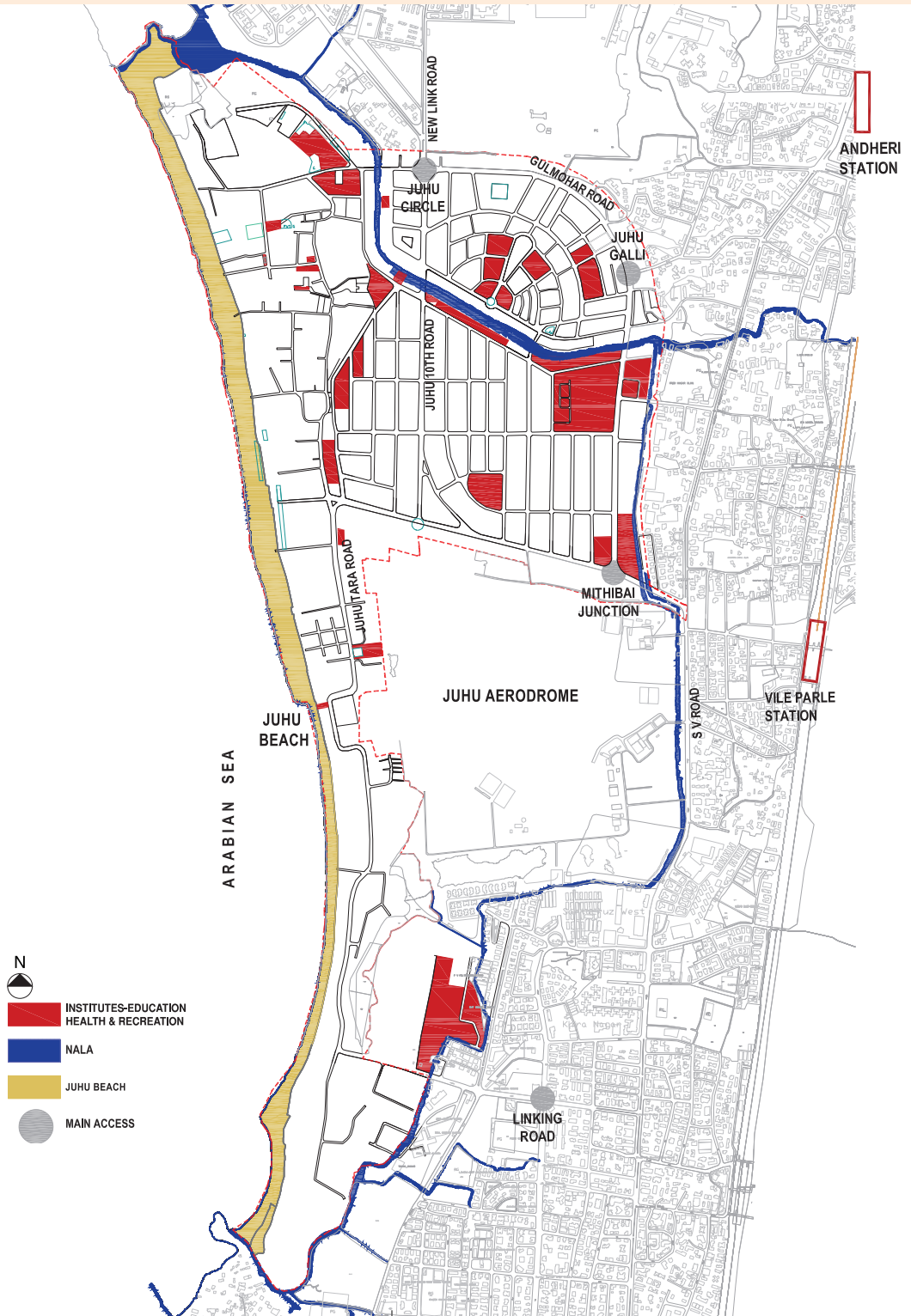
The basis for the larger transport network being set, the underground Metro stations can be planned accordingly. JVPD Metro station can be placed along the proposed greenbelt near Kaifi Azmi Udyan, where it forms a smaller network of accesses to institutions in the area. The Juhu Metro station can be placed within the airport land; lining the pedestrian pathway created within and allowing easier and more efficiently planned pedestrian access to the beach. A 4.5-metre-wide pedestrian strip within the airport area can link presently inaccessible public areas. The Vile Parle Metro station can be placed at the junction of the skywalk from Vile Parle railway station and the greenbelt along the airport edge on S.V. road.

This transport plan has derived some inspiration from internationally acclaimed Boston's Big Dig, said to be the most complex urban highway and tunnel project in US history and Las Ramblas in Barcelona, which has pedestrianised the centre of a popular boulevard, making it an iconic space in this Spanish city. (Appendix page 76-77: detailed study on the Boston's Big Dig and the Las Ramblas, Spain)

Our transport-networking proposal promises to reduce congestion near new metro stations and manage vehicular traffic density and the walking populace in a more efficient manner.

Integration of Social Amenities and Institutions

- Integrating them with public space network



A Academic Institutions

Schools

1. Vrajlal Parekh Vidyanidhi High School
2. Arya Vidya Mandir
3. RIMS International High School
4. R.N Shah High School
5. Utpal Sanghvi School
6. Jamnabai Narsee School
7. Ecole Mondiale
8. St. Joseph School
9. Maneckji Cooper School
10. Kamla Dharamshi Shruti School
11. Bhakti Vedanta Swami Mission School
12. Billabong School

Colleges

1. Mithibai College of Arts
2. Jeetendra College of Science and Law
3. Rutumbra College
4. D.J. Sanghvi College
5. Amrutben Jeevanlal College of Commerce and Economics
6. Narsee Monjee College of Commerce and Economics
7. Narsee Monjee Institute of Management Studies
8. Kamla Raheja College of Architecture
9. Malini Kishore Sanghvi College of Commerce and Economics
10. Bhakti Vedanta Institute
11. SNDT (Women's University)

B Religious Institutions

1. Iskcon Temple
2. Mukteshwar Devalaya (Gandhigram Road)
3. St. Josephs Church
4. Holy Cross Church, Juhu Koliwada
5. Mahalaxmi Temple

C Amenities

Hospitals

1. Arogyanidhi Hospital
2. Cooper Hospital
3. Criticare Hospital, Gulmohar road
4. Lotus Hospital

Hotels

1. J W Marriot
2. Hotel Sun-n-Sand
3. Holiday Inn
4. Tulip Star
5. Ramada Plaza Palm Grove
6. Sea Princess
7. Ramee Guestline Hotel
8. Horizon Hotel

Income-wise distribution of amenities in Juhu

Fig.8. Academic Institutions: Schools

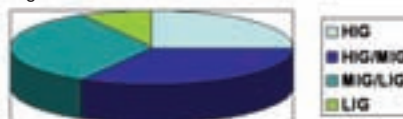
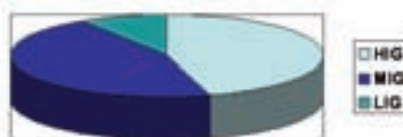


Fig.9. Health Amenities: Hospitals



Institutions near Vidyani Circle

Juhu has one of the highest densities of institutions in any area in Mumbai. It has around 23 schools and colleges and around 17 religious institutions, hospitals and hotels. Mumbai's major public health facility, the Cooper hospital, religious places like the Iskon temple and cultural centres like Prithvi Theatre are located in Juhu. These institutions bring in a lot of floating population into the area from different parts of the city and therefore see a lot of movement of people along specific routes, which connect Juhu to the major transport nodes like Andheri Station, Vile Parle Station and Juhu circle.

Research shows that the areas around these institutions become active public spaces. Hawkers and food stalls have come up near these institutions to cater to the floating population. But since adequate public spaces are not designed around these institutions, these activities take place on the road, which causes inconvenience



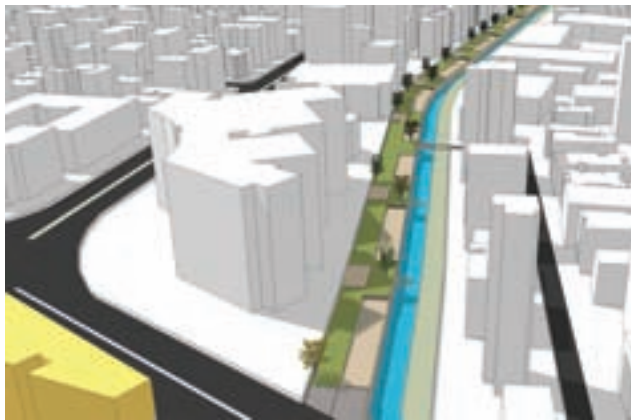
Imagining the nala as a public space spine connecting the different institutes

to the people. Footpaths and roads are thus being used for different purposes, seen as illegal by our civic authorities. But these public activities that take place around these institutions are an important part of the lived public realm and should be protected. Also to practically solve the issue of hawkers, they have to be included in the plans as they too are citizens and stakeholders of Juhu. And for this, it is important to plan areas where such public activities could take place around these institution buildings.

Example 1: Mithibai College

Mithibai College, one of the earliest educational institutions in the

area attracts students from other parts of the city. Catering to the large student population of Mithibai and N.M. College, a lot of hawkers have set up their stalls on the footpaths around the college buildings because of which the area becomes a very active public space. Also there is heavy pedestrian traffic connecting these colleges to Vile Parle station.



Proposed Pedestrian Route behind Mithibai College

The Irla nala flows in the Juhu precinct along a lot of institutional buildings. The proposed greenbelt along the nala can be used to connect these institutions to the major nodes of transport like railway stations, bus depots etc, encouraging pedestrian movements along these routes. Thus the floating population that these institutions attract can be channelised along the nala thus giving a better commuting experience and decongesting the existing roads on which these activities take place.



Proposed Pedestrian Route near Vidyanidhi Circle

Example2: Vidyanidhi circle

The area around the Vidyanidhi circle has a number of institutional buildings and maidans that are closed within their own margins. These maidans and the institutional edges can be opened up to form a larger public plaza which then could be connected to the green spaces along the nala, forming part of a larger public space network. The institutions can also be used to develop maintenance models for protecting the reserved public spaces in the precinct.

This integration of institutes and social amenities with the larger public space network will ensure safety of our young population, encourage walking and cycling and provide a superior commuting experience.

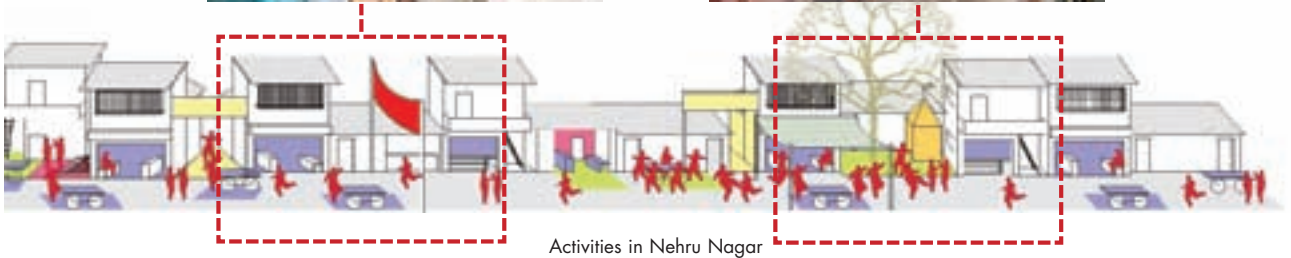
Improvement of amenities in Slums and conservation of Gaothans

- Including them in the redevelopment plans for the city





Nehrunagar has a main road as a central spine, which becomes the main activity space of the area.
Infrastructure, recreation and commercial activity is centred along this main road



The slums provide service for the higher income residential and commercial areas. Hence the slums have to be recognized as an important stakeholder and be integrated into the social and economic framework of the region. Currently, the slums get a very small part of the public amenities because most of the amenities are planned for the higher income groups.

Juhu has a few slum pockets, Nehrunagar being the most obvious one. To integrate the slum population into the larger fabric of the area, social amenities have to be made more accessible to this stratum of society. One way of achieving this 'slum to neighbourhood plan' would be to design educational, health and other amenities for the slums along the proposed network of public spaces. Services along the nala and airport edge will address the demand for amenities infrastructure for the slums.

Successful stories about redevelopment of slums have been heard and seen in various parts of the world. The key ingredient has been active participation from the slum dwellers themselves in urban planning and progressive support from the government and private organizations.

Example: The Favelas in Brazil

The Inter-American Development Bank funded this US\$180 million 'slum to neighborhood' project in 1995 in which it sought to integrate existing favelas into the fabric of the city through infrastructure upgrading and increase in the services. The project involved 253,000 residents from 73 communities.



The secret to the success of this large project was a committed and flexible city government and the use of intra and extra-institutional partnerships with NGOs, the private sector, churches, and the general population. Community members were made to feel comfortable by the use of grass-roots level infrastructure upgrading experts as

project managers who could work easily with both the government and the locals.

It sought to ameliorate the effects of poverty through a combination of infrastructure investments, improvement in the

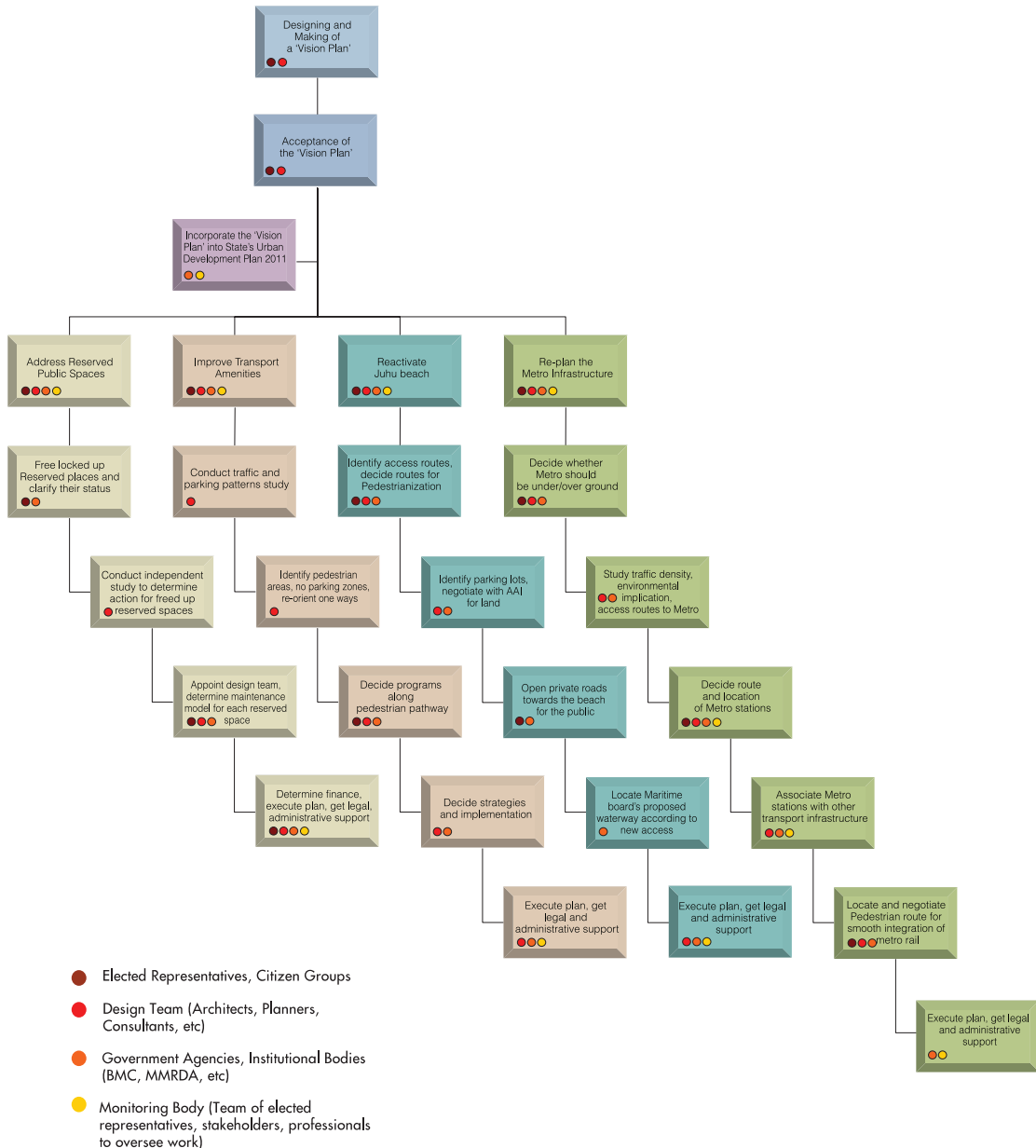
coverage and quality of social services, regulatory changes, and incentives and assistance for land legalization.

What worked and why?

A devoted and adaptable city government was very important to the triumph of this project. Policy changes had to be implemented to make this work. In this project, it was the first time that the full apparatus of the city government had been made available to resolve the problems of residents of favelas and irregular subdivisions.

This programme supported existing city programme for implementation of the low-income urban settlement policy, increasing their scope and improving their effectiveness. Also important was the use of programme managers coming from grass-roots infrastructure upgrading efforts in Rio de Janeiro. They knew the technical aspects of upgrading and the community as well. They could act as an efficient middle person between the communities and the government.

Governance, Participation And Maintenance Model



Vision Juhu expects the citizens to play an active role in the upkeep and maintenance of the public realm. The maintenance model is made up of many smaller interventions, each of which is executed and sustained by different stakeholders, who are largely members of the public. At the same time, to protect the interests of the maximum number of people, we propose that all maintenance models incorporate two or more stakeholders.

The first step to turn this project into a reality is the acceptance of the 'Vision Juhu' plan by elected representatives, citizens, planners and architects. This then needs to be incorporated by the authorities into the 2011 development plan for the city. A monitoring body needs to be formed consisting of elected representatives, citizen groups and professionals to ensure its successful implementation.

Various parts of the Vision then need to be separately executed. For example, for developing reserved open spaces, the issue needs to be raised through citizen activism and BMC support and the locked up spaces need to be freed. Professionals then conduct a study and independent agencies prepare plans to determine a programme for the freed up reserved spaces. Two or more stakeholders should then be appointed as the maintenance body for the site.

Finance models then need to be determined to execute the plans and the monitoring body needs to ensure the equitable and desired distribution of the programme. Similarly, models for pedestrianizing and reorganizing traffic movement, reactivating the entire stretch of Juhu beach and locating the metro rail infrastructure have been charted out as below. Each dot in the chart signifies the involvement of the concerned body at that particular stage.

Appendix

Population Growth and Public Space Ratio

According to the 1991 census, Juhu's population was 10,543 and open space per person was 10.51 sq. m. To calculate the area's population in 2008 and the subsequent open space per person, a scientific study was conducted.

Research shows that the population of the study area increased 100% between 1971 and 1981, and then again doubled between 1981 and 1991. These could be understood as the effects of developments such as JVPD and Gulmohar Road coming up and the saturation of development along the coast.

However, data from the 2001 census is not detailed to an extent where one can analyze the impact of laws such as the Transfer of Development Rights (TDR) regulation or the Coastal Regulation





TYPICAL PLOT BUILT UP (1991)

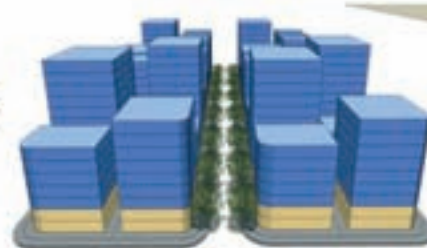


TYPICAL STREET BUILT UP (1991)

The built form of the area has shown a tremendous increase due to the doubling of FSI as a result of the loading of TDR



TYPICAL PLOT BUILT UP (2008)

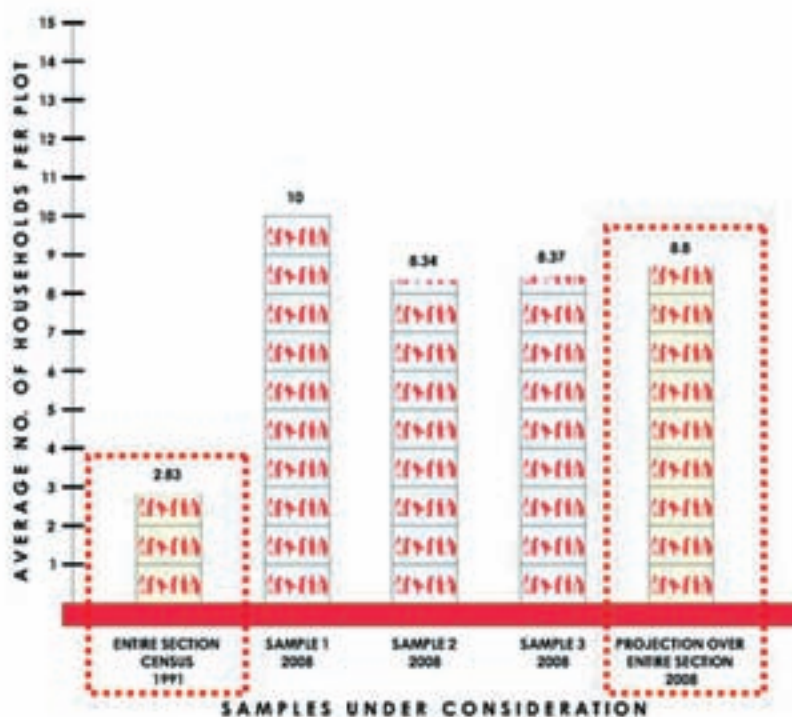


TYPICAL STREET BUILT UP (2008)

Zone (CRZ) regulation, both of which took effect in 1992 or the setting up of the Slum Rehabilitation Authority in 1995. For this reason, the growth in population was understood through sample studies after gauging the impact of these laws and acts within the study area.

The Coastal Regulation Zone (CRZ) byelaw constrains development within a 200-metre belt measured from the high tide line along the sea, or the first parallel road to the high tide line. Also, the development in this zone has been taking place for at least 60 years and new developments are rare. This constrains development within most of the study area, as indicated in the drawing. The population growth here would be minimal, almost negligent.

The Slum Rehabilitation Authority sets 1995 as the cutoff date for considering slum dwellers as legal tenants of their land. Unless



AREA CONSIDERED	NO. OF PLOTS	TOTAL NO. OF HOUSEHOLDS		NO. OF PEOPLE	
		1991 (CENSUS)	2008 (SURVEYED)	1991 (CENSUS)	2008 (SURVEYED)
SAMPLE 1	54	153	540	816	2885
SAMPLE 2	58	165	460	876	2457
SAMPLE 3	35	99	293	529	1566
TOTAL	147	417	1293	2221	6908



JVPD 1991: 10.51 sq.m/person



JVPD 2008: 3.36 sq.m/person

AREA CONSIDERED	NO. OF PLOTS	TOTAL NO. OF HOUSEHOLDS	TOTAL POPULATION	OPEN SPACE PER PERSON (TOTAL OPEN SPACE = 118,838 SQ.M.)
JVPD (1991 CENSUS)	700	1977	10543	10.51
JVPD (2008 PROJ.)	700	6160	32900	3.36

ideal = 10-12

the cutoff date is revised to 2000, the impact on population growth percentages would not be too high. However, the population densities in the slum settlements are high enough to consider any growth in population high enough to impact the total population in the area. In the absence of any population data even from previous census counts, it is difficult to judge the impact of the slum population on the public realm.

The Transfer of Development Rights regulation allows FSI in some areas in the city to be increased; provided an equivalent area in another part of the city is kept undeveloped. This has resulted in a bonanza for builders who have utilized SRA schemes with high FSI to over-develop parts of the city where the sale price for this land is higher, thereby earning large profits. To consider the impact of TDR, the area of JVPD has been considered where the impact



Open Space Ratio Comparison

of TDR is maximum, owing to the low FSI consumption in the area and the ease with which single owner plots can be converted to buildings.

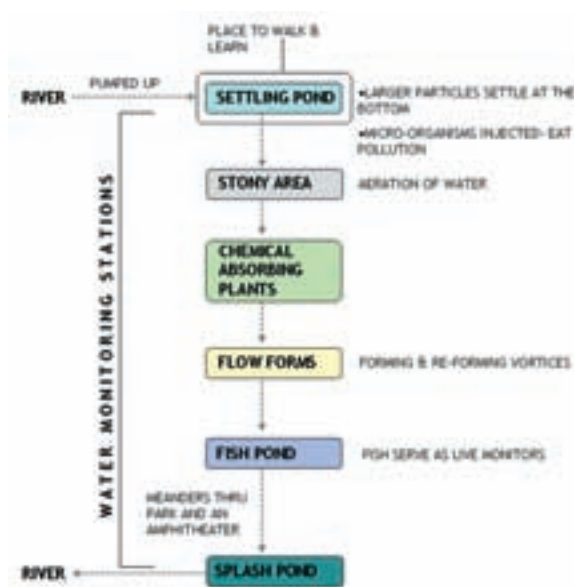
Three samples within JVPD were selected and were analyzed on the basis of the built form change and population growth. The average built up for every lane in JVPD seems to have gone up at least twice, considering that FSI is doubled. Earlier, each plot averaged 2.83 families. However, the change in the housing typology has meant that the number of families per plot has gone up to 10 in some cases. Considering that the number of people per family is constant at around 4, the population of JVPD has gone up by at least three times. The impact on the public space is equally severe, with public space per person in JVPD having reduced from 10.51 sq.m. per person to 3.36 sq.m. per person.

Case Studies

The Living Water Garden – Chengdu, China

The living water garden, a 5.9 acre park on the Funan river, encircles the centre of Chengdu, China, a city of nine million.

Besides being a water treatment plant for chemically polluted water, more invisible and persistent than waste water, it is also a giant sculpture in the shape of a fish that contains a multitude of smaller sculptures, a living environmental education centre, a refuge for wildlife and plants and a wonderful recreational place for the people.



People can walk everywhere in the park, delighting in the many birds, butterflies and dragonflies that have taken up residence there and observing how the once dead river became alive again.

The final stage of waste treatment is an addition to every community instead of a hidden, strange exercise. Its wetland attracts wildlife and is a place for study. It has made the city thrilling on a human scale.

The Emerald Necklace – Boston, USA

The Emerald Necklace conservancy was established in 1996 to support and build upon public sector initiatives. A non-profit



organization, this public private partnership is composed of community, business, government and institutional representatives, residential neighbours, representatives of necklace-related associations and interested citizens.

The parks are almost contiguous with one another and are irregularly shaped, according to whatever land was available at the time of each park area's foundation. It is approximately seven miles by foot or bicycle through the parks.

Some links of the Emerald Necklace not only offer an opportunity for recreation in a wooded environment, but are also ecologically important urban wilds that provide nesting places for migratory birds and improve the air quality of the city.

The project began around 1878 with the effort to clean up and control the marshy area, which became the Back Bay and the Fens. The parks have now been subjected to flooding from the Muddy River. The Muddy River Restoration Project will dredge contaminated sediments and implement other major structural improvements, unburying the river and improving its integrity, appearance and flood control capabilities.

Chongchun Seoul – South Korea

The city of Seoul had a drainage channel running through the central parts of the city. The city administration decided to fill the drain and build an expressway over it, thereby completely stopping the drainage channel of the nala. This caused tremendous environmental hazards in the





city, like floods, which led the city administration to destroy the expressway to revive the natural drainage channel. By planning community spaces along the drain, the whole spine was turned into a big active public space, which has now become a major tourist attraction.

Las Ramblas – Barcelona, Spain

A major road connecting two public plazas in the city of Barcelona was pushed underground and the area available was converted into a public space. The central area of the road was



converted into a pedestrian pathway and the side of the road was left for vehicular traffic. Many hawkers were rehabilitated into this central area. This space connecting the main public plazas is a very active public space with a lot of street performances, parades and other community activities taking place.

The Big Dig – Boston, USA

The Big Dig is the unofficial name of the Central Artery/Tunnel Project (CA/T), a mega project that rerouted the Central Artery, the chief highway through the heart of Boston,



into a 3.5 mile tunnel under the city. Due to the enormous size of the project – too large for any company to undertake alone – the design and construction of the Big Dig were broken up into dozens of smaller sub-projects with well-defined interfaces between contractors. The project was initiated because of chronic congestion on the Central Artery, an elevated six-lane highway through the centre of downtown Boston, which was like a funnel full of slow moving or stopped cars and swearing motorists!



List of Figures and Tables

Tb.1: Unavailable reserved open space: Page 38

Fig.1: State of Reserved Public Spaces in Juhu: Page 39

Fig.2: Gender-wise Use of Reserved Public Space: Page 42

Fig.3: Activity-wise Use of Reserved Public Grounds: Page 42

Tb.2: Potential public space in Juhu: Page 45

Fig.4: Blocked drainage surface: Page 52

Fig.5 Self-cleaning system for the nala: Page 53

Fig.6. Paved permeable surface: Page 53

Fig.7: Potential width of the nala: Page 54

Fig.8. and 9. Income-wise distribution of academic and health amenities in Juhu: Page 59

Bibliography

Survey/road map of Bombay 1921,1933,1969 - Issued by the Surveyor-General of India, the Perry Castaneda Library Map Collection, <http://www.lib.utexas.edu/maps/india.html>

Historical Data for present stakeholders - <Http://En.wikipedia.org>, Gazette of India

Source for open space data: Development Plan for Bombay 1991

Population statistics - 1981, 1991 Census of India

Case Studies- wikipedia.org

Contacts

Kamla Raheja Vidyanidhi Institute for Architecture

Principal- Anirudh Paul, Tel: 26700918, 26200923 Email: anirudh.paul@gmail.com

P K Das and Associates - Planners, Architects & Designers

Architect-activist - P K Das, Tel: 24312404, 24308877. Email: pkdas.arch@gmail.com

Mumbai Waterfronts Centre

Honorary Secretary - Darryl D'Monte, Tel: 26427088. Email: darryldmonte@gmail.com