Regenerating Public Spaces in Existing Urban Fabric

Case Application Jamshedpur, Jharkhand

An Urban Design Thesis Report

Submitted in partial fulfillment of the requirements for
The Post –Graduation degree of Masters of Architecture (Urban Design)
Under the Faculty of Engineering & Technology
Jadavpur University, Kolkata

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~~I~~/We certify that the thesis entitled "Regenerating Public Spaces in Existing Urban Fabric: Case Application Jamshedpur, Jharkhand" submitted by ~~Shri~~/Smt Jyoti Singh in partial fulfillment of the requirements of the Masters' Degree in Architecture of this University, is a bonafide work, to the best of ~~my~~/our knowledge, and may be placed before theExamination Board for their consideration.

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Supervisor *External Examiner*

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Head of the Department *External Examiner*

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Dean, Faculty of Engineering & Technology

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Introduction

1.1 ABSTRACT

Public spaces are taking on an increasingly important role in the urban agenda. The quantity, quality, accessibility and connectivity of public spaces have been highlighted as key criteria for urban regeneration, and as fundamental conditions to wellbeing, particularly for the most vulnerable populations. The main challenge is to develop inclusive and polyvalent spaces, adapted to cultural and environmental contexts, in order to foster economic and cultural activities, guarantee security and encourage social capital formation. The participation of the populations in the creation and management of public spaces as well as the implementation of effective regulations, have been identified as key conditions for success.

The cultural approach to urban development can be directly applied through public spaces. Public spaces serve as the basic framework for urban landscape and reflect the history and cultural diversity of urban societies, through their morphology as well as their uses. In this context, a thorough knowledge of cultural heritage (architecture, urban morphology, practices and cultural expressions…) is key to understanding the way public space's function and to guide planning and management choices. The preservation of historical traces and the safeguarding of traditional practices and cultural diversity, have a direct impact on the quality of public spaces and their capacity to generate social capital.

A growing number of cities have also chosen to give a role to culture in public spaces. Artists, designers and urban professionals are invited to reinvent and regenerate public spaces, through interventions involving the arts and the urban setting (furniture, lighting…), particularly in cases of urban sprawl and developing areas. Traditional and collective maintenance practices are used to establish community-based management measures for public spaces, hence allowing their appropriation by the populations. Finally, cultural events offer the opportunity to promote or recover abandoned public spaces in order to strengthen social cohesion and the "living together".

1.2 BACKGROUND

Open and green spaces have become increasingly contested grounds in the context of urban densification. Public Spaces have become scarce in these dense cities where land is very ex pensive. There is another problem where cities are often being designed and planned in isolation during the process creating under used spaces all around the cities which in fact reflects on negligence and bad perceptions of the place. Since there is no use attached to these spaces people tend to ignore these places and perceive these places as dead, unattractive, urban spaces. These voids can be seen as spaces which disrupt the urban tissues which neither acts as private nor public spaces. Urban voids are dead, underused, unused spaces in the cities. These urban voids are the result of inefficient decision making, poor land management, poor coordination among decision makers and designers.

Urban Voids have huge potential of improving the place and creating a stronger urban fabric of the city. Reclaiming the dead spaces by intervening could solve the perception of these spaces and thereby create better shared spaces by increasing the imageability and comfort. These spaces can be seen as great potential in this expensive world and exploited as urban public spaces such as public gathering spaces, pocket parks or plazas or just place for activities which make people get engaged and enhance the public realm. Efforts are needed to locate. study and find solutions to increase the public spaces in these dense contemporary cities.

Spaces are designed by planners on a two-dimensional plan without being considering for the citizens' experience and the quality of life in the city, what people really want and also without deep knowledge of citizens' requirements. But the users perceive these spaces completely different from what designers perceive and hence many hidden potentials are missed out which contribute to the creation of urban voids Placemaking can help in unearthing these hidden potentials and help in designing these spaces which in turn can become great public spaces of the city. The crux of placemaking is citizen control in the whole process. Since extensive citizen participation is used in the process the spaces come out in a really public way where the people feel ownership towards the place and maintain the place themselves. Placemaking plan will ensure the people perception and needs which in a way helps to transform these dead. underused and unused spaces into great public spaces

It is estimated 50% of the world's population are living in urban areas. By 2050, this will rise up to 70% and already many cities across the world are struggling to cope with pressure from

rapidly increasing population. There are challenges like poverty, housing supply, pollution and poor infrastructure the cities are currently facing which is affecting the quality of life in these cities. Cities are then competing for becoming more livable in world. Publicly accessible open green spaces are one of the factors that determines the livability in a city.

With cities in countries like India where the rate of urbanisation is 32%, we are constantly dealing with various social and economic problems there is very little attention on addressing quality of life in the cities. We are seeking development but we need to change the focus of development being only related to growth in economy and infrastructure but also socially. These crowded cities deal with limited urban spaces and resources and to increase public spaces is very difficult and complicated. In order to cope with these problems, a paradigm shift in conventional urban planning is needed along with seeking new opportunities and innovative ways while addressing requirement of better urban spaces.

Although the problems of cities in various parts of the world are different but the differences involved in including the people's quality of life is actually minor. The same pattern appears everywhere, that we have been seriously neglecting the human dimension in connection with urban development. In developed cities neglect owes largely to planning ideologies, rapid motorization and difficulties in substituting from a model where city life needs the active support of careful planning. In rapidly developing cities population growth and extensive development in traffic have created numerous problems in city streets. This shows how neglect has just about quenched city life in some economically developed countries and stress from development has pushed city life into extremely adverse conditions in many developing countries.

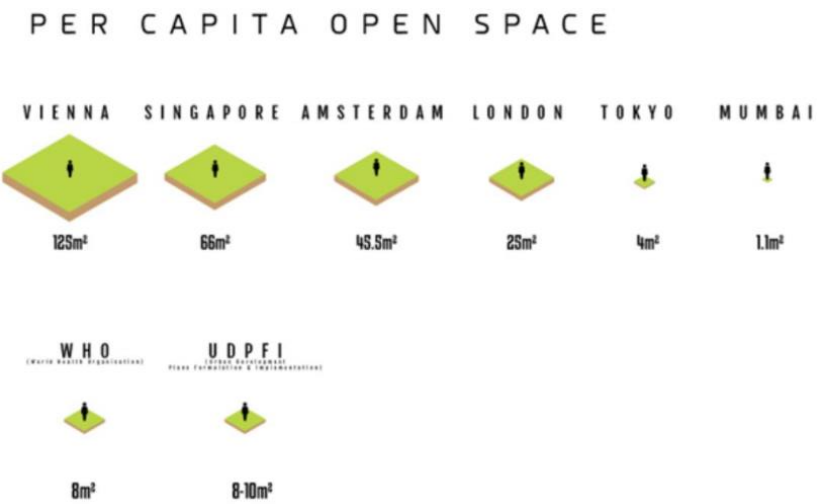


Figure 1: Global Age Friendly cities (WHO)

1.3 DEFINITION

"Public Spaces", *in the simplest terms, are the spaces between buildings and facilities that are open to the public, consisting broadly of the three types of urban spaces: Streets and pedestrians' access, Open and green spaces, including parks, plaza, water bodies and waterfront and public facilities like community centres and municipal market (UN Habitat, 2015).*

- **regenerate (verb)**
  bring new and more vigorous life to (an area, industry, institution, etc.);
  Revive and have economic benefits
- **public (adj.)**
  publike, "open to general observation," from Old French public(c. 1300)
  Latin publicus "of the people; of the state; done for the state,"
  "common, general, of or belonging to the people at large;
- **space(n.)**
  c. 1300, "extent or area; room" (to do something),
  a continuous area or expanse which is free, available, or unoccupied.
- **place (n.)**
  c. 1200, "space, dimensional extent, room, area," from Old French place "place, spot" (12c.) and directly from Medieval Latin placea "place, spot," from
  Latin platea "courtyard, open space; broad way, avenue".
- **urban (adj.)**
  is a word that pertains to or relates to a city.
- **urban fabric**
  It describes the physical characteristics of urban areas, that is, cities, and towns. It is the physical aspect of urbanism, emphasizing building types, thoroughfares, open space, frontages, and streetscapes but excluding environmental, functional, economic and sociocultural aspects.

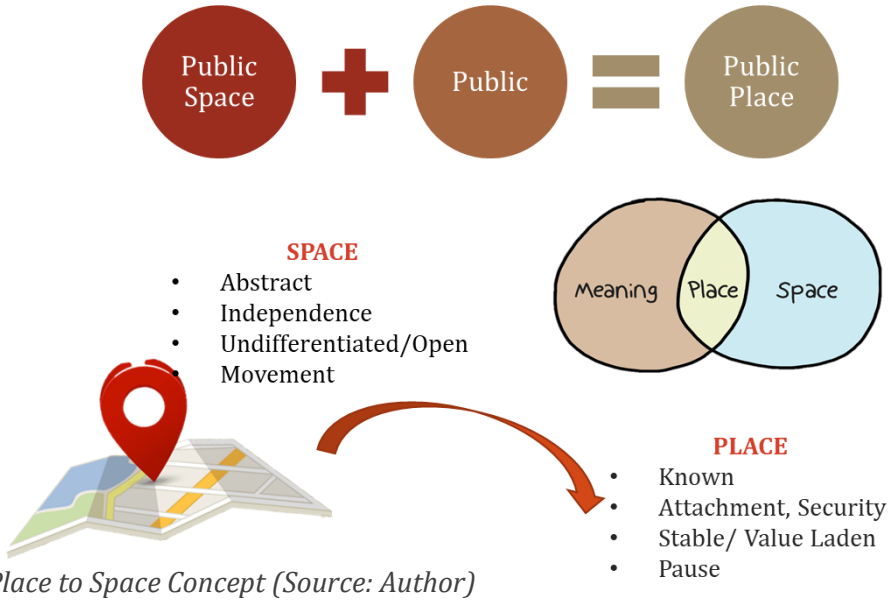


Figure 2 : Place to Space Concept (Source: Author)

1.4 JUSTIFICATION

1.4.1. Why do we need public space?

Public spaces are the living rooms, gardens and corridors of urban areas. They serve to extend small living spaces and providing areas for social interaction and economic activities, which improves the development and desirability of a community. This increases productivity and attracts human capital while providing an improved quality of life as highlighted in the upcoming Urbanization in South Asia report.

Figure 3: Source Author

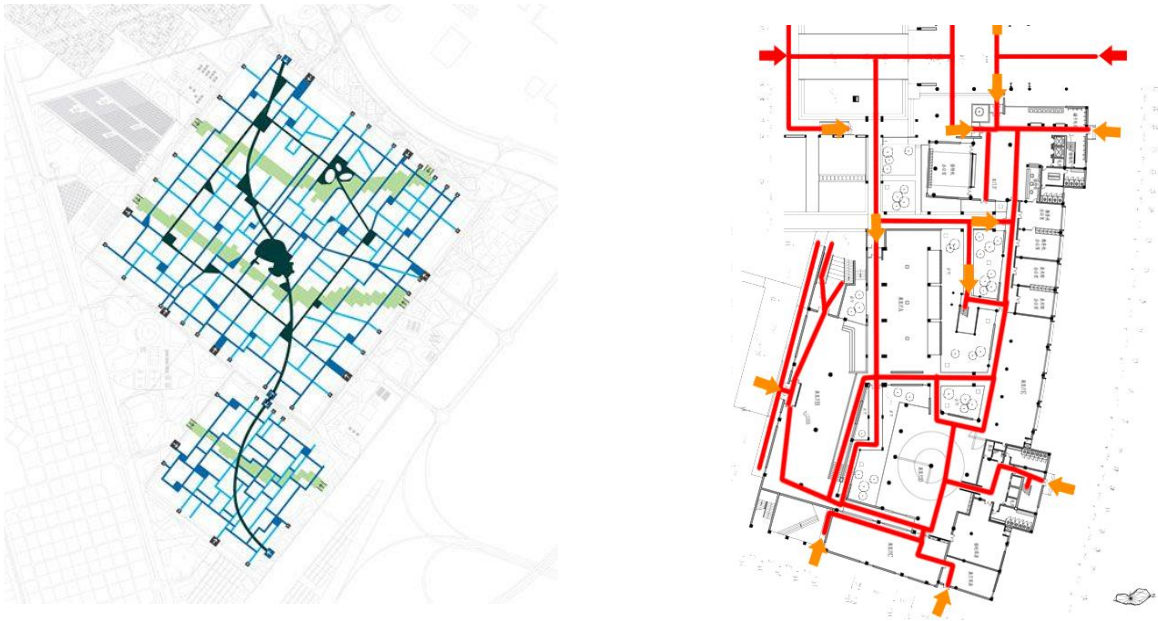


Figure 4 : An analogy for plan of house and plan for city

1.4.2. Advantage of Public Space

Figure 5 : Sustainable Development Goals (Source: Un)

ECONOMIC VALUE	SOCIAL VALUE	ENVIROMENTAL VALUE
• Increased economic vitality • Reduced public expenditure on health care and urban management • Higher property prices • Attract human capital	• Improved quality of life • Increased both real and perceived security and safety • Promoted social equality and stability • Social integration and civic pride	• Reduced pollution (air, noise, water) • Increased ecological diversity • Reduced energy consumption

Table 6 Advantage Of Public Place (Source: Author)

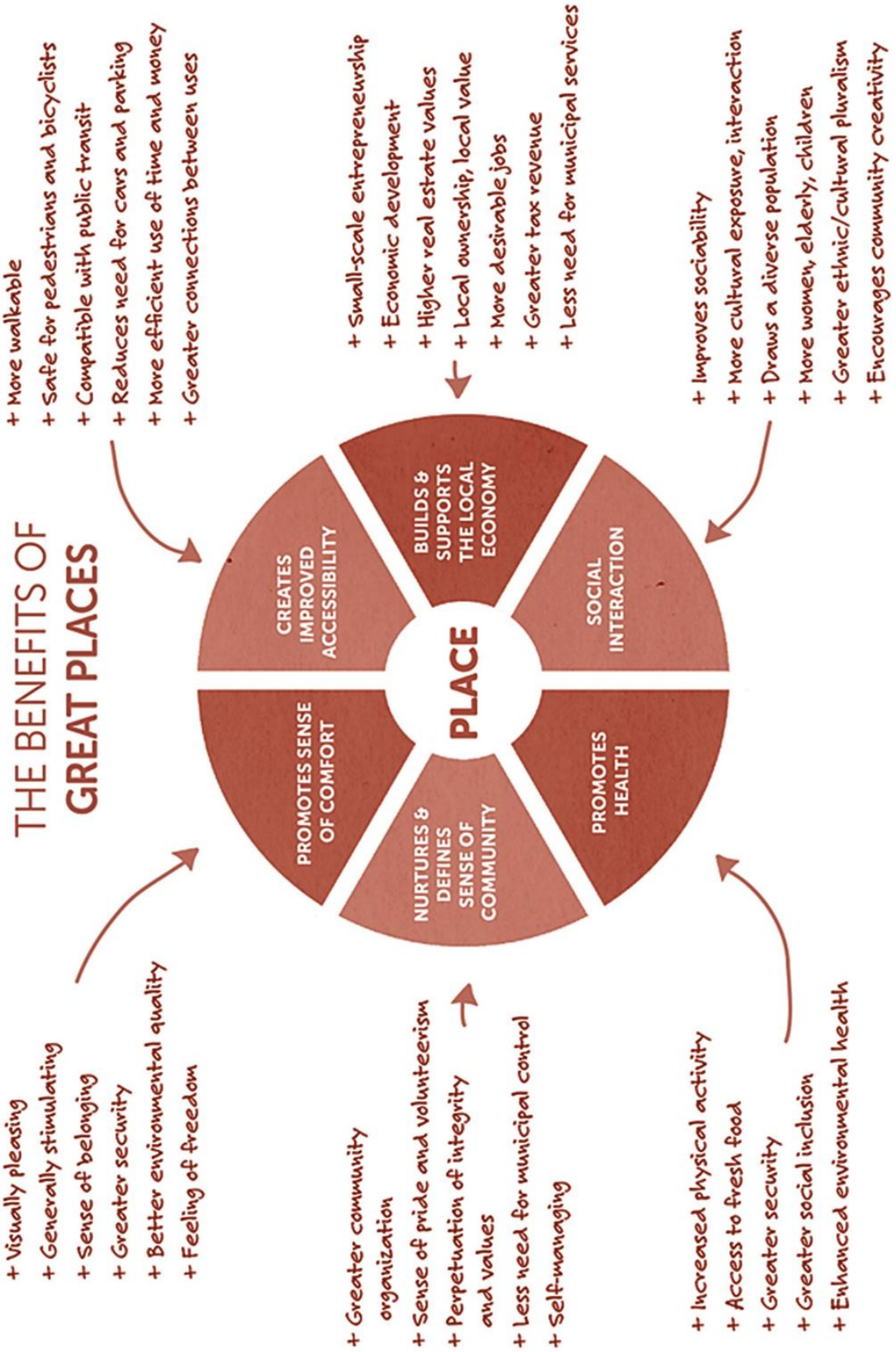


Figure 6 : https://www.pps.org/

1.5 RESEARCH QUESTION

"Which Holistic Urban Design Approach can address the above-stated issues?"

1.6 AIM

To suggest urban design intervention for the city of Jamshedpur to develop healthy, productive and enjoyable public spaces.

1.7 OBJECTIVE

1. To study about the public spaces in general and its characteristics.
2. To explore the typology of public space in the city of Jamshedpur that has potential of design intervention.
3. To understand the urban issue related to those public spaces.
4. To formulate urban design guidelines towards achieving the aim.

1.8 SCOPE AND LIMITATION:

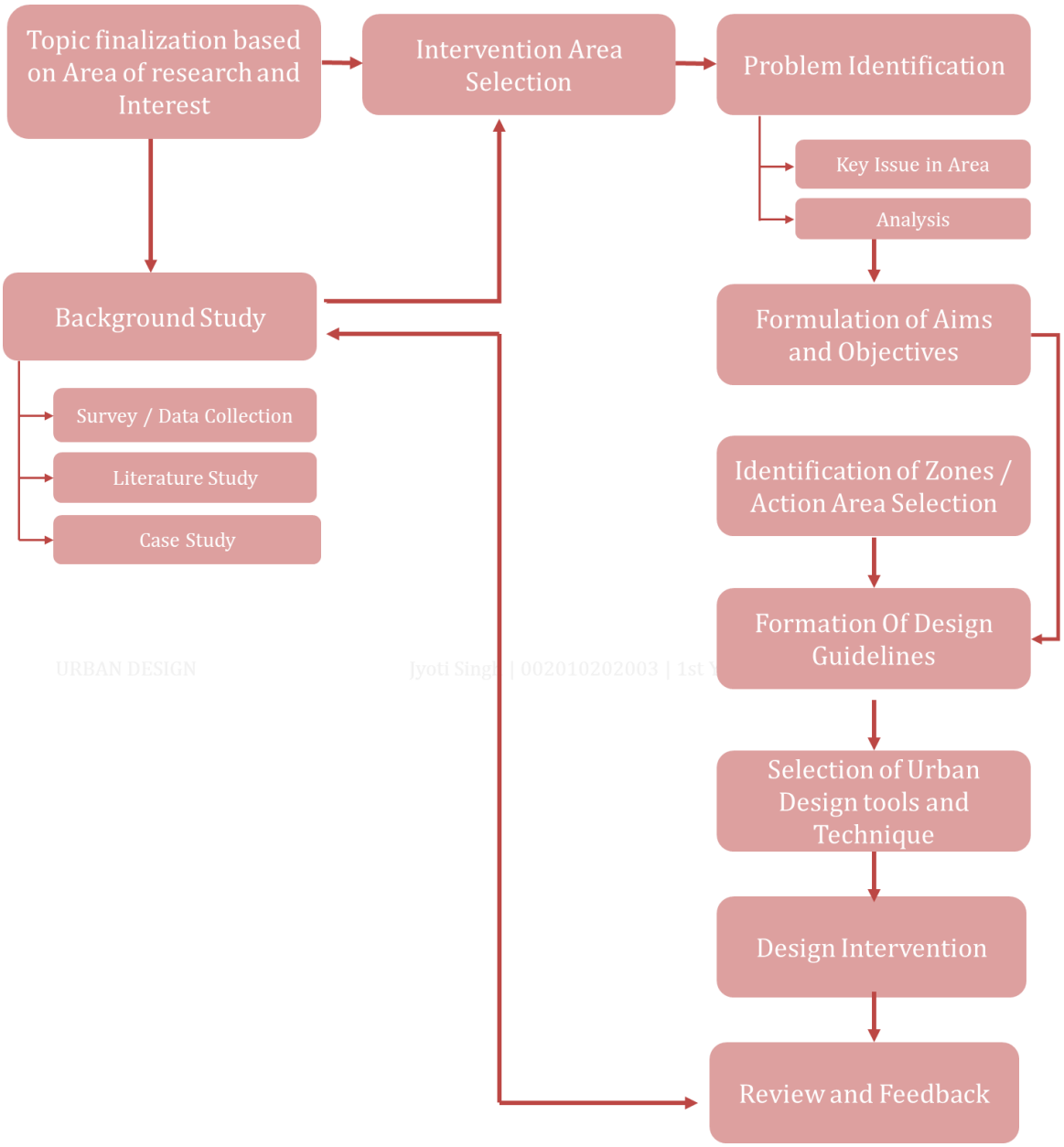
1. This thesis has a scope to work with the redevelopment of city by improving urban connectivity, central axis, edges and landmark zones of the city.
2. This thesis is limited within Sakchi Area under Tata Steel UISL.
3. This thesis is limited up to defining the area for the development for Sakchi market and the guidelines.
4. Furthermore, there are limitations like time limits, budget, etc.

1.9 METHODOLOGY

In order to approach the case, we have to follow a methodical approach. The flowchart here demonstrates the plan of action adopted from ideation to realization.

- Survey (Questionnaire, Visual)
- Primary Data Collection (On site)
- Secondary Data Collection (Authenticated literary sources)
- Analysis of the data and inferences drawn

Table 7: Source Author



02
Literature Study

2.1 HISTORIC EVOLUTION OF PUBLIC PLACES

Public spaces make cities. They are the spaces of visibility and sociability, the areas where the invisible boundaries that separate us socio-economically are temporarily contested. Citizens recognize themselves as members of a community only when they can equally access and use the public "place".

Figure 7 Harappa and Mohenjo-Daro (Source: Google)

The Harappa and Mohenjo-Daro cities were well planned. There public square was raised on a mound with different structures like the Great Bath, Assembly Hall etc., forming a vitality of public spaces open to all.

Figure 8 : Mughal Gardens (Source: Google)

Royal large open leisure gardens, geometrically set out, within the palace boundary. This was not open to the general public. Theses paces were used for formal assembly or performances by dancers, religious rituals etc.

Figure 9 Ancient Bazzar and temples (Source: Google)

Markets places commonly known as 'bazaar', temple precincts and the streets became the gathering places for the people.

2.2 EXISTING THEORIES

2.2.1 Project for Public Spaces

Public spaces could be defined as physical spaces that, in the ideal, are open to all people for the exercise of their rights. Hence, public spaces are a part of the society itself where it is the stage where the drama of communal life unfolds (Carr, Francis, Rivlin & Stone 1992). These spaces have been regarded as the connective tissue of a city, providing access to and connections between all the functions of the city . Public spaces have also been regarded as the ***"key to urban renewal strategies which are apparent in most urban design approaches.***

"Places thrive when users have a range of reasons (10+) to be there. These might include a place to sit, playgrounds to enjoy, art to touch, music to hear, food to eat, history to experience, and people to meet. Ideally, some of these activities will be unique to that particular place, reflecting the culture and history of the surrounding community."— Project for Public Spaces

Public spaces is 'at least by two different processes' (Carr., 1992).

Figure 10 : Successful Public Place (Source: ttps://www.pps.org/)

i. *The natural development, 'appropriation, by repeated use in a particular way or by the concentration of people because of an attraction. This appropriation can happen anywhere, such as stairs or street corners or even alleyways.*

ii. *The planned public places emerge through urban design.*

The public places of a city structure has now become an optional space for the society. A series of factors relating to the desirability of public space has to be taken into consideration in order to encourage people to it. Therefore, providing good quality public spaces are even more compelling today than back in the 1800's because society has a choice to be a part of the city space or otherwise. (Gehl. Gemzoe, Kirknaes & Sondergaard, 2006)

2.2.2 Kevin Lynch – The Image of the City

Lynch's (1960) approach is by analyzing the physical environment to obtain the perceptual structure of an urban space. He defined several physical elements that constitute the legibility and imageability of a city. Hence, Lynch's theory of urban structure is based on the society's mental image of their city.

As a part of "Making Places", Kevin Lynch identified five performance dimensions of urban design:

1. ***Vitality**, the degree to which the form of places supports the functions, biological requirements and capabilities of human beings.*
2. ***Sense**, the degree to which places can be clearly perceived and structured in time and space by users.*
3. ***Fit,** the degree to which the form and capacity of spaces matches the pattern of behaviors that people engage in or want to engage in.*
4. ***Access,** the ability to reach other persons, activities, resources, services, information, or places, including the quantity and diversity of elements that can be reached.*
5. ***Control,** the degree to which those who use, work, or reside in places can create and manage access to spaces and activities.*

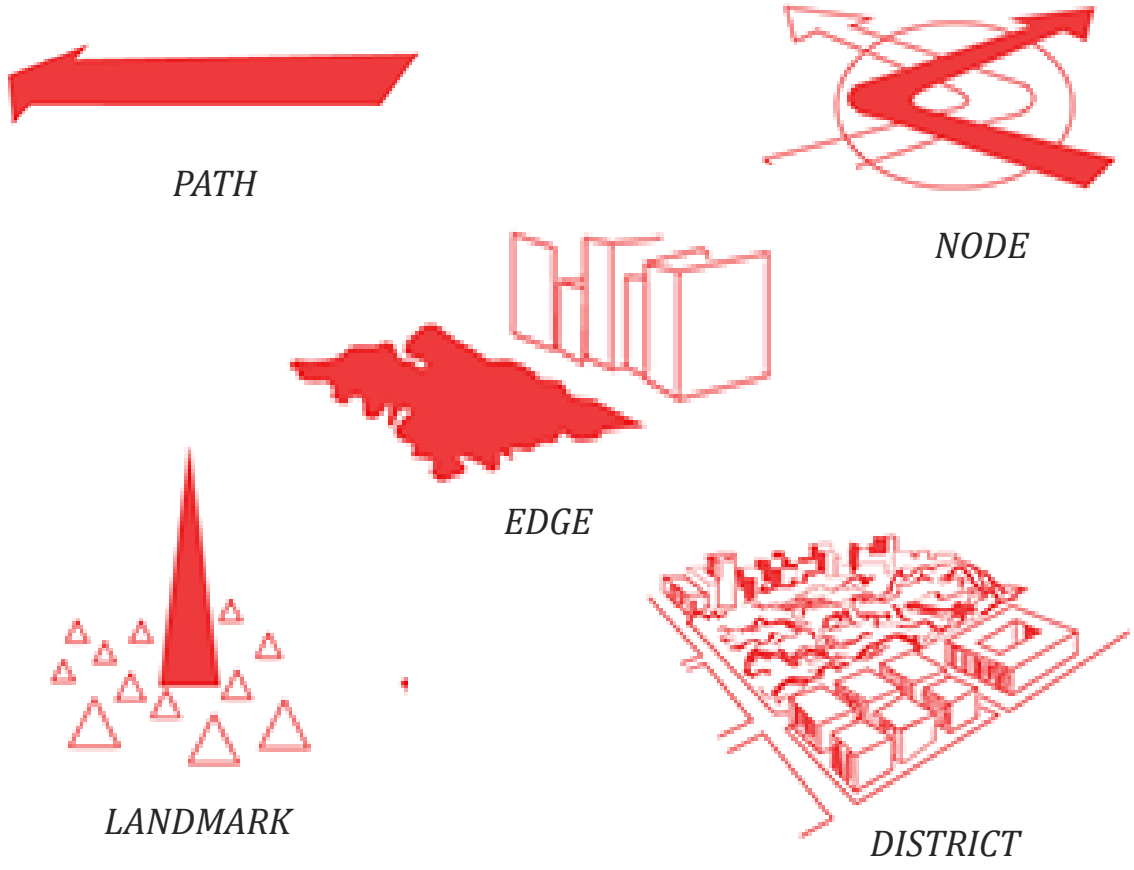


Figure 11: The Image of the City (Kevin Lynch)

2.2.4 Jan Ghel

First, We Shape the Cities, then they shape us (Gehl, 2010)

"If we look at the history of cities, we can see clearly that urban structures and planning influence human behaviour and the ways in which cities operate." This explains the existence compact urban fabric of the medieval cities with their short distances, layout of main streets, public squares and marketplaces functioned as centre of trade and craftsmanship

There will always be a mutual influence between the city and the people. This connection between invitations and behaviour can be seen in present condition of cities which are trying to solve the issue of growing traffic in our cities. "We can always find new ways to increase our car use, building a direct invitation to buy and drive more cars

Finding new ways to use the space should be concern for us as in cities modern urban planning which is used as problem solving exercise without understanding the core problem. Physical planning can greatly influence the activities and usage of city space "If better city space is provided, use will increase". The better the quality of spaces in cities the better it will be the quality of life.

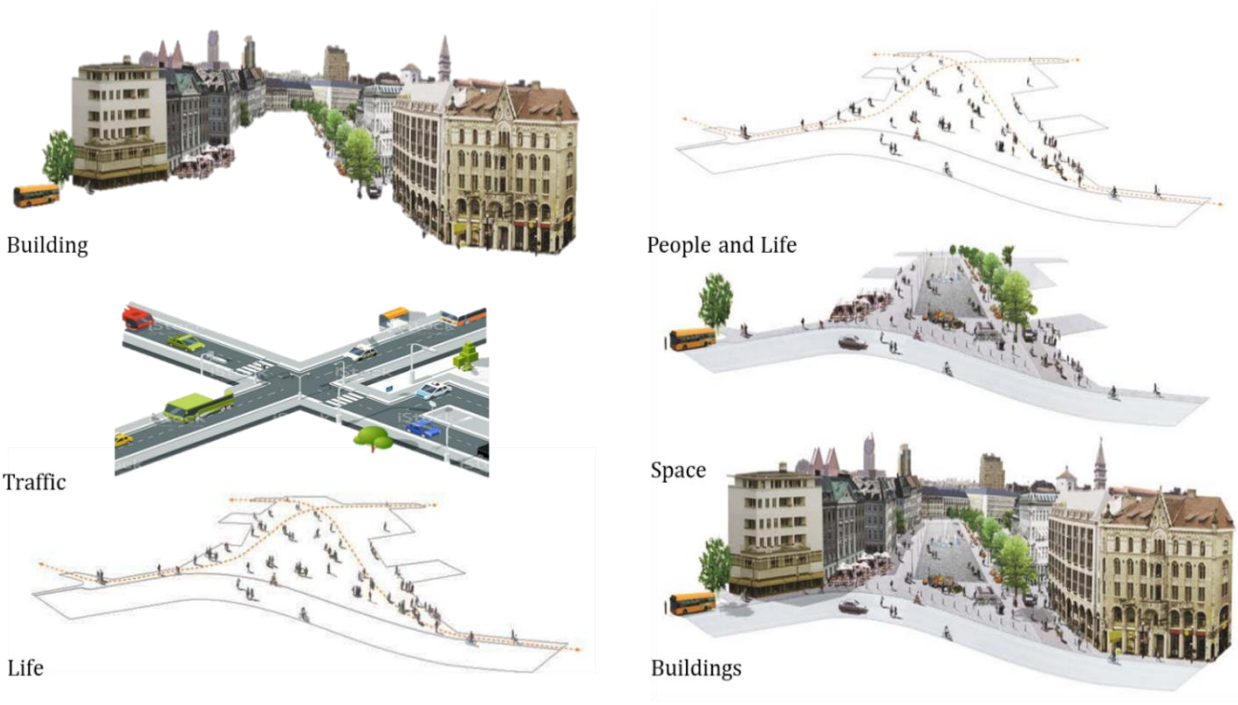
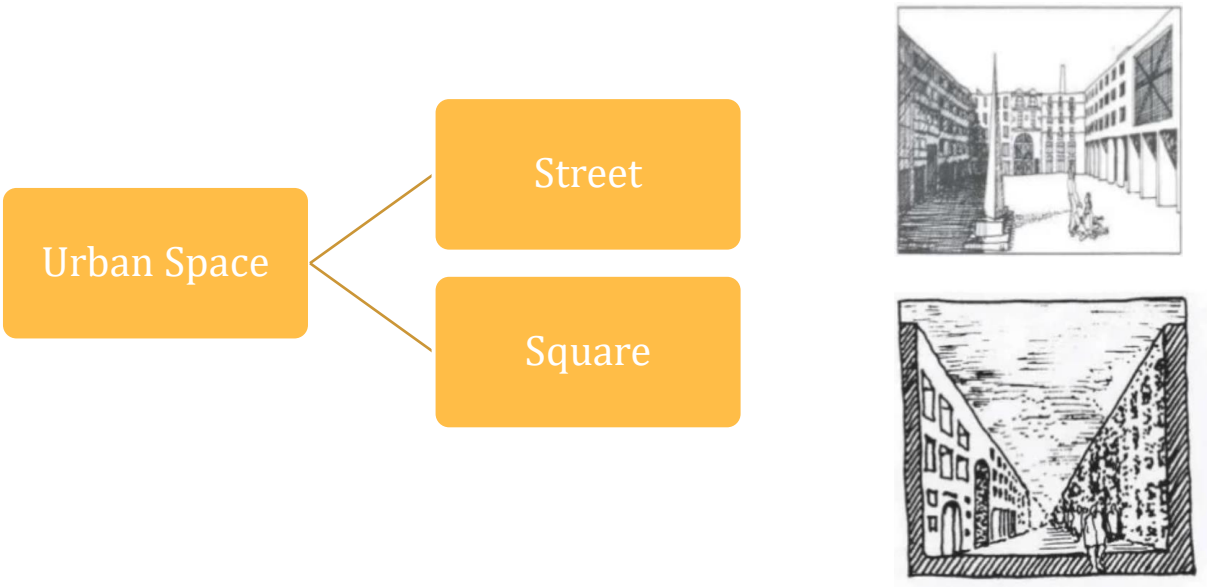


Figure 12 Source : Author

UN- Habitat Reviewed the traditional planning process and suggested to incorporate the methodology suggested by Gehl in deigning of cities.

2.2.5 Rob Krier – Urban Spaces

- *The concept of urban space without imposing aesthetic criteria, he says are compelled to designate all types of space Between buildings in town and other localities as urban space. The term 'urban space can be simply described as external space in town. It is seen as an open, unobstructed space for movement in the open air, with public, semi public and private zones.*
- *Space is geometrically bounded by a variety of elevations. It is only the clear legibility of its geometrical characteristics and aesthetic qualities which allow us consciously to perceive external space as urban space.*
- *Every urban space has been organized according to its socio-political and cultural attitude.*



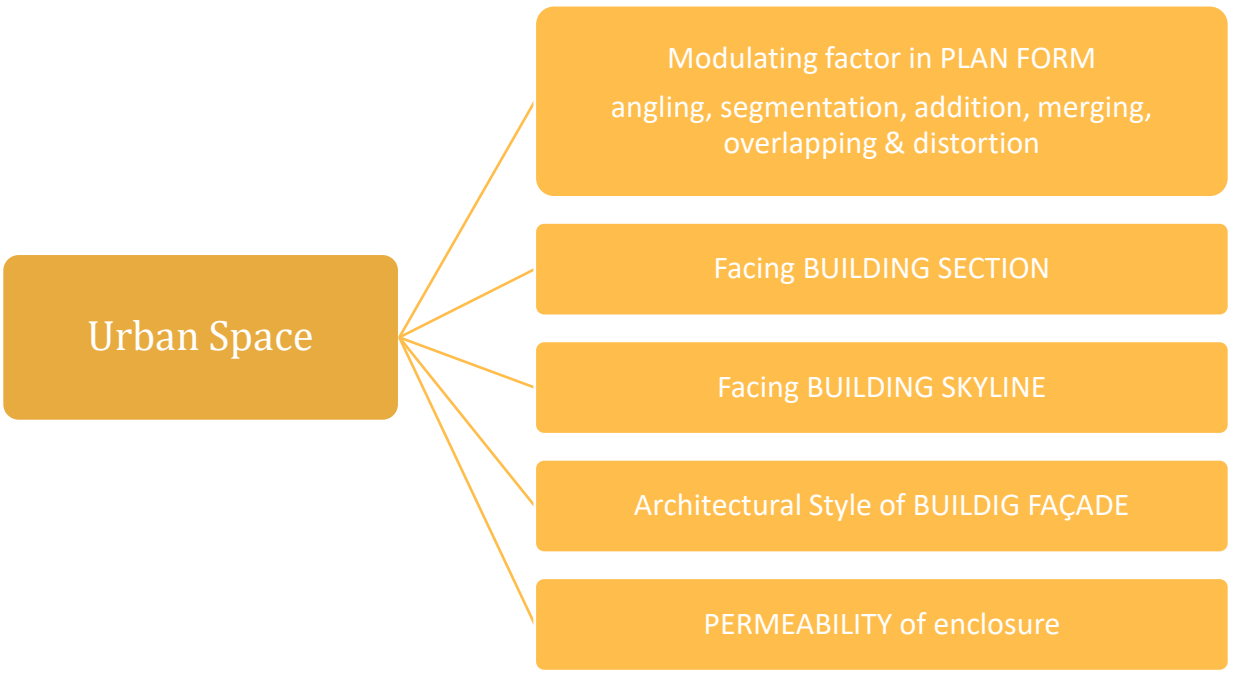


Table 8 : Rob Krier Parameters (source - Google)

2.3 CATEGORIZATION OF PUBLIC SPACE

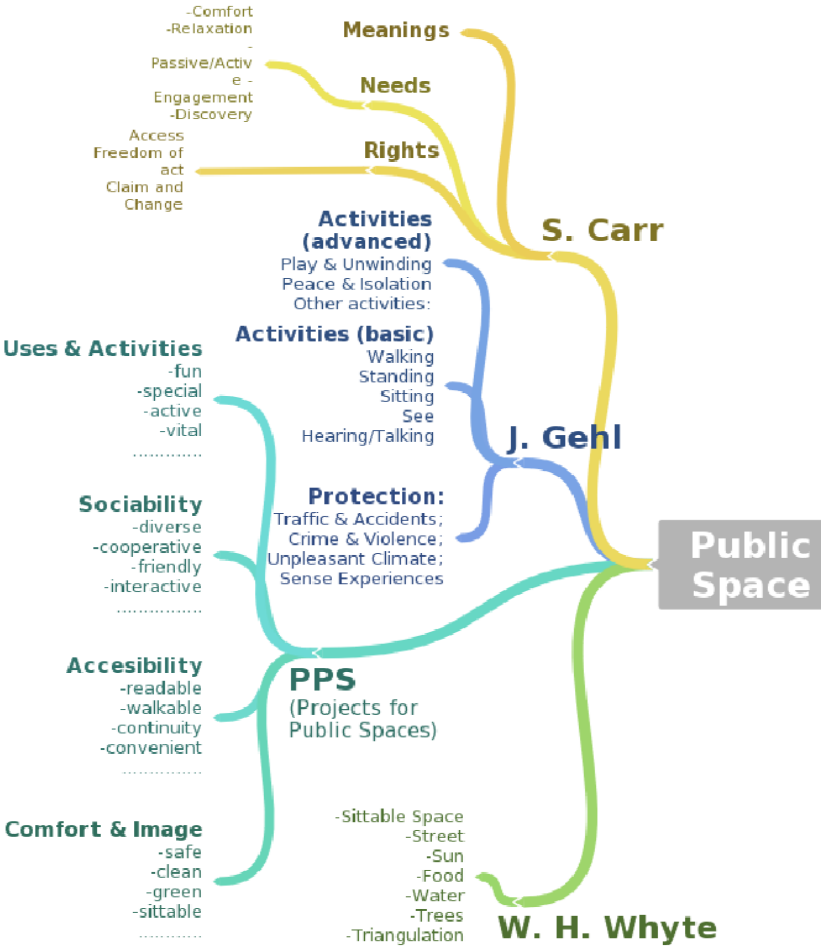
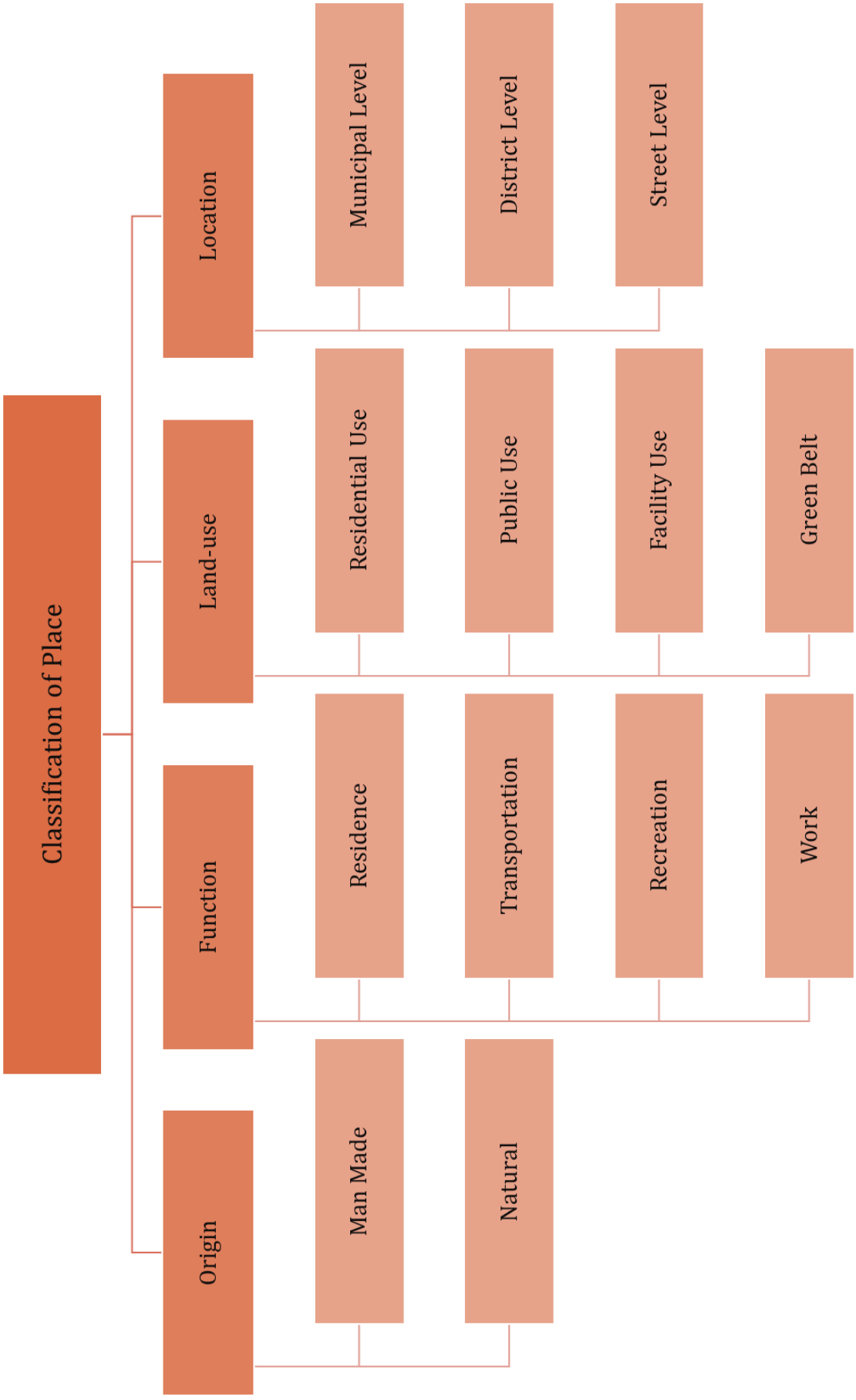


Figure 13 Categorization of Public Spaces (Source : Wikipedia)

Figure 14 Comparison of theories (Source Author)

Table 9 Classification of place (Source : Author)



SPACE TYPE	DISTINGUISHING CHARACTERISTICS	EXAMPLES
Natural/semi-natural urban space	Natural and semi-natural features within urban areas, typically under state ownership	Rivers, natural features, seafronts, canals
Civic space	The traditional forms of urban space, open and available to all and catering for a wide variety of functions	Streets, squares, promenades
Public open space	Managed open space, typically green and available and open to all, even if temporally controlled	Parks, gardens, commons, urban forests, cemeteries
Movement space	Space dominated by movement needs, largely for motorized transport	Main roads, motorways, railways, underpasses
Service space	Space dominated by modern servicing requirements needs	Car parks, service yards
Left over space	Space left over after development, often designed without function	'SLOAP' (space left over after planning), Modernist space
Undefined space	Undeveloped space, either abandoned or awaiting redevelopment	Redevelopment space, abandoned & transient space
Interchange space	Transport stops and interchanges, whether internal or externa	Metros, bus interchanges, railway stations, bus stops
Public 'private' space	Seemingly public external space, in fact privately owned and to greater or lesser degrees controlled	Privately owned 'civic' space, business parks, church grounds
Internalized 'public' space	Formally public and external uses, internalized and, often, privatized	Shopping/leisure malls, introspective megastructures
Private 'public' space	Publicly owned, but functionally and user determined spaces	Institutional grounds, housing estates, university campus
Interface spaces	Physically demarked but publicly accessible interfaces between public and private space	Street cafes, private pavement space

POSITIVE SPACE

NEGATIVE SPACE

AMBIGUOUS SPACES

Table 10 Source Author

2.4 ATTRIBUTES OF A GOOD PUBLIC SPACE

What makes a great public space?

Great public spaces are those places where celebrations are held, social and economic exchanges occur, friends run into each other, and cultures mix. They are the "front porches" of our public institutions – libraries, field houses, schools – where we interact with each other and government. When these spaces work well, they serve as the stage for our public lives.

Access and Linkage

Access concerns how well a place is connected to the surrounding both visually and physically. A successful public space is visible, easy to get to and around. Physical elements can affect access (a continuous row of shops along a street is more interesting and generally safer to walk by), visibility (the ability to see a public space from a distance). Accessible public spaces have a high turnover in parking, convenient public transit.

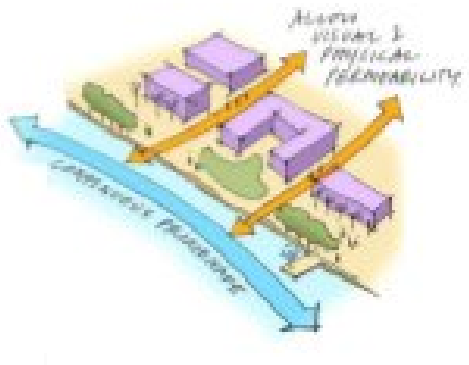


Figure 15 Source Google

Activities and Usages

Activities that occur in the places- friendly, social interaction, free public concerts, community art shows and more –Are its basic building blocks. Activities also make a place special or unique, which, in turn may help generate community pride.

Figure 16 Kungstradgarden, Stockholm, Sweden

Comfort and Image

Comfort and image are the key to whether a place will be used. Perception about safety and cleanliness, the connect of adjacent building and a place character. The importance of people having the choice to sit where they want.

Figure 17 Luxembourg Gardens, Paris, FR.

Sociability

Interaction with people gives people a stronger sense of place of attachment to their community and to the place that fosters these types of social activities.

Figure 18 Jackson Square, New Orleans, LA

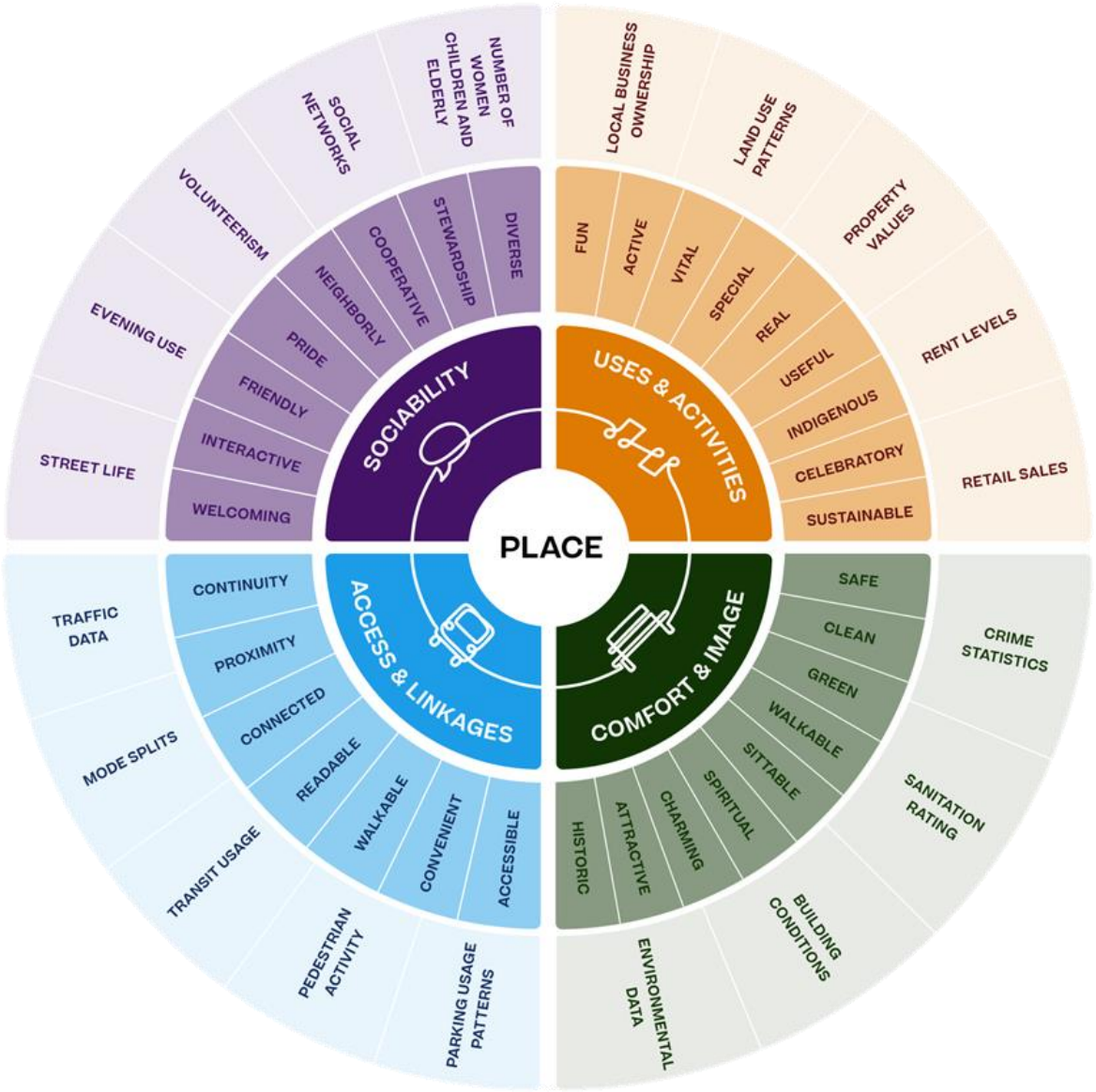


Figure 19 : Attributes of a great public space

What makes some places succeed while others fail?

In evaluating thousands of public spaces around the world, PPS has found that to be successful, they generally share the following four qualities: they are **accessible**; people are engaged in **activities** there; the space is **comfortable** and has a good image; and finally, it is a **sociable** place: one where people meet each other and take people when they come to visit. PPS developed **The Place Diagram** below as a tool to help people in judging any place, good or bad.

2.5 ELEMENTS OF A PUBLIC SPACE

BUIDLING

- Windows
- Entrances/exists
- Balconies
- Shopfronts
- Signage
- Building lighting
- Floodlighting
- Artwork
- Decoration
- Canopies
- Colonnades
- Skyline
- Corners
- Flags/banners
- Monuments

INFRASTRUCTURE

- Roads and cycle lanes
- Bus stops/shelter
- Tram/bus lanes
- Road signage
- Telegraph polls
- Telecommunication
- Street lighting
- Parking bays
- Public toilet
- Wase bins
- CCTV Polls
- Gutters/drainage
- Utilities bays
- Servicing bats

LANDSCAPE

- Trees
- Planting bed
- Lawns and verges
- Planters
- Paving
- Road surfaces
- Traffic calming
- Steps
- Boundary wall
- Fountains
- Public art
- Signage
- Advertising
- Street furniture
- Bollards

USES

- Events
- Gathering
- Street entertainment
- Street trading
- Market
- External eating
- Kiosks
- Playground
- Parks
- Sports facilities
- Retail uses

2.6 APPROACH

How can we intervene?

void:

(noun) completely empty space

(adj) completely empty.

"Unutilized, under-utilized or abandoned land or area sand premises, which exist in urban areas due to out dated or defunct uses".

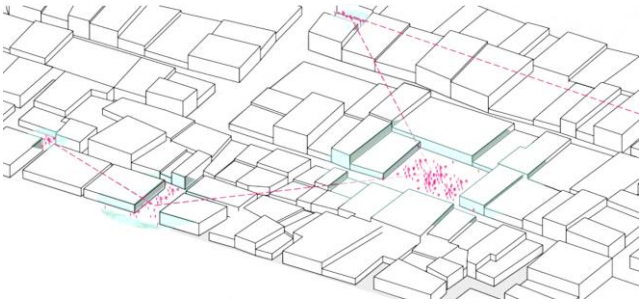


Figure 20 Void and Acupuncture (Source :Google)

Future cities will have to confront limited urban spaces and resources, undertake the preservation or conservation of sense of place, and continuously improve the existing urban environment. Accordingly, urban void spaces are likely to become key strategic places for 'Green Urban Development

Urban voids are all areas in a city, whose functions and designs have not yet been decided upon conclusively. These may be reserve areas, fallow land, distance spaces, vacant buildings, polluted or unused properties abandoned, or in-between spaces among public and private realms. Voids can be found especially within the city , as a chance for sustainable urban design.

Typology of Urban Void

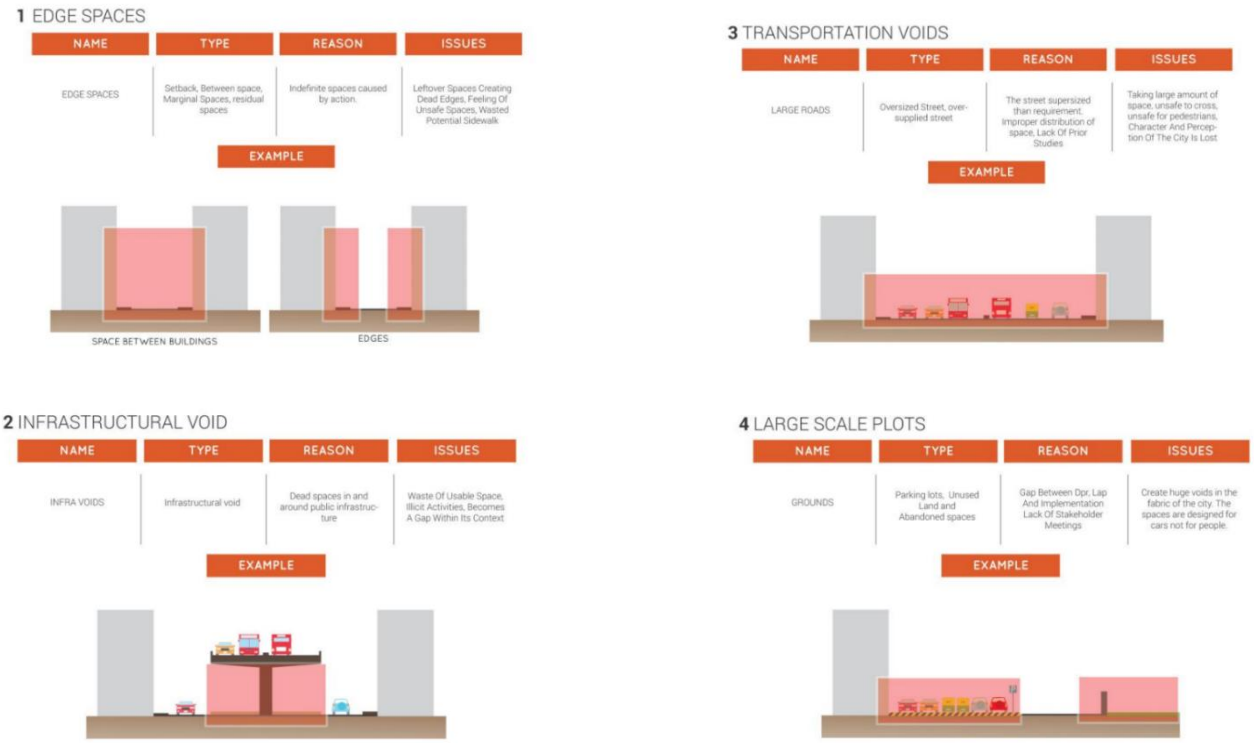
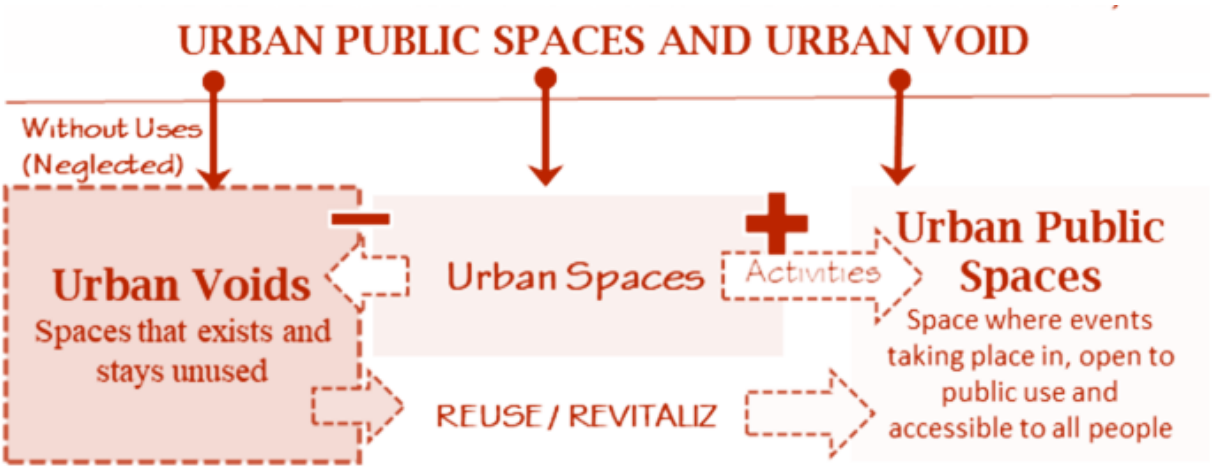


Figure 21: Typology of Urban void
Source: Rethinking Urban Voids

Figure 22
:https://www.researchgate.net/publication/357858474_Urban_voids_identifying_and_optimizing_urban_voids_potential_as_a_revitalization_source_in_enhancing_developing_countries'_city_income



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https://www.researchgate.net/publication/357858474_Urban_voids_identifying_and_optimizing_urban_voids_potential_as_a_revitalization_source_in_enhancing_developing_countries'_city_income

2.7 DESCRIPTION – Jamshedpur, Jharkhand

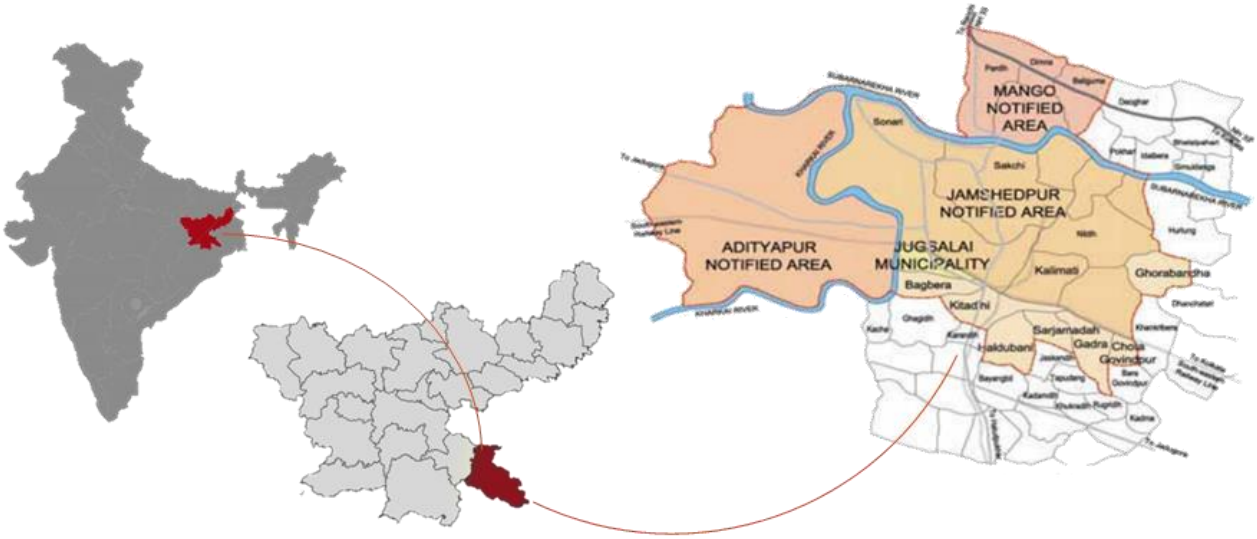


Figure 24 : Maps (Wikipedia)

Jamshedpur is a large city set between the Subarnarekha and Kharkai rivers in the east Indian state of Jharkhand. Jamshedpur, also known as Tatanagar is the largest and most populous city in Jharkhand and first planned industrial city in India.

Jamshedpur is one of the oldest and the largest existing Company town in the world. It was the benchmark development for post independent Indian industrial cities. A city founded by the late Jamshedji Nusserwanji Tata, Jamshedpur then known as Sakchi was home to the first private Iron and Steel Company of India.

The Jamshedpur Block was established in the 1952 and constitutes of rural & urban areas having one Municipality and two Notified Area Committees namely Jugsalai Municipality, Jamshedpur Notified Area Committee and Mango Notified Area Committee. Tata Nagar was the sole urban node for many decades till villages within its vicinity transformed into urban agglomerations. The Jamshedpur City Development Plan has been conceived for an area of 149.225 Sq. Kms, which has a present (2006) population of approximately 12Lakhs.

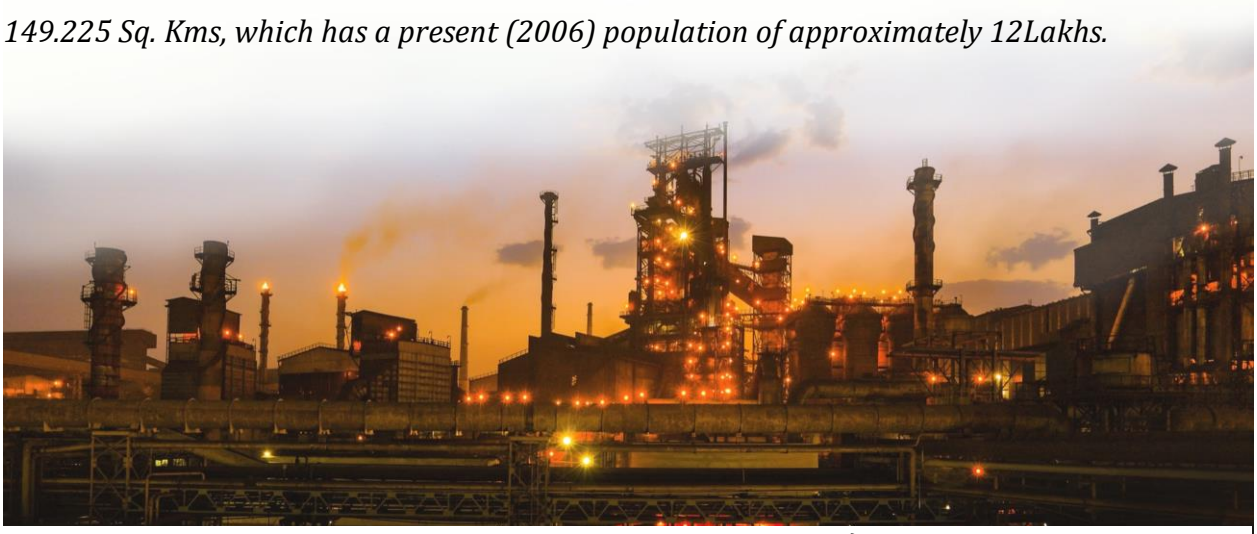


Figure 25 : TATA Steel (www.google.com)

- ***LOCATION***

The city of Jamshedpur is situated at 86.12° E longitude and 22.47° N latitude, on the banks of the rivers Subarnarekha and Kharkai. The city is at an altitude of 159 meters above mean sea level. In the city region, there are locations that are about 933 meters above mean sea level (e.g: Dalma).

- ***REGIONAL LINKAGES***

The city of Jamshedpur is connected to Calcutta (251 Kms) and Ranchi (137 Kms) by NH-33. Jamshedpur is connected to Dhanbad (146 Kms) by State highway. Patna, the state capital of Bihar, lies at a distance of 503 Kms on the south-eastern railway line.

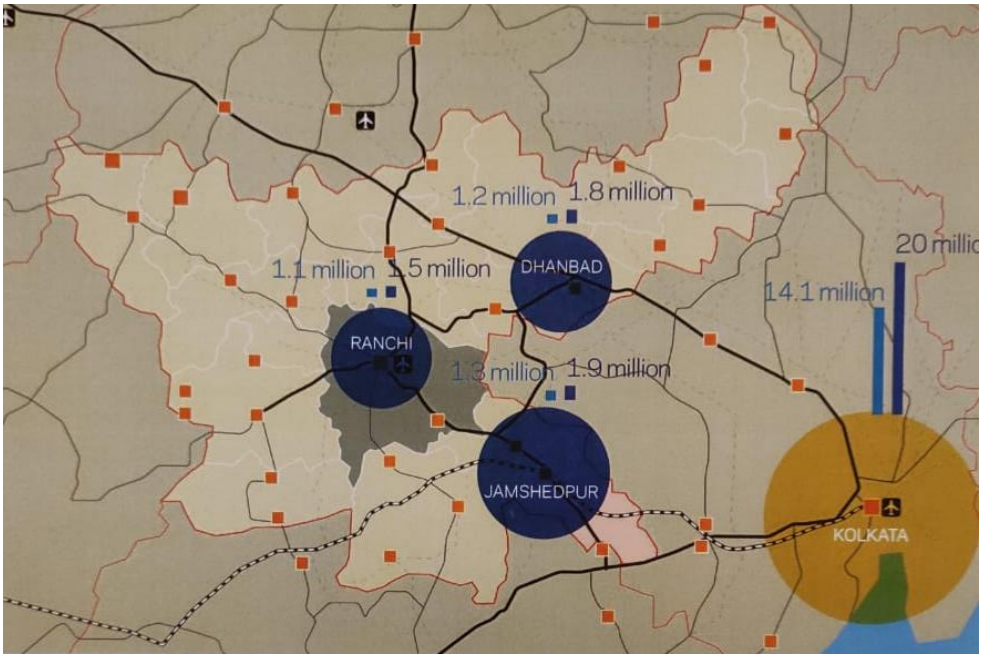


Figure 27 Regional Linkage (Tata Archives)

- ***FLORA AND FAUNA***

In this area deciduous type of forest is found in which Sal, Gamhar, Mahua, Palash, Bamboo, shrubs and grass are the main vegetation. The Gymnosperm, Gnetum scandens is found in the valleys, while the stem less palm, Phoenix acaulis, is abundant on the plateau region. Especially in the area south of Tatanagar, Cassytha filliformis, the green thread like parasite, several species of loranthus and several epiphytic orchids are found. The white barked gouty-stemmed trees of Sterculia urens and Boswellia serrata are very conspicuous against the background of the black rocks. Due to industrialization and large scale of mining quarrying deforestation has taken place.

- ***CLIMATE AND RAINFALL***

The Climate of the city is temperate, typical with three distinct seasons - summer, monsoon and winter. The average annual rainfall is 1200 mm to 1400 mm (1216.8 mm in 2001-2002). This area comes under the path of southwest monsoon so sometimes it receives heavy rain during July to September. During the summer, the maximum temperature goes upto 40° C - 45° C whereas in winter it has recorded a minimum of 6° C.

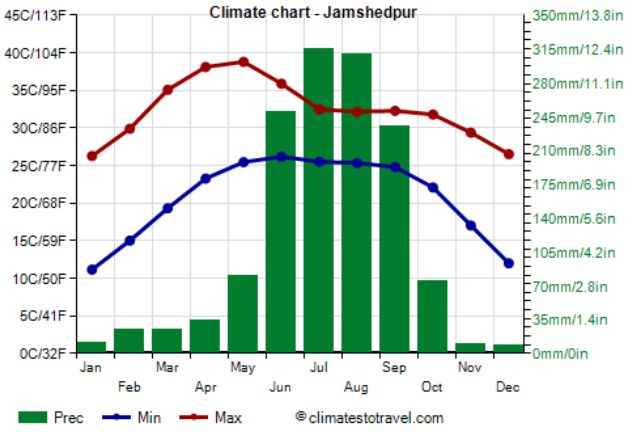


Figure 30 Climate (Source: Wikipedia)

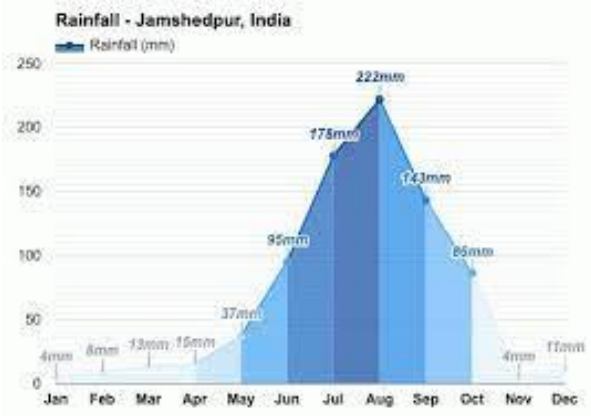


Figure 28 Rainfall (Source: Wikipedia)

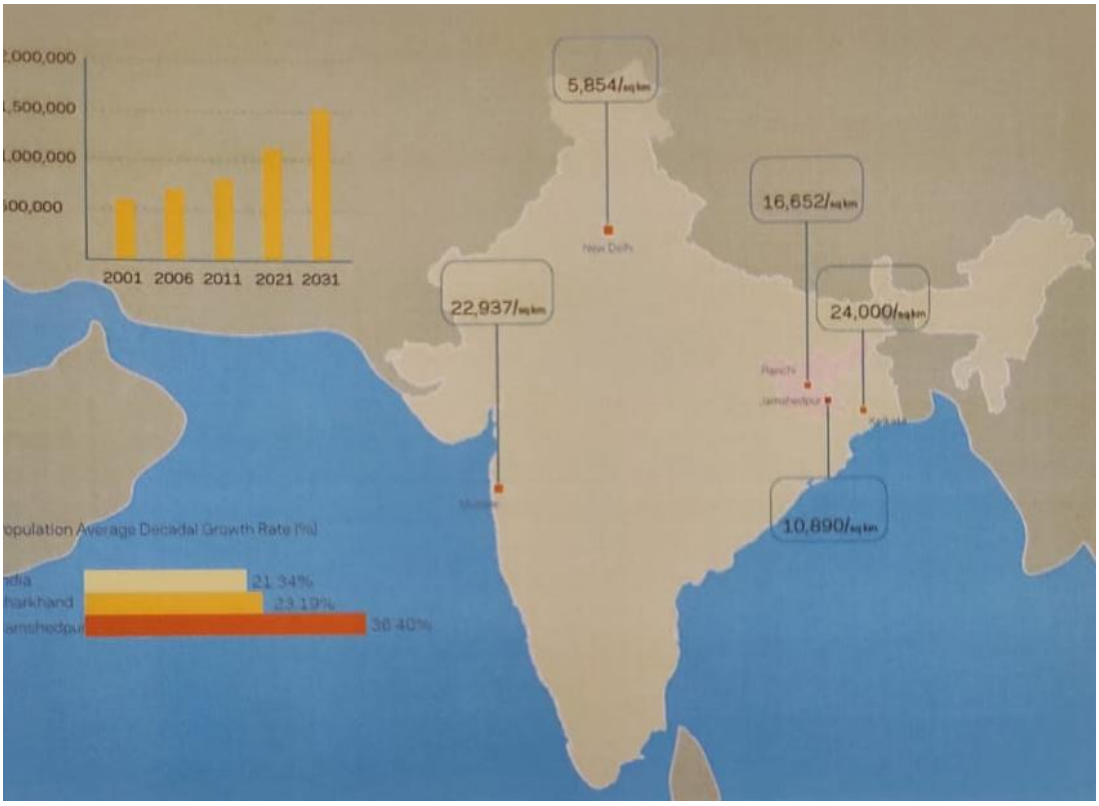


Figure 29 Demography (Source : Tata Archive)

- ***JAMSHEDPUR URBAN AGGLOMERATION***

The present city of Jamshedpur is spread over the villages of Sakchi, Susnigaria, Jugsalai and Beldih that lay in the Dhalbhum Pargana of the East Singhbhum district. When Jamshedpur started growing rapidly into a populous industrial town, the state government constituted the Jamshedpur Committee to control the envisaged haphazard growth of the town. This Committee was called upon to examine the various problems and to submit recommendations relating to the future administration of the town.

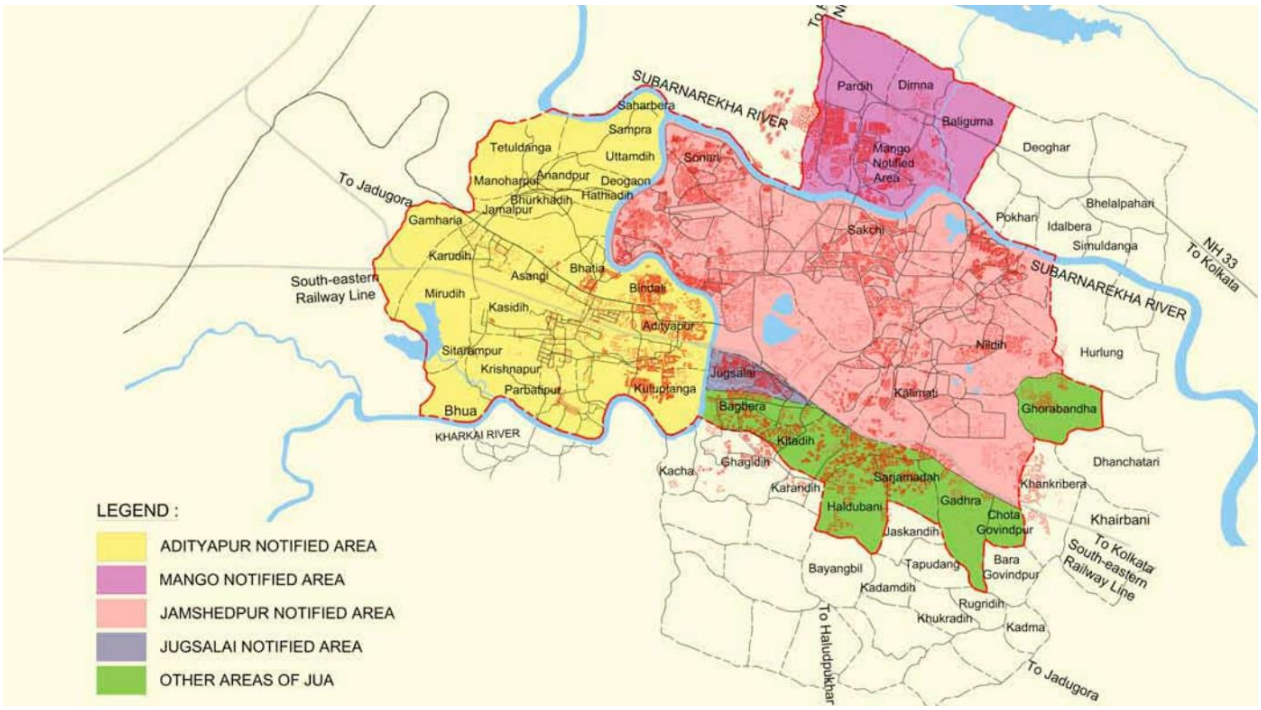


Figure 31 Map (Source : Tata Archive)

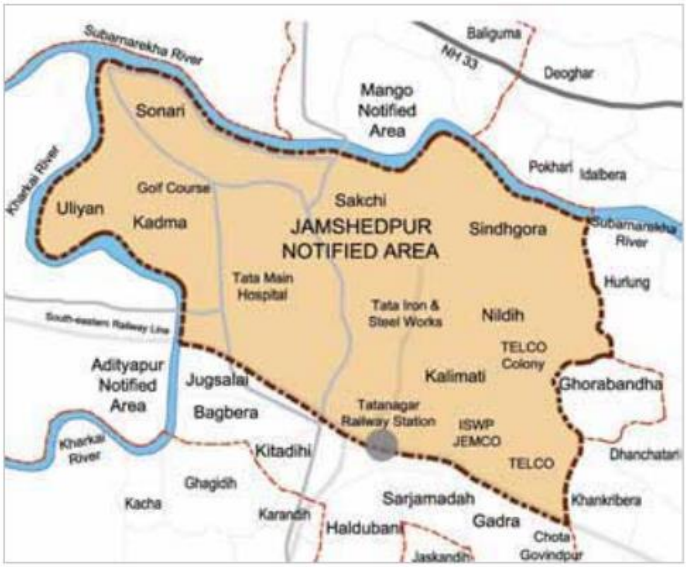


Figure 32 Source: Tata Archive

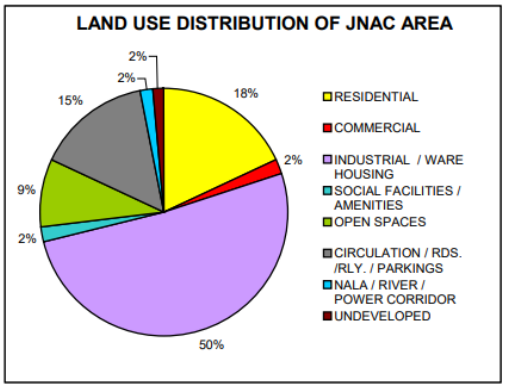


Figure 33 Land use Distribution Source: Tata Archive

2.8 HISTORIC EVOLUTION OF JAMSHEDPUR

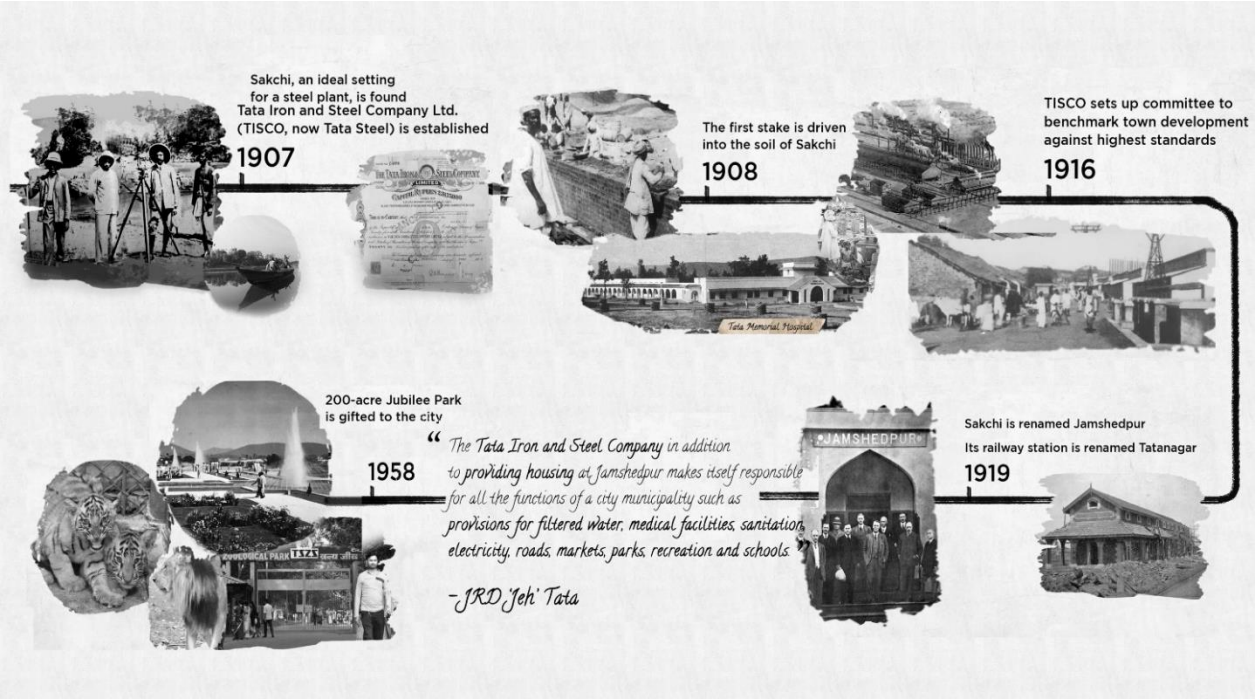


Figure 34 Evolution of Jamshedpur (Source : author)

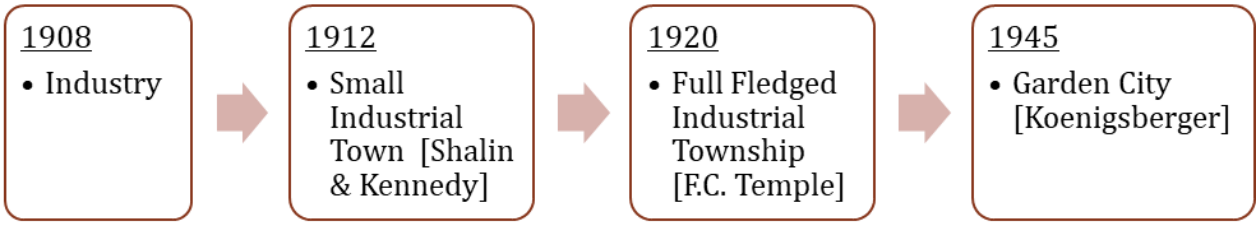


Figure 35 Evolution Timeline (Source: Author)

- ***Small Industrial Town [Shalin & Kennedy]***

The Pittsburgh firm of Julian Kennedy and Axel Sahlin, built the original colony between 1909-12 for housing managers and skilled workers.

Site exigencies dictated the stratified pattern of housing on high ground on the ridge spurs on the north-west and western fringes of the steel plant to ensure protection from the factory dust carried by the prevailing western winds.

The colony was laid out in the grid-iron North American settlement pattern, with alphabetically named 'roads' running east-west and numbered 'avenues' running north-south.

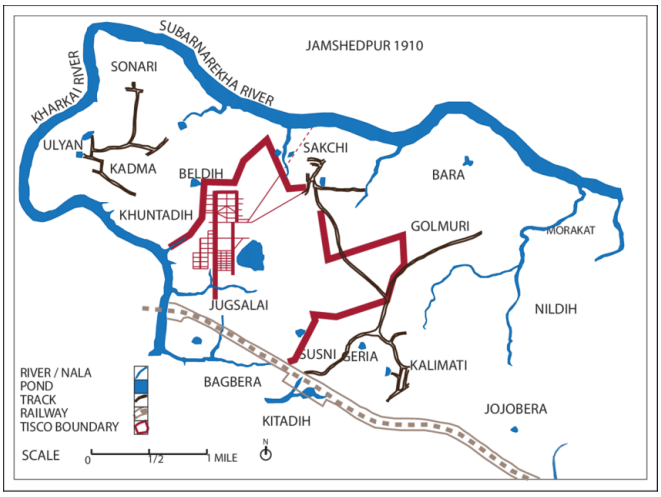


Figure 36: Source TATA Archives

- ***Full Fledged Industrial Township [F.C. Temple]***

He introduced spacious recreation ground in the center of the town', and a 'bazaar containing both European and Indian shops.

To protect the riverfront from industrial pollution and town waste and to preserve its scenic quality, he designed a low-level outer circle road with an intercepting sewer, connected to the inner circle road by 'links'.

In accordance to the prevalent garden city ideals of low density, Temple proposed a housing density of 12 units per acre, balancing the generous 1-1½ acres of bungalows with ¼ acre plots of new quarters.

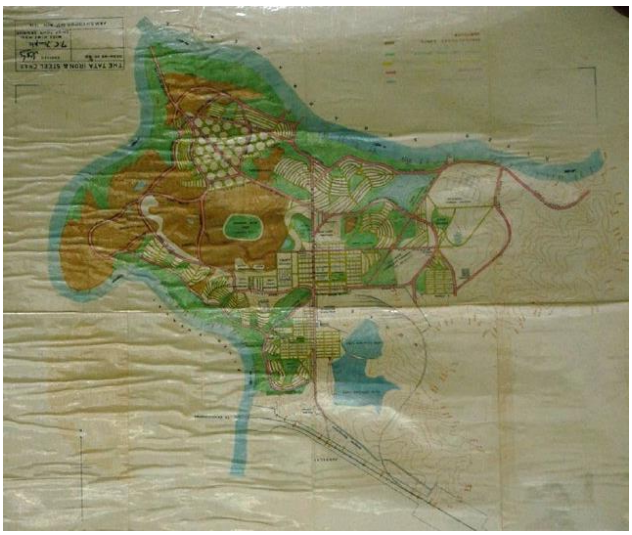


Figure 37: Source TATA Archives

- ***Garden City [Koenigsberger]***

Koenigsberger's Master Plan was based on idea of 'ensuring the harmonious development of Jamshedpur in a manner which will satisfy the manifold needs, functional and aesthetic of this beautiful Garden City'

Koenigsberger designated the industrial and residential areas of the city as two primary zones of development in accordance with his 'band town' planning concept. His contention was that linear growth along transportation arteries was the best solution to the problems posed by the concentric growth around the place of employment

Linear bands of city and countryside ensured access to greenery and fresh air within reasonable walking distance of the place of residence.

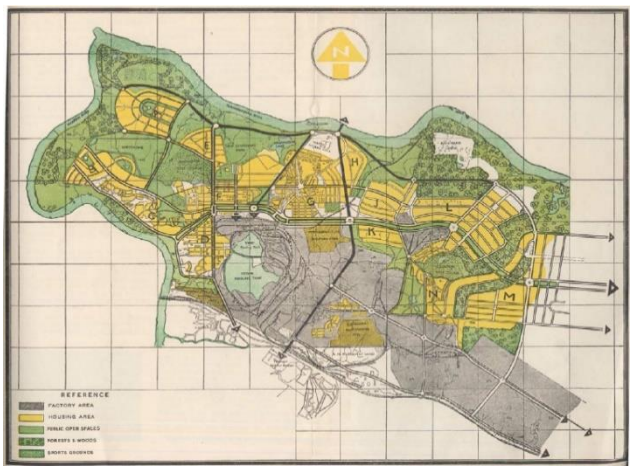


Figure 38: Source TATA Archives

2.9 FUTURE VISION OF JAMSHEDPUR

While securing the existing fabric of Jamshedpur and at the same time, planning it as a city full of resources, especially for the young professional generation, we have proposed a ***"town within the park within the city"*** *model.*

The model focuses on converging two basic ideals for the community fabric—

- ***short distances of travel between work and home, and***
- ***recreation activities for the community***

… all of this keeping in mind the previous proposed planning schemes for the city, i.e. the 'Garden City Plan' of 1920s and 1930s. There was a tremendous amount of opportunity to develop the available green spaces in the city as active areas for the residents. This was carried out by combining the existing green network with the existing Tata Housing and natural stream corridors.

Figure 39: Source TATA Archives

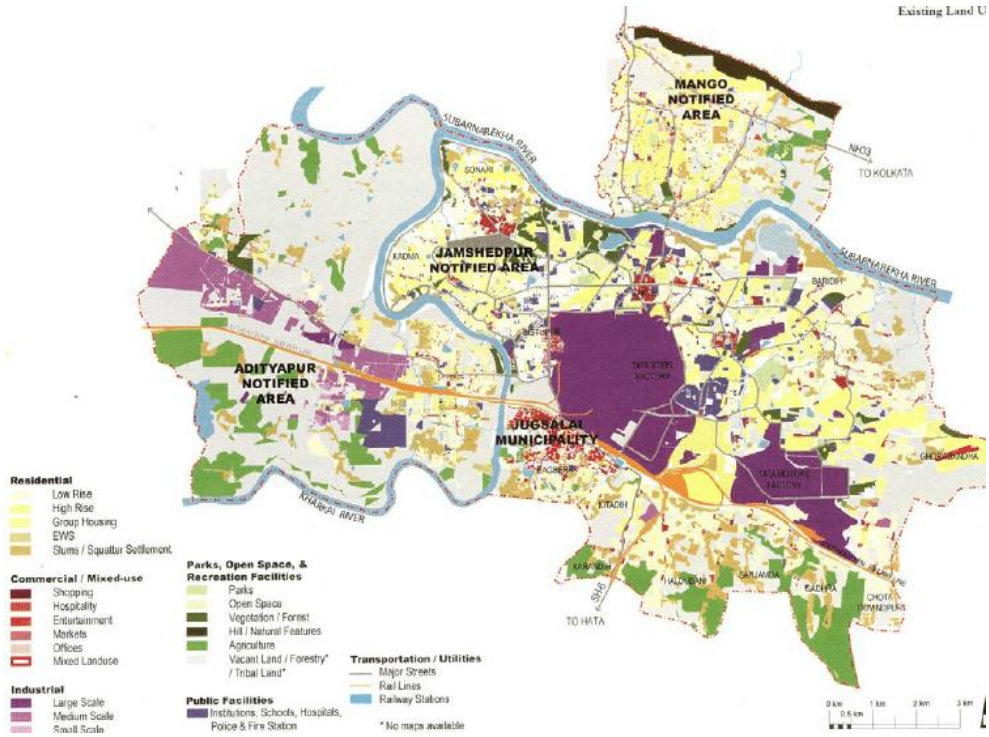
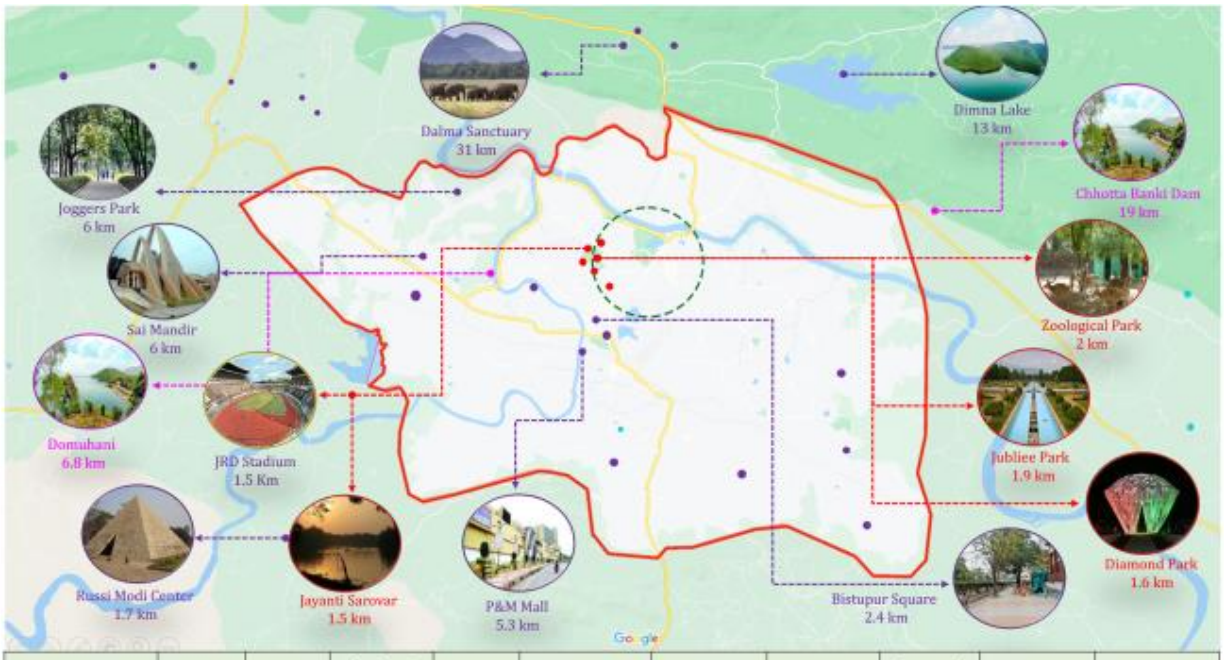


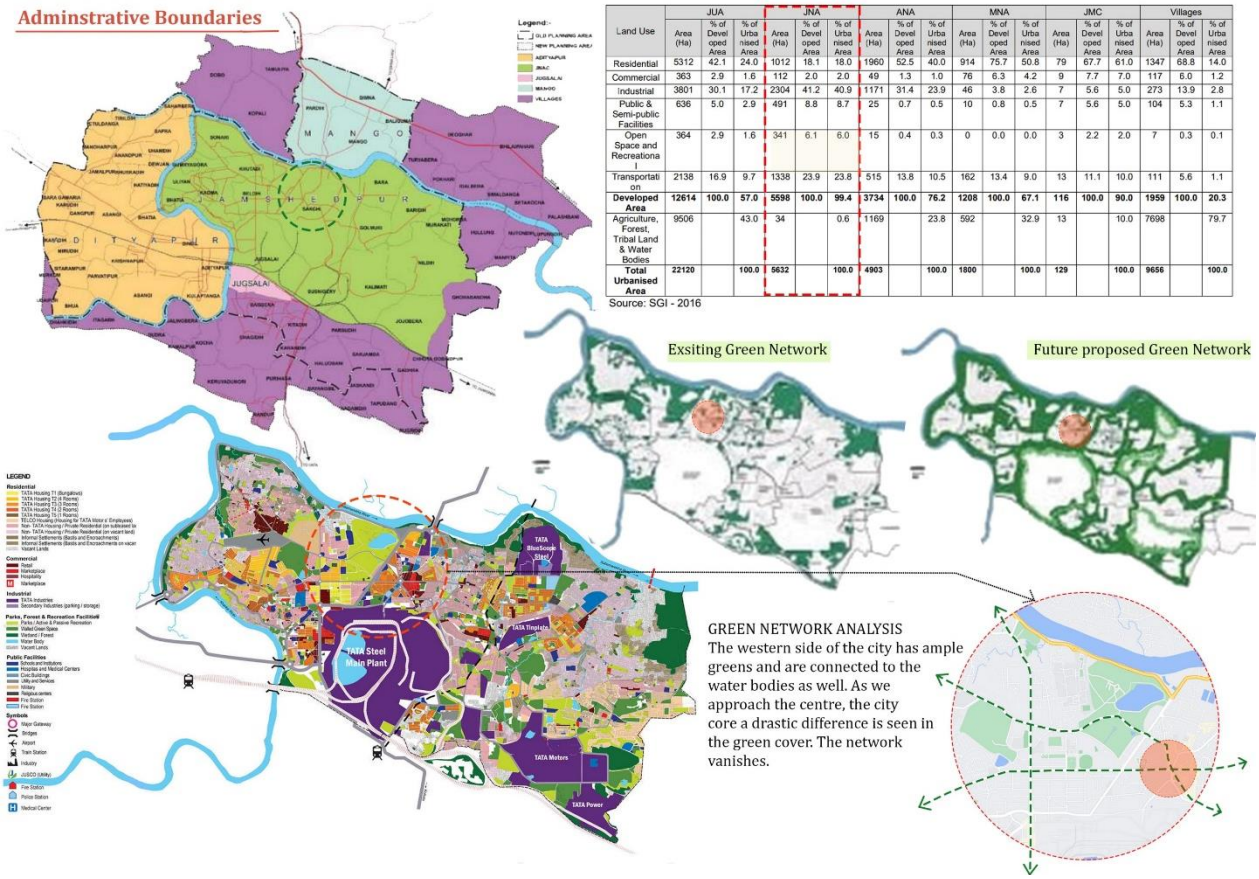
Figure 40 Masterplan (Source: TATA Archives)

2.10 CITY OPEN SPACE NETWORK



Public Parks	Square & Plazas	Memorial	Atrium/ Indoor Marketplace	Streets	Playground	Everyday Spaces	Market	Community Gathering Spaces	Greenway & Parkways	Water-fronts
Jubilee Park Diamond Park Tata Zoological Park Dalma Sanctuay	Bistupur Square		P & M Mall	Bistupur Khao Gali	Regal Ground JRD Stadium Kenan Stadium Gopal Maidan Golf Ground Football academy	Temples Local markets Tea stalls	Sakchi Market Bistupur Market Mango Market		KS Link Road Jubliee Park Rd Joggers Track	Marine drive Jayanti Sarovar Dimna Lake Chandil Dam Chota Banki Dam

Figure 50: City Profile (Source TATA Archives)



Land Use	JUA			JNA			ANA			MNA			JMC			Villages		
	Area (Ha)	% of Developed Area	% of Urbanised Area	Area (Ha)	% of Developed Area	% of Urbanised Area	Area (Ha)	% of Developed Area	% of Urbanised Area	Area (Ha)	% of Developed Area	% of Urbanised Area	Area (Ha)	% of Developed Area	% of Urbanised Area	Area (Ha)	% of Developed Area	% of Urbanised Area
Residential	5312	42.1	24.0	1012	18.1	18.0	1960	52.5	40.0	914	75.7	50.8	79	67.7	61.0	1347	68.8	14.0
Commercial	363	2.9	1.6	112	2.0	2.0	49	1.3	1.0	76	6.3	4.2	9	7.7	7.0	117	6.0	1.2
Industrial	3801	30.1	17.2	2304	41.2	40.9	1171	31.4	23.9	46	3.8	2.6	7	5.6	5.0	273	13.9	2.8
Public & Semi-public Facilities	636	5.0	2.9	491	8.8	8.7	25	0.7	0.5	10	0.8	0.5	7	5.6	5.0	104	5.3	1.1
Open Space and Recreational	364	2.9	1.6	341	6.1	6.0	15	0.4	0.3	0	0.0	0.0	3	2.2	2.0	7	0.3	0.1
Transportation	2138	16.9	9.7	1338	23.9	23.8	515	13.8	10.5	162	13.4	9.0	13	11.1	10.0	111	5.6	1.1
Developed Area	**12614**	**100.0**	**57.0**	**5598**	**100.0**	**99.4**	**3734**	**100.0**	**76.2**	**1208**	**100.0**	**67.1**	**116**	**100.0**	**90.0**	**1959**	**100.0**	**20.3**
Agriculture, Forest, Tribal Land & Water Bodies	9506		43.0	34		0.6	1169		23.8	592		32.9	13		10.0	7698		79.7
Total Urbanised Area	**22120**		**100.0**	**5632**		**100.0**	**4903**		**100.0**	**1800**		**100.0**	**129**		**100.0**	**9656**		**100.0**

Source: SGI - 2016

Figure 51: Green Network (Source TATA Archives)

2.11 GOVERNMENT SCHEME

Rs 5000cr makeover for four marts

Four important commercial hubs of the steel city will sport a mega makeover

Shabby shops along a lane in Bistupur, a commercial hub in Jamshedpur, on Tuesday
Picture by Bhola Prasad

model code of conduct for Assembly polls later this year. As per tender documents, the projects have to be complete within two-and-a-half years from getting the work order, which means early 2022," said a senior Juidco administrative official who was at Monday's meeting.

According to plan, each commercial centre will have G+5 market complexes, similar to posh malls, with amenities such as proper basement parking space, CCTV cameras, fire-alarms, modern firefighting equipment, lifts and elevators, cafeterias and washrooms.

Juidco spokesperson Ashutosh Kumar Singh said in all, 37 acres would be utilised for market development plans at the four locations with modern facilities for shoppers and traders in the first phase under market development plans. Gradually, similar plans will be replicated at other commercial hubs of Jamshedpur.

"The biggest area has been earmarked for Sakchi, nearly 17 acres, followed by Bistupur 12.68 acres, Golmuri 4.10 acres and Baridih 3.08 acres, all government land. We have allocated Rs 5,000-crore for the entire project in its first phase covering four locations. After completion, shopkeepers currently operating at these locations can take on rent the spaces inside the markets," the spokesperson added.

Preparations for this mega overhaul have been on for over a couple of years. Detailed project reports of the market development plans of the four commercial hubs were prepared by IL&FS Infrastructure Development Corporation (IIDC) and cleared by the district administration after several rounds of stakeholder meetings in Jamshedpur in 2017-18.

Figure 41 Time OF India

Jamshedpur's Sakchi market to be developed on the lines of Delhi Chandni Chowk

By **News Desk** Saturday, 27 November 2021, 18:56:30 IST 2589

However, there is a lot of outrage and curiosity among businessmen due to the news of breaking the market and converting it into multi-storey buildings. Roy's representative for business affairs and local businessman Akash Shah had in the past sought to consult shopkeepers and business organisations and know their side before changing the structure of the market.

Anti-encroachment drive in Jamshedpur, footpath vendors removed at Sakchi

By News Desk Wednesday, 20 October 2021, 21:06:00 IST 405

Sakchi footpath vendors get new address at the Aam Bagan grounds

Long-standing issue gets temporary closure in an attempt to check coronavirus transmission

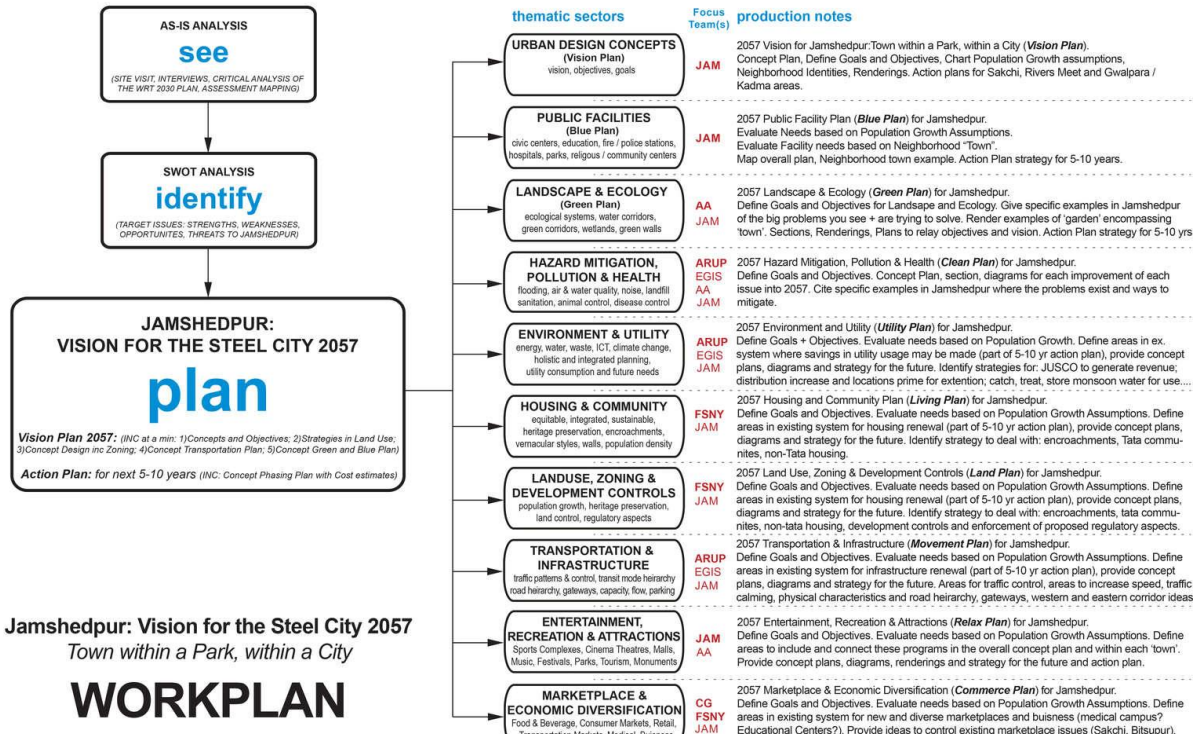


Figure 42 Vision of Tomorrow (Tata Archives)

TATA VISION FOR JAMSHEDPUR

Figure 43 Vision Of Tomorrow (Tata Archives)

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03 Case Study

3.1 SAN JOSE, CALIFORNIA

The San Jose public realm is the space to which the general public has right of access: specially the setting for street life. It also includes places that are privately owned or operated but accessible to the general public.

Figure 44 San Jose, California
Source : Google

The major focus in designing the public realm in San Jose are in these aspects:

- Street scape [All roads, pathways, boulevard, paseos]
- Public open spaces [such as: Plaza de Cesar Chavez, Arena Garden etc.]
- Parks [such as: McEnery Park, St. James Park etc.]
- Public activities along Guadalupe River bank

Figure 45: Map (Source : Author)

Figure 46 Map (Source : Author)

Figure 47: View (Source: Google)

- ***ROAD & MOVEMENT***

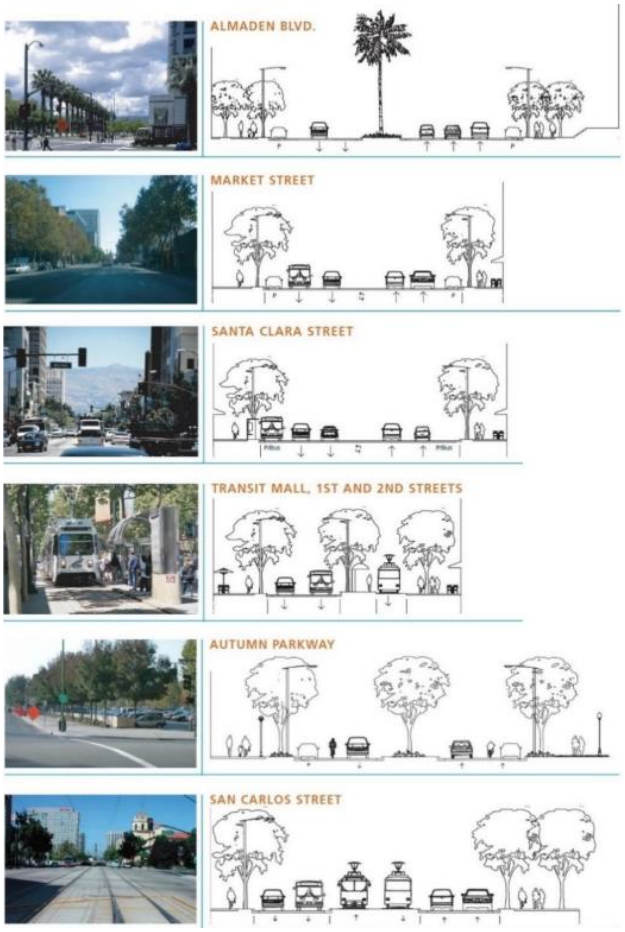


Figure 27 Map (Source :Google)

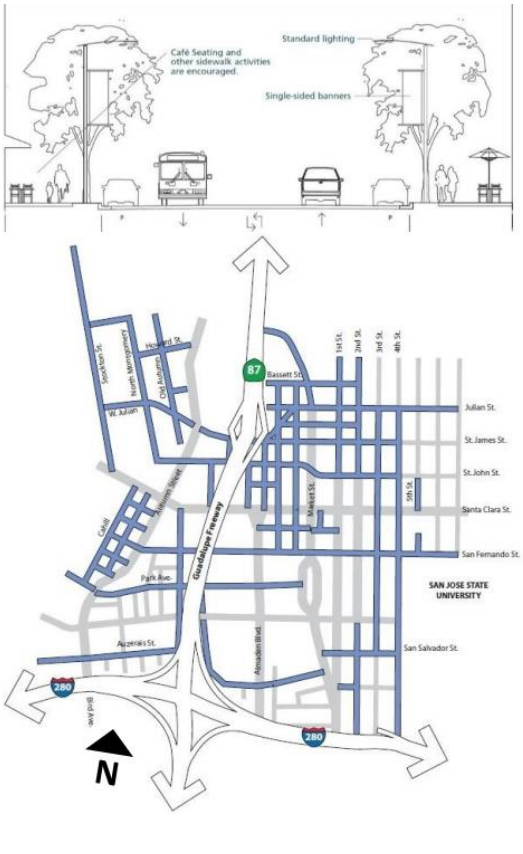


Figure 28 Map (Source :Google)

Roads are mainly grade separated according to the requirements. Dedicated pedestrian connections throughout the area. The downtown Road network has been classified majorly in three categories:

- Major Arterial Roads: Heavy Vehicular Arterial Road to cater to the heavy traffic with important street furniture, parking, planter divider, etc.
- Downtown Pedestrian Network: Pedestrian oriented street with an attractive & safe pedestrian
- Downtown Paseos: Pedestrian only streets with varied retail activities & high pedestrian volume.
- Downtown Residential Street: Mainly found in the residential zones, with more soft, more landscaped area to enhance the residential zones character.

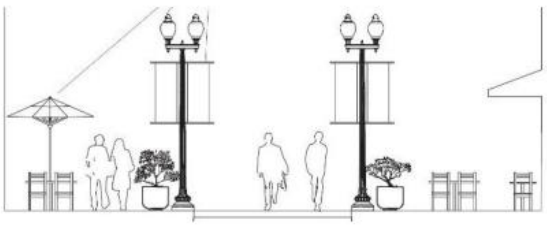


Figure 49 Downtown Paseos

Figure 48 Downtown Residential Streets

- ***MAGNETS & GENERATORS***

Major magnets are well connected through the roads. Specially the dedicated Pedestrian ways to \connect them.

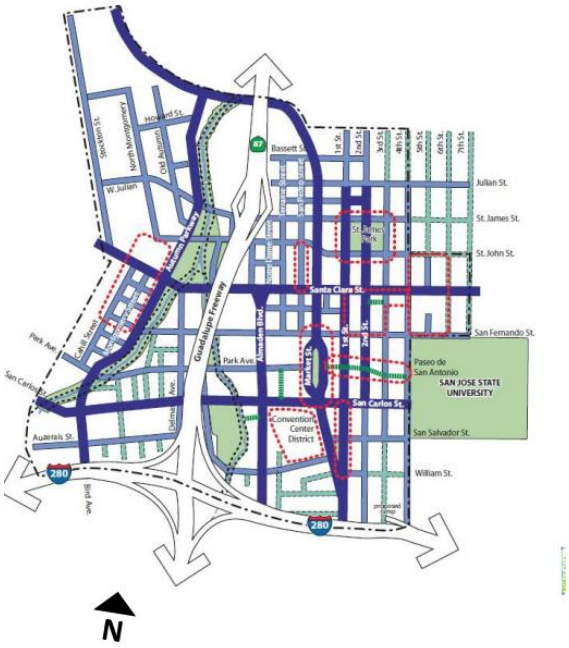


Figure 50 Map (https://www.sanjoseca.gov/)

- ***OPEN SPACES***

All major open spaces around this area are full of designated activities for public. –

This open public places are also interconnected by dedicated pedestrian walkways.

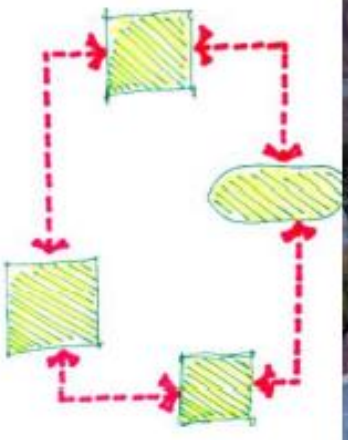


Figure 51 Map (https://www.sanjoseca.gov/)

- ***NODES***

Nodes are enough spacious with respect to the roads. - Building blocks around the nodes are chamfered to address the nodes & enhance the visibility.

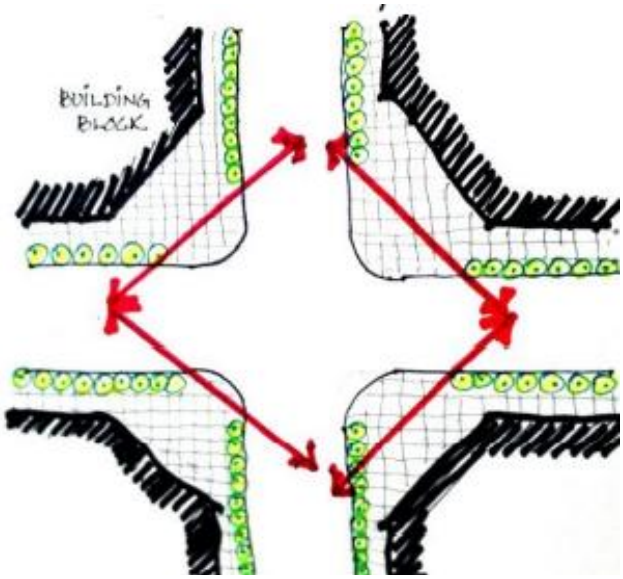


Figure 52 Node (Source: Author)

3.2 CHANDANI CHOWK, DELHI, INDIA

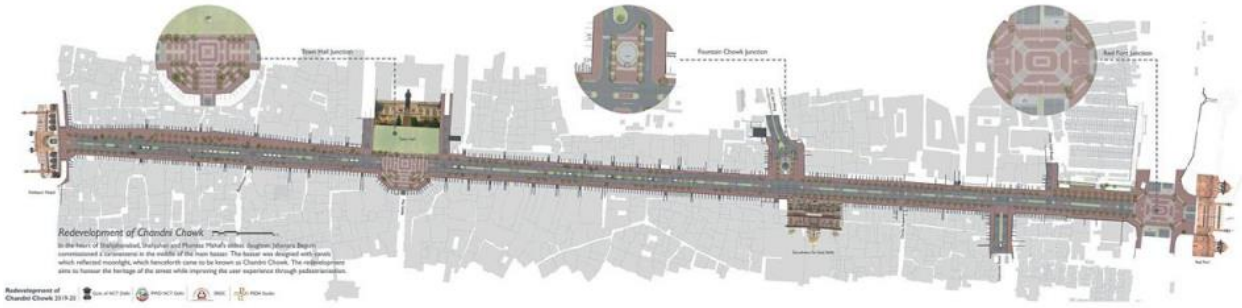


Figure 53 Chandani Chowk padestrianization © Pradeep Sachdeva Associates

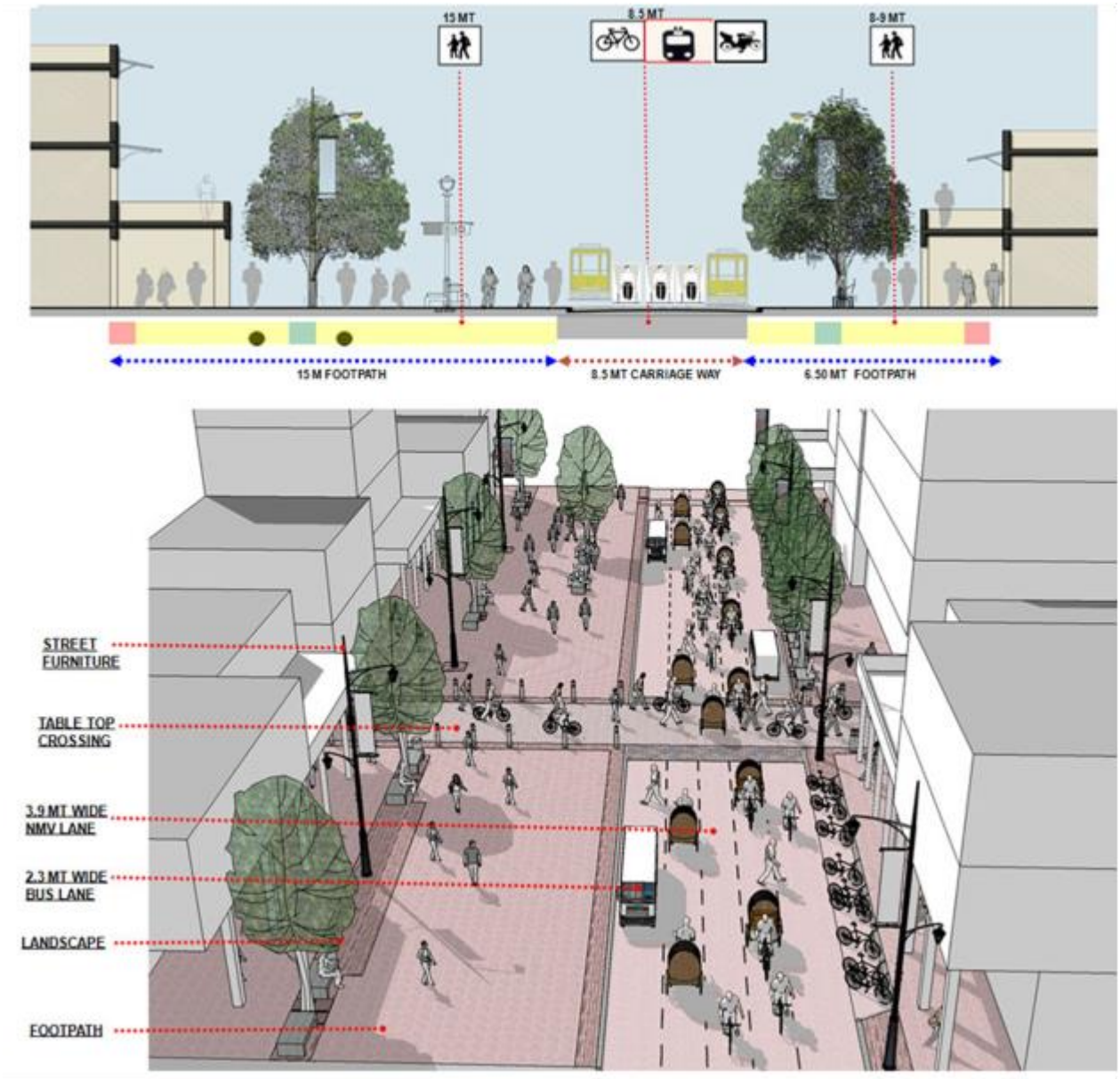


Figure 54Chandani Chowk padestrianization © Pradeep Sachdeva Associates

Figure 55 Chandani Chowk redevlopment (delhi.gov.in)

Figure 57 Public Seating in the middle of movement
Picture Courtesy: Author

Figure 56 PhysicalBarrier for vehicle Picture
COURTESY: Author

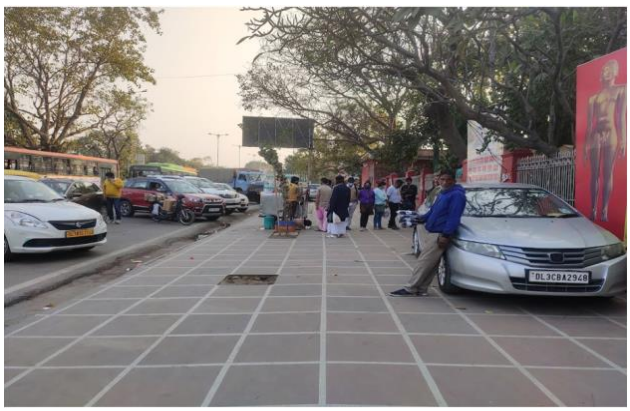


Figure 58 Wide pathways and parking along the road
Picture Courtesy: Author

Figure 59 Public Amenities road
Picture Courtesy: Author

3.2 DUBLIN CITY CENTRE, DUBLIN, IRELAND

In case of Dublin city, the fundamental philosophy of the design was to connect the public places to integrate the city realm. Different qualitative aspects are assessed to implement the design guidelines such as: character of the place, microclimate, level of street activities and security, vehicular traffic volumes, environmental conditions, pedestrians' facilities & conditions etc.

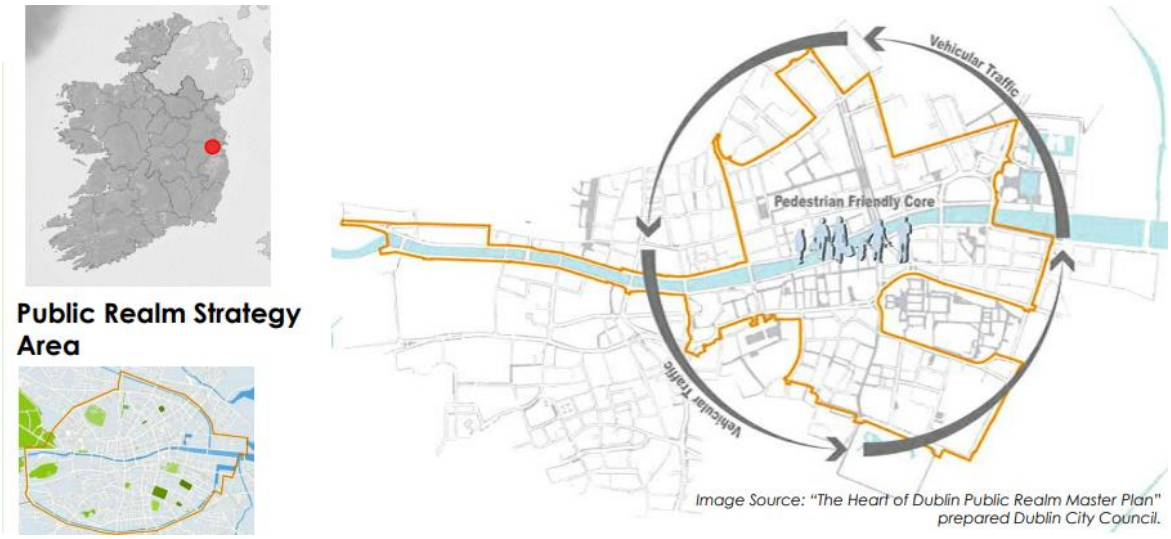


Figure 60 Dublin (Source - Google)

- ***Open Green Spaces***
  - The focus was to make a playful city
  - Play opportunities are an integral part of the city landscape, they present as design features, low walls or railings, changing levels, reflective surfaces, visual arts etc. The experience of the city for visitors, young adults, families and children

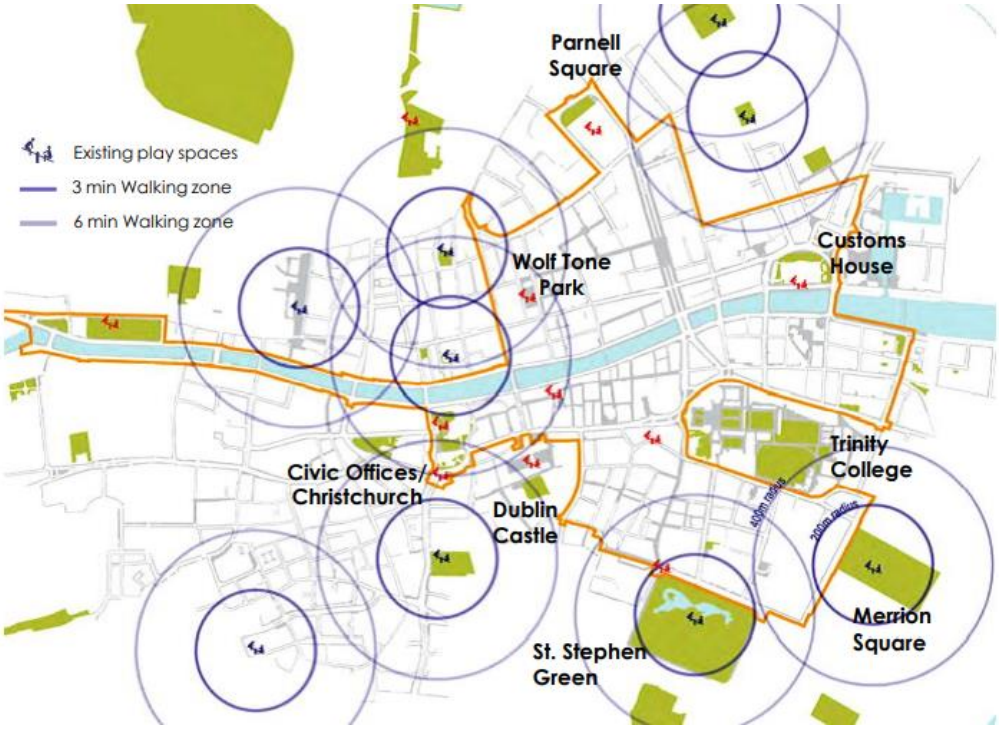


Figure 61 Green Park Network (Source Dublin City Council)

- ***Routes and Pathways***

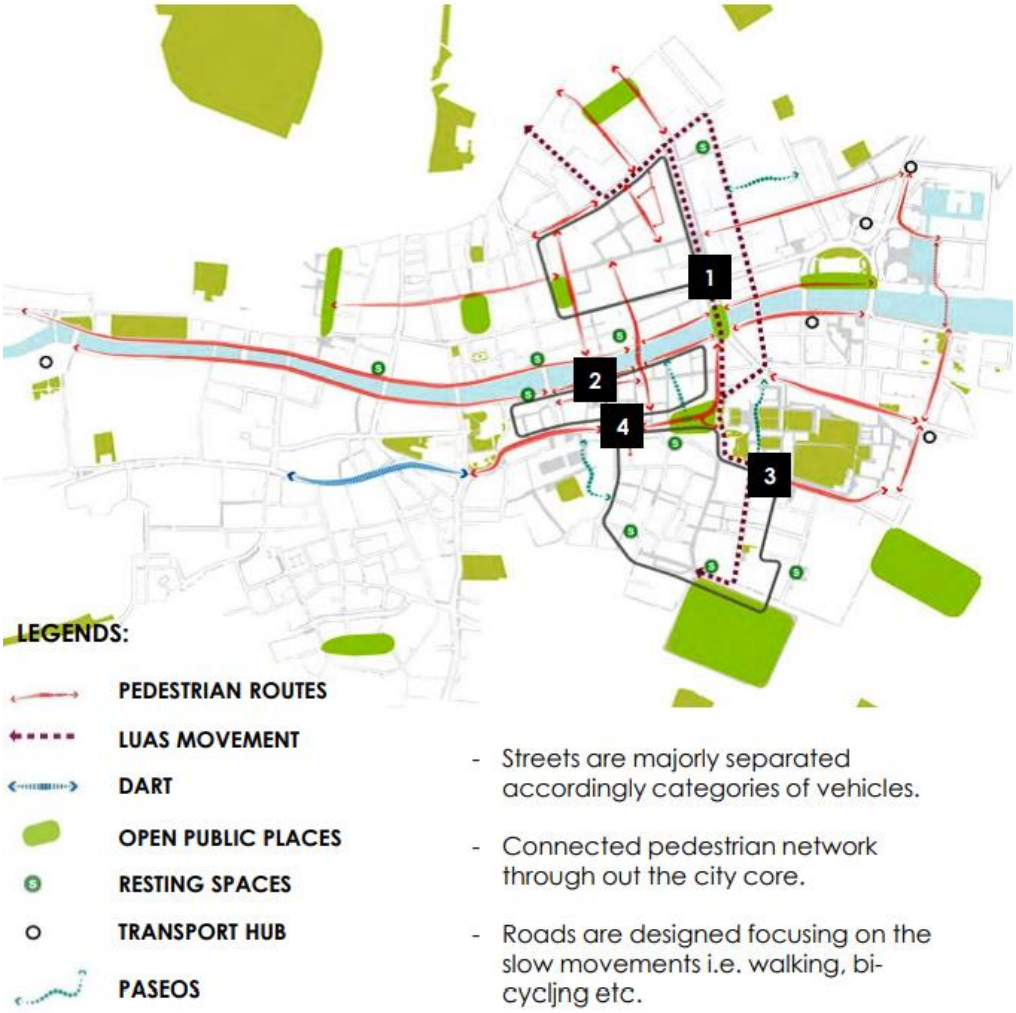


Figure 62 Major Roads (Source Dublin City Council)

- Pedestrian Walkway: The pedestrian environment is dedicated to all users, including commuters, tourists and shoppers.
- Bi-Cycle way: Dedicated Bi-cycle path, as Cycling trips increases almost 40% between the year 2006 & 2011.
- Railways : Dublin railway system such as , DART [Dublin Area Rapid Transit] and LUAS [Light Railway Tram] within the City Centre.
- Bus: The bus route is through the City center & connecting the major public places.
- Private Vehicles: The private car is an important mode for people travelling to the City Centre, especially for commercial purposes (as opposed to commuting).
- Goods Vehicles / Deliveries: The supply chain for goods and services into Dublin has been considered as an essential element of a working City Centre.

- ***Road Sections***

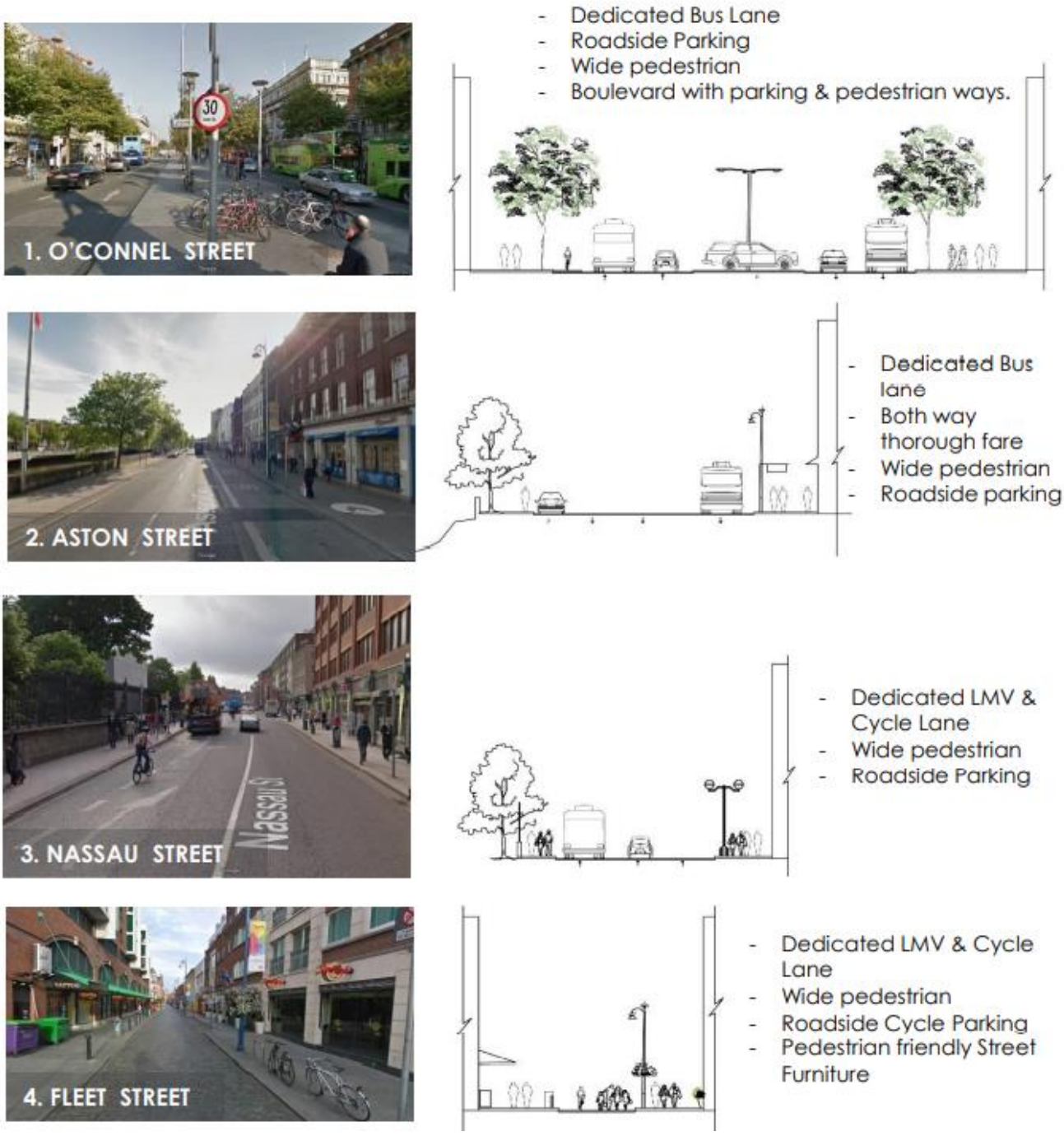


Figure 63: Road Details (Source - Dublin City Council)

04
Case Application

4.1 SITE DELINEATION

Sakchi Market is the oldest and biggest commercial hub in the city. Sakchi today has numerous cinema halls, Sakchi Bazaar which holds Mangla Market (Tuesday market) every Tuesday on footpaths. Traders in these markets have been doing business on freehold land through generations.

Figure 65 Sakchi Market (Google)

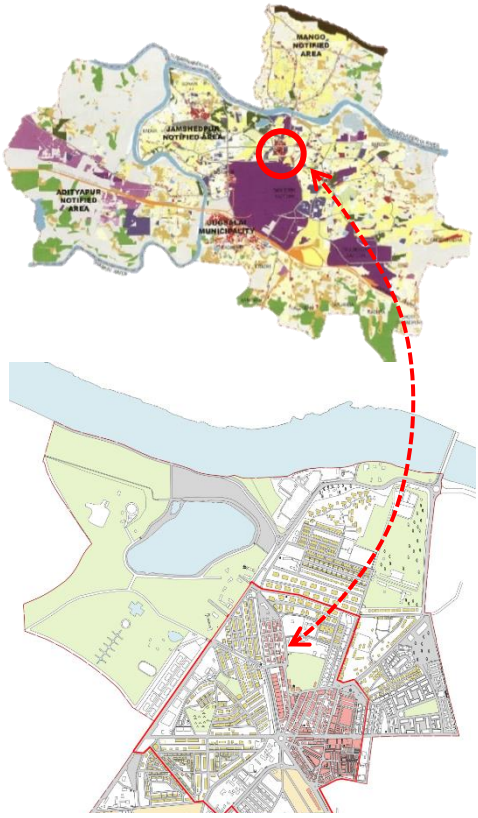


Figure 66: Land use Map (Source Author)

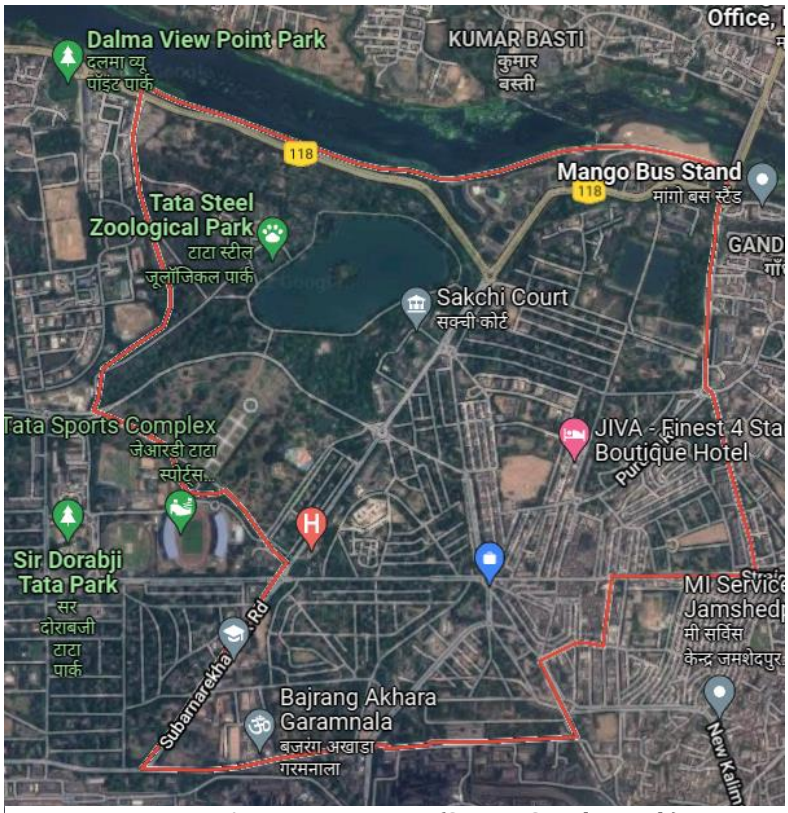


Figure 64 Area Demarcation (Source Google Earth)
Drawn By: Author

4.2 SITE ANALYSIS

- The area is located on the major N-S and E-W transportation corridor.

- The main commercial hub and the central park attracts people from the entire city as well as suburbs.

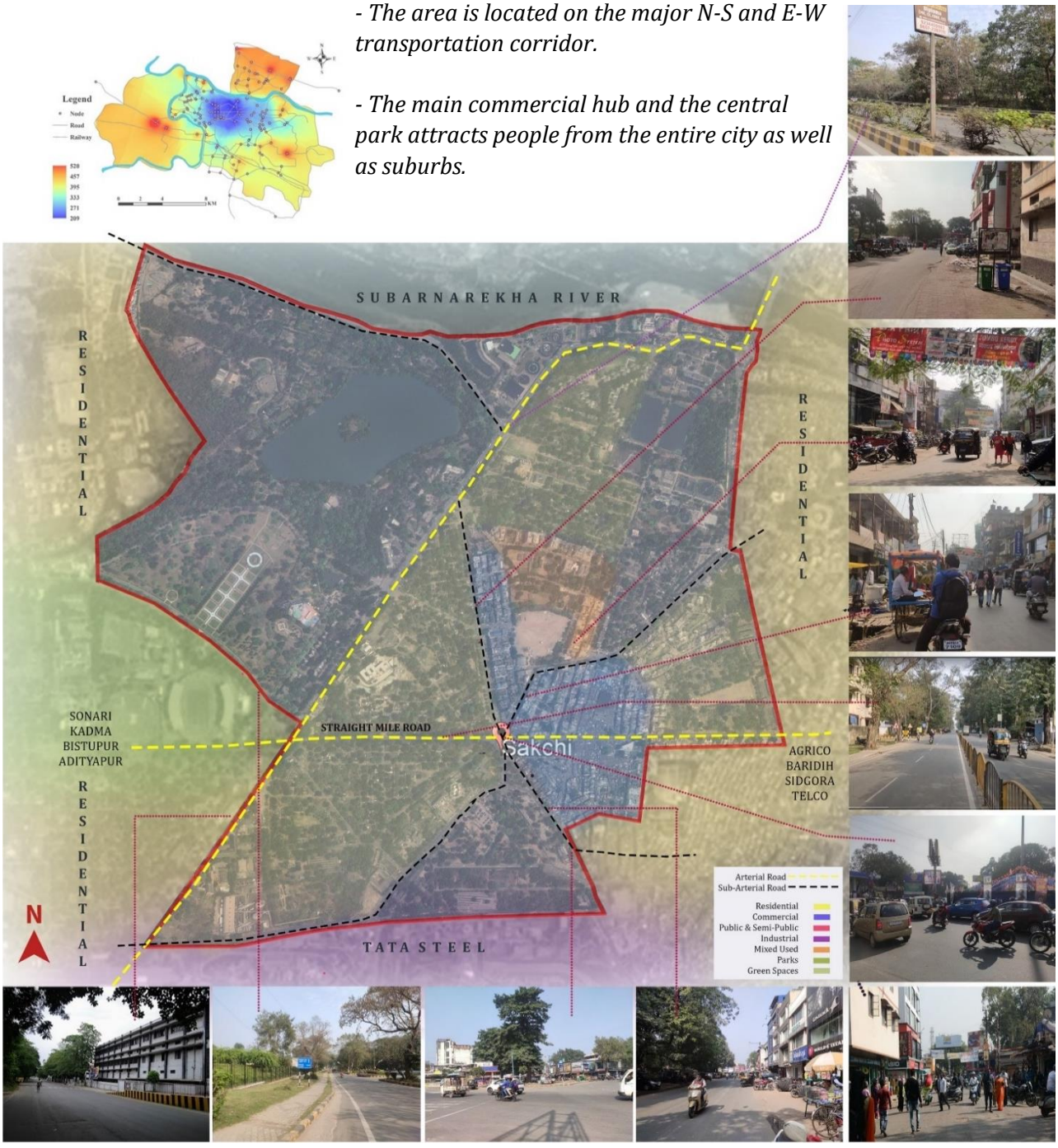


Figure 67: Area Profile (Source- Author)

4.2.1 DISTRICT

The site houses the main commercial district of the city.
It also consists all the major institutional hubs and government offices.
A lot of variation in terms of activities are present which make the area very busy.

4.2.2 EDGE

The site has river on the north edge and industries on the south edge with high walls and no visibility of the other site.
The east and west edges are physically and visually permeable.

4.2.3 GREEN SPACE AND CLIMATE

Figure 69 Green Canopy Cover (Source – Author)

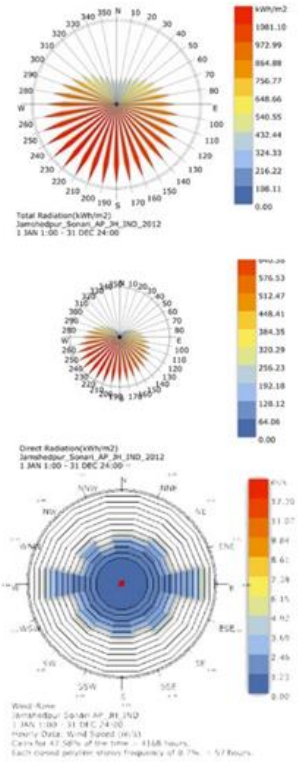


Figure 68 Climate Study (Source: Author)

4.2.4 MAGNET AND GENERATORS

Figure 70 Magnets & Generators (Source- Author)

4.2.5 NODES AND ROADS

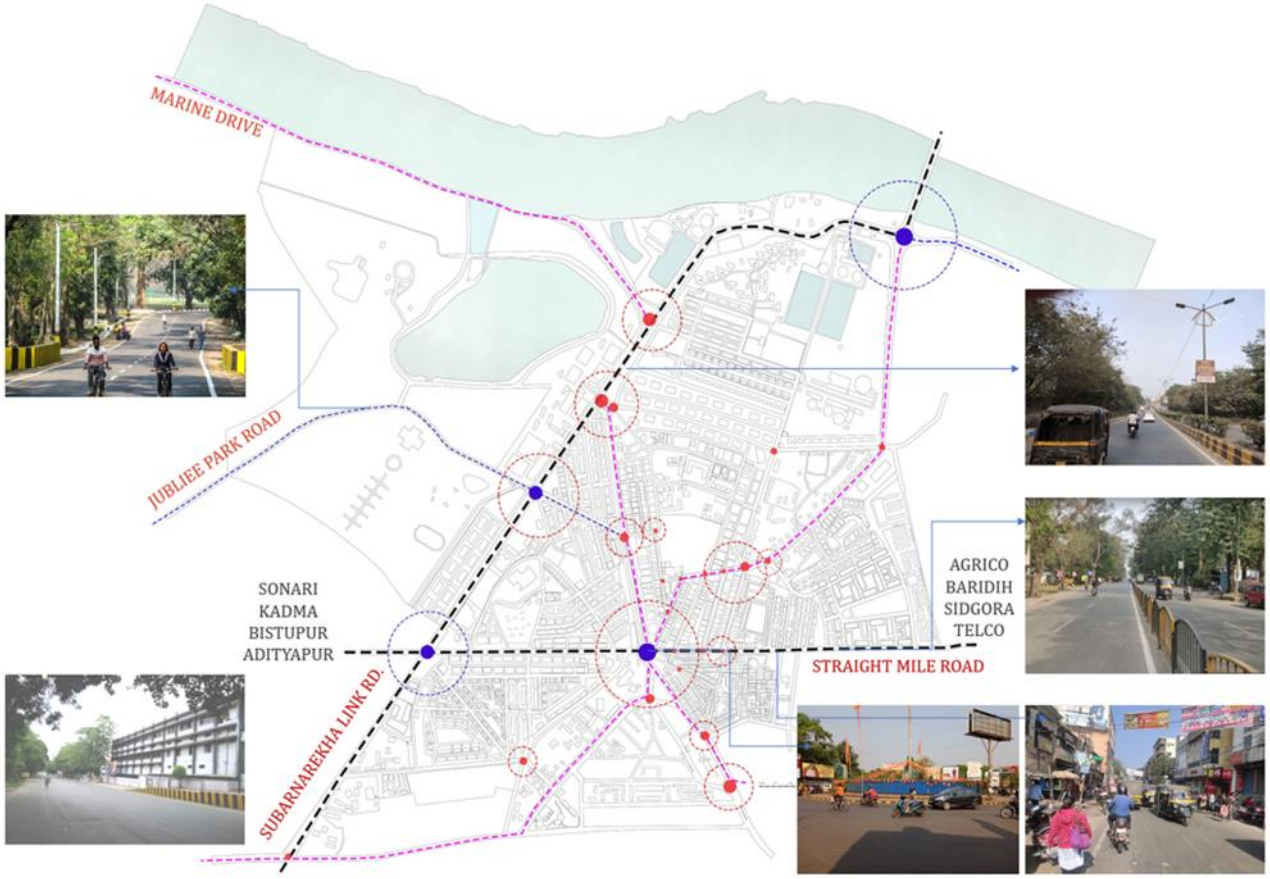


Figure 71 Movement and Node (Source: Author)

4.2.6 LANDUSE

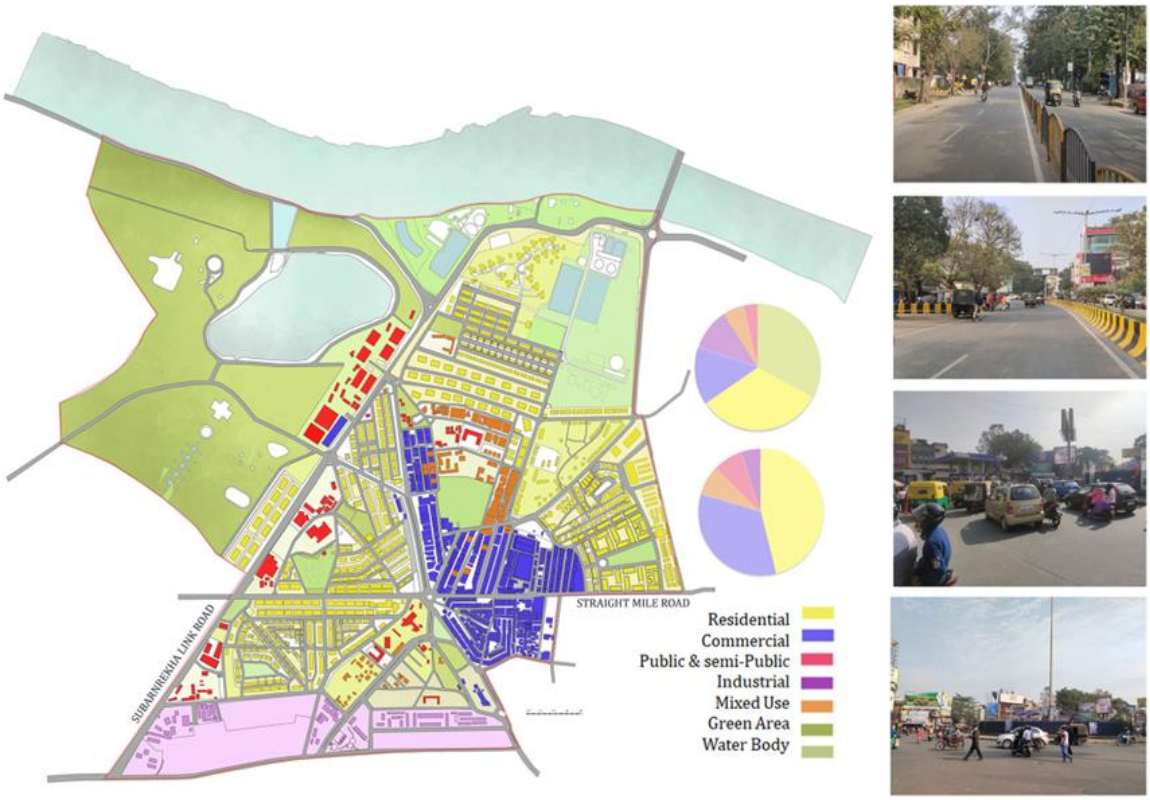


Figure 72 Land Use Plan (Source : Author)

4.2.7 ACTIVITIES

Figure 73 Activities (Source: Author)

4.2.8 MASS AND VOID

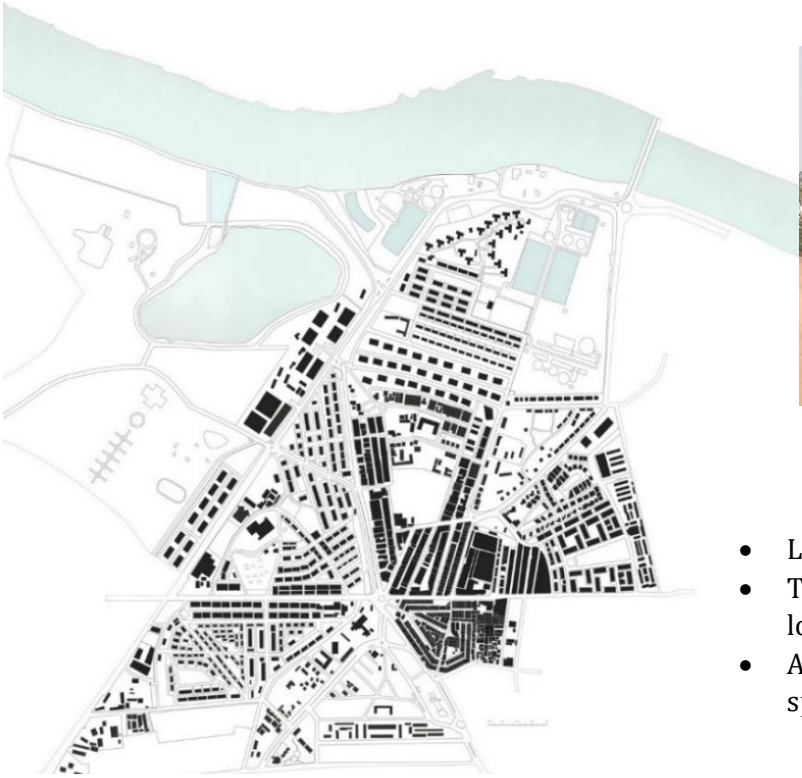


Figure 74 Aam Bagan Sakchi

- Large quantity of open area is available.
- The height of the building is also very low.
- Ample scope for development of public space is available

Figure 75 Mass and Void (Source: Author)

4.2.9 MOVEMENT AND PARKING

Figure 76 Parking Plan (Source - Author)

4.2.10 ROAD SECTIONS

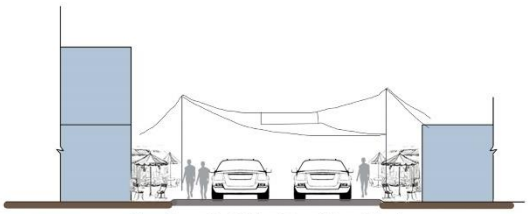


Figure 79 Section Straight Mile Road (Source: Author)

Figure 78 Section Straight Mile Road (Source: Author)

Figure 77 Section Sand Road (Source: Author)

4.2.11 OWNERSHIP MAPPING AND BUILDING CONDITION

Figure 80 Building Condition Mapping (Source : Author)

4.2.12 PROXIMITY MAPPING

Figure 81 Proximity Mapping (Source Author)

4.2.13 VISIBILITY MAPPING

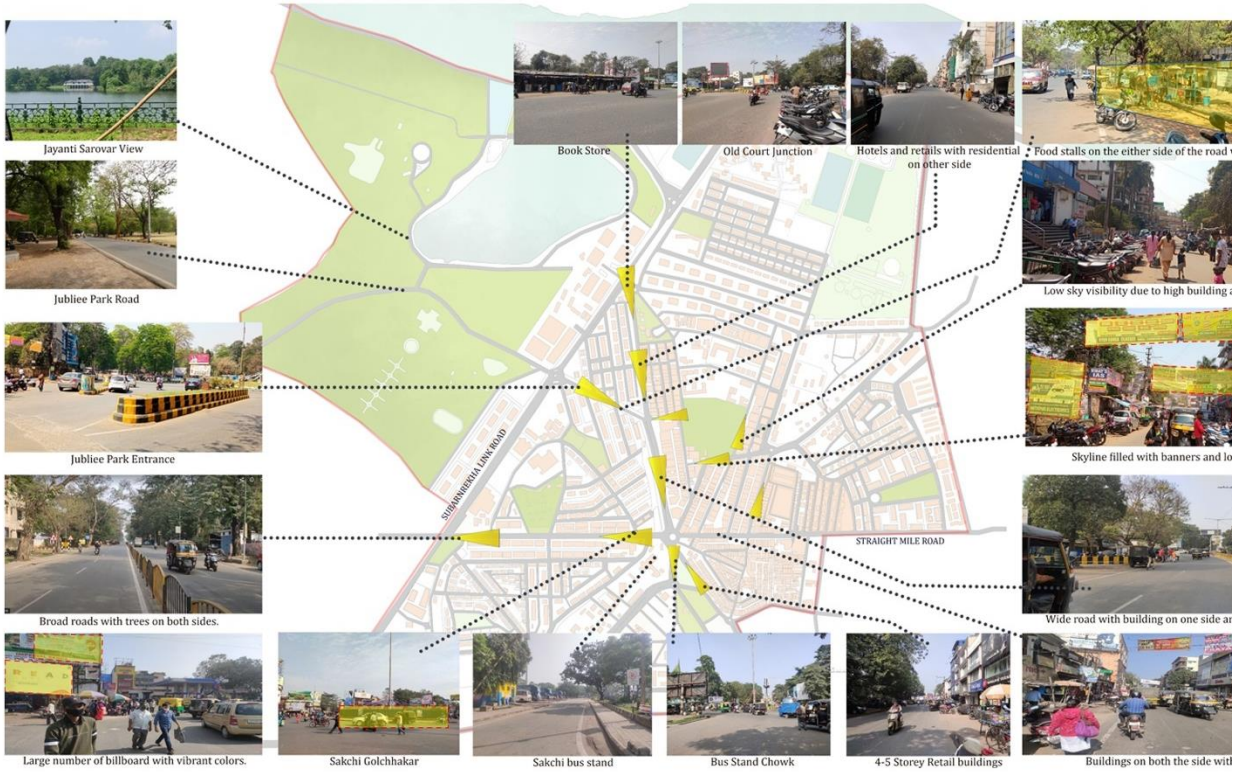


Figure 82 Visibility Mapping (Source : Author)

4.2.14 BUILT UP AREA ANALYSIS

WHOLE PLOT DATA		
Plot Area	/	m²
Gross Floor Area	577740.69	m²
Built-up Area	249157.77	m²
Floor Area Ratio	/	
Site Coverage	/	%
Green Area Deficit	-115548.1	m²
Parking Spaces Deficit	-11082.69	
Parking Area Deficit	-277067.3	m²
Mean Number of Storeys	2.32	
Net Floor Area	404418.48	m²

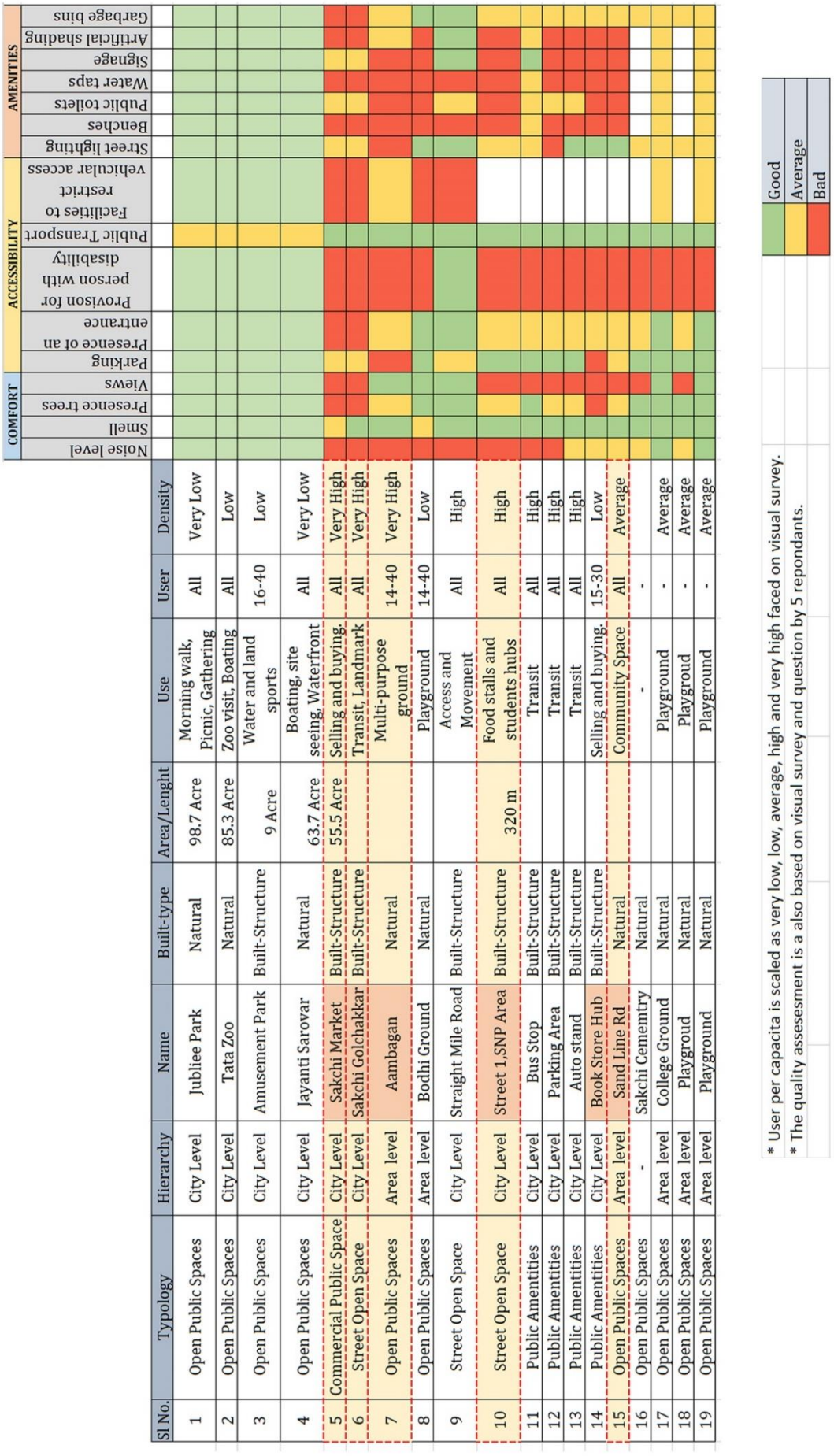
Land Use Data - RETAIL		
Plot Area	0	m²
Gross Floor Area	243101.96	m²
Number of apartment	3241.36	
Number of resident	9724.08	
Required Green Area	48620.39	m²
Required Parking Spaces	4862.04	
Required Parking Area	121550.98	m²
Volume	802482.19	m³
Net Floor Area	170171.37	m²

Land Use Data - Residential		
Plot Area	0	m²
Gross Floor Area	70818.36	m²
Number of apartment	944.24	
Number of resident	2832.73	
Required Green Area	14163.67	m²
Required Parking Spaces	944.24	
Required Parking Area	23606.12	m²
Volume	280097.04	m³
Net Floor Area	49572.85	m²

Land Use Data - MARKET PLACE		
Plot Area	0	m²
Gross Floor Area	65596.89	m²
Number of apartment	874.63	
Number of resident	2623.88	
Required Green Area	13119.38	m²
Required Parking Spaces	1311.94	
Required Parking Area	32798.45	m²
Volume	241785.44	m³
Net Floor Area	45917.83	m²

Table 11 Area Statement

4.2.15 PUBLIC SPACES TYPOLOGY AND CONDITION MAPPING



Sl No.	Typology	Hierarchy	Name	Built-type	Area/Lenght	Use	User	Density	Noise level	Smell	Presence trees	Views	Parking	Presence of an entrance	Provison for person with disability	Public Transport	Facilities to restrict vehicular access	Street lighting	Benches	Public toilets	Water taps	Signage	Artificial shading	Garbage bins
1	Open Public Spaces	City Level	Jubliee Park	Natural	98.7 Acre	Morning walk, Picnic, Gathering	All	Very Low																
2	Open Public Spaces	City Level	Tata Zoo	Natural	85.3 Acre	Zoo visit, Boating	All	Low																
3	Open Public Spaces	City Level	Amusement Park	Built-Structure	9 Acre	Water and land sports	16-40	Low																
4	Open Public Spaces	City Level	Jayanti Sarovar	Natural	63.7 Acre	Boating, site seeing, Waterfront	All	Very Low																
5	Commercial Public Space	City Level	Sakchi Market	Built-Structure	55.5 Acre	Selling and buying.	All	Very High																
6	Street Open Space	City Level	Sakchi Golchakkar	Built-Structure		Transit, Landmark	All	Very High																
7	Open Public Spaces	Area level	Aambagan	Natural		Multi-purpose ground	14-40	Very High																
8	Open Public Spaces	Area level	Bodhi Ground	Natural		Playground	14-40	Low																
9	Street Open Space	City Level	Straight Mile Road	Built-Structure		Access and Movement	All	High																
10	Street Open Space	City Level	Street 1,SNP Area	Built-Structure	320 m	Food stalls and students hubs	All	High																
11	Public Amentities	City Level	Bus Stop	Built-Structure		Transit	All	High																
12	Public Amentities	City Level	Parking Area	Built-Structure		Transit	All	High																
13	Public Amentities	City Level	Auto stand	Built-Structure		Transit	All	High																
14	Public Amentities	City Level	Book Store Hub	Built-Structure		Selling and buying.	15-30	Low																
15	Open Public Spaces	Area level	Sand Line Rd	Natural		Community Space	All	Average																
16	Open Public Spaces	-	Sakchi Cememtry	Natural		-	-																	
17	Open Public Spaces	Area level	College Ground	Natural		Playground	-	Average																
18	Open Public Spaces	Area level	Playgroud	Natural		Playgroud	-	Average																
19	Open Public Spaces	Area level	Playground	Natural		Playground	-	Average																

Figure 83 Public Spaces Condotion Mapppng (Source – Author)

4.2.17 LAND USE ANALYSIS

Identity & Limits

		Permitted FAR	: 2.5
Whole Plot Area	: /	**Max Coverage**	: 40
Land Use	: RETAIL	**Max Height**	: 24 m

Current Model

Gross Floor Area	: 579,741 m²	**Built Area**	: 249,658 m²
Unused GFA	: /	**Unused Built Area**	: /

Floor Area Ratio

Site Coverage

RETAIL	245,101.9	42.3 %
MARKET PLACE	65,596.9 m²	11.3 %
MIXED USE	110,779.3	19.1 %
Residential	70,818.7 m²	12.2 %
SHED MARKET	13,454.4 m²	2.3 %
PUBLIC SEMI_P..	73,989.8 m²	12.8 %

Urban Impact

Residents	: 23,189.8	**Employees**	: 0

Car Parking

Required Spaces	: 11,123
Provided Spaces	: 0

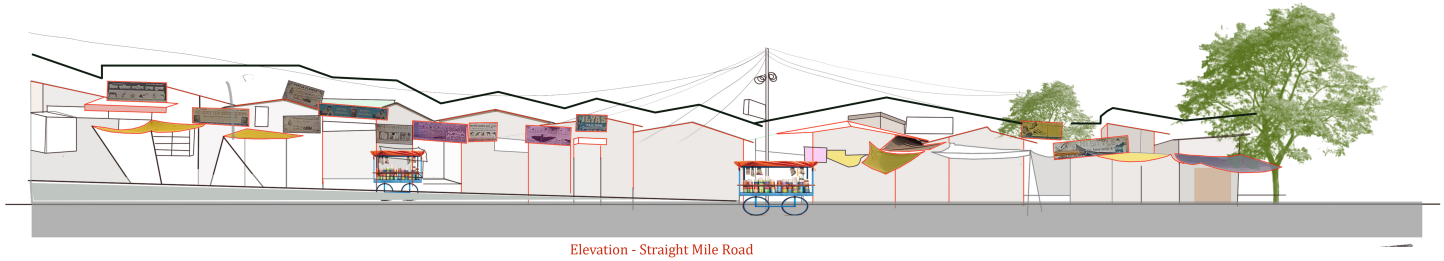
Landscape

Required Green Area : -115,948.1..

SOURCE : AUTHOR

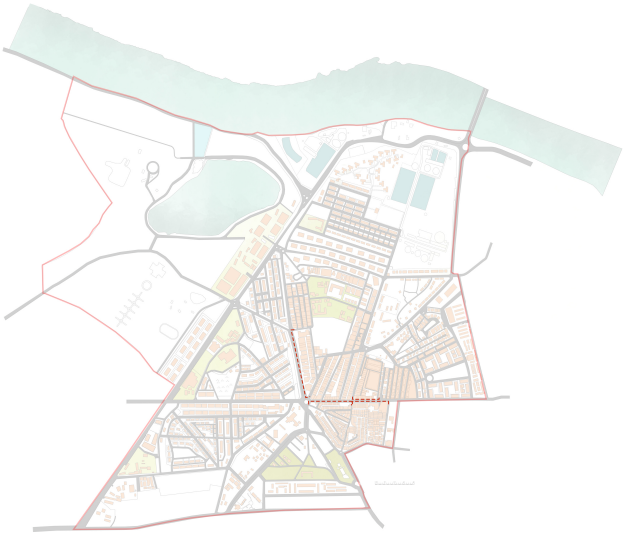
05
Design Implementation

Elevation

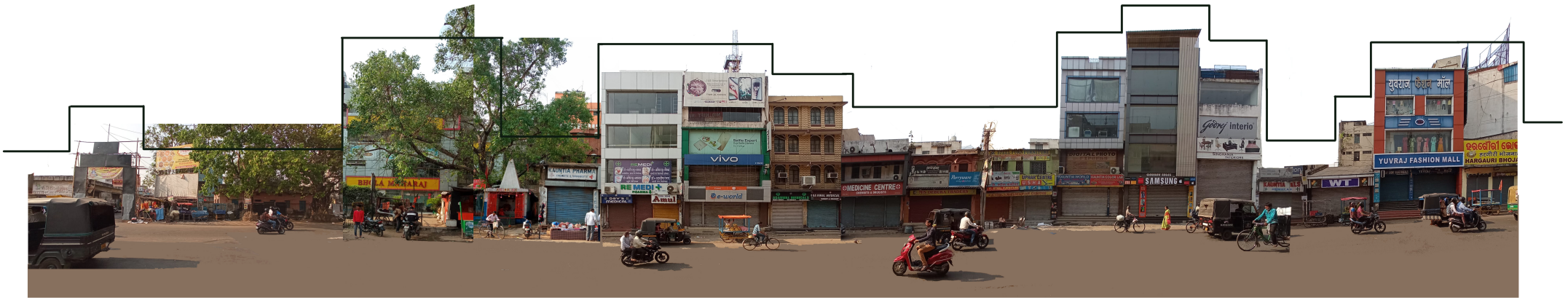


Elevation - Straight Mile Road

- Low rise asbestos roof is there.
- The skyline is marked with unorganised banner and billboards.
-



Elevation - Straight Mile Road

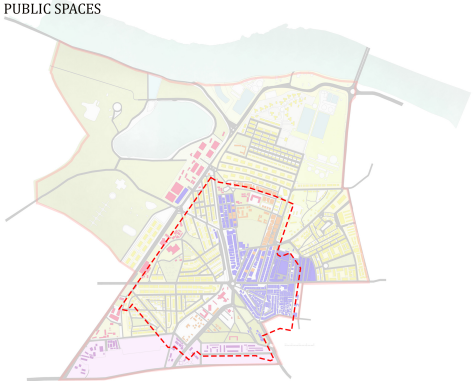


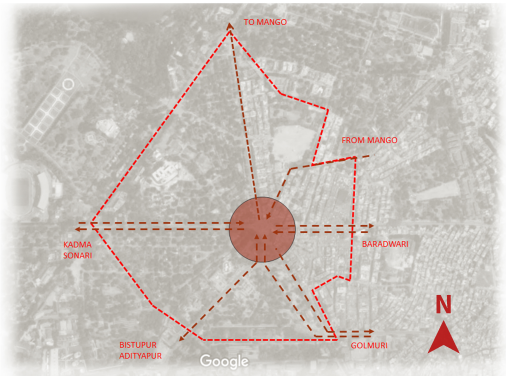
Elevation - Straight Mile Road

Elevation - Sand Line Road

Urban Design Guidelines

BASED ON THE STUDY DONE IT IS ESTABLISHED THAT THE SELECTED ZONES HAVE THE MOST POTENTIAL TO BE DEVELOPED AS ATTRACTIVE PUBLIC SPACES





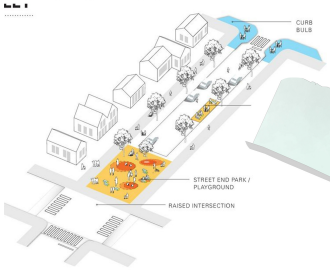
Major Issues:

- The uneven distribution of green on the site.
- Lack of public spaces.
- Lack of public amenities in the site.
- Congestion making existing spaces difficult to access.
- Large plulation inflx.

S	W	O	T
Easily accessibility through a large number of roads. Better connectivity since the site is in the center of the city. Main transportation node. Activities attracting all age and group of people.	Traffic congestion. Due to high density of commercial, less vegetation in the site area. No segregation between vehicular and pedestrian movement. Encroachment by the hawkers.	Major hub for the wholesale and retail purchases. Redevelopment of the existing area would help attract more people and generate more economy. The government is already planning to redevelop the whole area.	Traffic congestion can be a major issue. High density of people visiting the area.

URBAN DESIGN GUIDELINES

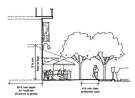
1. Reorganize the commercial activities to release open space.
2. Create a network of open space.
3. Reorganise the built and unbuilt space to define the character of the place.
4. Use the total permissible FAR.
5. Increase the visual permeability of the place.
6. Provide the basic amenities like seating and lighting.



- Large Billboards blocking the view of the place.
- No traffic lights and Zebra crossing.
- Proper stops for Auto and Buses is lacking.
- Visual connectivity at the node is missing.
- Hawkers encroaching the streets.
- Vehicular dominated area and lack of parking spaces.

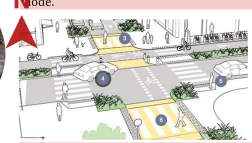
Types of shops present:
- Comaprision Goods
- Services
- Convinient

- Reorganize the existing food stalls.
- Provide seating and develop it as a street food district.
- Creating a pedestrian linkage with the Sakchi node.



- To propose guidelines for building elevations to maintain an uniform character for the buildings for a better streetscape. Restrict random billboards, open electrical wire mesh etc.
- To enhance the existing view and vista and create new focal points.

- To develop the nodes with adequate space & make it comfortable for all user groups.
- Free up more area to make the roundabout organised and realign its postion for smooth flow.
- Give a character and proper visibility for traffic at the node.



-Restrict the vehicular movement in the market area.
- Define a entrance to the market complex.
- Declutter the roads to removethe enchroachemt and provide designated spaces for vending activities.

- Provide a visual barrier for the residential area.
- Develop the area as small neighbourhood park.

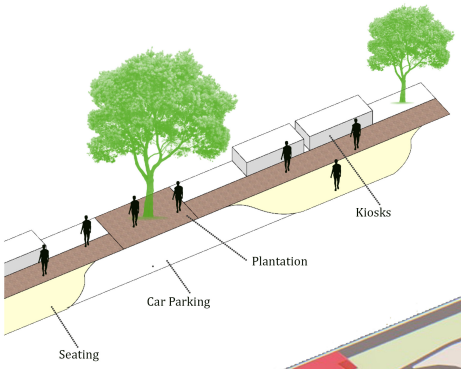
- To provide public amenities to facilitate the pedestrian users. To design street furniture such that they act as functionally & visually unifying element in the public space.

- To create plaza and seating for the spill of the students from coaching centres.
- Reorganize and provide proper parking facilities.

- To establish a connection betwen the magnets and nodes. Prefunction or spill over zones with to be planned near these magnets.

- Opening up the ground floor to create more space and increase permiability.
- Redesigning the existing structure to use the maximum FAR.
- Pedestrianisation of the market place.
- Providing parking near the market area.

Network of park within the city.

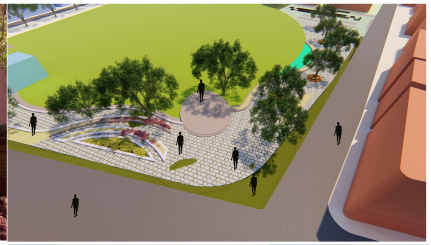


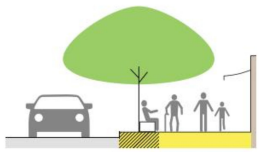
Food Street Design

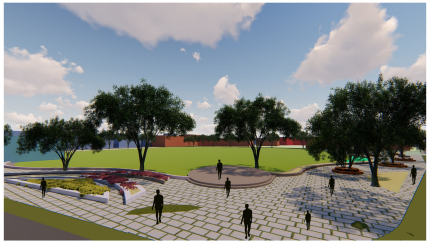
-Providing provison for parking and vending activities.
- Improving the sewerage and providing street furniture.

Students Hub

- Seating and parking facilities for the stuents an the parents.
- Plaza along the road to have a clear visibility and easily permiable.
- The wall will be dismantles and vehicular movement will be restricted using bollards.



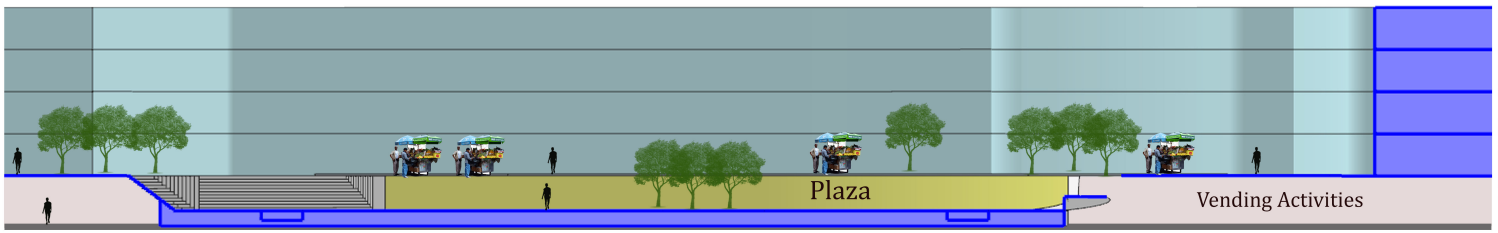




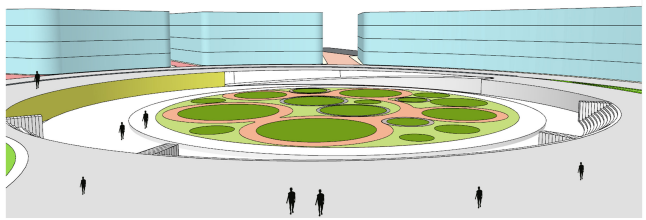
Cenetary Plaza

- A landmark to commemorate the 100 years of the city of Jamshedpur.

- Providing a place for social interaction.
- A socio-cultural hub.
- The informal shops are located on the lower plaza level

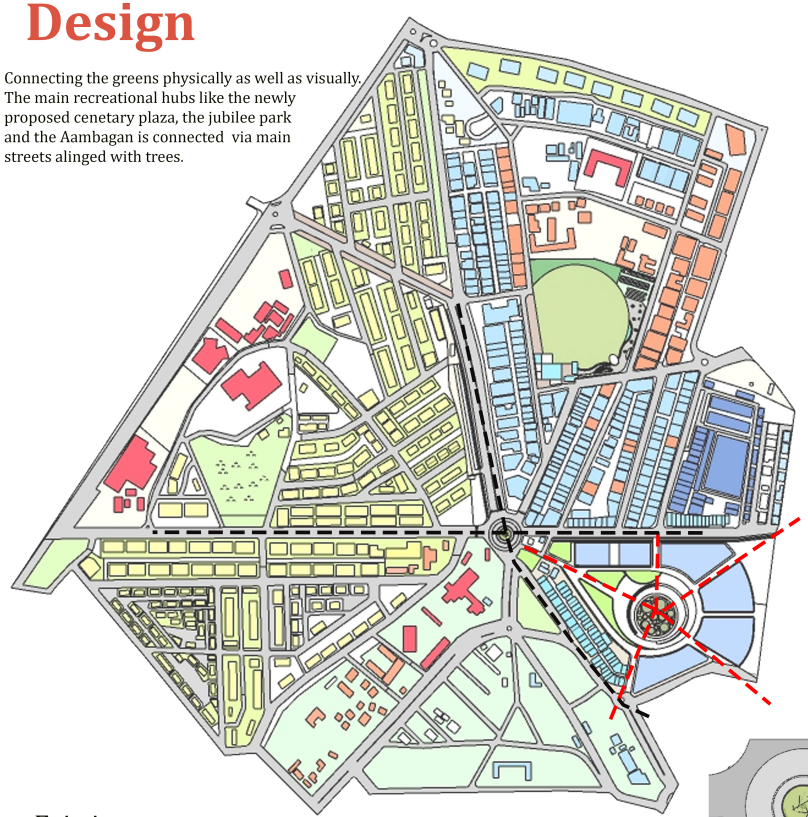


Section of Proposed Centenary Plaza

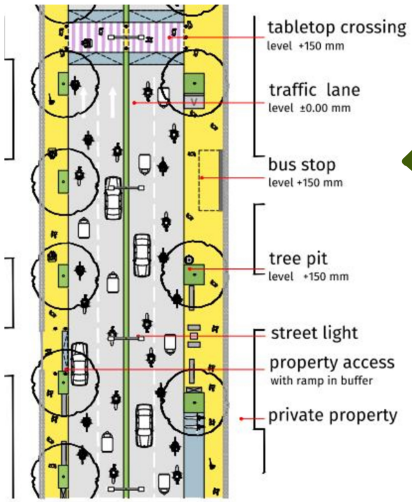


Design

Connecting the greens physically as well as visually. The main recreational hubs like the newly proposed cenetary plaza, the jubilee park and the Aambagan is connected via main streets alinged with trees.

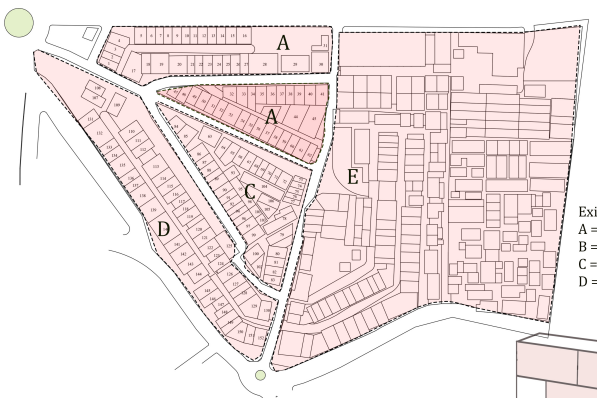


STREET 1



STUDENT HUB

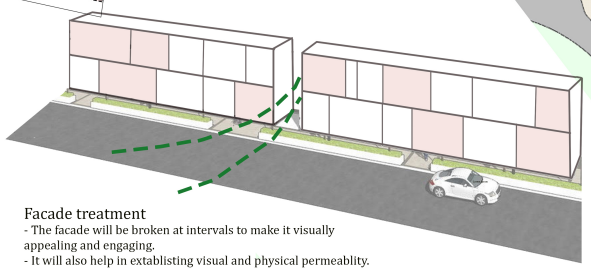
Existing



Existing Land Parcels
A = 6078 sq.m
B = 4163 sq.m
C = 6136 sq.m
D = 11315 sq.m

Proposed
A = 1880 sq.m
B = 1715 sq.m
C = 4550 sq.m
D = 4630 sq.m
E = 4880 sq.m

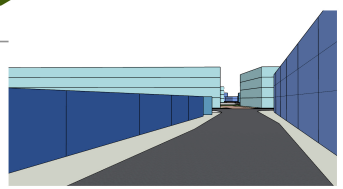
Plot Area	0	m²
Gross Floor Area	62610.58	m²
Number of apartment	834.81	
Number of resident	2504.42	
Required Green Area	12522.12	m²
Required Parking Spaces	417.4	
Required Parking Area	10435.1	m²
Volume	230557.1	m³
Net Floor Area	43827.41	m²



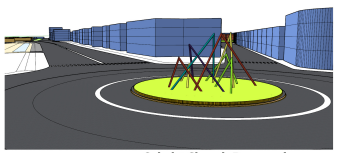
Facade treatment
- The facade will be broken at intervals to make it visually appealing and engaging.
- It will also help in extablisting visual and physical permeablity.

Proposed

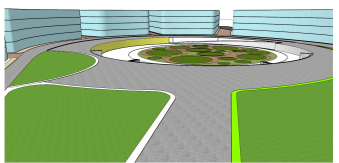
The Centenary Plaza



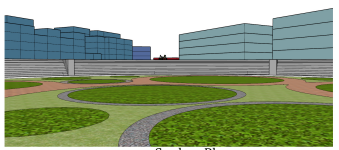
Streets



Sakchi Chowk Proposal



The Centenary Plaza



Sunken Plaza

06
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39. At Navsari in Gujarat where he was born, he turned part of his father's estate that he had inherited into a public park complete with an animal menagerie (Harris, 85–6).
40. Elwin, 112
41. See Sunil Sen the House of Tata (Calcutta: Progressive Publishers, 1975) for a comprehensive account of labour relations in Jamshedpur.