DEPARTMENT OF ARCHITECTURE

JADAVPUR UNIVERSITY, KOLKATA – 700032

MAY 2024

We hereby certify that the thesis entitled **"URBAN REDEVELOPMENT OF A MARKET AREA WITH TRANSIT CORRIDOR – CASE APPLICATION OF PALBAZAR, GARFA MAIN ROAD, NEAR JADAVPUR RAILWAY STATION, KOLKATA, WEST BENGAL, INDIA".**

Submitted by **SUBHAMAY CHAKRABORTY**, *Roll no.* **002210202009** *in partial fulfilment of the requirements of the Master's Degree in Architecture (Urban Design) of this University, is a bonafide work to the best of our knowledge and may be placed before the examination board for consideration.*

Supervisor	***Thesis Coordinator***	***Head of Department***

External Examiner 1	***External Examiner 2***	***External Examiner 3***

A Thesis Project Report Submitted in Partial Fulfilment of the Requirements for the Post Graduate Degree of Master of Architecture (Urban Design) on Under the Faculty of Engineering and Technology

URBAN REDEVELOPMENT OF A MARKET AREA WITH TRANSIT CORRIDOR

AS A MODEL FOR DEVELOPMENT OF A MARKET PLACE WITH TRANSIT CORRIDOR IN AN UNPLANED URBAN AREA.

Case Application of Palbazar, Garfa Main Road, Near Jadavpur Railway Station, Kolkata, West Bengal, India.

Under the Guidance of

Prof. Dr. Madhumita Roy

Submitted by

Subhamay Chakraborty

Roll No. 002210202009

M.Arch, Urban Design

Department of Architecture, Jadavpur University, Kolkata

(2022 – 2024)

"Connectivity is Productivity, whether it's in a modern office or an underdeveloped village."

IQBAL QADIR

Founder, Grameenphone

A C K N O W L E D G E M E N T S

I would like to thank those people who have guided and helped me with the formulation and completion of this project. Firstly, I would like to thank Prof. Dr. Madhumita Roy for guiding me and being my constant inspiration for handling the various tasks involved in the formulation of the project.

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And above all, GOD, for bringing me into existence.

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1.0. INTRODUCTION

1.1. OVERVIEW:

This thesis topic mainly focuses on the Market Place Redevelopment of the Action Area in the Urban Centers (Towns) along with the Transport Corridor (Road Junction) for faster traffic movement and increasing daily commuter convenience along with the creation of a Landmark. Also to develop the urban identity and connectivity in between two Market Place.

Created a Bus Depot which included in the Transportation Network (Roadways) and Connectivity with 8B Market Place (Jadavpur).

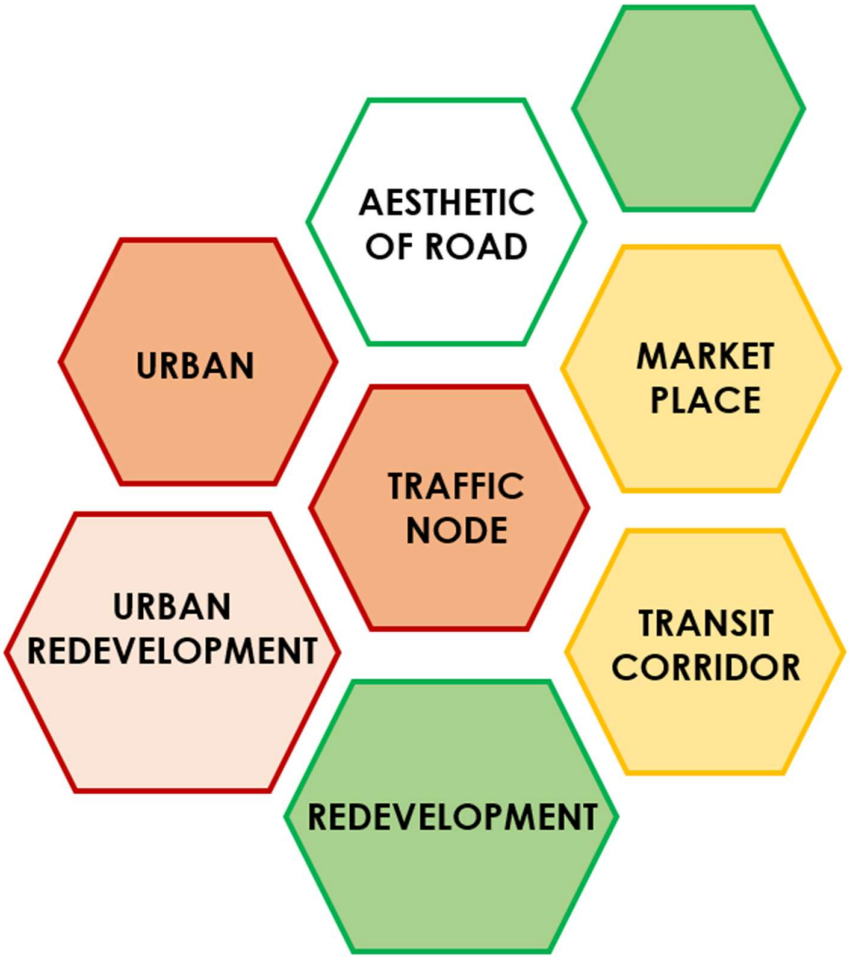
[Keywords]

The topics which are discussed here are based on:

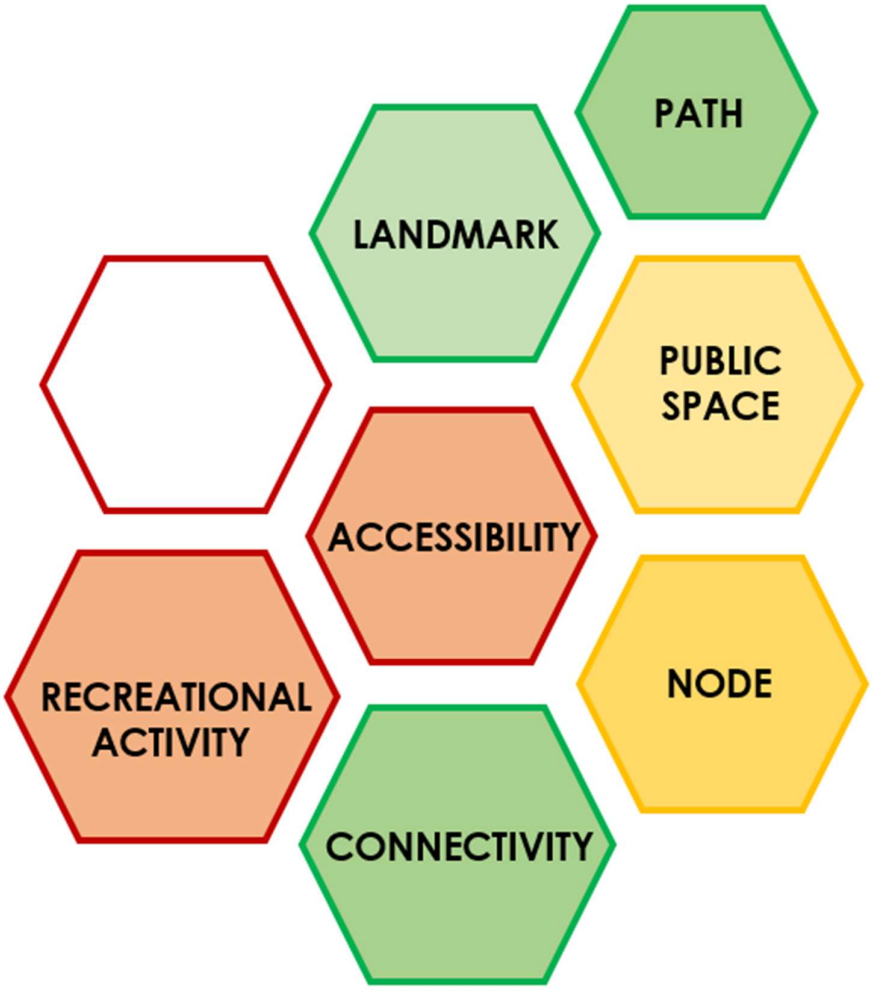
- Redevelopment and Up gradation of the Market Area.
- Interlinking between two Market Area (Both side of Railway station).
- Creating a Bus Depot.
- Creating a Transportation Nodes

- For boosting Public Convenience

1.1.1. AREA OF RESEARCH:



1.1.2. AREA OF INTEREST:



1.1.3. DEFINITIONS:

Urban -

An ***Urban*** areas are places where is a ***human settlement*** with a high ***populations*** and high ***density***, characterized by their built-up infrastructure. They are expanded by the act of urbanization.

[Source: https://www.studysmarter.co.uk/]

Re-Development -

The term ***Redevelopment*** is used to describe any project that constructs new buildings, structures, and land uses on a site with previous or existing uses and improving real estate in a neighborhood or city by adding or rehabilitating buildings.

[Source: https://www.socialsci.libretexts.org]

Urban Re-Development -

Urban redevelopment means demolition and reconstruction or substantial renovation of existing buildings or infrastructure within urban infill areas, existing urban service areas or community redevelopment areas.

[Source: https://www.lawinsider.com/]

Market Place -

A ***Marketplace*** typically refers to a physical or virtual location where goods and services are bought and sold. It can be a physical location like a shopping mall. There are three types of market:

1. Weekly markets
2. Neighborhood shops
3. Shopping complex and malls.

[Source: https://www.quora.com/]

Transit Corridor -

Transit corridors establish a pattern of walkable districts or neighbourhoods connected to commercial, employment, institutional and recreation areas.
A ***transit corridor*** is defined as the walkable areas around all of the stations along a transit line. Corridor types are defined by what they connect; however, most corridors tend to be a mix of types.
There are three basic transit corridor types:

1. Destination Connector 2. Commuter 3. District Circulator

[Source: https://2030palette.org/transit-corridors/]

1.1.3. DEFINITIONS:

Path -

Path is defined as the passages that experiences from the people moves: walkways, streets, transit line, railroads and canals. This is the most important element in people's mental image toward the city.

[Source: https://www.lawinsider.com]

Landmark -

Landmark is a usually large object on land that is easy to see and can help a person find the way to a place near it.

An important building or monument or historical ***landmarks***.

[Source: https://www.merriam-webster.com]

Public Space -

A ***Public Space*** is a place that is open and accessible to the general public. Roads, pavements, public squares, parks, and beaches are typically considered ***public space***.

[Source: https://en.wikipedia.org]

Accessibility -

Accessibility is about removing barriers enabling users to engage and participate in everyday activities. This includes reducing and overcoming the barriers that might occur for people with disabilities and includes the digital and physical interactions that people have in everyday life.

[Source: https://www.interaction-design.org]

Node -

Node is a center of activity. Actually it is a type of landmark. ***Nodes*** are points within the city, strategically located which the individual enters. A ***Node*** is the focal point of an area.

[Source: https://www.jpthomson.com]

Recreational Activity -

Recreational Activity means any outdoor activity under-taken for the purpose of exercise, relaxation or pleasure, including practice or instruction in any such activity.

[Source: https://www.lawinsider.com]

1.1.4. BACK GROUND:

Urbanization refers to the population shift from rural to urban areas, the corresponding decrease in the proportion of people living in rural areas, and the ways in which societies adapt to this change. It is predominantly the process by which towns and cities are formed and become larger as more people begin living and working in central areas

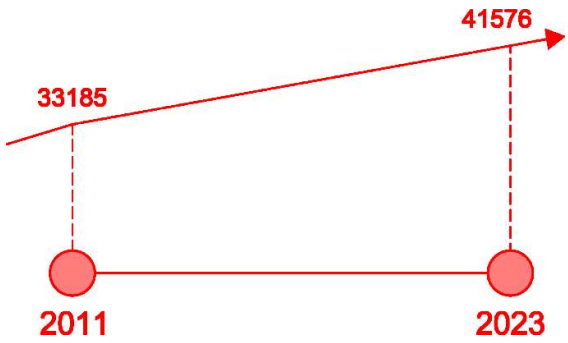


FIG.1. GROWTH POPULATION WITH YEAR RESIDING IN URBAN AREAS

As per the 2011 Census of India, Ward No. 104, Kolkata Municipal Corporation, had a total population of 33,185, of which 16,385 (49%) were males and 16,800 (51%) were females. Population below 6 years was 1,795. The total number of literates in Ward No. 104 was 30,144 (96.03% of the population over 6 years).

Kolkata is the 2nd most literate district in West Bengal. The literacy rate of Kolkata district has increased from 53.0% in 1951 to 86.3% in the 2011 census.

Total population in 2023 is 41576 from KMC Report. The male and female populations are 13505 and 12421 respectively.

Suburbanization is a population shift from central urban areas into suburbs, resulting in the formation of (sub) urban sprawl. As a consequence of the movement of households and businesses out of the city centers, low-density, peripheral urban areas grow.

Many residents of metropolitan regions work within the central urban area, and choose to live in satellite communities called suburbs and commute to work via automobile or mass transit.

Suburban Centers and Towns are connected via Roadways and Railways.

Urbanization and **Transportation** Networks are interconnected. Development and growth of cities depend upon their connectivity to the industrial, commercial and residential areas that provide the manpower and resources for the functioning of the Urban Centers.

Efficient movement of resources, wealth & people from one city to another is possible only via an efficient & smooth Transportation network connectivity.

Garfa area has developed very well after Prince Anwer Shah Road (Kalikapur Road) to Eastern Metropolitan Bypass was built. This Bypass was opened to the public on 1st March, 2007. After that the transport system developed a bit and the population started to grow.

1.1.5. SITE LOCATION:

Garfa is a southern neighbourhood of Kolkata, India. The postal code of Garfa area is 700075 and 700078. This area is surrounded by Haltu, Nandi bagan, Jadavpur and Kalikapur.

The **Garfa Main Road** connects the EM Bypass Connector on the east side, and Pal Bazar on the west.

COUNTRY: INDIA **STATE:** WEST BENGAL

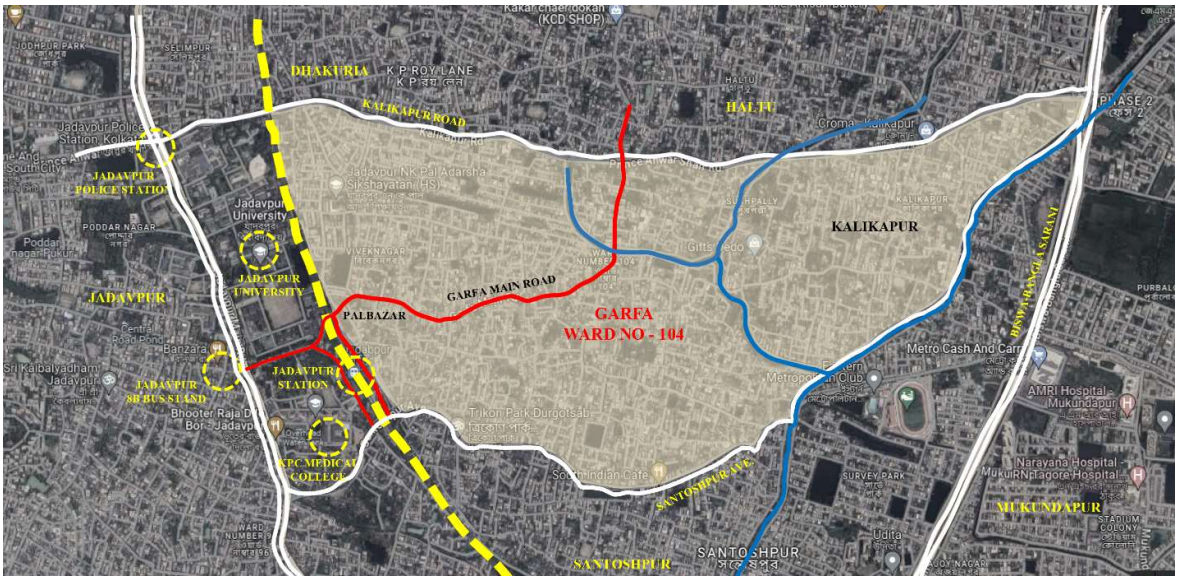
CITY: KOLKATA **KMC WARD:** 104,105, 106

TRANSPORTATION:

- Garfa Main Road and Kalikapur Road intersects near Garfa. Buses ply along both roads. Auto rickshaws, app-based cab services such as Ola, Uber, and taxies are also available.
- Dhakuria Railway Station and Jadavpur Railway Station are the nearest railway stations.
- Mostly pedestrians can pass through the narrow roads of Garfa.
- Jadavpur Main Road from Jadavpur Station and Garfa Main Road from Palbazar Market are connected each other.

CONNECTIVITY:

- **By Air:** Garfa is about 22.6 km from Netaji Subhas Chandra Bose International Airport, Which is the nearest airport.
- **By Train:** Garfa is about 15.5 km from Howrah Railway Station & 9.0 km from Sealdah Railway Station. Jadavpur Railway Station forms the link between Sealdah and Sonarpur Junction.
- **By Metro:** Garfa is about 4.3 km from nearby Metro Station which is Tollygunge Metro Station (Mahanayak Uttam Kumar Metro Station).



1.1.6. JUSTIFICATION OF THE PROJECT:

1. To revive the market place around the station side.
2. To recreate the transport landmark.
3. To develop the action area both side of the Garfa main road and amenities in order to attract more footfalls.
4. To create more options for earning for the betterment of the local livelihood.
5. To create a walkable connection between Garfa and Jadavpur.

ISSUES AT SITE:

1. No proper Public Space (Market Place) at the Action Area (Junction Point of Jadavpur Railway Station and Palbazar).
2. No proper Transportation Landmark at the action area.
3. No proper connectivity between Palbazar and Jadavpur Market.
4. No proper Public Amenities in this area.
5. There is present Health or Medical issues.

Different types of shop or Markets are held on the Jadavpur Railway Station. So the daily passengers and travellers are facing a problem to climb the train.

Outer area which is the Railway land, of the Jadavpur Station is present different types of construction material which are storing there.

Here is present 212 Bus Stand. But there is not present a proper bus stand. All buses are standing on the main road.

Limited route of buses are present so common people have to go to Jadavpur 8B and Tallygunge Metro Station to go to different places in Kolkata. It wastes a lot of time every day.

Outer area which is the Railway land, of the Jadavpur Station is present different types of construction materials which are storing there. Which is block the public activities & amenities.

Market or Shops are held on the Garfa Main Road. For this the pedestrian and vehicular movements are hampering everyday and everymoment.

Here is present 212 Bus Stand. But there is not present a proper bus stand. All buses are standing on the main road.

Present a subway for avoid the railway crossing but stored water any time.

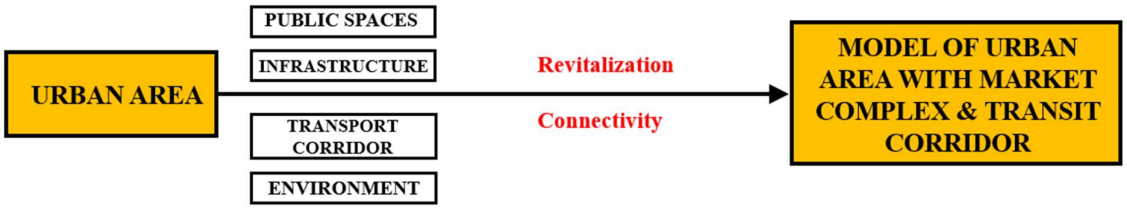
Present a garbage compactor station. Comes a bed smell from here.

Different types of shop or Markets are held on the Jadavpur Railway Station. So the daily passengers and travellers are facing a problem to climb the train.

The daily passengers, Local people & travellers cross over the railway line. It remains a matter of life risk.

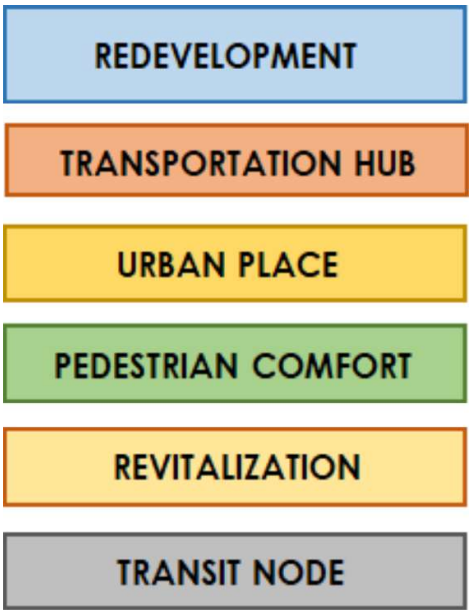
1.2. AIM:

To Develop the Public Spaces with Market Place along with the Transport Corridor (Road Junction) in an around Palbazar area. Also to develop the urban identity and connectivity in between two Market Place.



1.3. OBJECTIVES:

- To re-development of the infrastructure (roads, bus-depot, marketplace, etc.) & built environment of the city surrounding by the existing Railway Station and road Traffic for fast and efficient commuter movement.
- To proper and efficient utilization of unplanned and fallow urban spaces.
- To develop a strategic framework to evolve urban design guidelines and regulations to guide future urban development.
- To identifying the problems and issues faced by the daily commuters or citizens and devise urban design interventions for solving them.
- To revitalizing the city and creating a unique identity for it.
- To understand the growth pattern of the communities in the area and their dependence on the market area.
- To provide a solution to control the rapid unorganized development.

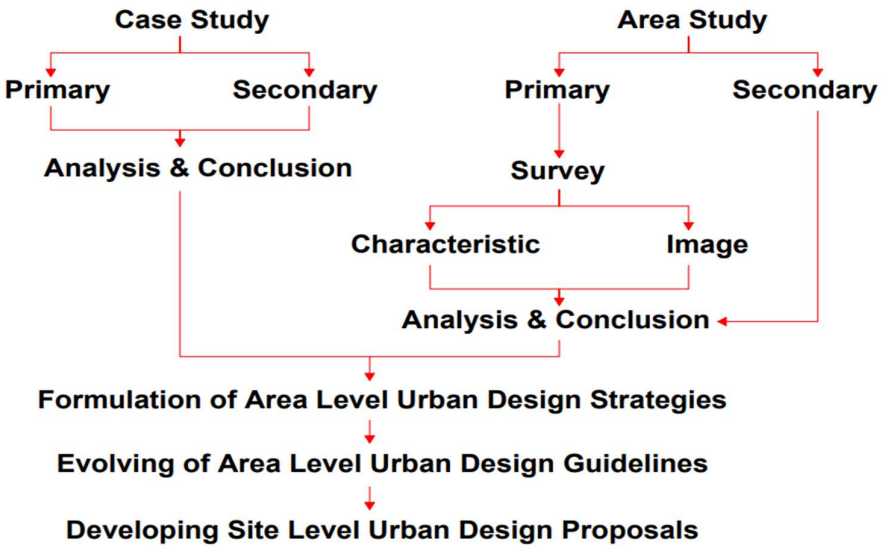


1.4. SCOPE OF WORK:

1. To Develop the Existing Market Place.
2. Redevelopment of Bus Stand and transportation system for easier commuter movement.
3. Rearrangement of vehicular and pedestrian movement.
4. Redevelopment of Railway Level Crossing and Underground Sub-way for pedestrian access.
5. Drafting urban design guidelines for the overall development of the Market Area.
6. Relocation of Construction Material or Building Material Shops from the vacant land.
7. Rearrangement of shops under the Jadavpur Flyover.

1.5. METHODOLOGY:

- A Macro Level study of the area to understand the Urban Design aspects of that area.
- Identification of the problem of this area.
- Site level study for detail intervention.
- Case Studies of similar cases. Analysis and derivation of inferences from the case studies.
- Evolving new Urban Design strategies.
- Area Level Design proposal.
- Formulation of Urban Design Guidelines.
- Site Level Design alternative.



2.0. LITERATURE STUDY

2.1. PUBLIC SPACE:

WHAT IS PUBLIC SPACE?

A Public Space is a place that is open and accessible to the general public. Roads, pavements, public squares, parks, and beaches are typically considered public space. To a limited extent, government buildings which are open to the public, such as public libraries, are public spaces, although they tend to have restricted areas and greater limits upon use. Although not considered public space, privately owned buildings or property visible from sidewalks and public thoroughfares may affect the public visual landscape, for example, by outdoor advertising. Recently, the concept of shared space has been advanced to enhance the experience of pedestrians in public space jointly used by automobiles and other vehicles.

Public spaces, whether indoors or outdoors, public or private, are characterized as places for encounters, opportunities, and exchanges of ideas or goods, and ultimately, they are a key part of a city's identity.

APPROACHING URBAN DESIGN:

Contemporary perception of public space has now branched and grown into a multitude of non-traditional sites with a variety of programs in mind. It is for this reason that the way in which design deals with public space as a discipline, has become such a diverse and indefinable field.

PRIMARY GOALS OF SPACE DESIGN:

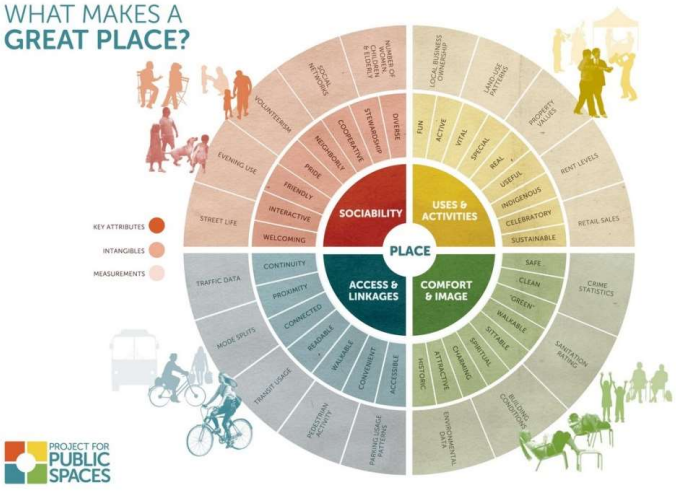
One of the primary goals of space design is to create an environment that promotes positive emotional responses in its occupants. Studies have shown that people have a natural inclination towards certain types of spaces, such as those with natural lighting, open layouts, and comfortable seating. Another important consideration in space design is the concept of flow, or the ease with which people can move through a space. This involves designing spaces that are intuitive and free from obstructions, allowing users to navigate them without feeling frustrated or disoriented.

The Charter of **Public Space** defines Public Spaces as “all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive”. This definition favours public ownership because “such ownership guarantees more stable access and enjoyment over time. The charter further distinguishes between four typologies of public spaces:

a) Streets, b) Open public spaces, c) Public facilities and **d) Markets.**

Over the last 3 years, UN-Habitat through the Global Public Space Programmed has been working with cities to undertake assessments of public spaces across these four typologies.

[Source: https://unhabitat.org/topic/public-space]



2.2. URBAN REDEVELOPMENT:

WHAT IS URBAN REDEVELOPMENT?

Urban redevelopment is the process of revitalizing existing neighborhoods or districts in urban areas through physical, social, and economic improvements. This process involves renovating or redeveloping existing buildings, creating new infrastructure, and implementing new policies and programs to support sustainable development and community revitalization

WHAT ARE THE BENEFITS OF URBAN REDEVELOPMENT?

One of the main benefits of urban regeneration is that it enhances the liability of urban areas by creating more attractive, safe and functional spaces for residents and visitors. Urban regeneration can improve the quality of housing, public services, transport, green spaces, cultural amenities, and social cohesion.

APPROACHING URBAN DESIGN:

The term redevelopment is used to describe any project that constructs new buildings, structures, and land uses on a site with previous or existing uses. Redevelopment projects can vary in significance from demolishing old buildings

to replace them with new buildings, constructing new buildings or structures on abandoned or previously demolished sites, or significantly renovating or adding to existing buildings.

A longer term, urban redevelopment, is commonly used to describe redevelopment projects in established central business districts and historic urban cores, and can include projects also described with other important, related terms, such as infill development, adaptive reuse, and brownfield development. In any context, redevelopment occurs in locations where the evolving market, economic, and demographic conditions of the city or community have rendered some of its existing building stock and land uses obsolete, requiring a new scale of development or a new mix of land uses to meet changing demands.

Urban redevelopment is a more focused and localized approach to revitalizing specific areas within a city or neighborhood. Unlike urban renewal, which often involves large-scale clearance and reconstruction, urban redevelopment focuses on the rehabilitation, renovation, or adaptive reuse of existing buildings and infrastructure to improve their functionality, aesthetics, and sustainability.

Urban redevelopment projects may involve the restoration of historic buildings, the conversion of industrial sites into mixed-use developments, the creation of public spaces, or the improvement of transportation and infrastructure systems within a specific area. Urban redevelopment projects are often undertaken with the goal of preserving the character and identity of a neighborhood while enhancing its liability and economic vitality.

[Source: https://www.planetizen.com/definition/redevelopment]

2.3. REVITALIZATION:

WHAT IS REVITALIZATION?

Revitalization as a kind of renewal or revival; something that's died or suffered from a lack of vitality is imbued with new spirit or health. The revitalization of a country's economy often follows a long recession, when jobs return and people start spending money again. After a bad sunburn, soothing aloe lotion will help speed your skin's revitalization. At the heart of this word is *vital*, from the Latin *vita*, or "life".

REVITALIZATION IN ARCHITECTURE –

The process and language of revitalization is able to involve with physical and social, cultural and economic dimensions. Revitalization concept can create stability within present urban development and planning by protecting urban context, customs, practice and individuality.

WHAT IS URBAN REVITALIZATION?

It is a process by which a part of the city in social, urban or economic crisis undergoes a transformation, more or less deep, in order to reverse the declining trend. Urban revitalization involves redeveloping blighted urban areas for new uses.

Urban revitalization initiatives have become a potent tool for reviving cities, bringing life to run-down areas, and maximizing their growth potential. The strategic development of real estate, which is a crucial component of these projects and transforms urban environments, is one of their most important features.

WHAT ARE THE CHARACTERISTICS OF URBAN REVITALIZATION?

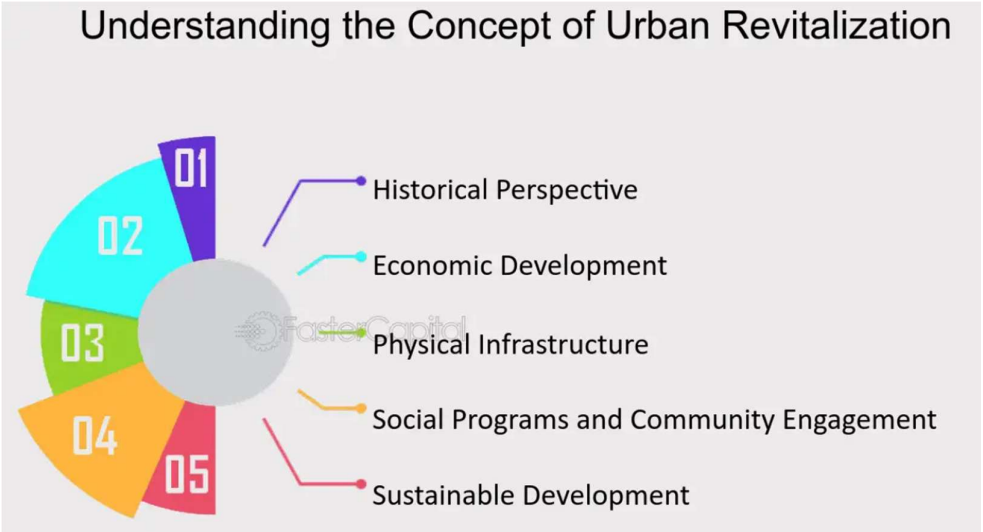
Urban revitalization also concerned with the physical, economic, social, environmental, cultural and historical of the urban area. Apart from that the elements of public space are also applied to the area will be better known & can be used in a meaningful way to the public.

Urban revitalization is a multifaceted concept that encompasses various strategies and approaches aimed at rejuvenating and transforming urban areas. It involves the revitalization of physical infrastructure, economic development, social programs, and community engagement to breathe new life into declining or neglected urban spaces. Understanding the concept of urban revitalization is crucial in comprehending the significance of enterprise zones in this process. By examining different perspectives on urban revitalization, we can gain valuable insights into its complexities and the role that enterprise zones play in driving positive change.

RELATIONSHIP BETWEEN URBAN REVITALIZATION AND PUBLIC SPACE:

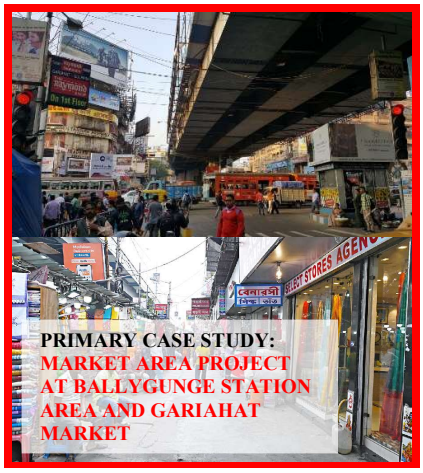
The revitalization program of public space has been designed to bring intercultural communities together (Bagwell et.al, 2012:37). Therefore, urban public spaces should become the symbols of the contemporary city and tools in the revitalization of cities, thereby recreating the lost identity of a given city. These public spaces reflect the social life and interaction of a people (Okolo et.al, 2010:126). Paigo (2012), examined the relationship between public spaces and city's development. He found that the event and activity shape the place and allows the direct relationships between visitors and public spaces.

[Source: https://iowaleague.org/resource/urban-revitalization/]

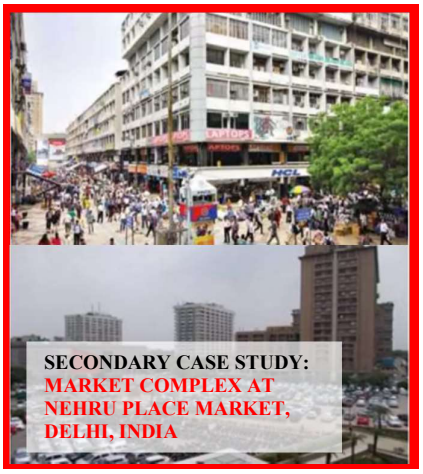


3.0. CASE EXAMPLES

3.0. CASE EXAMPLES:



PRIMARY CASE STUDY:
MARKET AREA PROJECT AT BALLYGUNGE STATION AREA AND GARIAHAT MARKET



SECONDARY CASE STUDY:
MARKET COMPLEX AT NEHRU PLACE MARKET, DELHI, INDIA

3.1. PRIMARY CASE STUDY: BALLYGANGE STATION AREA MARKET, KOLKATA, INDIA -

Ballygange City is the one of the oldest City in South Kolkata, West Bengal, India.

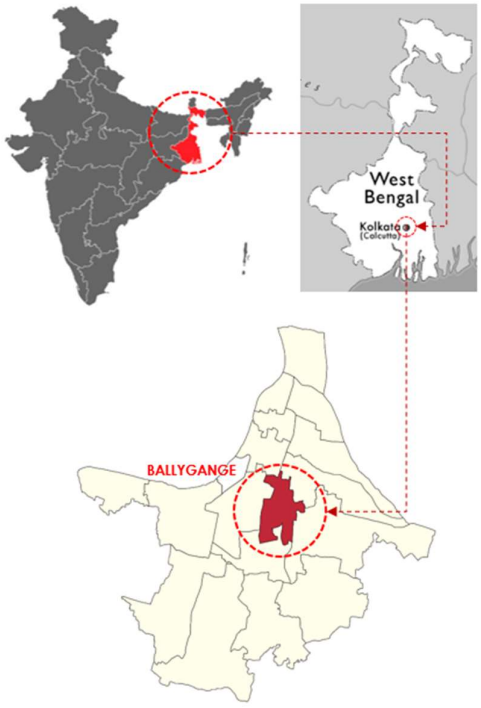
Gariahat Market is one of the eldest, authentic, famous markets in south Kolkata. This is a huge market. The market is very near of Ballygunge Rail station. If you come here via train then Ballygunge is your nearest station. Whatever you need, everything is available here. You can get various types of dresses, shoes, jewellery, kitchen item, decore items everything.

The market is basically a road site market. But side by side of roadside shops there is so many brands showrooms like Pantaloons, jockey, khadims, etc.

Ballygunge New Market is established in 1975. Ballygunge New Market is a shopping mall in South Kolkata. It is a hub for variety of products at a reasonable price. The market has total of 71 stalls right from kids wear to men's wear, cosmetics, toys, bags and even presto.

List of the markets near Ballygunge Station –

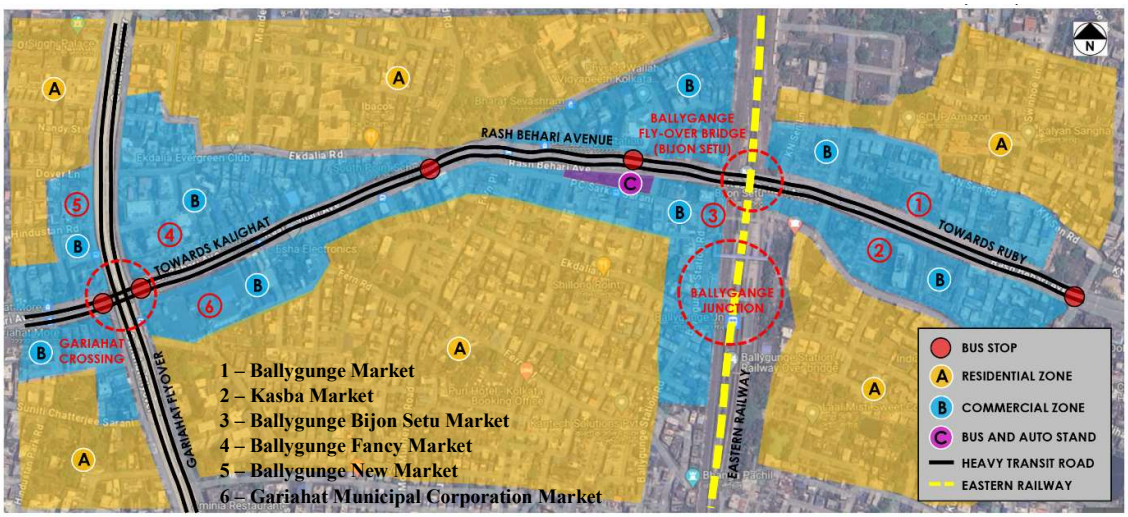
1. Gariahat Municipal Corporation Market
2. Ballygunge Fancy Market
3. Ballygunge New Market
4. Ballygunge Market



SITE ANALYSIS – PRESENT SCENARIO:

Location of Study Area:

This market has a long stretch, starting from the Gariahat Crossing and reaching till the Lake Mall, along an important road i.e. Rashbehari Avenue. On the other ends it is reaching up till the Gariahat Pantaloons and on the other extreme it is reaching up till the Golpark area.



Other Aspects of the Shops Surveyed:

• For the KMC shops most were established at least 15 to 25 years back and some were even established 25 to 35 years back.

• Similar is for the vegetable sellers who were selling their vegetables here mostly for the past 15 to 35 years.

• The hawkers are relatively recent as they have all been here for not more than 15years.

• The shopping malls are the most recent establishment as, except for the Gariahat Pantaloons none have been established more than 5 to 15 years ago.

• The shopping malls have the highest number of working staffs.

Perception Study of Shopkeepers:

• Number of buyers have generally increased.

• 50% of the shops surveyed in Gariahat KMC market were satisfied with the sale of their commodities.

• Majority of shopkeepers were of the opinion that this area is very fruitful to run their business and also that they face competition regarding the sale of their goods.

Other Aspects Related To Surveyed Customers:

• **Distance decay:** In most of the cases it is seen that with distance the number of incoming shoppers to this market area has decreased.

• **Mode of transport used to reach the market area:** The people surveyed in Gariahat market mostly used public transport to reach the market area. In case of pantaloons most of the people have used their own vehicle to reach there.

Diversity of Consumers' Behavior:

• **Purpose of visit:** In Gariahat market and Spencer's people were there mostly to shop for their daily needs and other essentials.

• **Frequency of visit:** The customers surveyed in Gariahat market and Deshapriya Park market mostly were frequent visitors of the market area. Same goes for those surveyed in Spencer's.

SITE SURVEY AND OBSERVATIONS: IMAGE PARAMETER – PATH AND EDGE:

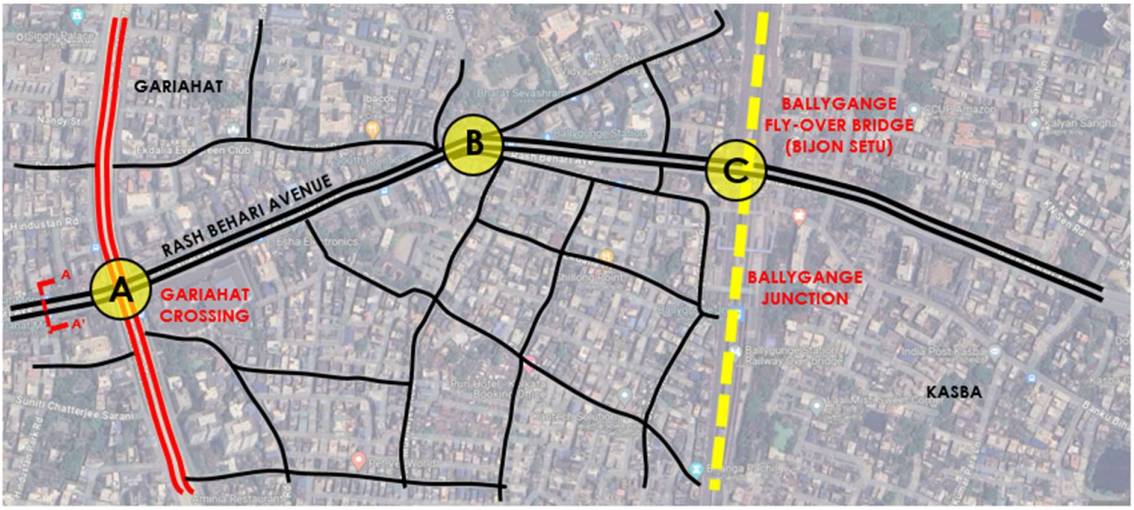
• Both side Pedestrian way of the market.

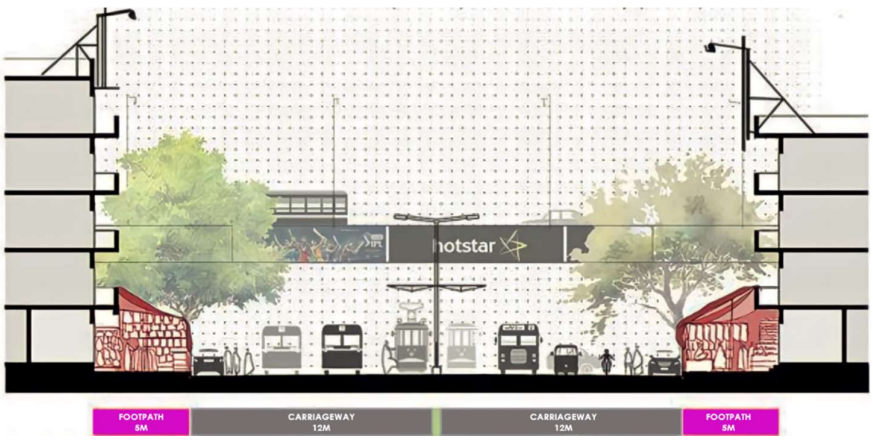
• Wider sidewalks with Hawker Stall (Informal) and pedestrian pathways.

• 12M wide Road use for Vehicle movement and parking space.

• Relief from the congestion of the market.

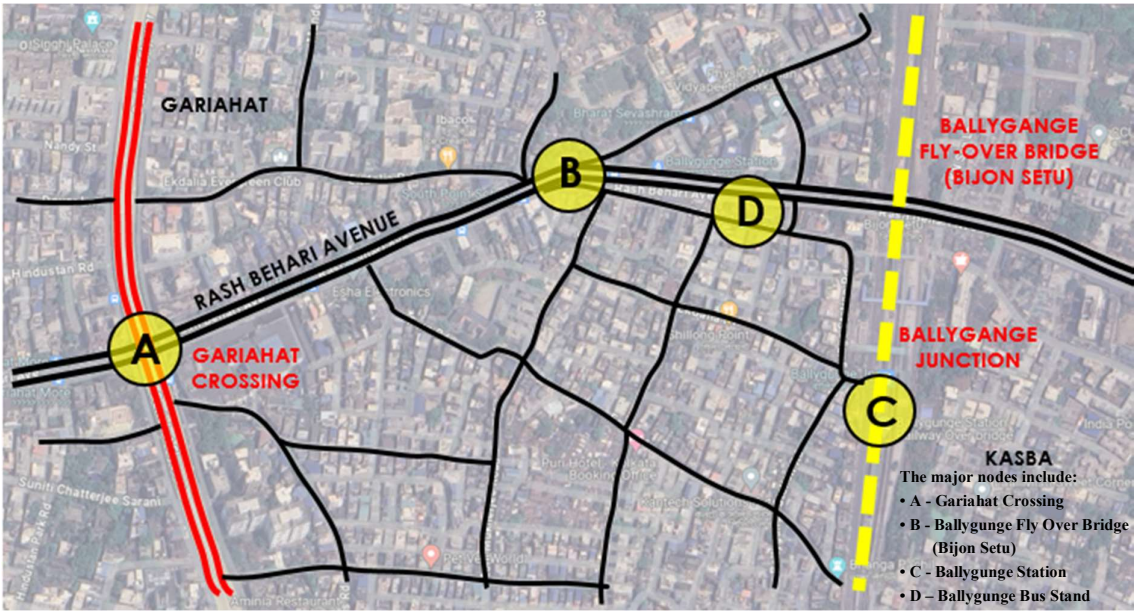
• Pedestrian Pathway is creating an Edge of the market.



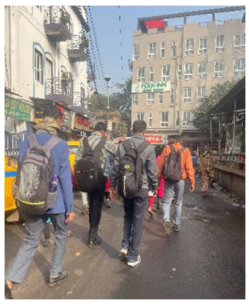


SECTION – XX'

IMAGE PARAMETER – NODE:



PHYSICAL CHARACTERISTICS:



Movement -

• Movement in Gariahat and Ballygunge, can be describe as chaotic, lively and diverse.

• There is a constant buzz of activity as shoppers, vendors, and tourists jostle for space.

Activity -

• This area is creates a mixed-use environment by combining residential, commercial and cultural functions, creating a vibrant and diverse community.

• There is present public toilet and on road parking facilities.

• There is present streetlights, creating a safer and more inviting environment.

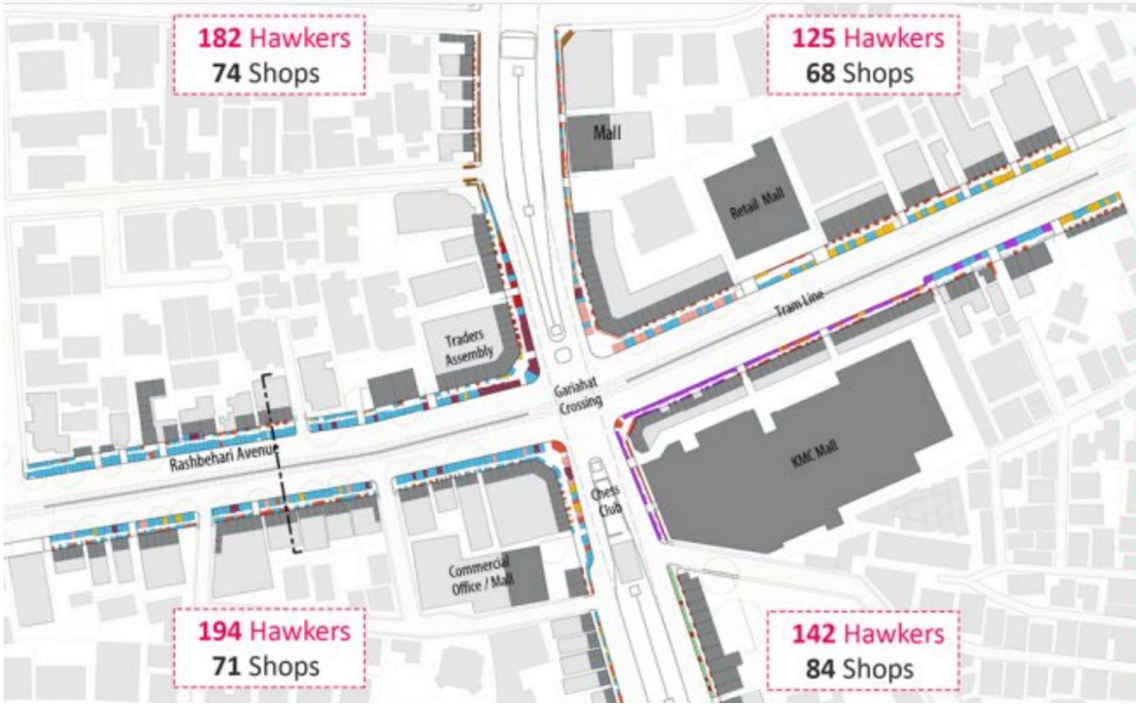
• There is significant change in the day and evening activity of the people.

Magnets and Generators -

• Different types of Market Complex, Shopping Malls and Public Space activity are creating a magnetic zone of the this area.

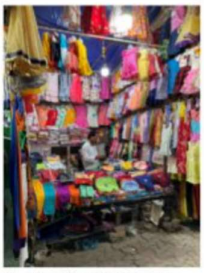
PHYSICAL CHARACTERISTICS: PUBLIC PLACE -

Public Place - Mapping study of informal hawkers along Gariahat Market to understand the diversity mix, zoning and spatial requirements.



Hawker Stall (informal)

Retail shop (Formal)



PEDESTRIAN USERS (SHOPPERS /COMMUTERS) –

• Overcrowding and dilapidated infrastructure withdraws any sense of arrival to the market and damages its image and cultural identity.

• Lack of resting and social pause points within the market forces pedestrians to find refuge on the vehicular road and under the Gariahat flyover.

• Informal encroachments at the junction corners leaves very limited space for waiting, way finding and socialization leading to crowd spillovers onto the street.

PEDESTRIAN USERS (SHOPPERS/COMMUTERS) –

• Encroachment of pedestrian street by the market to slow down traffic movement forces commuters to use vehicular street leading to traffic congestion and accidents.

• Overcrowding inside the market.

• Barricaded median divides the market into 2 edges connected after 100 – 200m intervals. Lack of any urban markets in the market further complicates navigation and way finding thus degrading the shopping experience.

VEHICLE USERS –

• Absence of an integrated intermodal exchange system and infrastructure for pedestrian and commuters leads to mismanaged crowd and pedestrian movement.

• The heritage tram corridor remains inaccessible during most of the busy hours due to the heavy traffic and lack of dedicated tram stops, leading to its low usage and its current showpiece existence.

COMMERCIAL RETAIL USERS (FORMAL/INFORMAL) –

• Continuous alignment of hawker stalls facing its back to the street leads to a non-permeable market edge and blocks the visual access of the retail shops from the street.

• The makeshift tarpole covers while rending a tattered image of the market, functions inefficiently specially during the monsoon season and raises fire hazards.

• There is present safe, efficient storage remains a constant issue.

3.2. SECONDARY CASE STUDY: MARKET COMPLEX OF URBAN AREA, NEHRU PLACE, DELHI, INDIA -

INTRODUCTION:

• Nehru place is a **large commercial, financial, and business centre in Delhi.**

• Nehru place is a prominent commercial area in South Delhi and houses the headquarters of several Indian firms.

• Its earlier name was **kalkaji complex.**

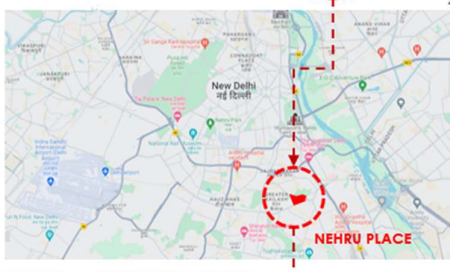
• It was the **biggest of all the 15 district centres** proposed in the **1962 master plan** of Delhi.

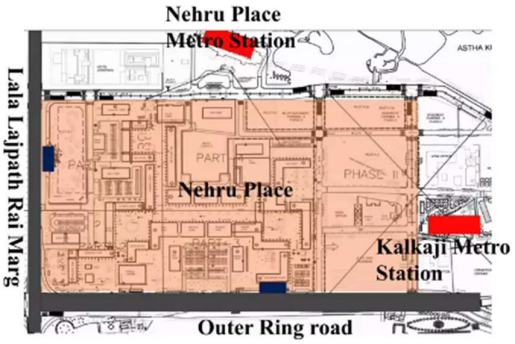
• Planned by **Delhi development authority**, the **38-hectare site** was built a top the arrival mountain range.

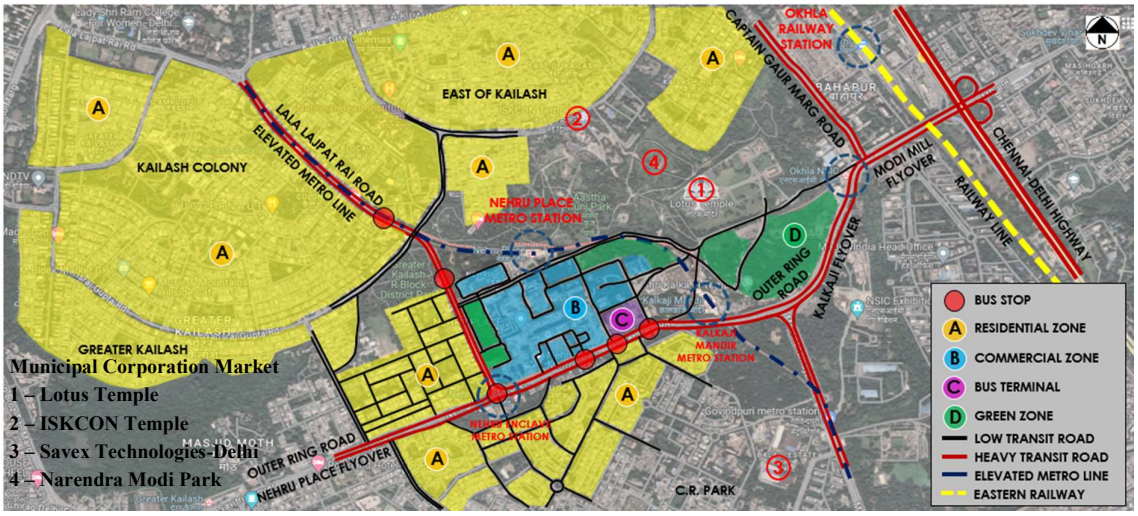
• By the **1980s, it was renamed Nehru Place**, after Jawaharlal Nehru, and functioned more as a **regional commercial, financial and business centre.**

• Today, it is one of **Asia's largest IT hubs.**

• Hundreds of shops sell hardware from computers to spare parts, second-hand products & pirated software. From textile & digital printing shops to multinational technology companies & hawkers, Nehru Place is a confluence of **informal & corporate labour, bringing 1,30,000 people daily from all corners of Delhi.**







SITE ANALYSIS – PRESENT SCENARIO:

The Main Plaza of Nehru Place:

• The main plaza of Nehru Place is a 4 storey complex.

• It is home to around 1500 offices, 400 registered dealers, computer retailers, textile and digital printing Shops and eateries. The common areas of the plaza are dotted with around 600 hawkers.

• There are around 100 buildings. Most of which are in poor condition – from the structure and paint to the dingy hallway and dysfunctional lifts. Initially, many large public sector companies had their offices in Nehru Place, but have now shifted to Gurgaon and Noida due to dearth of space.

Parking of Nehru Place:

• Currently Nehru Place attempts to meet parking demands through unauthorized and illegal parking in vacant areas and even roads, making them narrow for moving traffic.

• The demand for parking is continually on the rise.

Transportation of Nehru Place:

• Public transportation drop-off & pick-up points are separated from Nehru Place by a circumference of parking.

• There is no pedestrian connectivity from bus or metro stations no designated stops for gramin sewa vehicles.

AREAS:

• Total formal retail shops = 12,900 sq. m

• Total paved area = 16,500 sq. m approx.

• Total informal retail shops = 9900250 sq. m approx.

• Core complex office floors = G+8 Total office area
= 310,000 sq. m approx.

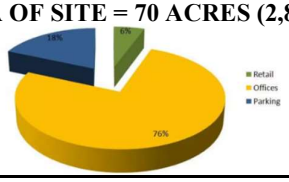
• Total surface parking = 48,000 sq. m approx.

• Total basement parking = 2,600 sq. m approx.

• Total multi-level parking = 24,000 sq. m approx.

• Total parking area = 74,600 sq. m approx.

TOTAL AREA OF SITE = 70 ACRES (2,86,780 SQ.M.)



SITE ANALYSIS: NEHRU PLACE, DELHI, INDIA -

ACCESSIBILITY:

• As Nehru place lies next to the outer ring road, which is the encompasses major parts of South Delhi. It can be easily accessed by all forms of public transport.

• It has its own Delhi metro station.

• It has its own bus terminal, popularly known as Nehru Place bus terminal.

• 30 min from Nizamuddin Railway Station and 1 hour from New Delhi Railway Station.

• Private taxis are also available, as well as a paid parking for cars and motorcycles.

The famous Lotus Temple is also located close by.

•Now Nehru Place is accessible by Delhi Metro.

ACTIVITIES:

• Nehru Place was planned to decentralize Delhi's commercial activity from Chandni chowk and Connaught place.

• The main plaza is a 4-storey complex, home to around 1500 offices, 400 registered IT dealers, computer retailers, textile and digital printing shops and eateries. The common areas of plaza are dotted with 600 hawkers.

• Between the textile, digital printing and IT industries and hundreds of hawkers selling items from spare electronics parts and pirated software to clothes and shoes, Nehru Place has become a city of its own.

MOVEMENT: COURTYARD –

• Informal activities taking place in the open space.

• Most informal activity takes place on the central courtyards therefore a large no. of hawkers are present. These hawkers occupy over 60% of courtyard spaces which creates congestion for movement.

• No green space around the premises.

• Irregular in movement due to hawkers present in between of the passage.

• Very poor lighting.

• No sitting space provided for the customers.

SITE ANALYSIS: NEHRU PLACE, DELHI, INDIA -

MOVEMENT: PEDESTRIAN -

PEDESTRIAN MOVEMENT PLAN –

Showing how people move from Parking Lots, Metro Stations, Bus Stops and then enter the market. Then where do they move (In Courtyard, Shop, Offices).

DEMOGRAPHICS:

MORNING 10:00 A.M.
HIGH DENSITY OFFICE COMPLEX CONSUMERS.

AFTERNOON 02:00 P.M.
OFFICE GOERS VISIT PLAZA FOR LUNCH CONSUMERS INCREASES.

EVENING 06:00 P.M.
OFFICE GOERS LEAVE PLAZA HEAVILY CROWDED.

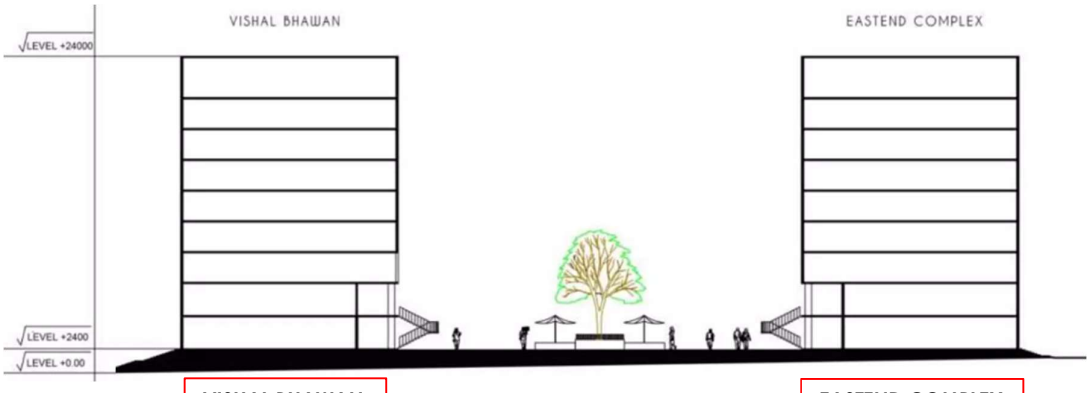
OFFICE-GOERS **CONSUMERS**

PEOPLE GOING TO THEIR OFFICES & SHOPS. ALSO HAWKERS GOING TO THEIR RESPECTIVE PLACES TO SET UP THEIR SHOPS.

CROWD DURING LUNCH HRs. SOME FOR EATING. SOME FOR HARDWARE REPAIRING & SOME FOR HARDWARE SHOPPING.

PEOPLE GOING HOME AFTER OFFICE & THE SHOPKEEPERS TOO AS THE MARKET SHUT DOWNS BETWEEN 7-8 P.M.

STREET SECTION:



COMPARATIVE ANALYSIS OF CASE EXAMPLES:

PARAMETERS	MARKET PLACE AREA AT BALLYGUNGE STATION AREA & GARIAHAT MARKET, KOLKATA	MARKET COMPLEX AT NEHRU PLACE MARKET, DELHI, INDIA
URBAN SPACE AND FORM	• Built forms have diverse typologies • Not present any kind of open spaces • Linear Mixed use low-rise and mid-rise development along the road. • High built ratio with the open space. • Continuous alignment of hawker stalls facing its back to the street and block the visual access of the retail permanent shops from the street.	• Built forms are high in typicality • Hierarchy of open spaces are maintained • Linear commercial high rise development along the road • High built ratio with the open space in the area
MOVEMENT	• Separated access for vehicles & pedestrians. • Dedicated pedestrian access to increase walkability • There is a constant buzz of activity as shoppers, vendors, and tourists jostle for space. • Continuous pedestrian path on both side of the road. • Movement in Gariahat and Ballygunge, can be describe as chaotic, lively and diverse. • Overcrowding inside the market, so the pedestrian path of the footpath hampers walkability.	• Most informal activity takes place on the central courtyards therefore a large no. of hawkers are present. These hawkers occupy over 60% of courtyard spaces which creates congestion for movement. • Irregular in movement due to hawkers present in between of the passage. • Public transportation drop-off and pick-up points are separated from Nehru Place by a circumference of parking. • There is no pedestrian connectivity from bus or metro stations.
ACTIVITIES	• This area is creates a mixed-use environment by combining residential, commercial and cultural functions, creating a vibrant and diverse community. • There is present public toilet and on road parking facilities. • There is present streetlights, creating a safer and more inviting environment. • There is significant change in the day and evening activity of the people. • Different types of Market Complex, Shopping Malls and Public Space activity are creating a magnetic zone of the this area. • Night activities more than day.	• Nehru Place was planned to decentralize Delhi's commercial activity from Chandni chowk and Connaught place. • The main plaza is a 4-storey complex, home to around 1500 offices, 400 registered IT dealers, computer retailers, textile and digital printing shops and eateries. The common areas of plaza are dotted with 600 hawkers. • The textile, digital printing, IT industries and hundreds of hawkers selling items of spare electronics parts and pirated software to clothes and shoes, Nehru Place has become a city of its own. • Day activities more than night.
VISUAL CHARACTER	• Buildings in most cases reflect use of modern technology. • Not present any interesting skyline of built forms. • Gariahat market is creating a landmark for wayfinding. • Wider sidewalks with Hawker Stall (Informal) and pedestrian pathways. • Hawker Stall is created as a visual barriers and block view of permanent shops view. • Low absence of lighting under the Gariahat flyover.	• Mixed types of buildings and modern built structure. • The main plaza of Nehru Place is a 4 storey complex. • Skyline is bewildering with expressway, MRTS corridor & high rise structure merging. • No definitive landmarks. • It is home to around 1500 offices, 400 registered dealers, computer retailers, textile and digital printing Shops and eateries. The common areas of the plaza are dotted with around 600 hawkers.

4.0. CASE APPLICATION

4.1.1. INTRODUCTION:

• **Garfa** is a southern neighbourhood of Kolkata, India. The postal code of **Garfa** area is 700075 and 700079.

• This area is surrounded by **Haltu, Nandi bagan, Jadavpur and Kalikapur.**

• **Garfa** is mainly a residential area.

• Several buses ply the **Garfa Main Road** now. The **Garfa Main Road** connects the **EM Bypass** Connector on the east side, and **Pal Bazar** on the west.

• **Garfa** Ward No. 104 is bordered on the north by **Viveknagar Road**, southern bank of **Southern Jheel**, northern bank of **Northern Jheel**, **Prince Anwar Shah Road** - Link Canal and Kalikapur Road, on the East by **Panchannagram Canal and Kalikumar Mazumder Road**, on the South by **Santoshpur Avenue**, on the West up to the **Eastern Railway**.

• **Garfa** has good connectivity with the neighboring localities of **Ruby Park East, Selimpur, Dhakuria, Jadavpur** and the neighboring cities of **Rajpur, Sonarpur, Kolkata, Bidhan Nagar and South Dumdum**.

• This area has a mix of independent homes, builder floor apartments and small residential houses.

• The neighborhood has a good social infrastructure with reputed educational institutions, malls and markets. **Garfa Dhirendra Nath Memorial Boys & Girls High School**, **Jadavpur University** and **Adarsha Balika Shikshayatan** are nearby.

• Some of the hospitals in the locality are **AMRI Hospital** (2.4 km), **KPC Hospital & Medical College** (2.2 km) & **Sri Aurobindo Seva Kendra** (1.5 km).

• **South City Shopping Mall** and **Dakshinapan Shopping Complex** are within 2 Km from the **Garfa** locality.

4.1.2. SITE ANALYSIS:

District – Kolkata, West Bengal.

Geographical Coordinates – 22°30'10.65''N,
88°22'17.46''E

Elevation – 11m (36 ft)

Soil Type –

Greenish Clay with Caliche Oxidized Pedocal Soil.

Physiographic Structure – Plain.

Water Bodies –

The Balir Jheel, Pal bazar Jheel, Dhakuria Pond, Rashmoni Bagan Lake, Chanchal Sarani Pond, New Santoshpur Sweetland Pond etc.

Administrative Body –

Kolkata Municipal Corporation Office.

No. of Wards – 104,105

Area – 2.25 sq. km.

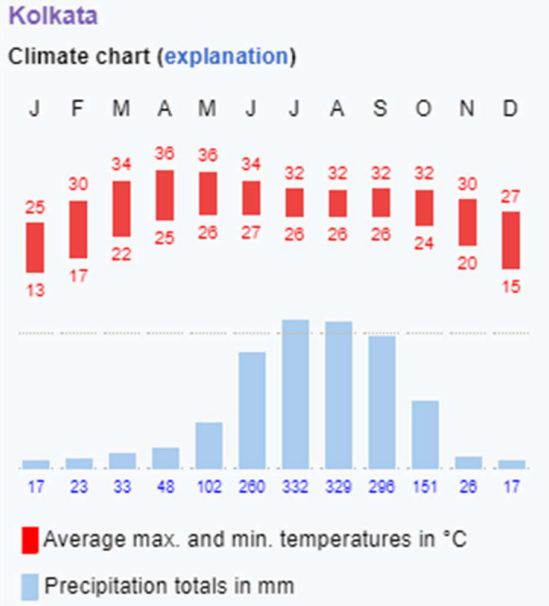
Population – 41576 (2023).

Climate –

Tropical wet and dry climate

Seasons – Spring – Feb-Mar
Summer – Mar-Jun
Monsoon – Jun-Sept
Autumn – Sept-Nov
Winter – Dec-Jan

Temperature – Max : 41 °C (May)
Min : 10 °C (Jan)



Relative Humidity – 51% (March) ~ 83% (July)

Average Annual Rainfall – 1813.3 mm

4.1.3. HISTORY:

The establishment and evolution of Kolkata Municipal Corporation followed a long process starting from around the middle of the 19th century. The Municipal Consolidation Act of 1888 and certain steps taken thereafter saw the addition of peripheral areas in the eastern and southern parts of the city to the corporation area. In 1888, there were 75 commissioners, 50 of whom were elected, 15 appointed by the government and 10 nominated from bodies like Chambers of Commerce, Trades Associations and the Port Commissioners. The Calcutta Municipal Act of 1923 brought about important changes. The adjacent municipalities of Cossipore, Chitpore, Manicktola and Garden Reach, as well as the New Dock Extension area, were amalgamated with Kolkata. Garden Reach was later taken out.

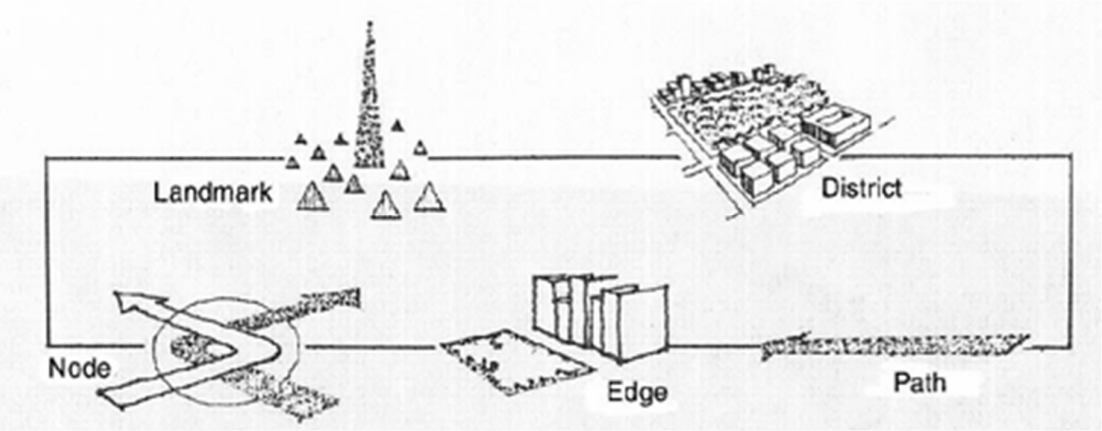
Post-independence developments saw the introduction of adult franchise in municipal elections in 1962. The number of wards increased from 75 to 100. Tollygunge was merged with Kolkata in 1953. The Calcutta Municipal Corporation Act 1980, which came into effect in 1984, extended the boundaries of Kolkata by including South Suburban, Garden Reach and Jadavpur municipalities in Kolkata. With the addition of Joka to Kolkata, the number of wards rose to 144.

In the 1950s, people like Khagen Naskar, Sudangshu Basu, NishiKanta Chakraborty were among the main residents of Garfa. Sudangshu Basu was the head master of Jadavpur High School. Nishikanta Chakraborty used to own "Nandir Math" where young kids used to play soccer and cricket. Very recently, Bisweswar Bhattacharya, from Pratapgarh, won Padmasree for his contribution as a director of Bhaba Atonic Research Center.

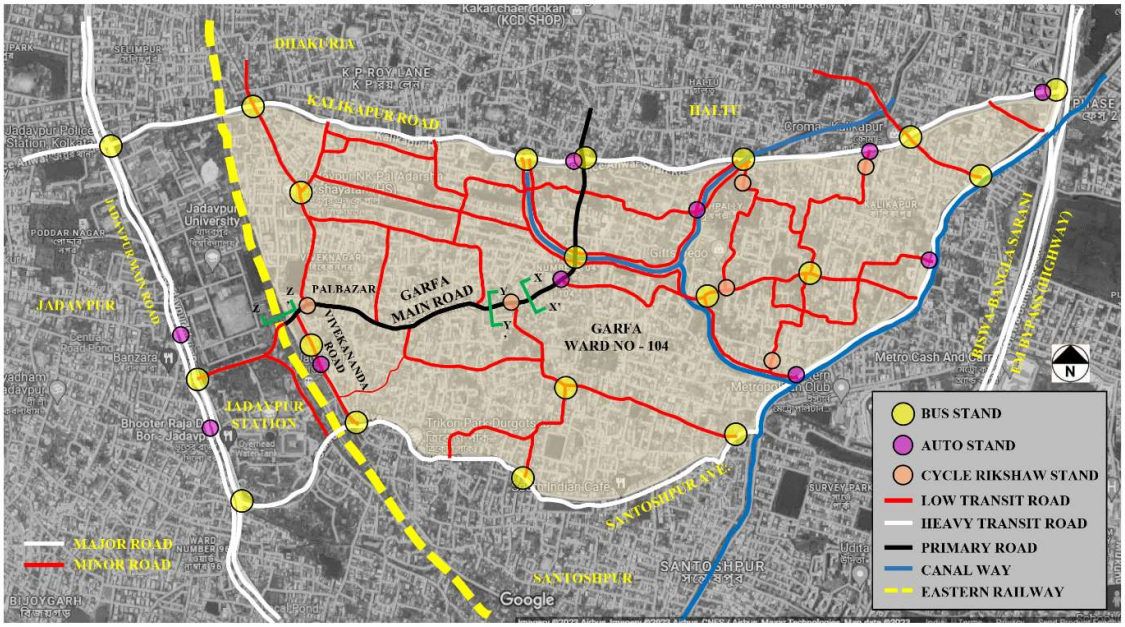
4.2. Analysis According to Parameters of Urban Design:

The City has been analyzed according to the various characteristic parameters according to the Elements of Urban Design as defined by Kevin Lynch in **"Image of a City"**.

1. Paths – Transportation Network
2. Nodes – Transportation Point
3. Edges
4. District
5. Landmarks



4.2.1. PATH - TRTANSPORTATION NETWORK:



KALIKAPUR ROAD

VIVEKANANDA ROAD

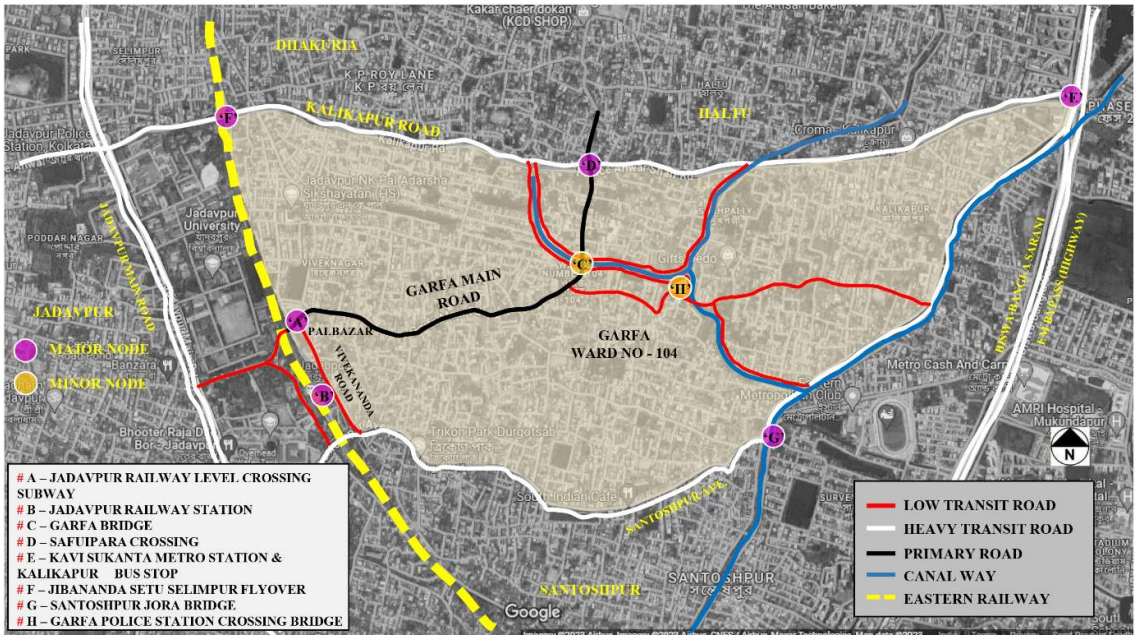
GARFA MAIN ROAD

SANTOSHPUR AVE. ROAD

The major roads are Kalikapur Road, Santoshpur Road, Jadavpur Main Road and Biswa Bangla Sarani (EM Bypass) which are surrounded to the Garfa. The Garfa Main Road is the internal major road of Garfa.
The Kalikapur Road and Santoshpur Road are the major roads running along the edge of the area.
The minor roads help in establishing connectivity between the main (Major Roads) roads.
Jadavpur Flyover is connects between the Jadavpur and Garfa.
212 and SD4 Bus stand are present here.

NOTES:
HERE THE GARFA ROAD IS THE MAIN ROAD WHICH IS CONNECTED BETWEEN JADAVPUR AND PALBAZAR TO HALTU AND KASBA.
ALL MINOR ROADS ARE INTERSECTING THE MAJOR ROADS.
ALL MAJOR ROADS ARE 7.0 M AND
ALL MINOR ROADS ARE 5.0 M.
GARFA MAIN ROAD IS HIGH TRAFIC AND MAXIMUM FOOT FALLING ROUTE OR PATH.

4.2.2. NODE - TRANSPORTATION POINT:



PRIMARY TRANSPORTATION NODES:

1. JADAVPUR RAILWAY LEVEL CROSSING SUBWAY: Junction point of Garfa Main Road & Jadavpur Market Road (Towards 8B bus stop).

2. JADAVPUR RAILWAY STATION: Connecting the Sealdah Junction & Sonarpur Junction Railway Lines of the Eastern Railway.

3. GARFA BRIDGE: Connecting Canal Road More with Khalpar More which divided by a canal.

4. SAFUIPARA CROSSING MORE: Junction point of Ward No 104 (Garfa) and Ward No105 (Garfa & Haltu).

5. KAVI SUKANTA METRO STATION AND KALIKAPUR BUS STOP: Connecting the Garia & Ruby More by the Metro Line & Roadway.

6. JIBANANDA SETU SELIMPUR FLYOVER: Connecting Dhakuria Selimpur with Jadavpur Police Station Road which divided by the Eastern Railway.

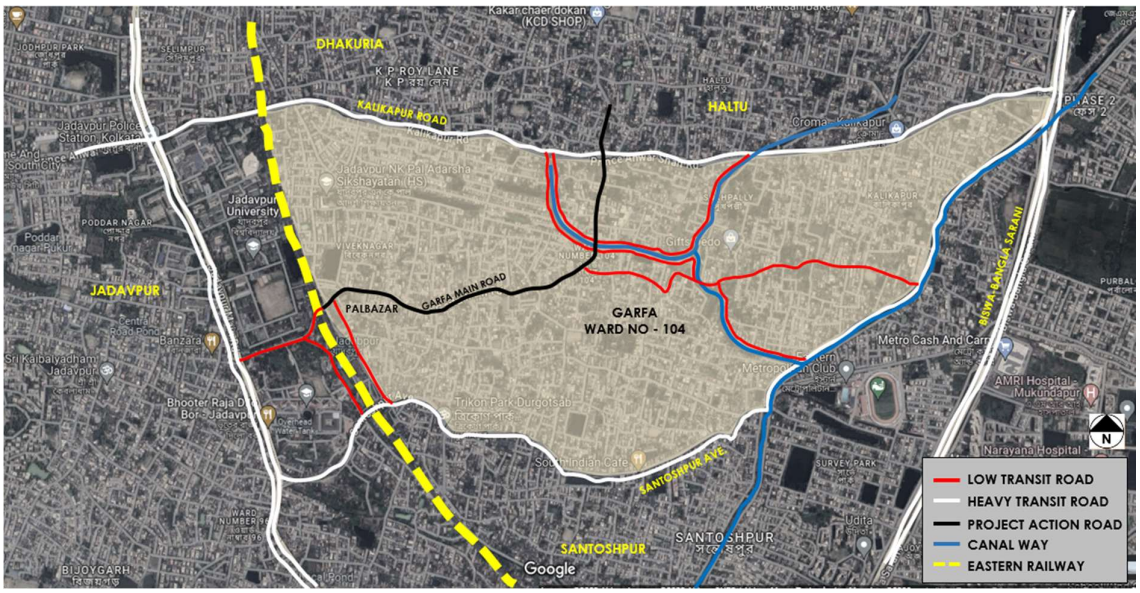
7. SANTOSHPUR JORA BRIDGE: Connecting Garfa with Santoshpur.

8. GARFA POLICE STATION CROSSING BRIDGE: Connecting Garfa with Kalikapur.

Palbazar More, Safuipara Crossing More, Kalikapur More and Selimpur More are constitutes the major nodes which nodes have present more activity and connectivity.
Traffic volume is always high in those places asthey serve as strategically important places with various modes of transport and activities.
The smaller nodes are constitutes the bridges (Garfa Bridge, Garfa Police Station Bridge etc) over the canal or Khal.
These smaller nodes consisting of minor roads serve both vehicular and pedestrian traffic throughout the day.

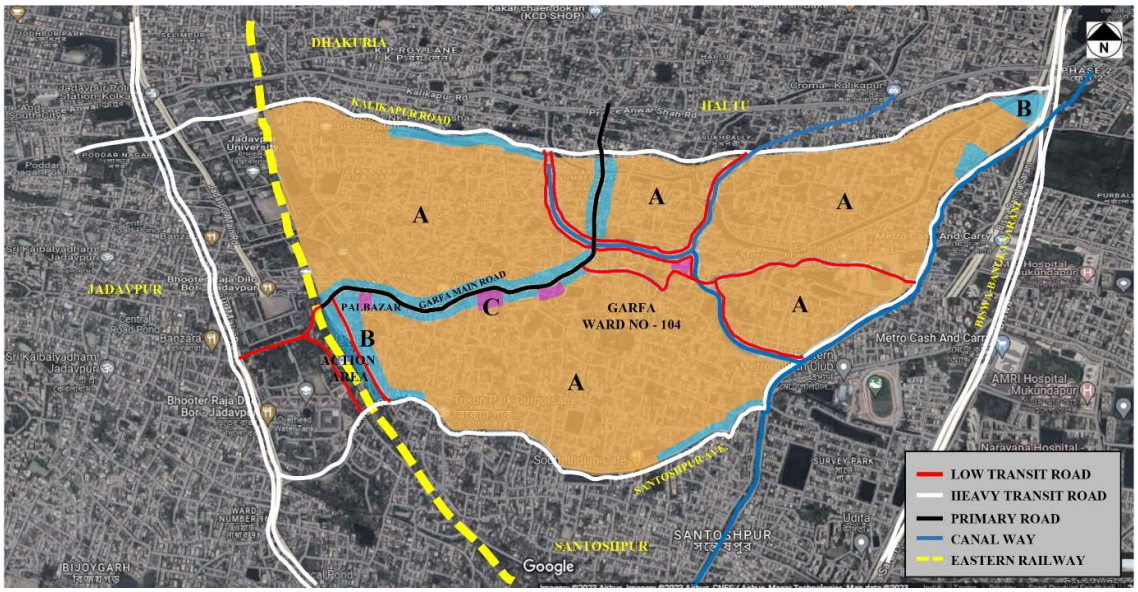
NOTES:
THERE IS PRESENT SOME MINOR NODE IN THE SELECTED PROPOSED SITE & NOT PRESENT ANY ATTRACTIVE NODE ON THE GARFA MAIN ROAD.
IF I CREATED A NODE POINT IN THE ACTION AREA THEN IT WILL BE MORE ATTRACTIVE AND FULLFILL THE URBAN DESIGN PARAMETERS.
'A' NODE POINT IS CONNECTED BY THREE NOS OF ROUTE. ONE ROUTH IS TOWARDS 8B BUS STAND & MARKET BY SUB-WAY, ANOTHER ROUTH IS TOWARDS HALTU & OTHER ROUTH IS TOWARDS JADAVPUR STATION. SO IF I CREATED A NODE HERE THEN IT WILL HAVE A GOOD IMPACT ON THIS PROPOSED SITE.

4.2.3. EDGES:



NOTES:
GARFA WARD NO 104 IS SORROUNDED BY KALIKAPUR ROAD, SANTOSHPUR ROAD AND EASTERN RAILWAY LINE. WHICH ARE CREATED EDGES OF SELECTED PROPOSED SITE.
THOSE ARE CREATED A BOUNDARY OF THE PROPOSED SITE.

4.2.4. DISTRICT:



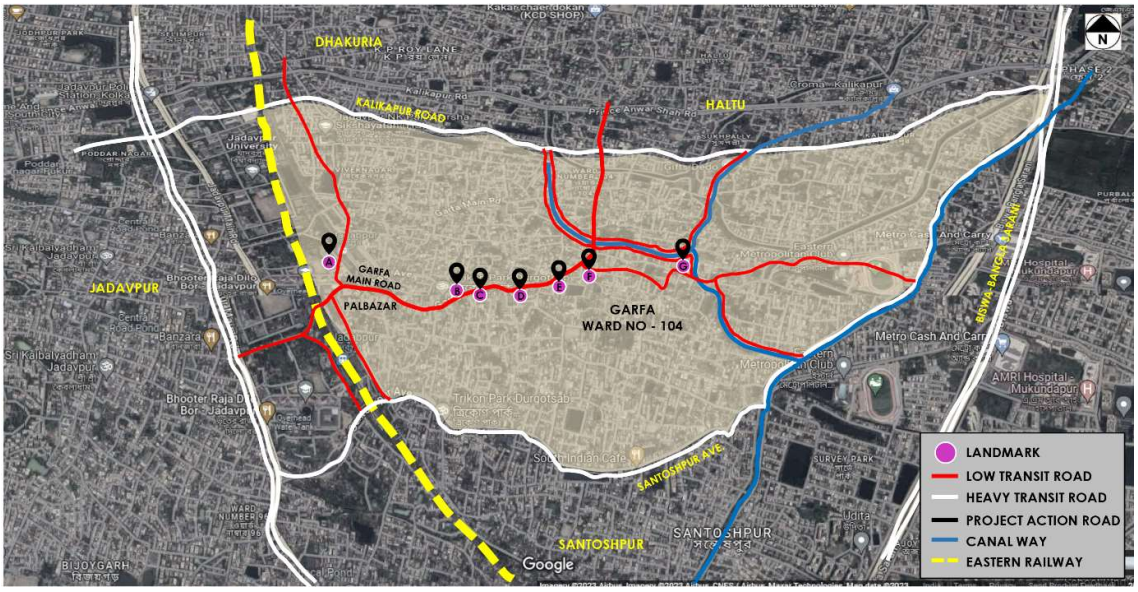
LAND USE ZONING:

 # A - Residential Zone: All marks are Residential Area and some are mixed-use.

 # B - Commercial Zone : All marks are Commercial Area where is present Market Complex, Shopping Malls, Temples, ATMS, Railway Station, Bus-Stand.

 # C - Administrative Zone: All marks are Office Area where is present Govt. Administrative Offices, Post Office, Police Station etc.

4.2.5. LANDMARK:



HERE ALL MARKINGS ARE REPRESENT A LANDMARK. BUT SOME OF LANDMARKS ARE NOT VISIBILE OR HIGHLIGHTING PROPERLY. THOSE LANDMARKS ARE GIVEN BELOW -

A – Viveknagar Jheel
B – Baba Lokenath Temple
C – Garfa Shishu Udyan (Garfa Pumping Station and Water Reservoir Park)
D – Kolkata Pourosabha (KMC) Karyalaya
E – Garfa Sub-Post Office
F – Garfa Dhirendranath Memorial High School
G – Garfa Police Station

IMPORTANT BUILDINGS & PLACES:

Educational institutions:
1. Garfa Dhirendranath Memorial Boys' HS
2. Garfa Dhirendranath Memorial Girls' HS
3. Garfa primary school
4. Kids world Montessori school
5. Adarsha Shikshayatan
6. Adarsha Balika Shikshayatan
7. Morning Glory Integrated School
8. Chidhood Academay
9. Tagore Foundation School
10. Garfa Shibtala FP School
11. Jadavpur NK Pal Adarsha Sikshayatan(HS)

Religious:
1. Loknathbaba Mandir
2. Raksha Kali Mandir
3. Shani Temple
4. Hunuman Mandir
5. Canal side Shani Kali Mandir
6. Shiva Mandir
7. Golakata Mandir
8. Salimpur Jama Masjid

Market Place:
1. Pal Bazaar Market
2. Sukanta Setu Hawkers Market
3. Shandhya Bazar
4. Corporation Market
5. Janapriya Bazar Hawkers Kalyan Samiti
6. Kalikapur Purbachal Bazar
7. Fruits and Vegetables Bazar

Institutional:
1. Garfa Post Office
2. Kolkata Pourosabha
3. Garfa Police Station

Transport Hubs:
1. 212 Bus Stand
2. SD4 Bus Stand
3. Santoshpur Old Minibus Stand

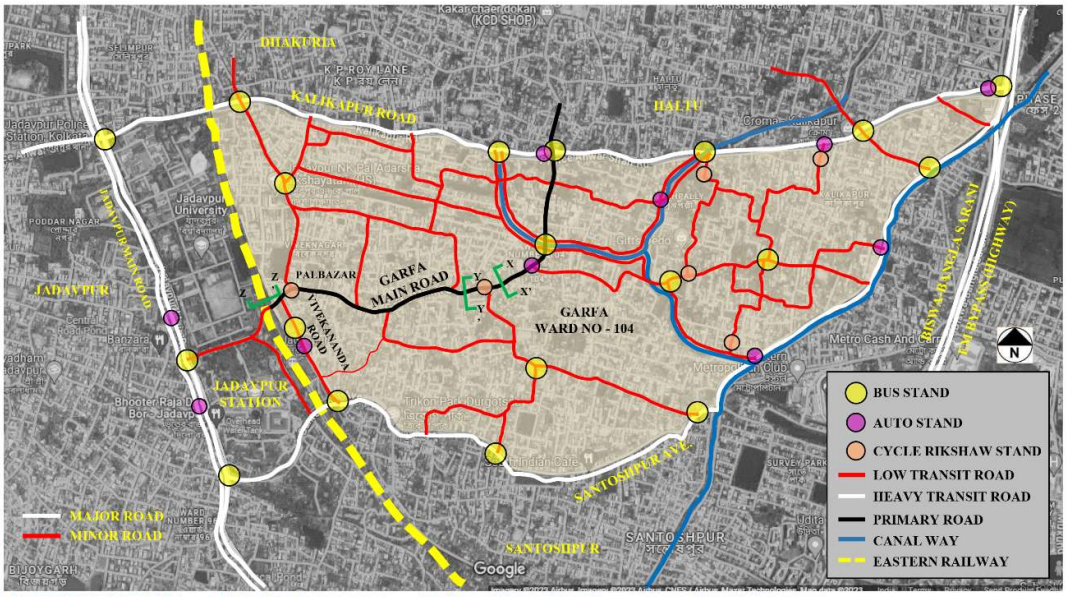
5.0. AREA LEVEL STUDY

AREA DESCRIPTION – OPEN & BUILT SPACE:

The built forms are dense, unorganized & unplanned, which are scattered around in the whole area. These are mainly residence housing societies. No proper green and open space in the area.

(Unorganized dense built forms)

AREA DESCRIPTION – ROAD NETWORK:



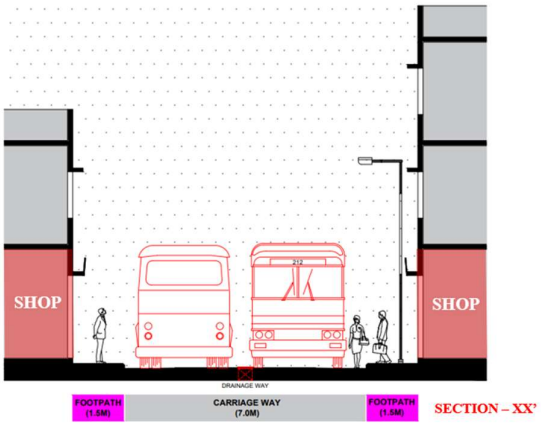
KALIKAPUR ROAD

VIVEKANANDA ROAD

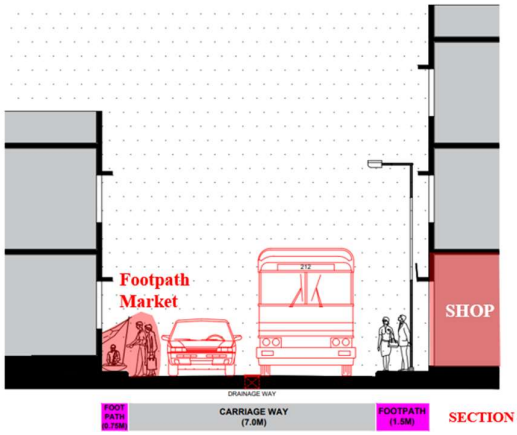
GARFA MAIN ROAD

SANTOSHPUR AVE. ROAD

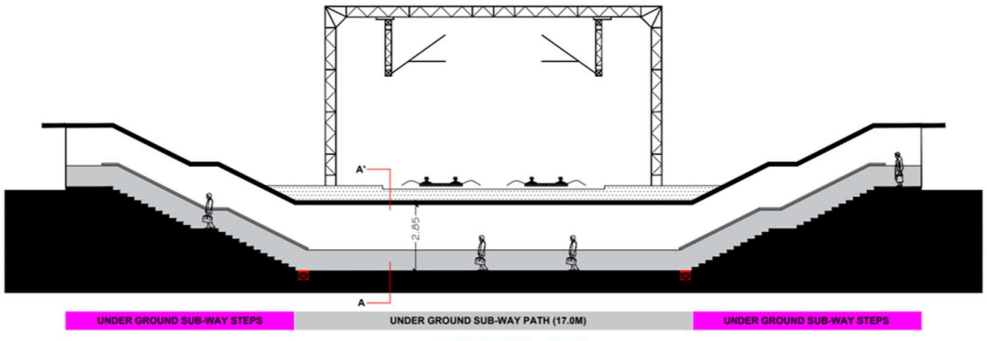
- The major roads are **Kalikapur Road, Santoshpur Road, Jadavpur Main Road and Biswa Bangla Sarani (EM Bypass)** which are surrounded to the Garfa. The **Garfa Main Road** is the internal major road of Garfa.
- The **Kalikapur Road** and **Santoshpur Road** are the major roads running along the edge of the area.
- The minor roads help in establishing connectivity between the main (Major Roads) roads.
- **Jadavpur Flyover** is connects between the Jadavpur and Garfa.
- 212 and SD4 Bus stand are present here.



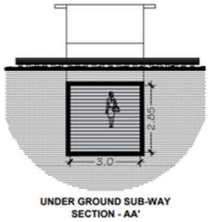
SECTION – XX'



SECTION – YY'

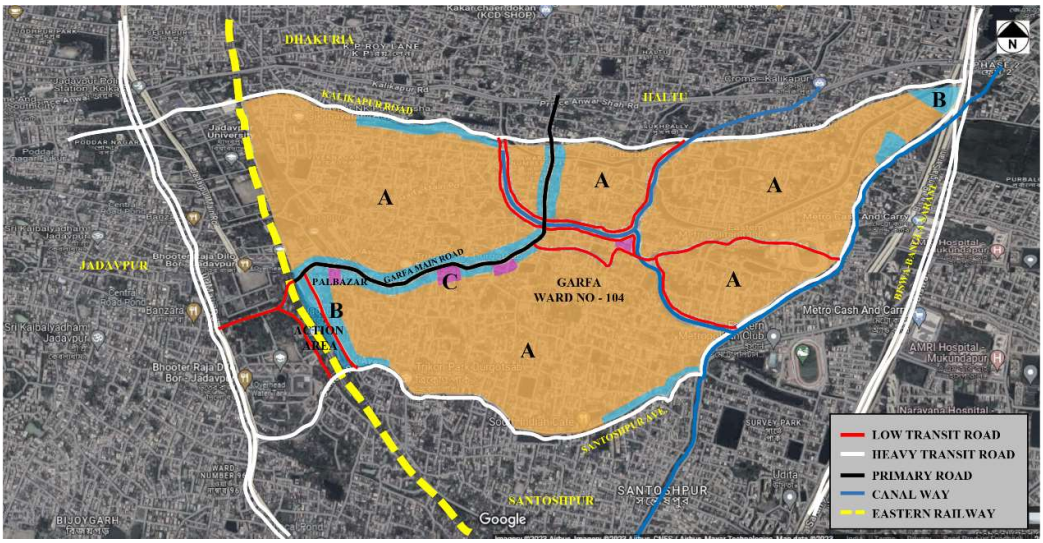


SECTION – ZZ'



UNDER GROUND SUB-WAY
SECTION - AA'

AREA DESCRIPTION – LAND USE:



LAND USE ZONING:

A - Residential Zone: All marks are Residential Area and some are mixed-use.
B - Commercial Zone: All marks are Commercial Area where is present Market Complex, Shopping Malls, Temples, ATMS, Railway Station, Bus-Stand.
C - Administrative Zone: All marks are Office Area where is present Govt. Administrative Offices, Post Office, Police Station etc.

ZONE SELECTION AND DELINEATION:

ACTION AREA :

The main purpose of selecting this zone /Action area for study and analysis is the presence of three different Market Place along with the Eastern Railway Line.
This area has many characteristics exhibiting a wide range of activities and functional utility.
This area is one of the most diverse and interesting with different market activity which provides a huge potential in determining the future prospect.
This area is significant for study the most of the built forms are in the form of commercial area.
There is a large amount of vacant land near the station area has not yet been touched by any commercial activities which can act as an all inclusive space for public.
Different types of people come here. So different types of activities are created here.

There is present various activities and functions in this area which are very interesting and unorganized. So I have selected this zone. If more activities and functions can be added here proper manner then everything will be organized.

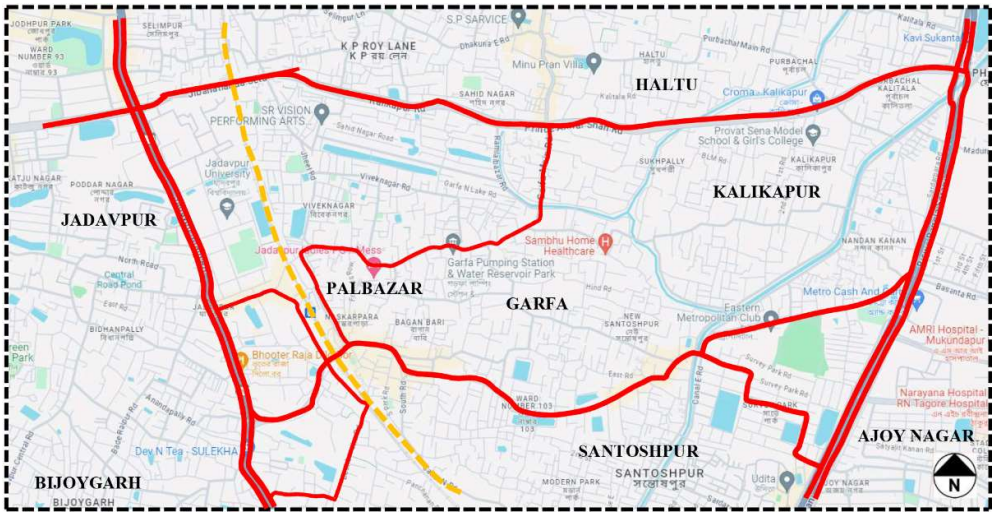
Thus this area dictates a specified approach following a certain goal which can only be achieved by the unification of each element in a systematic manner.

6.0. ZONAL LEVEL STUDY

SYNOPSIS:

Garfa being a major Sub-Urban residential area, under the KMC. Garfa has a good connectivity with the neighbourhood localities of Ruby Park East, Kasba, Santospur, Jadavpur and Dhakuria.

The Garfa is a location where many floating people come every day from South Kolkata or South 24 parganas through the roadway and railway for their various purposes.



The city layout is old and is continuously failing to facilitate the growing daily population movement through its core, thus it creates disturbing environment, crowded transportation and less functioning of the market place and public space.

Hence a study to analyse the Urban Design anatomy of the market pace to understand its relation with the users and the public. To determine the problems faced by the users and daily commuters and devise a new Urban Design solution for the problems.

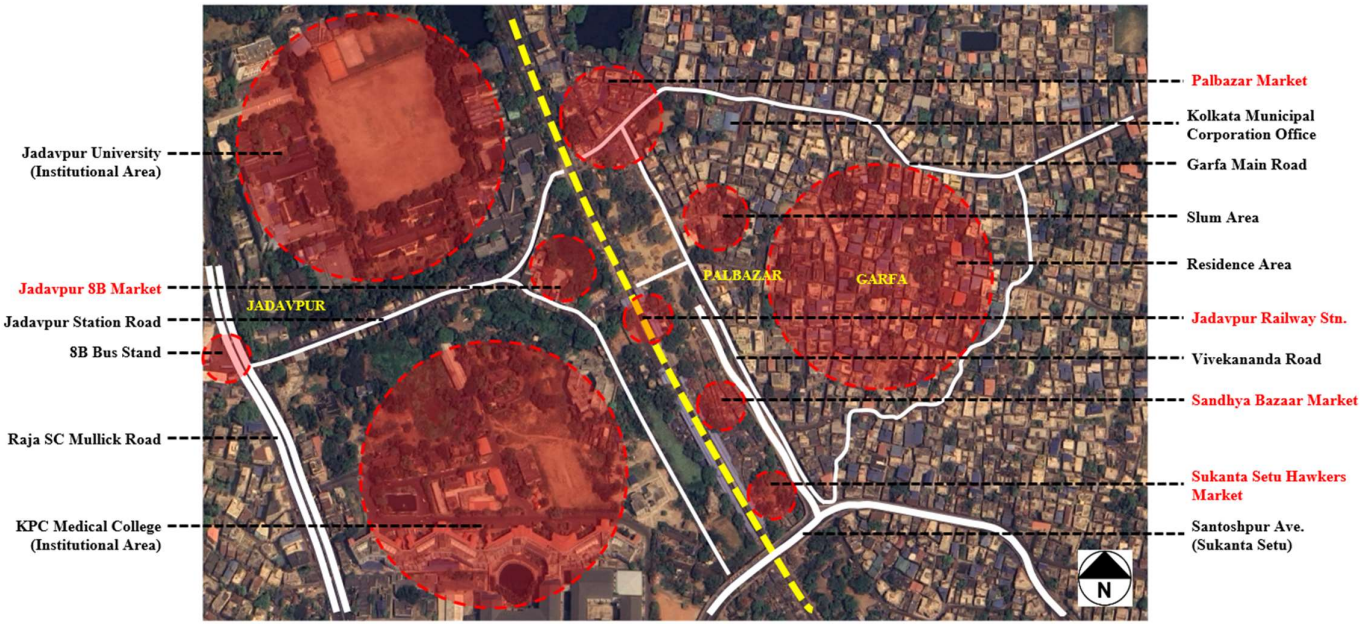
METHODOLOGY:

1. Routine based visual on-site study to analyse the settlement pattern and traffic movement.
2. GIS Study / Mapping of the area to determine the Urban Design elements.
3. Literature Study.
4. Public Interaction and Survey for identifying facilities, issues and problems.
5. Urban Design formulation, planning and proposal.

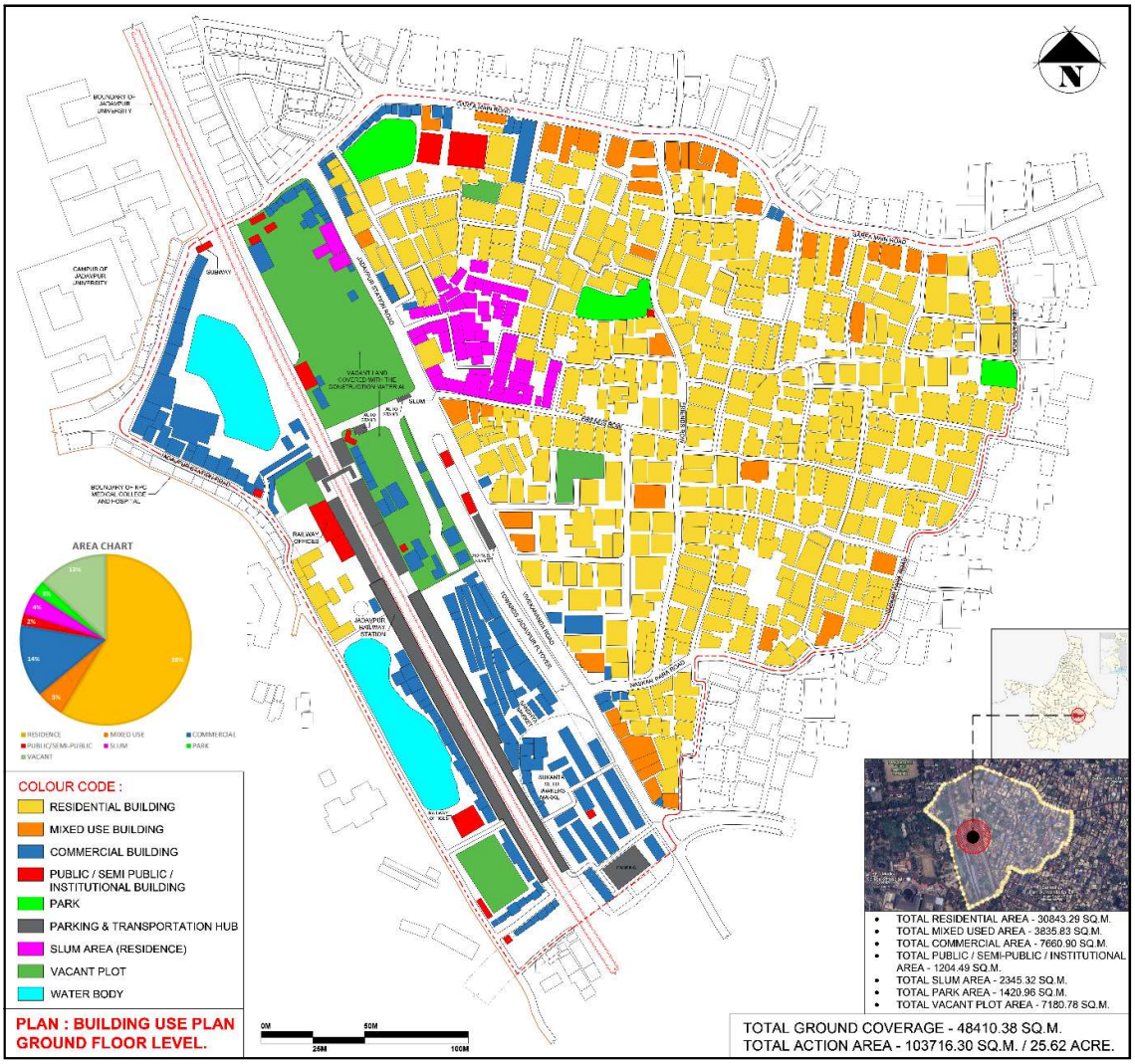
VISUAL SURVEY:

Site: Palbazar Market Area at Garfa, Near Jadavpur Railway Station, Kolkata.
Site Area: 103716.30 SQ.M. / 25.62 ACRE.
Total Ground Coverage Area: 48410.38 SQ.M.
Total Residential Area: 30843.29 SQ.M.
Total Mixed Used Area: 3835.83 SQ.M.
Total Commercial Area: 7660.90 SQ.M.
Residential Area: There is present three different groups of people – LIG, MIG and HIG.

CHARACTER SURVEY



BUILDING USE PLAN:



1. RESIDENTIAL BUILDINGS -
2/3/4 storey buildings built upon maximum of the available plot area. Mostly private residences, but some are community residential apartments. A slum area is present beside the Jadavpur Station Road line (small scale slum).

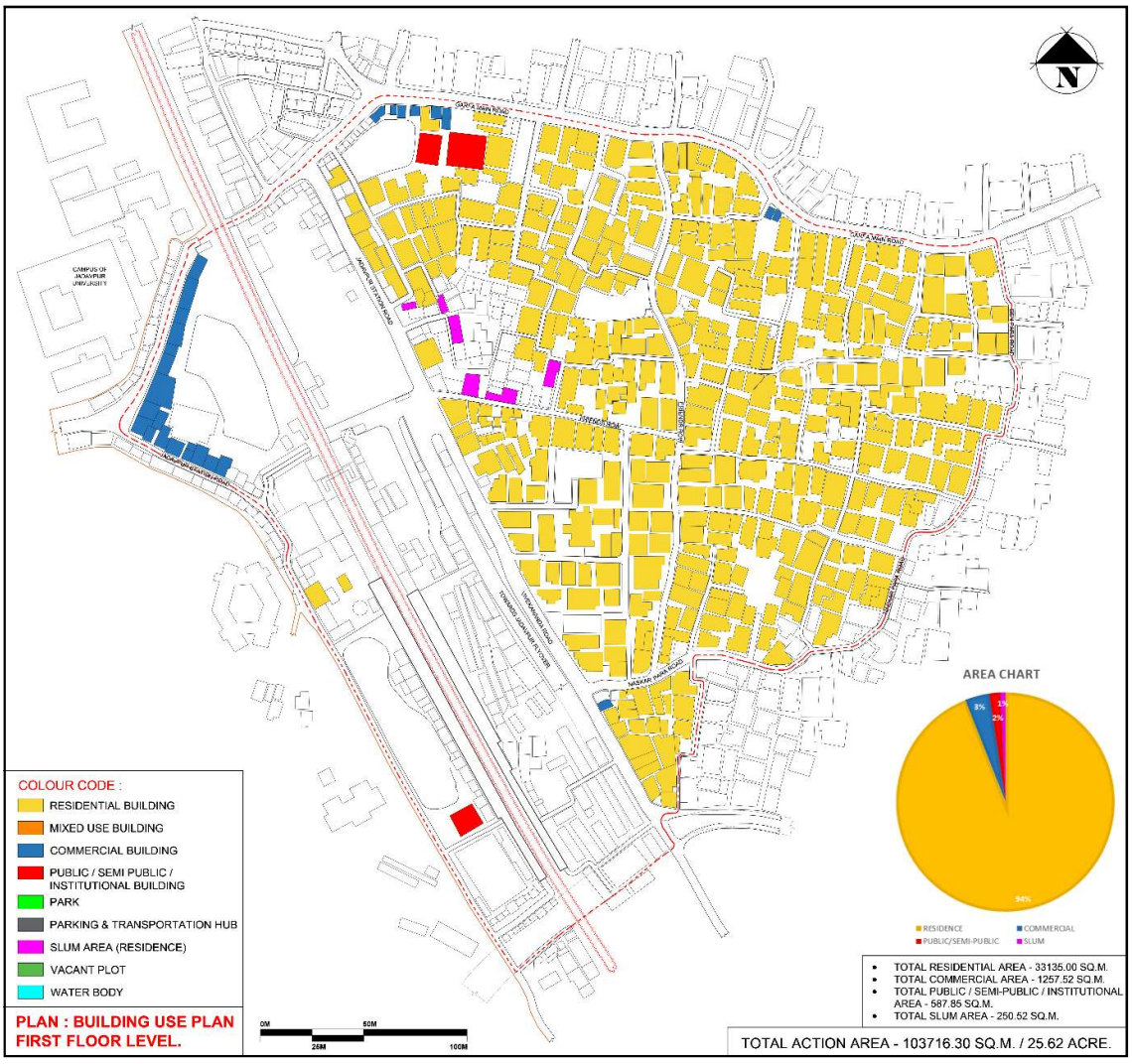
2. MIXED-USE BUILDINGS -
2/3/4 storey buildings with the Ground Floor (also 1st Floor in some places) being used as commercial establishments (shops, godowns, offices, restaurant, ATMs etc.) and upper floors are residence.

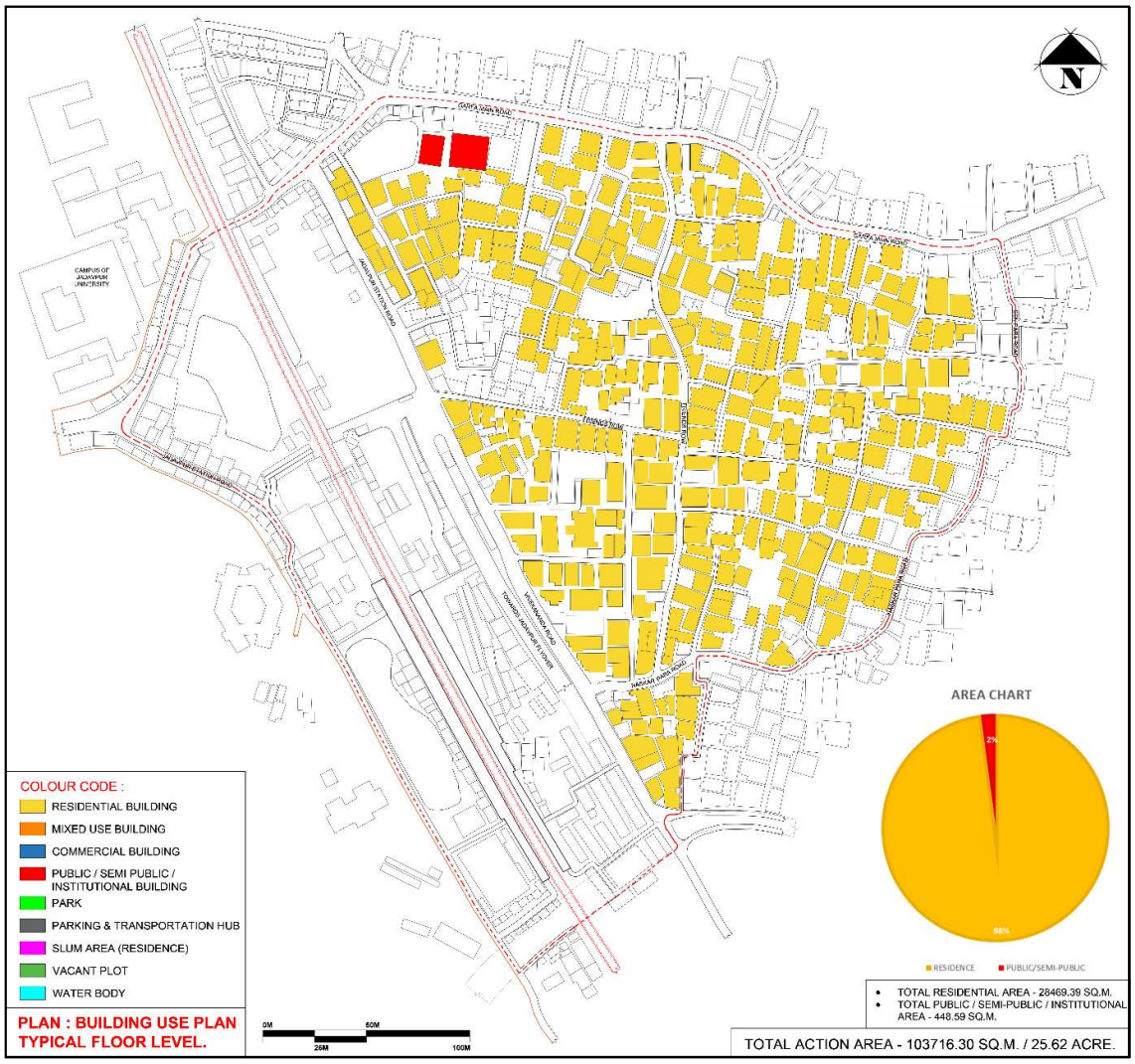
3. COMMERCIAL BUILDINGS -
1/2 storey buildings mostly independent shops and retail market. Most of the old shops are along the main road. Retail shops are temporary establishments (i.e. built of timber walls and tin roof). Other buildings include godowns, offices, etc.

4. INSTITUTIONAL BUILDINGS –
1/2/3/4 storey buildings, mostly Govt. and Municipal offices, Association Buildings, Railway offices, Govt. Medical Centre, Historical Landmark etc.

5. PARKING & TRANSPORTATION HUB –
The Jadavpur Railway Station and the 212 Bus Stand are present here which are used for transportation and some area are used for Auto Stand.

6. PUBLIC/ SEMI-PUBLIC BUILDINGS –
This types of buildings are used for public uses. Mostly are Public Toilet, Clubs, Temples, Gym. and Sub-Way etc.





BUILDING TYPOLOGY:

G+V residential development with mixed use shops on the ground floor while the upper floors are used for residential purpose.

Other residential units are smaller in scale. There is present different heights of residential buildings.

Pubic buildings like temples have a profound influence on the local people as they gather a perticular day for prayers.

Small commercial – stall, retail shop establishments are found scattered in and around the area.

KMC building is a large part of this zone which is represent a government institutional building.

3D VISUALISATION OF THE ACTION AREA:

FIGURE GROUND:

- The ratio of Open : Built is 1 : 7.
- Which implies that most of the area on the ground is made up of built spaces.
- The major open spaces are the form of the Vacant land and Play Ground. The Vacant land is used for storing construction material.
- In this figure shows all building structures are present in an organic manner. The built structures arrangement are present very close and tightly.
- This kind of arrangement can be classified as Fine Grain, Uneven Texture.

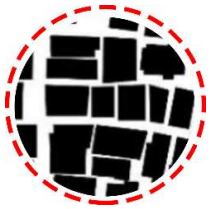
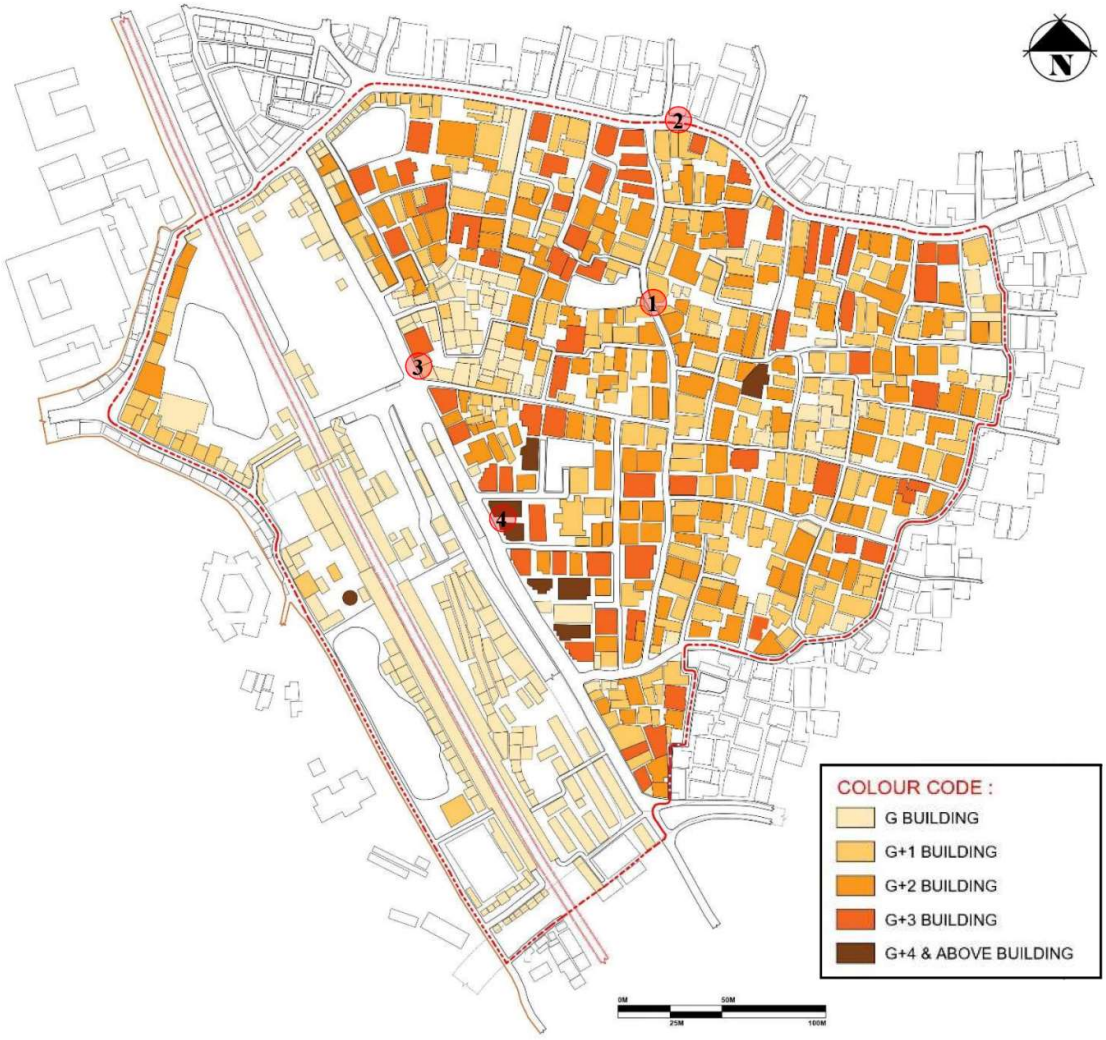


Figure shows small building structures concentrated in a small areain an organic manner.

INFERENCE: Built forms are more than open space. However there is a lack of arrangement of these built forms. There should be an aim to achieve proper texture with arrangement of open space and activity space of this zone.

BUILDING HEIGHT:

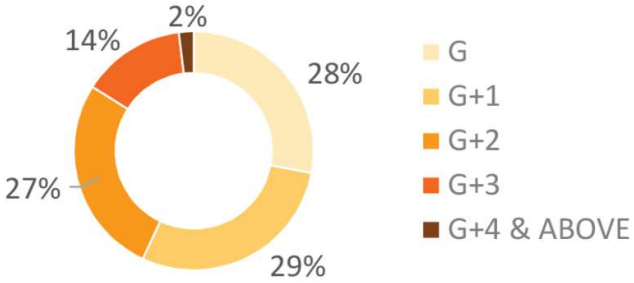


- 'G' & 'G+1' structures are found in the form of shops, restaurants, slum houses, residence house, ware-houses with tiled / tin roofs.

- Built height of 'G+2' structures are predominant across this entire zone to the buildings largely consist of residential units.

- 'G+3' built structures are found scattered throughout the site. Most of these buildings are residential buildings with mixed-used to the entire zone.

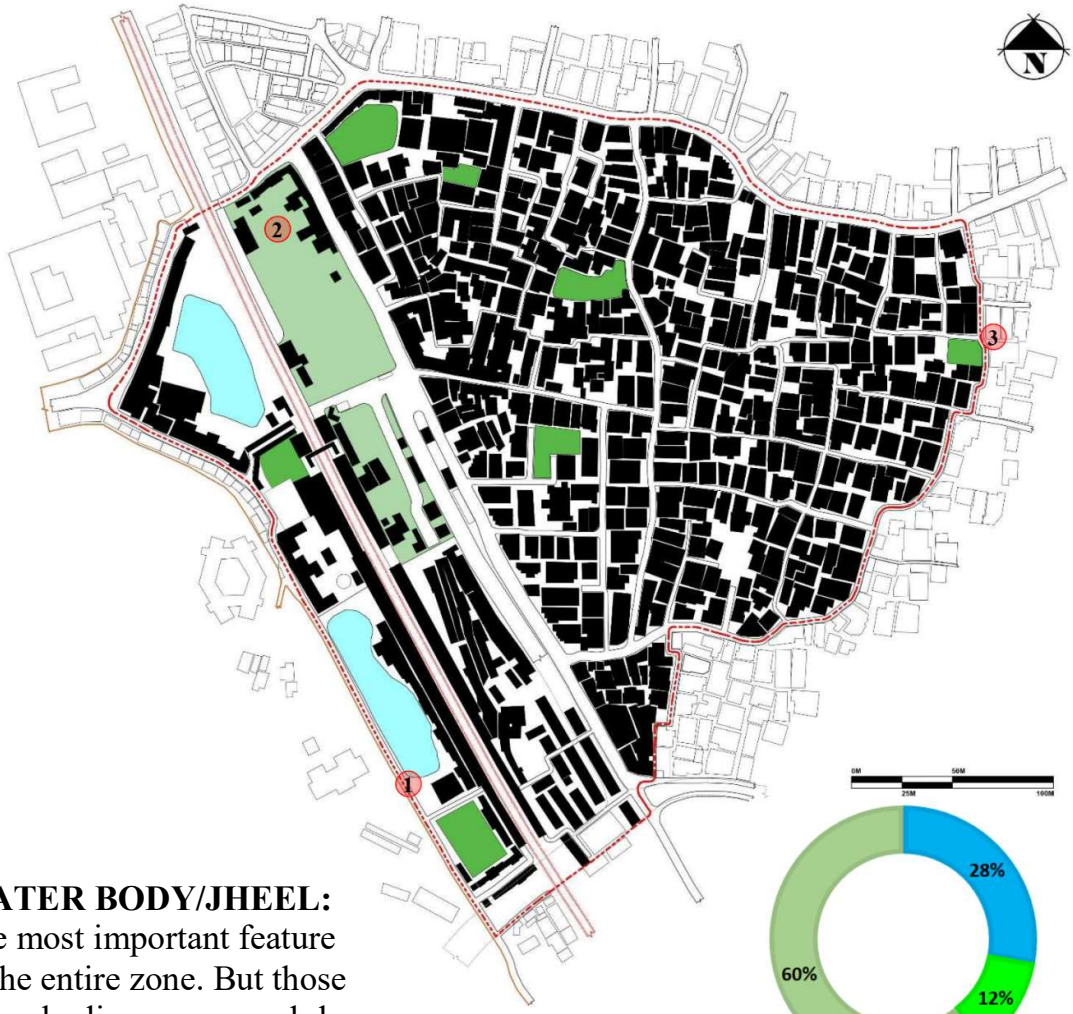
- 'G+4' and above category residential complex which are present in limited number to the entire zone.

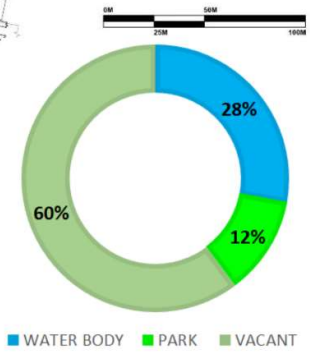


The pie chart implies G, G+1 & G+2 are most commonly found here with most of the new developments being G+3. The trend shows increase in built height.

INFERENCE: Modern developments are looking to spread vertical than horizontally for the lack of space. Maximum building height is almost same. There should be create any interesting point which act as a landmark.

TYPES OF OPEN SPACE:





WATER BODY/JHEEL:

The most important feature in the entire zone. But those water bodies are unused due to high pollution and stagnant water.

1

VACANT LAND:

There is a large amount of vacant land which is lying along the railway line in this zone. In that area some of business owner occupied this land for their business purpose and storied the construction materials.

2

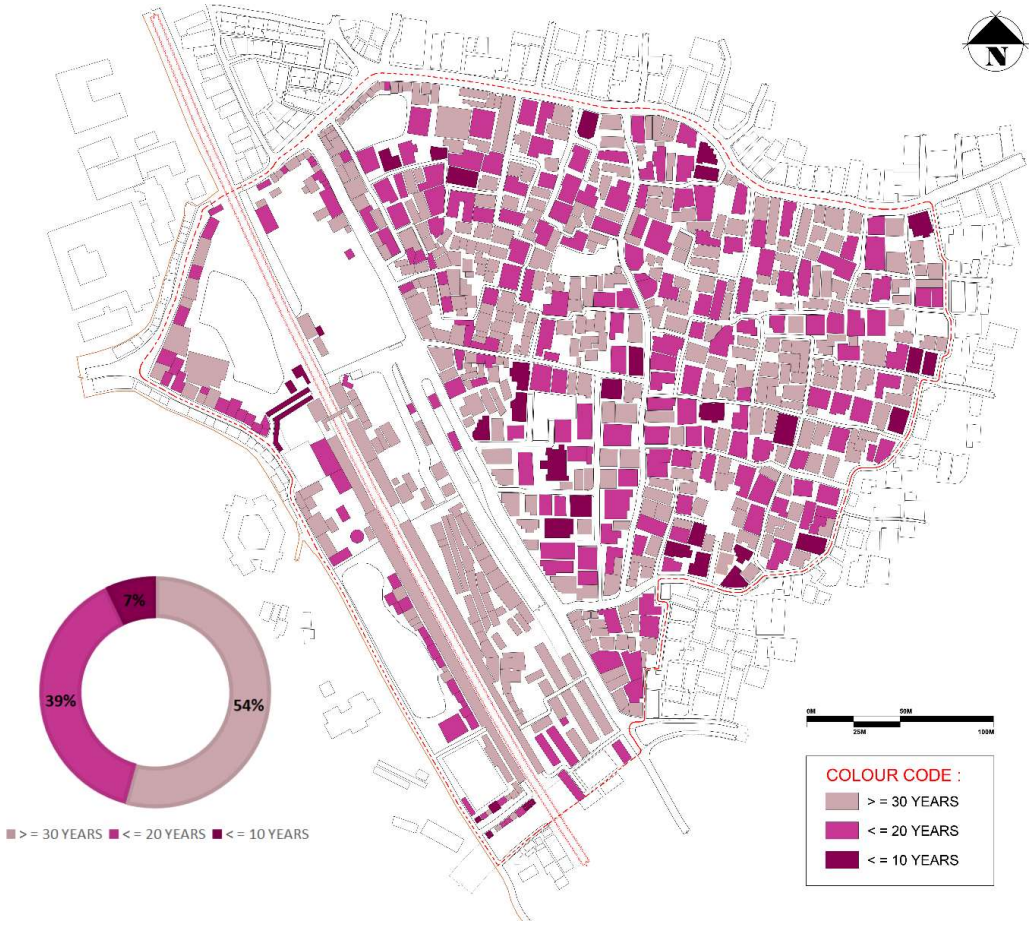
PLAY GROUND:

Presence of play ground with soft landscaping and boundary wall. The play ground is surrounded by the green to enhance the aesthetics of the place.

3

INFERENCE: Has less of open space than built forms. Presence of water body/jheel helps in regulating the microclimate. Less presence of greens. There should be an aim to create proper arrangement of open space and activity area of this zone, which will make it more attractive and interesting.

BUILDING AGE:



The pie chart indicates that most of the developments took place in between 20 to 30 years. The area is under new upcoming developments,hence this figure is bound to show a steady increase in the coming years.

> = 30 Years Buildings:

- Follows modernist (old) style.
- Use of corridor in front of buildings.
- Lack of maintenance, poor condition.
- Mostly seen towards the Garfa main road.
- Buildings not high in typicality.

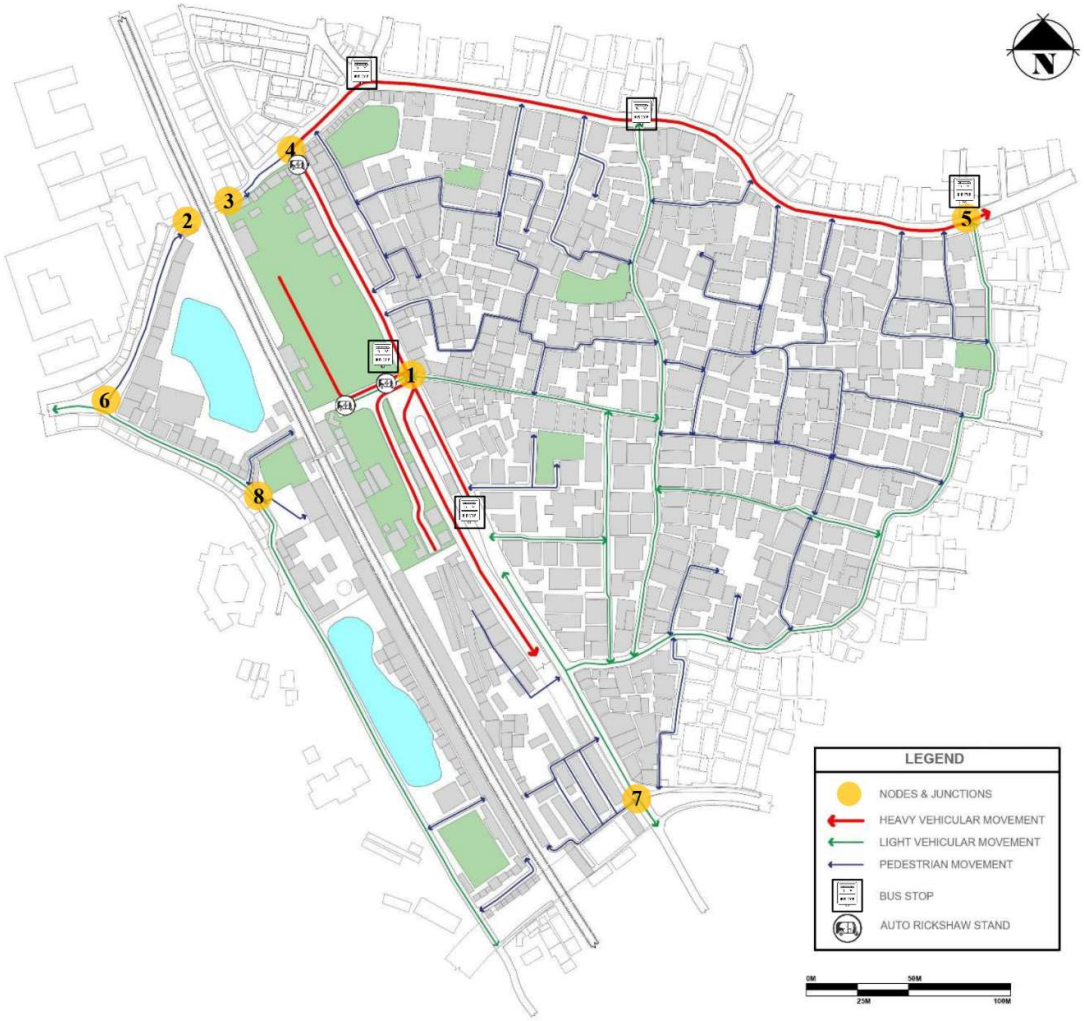
< = 20 Years Buildings:

- Follows modern (mix & match element) style.
- Lack of light maintenance.
- Most of buildings are scattered at the action area.
- Maximum buildings are G+1 and G+2.

< = 10 Years Buildings:

- Follows modernist style with minimalistic elements.
- Use of bright colours on facades.
- Use of bold elements and modern materials.
- Maximum buildings are G+3 and G+4.

TYPES OF MOVEMENT:



The map here ornate the different types of movement in this Zone. Few key aspects of this zone in terms of traffic movement are:
- The main road which serves as the spine road to the area experiencing high volume traffic.
- Different types of pedestrian roads are connecting to the main road (Heavy vehicular and light vehicular road).
- Pedestrian paths are present to the market area.

1: No Junction which is the most important node from where the station can be easily reached. Bus stand and Auto rickshaw stand are located here. High footfall zone with heavy vehicles like bus, truck, taxi to light vehicles like bike, auto. No zebra crossing or traffic kiosk to facilitate crossing the road.

2 & 3: No nodes are creating a connection between two sides of the railway line by a sub-way. This is only used for pedestrian movement.

4: No node which is the junction between heavy vehicular road and pedestrian road. There are various activities & crowd all the time, especially in the evening time is most.
5: Narrow pedestrian street leading upto a node connecting the main road. Presence of Vivekananda Park makes it light crowded during afternoon hours.

6 & 7: No nodes which are the junction between heavy vehicular road & pedestrian road. There is a high footfall zone with light vehicles. This nodes are gateways to the market places.

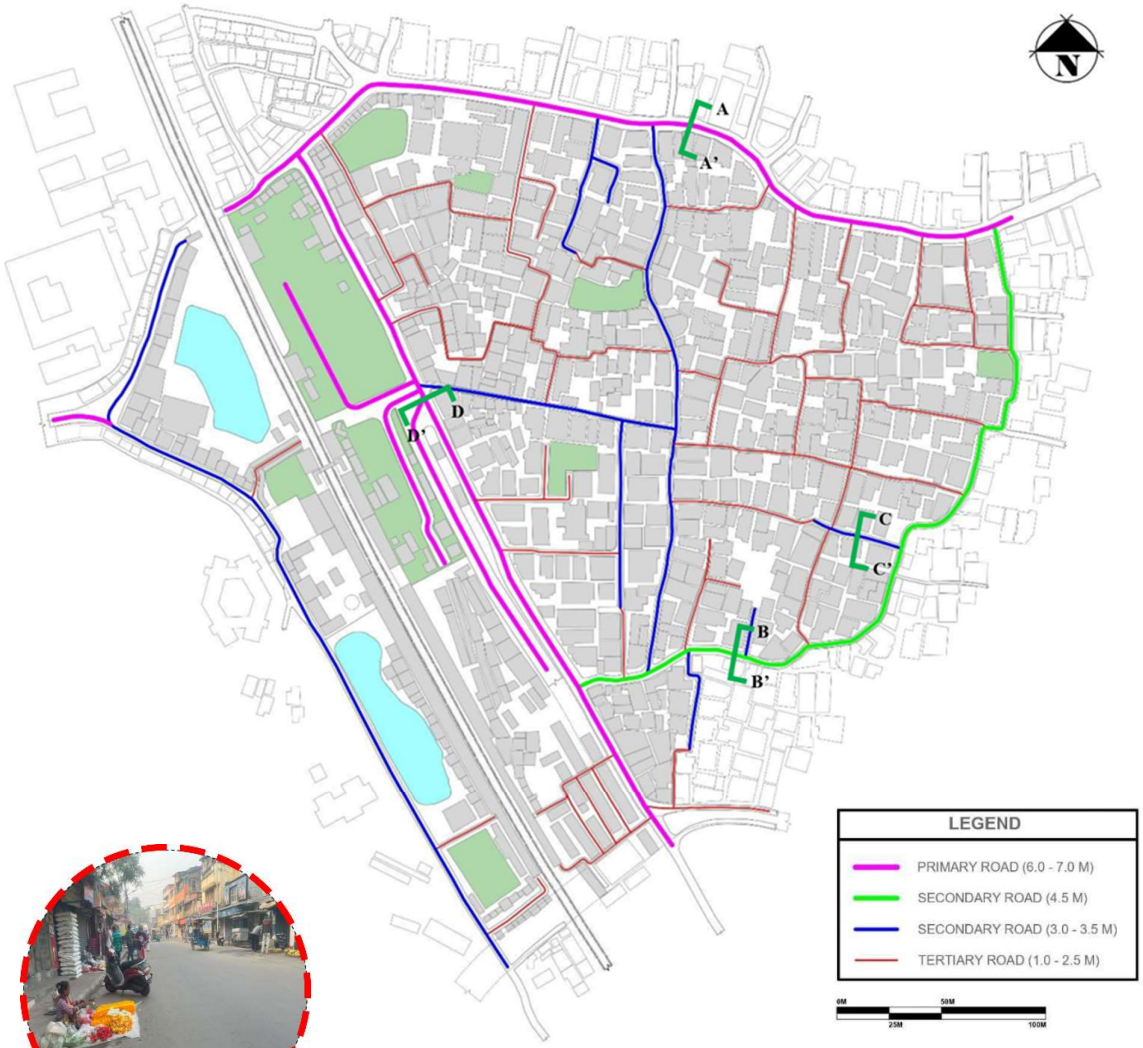
8: No node is the entrance of Jadavpur Station which is a high footfall zone.

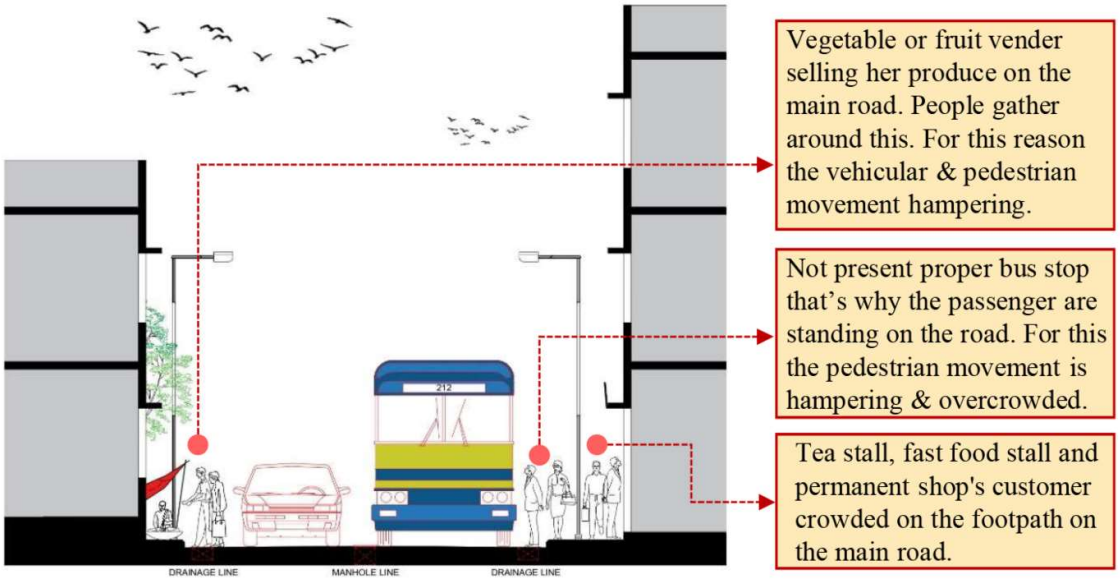
INFERENCE: Segregation needs to be need for easy access and a dedicated pedestrian walk along the heavy vehicular road. Small market held on the road, so the roads does not carry public vehicles. So increase the dependency on transport which becomes a necessity.

ROAD HIERARCHY:

Four basic typologies of road based on their hierarchy.

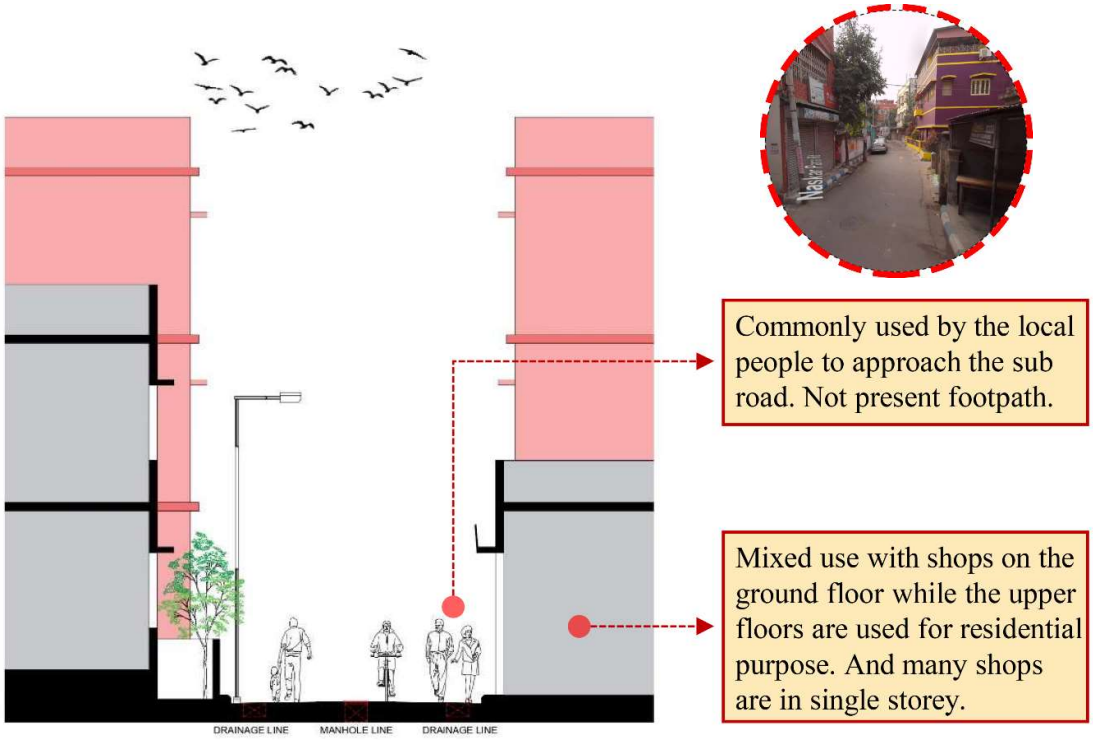
- The primary road having an approximate width ranging from 6 – 7 m.
- The secondary road having an approximate width ranging from 3 – 4.5 m.
- The third kind is the tertiary road having an approximate width ranging from 1 – 2.5 m.
- Garfa main road is the primary road. All secondary roads and tertiary roads meet to the primary road.
- Not present the footpath properly at every location on the primary road.
- The tertiary roads are mostly used for different domestic activities by the local people.





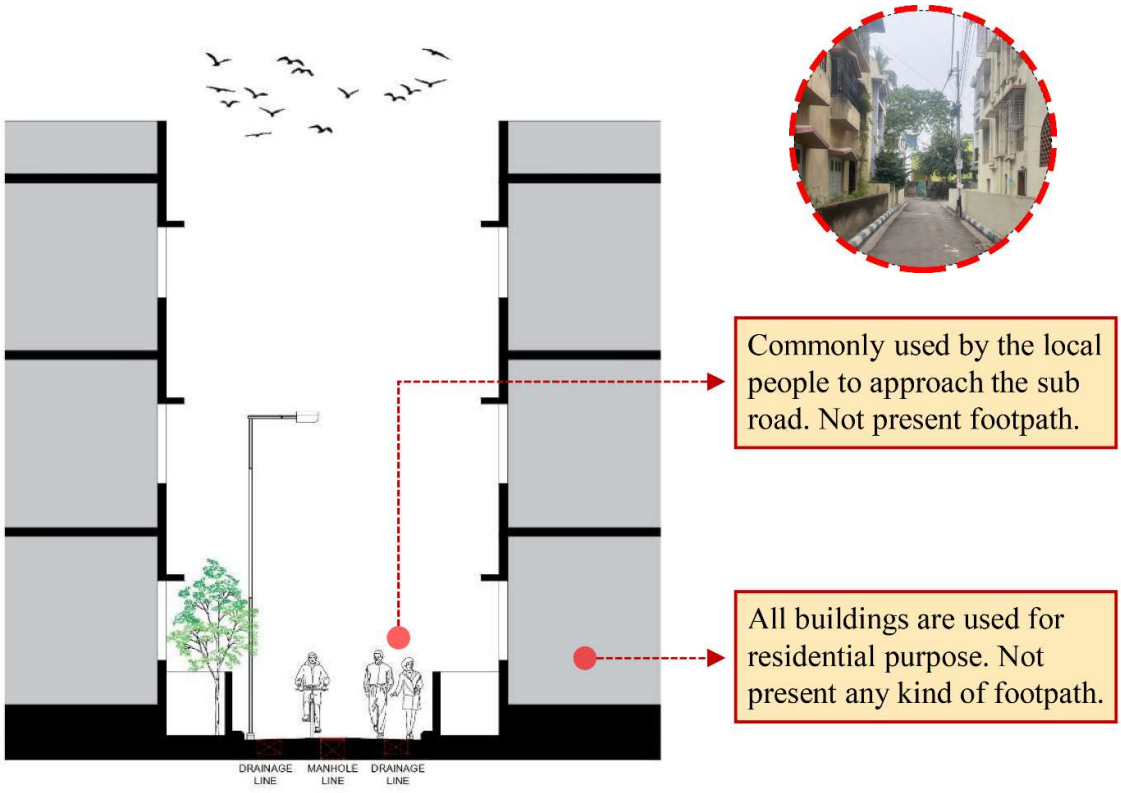
SECTION - AA'

SECTION – AA' through Garfa main road which is approximately 7m wide (Two way road)



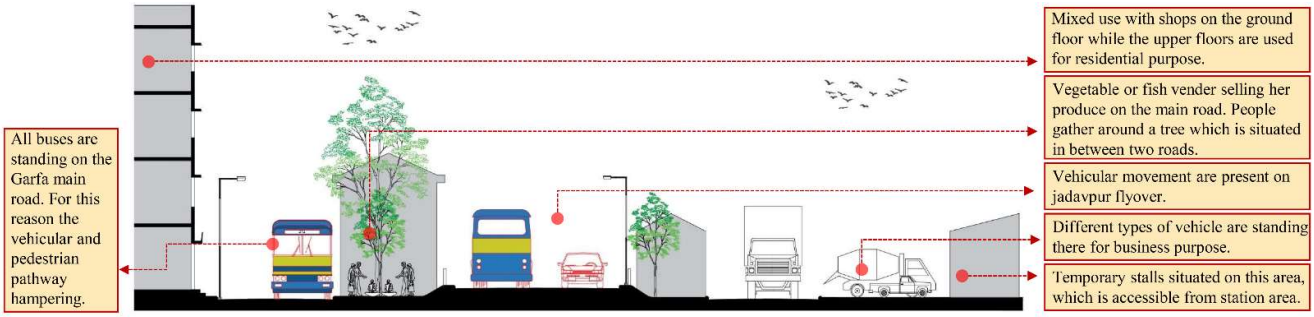
SECTION - BB'

SECTION – BB' through Naskar para road which is approximately 4.5m wide (Two way road)



SECTION - CC'

SECTION – CC' through Friends row road which is approximately 3 m wide



SECTION - DD'

SECTION – DD' through Garfa station road which is approximately 7m wide.

INFERENCE: primary road have not any footpath properly. To ensure smooth movement pedestrian paths need to be increased & made free from encroachment while being accessible for universal use. To make proper footpath and community area.

ACTIVITY AND VISUAL CHARACTER:

BUILT CHARACTER:

- The houses in this zone is modern style. Some of the built structures are old and lacking maintenance with coming times.
- The smaller houses in this zone, mostly scattered are lower in height.
- Most of the buildings are usually follow similar massing.

REPORT OF ROUTINE BASED VISUAL SURVEY:

ACTIVITY: Location – 1:

MORNING – (09:00 – 09:30 A.M.)

Male – 191 no.

Women – 106 no.

Child – 0 no.

No of Auto going from here – 15 no.

FLOTING – 80%

DAY – (01:00 – 01:30 P.M.)

Male – 179 no.

Women – 106 no.

Child – 12 no.

No of Auto going from here – 13 no.

FLOTING – 60%

EVENING – (06:00 – 06:30 P.M.)

Male – 295 no.

Women – 182 no.

Child – 18 no.

No of Auto going from here – 18 no.

FLOTING – 85%

ACTIVITY: Location – 2:

MORNING – (08:30 – 09:00 A.M.)

Male – 364 no.

Women – 98 no.

Child – 5 no.

FLOTING – 85%

DAY – (12:30 – 01:00 P.M.)

Male – 195 no.

Women – 95 no.

Child – 0 no.

FLOTING – 70%

EVENING – (06:30 – 07:00 P.M.)

Male – 279 no.

Women – 135 no.

Child – 15 no.

FLOTING – 90%

ACTIVITY: Location – 1:

MORNING – (09:00 – 09:30 A.M.)

- Different types of Floating commuters come
- High traffic volume
- Street vendors

DAY – (01:00 – 01:30 P.M.)

- Home servant commuters back
- Medium volume of traffic
- Street shop and vendors

EVENING – (06:00 – 06:30 P.M.)

- Different types of Floating commuters back
- High volume of traffic
- Street vendors
- Roadside eateries

ACTIVITY: Location – 2:

MORNING – (08:30 – 09:00 A.M.)

- Different types of Floating commuters come
- Open small fast food stall
- Street vendors

.DAY – (12:30 – 01:00 P.M.)

- Less Floating commuters
- Loading material to the stall
- Open hotel for lunch

EVENING – (06:30 – 07:00 P.M.)

- Busy area with locals and floating people
- Open stationary shop
- Open market place
- Social gathering

INFERENCE: Based on built use most of the activities are commercial. Local activities include food vendors and small retail shops. The vacant spaces are inactive but if provides a high scope for localized activities for public without impacting the environment in a negative manner.

ACTIVITY:

- Different types of people come here. So different types of activities are created here.
- For example, some people works as laborers at construction sites here and some people come here to work in people's homes as maidservant, they work in five-six houses every day and return in the afternoon.
- Some people come here by train and go to office by bus from here.
- Some farmers come here from Diamond Harbor or Canning to sell their vegetables and fruits in this market.
- Some people have shops in this zone, they sell their goods and return home at the end of the day.
- Jadavpur University is nearby to this zone, so students come to study from different places and they also sometimes buy things from the market.
- People who come to this location for work, spend some time and eat or drink and buy daily necessities and return home.

ACTIVITY: LOCATION – 1: (MORNING TIME)

Street vendors selling vegetables for limited time during the early morning and early evening hours.

Open market held on one side of the road generally operating during morning with the activity of bus stand.

Bus & auto rickshaw stand acting as a modal split for commuters on the main road during peak hours.

Mixed use building with various type of shops predominantly on the ground floor.

Street vendors selling fruits for all time on the main road.

ACTIVITY: LOCATION – 2: (MORNING TIME)

On street parking for every time. At a time there are 7-8 buses standing here & bus leaves one by one & the other returning bus joins behind.

Retail shops are closed in the morning. Some shops are open for their loading shop material at sukanta setu hawkers market.

Roadside eateries and fast food stalls are common for social interaction especially during morning and evening time.

Open market with shops are close in morning time at shandhya market.

Have a parking place under the fly over bridge. Not present proper parking space and the space is very limited.

ACTIVITY: LOCATION – 1: (EVENING TIME)

Street vendors selling vegetables for limited time during the early morning and early evening hours.

Street shop selling daily needed product at the station area during early evening hours.

Retail shop selling daily needed product on the both side of station road during peak hours (evening).

Roadside eateries and fast food stalls are used for public & social interaction during evening time.

On street parking for every time. For this the vehicular and pedestrian movement are hampered.

ACTIVITY: LOCATION – 2: (EVENING TIME)

Have a parking place under the fly over bridge. Not present proper parking space. There is present limited parking space for parking.

Market shops are selling fruits and vegetables for a limited time during the evening hours at shandhya market area.

Retail shop selling daily needed product at the sukanta setu hawkers market during evening hours.

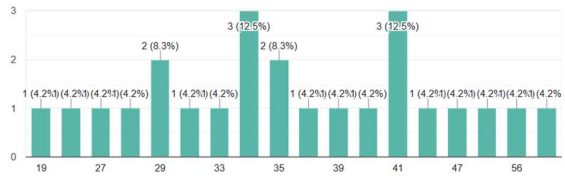
Open market with shops selling vegetables and fruits for a limited time during the evening hours on the main road.

Cycle and bike parking is done inside the market area for this the pedestrian movement is very difficult and hampered.

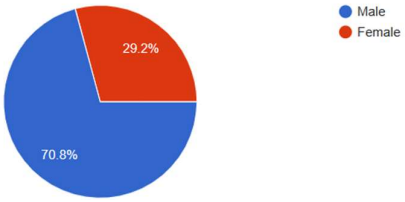
7.0. SURVEY ANALYSIS STUDY

ZONE DELINEATION – ANALYSIS THE CHARACTER OF THE AREA THROUGH USER PERCEPTION:

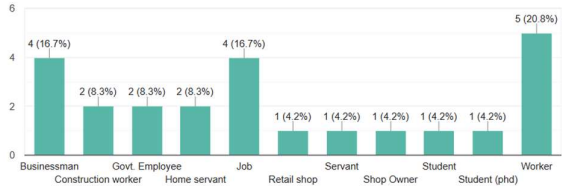
AGE GROUP?



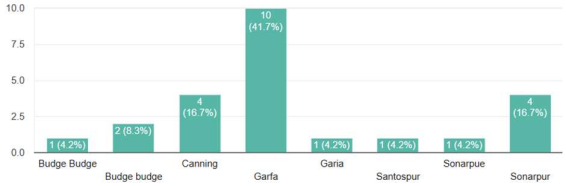
GENDER?



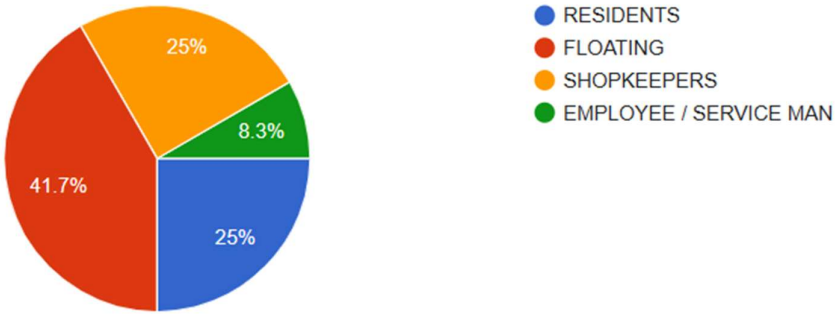
OCCUPATION?



ADDRESS:

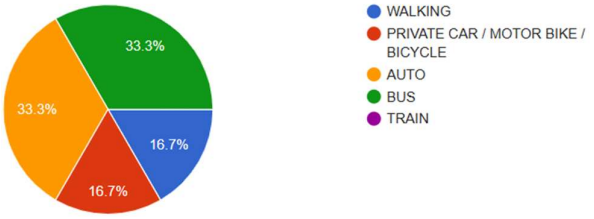


CATEGORIES OF USER GROUP?

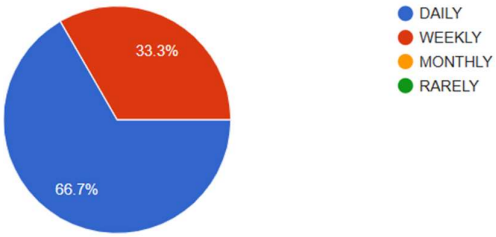


01. CATEGORIES OF USER: RESIDENTS -

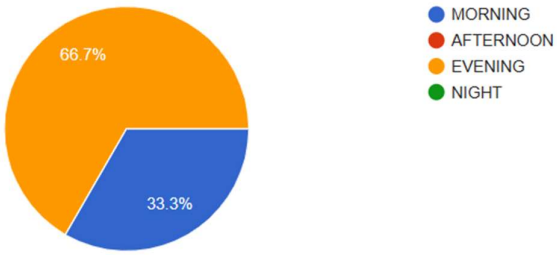
WHICH MODE OF TRANSPORTATION YOU PREFER FOR DAILY NEEDS?



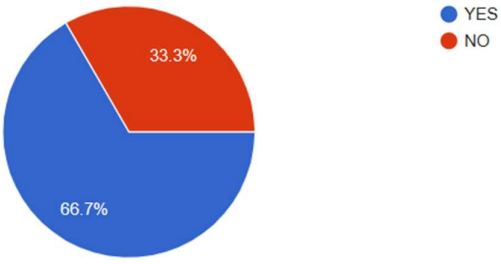
HOW OFTEN DO YOU COME TO THE MARKET AREA?



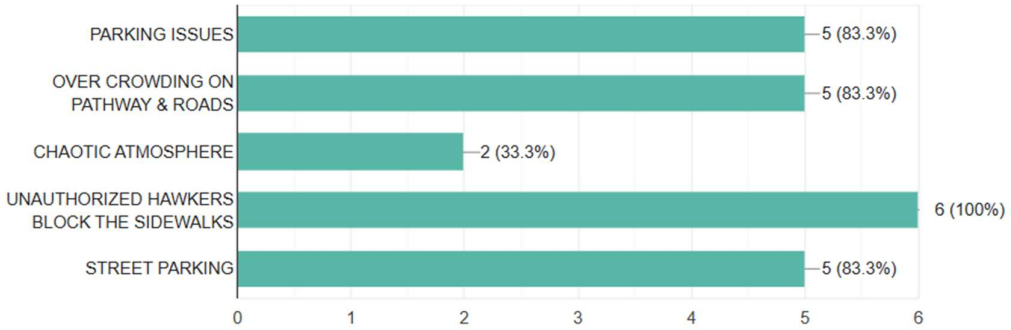
AT WHAT TIME DO YOU USUALLY PREFER FOR MARKETING?



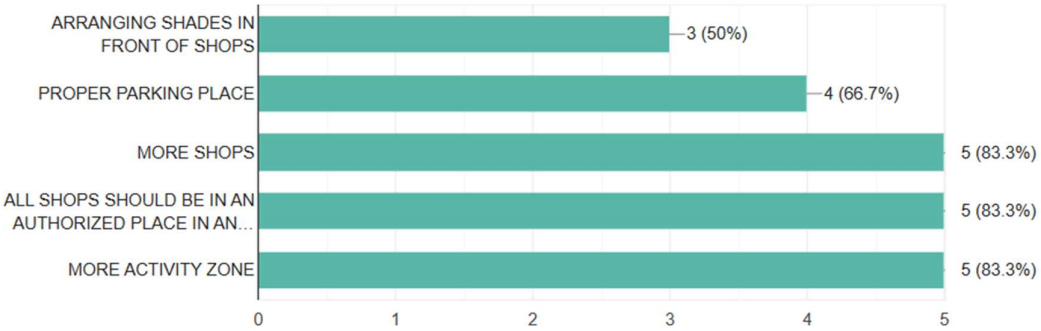
DO YOU LIKE THE ENVIRONMENT AND ACTIVITIES OF THAT MARKETPLACE?



WHICH YOU DON'T LIKE ABOUT THIS MARKETPLACE?

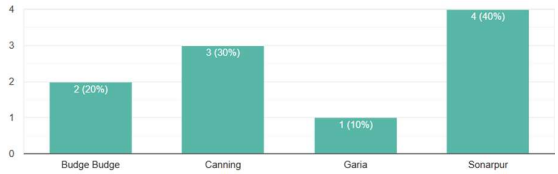


WHAT CHANGES ARE YOU LOOKING FOR IN THIS MARKETPLACE?

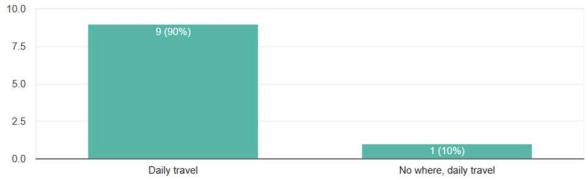


02. CATEGORIES OF USER: FLOATING -

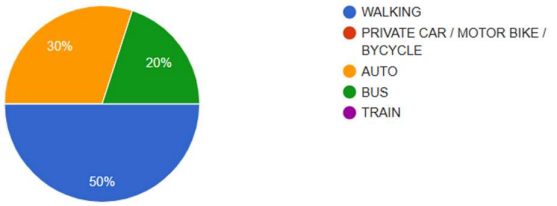
WHERE IS YOUR HOMETOWN?



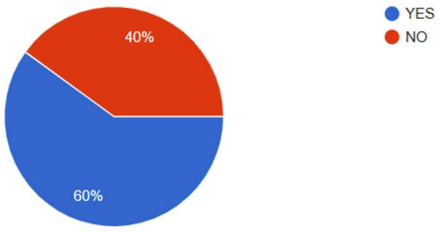
WHERE DO YOU STAY IN THE NEIGHBOURHOOD?



WHAT MODE OF TRANSPORTATION YOU USE TO TRAVEL TO MARKET OR THIS AREA?

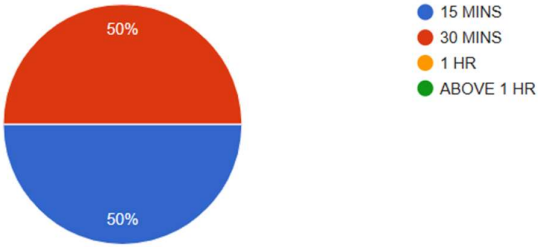


DO THE MARKET FULFILL ALL THE DAILY REQUIREMENTS?

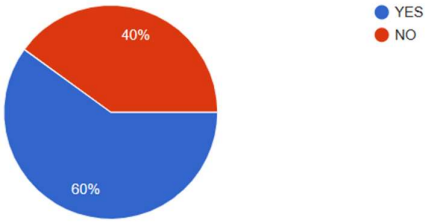


HOW DO YOU FEEL ATTACHED TO THE MARKET?

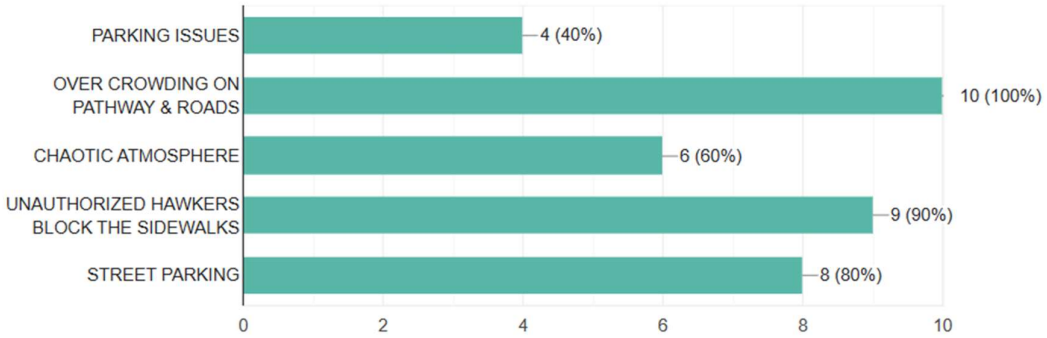
HOW OFTEN DO YOU SPEND TIME IN THIS MARKET AREA?



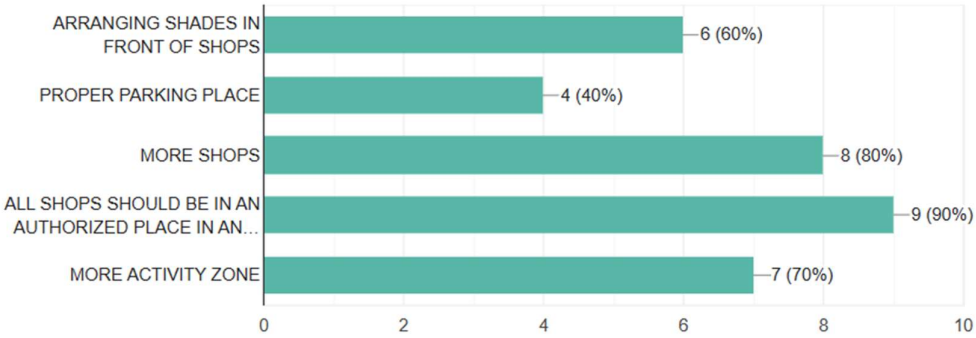
DO YOU LIKE THE ENVIRONMENT & ACTIVITIES OF THAT MARKETPLACE?



WHICH YOU DON'T LIKE ABOUT THIS MARKETPLACE?



WHAT CHANGES ARE YOU LOOKING FOR IN THIS MARKETPLACE?



03. CATEGORIES OF USER: SHOPKEEPERS -

WHAT TYPE OF SHOP YOU RUN?

Cloth Shop

Cloth Shop

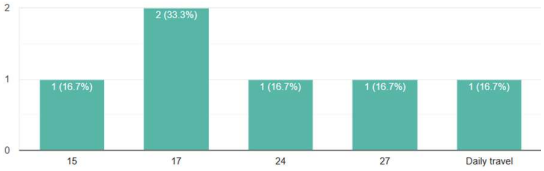
Vegetable vendor

Vegetable shop

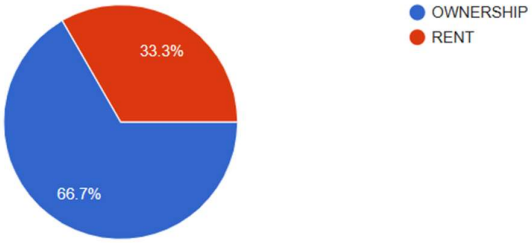
Pan stall

Book and paper shop

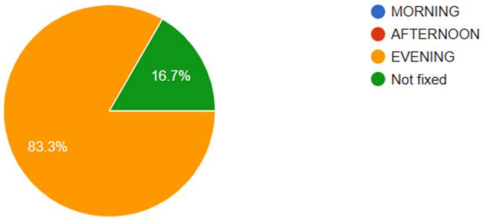
FOR HOW MANY YEARS THE SHOP IS PRESENT IN THE LOCALITY?



DO YOU OWN OR RENT YOUR CURRENT SHOP?



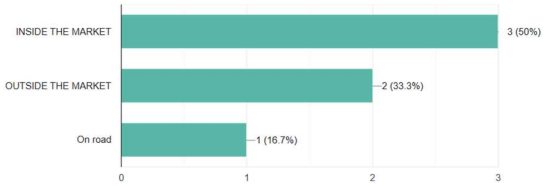
WHEN DO YOU RECEIVE PEAKHOUR RUSH?



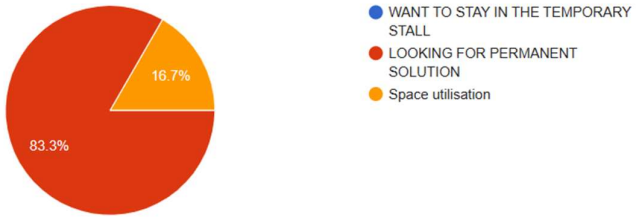
HOW MANY CUSTOMERS YOU SERVE DURING PEAKHOURS?

15-25	17-20
13-15	Avarage
Not counting	10-15

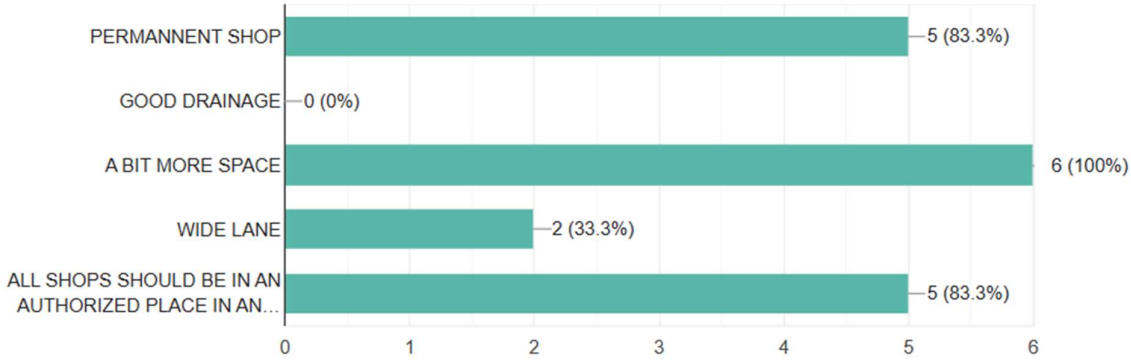
WHERE DOES THE CUSTOMERS PARK THEIR VEHICLES TO GET INTO THE SHOP?



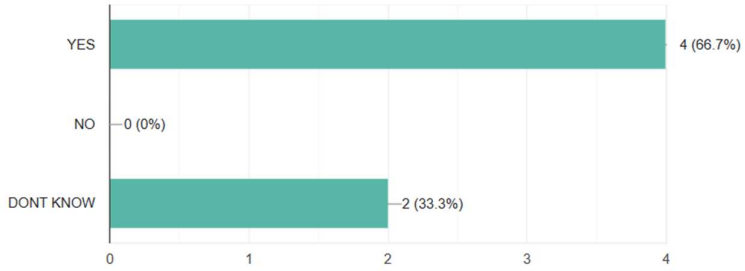
WHAT DO YOU WANT?



WHAT IMPROVEMENTS DO YOU WANT NOW?

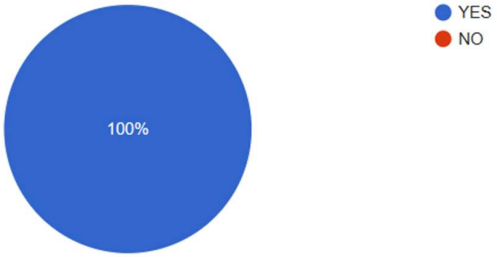


DO THE CUSTOMERS LIKE YOUR STORE ENVIRONMENT?

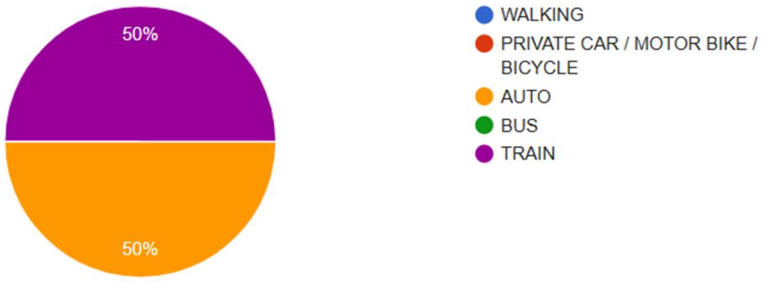


04. CATEGORIES OF USER: EMPLOYEE / SERVICE MAN

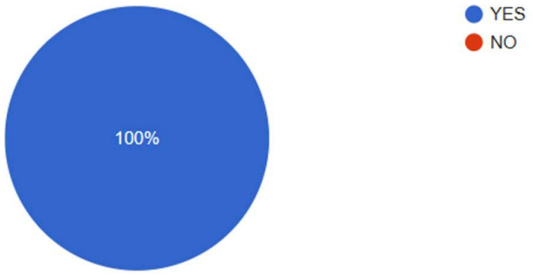
DO YOU GET ALL THE FACILITIES OF DAILY REQUIRBEMENT IN THIS LOCALITY?



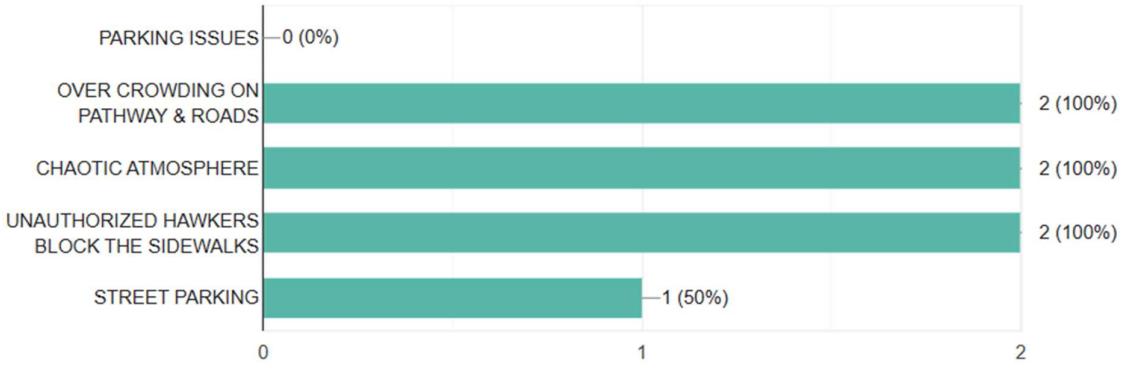
WHAT MODE OF TRANSPORTATION YOU UTILIZE TO REACH THE MARKETPLACE?



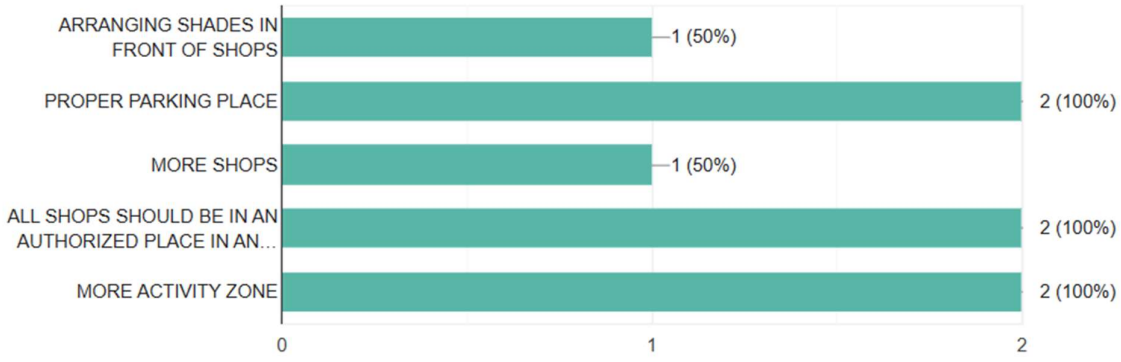
DO YOU LIKE THE ENVIRONMENT AND ACTIVITIES OF THAT MARKETPLACE?



WHICH YOU DON'T LIKE ABOUT THIS MARKETPLACE?



WHAT CHANGES ARE YOU LOOKING FOR IN THIS MARKETPLACE?

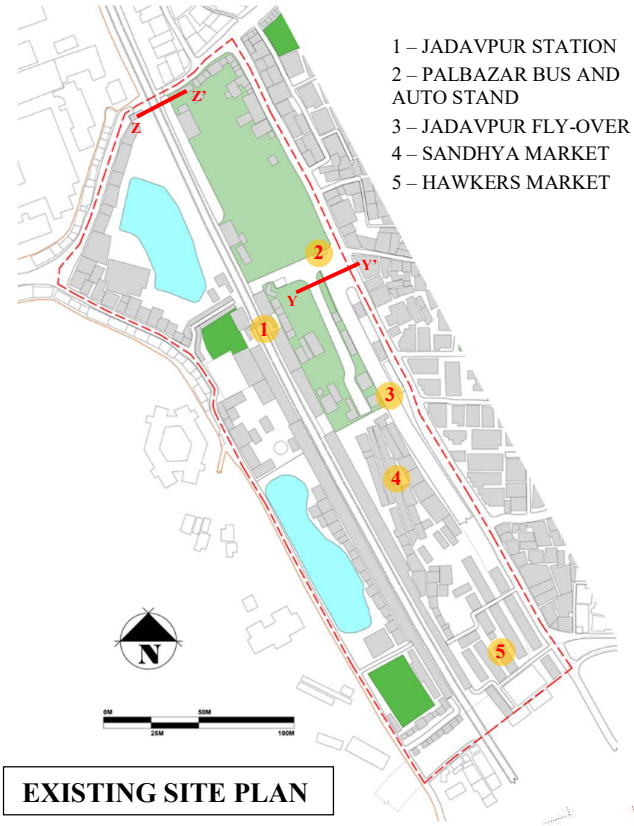


Problems and Issues of User People Perception by Survey:

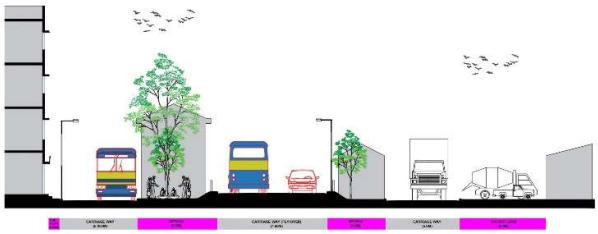
1. **Inadequate facilities, utilities to cater the informal market Sandhya Bazar.**
2. **There is lack of activity space or community space where the local people are gathering for social interaction.**
3. **Lack of open space.**
4. **There is lack of parking place. Maximum users of market park their cycle or bike inside the market area.**
5. **Overcrowding on the roads. For that the pedestrian and vehicular movement are hampered.**
6. **Unauthorized hawkers selling their product on the main road and block the sidewalks.**
7. **Not present proper space arrangement of retail shops in the market area.**
8. **There is no proper bus stand, so all the buses stand on the main road.**
9. **Not present any pedestrian pathway with main road.**
10. **In general, the peak hours are during the evening time of the market areas in this zone. At this time the road is very crowded.**
11. **There is present lack of wide lane in between two retail shops.**
12. **Outer area which is the Railway land, of the Jadavpur Station is present different types of construction materials which are storing there. Which is block the public activities and amenities.**
13. **Informal food stall, shops are present under the Fly-over. Also present garbage and unused things.**

8.0. URBAN DESIGN INTERVENTION

Detailed Site Level Study:

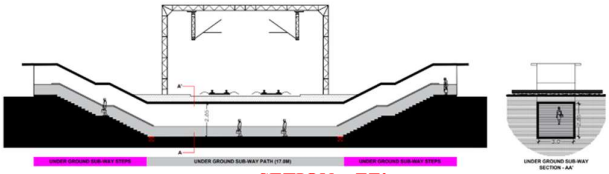


1 – JADAVPUR STATION
2 – PALBAZAR BUS AND AUTO STAND
3 – JADAVPUR FLY-OVER
4 – SANDHYA MARKET
5 – HAWKERS MARKET



SETION – YY'

SECTION YY' through the fly-over with roads which running parallel each other & existing condition of built forms.



SETION – ZZ'

SECTION ZZ' through the sub-way under the railway line.

EXISTING SITE PLAN

COLOUR CODE :

- RESIDENTIAL BUILDING
- MIXED USE BUILDING
- COMMERCIAL BUILDING
- PUBLIC / SEMI PUBLIC / INSTITUTIONAL BUILDING
- PARK
- PARKING & TRANSPORTATION HUB
- SLUM AREA (RESIDENCE)
- VACANT PLOT
- WATER BODY

EXISTING SITE PLAN

CHALLENGES AND GUIDELINES:

CHALLENGES	GUIDELINES
No proper physical or visual connection between two markets which held on both sides of the railway station.	A proper connection with two market is needed that has to be established and made accessible to the public and some activity zone should be created there.
Reduce street market along the main road.	Creating a market place with market environment and provide urban amenities for the public.
Reduce street parking on the main road and create a sufficient parking space.	Street parking should be reduced in front of other facilities with high pedestrian traffic and direct access on the street system. If reducing the street parking requirements then creating more walkable communities.
Unorganized chaos at the node & create Landmark.	Node reinforcement enhancing visual elements and signage which will help in way finding and needed the highlighting of the area by a proper Landmark.
Unorganized retail shop in the market area and reduce pedestrian crowded and more activity space.	Strengthening the market place and activating the retail shops and fast food stall to convert it into a vibrant activity centric place.

PROPOSALS AND CONCEPTS:

PROPOSALS	CONCEPTS	PURPOSE BEHIND THE PROPOSAL
1. Creating activity centric places for the public.		- Less polluted surrounding as these are used by people. - Healthy areas thriving with activities that will help boost the local economy of the area. - Removal of damaged areas with eyes on the street.
2. Controlled development of footpath with street movement of the area.		- Easily accessible and recognisable by people. - Improved quality of life with pedestrian movement. - Removal of street marketing or hawkers and increasing aesthetics of the vehicular and pedestrian movement.
3. Redevelopment of commercial zone with market complex.		- Improved quality of life with social gatherings. - Increasing aesthetic of the market place & activity of different shops that will help boost the economic system of the area. - Easy accessible of different types of shops in a single complex.
4. Constructing a parking space for bicycle, motor bike and four wheeler for the public.		- Decreasing street parking on the road. - Solve the parking issue in the market place. - Easily accessible to the market place and the road for pedestrian and vehicular movement.
5. Creating a landscaped passenger waiting area for bus and auto stand under the market complex.		- Improved the life of daily passenger of bus and auto. - Buses parked on the road will be removed and easily movement. - Less polluted surroundings from noise and smoke.

DESIGN APPROACH:

Water bodies should be treated and then different activity zones should be created there. It will add in more public spaces. Hence the landscape can be enjoyed.

Addition a multistoried market complex for hawkers and shops with parking space and bus depot and parking in the ground level.

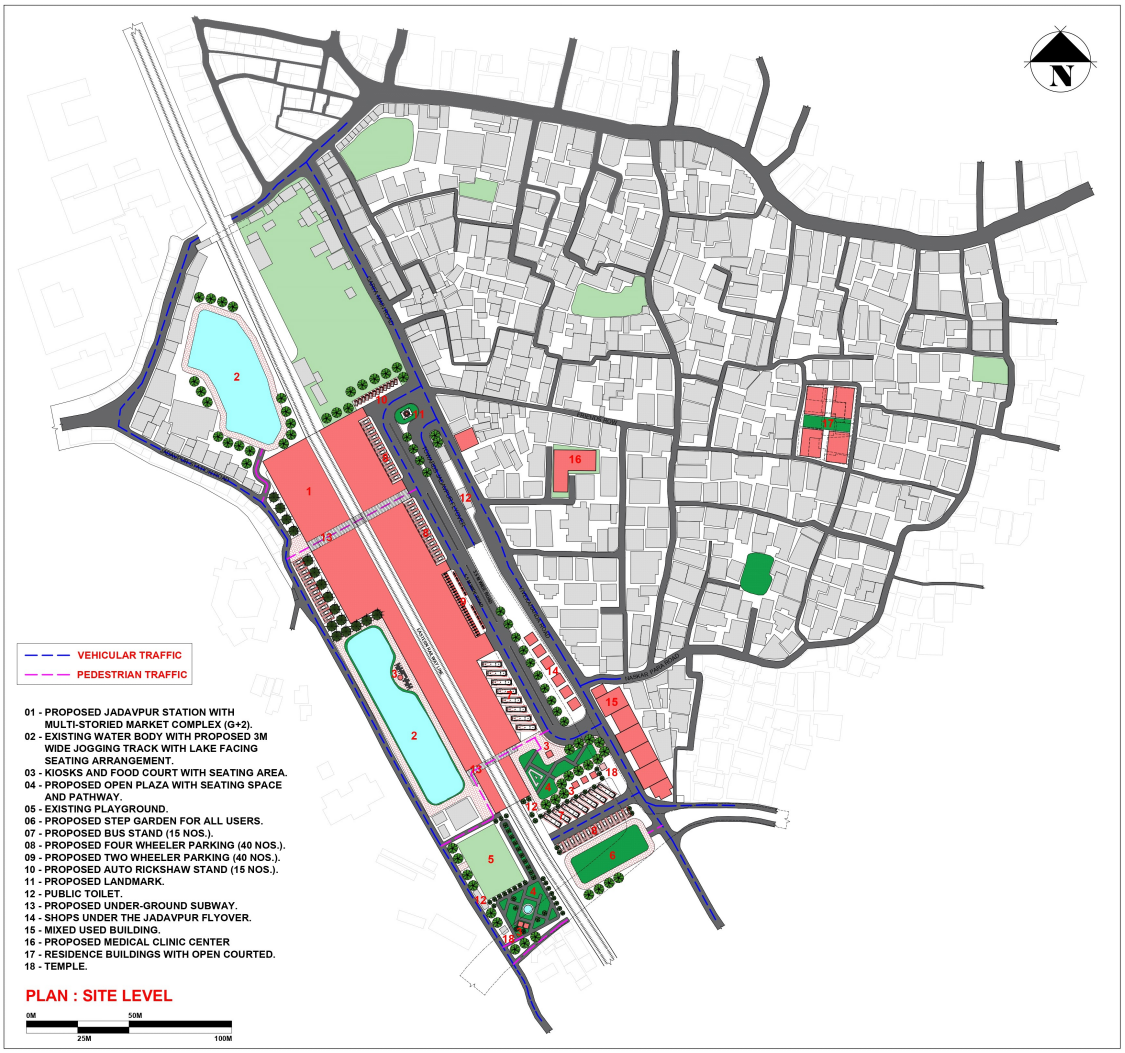
Addition of public square and amenities like food stall & sitting spaces. Will allow and attract more people for its openness.

Addition of sub-way for connected two market place and easily accessible for public.

Design will help in good utilization of space.

MODIFIED PRIMARY ROAD WITH FOOTPATH.
PROPOSED SUB-WAY
PROPOSED LANDMARK
PROPOSED NODE
EDGE TREATMENT.
POSSIBLE INTERVENTION OF MARKET COMPLEX.
POSSIBLE INTERVENTION OF ACTIVITY SPACE.

DESIGN DEMONSTRATION:



GARFA MAIN ROAD
JADAVPUR STATION ROAD
TOWARDS JADAVPUR FLYOVER
VIVEKANANDA ROAD
EASTERN RAILWAY LINE
NASKAR PA
01 - PROPOSED JADAVPUR STATION WITH MULTI-STORIED MARKET COMPLEX (G+2).
02 - EXISTING WATER BODY WITH PROPOSED 3M WIDE JOGGING TRACK WITH LAKE FACING SEATING ARRANGEMENT.
03 - KIOSKS AND FOOD COURT WITH SEATING AREA.
04 - PROPOSED OPEN PLAZA WITH SEATING SPACE AND PATHWAY.
05 - EXISTING PLAYGROUND.
06 - PROPOSED STEP GARDEN FOR ALL USERS.
07 - PROPOSED BUS STAND (15 NOS.).
08 - PROPOSED FOUR WHEELER PARKING (40 NOS.).
09 - PROPOSED TWO WHEELER PARKING (40 NOS.).
10 - PROPOSED AUTO RICKSHAW STAND (15 NOS.).
11 - PROPOSED LANDMARK.
12 - PUBLIC TOILET.
13 - PROPOSED UNDER-GROUND SUBWAY.
14 - SHOPS UNDER THE JADAVPUR FLYOVER.
15 - MIXED USED BUILDING.
16 - TEMPLE.
N
0M
50M
25M
100M

1. Demolition of the existing old sprawl Market (Sandhya Market and Sukanta Setu Market) to make way for a new Multi-storeyed Market Complex building for relocating the existing markets, shops. Where the Railway Station is in ground floor and Markets are at upper two floors.

2. Relocating the existing trees to the Station Road for creating street planters.

3. Constructing a new parking space along the side of the Station Road & Garfa Main Road for the Buses, Four-wheelers, Two-wheelers, Auto, By-cycle and other vehicles for access to the bazar.

4. Constructing a new Pay & Use toilet complex.

5. Constructing a new 9.5 m wide road which is divided two roads, one is used for buses and another one is used for other vehicles, besides the Station building as a connector road with the Garfa Main Road & this Road for the diversion of traffic to the Railway Station.

6. Creating a new Landmark for improved legibility.

7. Constructing a new activity spaces and open plaza for increasing local activities and good breathing spaces.

8. Redeveloping of water-bodies with new activities and jogging pathway and establishing connections with the street and water edge.

9. Constructing a Step-Garden and Play Ground for more activities of children and local peoples.

10. Constructing a Clinic for medical and health purpose.

11. Relocating the existing Construction Material shops for creating parking and street planters.

12. Constructing the food stall under the fly-over space.

13. Redeveloping the mixed used buildings beside the main road.

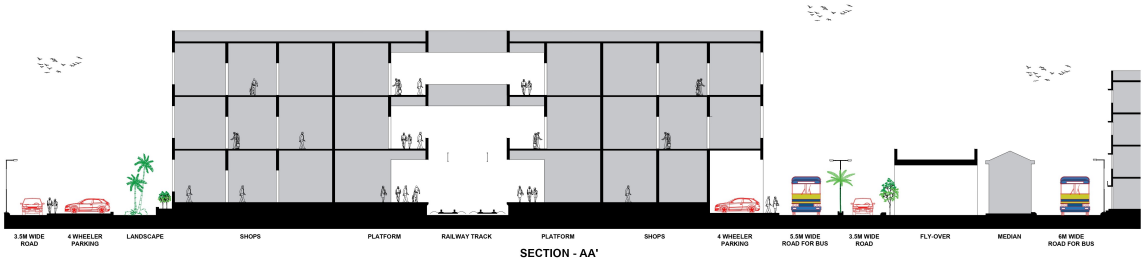
14. Creating a food plaza over the station building.

MAIN ENTRANCE OF JADAVPUR STATION AND MARKET COMPLEX

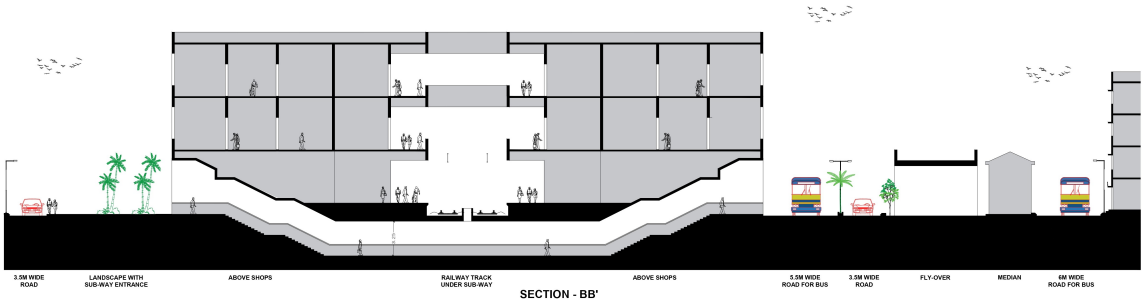
PROPOSED BUS & 2 WHEELER PARKING AREA UNDER THE MARKET COMPLEX

PROPOSED 4 WHEELER PARKING AREA UNDER THE MARKET COMPLEX BUILDING

PROPOSED STATION WITH MULTISTOREYED MARKET COMPLEX BUILDING



PROPOSED SECTION THROUGH MULTI-STORYED BUILDING AND STATION ROAD



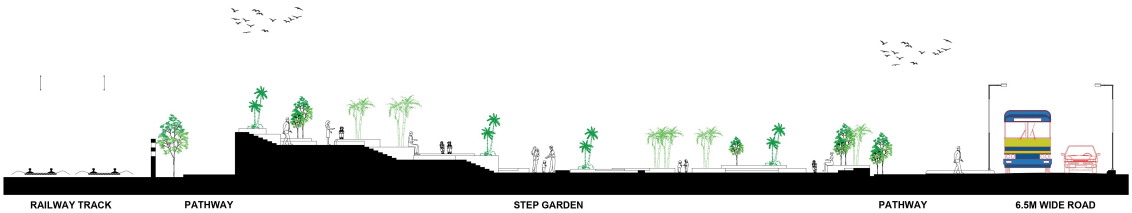
PROPOSED SECTION THROUGH MULTI-STORYED BUILDING & UNDERGROUND SUBWAY

PROPOSED SUBWAY UNDER MULTI-STOREYED MARKET BUILDING

PROPOSED LANDMARK IN FRONT OF THE MARKET COMPLEX BUILDING

PROPOSED OUTSIDE 4 WHEELER AND BUS PARKING AREA

PROPOSED STEP GARDENING AREA FOR PUBLIC USER



SECTION - DD'

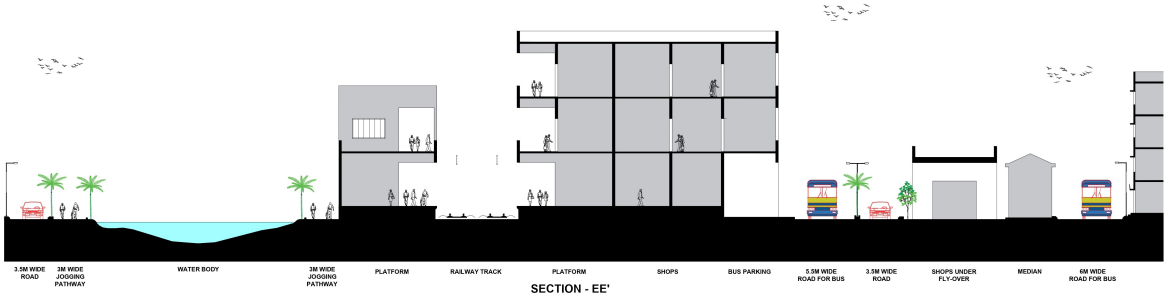
PROPOSED SECTION THROUGH STEP GARDEN AND GARFA MAIN ROAD

PROPOSED KIOSKS (FOOD STALL) NEAR THE BUS STAND

PROPOSED OPEN PLAZA WITH OUTDOOR DISPLAY AND FOOD STALL

RENOVATION EXISTING WATER BODY AND PROPOSED 3M WIDE JOGGING TRACK AROUND THE WATER BODY WITH LAKE FACING SEATING ARRANGEMENT AND FOOD STALL.

PROPOSED JOGGING PATHWAY AND SEATING ARRANGEMENTS PLACED AROUND THE LAKE WITH A SMALL KIOSK



SECTION - EE'

PROPOSED SECTION THROUGH WATER BODY AND STATION BUILDING

PROPOSED ENTRANCE OF SUB-WAY

PROPOSED OPEN FOOD PLAZA ABOVE THE STATION BUILDING, WHERE IS PRESENT WATER BODY VIEW.

PROPOSED ACTIVITY SPACE AND OPEN PLAZA WITH FOOD STALLS AROUND BEHIND THE EXISTING PLAY GROUND

PROPOSED RAILWAY STATION IN GROUND LEVEL OF THE COMPLEX BUILDING

PROPOSED FOOD COURT WITH SHOPS & MARKET AREA AT UPPER LEVEL

PROPOSED SHOPS AT UPPER FLOOR WITH CONNECTING BRIDGE BETWEEN TWO BLOCKS/UNITS.

PROPOSED LANDMARK WITH THE MULTI-STORIED MARKET COMPLEX

EXISTING WATERBODY WITH THE MULTI-STORIED MARKET COMPLEX

PROPOSED FOOD STALL WITH BUS STAND

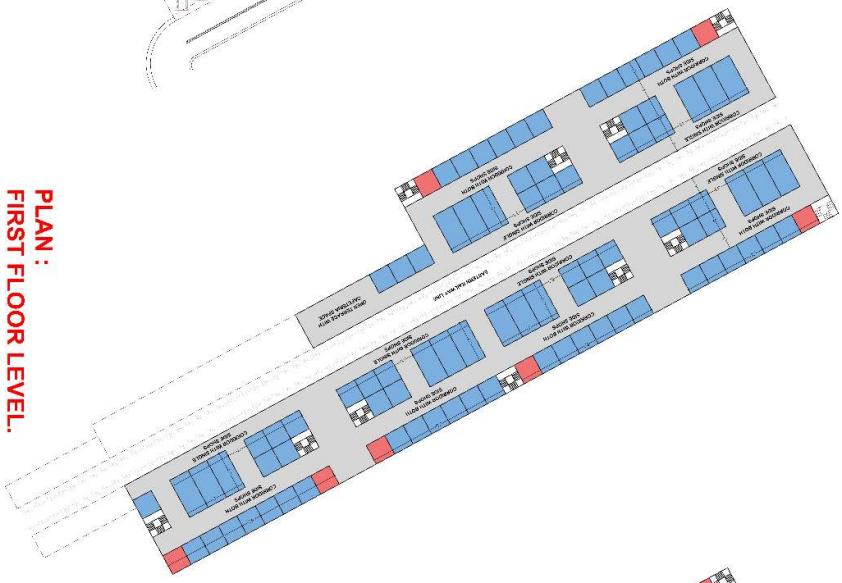
PROPOSED ENTRANCE OF RAILWAY STATION WITH PROPOSED ROAD

OVERALL VIEW OF THE PROPOSED SITE

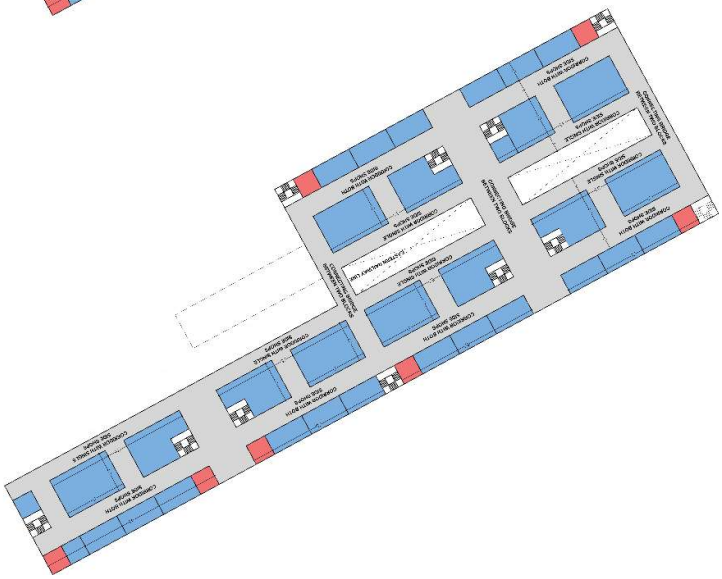
Planning of Proposed Multi-storied Market Complex Building:

PLAN : GROUND FLOOR LEVEL.

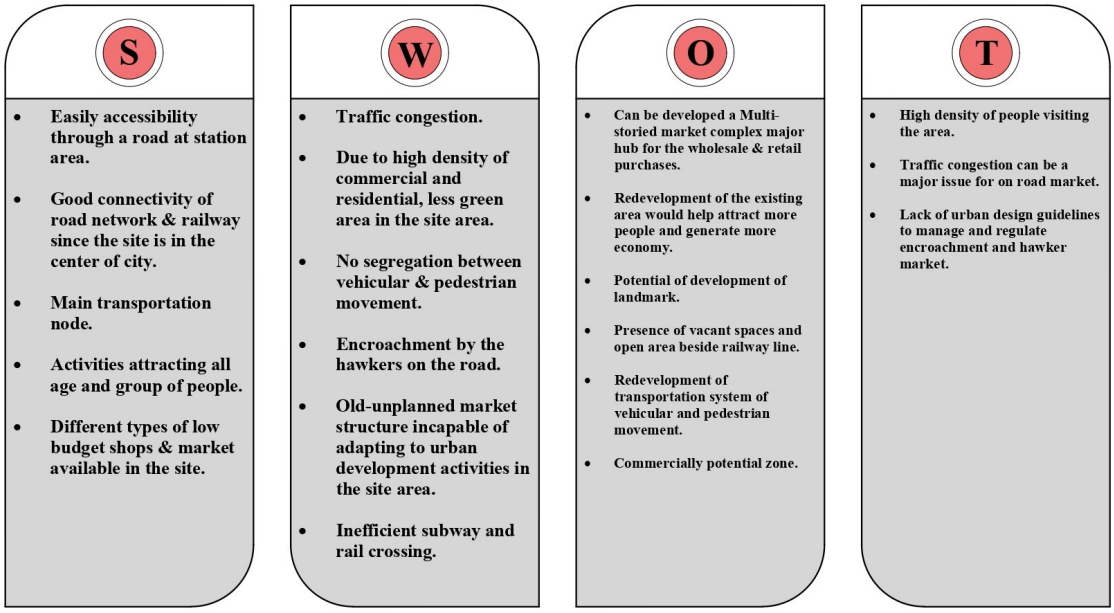
PLAN : FIRST FLOOR LEVEL.



PLAN : SECOND FLOOR LEVEL.



SWOT Analysis:



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 for residential buildings.
5. Increase the visual permeability of the place.
6. Provide the basis amenities like seating, lighting and tracking.
7. Relocate the retail and wholesale shops in the proposed market complex not anywhere of the area.

9.0. CONCLUSION

CONCLUSION:

1. A properly planned Traffic Node (Road Junction) helps in properly controlling the daily traffic movement, reducing congestion and problems for the public. Same in the case for Railway Junction.

2. Reorganization of the existing market by a proposed Central Market Complex will be helpful in a proper traffic movement as well as redefine the identity of the place.

3. Sustainable development for future generations.

4. After complete the Kalikapur Road will increase the daily commuter footfall to multiple folds and as a result increase the pressure on the city and the citizens, hence proper urban planning and development system can have very important positive impacts on the functioning of the city and traffic.

10.0. REFERENCES

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- THANK YOU -

Subhamay Chakraborty

Roll No. 002210202009

M.Arch, Urban Design

Department of Architecture, Jadavpur University, Kolkata

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