A Postgraduate Thesis Report on

Urban Development around an Ancient Settlement, Case Application: Chandraketugarh, West Bengal, India

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Declaration

I certify that

a. The work contained in the thesis is original and has been done by myself under the supervision of my supervisor.

b. The work has not been submitted to any other Institute for any degree or diploma.

c. I have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.

d. Whenever I have used materials (data, theoretical analysis, and text) from other sources, I have given due credit to them by citing them in the text of the thesis and giving their details in the references.

e. Whenever I have quoted written materials from other sources and due credit is given to the sources by citing them.

f. From the plagiarism test, it is found that the similarity index of whole thesis within 25%.

Date: 14th June, 2023

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Chapter 1: Introduction

1.1 Abstract

Ganga – Sindhu – Bhahmaputra, these three rivers along with their innumerous tributaries and branches of this sub-continent have given us a series of civilizations for 5000 years and with time they got destroyed, decayed due to change in course of river, natural calamities and other mishaps. Some got rebuilt, some got discovered and few remained unknown. But when some get discovered yet unnoticed, unheard even after having a historical lineage of more than 1000 years, it's a tragedy. One such urban heritage is Chandraketugarh. It is just an hour drive from the 'city of joy', with a decorated past, still unheard of. Though its an ASI site for more than 5 decades, still neither the excavation work nor the area got developed as it should be. It can be a bigger tourist destination if the urban development takes place. Being a responsible habitat of this region and an urban designer, I challenged myself to design a solution to make people aware of this heritage as well as developing it as a tourist destination.

1.1.1 Area of Research:

Urban Development: Urban development means development which is not of a rural character and is differentiated from rural development by its scale, intensity, visual character and dominance of built structure.

Activity Centre: In Urban design, areas with concentrated commercial and other land uses can be termed as activity centre

Public Space: A Public Space is a place that is generally open and accessible to people. Roads, public squares, parks and beaches are typically considered public space. A public space is a place that is generally open and accessible to people.

Transportation Infrastructure: Transportation Infrastructure is the underlying system of public works designed to facilitate movement.

Built Form: Built form refers to the function, shape and configuration of buildings as well as their relationship to streets and open spaces.

Connectivity: Connectivity is about the structure of the street network.

Keywords: Urban Development, Activity Centre, Public Space, Transportation Infrastructure, Built form, Connectivity

1.1.2 Area of Interest:

Archaeological Site: An archaeological site is a place in which evidence of past activity is preserved, and which has been, or may be, investigated using the discipline of archaeology and represents a part of the archaeological record. Ex: Nalanda, India

Ancient Settlement: A place or region settled in distant past especially to the period in the history before the end of the Roman Empire. Indus Valley Civilization, Mesopotamia

Urban Heritage: Commonly, urban heritage is defined as the layers of historical, physical remains that constitute contemporary urban areas, that is, the built heritage with

architectural and historical value or the “monuments” of a city. Ex: Historical buildings and garden, vernacular architecture, social practices, rituals and festive events

Landmark: An object that provides external points of orientation, usually an easily identifiable physical object in the urban landscape

Leisure and Entertainment: Leisure is the time when one is not working or occupied: free time. Entertainment is the action of providing or being provided with amusement or enjoyment.

Keywords: Archaeological Site, Ancient Settlement, Urban Heritage, Landmark, Leisure and Entertainment

1.1.3 Finalization of the Thesis title

Urban Development around an Ancient Settlement: Case Application at Chandraketugarh, West Bengal

1.2 Aim

The aim is to study the urban development pattern of a historic Settlement, establishing a set of guidelines that would enhance its urban development ensuring the survival of its historical essence.

1.3 Objective

To deliver a logical solution for urban development of a case example of ancient settlement, the main objectives would be

- To study the urban development of historic settlements
- To establish a relationship between urban development pattern and ancient settlement
- To develop a strategic framework to evolve urban design guidelines and regulations to guide future

  urban development
- To apply these guidelines in order to develop an alternative balanced development

1.4 Scope of Work

To make this region an attraction to the tourist as well as the overall development for the local habitat's these are the parameters we should look into:

- Revival of the Ancient Urban Connectivity
- Urban development around Archaeological site
- Creating a Tourist District
- New Awareness Centre as the Node of the three Landmarks
- Development of Access Roads
- New Water Channel to recreate the River Port
- Proper Pedestrian Way
- Cycle Stand and Cycle Track
- Bus Shelter to link the city with the site
- Battery run public vehicles stand to move around the site to minimize the pollution
- Convention Centre, Library near to both the Archaeological Site and The Existing Museum
- Tourist Plazas and Food Court
- Commercial Area

1.3 Methodology

The strategies to deliver a successful solution need few steps to be followed:

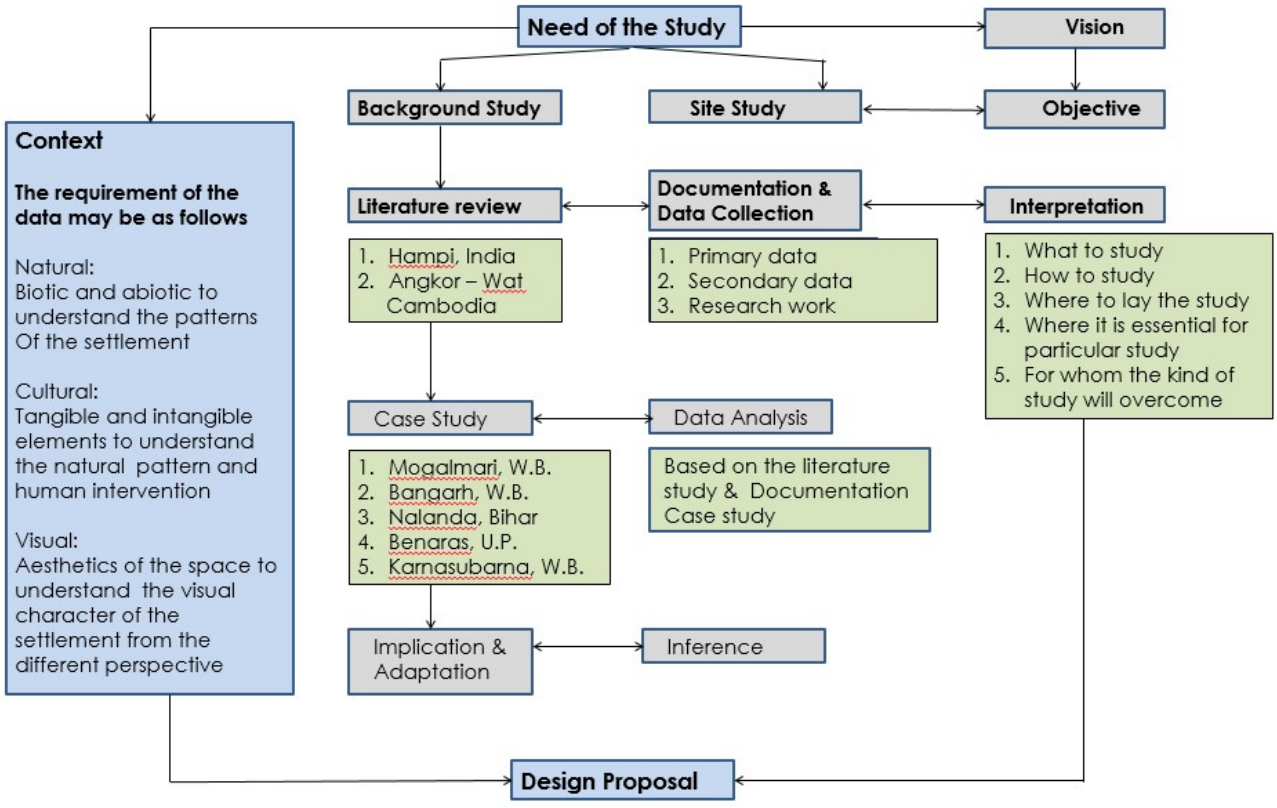


Figure 1: Methodology Chart (source: author)

1.4 Feasibility

- First mention of Chandraketugarh was in Ptolemy's Geographia book as a river port which used to trade muslin to Europe (A region belonged to King Chandraketu / Sandrakottas) [3]
- That trade route was operational even before Maurya Period and was an ancient urban settlement, named as Gangaridai (Anga-Banga-Kalinga)
- This region is considered as the post Harappan civilization on the Ganges basin
- It was a very famous and prominent trade route for a long time

Image 1: Ancient day Eastern India map (source: [3])

- This region had the famous construction of " Khana- Mihirer Dhipi" – Varahamihir, the gem from Vikramaditya's Court of Gupta Dynasty
- This river port was operational till Islamic Period During Islamic and Mughal period this region lost its glory, started growing in uncontrolled manner, due to change in course of river lost the trading heritage, became rural zone
- In the starting of 20th Century, the excavation work been started
- ASI has been taken this site and still excavation is in process
- This ASI site is very lesser known heritage of our country
- That ancient route and glory which can be a bigger tourist attraction, should be revived
- That can be a means of earning for the local people as well as can be earned revenue through this for the state as well

চন্দ্রকেতুগড়ে বাংলার প্রাচীন মুখের আশায় অমর্ত্য

আনন্দবাজার পত্রিকা

Newspaper cutting 1: Article on Chandraketugarh (source: Internet)

Chapter 2: Literature Study (Preliminary Research)

2.1 Theories

Definition:

Urban Development: Urban development means development which is not of a rural character and is differentiated from rural development by its scale, intensity, visual character and dominance of built structure.

Types of Urban Development:

- Strategic Urban Planning : Strategic urban planning focuses on setting high-level goals and determining desired areas of growth for a city or metropolitan area.
- Land-Use Planning.
- Master Planning.
- Urban Revitalization.
- Economic Development.
- Environmental Planning.
- Infrastructure Planning.

Importance of Urban Development:

- By getting urban development right, cities can create jobs and offer better livelihoods;
- Increase economic growth;
- Improve social inclusion; promote the decoupling of living standards and economic growth from environmental resource use;
- Protect local and regional ecosystems;
- Reduce both urban and rural poverty;

Image 2: Urban Development

Image 3: Principles

Image 4: Archaeological site (source: Internet)

2.2 Definition:

Ancient: A place or region settled in distant past

Settlement: A place, typically one which has previously been uninhabited, where people establish a community

Types of Ancient Settlement:

- Isolated,
- Dispersed,
- Compact
- Semi Compact
- Nucleated, and
- Linear

Characteristics of Ancient Settlement:

- Cities,
- Government,
- Religion,
- Social structure,
- Writing and
- Art

Ancient River based Settlement:

- Indus Valley
- Chinese Civilization
- Nile Valley
- Mesopotamia
- Mesoamerica
- Andean

Already Developed Ancient Urban Development:

- Angkor – Wat, Cambodia
- Mbanza Kongo, Vestiges of the Capital of the former Kingdom of Kongo
- Imperial Palaces of the Ming and Qing Dynasties in Beijing and Shenyang
- Rome, Italy
- Istanbul, Turkey
- Hampi, India
- Orcha, India

Undeveloped Ancient Settlement in India:

- Sandhayi Village, Haryana
- Ballal Sen's Dhipi, Malda
- Chandraketugarh, 24 Pargana (N)

2.3 Parameters of the Study (Urban Development):

- The Urban structure : The fundamental element of Urban Development
- Urban grain : The Pattern of the urban blocks
- Urban density : The ratio of built and open spaces
- Urban height and massing : The basic height (skyline) of the urban space and the density of the built space
- Urban landscape : The ratio of open spaces with flora and fauna, type of soil, topography
- Urban façade : The type of elevation, pattern and materials used in the buildings
- Public realm : The accessibility of public spaces
- Civil engineering : Type of constructions

2.4 Development of the ancient city of Angkor (Angkor – Wat)

Description:

- Angkor Wat is a large religious monument in Cambodia, a temple complex precisely, a site measuring 162.6 hectares (1,626,000 m2; 402 acres).
- Initially it was a Shaiva Tradition, but the Khmer Empire transformed the temple into Vishnu temple. [12]
- In early 12th century it was built by the Khmer King Suryavarman II in Yaśodharapura, the

  capital of the Khmer Empire. It was his state temple and eventual mausoleum.

Observation:

- Angkor Wat combines two basic plans of Khmer temple architecture: the temple-mountain and the later galleried temple. It is designed to represent Mount Meru, home of the devas in Hindu mythology: within a moat more than 5 kilometres long and an outer wall 3.6 kilometres long are three rectangular galleries, each raised above the next.
- At the centre of the temple stands a quincunx of towers. Unlike most Angkorian temples, Angkor Wat is oriented to the west; scholars are divided as to the significance of this. The temple is admired for the grandeur and harmony of the architecture, its extensive bas-reliefs, and for the numerous devatas adorning its walls.

Inference:

- As the best-preserved temple at the site, Angkor Wat is the only one to have remained a significant religious centre since its foundation. The temple is at the top of the high classical style of Khmer architecture. It is one of the most important pilgrimage sites for Buddhists in Cambodia and around the world having played a major role in converting Cambodia into a Buddhist nation. It has become a symbol of Cambodia, appearing on its national flag, and is the country's main tourist attraction.

Image 5: Angkor district plan (source: Internet)

Image 6: Archaeological remains (source: Internet)

Image 7: Angkor District Development Plan (source: Internet)

2.5 Development of the ancient city of Hampi, Karnataka

Description:

- Hampi was the capital of the Vijayanagara Empire in the 14th century.
- It is a fortified city. Chronicles left by Persian and European travellers, particularly the Portuguese,

  Hampi was a prosperous, wealthy and grand city near the Tungabhadra River, with numerous

  temples, farms and trading markets. [13]

Observation:

Development of Hampi:

- Core, Buffer and Peripheral zone Development
- Development of Virupaksh Temple and Market Complex
- Development of Krishna Temple, market, Narasimha and Linga
- Achyutaraya temple and market complex
- Vitthala temple and market complex
- Hemakuta hill monuments
- Hazara Rama temple
- Kodandarama temple and riverside monuments
- Pattabhirama temple complex
- Mahanavami Platform, public square complex
- Water Infrastructure, Fountains and community kitchen etc.

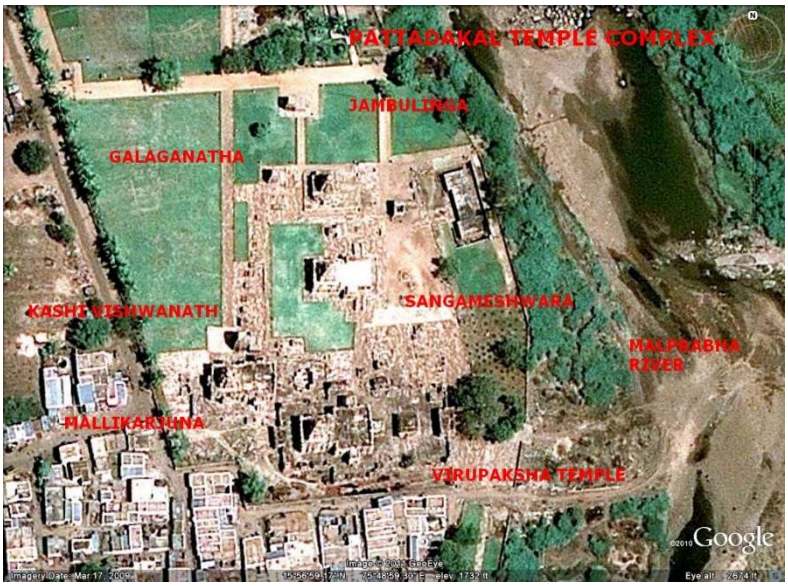


Image 8: Hampi District Development Plan (source: Internet)

Image 9: Hampi Archaeological remains (source: Internet)

Image 10: Hampi Archaeological remains (source: Internet)

ASI Site Rules for Urban Development [1] [2]

- AMP Act : Ancient Monument Preservation Act (1904)
- AMASR Act : Ancient Monuments and Archaeological Sites and Remains Act (1958) :
- No monument to be touched or reconstructed but preserved
- It prohibits any construction around 100m radius of the protected site.
- No permission for any construction even for publics buildings (amendment 2010)
- Only Government can use the place for infrastructure (amendment 2017)
- 4 key factors : Landform, surface water, soil and vegetation, mineral deposits to be kept in mind while designing as that should not be changed
- ASI imposed preservation rules to be prevailed

Dimensions from Code

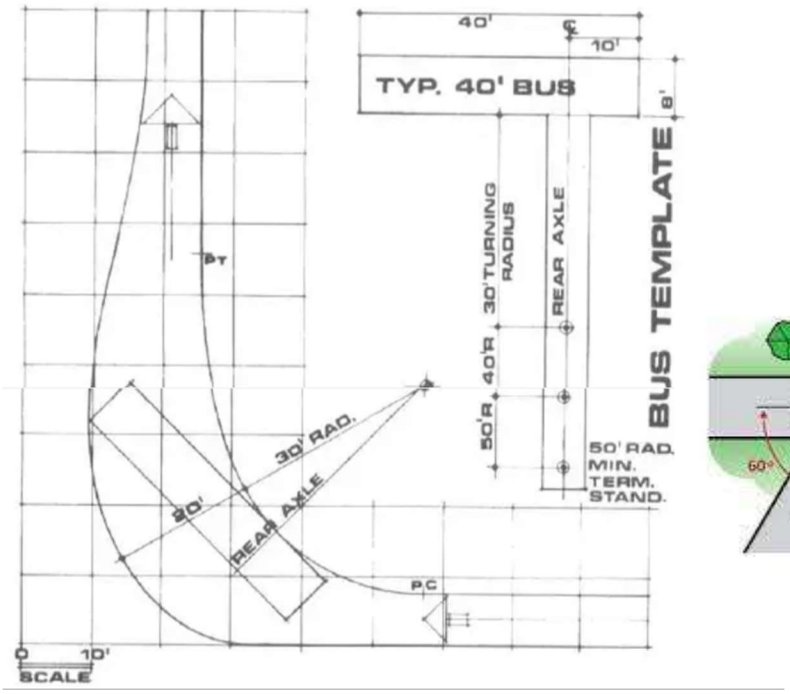


Image 11: Bus turning radius at Bus Terminal (source: [4])

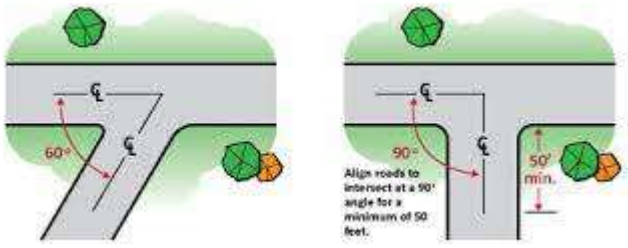


Image 12: Highway to city Diversion angle (source: Internet)

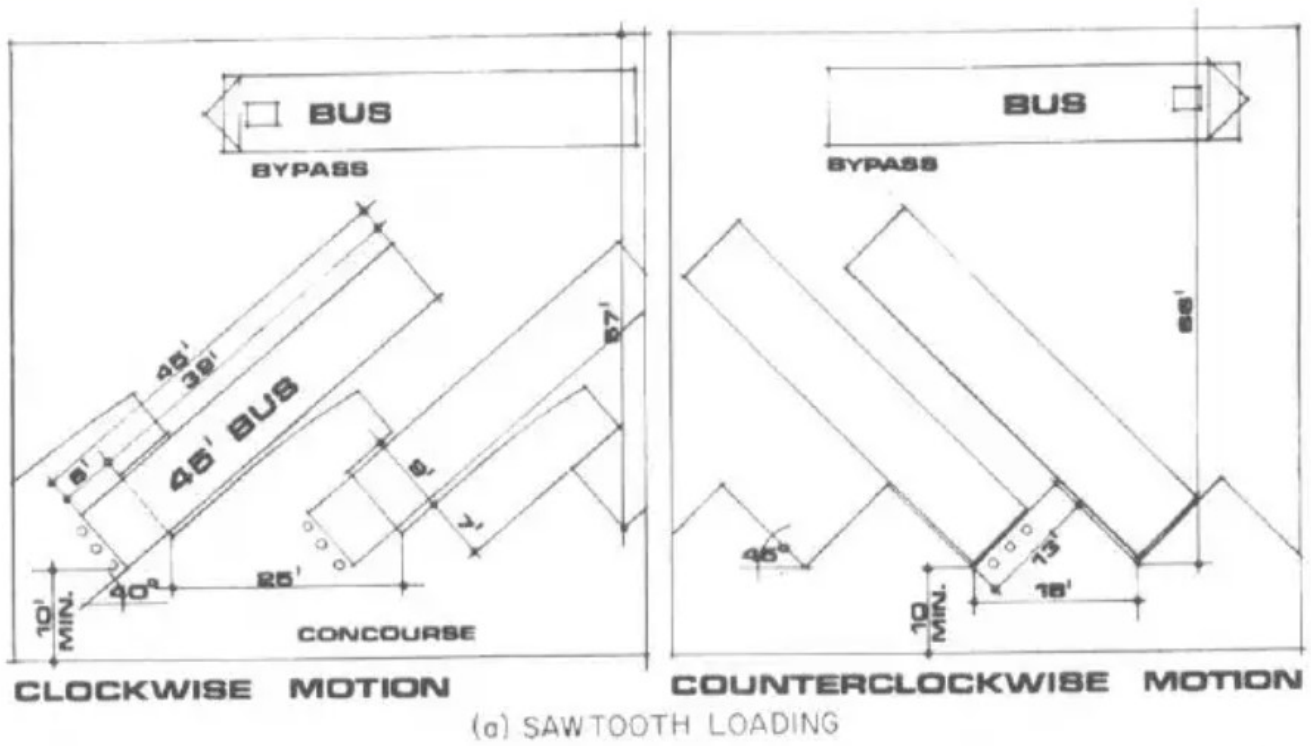


Image 13: Bus parking standard dimension at Bus Terminal (source: Internet)

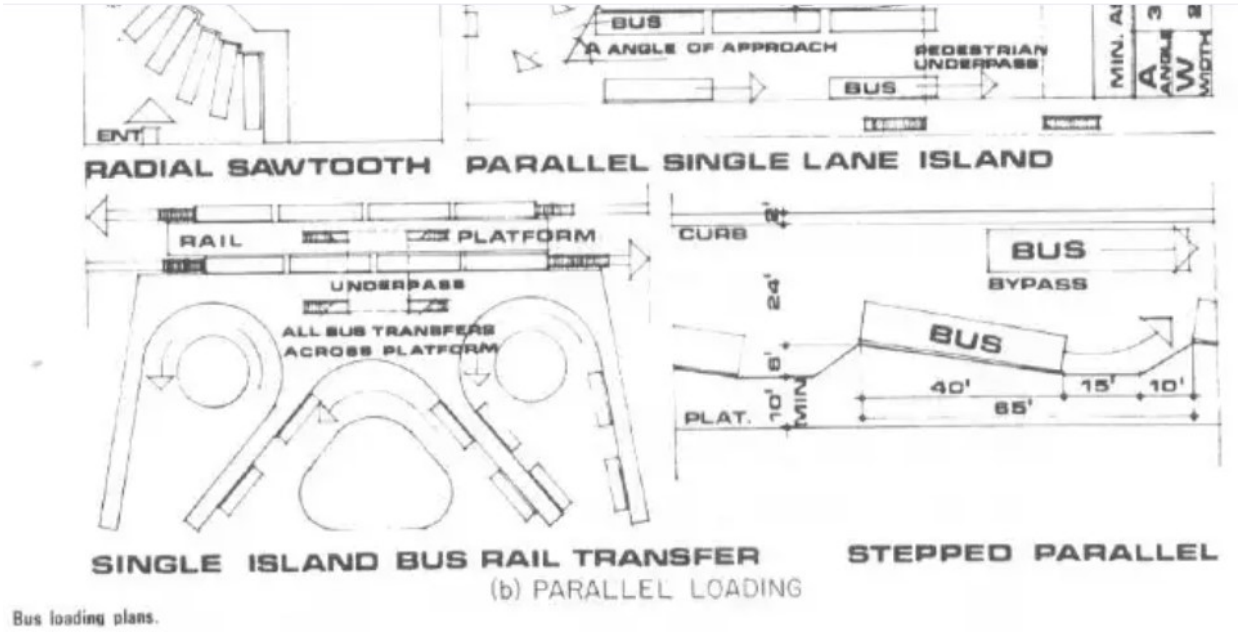


Image 14: Different turning radii (source: [4])

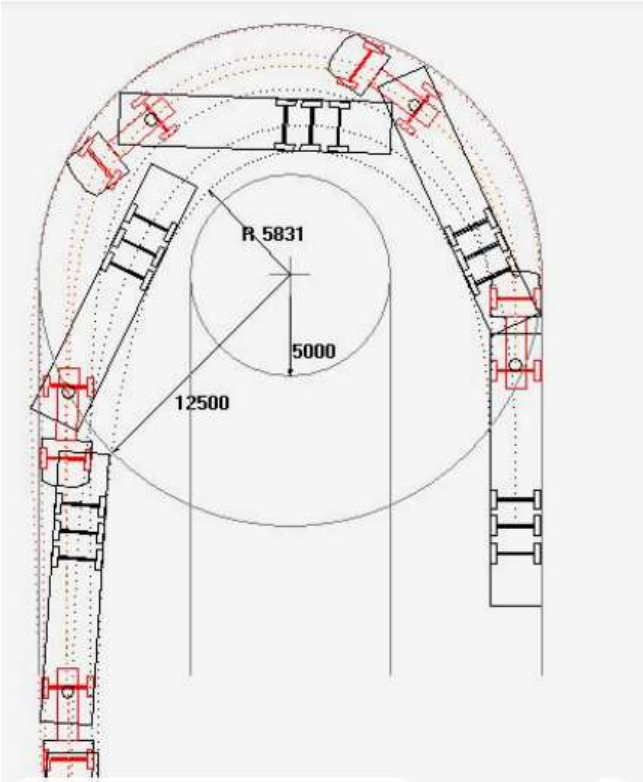


Image 16: Different turning radii (source: Internet

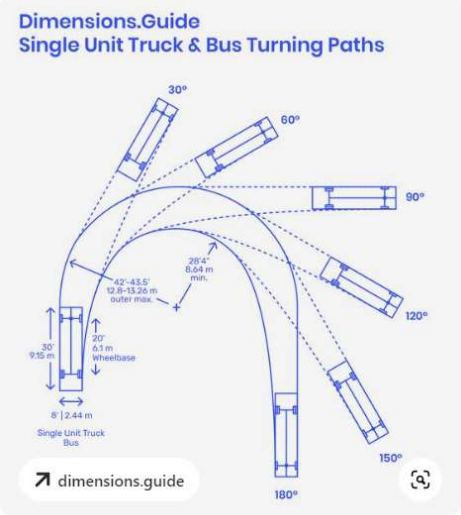


Image 15: Different turning radii (source: Internet)

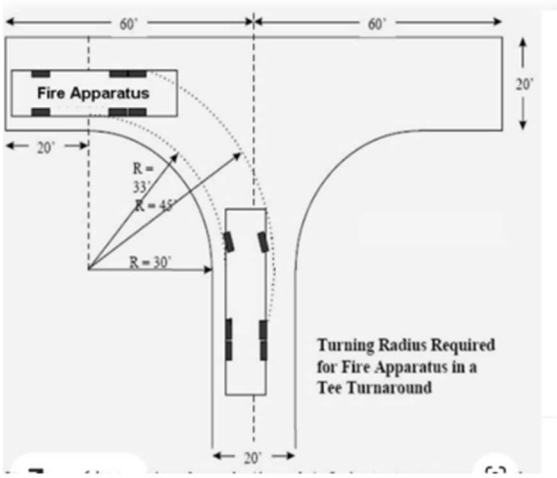


Image 17: Different turning radii (source: Internet)

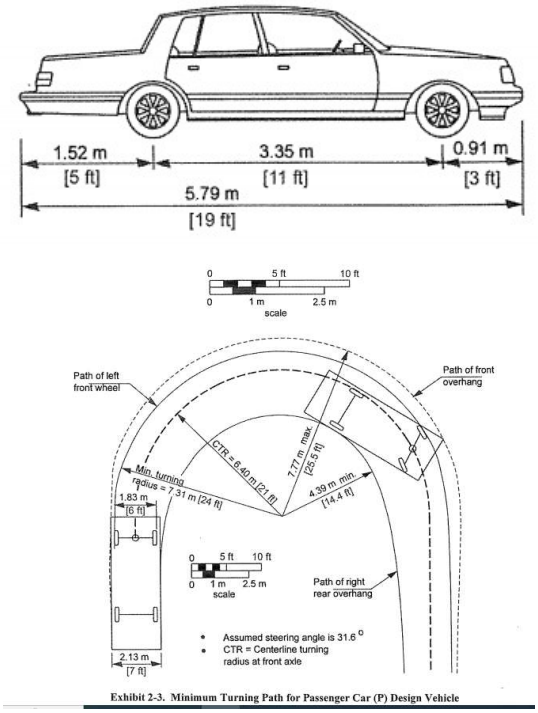


Image 18: Different turning radii (source: Internet)

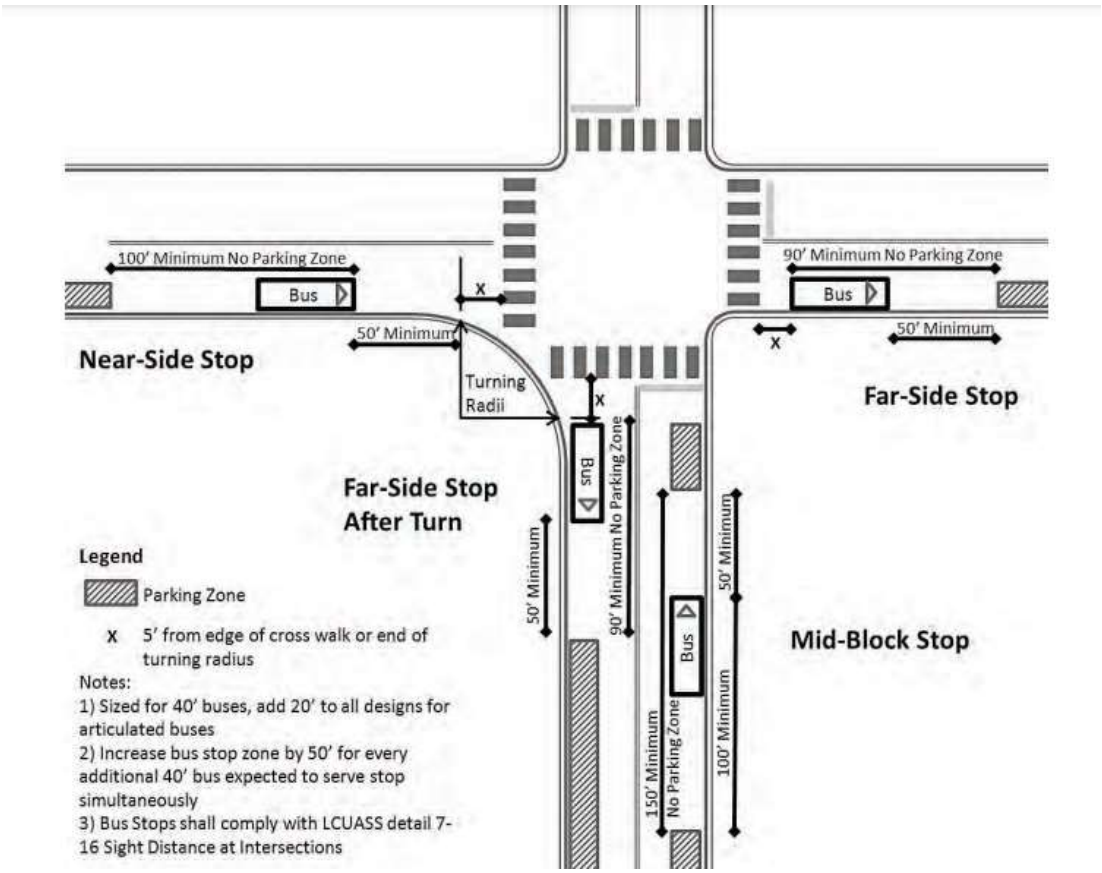


Image 19: Different turning radii (source: [4])

Chapter 3: Case Study

3.1 Nalanda, Bihar

Location: Nalanda is 16 kilometers away at the north of the city of Rajgir and 90 kilometers away at southeast of Patna, the Capital of Bihar

History of Ancient Nalanda

- One of the oldest University of India
- Was a prosperous city
- A major trade route went through the town
- Had a historical significance since 6^{th} Century BCE
- Datable information since Faxian visited (described about a stupa)
- Post Gupta era became a Vihar as per Xuanzang
- The town was surrounded by a brick wall
- In 673 CE as per Yijing , the maintenance cost of the town used to come from the revenue of 200 villages around
- 8^{th} – 12^{th} Century AD during Pala Dynasty this Buddhist Vihara became the icon of the cultural legacy

Development of Ancient Nalanda

- 800 years later this town got the opportunity to be revived
- Archaeological remains of Nalanda Mahavihara were systematically unearthed and preserved simultaneously
- New gateway for the university
- Typical temples got similar treatment and texture from outside
- Tourism aspect became significant
- Different museum : Archaeological, Xuanzang memorial, multimedia museum have been introduced

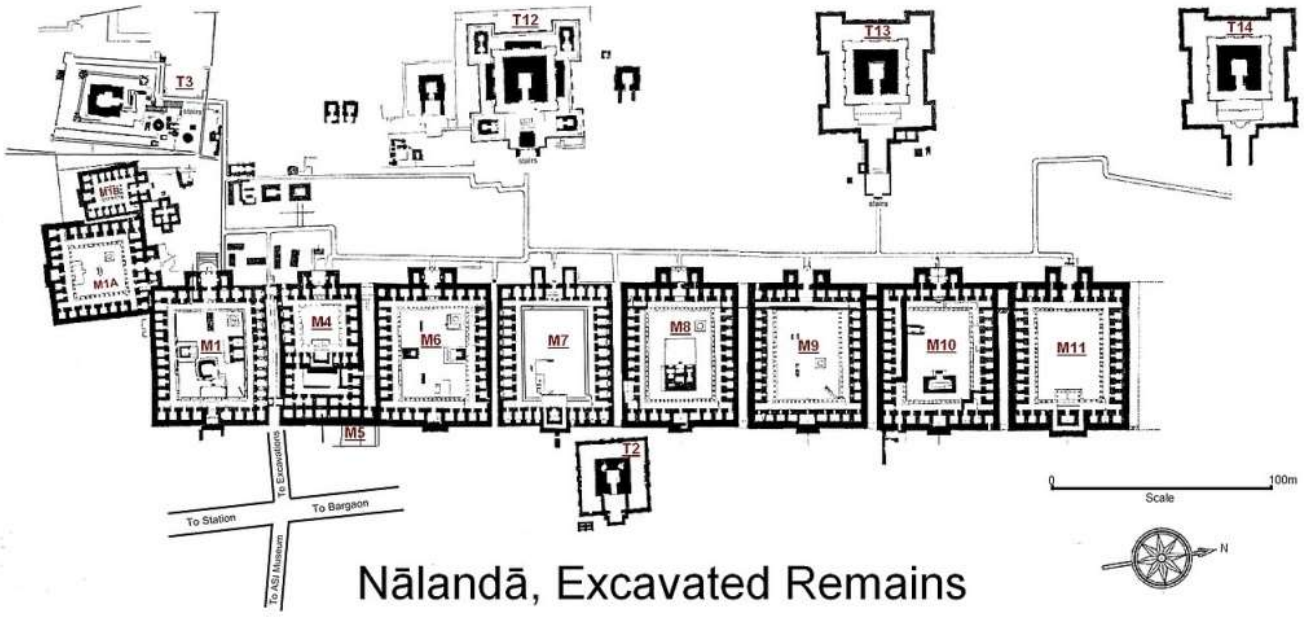


Image 20: Nalanda District Image (source: Internet)

Image 21: Nalanda District Image (source: Internet)

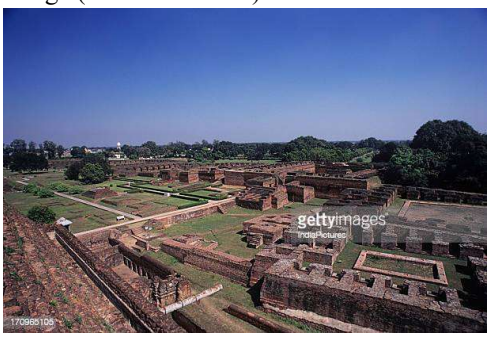


Image 22: Nalanda District Image (source: Internet)

Image 23: Nalanda District Image (source: Internet)

Image 24: Nalanda District Image (source: Internet)

Image 25: Nalanda District Image (source: Internet)

Chapter 3 : Case Study

3.2 Mogalmari, West Midnapore, W.B

Location : Mogalmari is about 45 kilometres away from Kharagpur, District Headquarters of Midnapore, W.B.

History of Ancient Mogalmari

- One of the oldest Bouddha Vihara of India
- On the bank of river Subarnarekha
- Buddhist monastery of 6^{th} -12^{th} Century
- Xuangzang visited this monastery
- It had a monastery and Sakhisenar Dhipi
- The entire region had stucco decoration
- Fifth phase of excavation revealed a massive south wall
- 40 relics were discovered on a single day

Development of Mogalmari

- It’s a rural development
- Roads are well defined, though no prominent edge is there
- The tribal village around the Archaeological site has been developed
- Primary school and prayer hall (small church) has been made
- Few other amenities has been designed
- A museum inside the ASI site has been made to display the excavated artefacts

Image 26: Mogalmari Entry point

Image 27: Access to Mogalmari ASI site

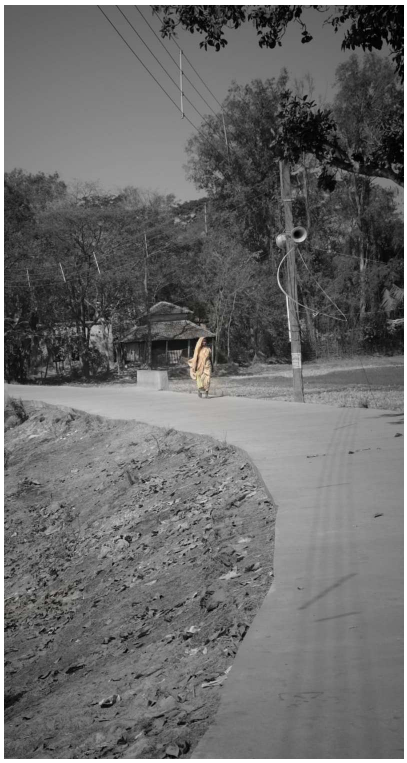


Image 28: Village Road

Image 29: Mogalmari ASI site boundary

Image 30: Museum at Mogalmari ASI site

Image 31: Village Church right beside Mogalmari ASI site

Image 32: Mogalmari ASI site boundary (Image source: Author)

Chapter 3: Case Study

3.3 Pompeii, Italy

Location: 2000 years ago Pompeii, a city full of crowd and events, was located at the southern part of present day Italy, 200Km away from Rome towards south

It's a present day World Heritage Site, where the archaeological activities are still running and it's a tourist's day trip destination

History of Ancient Pompeii

- Pompeii was resort city since 5th century AD of the Roman emperor, situated in the ancient Rome. It was at the coast of Italy in the shadow of Mount Vesuvius [5]
- In the summer of 79 AD, the volcano of Mount Vesuvius started erupting which destroyed the city completely
- Ancient Pompeii was a planned city with Grid patterned road formation and building blocks with military camps and forts like other Roman cities though its original heritage was Greek which over time came into Roman dynasty
- Pompeii had the elaborated Roman grid planning like Cesena, Padua or Florence.
- The streets, canals, agricultural plots and public spaces were laid out along geometric lines which shows the ordered arrangement of the regular square grid layout of Roman design formula like other significant Roman cities.
- However Pompeii was exceptional as it was a unique example of Roman urban planning as it incorporated the ideas of traditional grid-style planning but in a more organic forms.
- In the fifth century when Pompeii was overrun by Samnites, the greatly expanded the original settlement and gave the city centre a monumental shape.
- It had been open to eastern influence. The town was encompassed by a wall featuring several gates often with two or three arched entrances to delineate pedestrian and vehicular traffic movement like a traditional Roman city.
- Previously the town was used by the Greeks for the transportation of their shipment and base for agriculture.
- Inside the wall the city had spacious paved streets in a regular layout though there were no street or building names and numbers. The roads had heavy flagstone pavements, sidewalks and stepping stones to allow pedestrians to cross the street without having to step in puddles, while allowing the vehicles also passing through the town to straddle them.

- The town had a vast segment of building types from large elaborate villas to small domestic houses, shops to workshops, temples to exercise grounds, baths, public latrines to markets and taverns and a basilica and theatre.
- The city had several shrines of deities which was discovered during 18th Century AD
- Thus, Pompeii had all the amenities one would expect to find in a thriving and prosperous community.

Development of Ancient Pompeii

- The remains still exist at the Bay of Naples, Italy
- The ruins have been kept intact
- Few partly destroyed buildings have been reconstructed the same way
- Massive Archaeological site
- An UNESCO Heritage site
- Have become a great tourist attraction
- Underdeveloped eastern part, central monument and thousands of building ruins are still conserved
- Streets, statues, paintings and mosaics
- Provides unique information of society and culture of ancient era

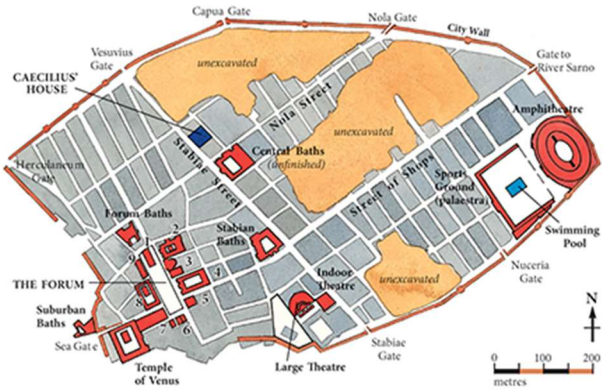


Image 33: Pompeii District Image (source: Internet)

Image 34: Pompeii District location (source: Internet)

Image 35, 36, and 37: Pompeii District Image (source: Internet)

Chapter 4: Site Study

4.1 Site Background

Historical Lineage of Chandraketugarh [7]

- King Chandraketu / Sandrokottas : A king of Anga Desh (Anga – Banga – Kalinga) in 4th (3rd) Century BCE, Pre Mauryan Era (From Megasthenes 's document) (350-290 BCE)
- A description by Diodorus Siculus (90-30 BCE) during Alexander's era says about the Ganges and its greater depth and width, which was flowing from north to south and emptied at the ocean, the region was at the north of Kalinga
- Khana – Varahamihir (Navaratna, King Vikramaditya) : 6th Century CE
- Claudius Ptolemy (100-170 AD), Geographia : Part of the trade route, on the bank of Vidyadhari River, part of Gangaridai Kingdom (By Megasthenes, Gange in Periplus of the Erythrean Sea).
- Lineage of this region started in Pre Mauryan Era (300-200 BCE) lasted till Pala - Chandra – Sena Era (750-1250 CE)
- As per the Periplus of the Erythrean Sea, the Greek seamen used to trade through this route to Muziris, mostly fine pearls, silk clothes and spikenard would be exported in great quantities.

Image 38, 39, 40 and 41: Ancient maps of Eastern India (source: Internet)

- The ancient site was near the ancient river Bidyadhari [10]
- The Ancient settlement lost its glory before Muslim Era started
- Hence the older settlement was mostly of Hindu / Buddhist influence

- The old Hindu names from various sources have been marked in the map (found in the oldest map, 1751) to plot the ancient course of the river Bidyadhari as the means of access in that era was waterways only and no river course is present around the site now

- As per the Historians, the Bidyadhari had two main course
- Had several names for the courses in the different phases :
  From Northern part of Bengal till Guma, Bidyadhari
  From Guma to Haringhata, Nona Gaang / Nona Canal
  From Haroa till the Southern part (till Bay of Bengal) was Haroa Gaang
- Both the courses might have the confluence at Deganga
- As per Indian map 1751, the other stream met what we call Bhagirathi today, at Tardaha near Garia

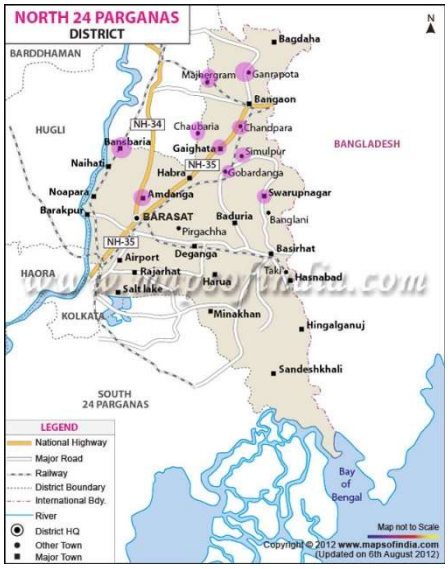


Image 42: Probable Ancient flow of Bidyadhari river (source: Internet)

- As per the historian the river Bidyadhari was the main access in the ancient city of Chandraketugarh
- The river has been changed its course and shifted to south
- The ancient course left behind few horse shoe lakes as residue
- Got filled by silt
- People started settling down
- Few natural water bodies remained

Image 43 and 44: Probable Ancient flow of Bidyadhari river (source: Internet)

- Present day Bidyadhari river flows entirely inside the delta
- It is the link between river Matla and river Raymangal
- The probable ancient course / Present day Chandraketugarh is 125 Km away from the present day river Bidyadhari

Image 45: Present day flow of Bidyadhari river (source: Google earth) Image 46: Natural Water body trails from ancient course of Bidyadhari river (source: Google earth)

Chandraketugarh in Present Days

- Due to change in course of Rivers
- During Islamic Era and British Era , this region lost its glory
- Due to less opportunity of work (since trading were disrupted)
- Cultivation became the only means of earning
- Ancient urban settlement turned into rural area after the different means of employment got destroyed
- Uncontrolled growth of population
- Sporadic and need based growth made the present situation of under developed settlement

4.2 Site Location

Location:
Chandraketugarh the ancient river port is currently situated at North 24 Pargana, (previously on the bank of Bidyadhari River), between Berachampa, Deganga, Harowa and Kareya Kadambagachi, off to Barasat – Basirhat Road

Co Ordinates:
22 Degree 41' 52" N, 88 Degree 41' 18" E

- Location : Chandraketugarh, 24 Parganas(N)
- Mouza : Berachampa 1 and 2
- Name of the Roads : Taki Road (80') and Haroa Road (72')
- Population density 2445 / Sq. Km.
- Types of soil varies from sandy to clay sandy loam being the predominant ratio of high: medium: low land is 17:33:39
- This region falls within the new alluvium sub-region of the lower Gangetic Plain (Seismic Zone-Ill) and considered being most fertile for crop production
- The primary occupation is agriculture
- Rainfall : Yearly 1525mm
- Built form and Skyline : Mostly single story , no specific design form followed
- Very minimal facilities available
- Demography of this area is 9,663 with the population density of 810 / Sq. Km. as per 2011 census
- Religion : Majority is Muslim population in Mouza Berachampa 1 and its mostly Hindus in Berachampa 2 mouza
- Type of Construction and Skyline : Mouza Berachampa 2 : Urban Area : Mostly 2 story brick house with no specific design followed
  Mouza Berachampa 1: Rural Area: Mostly mud houses and rural one story houses
- Access Roads: Main Arterial Road: West to East 26m. wide Barasat - Taki highway
  North to South 24m. wide Haroa Road station to Chakla Haroa Road

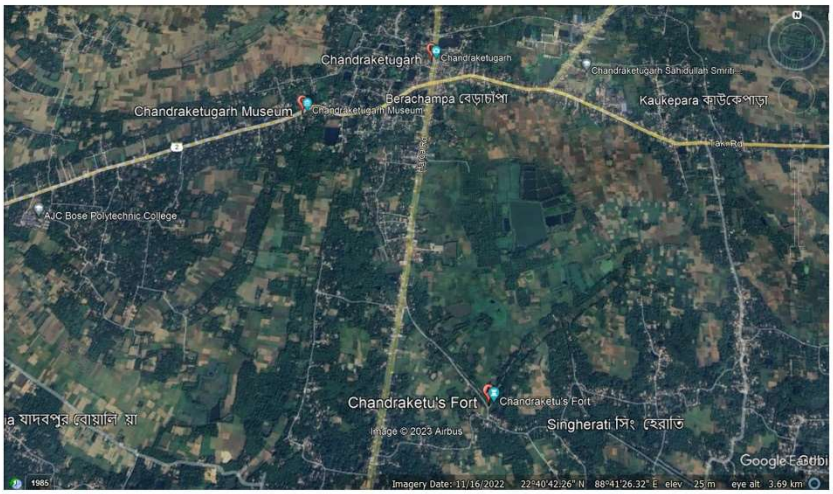


Image 47: Location of Khana – Mihirer Dhipi, Chandraketugarh Fort and The Museum (source: Google Earth)

4.3 Land Use:

Total area of Mouza Berachampa 1 and 2 is 12 Sq.Km. As per the survey the land use is:

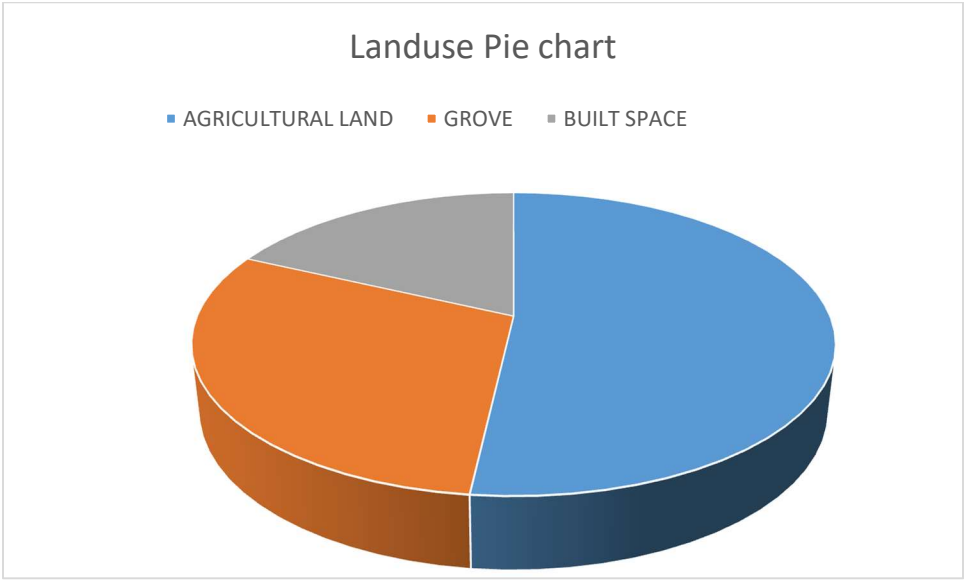


Figure 2: Land use Pie Chart (source: author)

4.4 Socio Cultural Background:

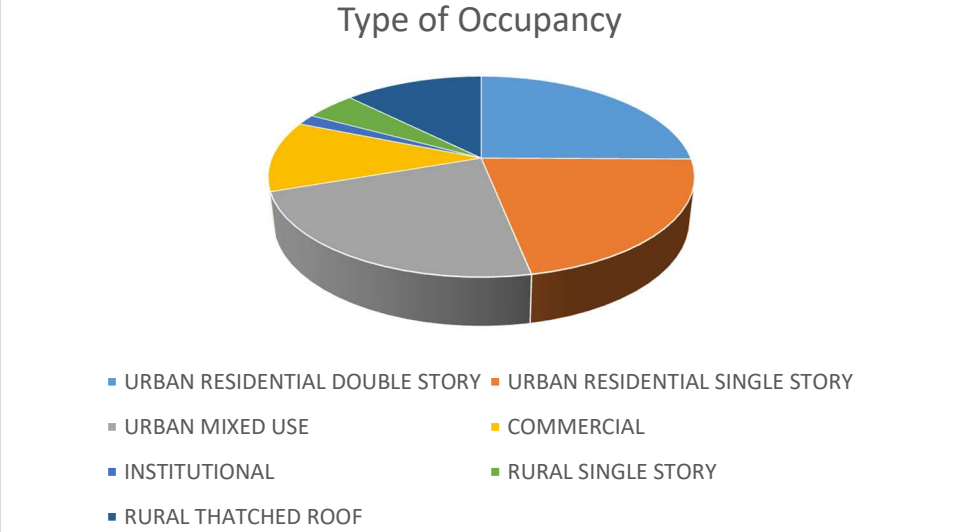


Figure 3: Type of occupancy Pie Chart (source: author)

4.5 Site Photographs

Image 48: Location of Khana – Mihirer Dhipi (source: author)

Image 49 and 50: Location of Khana – Mihirer Dhipi (source: author)

Image 51 and 52: Location of Khana – Mihirer Dhipi (source: author)

Image 53 and 54: Chandraketugarh Museum (source: author)

Image 55 and 56: Chandraketugarh Fort (source: author)

Image 57 and 58: Chandraketugarh Fort (source: author)

Image 59 and 60: Chandraketugarh Access Roads (source: author)

Chapter 5: Site Analysis

5.1 Location of the ASI Sites and Important Constructions

Image 61: Location of Khana – Mihirer Dhipi, Chandraketugarh Fort and The Museum (source: Google Earth)

5.2 Derivation of Forms

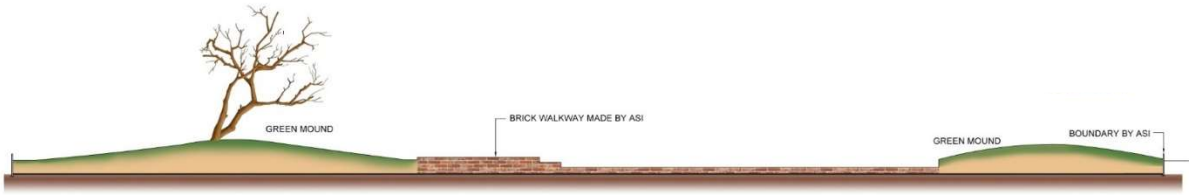
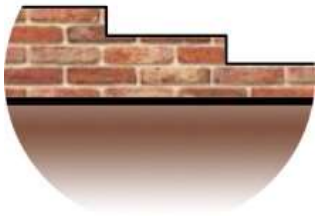


Figure 4: Section through Khana – Mihirer Dhipi (prepared by author)



Blow up for wall profile

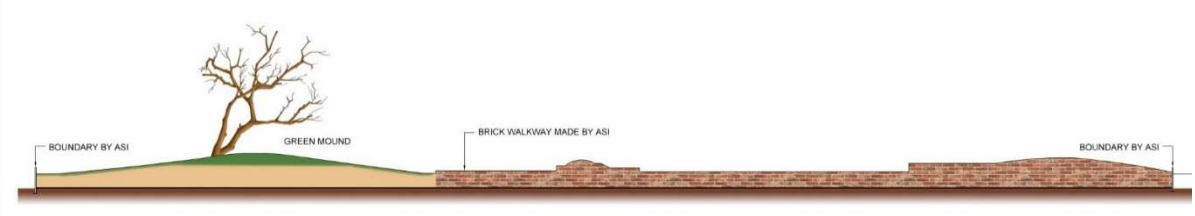
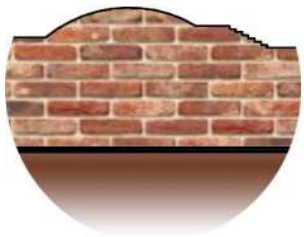


Figure 5: Section through Khana – Mihirer Dhipi (prepared by author)



Blow up for wall profile

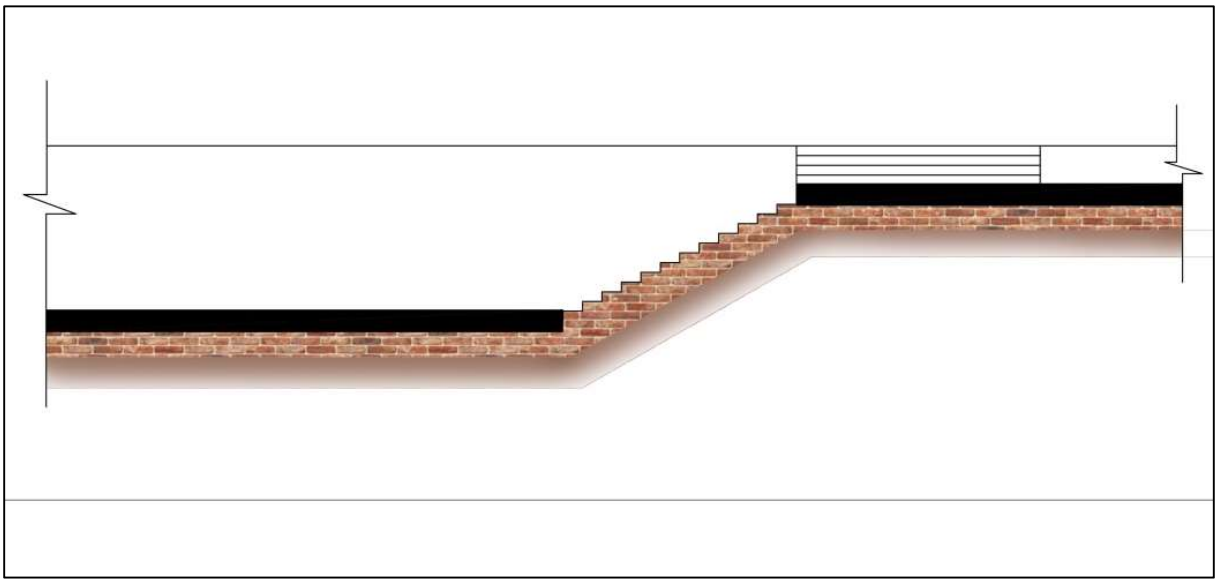


Figure 6: Section through Khana – Mihirer Dhipi (prepared by author)

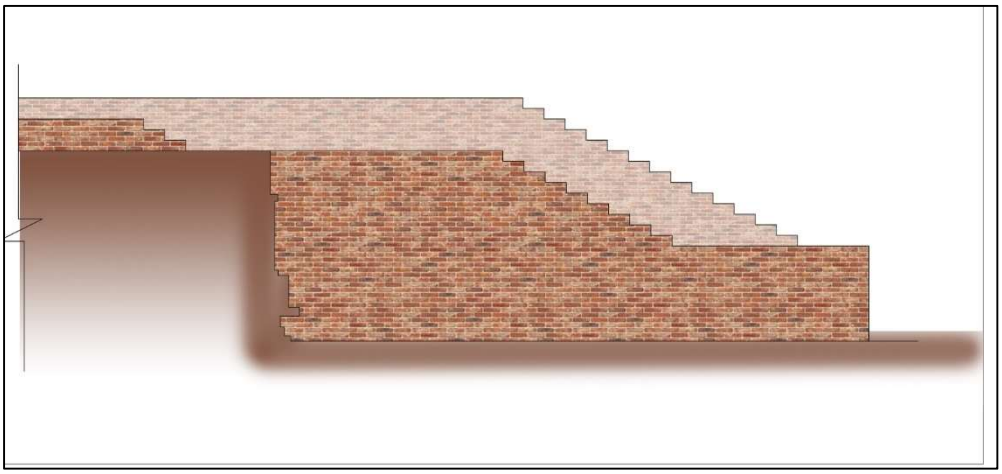


Figure 7: Section through Khana – Mihirer Dhipi (prepared by author)

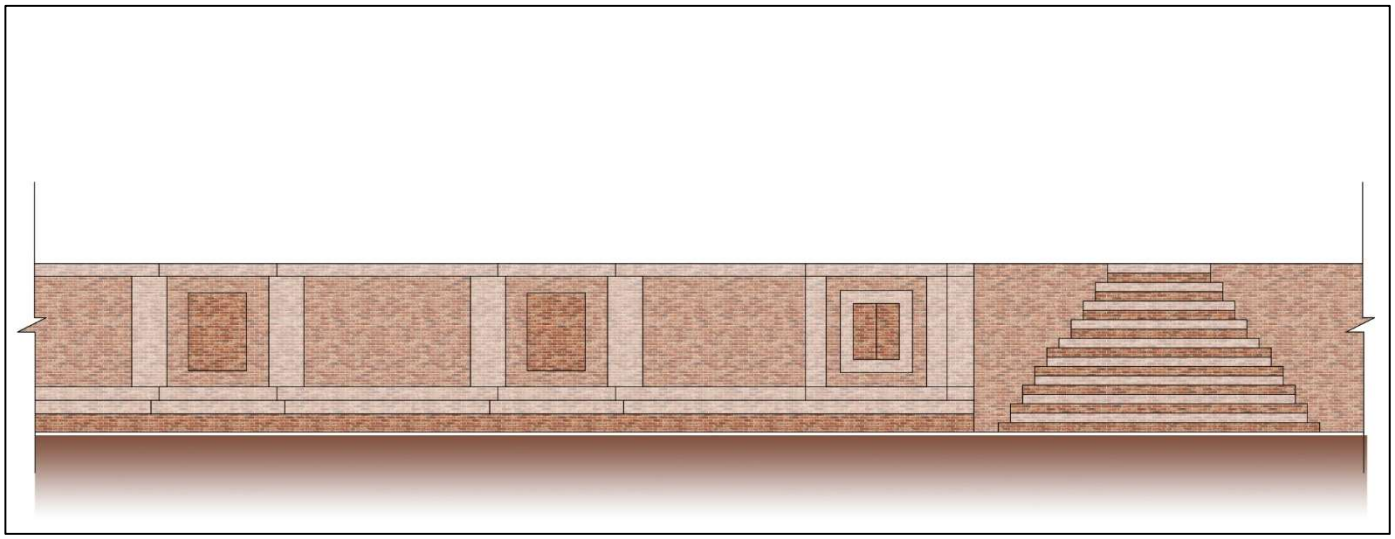


Figure 8: Section through Khana – Mihirer Dhipi (prepared by author)

The sections through Khana-Mihirer Dhipi and the landform of the Chandraketugarh fort (mounds and contours) will dictate the form of the proposed constructions to have the essence of the region intact. Predominantly exposed brickwork, frequent level differences, sunken ornamented surface wall, steps are the main features to be incorporated in mass planning.

Chapter 6: Design Proposal

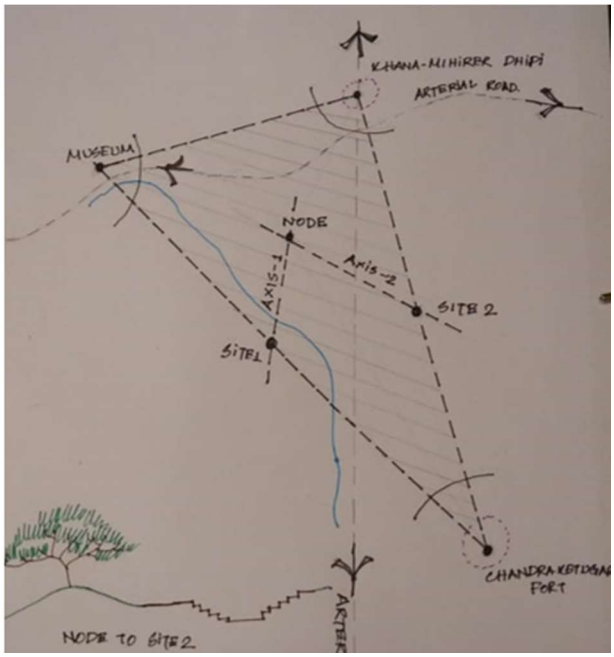


Figure 9: Design concept (prepared by author)

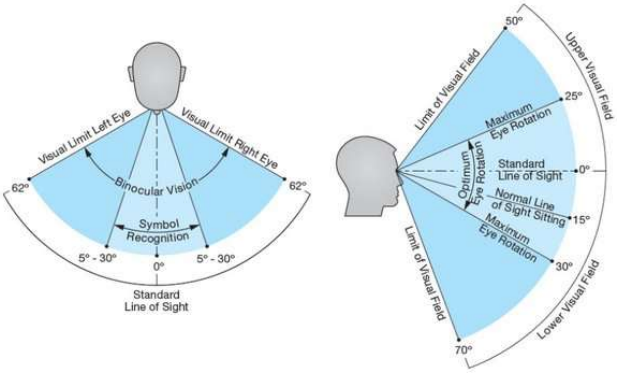


Image 62: Human Vision range (source: Internet)

By adding the three Notable Elements, Khana-Mihirer Dhipi, Chandraketugarh Fort and Chandraketugarh Museum, in a triangle and bisecting the derived three angles, and

extending the bisectors, we can achieve the focal point, which will be the node while the triangle will be the district and the focus to be accessed from the main arterial roads through few landmarks designed keeping the vision angle in mind.

6.1 Proposed Facilities

To develop the area around the ASI site as a tourist attraction, we are proposing few major elements:

- Gateway – For making a proper entry to the tourist hub
- Bus depot – For the city tourist bus coming from the nearest bigger cities
- Car parking – For the Local visitors
- Battery run rickshaw parking – For the internal commute inside the Tourist site
- Cycle stand – For the tourists who prefer to travel on their own
- Public Toilets
- Ticket Counter – At every entrance, for the awareness centre
- Awareness Centre – The Main hub
- Auditorium
- Library
- Museum
- Food Plaza
- Commercial Plaza
- Landscaped court
- Viewing Plaza
- Waterfront – To give the river port effect by joining the existing water bodies through man-made canal

6.2 Site Plans: Master Plan

Figure 10: (prepared by author)

Site Plans

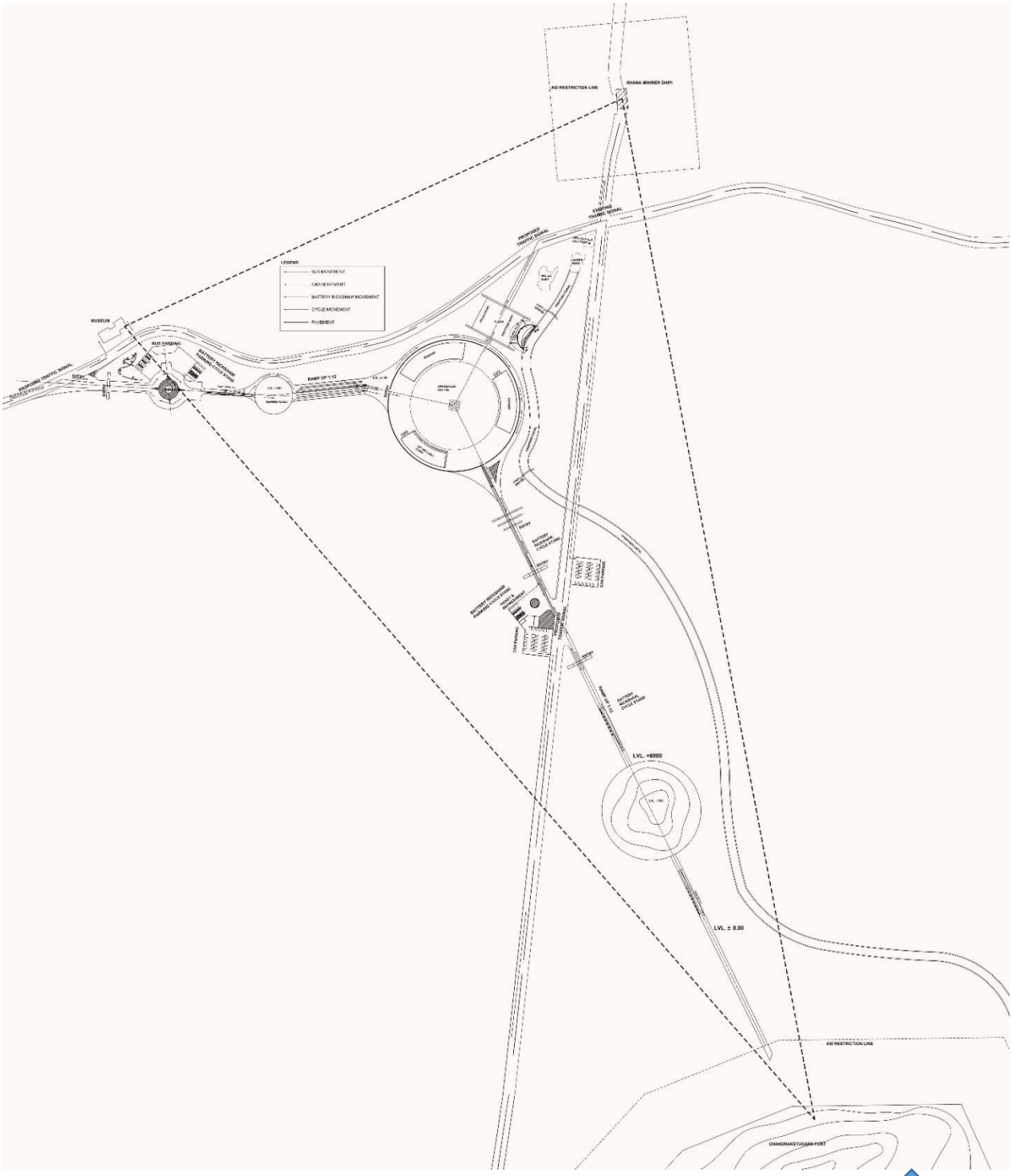


Figure11: Traffic plan prepared by author

Chapter 7: Conclusion

The urban development around an ancient settlement in order to make it a tourist attraction needed a research on the existing projects of same merit. The final solution we have provided an awareness centre with a museum to display the archaeological findings, an auditorium for audio visual shows on the urban heritage and a library along with the different tourist decks, commercial and food plaza, some viewing plazas, strategically placed theme entry gates and a water channel which signifies the ancient river port. The entire development would symbolize the past glory of the region.

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