

An aerial photograph of a city grid, showing a river cutting through the urban layout. The image is in grayscale and has a dark, semi-transparent overlay. The river flows from the top left towards the bottom right, creating a diagonal path through the rectangular street grid. The buildings and streets are visible as a complex pattern of lines and shapes.

THE RIVER IN BETWEEN

RIVER EDGES OF KOLKATA





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INTRODUCTION

HISTORICAL MEANING OF THE RIVER

The urban waterfront is usually the **birthplace of the city** and has played an important role in the city's early development and prosperity. Over time the waterfront continues to hold **a lot of the histories of its city**. Through close review of the waterfront, we can learn about a **city's beginning, growth, discontinuity, and flourish**. Furthermore, the culture of the city and many local people's habits and memories originated from or are influenced by the waterfront. Though it is impossible to recreate the boom era of a city's waterfront, the implication of the rich history and culture generates memories from that era and provides interesting educational opportunities. Furthermore, the waterfront is an excellent place to show the city's unique historical and cultural moments which distinguish it from other cities.

THE RIVER AS A NATURAL SOURCE

Historically, **all the civilizations** of the world **developed and flourished at the banks of rivers** be it the Indus Valley Civilization by the side of the Indus river or the Egyptian Civilization by the side of river Nile.

This is primarily because of the **natural advantages** the river provides to the settlers; water to drink, water for irrigation, water for the cattle of the settlers. Apart from these, rivers have also acted as security for the settlers against wild animals and also as demarkations for different communities.

The march of civilization from the ancient to the modern is the story of human progress and development from rural agglomerations to sprawling urban centers. The most important among these is perhaps the transport and communication system. River have, since very long, played a significant role in this direction. In fact the development of Kolkata from a **cluster of three villages, Suttanutee, Gobindepur and Kalikata** when **Job Charnock** brought it from Nawab of Bengal to a megacity that it is today has a lot to attribute to the river.







01 HISTORY

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Me the Sea-Captain loved, the River built
Wealth sought and Kings adventured life
to hold.
Hail England! I am Asia-Power on silt,
Death in my hands, but Gold!

R. Kipling (from "The Song of the Cities")

CALCUTTA CITY GROWTH



The river was an important transportation channel in the early history of Bengal, and later with the **colonial trading ports**. The river's presence is one of the reasons chosen by the British to settle there at Calcutta. The Dutch, French colony at Chandanagar on the Hooghly was once the rival of British Calcutta, but was eclipsed by Calcutta in the colonial wars of the 18th century. The river banks hosted several battles and skirmishes towards the start of the colonial era, including the Battle of Plassey Palashi, as well as earlier wars against Maratha raiders.

ECONOMICS

The **Bhagirathi-Hooghly river system** is an essential **lifeline for the people of West Bengal**. It is through this river that East India Company sailed into Bengal and established their trade settlement-Calcutta, which grew to be one of the greatest cities of the world.

The river is navigable and the major transport system in the region with a **huge traffic flow**. For a long time, the Calcutta Port was the biggest port of India. Though in the past its significance had gone down.

Hooghly river valley was the **most important industrial area** of erstwhile state of Bengal. Due to declining jute industry, the prime industry of their region, it lost its glory and partitioning of Bengal.

RAILWAY

The railway came to India in the **mid 19th century**. Howrah Station became operational from 1854 and with **introduction of rail and road traffic, trade and commerce were no longer dependent on river traffic**. The towns and cities on the riverbank turned their faces away from the river. Riverfront became backwards.

After the **independence in 1947**, unemployment and lack of opportunities drove millions— of people from the hinterland to major metropolitan cities.

Kolkata being the largest metro in the entire eastern India was **flooded by people from all over neighboring states** including Bangladesh.

Ideal area for settlement was, among other places, **the riverfront** as it **had large amount of open land** accessible to squatters, but inaccessible to the citizens. The riverfront was gradually destroyed. It had poor accessibility, poor infrastructure, low quality images, too many stake holders.

RIVER EDGE DEVELOPMENT CAUSES TODAY'S CLOSED RIVER SIDE



1690

TRADING STATION OF THE BRITISH

It was trade that sent the English and other Europeans to India. The delta of the Ganges was the best place to establish a trading station.

1696_Fort of Calcutta factory.



1700

OLD FORT

and Factories. Plans were drawn up to build a new Fort in the middle of the English town. An Esplanade was formed out of the jungle surrounding the new Fort. This whole area was cleared and leveled to form a great Esplanade. The river is the lifeline.



1850

1820_STRAND ROAD

Warehousing> Industrial growth on the river edges.
Industrial lifeline.

Heritage buildings of the British empire.

Today, the Strand Road separates the city from the river.



1950

WAREHOUSES ARE MOVING

Warehouses are being shifted and industrial services are moving more and more downwards on the river. Most of the registered space was situated on land owned by Kolkata Port Trust



1750
UNPLANNED GROWTH

Enormous and totally unplanned growth of the city at that time. There was a huge building boom. Kolkata as the “City of Palaces” but in the opposite also straw huts, which are built by the servants for themselves to sleep in, developed on the river edge.



1900
CIRCULAR RAILWAY

1896 The first motor car appeared on the streets. The Circular Railway (first electric tram) which runs parallel to the river, is blocking the river from the city. Trade and commerce were no longer dependent on river traffic. The Riverfront became backwards.



2000
NEW RIVER FRONT PROJECTS

New projects like the Millennium Park and the Floatel in development. But they are more like gated communities. The younger generation want the river back as part of the city's culture.

WATER EDGES OF THE COLONIAL CITY

THE FOUNDER JOB CHARNOCK

The village of Calcutta was in existing before Job Charnock made it the site of the **English East India Company's factory in 1690**, but although its trading advantages may have enabled it to grow into a flourishing town. It was **Charnock** and his successors alone **who transformed it into an imperial capital**, a position it held from 1773 to 1911. There was a growth from a trading station of mud huts into a city whose beauty excited the admiration of all its visitors.

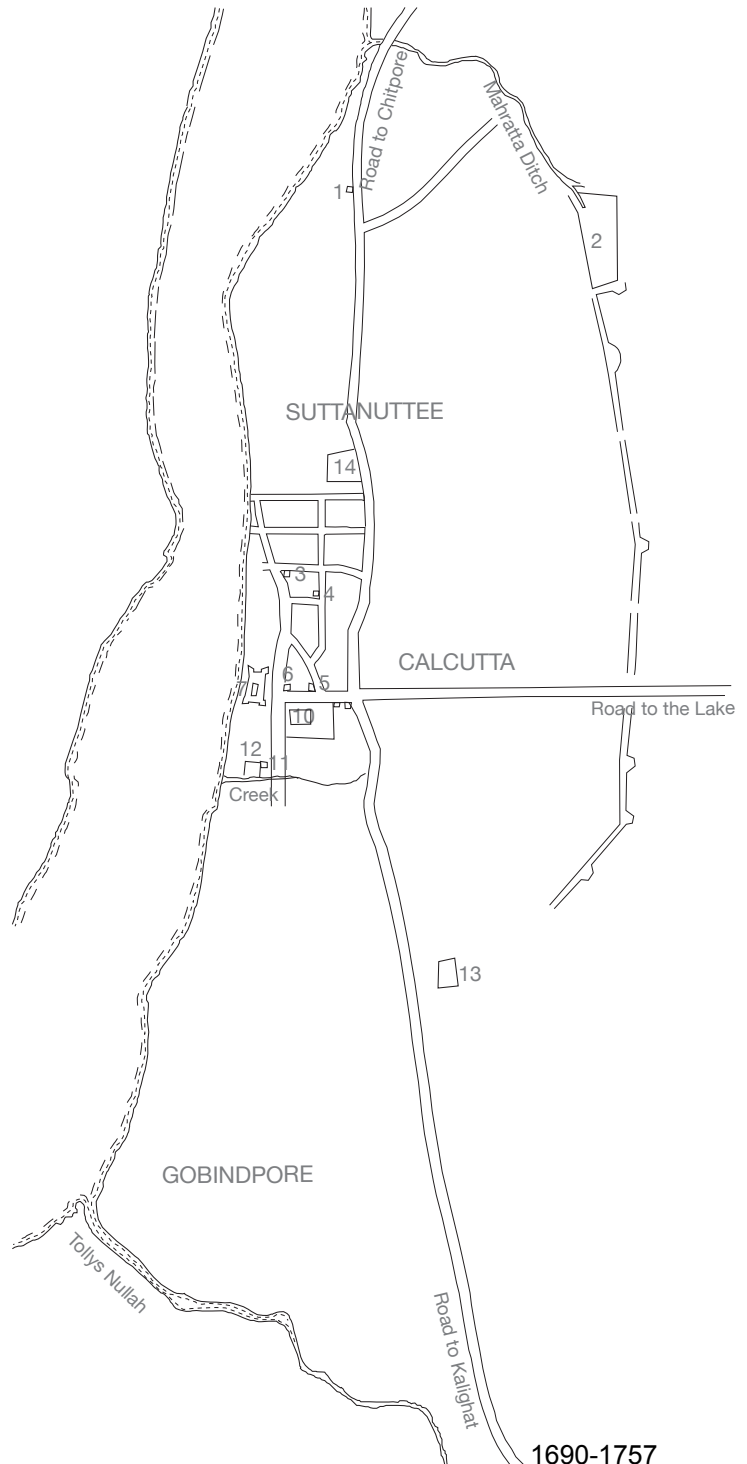
Kolkata Riverfront stretches from Bandel to Budge Budge on either side of the river for a distance of about 60 km.

This stretch has six towns founded by the colonial settlers. They are:

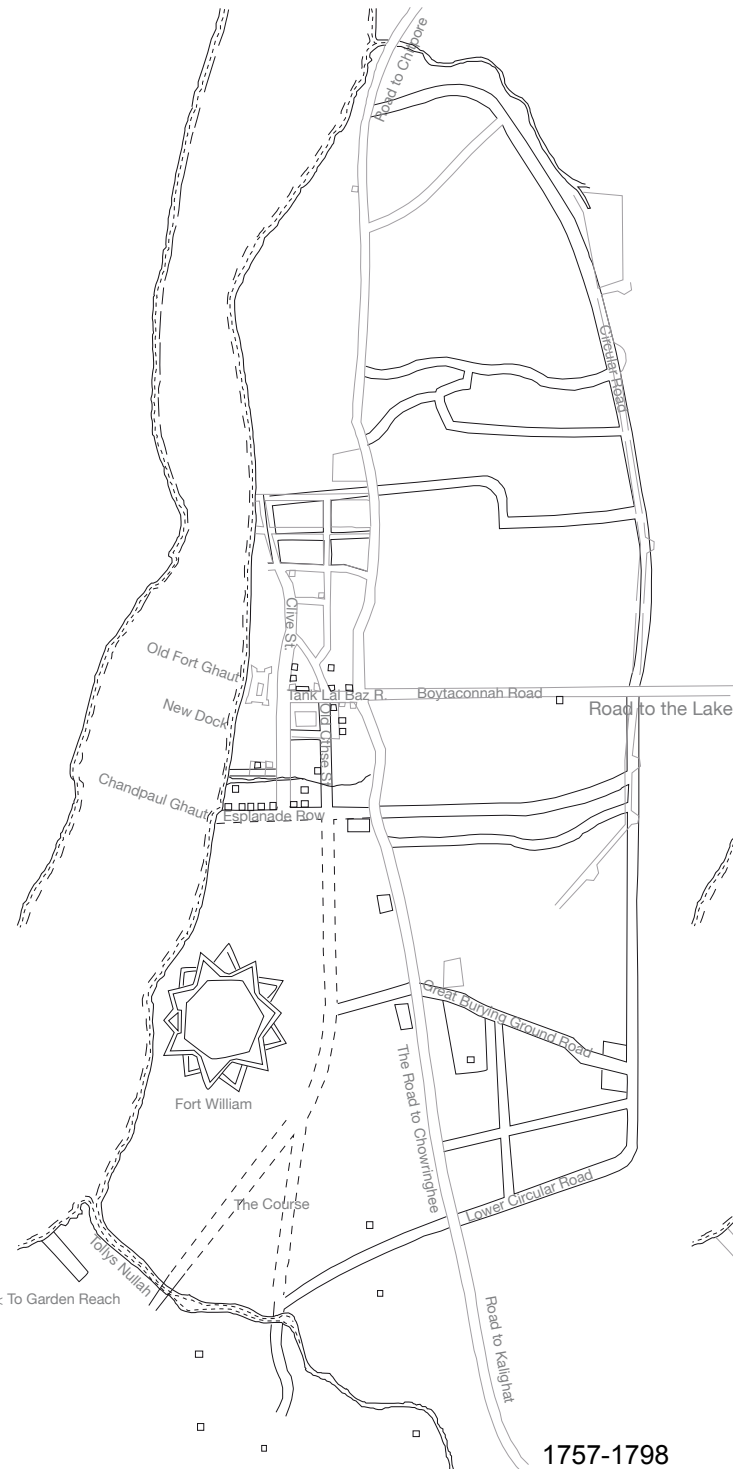
1. Bandel – The first one founded by Portuguese around 1660
2. Chinasura – By the Dutch around 1656
3. Chandannagar – By the French in 1673
4. Barrackpur and Calcutta – By the British in 1772 and 1690 and then subsequently Budge Budge

All these towns were born to establish a **permanent trade** and related **administrative centre** for the respective countries on a foreign soil. With administration, came the establishment of a military base. European colonization was taking place all over South East Asia and political clashes (claims and counter claims) were bound to happen. As a result military invasion forts and their support services converted their settlements into large towns.

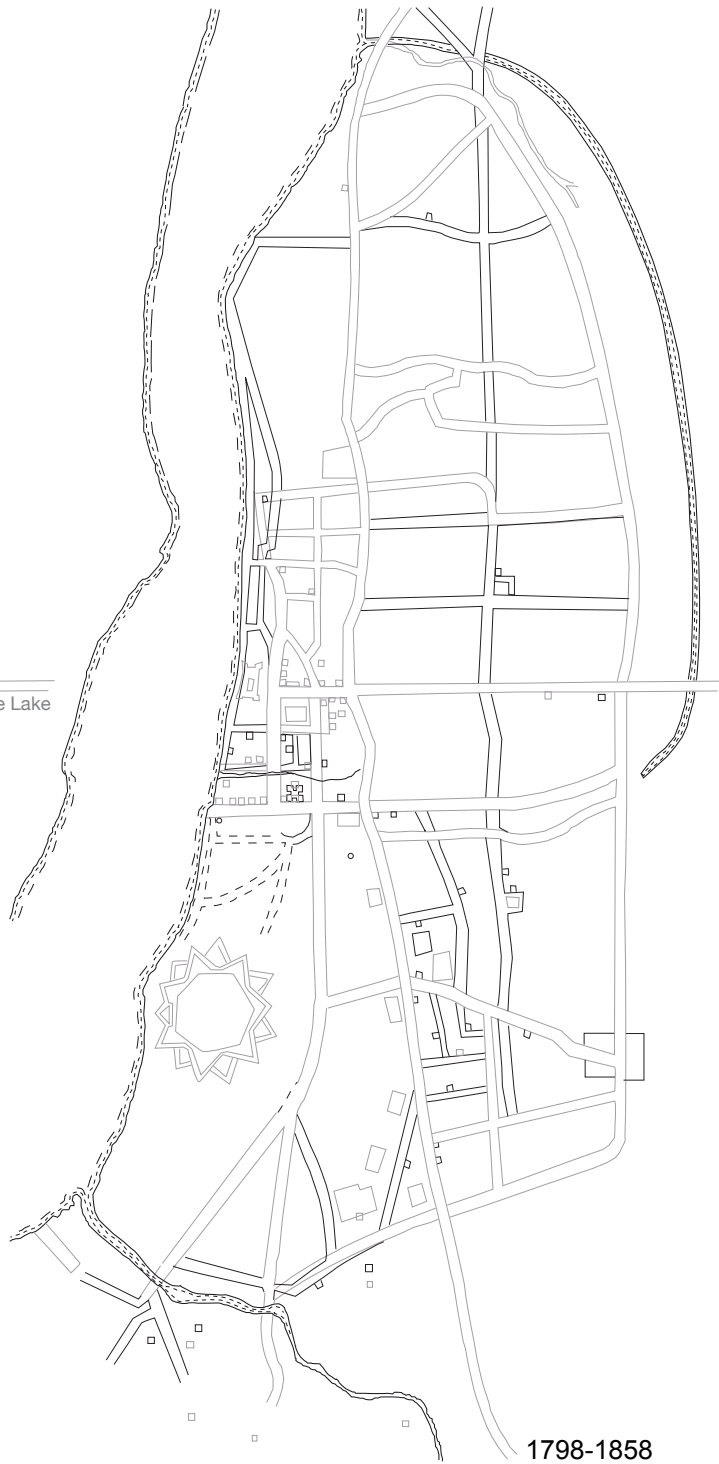
Therefore all urbanization in Bengal from the 16th century onwards was happening on either side of the river Hooghly. Their towns had strong relationship with the river and the river being the main transport corridor, the Riverfront for all the towns became the virtual CBDs (Central Business District).



1690-1757



1757-1798



1798-1858

THE TRADING STATION_1690-1757

THE BRITISH SETTLEMENT

It was trade that sent the English and other Europeans to India, and it was obvious that the **delta of the Ganges was the best place to establish a trading station.**

Bengal was the richest province in India, while down river from the Ganges, Jumna and their tributaries came goods of all of Hindustan.

When the **Portuguese** arrived in Bengal about **1518, two great ports were already established** there, Chittagong in the east and Satgaon in the west, an ancient town originally on a branch of the river Hooghly.

Satagons importance was diminished by the gradual silting up of its river, and about 1550 some of its Indian merchants, families of Bysacks and Seths, transferred themselves down river to the side of the modern Calcutta to the villages of Gobindpore on a slight eminence about the river, and Suttanuttee, where an **important market for cotton**, the principal trade of Bengal itself was developing. Further upstream the river shallowed, and the Portuguese used to send river boats to bring down the goods from Satgaon. The Portuguese found in 1575 permission from the Mughal Emperor Akbar to found a settlement at the town of Hooghly.

Akbar demanded in return that the Portuguese Hooghly should keep the eastern seas free of the renegade Portuguese and Arakanese pirates from Chittagong and the Arakan who infested them.

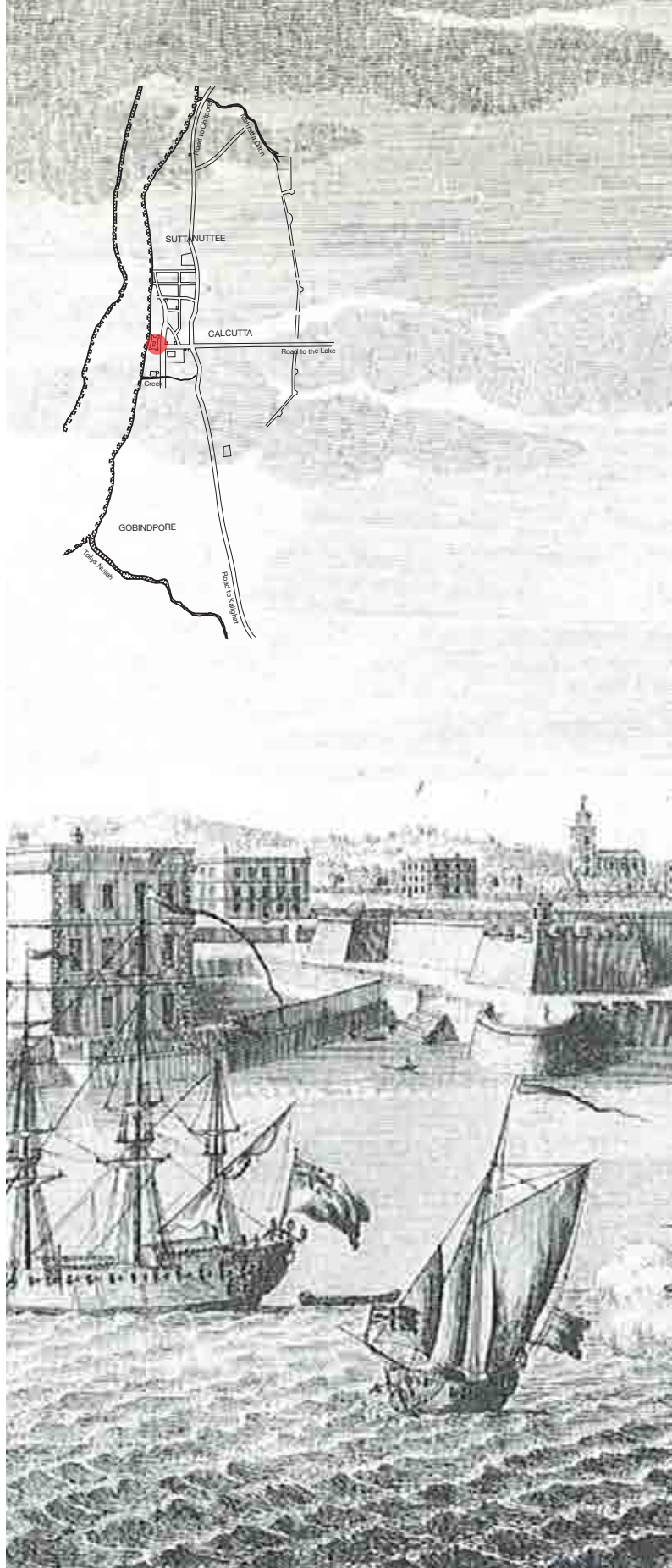
In **1662 Hooghly was captured by the Mughals** after a three months siege, and its Christian survivors were transferred to Agra as slaves, ending all serious Portuguese economic activities in Bengal.

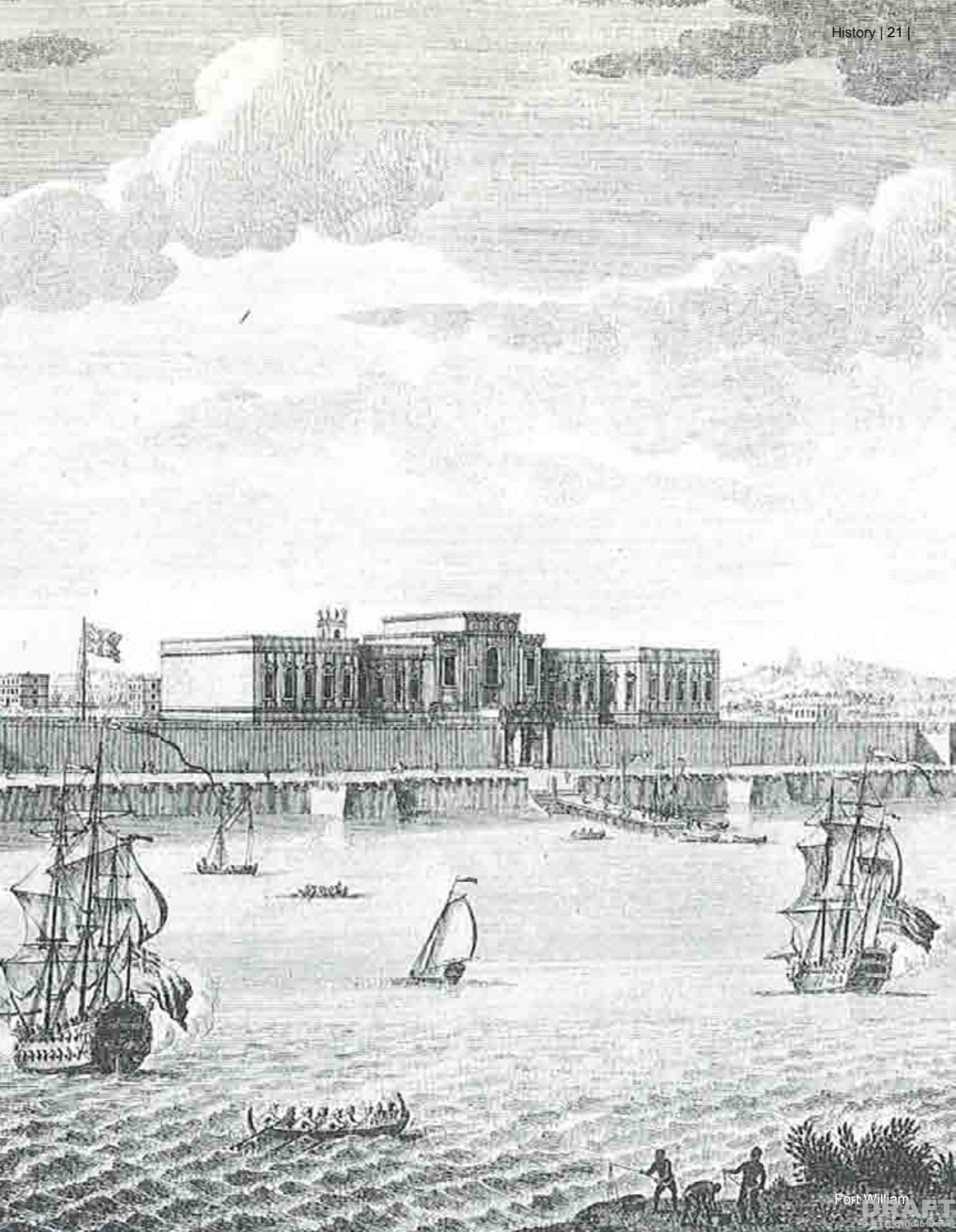
FIRST FACTORIES

The **first English East India Company** had been founded by a group of merchants in London's in **1599**, and was given its **first charter by Queen Elizabeth I** in the following year. Its efforts to win trading rights for itself in India were made in the face of continued opposition first from the Portuguese and then the Dutch, who had by this time largely supplanted the former as traders throughout the eastern seas.

The **first English factory or trading station** was established at Surat **on the west coast in 1612**, while Fort St George at Madras was founded in 1640.

The english first established themselves in eastern India in 1633 in Orissa, at the port of Balasore. In **1651** they were able to **establish** themselves in the Gangetic delta, **at the town of Hooghly.**





THE CAPITAL OF BENGAL_1757-1798

THE NEW TOWN

When Clive and Watson retook Calcutta in 1757, they found the **Fort and Factory** partially **destroyed**, and most of the English houses entirely so.

The **new town** which was built on the ruins was a very different place. The old Calcutta had huddled defensively round the Fort. Some plans were drawn up to **build a new Fort in the middle of the English town**, it was soon realized that, in the changed political circumstances, it was no longer necessary for it to be there, protecting the town's houses and inhabitants by its proximity.

An **Esplanade was formed out of the jungle** surrounding the new Fort, extending northwards to a new road (now Esplanade Road) marking the southern line of the town, eastwards to the road leading to Kalighat, and southwards to a **new road** in continuation of the Mahratta Ditch. This **whole area was cleared and leveled to form a great Esplanade**, with an absolute prohibition on building thereon, so that the new **Fort should not be dominated by the surrounding buildings** as the old one had been. The oldest barracks, the Royal Barracks facing the river, were completed in 1764 and the North and South barracks on either side shortly thereafter.

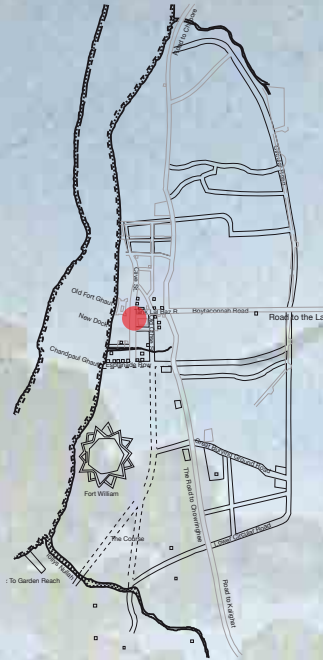
UNPLANNED GROWTH

The **enormous and totally unplanned growth** of the city at this time is very clear. In fact, this **building boom** continued unabated for the best part of a century. Mrs. Kindersley writes:

"Calcutta is large, with a great many good houses in it, and has the advantage of standing upon the banks of a river, it is an awkward place as can be conceived; and so **irregular**, that it looks as if all the houses had been thrown up in the air, and fell down again by accident as they now stand: people keep constantly building; and everyone who can procure a piece of ground to build a house upon, consults his own taste and convenience, **without any regard to the beauty or regularity of the town**; besides, the appearance of the best houses is spoiled by the little **straw huts**, and such sort of encumbrances, which are **built by the servants for themselves to sleep in**: so that **all the English part of the town**, which is the largest, is a **confusion of very superb and very shabby houses, dead walls, straw huts, warehouses** and I know not what.

There were garden-houses to which retreated all those who could do so in the hottest eater, in Alipore, Kidderpore and Garden Reach, the stretch of the Hooghly below the town.

The **slope** which leads down to the river is the Old Fort Ghat, much **used by Hindus for access to the river for their ablutions**. Thomas Twining landed here in 1792 and later wrote; "Upon the custom-house wharf, extending from one end to the fort to the other, I saw immense piles of goods of various sorts, imports and exports... I quitted the boat at a spacious sloping ghat or landing-place, close to the north-west angle of the old fort. The lower part of the slope went some way into the water and was **crowded with natives, men and women, bathing with their clothes on**".





Traffic on the river

THE IMPERIAL CITY

1798-1858

In 1798 Calcutta welcomed as its new Governor-General Marquess Wellesley, who set the British possessions in India on a new course with his expansionist policy. Having **destroyed Tippoo Sultan in the south**, he launched a campaign against the Marathas, the dominant power in the west and north, as a result of which nearly the whole of India apart from the west and far north-west either fell into British hands or entered into subsidiary alliances. One of the most marked and decided of these improvements was a new road sixth feet wide which was carried completely round the town of Calcutta, except towards the river Hooghly, to an extent of eight miles.

The **new road** of course was **the Circular Road** beside the Mahratte Ditch, which although it had been usable to some extent before, was now improved.

GOVERNMENT BUILDINGS

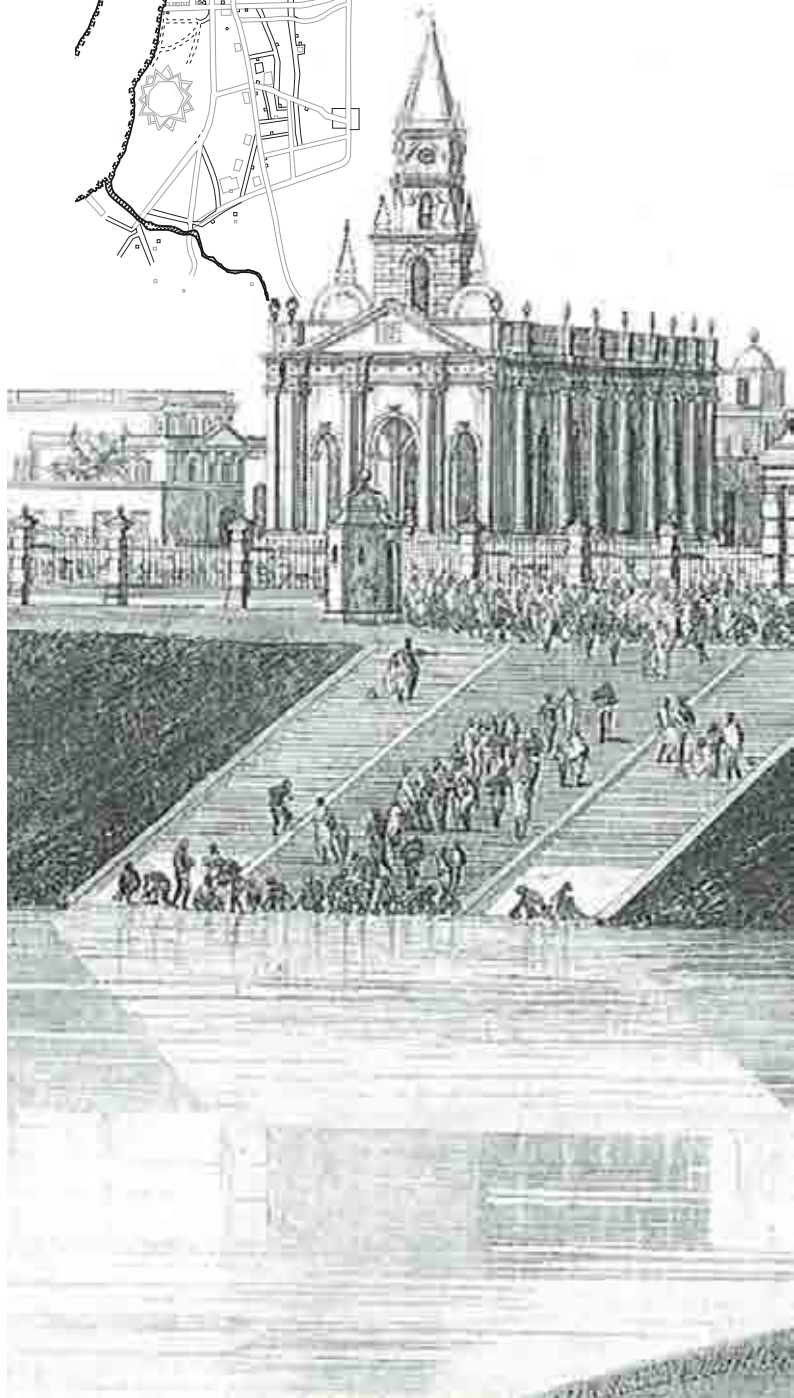
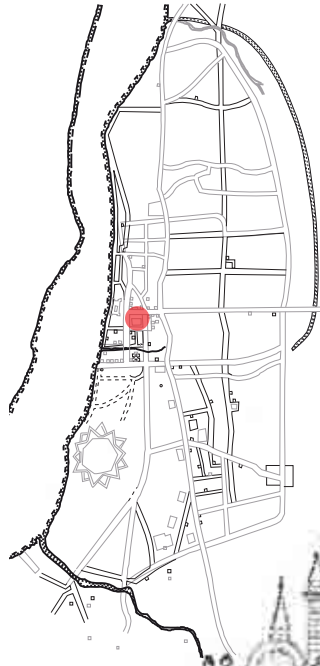
Chandpaul Ghat at the west end of Esplanade Row is seen on the right. On the corner is the building which was just about to become the **Government Bank in 1806, and the Bank of Bengal in 1809**. Behind it, the single story building by the river is part of the premises of the shippers Colvin & Company, who gave their name to Colvin's Ghat on the river here.

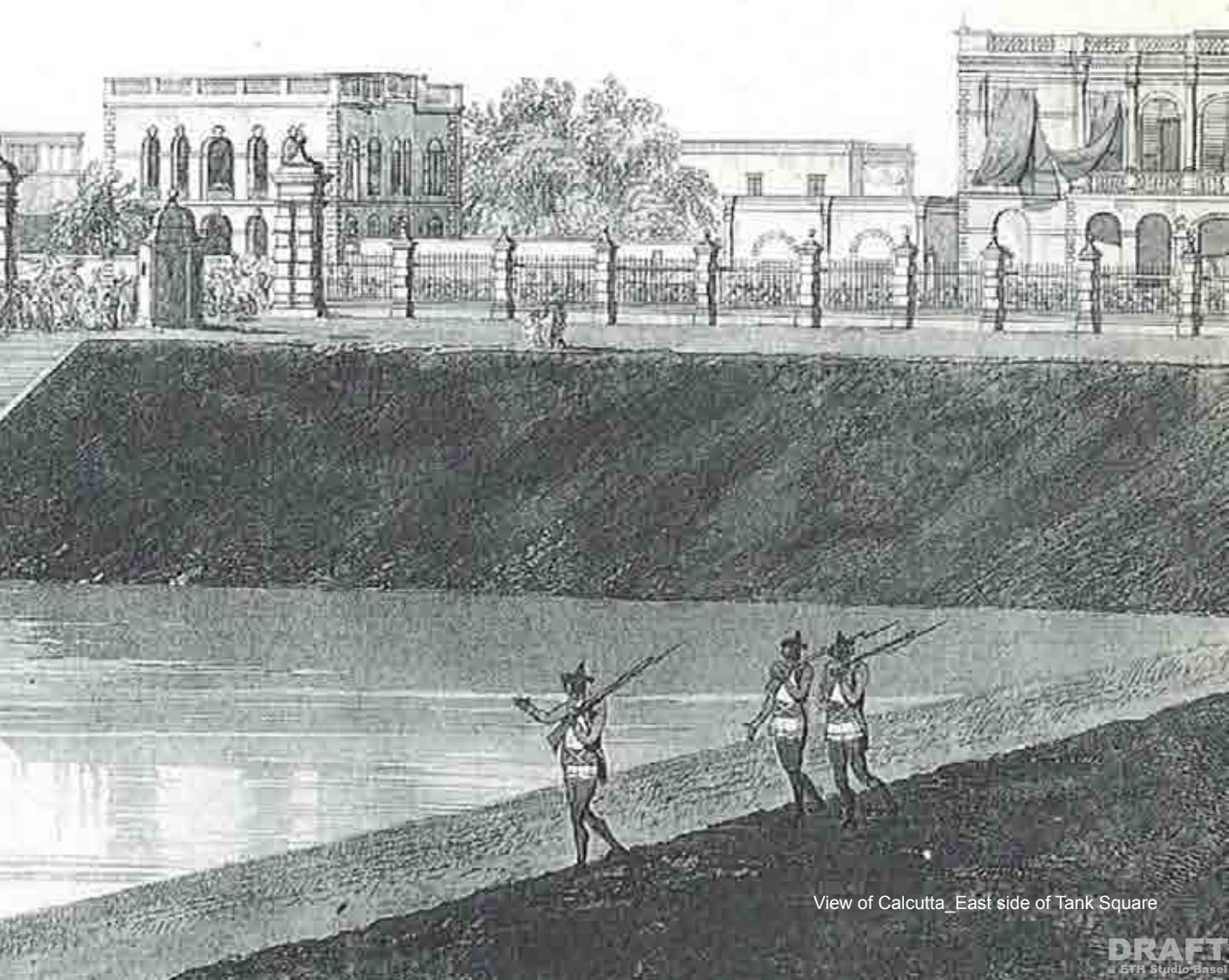
Along the shore in front of the wharf, and to the north as far as one could see, were a great many ships, all manned with native sailors, but commanded principally by English captains, and chiefly belonging either to these captains or to British houses of trade established in Calcutta. These vessels, called "country ships", were employed in the India seas exclusively, principally between Bengal, China and Bombay.

IMPROVEMENT OF THE CITY

Lord Wellesley had set in motion various schemes for the improving of the city, of which the most important was the metalling of the Circular Road round the east and north of the city, as well as other schemes for the improvements of drains. Public hygiene was of course appalling.

The Salt Lake was drained by a canal which was cut round the east and north of Calcutta falling into the Hooghly at Chitpore, and the Circular Canal also took much of the city's drainage.



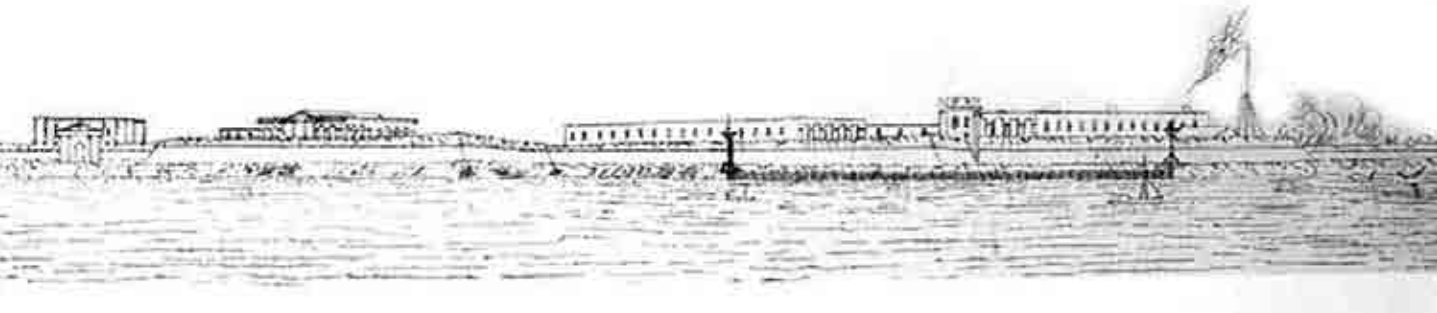


View of Calcutta_East side of Tank Square



PANORAMA_1768

The view of Calcutta extends almost from the northern limit of the still village-like Suttanuttee to Fort William and shows a long, low town strung along the river bank, with only one steeple, which is that added to the Armenian Church. The European area extends southwards from the Armenian church, and the new buildings in this area are much grander. Those buildings which survived within the Old Fort were used as Custom House, while the remaining part of the old Factory House, that is the northern wing.



Calcutta Panorama_1767



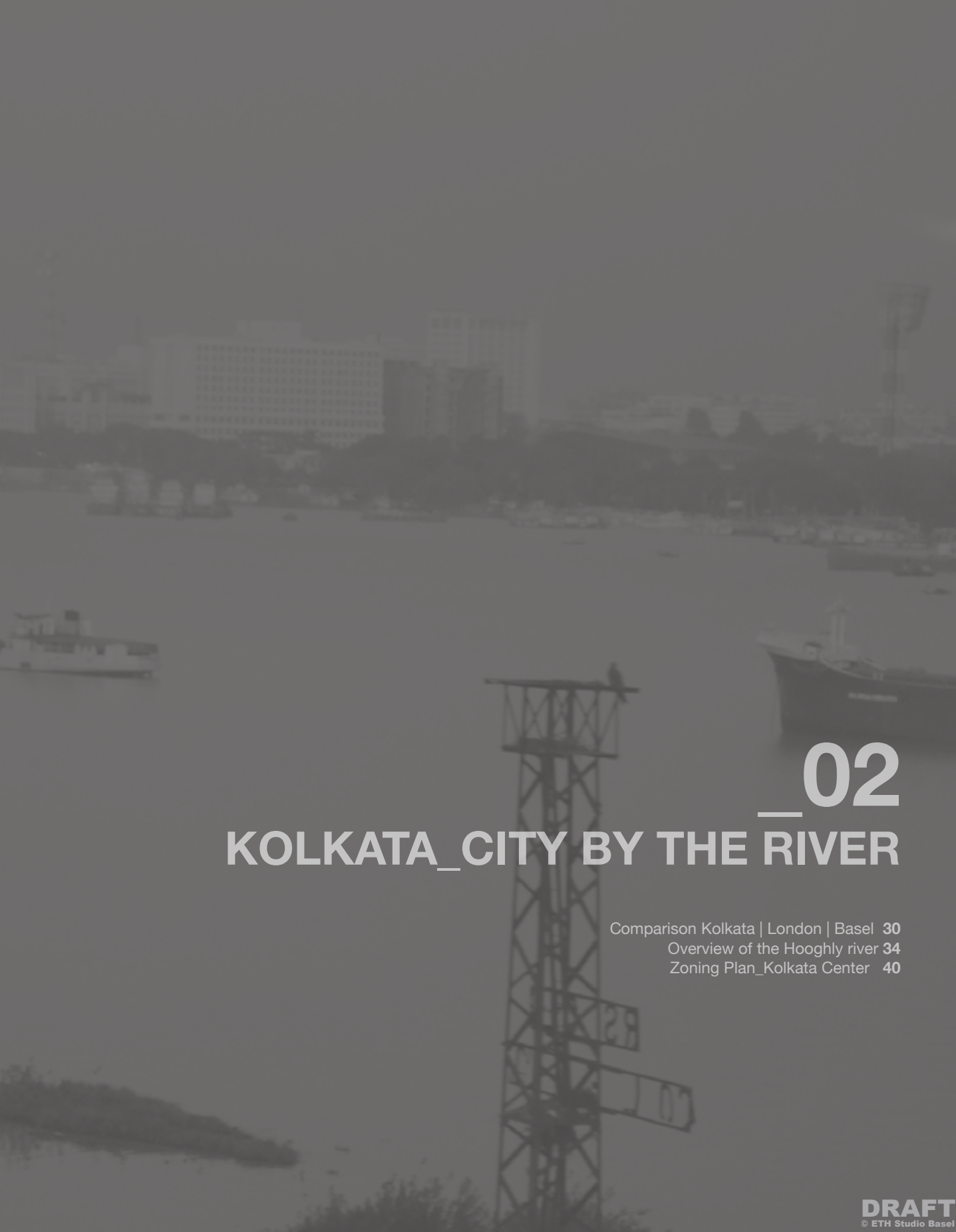
Kolkata Panorama_2008

PANORAMA_2008

Kolkata Riverfront stretches from Bandel to Budge Budge on either side of the river for a distance of about 60 km.

Today one sees various small harbor facilities and in the background the high rise buildings of the business district. The river banks are nowadays closed and only accessible by different ghats. Also the banks are now more environment friendly with plenty of trees. The disadvantage of this is that the view of the river is blocked from the city.





_02

KOLKATA_CITY BY THE RIVER

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FIRST CITY OF THE BRITISH EMPIRE

LONDON

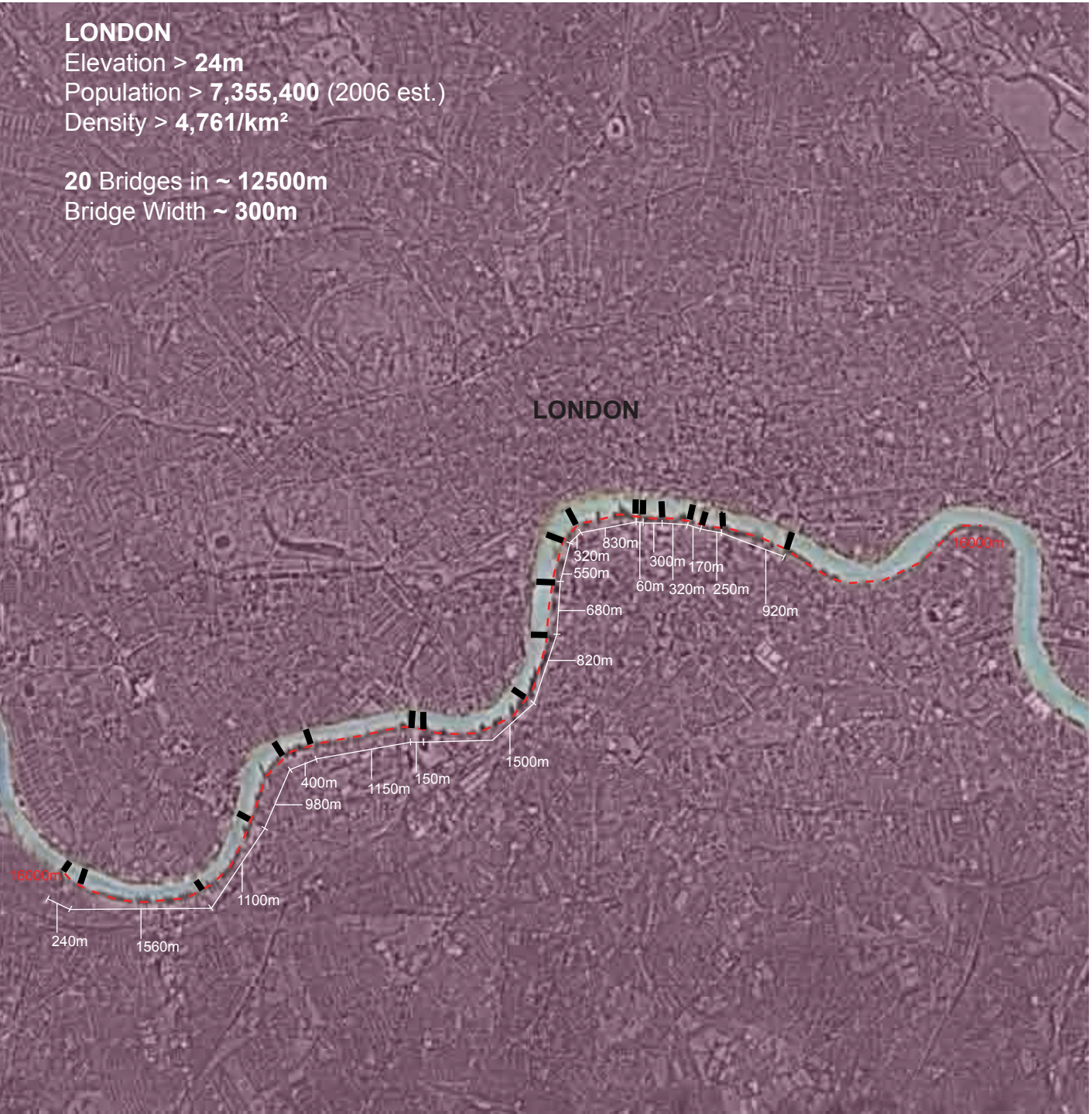
Elevation > 24m

Population > 7,355,400 (2006 est.)

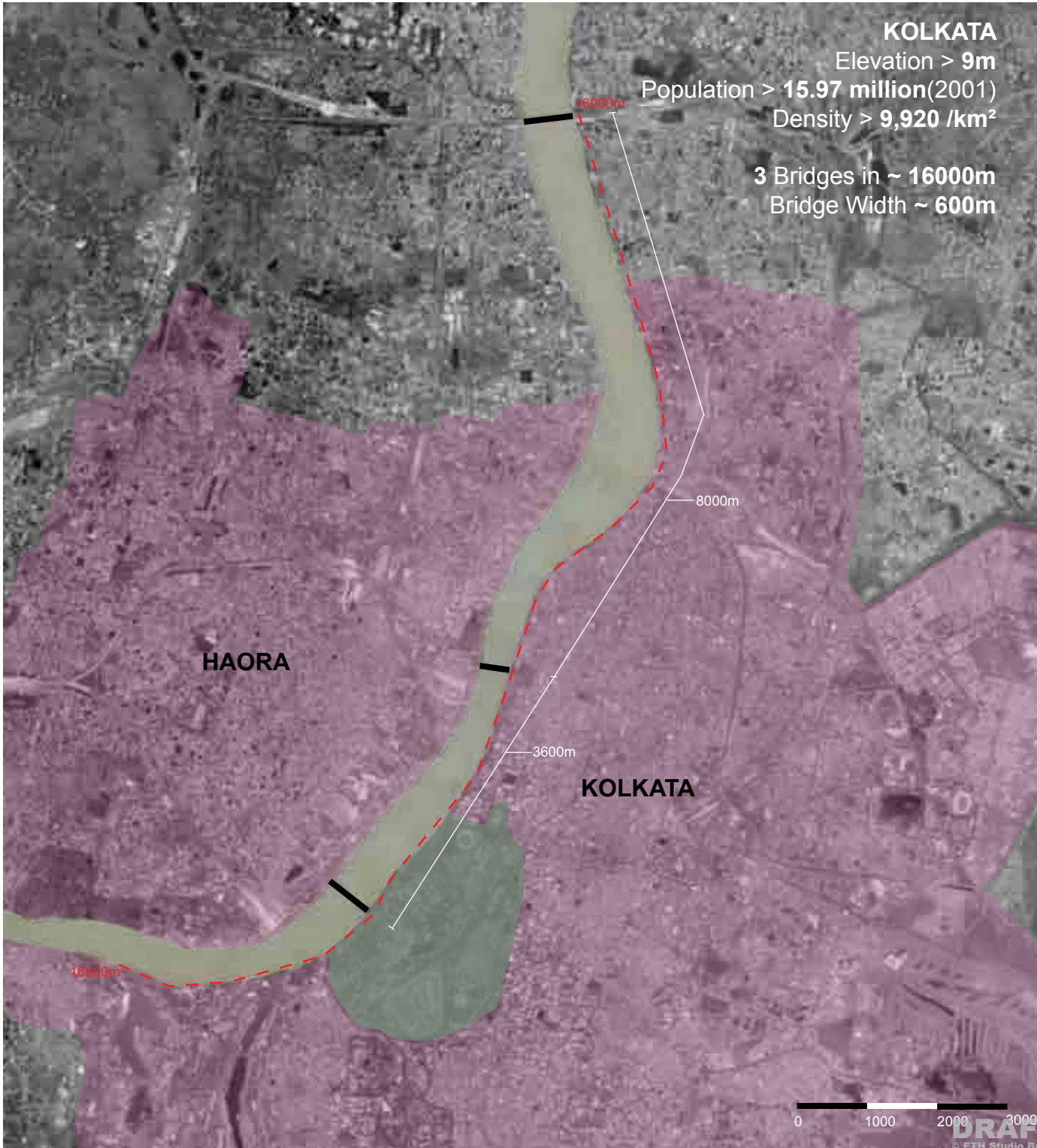
Density > 4,761/km²

20 Bridges in ~ 12500m

Bridge Width ~ 300m



SECOND CITY OF THE BRITISH EMPIRE



KOLKATA

KOLKATA

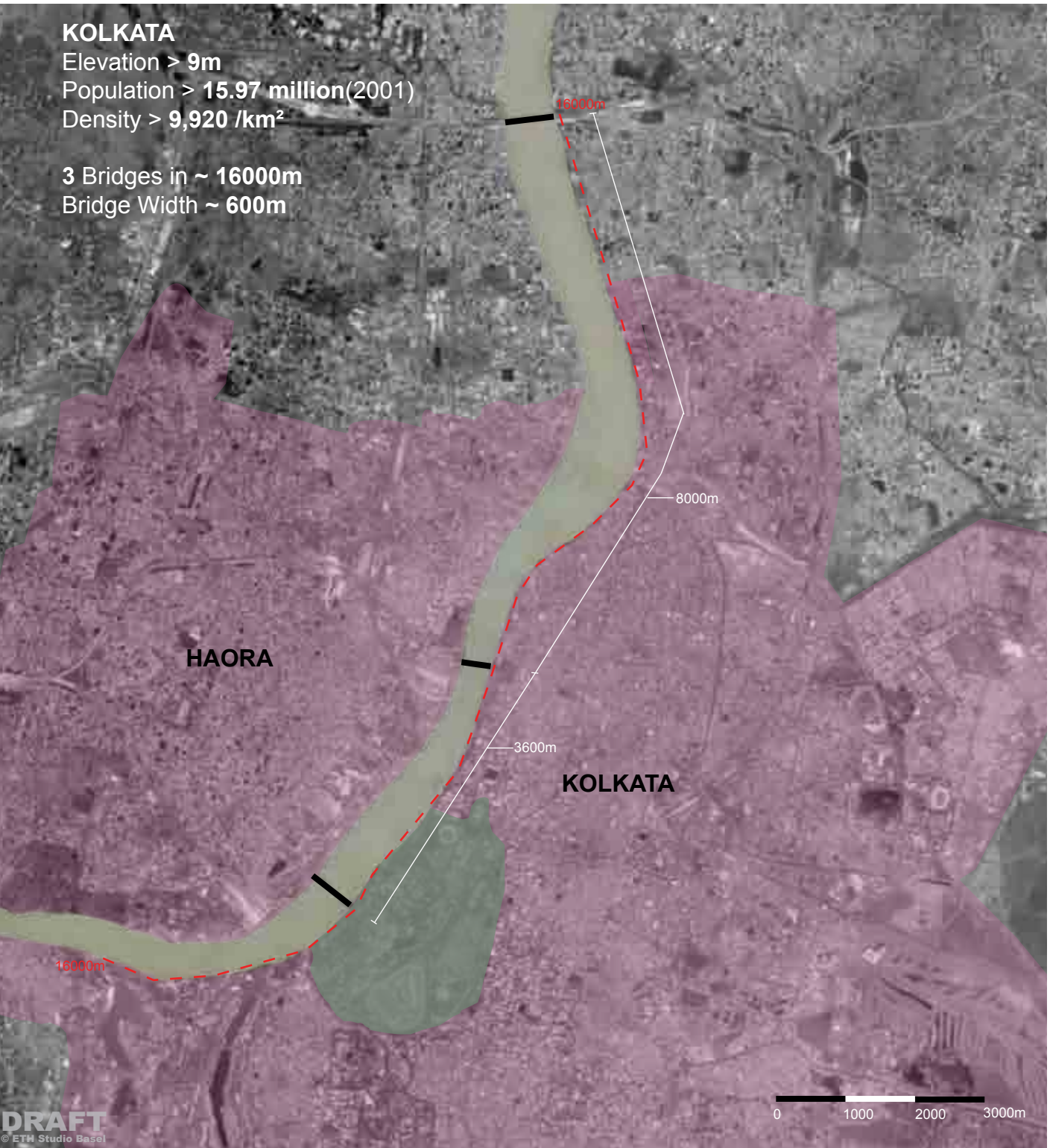
Elevation > 9m

Population > 15.97 million(2001)

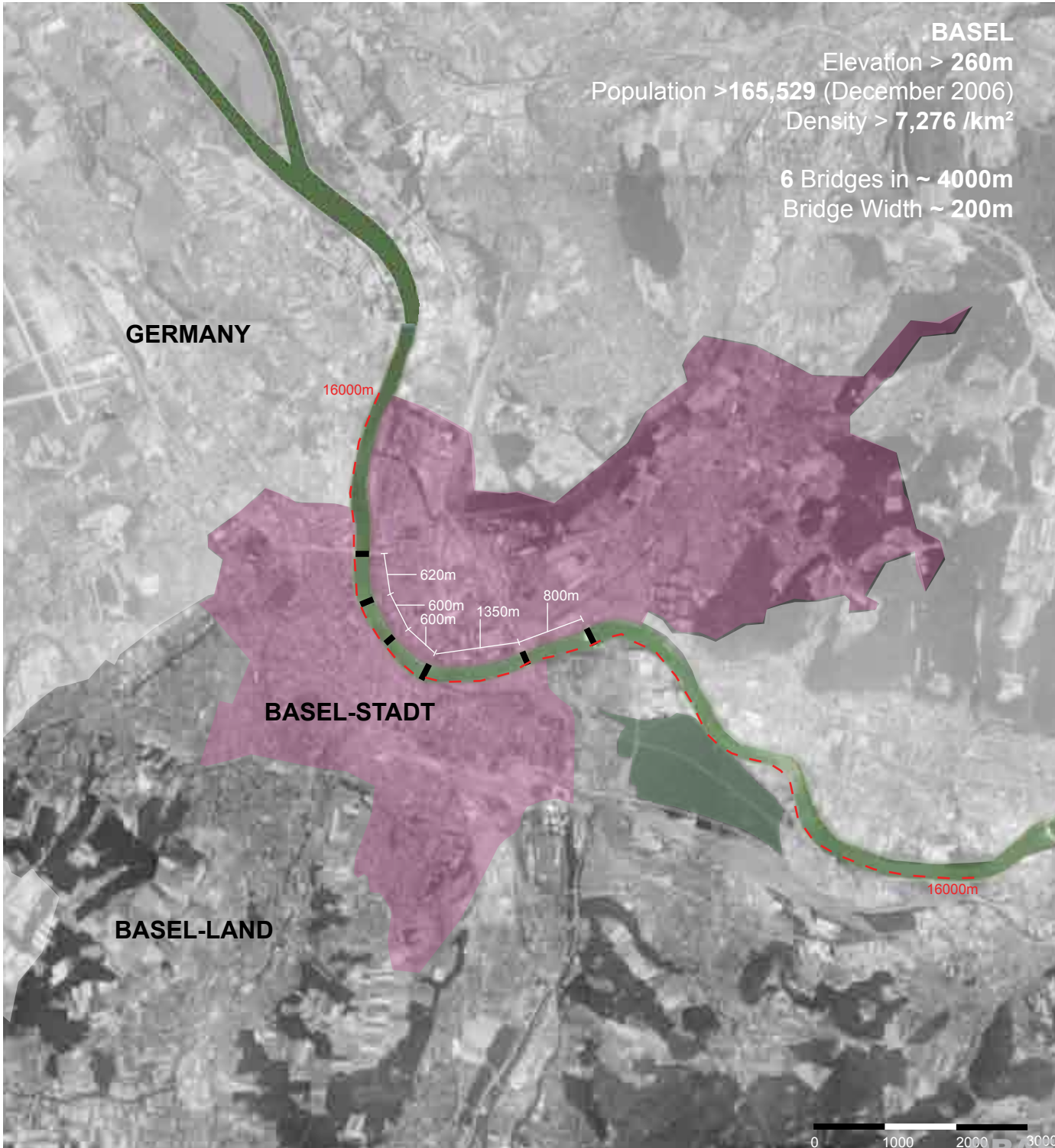
Density > 9,920 /km²

3 Bridges in ~ 16000m

Bridge Width ~ 600m



BASEL

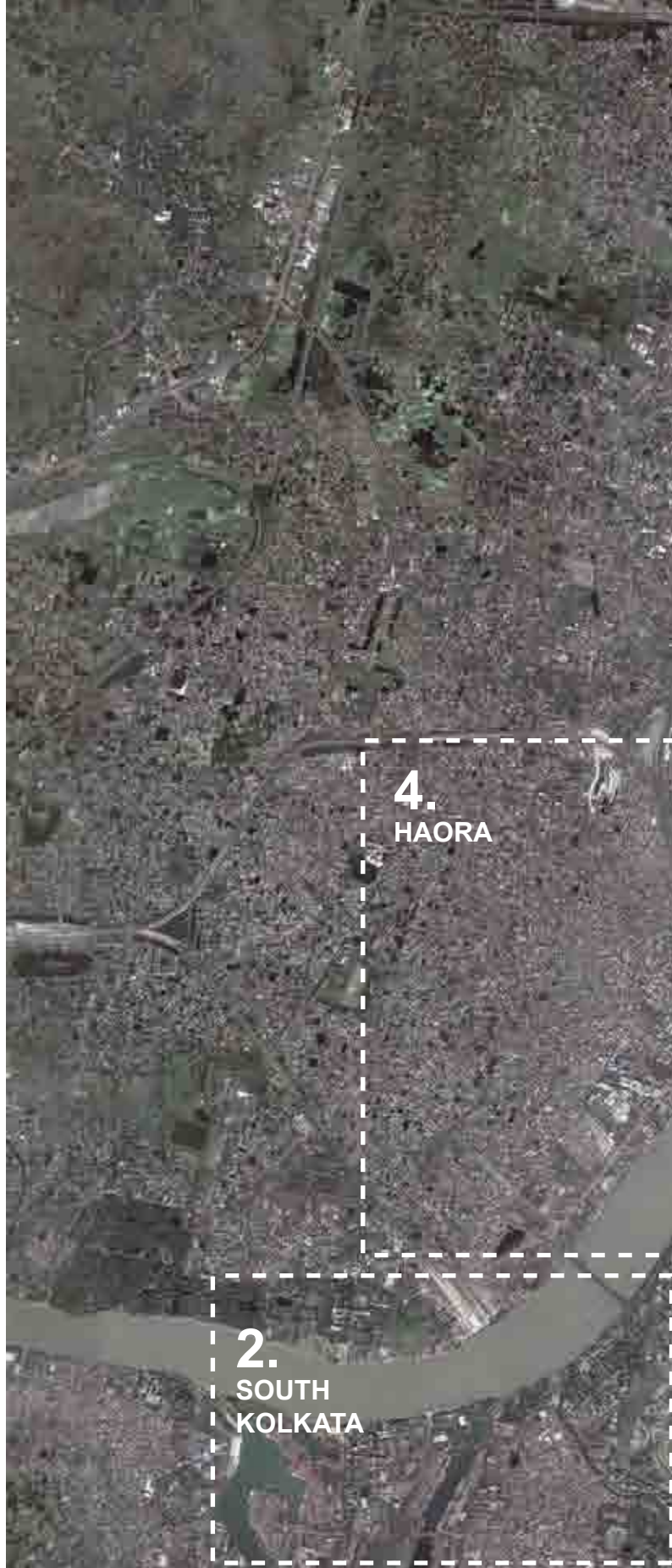


OVERVIEW OF THE HOOGHLY RIVER

By looking at the water edges of the Hooghly River one can divide the city into four sectors. The first and main sector between the two Hooghly bridges and up to Bagbazar, the second from the second Hooghly bridge in the north to the port in the south, the third extends between the Bagbazar Canal to Second Vivekananda Setu in the north and the fourth sector is on the opposite side of the river.

1. Kolkata Center
2. South Kolkata
3. North Kolkata
4. Haora

Business is more concentrated in the center while the cultural side of the city, like making idols, is in the north. The south is where the port is located. Haora is likened to Kolkata in the respect that it is a sister city. Most of the industry, old warehouses and Howrah Station is located there.



3.
NORTH
KOLKATA

1.
KOLKATA
CENTER

ZONES ALONG THE RIVER

The four major sectors can be subdivided into 10 smaller zones along the river, each with its own character.

1. A concentration of Informal Settlements
2. The Port
3. Areas with mostly Residential Buildings
4. Zone owned by the Military
5. Business district
6. Cultural spaces, with shrines, temples and idol making
7. Industry zones with old warehouses
8. Transport area with Howrah Station & access to Kolkata through various ferry transports
9. Old University Campus
10. Botanical Garden





LAND USE

KOLKATA PORT TRUST_C.P.T.

The banks of the Hooghly river on the Kolkata side between Babu ghat at the south to the Bagbazar in the north about 114 Acres is owned by **Calcutta Port Trust (C.P.T.)**; out of this about **65 % of the area is occupied by C.P.T.** roads, railways and mostly dilapidated warehouse structures and another 7% by religious and public facilities, bathing ghats, temples etc.

From the port in the south to the Howrah bridge in the north the land is mostly covered by C.P.T. lands.

The segment around the Howrah bridge to Nimtala Road there a **warehouses** in use for storage and sales of various commodities like minerals building materials, edible oils, pulses, oilseeds, molasses etc. All these lands have been leased out by the C.P.T. authorities to private parties on long and short term lease for use on specific purpose. So this part is covered by C.P.T. as well as **private lands**.

The third stretch is between Nimtala Ghat Street on the south and the Bagbazar Canal on the north. The balance C.P.T. land is utilized for Strand Bank Road and the C.P.T. **Railway tracks**, with the only station named Rathtala Station. In this stretch the private lands adjoining the Railway track are mostly being used as **warehouses**, flower mills an least as **residential purpose**. So the northern part is mostly covered with private lands.





PRIVATE LAND

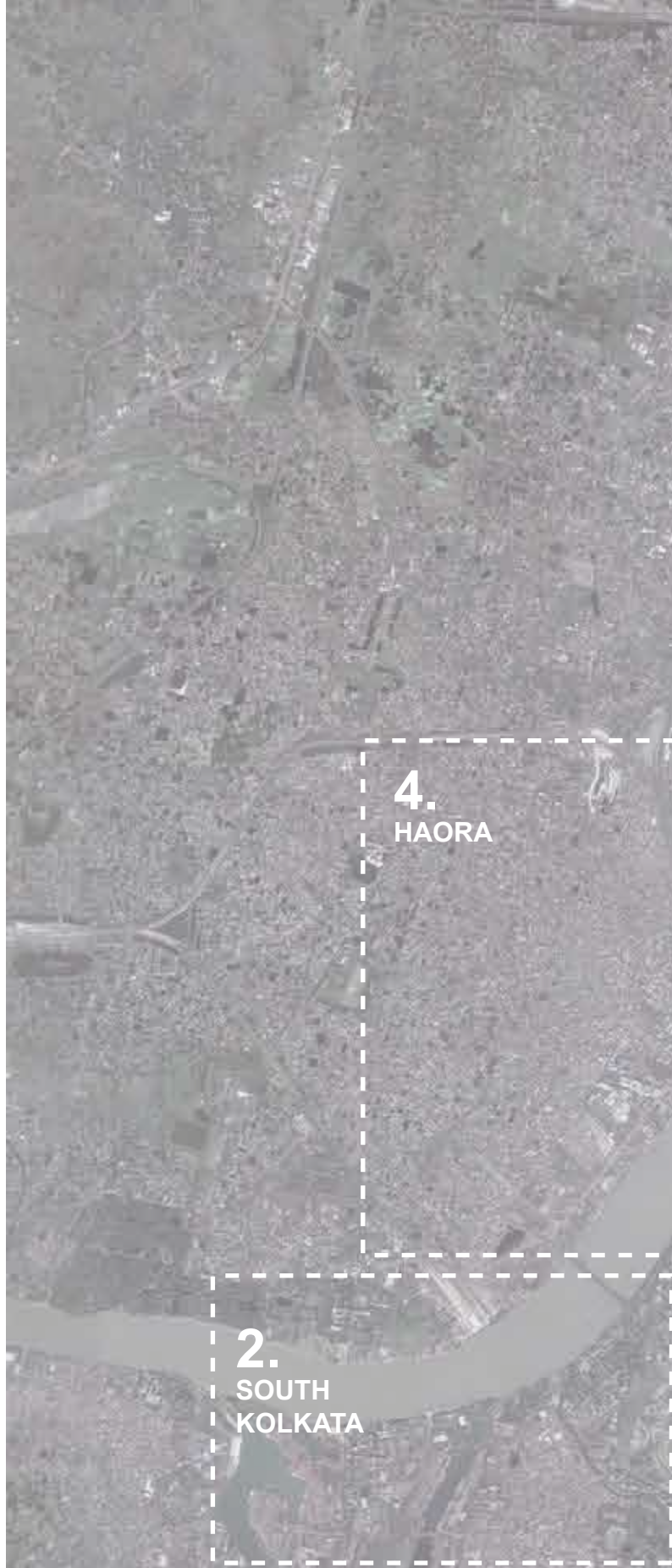
MIXED LANDUSE

**C.P.T.
CALCUTTA PORT TRUST**

ZOOM IN KOLKATA CENTER

Due to the size of Kolkata and the limited time we concentrated our research on the **Kolkata Center; sector 1**.

With the knowledge that this would give us a broad example of life and activities in Kolkata along the water edges.



4.
HAORA

2.
SOUTH
KOLKATA

3.
NORTH
KOLKATA

1.
KOLKATA
CENTER

ZONING PLAN KOLKATA CENTER



1.

PROMENADE

There is a nice path from Prinsep Ghat that leads northwards. Most people there are street dwellers. The river front is blocked by a fence.



2.

LEISURE

The Millennium Park is the latest addition to the list of amusement parks in Kolkata. It has been developed by Kolkata Metropolitan Development Authority, to beautify the riverfront. It is with entrance, so working class people are spending their time there.



3.

BUSINESS DISTRICT

The B.D. is in the center of Kolkata which developed with the history of the main buildings by the British. The big buildings are concentrated around Strand Road.



4.

MARKETS

There are various markets situated along the river. The Flower Market is very busy from about 7 a.m. till about 11 a.m. People buy flowers for decorations, weddings and for rituals, offerings.



5.

CULTURAL SPACE

In the hole are of the C.S. people are working on idols for festivals and rituals. They are doing beautiful decorated idols out of clay. The clay they use, is out of the river.



6.

TRANSPORT

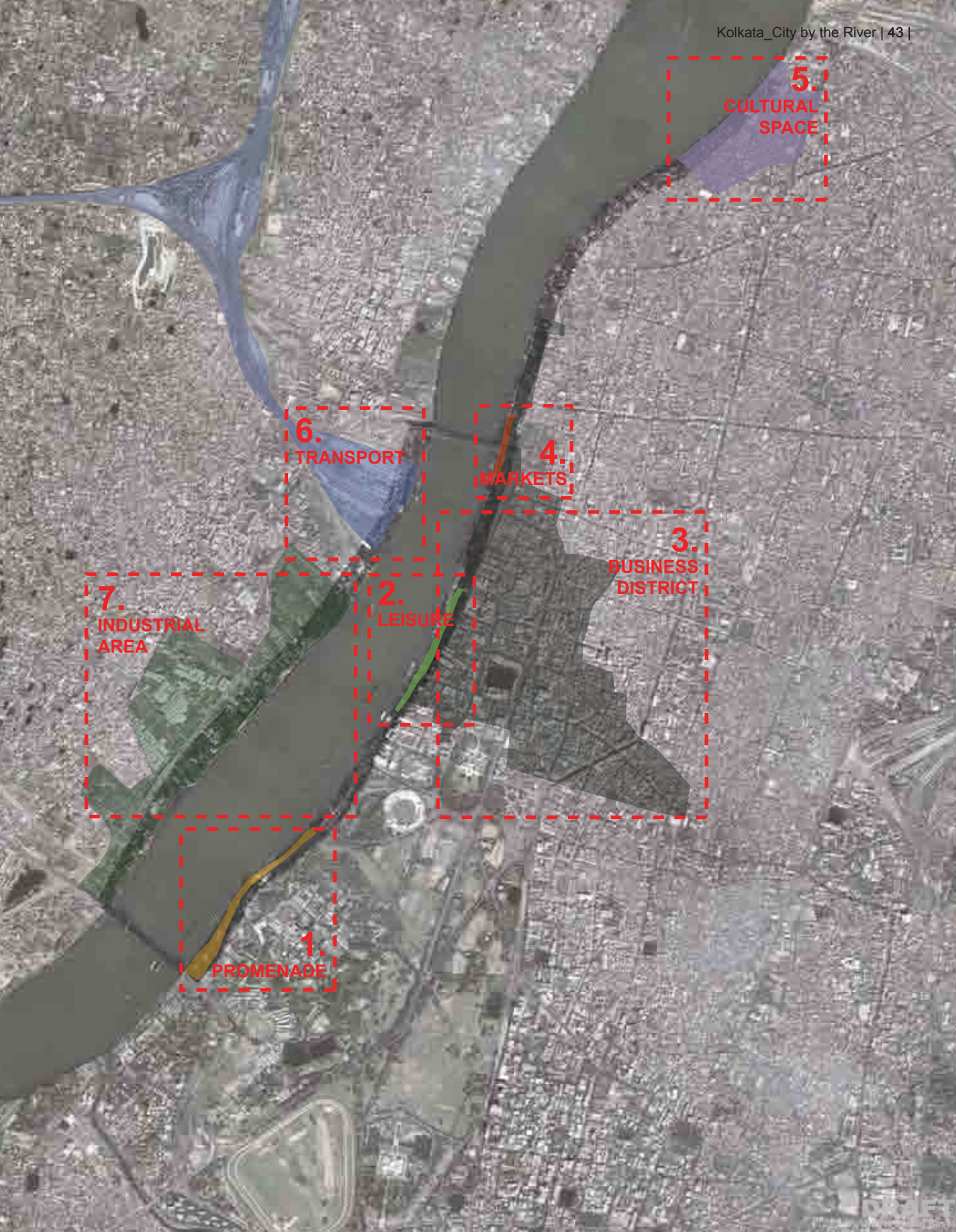
Howrah Station is one of the largest railway complexes in India. It is situated on the western side of the Hooghly river. Many people spend their time in waiting on the river edge or just to get to the Business District.



7.

INDUSTRIAL AREA

The I.A. is not so crowded and busy like the other zones. The streets are mostly not paved. Walls are running parallel to the "street". Most Industry's are hidden behind its walls.



5.
CULTURAL
SPACE

6.
TRANSPORT

4.
MARKETS

3.
BUSINESS
DISTRICT

2.
LEISURE

7.
INDUSTRIAL
AREA

1.
PROMENADE

1. PROMENADE



The promenade stretches from Princep Ghat and leads northwards till Outram Ghat. It starts of with a **narrow path between some trees** and goes over to a planed promenade with plant pots, statues and little kiosks. A lot of **street dwellers spent their time here**, and lie under the trees sleeping. Although it's a nice place to be, young people or other Kolkatans don't come here, because it's considerate unsafe.







STAND KEMASUKAN
TAHAP 2 ZONAT



Kiosks along the promenade

2. LEISURE



MILLENNIUM PARK

Located on Strand Road near BBD Bagh, Kolkata, Millennium Park is the **latest addition** to the list of amusement parks in Kolkata.

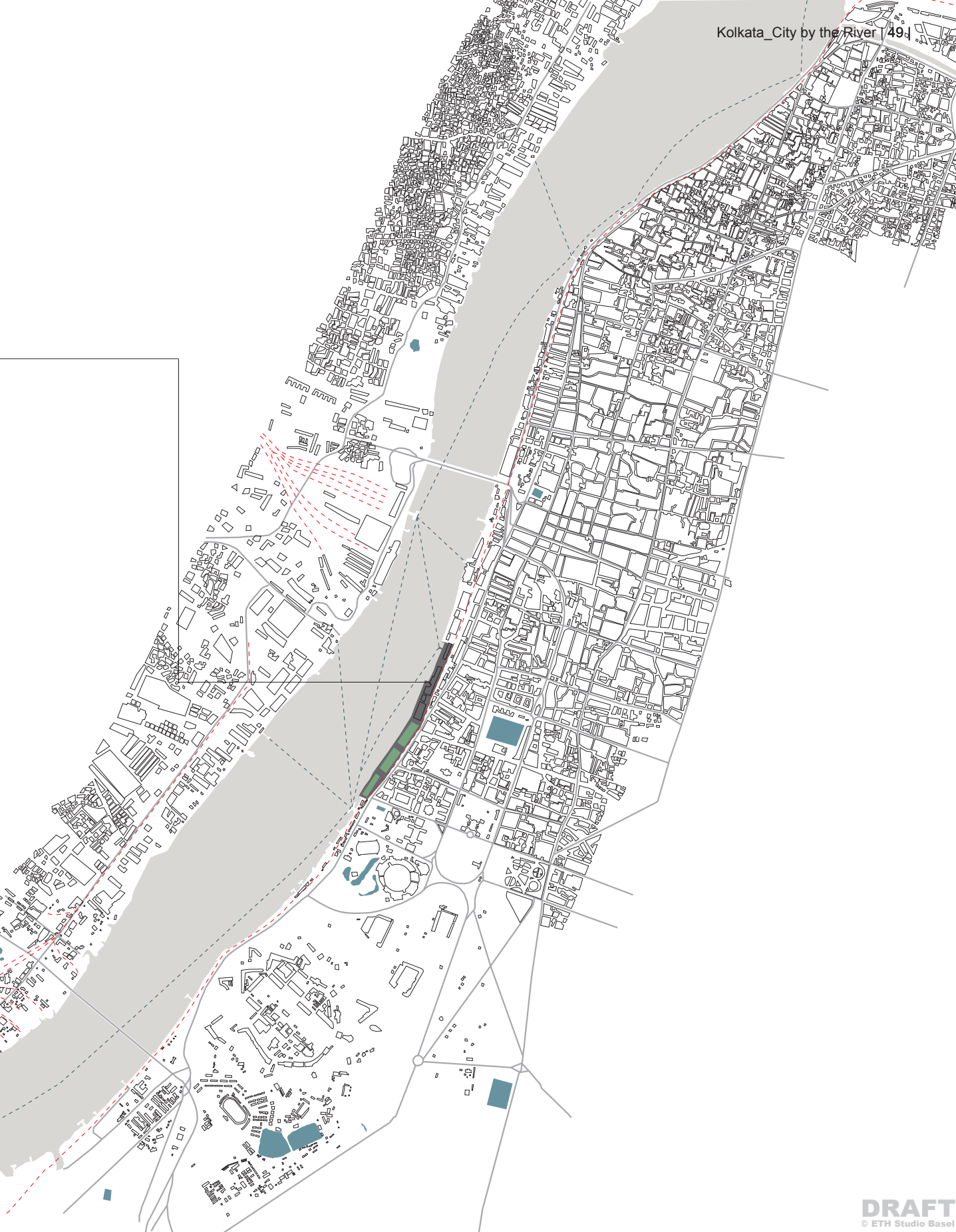
Built on the bank of the river Ganga, this park was inaugurated on 1st January, **2000**. Such a concept was so long found in the occidental countries only. This has been developed by **Kolkata Metropolitan Development Authority** on the **land belonging to Kolkata Port Trust** in an endeavour to promote tourism and to **beautify the riverfront**.

The **park is fenced** and one has to **pay entry** to get in the park was designed and meant for the **working class** to spend their leisure here. There are rows of benches on the banks for the people, mainly love couples and groups of young people. Therefore it is kept clean and the only dustbins we saw along the river were in this park.

Within the park, there are some cottages available with thatched roofs. These provide shelter from the scorching sun rays, rainfall and other whims of nature when the need be. Other sitting arrangements are also available like benches, stools and chairs, arranged in rows by the side of the railings.

There is also a children's park exclusively for the kids. There are slides, merry-go-rounds and some other rides to the sheer delight of the kids. The Millennium Park is an achievement of the city to pull its waterfront back from marginal use and neglect into the main stream of public activity and private investment.





working class



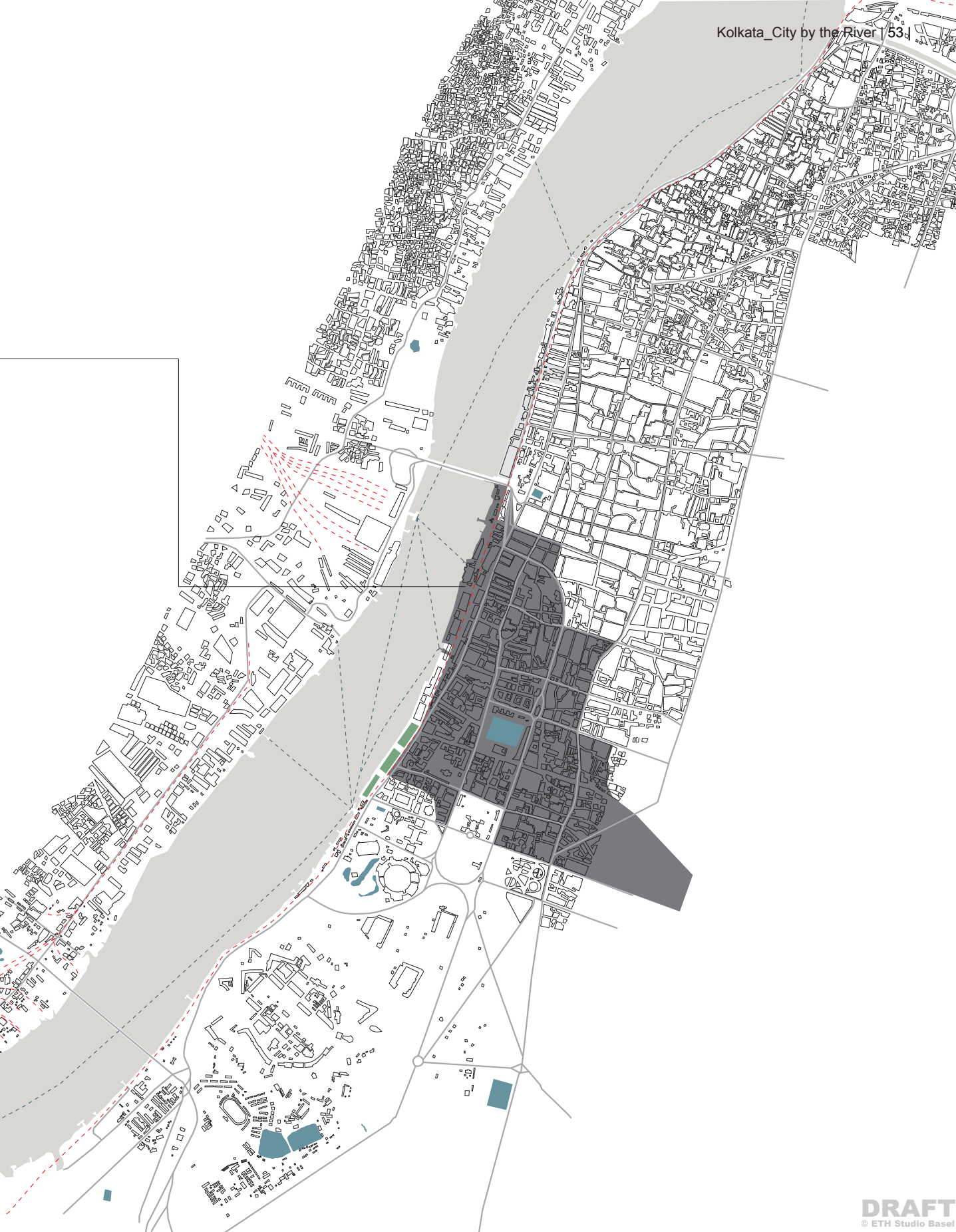


3. BUSINESS DISTRICT



Central Kolkata houses the central business district around the B. B. D. Bagh area. The government secretariat, General Post Office, High Court, Lalbazar Police HQs and several other government and private offices are located here. The **colonial district is still the central business area** and is considered the heart of Kolkata. Many people from the agglomeration around Kolkata come to work in the central business district. They arrive at Howrah Station and then take a ferry to reach their job.









View of the Business District from Haora side

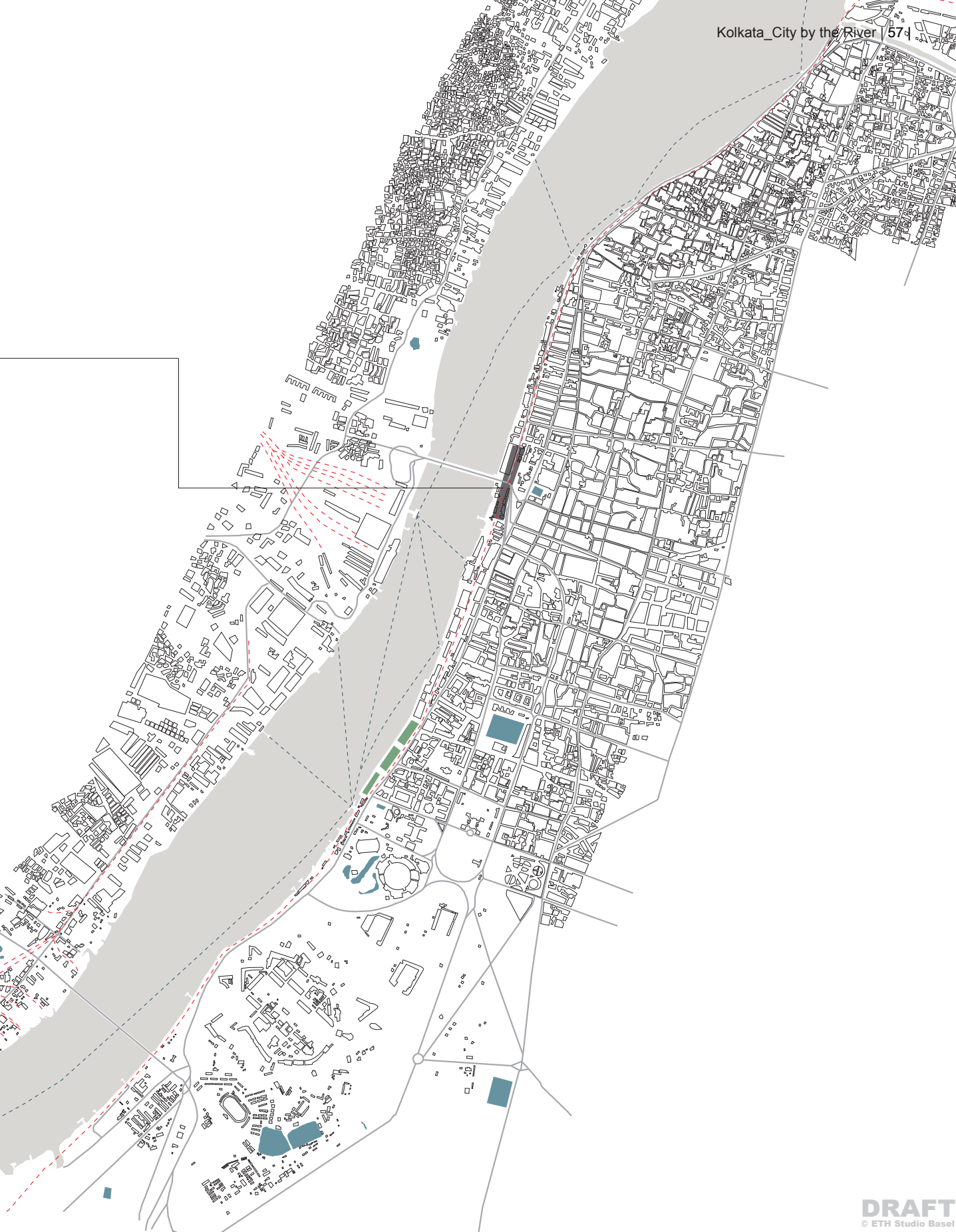
4. MARKETS



The flower market is **125-year old** and perched on the banks of the Hooghly river. The stalls start from under the Howrah Bridge and straddled Strand Road on the banks of the river. **Thousands of people gather here daily** to buy and sell flowers and plants. Flowers from the market are exported to West Asia and Europe. Some 2,000 growers visited the stalls every day to sell, the number rising to 5,000 during festivals and wedding seasons. We are not quite sure for the reason of the location of the flower market. We have explained it to use that due to the **location of Howrah Station on the other side of the Howrah Bridge**, it **makes transportation easy** and short.

The salt market is located after the flower market under the Howrah Bridge. The **salt trade used to be a business which took place on the river**. That's the reason for its location on the river bank. The warehouses were built for the purpose of transit storage of sea-borne traffic. Later the **transportation moved from river to rail**, so that **rail transportation took the river's place** for big movements of salt.









Flower Market

5. CULTURAL SPACE

CULTURAL SPACE

The area, which we call "cultural space" is situated **in the north of Kolkata** and is famous for making the idols.

Kolkata, or Hindu religion have a lot of **different festivals** during the year.

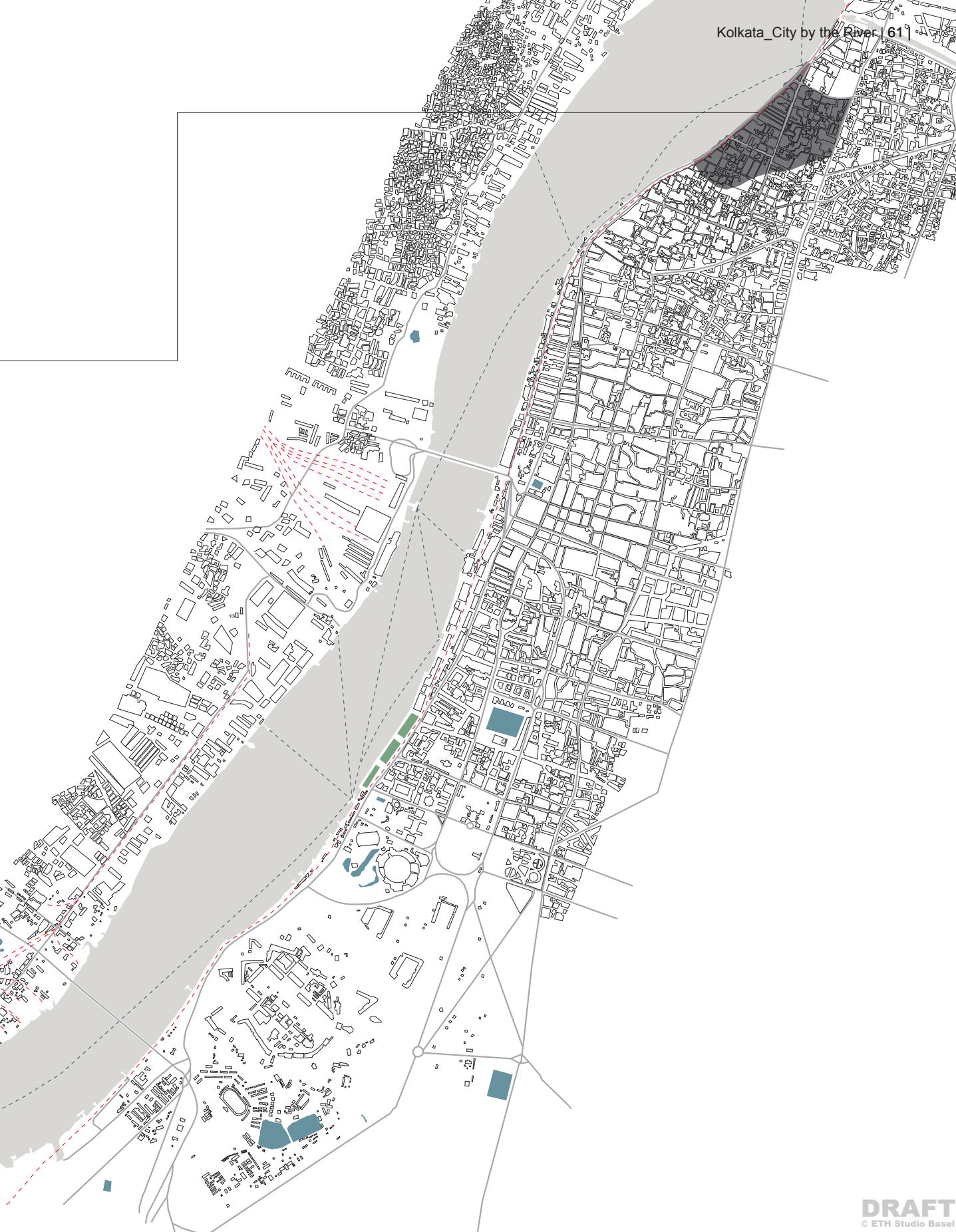
When we were there in October, people were celebrating the Festival of lights with the goddess Kali. The hole area **in the north** was **working on preparing idols out of the clay**, which they have from the river. That is one reason because they are **situated close to the river**. The workers **paint and decorate the idols very rich**. Also temporarily temples out of bamboo are built for the festival.

At the festival itself they give the Idols back into the water. The **Ganges** symbolizes **life and death**.

Besides this nice side, there is another side to it: These Idols with all their colors and flowers are polluting the river very much.

The river edge here is more open than in the center of Kolkata. There is a large path which is going along to the river and at some points there are access to different ghats, where street dwellers bath and wash their clothes or wash their dishes. Unfortunately the families create slums and settle right next to the railway, so that they are close to the water for their daily issues. Building behind the slums are blocking the river front.









Clay idols of Goddess Kali for the festival

“You can walk along the river but no one comes here

Probhas Ch. Kumar, Associate Town Planner



Workers who are doing the Idols



Painting and decorating the Idols

because the families who do the idols create slums”.



Wide street along the river



Slum settlement next to the railway

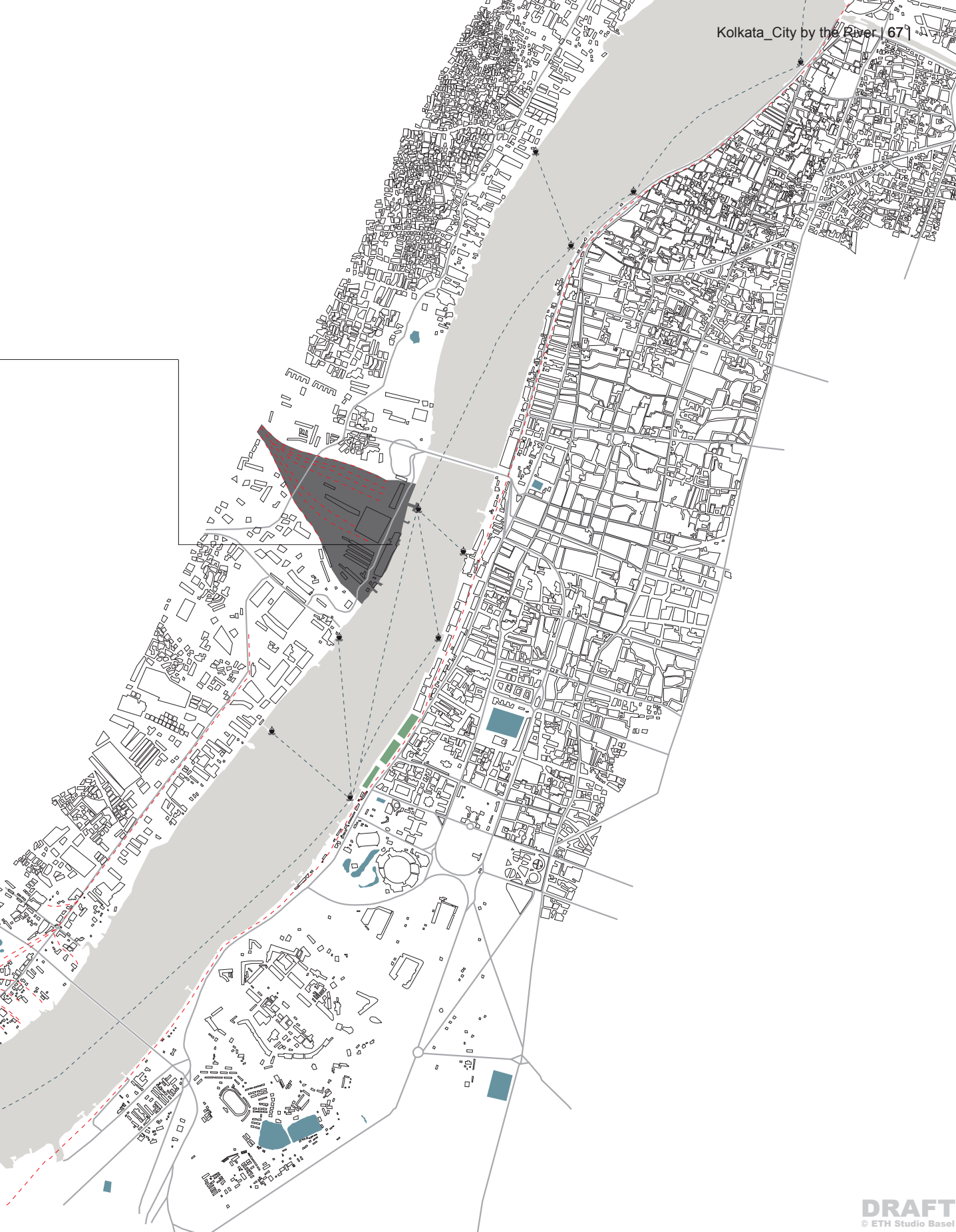
6. TRANSPORT



The two major railway stations of the city are at Howrah and Sealdah. The rail lines running through Kolkata connect the city with many of the country's major cities. Many people from the agglomeration come to work in Kolkata. They arrive at Howrah Station and then take a ferry to cross the Hooghly river.

Howrah Station is situated on the **West bank of the Hooghly River**, linked to Kolkata by the magnificent Howrah Bridge. It is the second-oldest station and **one of the largest railway complexes in India**. At first it was a single line track and a station at Howrah was built for goods only. Trains from this station serve the Kolkata urban area and most major cities of India. For passengers it has an enormous covered waiting area between the head house and the platforms. The head house has Waiting Rooms and Retiring Rooms for use by passengers awaiting connecting trains. In addition there is a Yatri Niwas which provides dormitory accommodation for passengers awaiting connections.







Howrah Station



Big availability of meals



People are waiting on the Ghats for the train



Street dwellers doing their daily activities on the same Ghat

FERRY TRANSPORT ON THE HOOGLHY



The ferries connect the different parts of Kolkata. Ferry travel is a novel and enjoyable way of avoiding tiresome traffic jams, especially those along the Howrah Bridge. Ferries run from Howrah to Armenian Ghat from 08:00 to 20:00, every 15 minutes; from Howrah to Fairlie Place from 08:00 to 20:00, every 10 minutes; from Howrah to Chandpal from 07:30 to 20:00, every 15 minutes; and from Howrah to Bagbazar from 08:00 to 20:00, every 15 minutes.

HISTORICAL MEANING

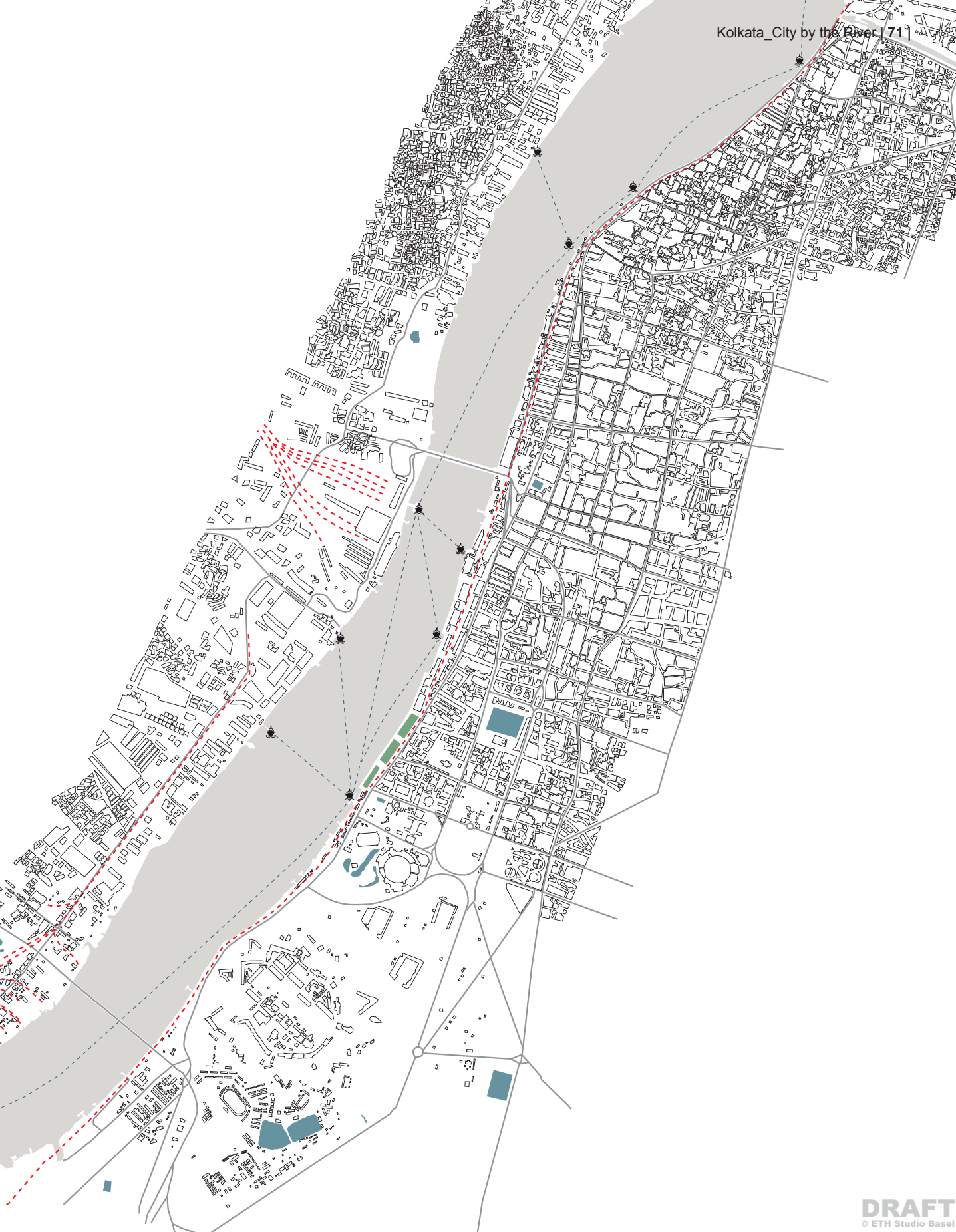
The first docks in the city were mooring on the east bank of the Hooghly River, far to the north of the present Dockland. The earliest were in north central Clacutta and now B.B.D Bag.

The salt trade of the river was felled by a shift in the policy of transportation according to which, **it moved from river to rail**, so that **rails transportation took the river's place** for the big movements of salt. The anchorages of the Strand Bank jetties disappeared after the first half of the twentieth century. **The active port moved South** in the second half. Only the **Customs Warehouses, some disused jetties, and the later wall of the circular railway remain as mute testimony of a waterfront that was.**

It is only a logical development as has been said before, today, the the port is shifting itself towards Haldia and in an attempt to obviate what people call "the bends", bores and bars" of the river, the shift will finally take place according to projections, to Diamond Harbor and even further southwards towards Saugor.

In fact, the development of Haldia as a sea port has made it easier to focus on the renovation of work in the Kolkata Dockland, on upriver traffic into the city and to rail and road terminals taking goods further inland.









Ferry Dock at Armenian Ghat

7. INDUSTRIAL AREA



The industrial area is separated from Kolkata by the Hooghly river. The regions in the **western precincts** are primarily **industrial estates** and as such house a number of industrial units. Kolkata's famous docks and shipyard building enterprises are located in these regions.

The western Kolkata has many **manufacturing units** installed in there. The primary industrial output comprise of **chemicals, paints, metal plating and galvanizing**. Besides being an industrial area, the regions also support a great population. The western suburbs are not as much developed as the other areas. The region contains **many slum areas** with sub standard means of living.

Trade & Industry in Kolkata plays a significant role in developing the economical condition of West Bengal. For the last couple of years, Kolkata is showing tremendous performance in the industrial sectors like **Information Technology, Real Estates, Electronics, Apparel and Plastic products**.









Industrial Area on Haora side_No paved streets



Factories are behind walls and gates



Young boys carrying bricks

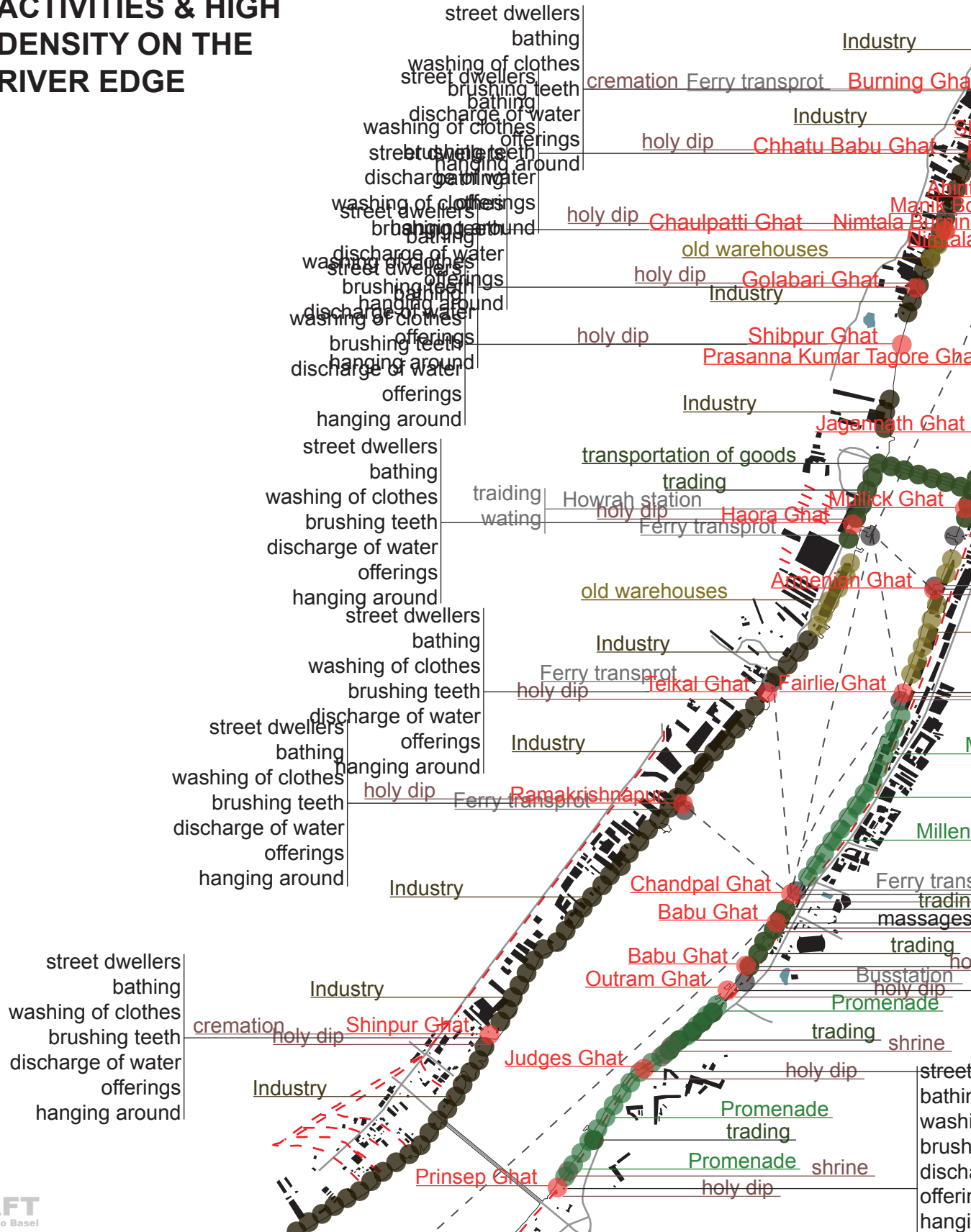


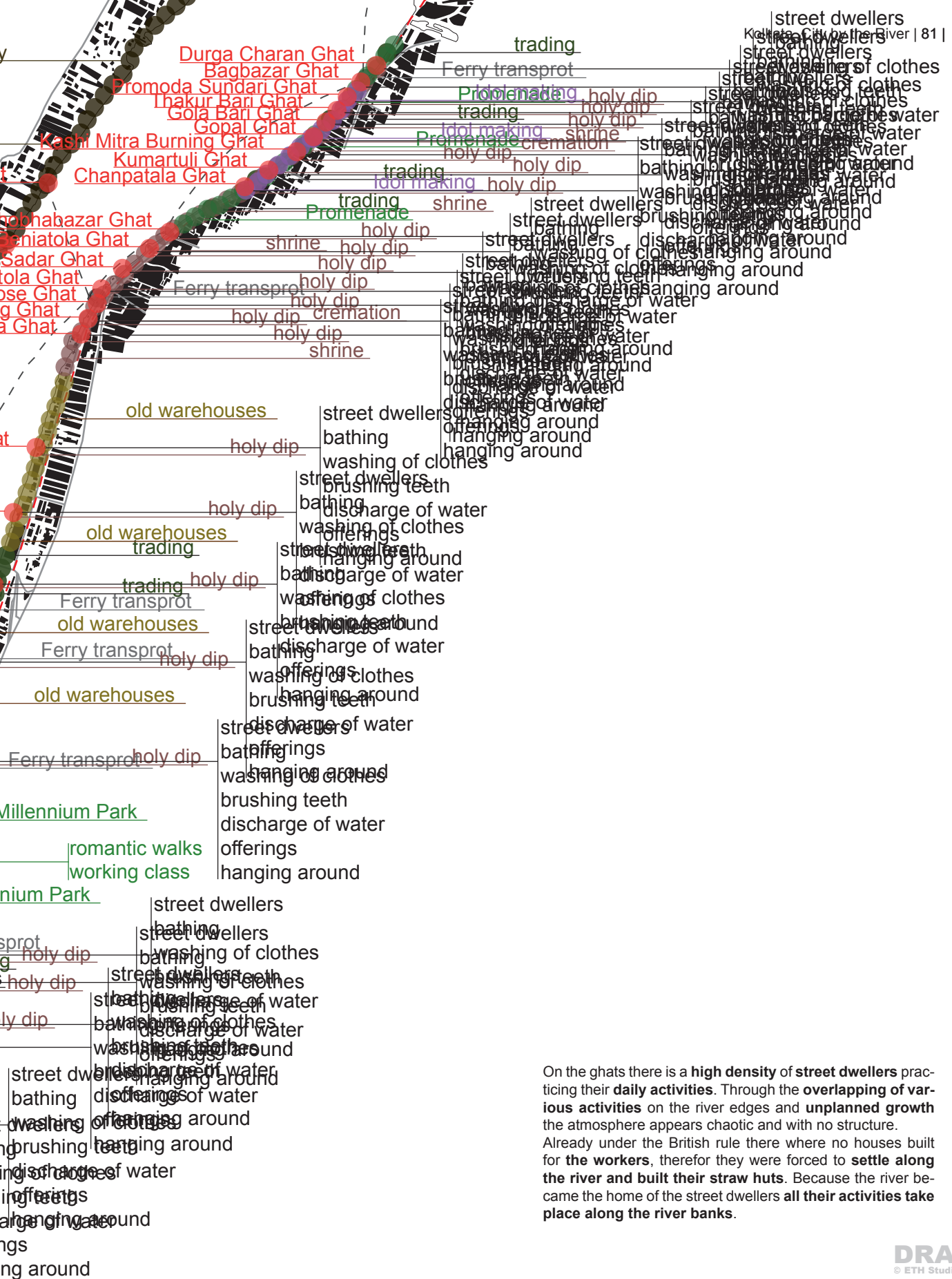
The home of the workers on the river edges



Industrial work on Haora

OVERLAPPING ACTIVITIES & HIGH DENSITY ON THE RIVER EDGE





On the ghats there is a **high density** of **street dwellers** practicing their **daily activities**. Through the **overlapping of various activities** on the river edges and **unplanned growth** the atmosphere appears chaotic and with no structure. Already under the British rule there where no houses built for **the workers**, therefore they were forced to **settle along the river and built their straw huts**. Because the river became the home of the street dwellers **all their activities take place along the river banks**.

PANORAMA



Bagbazar Ghat

Bagbazar Ferry-Ghat



Gola Ghat

Gopal Ghat

Kashi Mitra Burning Ghat

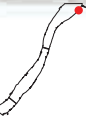


Chanpatala Ghat

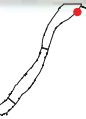


Promoda Sundari Ghat

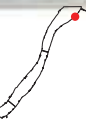
Thakur Bari Ghat



Kumartuli Ghat



Shobhabazar Ferry-Ghat





Beniatola Ghat

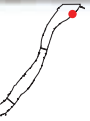


Sadar Ghat

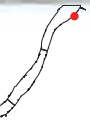


Ahiritola Ghat

Manik Bose Ghat



Ahiritola Ferry-Ghat



Nimtala Burning Ghat





Nimtala Ghat



Bagbazar Ferry-Dock

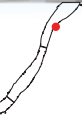


Prasanna Kumar Tagore Ghat

Old V...



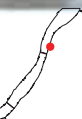
Old Warehouses



ck



Warehouses:





Salt Market



Old Warehouses



Flower Market

Flower Market



Jagannath Ghat

Old Warehouses



Howrah Bridge



Mullick Ghat





Old Warehouses



Old Warehouses



Old Warehouses



Armenian Ferry-Ghat





Old Warehouses



Millennium Park

Fairlie F



Millennium Park



Millennium Park



Cherry-Ghat



Millennium Park





Millennium Park



Millennium Park

Old Warehouses



Floatel

Business District

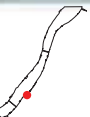
Millennium Park



Business District



Chandpal Ferry-Ghat





Babu Ghat



Outram Ghat





Eden Gardens



Princep Ghat

2. Hooghly Bridge



03

TODAY'S CLOSED RIVERSIDE

Open and closed spaces along the river **100**
Indicator for the closed riverside **118**
Access Points **136**

EVERYONE

DIFFERENT

& IDEA OF A

ONE CAN R

THIS ON TH

OF THE RIV

E HAS A
T DEMAND
A RIVER.
RECOGNIZE
HE SHAPE
VER EDGES

“We want the river back, but that’s difficult”

Supriyo Nandy, Film maker



DIAGRAM OF OPEN AND CLOSED SPACES ALONG THE RIVER

DIFFERENT DEMANDS OF A RIVER

There are **different demands and ideas of a river of each class**. Depending on how one wants to use the river there are different ways on designing the water edges. For **street dwellers** and the **religious rituals it is important** to have **direct access** to the water; they depend on the natural source of water. For others, i.e. working class people it's important to be able to walk along the river **without any need of contact with water**. And for **trading purpose** it is important to have **storage possibilities** directly on the river bank for good accessibility.

The **center** of Kolkata has **marks of the ancient colonial trading** by the British with its **blocking warehouses** on the river edges. Because of that, the riverfront is **mostly closed**.

The **northern part** was more for the **native people** at that time, so the interests of them were to have a **lot of ghats** on the riverside **to perform rituals and daily needs** like bathing, washing clothes etc. This **causes more open spaces along the river**.

The Hooghly river was once the lifeline of the city. But around 1920 that changed. The river became more and more a **barrier and separated the city from the river**. Because the river isn't visible from the city, except from the bridges, many Kolkaten's never have been to the river.

Later we will show the different **indicators** like the **road-system, the walls next to the street, the railway next to the river edge and warehouses** which are responsible for that.

Buildings | Warehouses | Walls | **CLOSED**

Promenade | no direct access to the river | **HALF OPEN**

Ghats | Docks | **OPEN**

ZOOM IN 1 KOLKATA CENTER ANCIENT COLONIAL TRADING

The situations of the center of Kolkata can be described with:

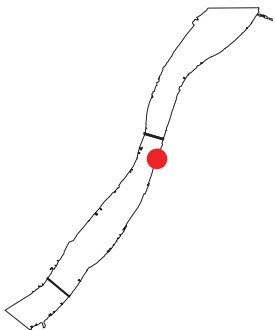
- _River, Warehouse, Strand Road, big buildings
- _River, little access to a Ghat with crossing the railway, Strand Road, big buildings
- _River, gated park, Railway, Strand Road, big buildings
- _River, Promenade, Railway, Strand Road, big buildings



Buildings | Warehouses | Walls | **CLOSED**

Promenade | no direct access to the river | **HALF OPEN**

Ghats | Docks | **OPEN**



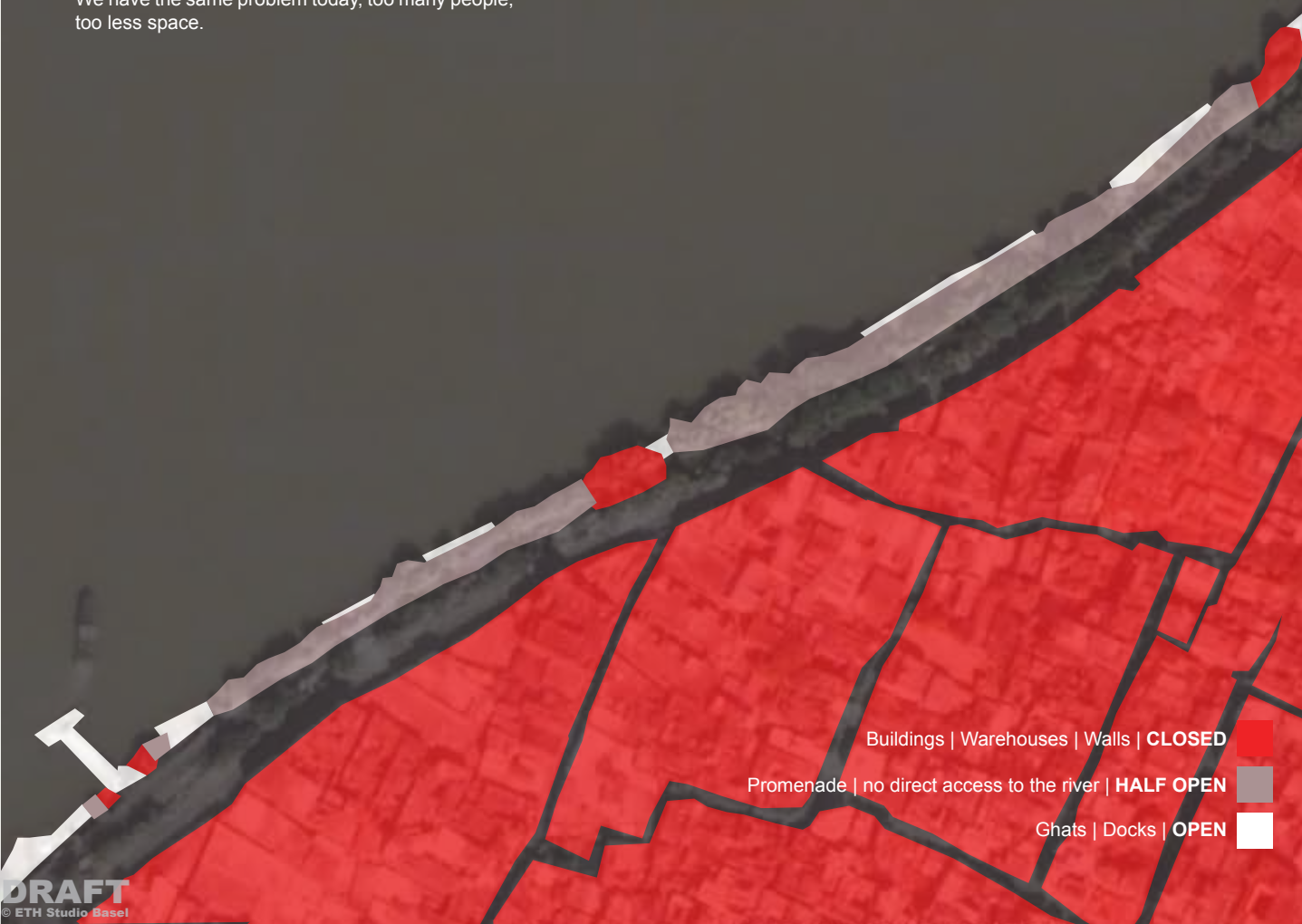
ZOOM IN 2

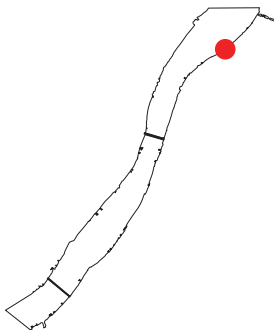
KOLKATA NORTH

NATIVE_HINDU RITUALS

There are more ghats in the north and the river side is not overbuilt with warehouses like in the center. That makes the river edge more open. The distance from the Railway to the River is also a little bit wider than in the center. This makes it possible to have a big street next to the river.

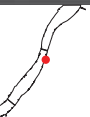
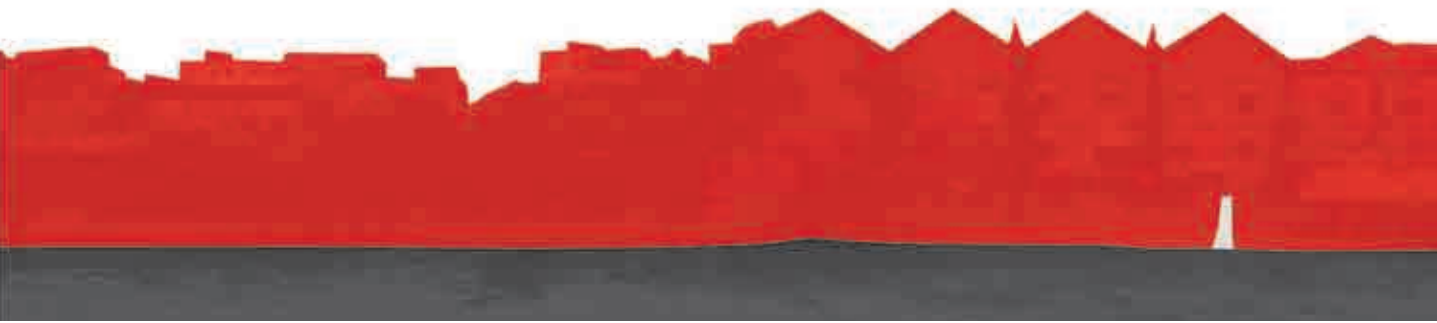
On Strand Road and also in the northern part of Kolkata, slums settled down on the river edges. In the north, it is next to the railway and in the center on the river edges or on Strand Road itself. During the cities growth, Indian people, who were working for the english, came from other cities. Some of them came without their families. This caused a flooding of population. But there were no houses or doss for them. So they settled on the river edges and built homes for themselves. We have the same problem today, too many people, too less space.





**ELEVATION DIAGRAM
ZOOM IN 1_PART 1
ANCIENT COLONIAL
TRADING**





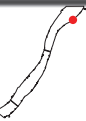
**ELEVATION DIAGRAM
ZOOM IN 1_PART 2
ANCIENT COLONIAL
TRADING**





**ELEVATION DIAGRAM
ZOOM IN 2_PART 1
NATIVE_HINDU RITUALS**





**ELEVATION DIAGRAM
ZOOM IN 2_PART 2
NATIVE_HINDU RITUALS**





OPEN AND CLOSED SITUATIONS IN COMPARISON WITH OTHER CITIES



Kolkata North



Varanasi



Kolkata Center



Dacca

By analyzing the water edges in the center of Kolkata, one can see, that the **river front in Kolkata center is mostly closed**. A reason for that is, that during the british Empire the city was interested in building warehouses and factories, for the purpose of storage of sea-borne traffic. In the **northern part** of Kolkata, the situation is a bit different. There are **possibilities to walk along the river**, but without any direct access to it. In compare with the center, there are a lot more ghats and open spaces.

Varanasi is one of the holiest city on the Ganges in India. Such an industrial development didn't take place there. The **river edges are more integrated to the city**.

Dacca developed in the 17th century as the centre of worldwide muslim trade and also under British-rule, like Kolkata. Today, there is still a **huge activity with trading**. The **coast developed as a wide and large space**.

Dacca and Varanasi's river edges correspond more



Kolkata North



Varanasi



Kolkata Center



Dacca

with the city. In the center of Kolkata, it seem's like trading is no more such a big deal like at the British's time. The river was a lifeline of industry. Now, the industrial houses are empty and ruinous and are just blocking the riverfront.



INDICATORS FOR THE CLOSED RIVERSIDE CIRUCLAR RAILWAY



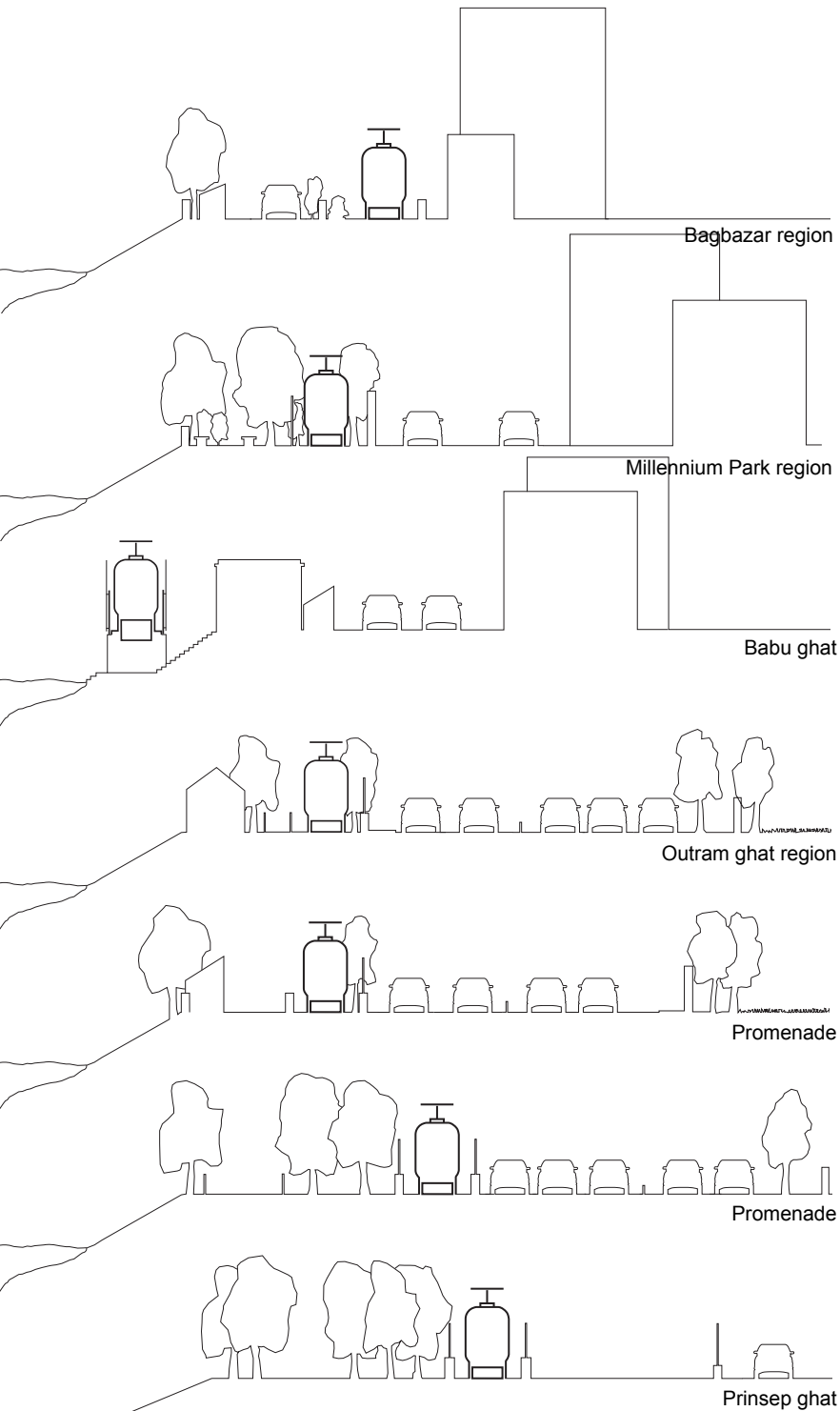
Railway - - - -

The **Railway tracks go directly along the river**. In purpose to get to the riverbanks one has to first cross the railway tracks. They were **formed around 1900 for transportation of goods**. The salt trade of the river was felled by a shift in the policy of transportation according to which, it **moved from river to rail**, so that rail transportation took the river's place for big movements of salt. The anchorages of the Strand Bank jetties disappeared after the first half of the twentieth century. The **active port moved South in the second half**. Only the customs warehouses, some disused jetties, and the later wall of the circular railway remain as mute testimony of a waterfront that was.

Insightful planners had, as early as in 1947, explored the possibility of utilizing the oval-shaped railway tracks that girdle the city by linking them to form a Circular Railway. The idea was first looked into by the Ginwala Committee, which recommended a surface railway from Dum Dum, on the north-Sealdah section up to Chitpur (used as a goods yard), elevated tracks from Chitpur to Majerhat over Calcutta Port Trust's existing **lines parallel to the river**, and surface railway again from Majerhat to Dum Dum along Eastern Railway's Budge Budge lines via Kankurgachi Chord connector between Sealdah's north and south divisions.

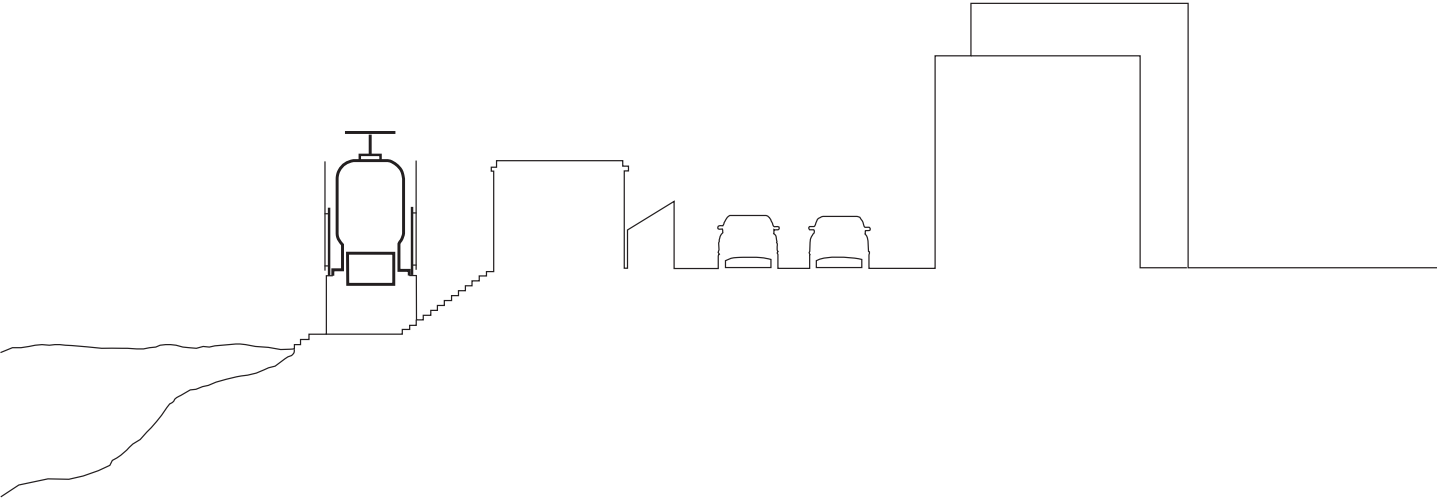
The train runs hourly and during peak hours every 15 min.

POSITION OF THE CIRCULAR RAILWAY ALONG THE RIVER





BABU GHAT BLOCKING OF VIEW

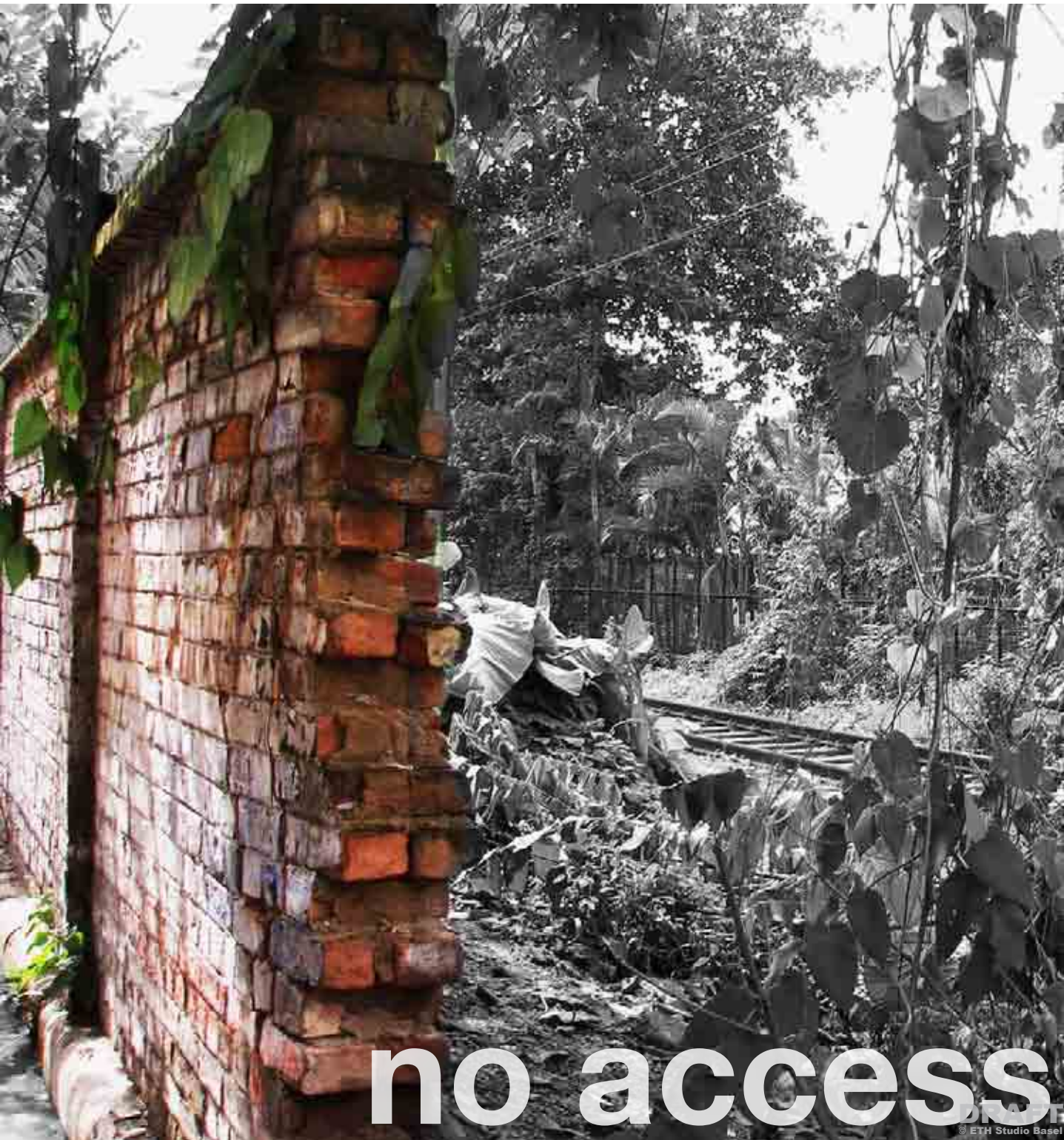


view???



MILLENNIUM PARK REGION_NO ACCESS TO THE RIVER





no access

OUTRAM GHAT REGION INCONSPICUOUS ENTRANCE





small entrance

“There are plans to open up the river side. It is blocked by roads.”

Supriyo Nandy, Film maker



ROAD SYSTEM

by the road, like a barrier.”

The city's history marks also show on the city's roads. The center of Kolkata was where the colonial trading took place. For that purpose they built warehouses along the river banks and the Strand Road to allow efficient transportation.

STRAND ROAD

The construction of the Strand Road was taken up by the Lottery or Calcutta Improvement Committee in **1820** and the shipbuilders of Clive Street were obliged to shift their establishments to Howrah.

The **northern part** was more for the **native people** at that time, so the interests of them were to have a **lot of ghats** on the riverside to perform rituals and daily needs like bathing, washing clothes etc.

Like the Strand Road, **most roads** between the two bridges **run parallel to the river**, with only **few or no orthogonal roads leading from the city's center to the river**. This causes the fact, that one drives past the river without even noticing the river being next to one. After the Howrah bridge up to Bagbazar the situation changes. There the streets run both ways, parallel and in a right angle to the river.

Approximately **15 million people** today live within Kolkata Metropolitan District's 1380 square kilometer expanse. While in most modern cities, the road surface area relative to the total area is around 30%, here it is barely 4.2%, way below even the national average. With **unplanned urban growth**, this meagre network of roads falls far short of requirements. Also upkeep of these roads has traditionally been very poor. Combined with an uncontrolled mix of incompatible forms of traffic and the menace of hawkers who continue to occupy pavements and even parts of road under political patronage transport remains slow, crowded and dangerous.

Buildings | Warehouses | Docks | **ANCIENT COLONIAL TRADING**

Buildings | Warehouses | Military | **ANCIENT COLONIAL TRADING**

Cultural Space | Holy Rituals | Bathing | **NATIVE**

Ghats | Docks | Shrines | **NATIVE**

**STREETS RUN
PARALLEL TO THE
RIVER**





river???

THE CITY IS SEPARATED AND BLOCKED FROM THE RIVER

One of the mentioned reason for the closed river-side is that **Strand Road separates the river from the city**. The **Railway next to the street needs to be secured**. For that purpose **wall, fence or greenery run parallel** to the street and railway or there are old warehouses, which are blocking the view and making the **accessibility to the river hard**.



Separation by Wall



Separation by Fence

Because of these indicators, which are a **barriers**, it is not easy to go to the river side. On one hand they have to secure the railway from the street but on the other hand there **should be more and bigger openings to the river**.

There are just a few and very small access points, so you miss them sometimes.

The warehouses are mostly built by the British. Today they are empty and degenerated and just blocking the view to the river. Some of the warehouses are declared historical monument, because of that they can't be demolished. They have in mind to renovate them. **Hardly anyone goes to walk on the river side** just to enjoy themselves because **there is nothing**. The river edge got to a backyard.

The river has to become the mainstream of life. And now it's not a part of the city. Young people or rich people are not going to the river. They are just going to the Millennium Park. They don't see the river from the city.

Supriyo Nandy, Film maker



Separation by Greenery



Separation by old Warehouses

“The old warehouses are empty and of no use”

Supriyo Nandy, Film maker



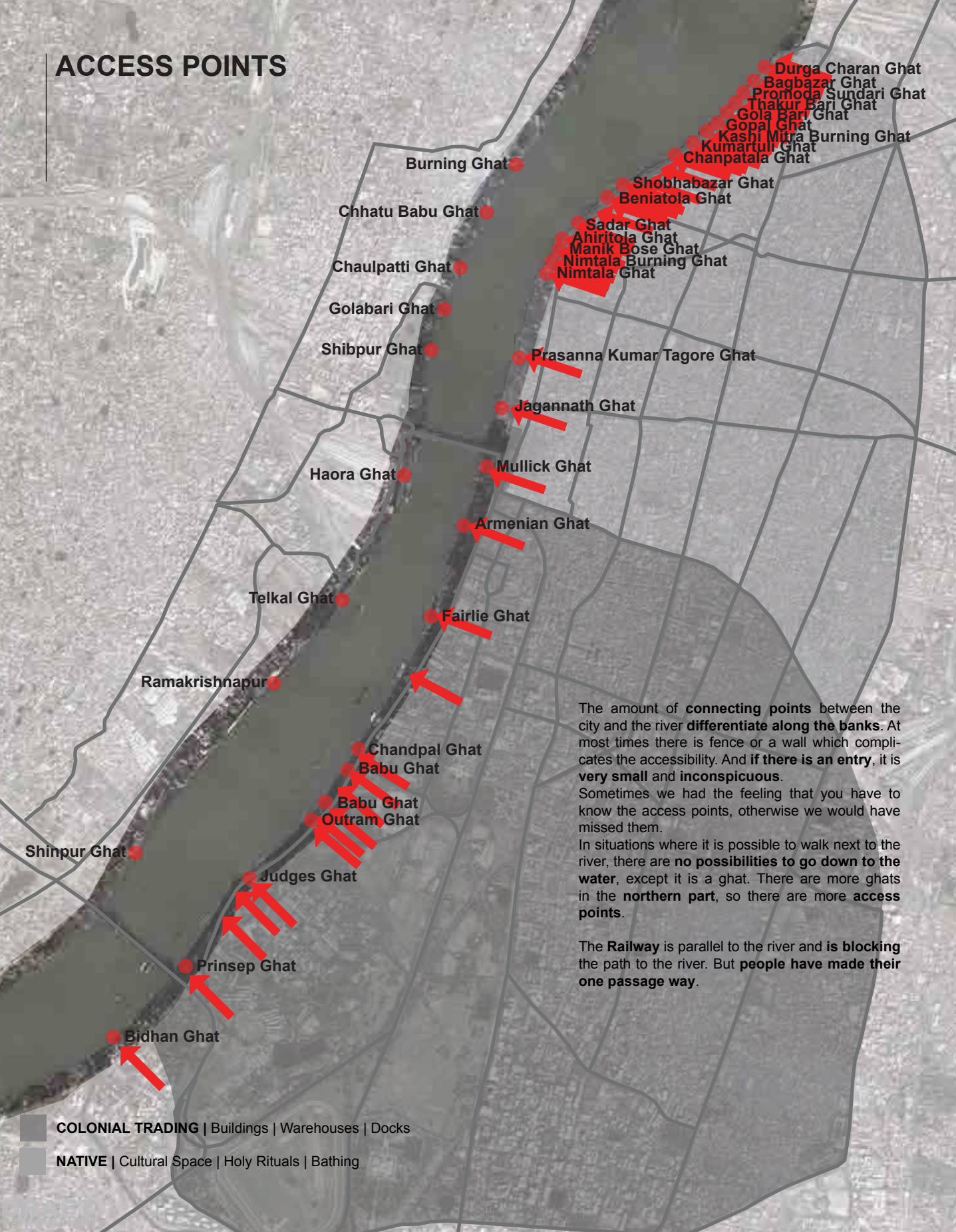
During the last two centuries since the foundation of the city of Kolkata the river front has undergone many changes. The palatial riverside dwelling houses of the bygone days **have become godowns and warehouses** of today.



The Kolkata Port Trust is planning to **redevelop its old warehouses into commercial establishments** such as restaurants, multiplexes, shopping malls and entertainment centers. The eight warehouses, built during the British era, are located on the banks of river Hooghly.

The warehouses were built for the purpose of transit storage of sea-borne traffic. Over the years, these warehouses have become storage complexes for general merchandise. The KPT intends to preserve the colonial architecture of the warehouses while redeveloping the structures for optimal utilization.

ACCESS POINTS



The amount of **connecting points** between the city and the river **differentiate along the banks**. At most times there is fence or a wall which complicates the accessibility. And **if there is an entry**, it is **very small and inconspicuous**.

Sometimes we had the feeling that you have to know the access points, otherwise we would have missed them.

In situations where it is possible to walk next to the river, there are **no possibilities to go down to the water**, except it is a ghat. There are more ghats in the **northern part**, so there are more **access points**.

The **Railway** is parallel to the river and **is blocking** the path to the river. But **people have made their one passage way**.

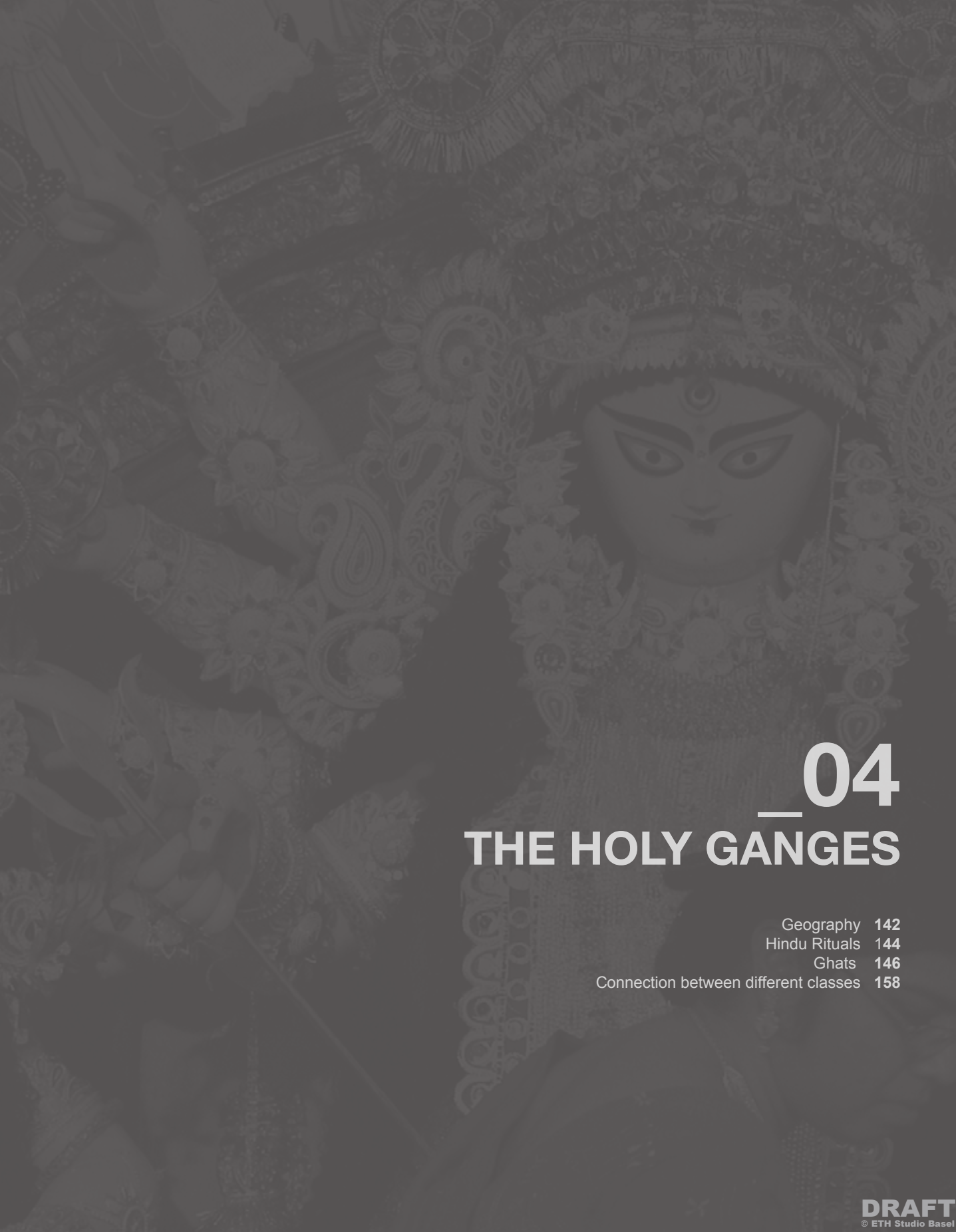
COLONIAL TRADING | Buildings | Warehouses | Docks

NATIVE | Cultural Space | Holy Rituals | Bathing









_04

THE HOLY GANGES

Geography	142
Hindu Rituals	144
Ghats	146
Connection between different classes	158

GEOGRAPHY

The Ganges (Ganga in most Indian languages), is one of the **major rivers** of the Indian subcontinent flowing east through the Gangetic Plain of northern India into Bangladesh. The **2510 km** river rises in the **western Himalayas** in the Uttarakhand state of India, and **drains into the Sunderbans delta in the Bay of Bengal**.

River Ganga/Ganges with its source in the mighty Himalayan mountains is considered to be the **most sacred river by Hindus**. The **waters of Ganga** is believed to be **self cleansing** in nature and it is said that a single dip in the waters of this holy river will **wash away all the sins of a person!**

The Ganges and its tributaries drain a 1,000,000-square-kilometre fertile basin that supports one of the world's highest density of humans.

The story of the Ganges, from her source to the sea, from old times to new, is the story of India's civilization and culture, of the rise and fall of empires.

Many small streams comprise the headwaters of the Ganges, the six longest headstreams and their five confluences are given both cultural and geographical and emphasis.

GANGES DELTA

The Ganges Delta (also Sunderban Delta or the Bengal Delta) is a river delta in the South Asia region of Bengal, consisting of Bangladesh and the state of West Bengal, India. It is the **world's largest delta**, and empties into the Bay of Bengal. The delta, also known as the **Ganges-Brahmaputra Delta**, **stretches from the Hooghly River** on the west to the Meghna River on the east. It is approximately 350 km across at the Bay of Bengal. Kolkata and Haldia in India and Mongla in Bangladesh are the principal seaports on the delta.

_length 2,510 km (1,560 mi)

_source Gangotri Glacier

_location Uttarakhand, India

_coordinates 30°59'N 78°55'E / 30.983, 78.917

_elevation 7,756 m (25,446 ft)

_mouth Ganges Delta

_location Bay of Bengal, Bangladesh

_coordinates 22°05'N 90°50'E / 22.083, 90.833

_elevation 0 m (0 ft)



Towards the source in the Himalayas



Haldia Port_Bay of Bengal



The Ganges is flowing through 4 countries:
India 79%
Bangladesh 4%
China 4%
Nepal 13%

THE HINDU MYTHOLOGY OF THE HOLY GANGES



The power of Ganga arrived on the head of Shiva

“One thousand years ago, the earth was dry and life was threatened to collapse.

The only way to escape, the king Bhagiratha saw in inducing the gods to send the heavenly power on earth.

One thousand years the king prayed to the goddess Shiva until she finally allowed a wish. Bhagiratha asked, if Ganga, the goddess of fertility, would come to earth and bring water. The power of Ganga, however, was so strong that she would have split the earth by any contact.

Therefore she arrived on the head of Shiva to the country and gave the people a river.”

THE HOLY GANGES MOTHER GANGA



At the festival of Durga Puja_giving the God back to its roots



Copper pots are used for taking home the sacred water



the bathing is for the forgiveness of sins and salvation



Burning Ghat

The Ganges is treated as a **holy river** and revered all over India. Many pilgrimage sites have also developed on the banks of river paying tributes to the rich repository of cultural heritage that the city offers. In a country where practically everything in nature is venerated, the **Ganges is most holy**. Considering the magnitude of its life-sustaining force, it's no wonder: its mighty course from the mountains to the sea creates a river basin 200 to 400 miles wide that supports nearly half a billion people.

Hindus may travel great distances to **scatter the ashes of loved ones in the Ganges**. Hindus also believe that the Ganges' divine waters purify those who immerse themselves in her. It is even said that a single **drop of Ganges water**, carried by the wind over a great distance, can **cleanse a lifetime of sins**. In cities along the river and also in Kolkata, **daily dips are an important ritual among the faithful**. Many cities are considered sacred and serve as pilgrimage sites: Gangotri, where the river originates from a glacial cave; Sagar Island, where the Ganges drains into the sea and once restored the ancestors of Bhagiratha; Varanasi, the holiest of cities along the river's course and the most auspicious place to die; and Allahbad, the site of the most important festival in the Hindu religious calendar, Kumbh Mela. In 2001, some 20 million people bathed in the Ganges at Allahbad at the most auspicious moment of this festival.

DOING PUJA

People come to some ghats to do "puja". That means **religious ritual that Hindus perform** on a variety of occasions to pray or show respect to God, Gods, and guru. The purpose of puja is to communicate with God and the Gods or the satguru, to keep a thread to continuity, of relationship, between this physical world and the subtle inner worlds. Puja also serves as a **means of offering love, praise, thanks**, and supplication to God, Gods, and guru. The offerings are made with an acknowledgement – "I dedicate to you O God, what is truly yours." The whole Puja is thus an acknowledgement of one's smallness and humility, i.e. performance of Puja removes Ego, which is truly the only hurdle on the path to success. Pujas vary in their scale, which depends on their duration, the number of deities being honoured, and whether it is being performed for public or private benefit. Most practicing Hindus **perform puja once or twice a day**. Puja **should be done after a shower or bath** and it is recommended that rites be performed before food intake to ensure full concentration (dhyana). Puja is also performed on special occasions in addition to the daily ritual. The actual Puja can be divided into the following steps: Invocation, Offering, Prayer, Conclusion, Immersion.

GHATS_ THE STEPS TO THE WATER

GHAT = HINDI “STEPS”

A Ghat is a series of steps leading down to a body of water.

HOLY BATHING AND RITUALS OF HINDUS

The Ghats, or steps leading down to the river at various points along its stretch, have been an **integral part of the Kolkata scenery since inception**.

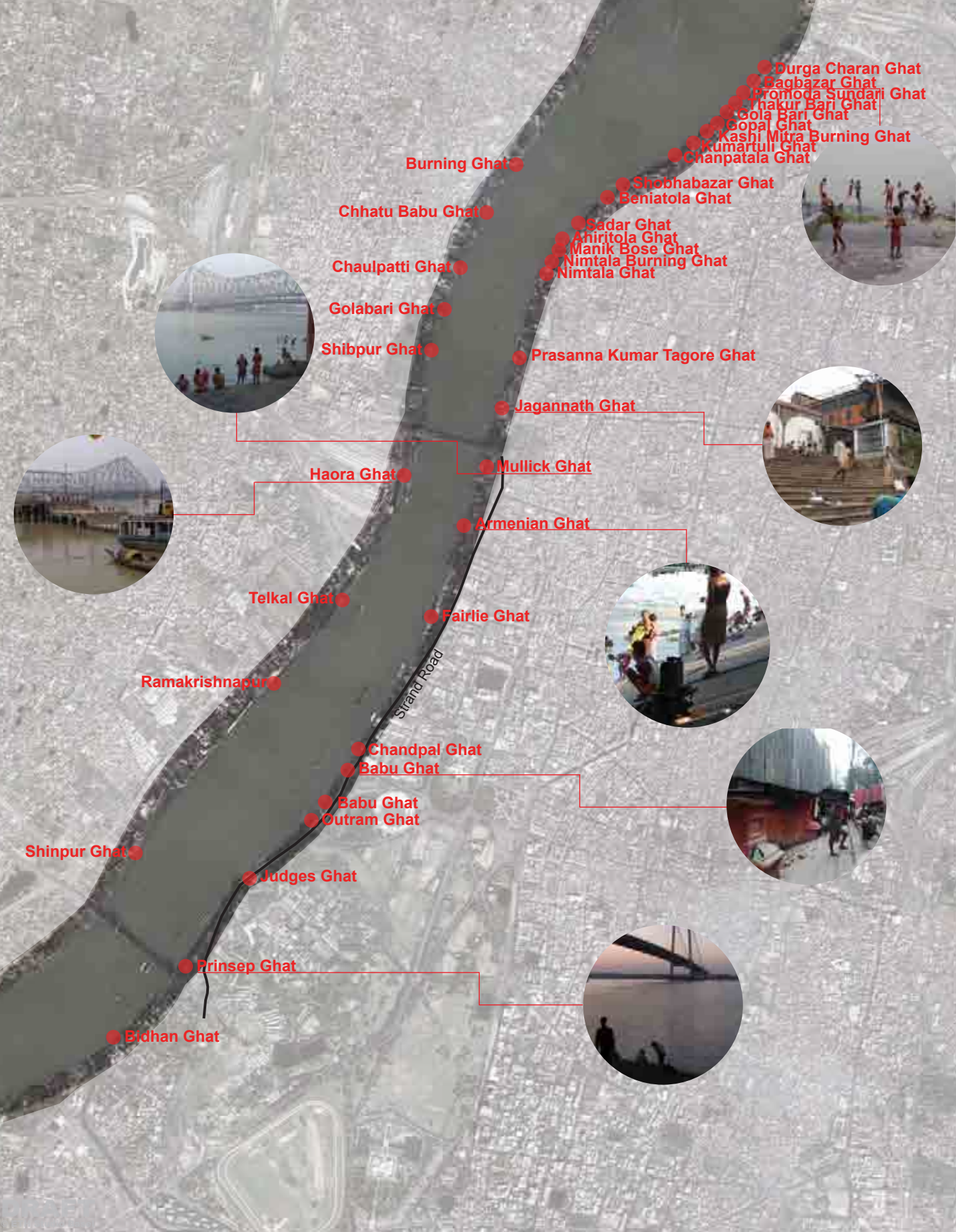
They have tended to proliferate with the growth of the city, from a collection of just three villages on the banks of the river Hooghly, to its at one time as the second city of the British Empire, and one of the largest and finest cities east of the Suez.

There are „ghats“ **named after prominent personalities** and gentry of the city, after ethnic groups or business and trades, or landmarks. In that respect the „ghats“ carry a bit of the history of the city with them. Many of them have been damaged by erosion of the river, or have just run down due to neglect. And yet quite a few still remain, where the **people come down to bathe**, or to **offer prayers** or just to **sit around** and refresh themselves; some with ornate arches, or colonnaded and domed structures are worth looking at.

The east bank of the river has seen so much of the development in the city over the last 300 years. It should be kept in mind however that in the 17th century the river flowed about a 40 to 50 yards to the east of its present course. Since about the end of the 18th century, the river started shifting its course westwards, with the deeper channels appearing on the western side.







● Bidhan Ghat

● Prinsep Ghat

● Shinpur Ghat

● Outram Ghat

● Babu Ghat

● Chandpal Ghat

● Babu Ghat

● Ramakrishnapur

● Telkal Ghat

● Fairlie Ghat

● Armenian Ghat

● Haora Ghat

● Mullick Ghat

● Jagannath Ghat

● Prasanna Kumar Tagore Ghat

● Shibpur Ghat

● Golabari Ghat

● Chaulpatti Ghat

● Nimtala Ghat

● Manik Bose Ghat

● Aniritola Ghat

● Beniatola Ghat

● Shobhabazar Ghat

● Burning Ghat

● Chanpatala Ghat

● Kumartuli Ghat

● Kashi Mitra Burning Ghat

● Gopal Ghat

● Gola Bari Ghat

● Bhakur Bari Ghat

● Promoda Sundari Ghat

● Bagbazar Ghat

● Durga Charan Ghat



GHATS_THE STEPS TO THE WATER



Prinsep Ghat



Outram Ghat



Babu Ghat



Old Strand Road and Warehouses



Armenian Ghat



Mullick Ghat



Jagannath Ghat



Kashi Mitra Burning Ghat

FORT WILLIAM

From the distance it is difficult to make out the Fort, screened as it is by tall trees. It is not possible freely to enter the Fort as it is the headquarters of the eastern Army Command.

The Fort, situated on the river Hooghly at what was earlier the village of Govindpurm was completed in 1772 and was named after the old fort.

PRINSEP GHAT

Built by the citizens of Kolkata to the memory of James Prinsep, who was once the Assay master of the Calcutta Mint between 1820 and 30 and then Secretary to the Asiatic Society (1832).

Earlier it was known as "Coolie Ghat". He was a contemporary of Sir William Jones.

It is an elegant structure with arched entrances, flanked by pillars, a flat roof supported by Ionic pillars. It has been recently been repaired and restored.

THE STRAND ROAD

The Strand, or the Promenade along the river, starts from the Prinsep Ghat. Quays for wooden country boats and motorized vessels are alongside. After Babu Ghat warehouses commence.

OUTRAM GHAT

Named after the famous British general, Sir James Outram (1803-63). He had participated in numerous campaigns in the British forces.

This ghat provided the moorings for sailing's to Burma and Malaysia and so on, till about the first quarter of the 1900's.

At present, the Ghat is beset with quays and moorings, a sea-explorers society, and what purports to be a floating restaurant.

BABU GHAT

Named after Baboo Raj Chandra Das, the husband of Rani Rashmoni, who had been one of the major patrons of the sage Ramakrishna, and who had built the famous Kali Temple at Dakshineswar. This was built in 1838 and has a neat flat-roofed pavilion.

The Ghat has an interesting colonnaded Doric frontage, though of low elevation.

This at one time provided a converged pavilion for the Bengali gentry and their families when they came for a dip in the holy waters of the river. Today it is more for the hoi-poloi with masseurs, barbers, Brahmin priests, flower vendors catering for the physical and spiritual need of the visitors. They normally come to bathe in the river and to perform any special religious rites on the steps leading down

GHATS THE STEPS TO THE WATER

to the river. Incidentally, the architecturally interesting Calcutta Port warehouses start shortly after this and may be seen looming in the background.

CHANDPAL GHAT

It is a bit of a problem to locate the Chandpal Ghat (reportedly called after Chandra Nath Pal, a grocer who works in the neighborhood in the mid 18th century) practically lost amidst the tea shops, soft drink vendors, bus and launch kopeks and the like. It was the main ghat or landing station during the British regime for the officers and traders serving the East India Company, and later the imperial government.

OLD STRAND AND WAREHOUSES

A little to the north of Babu Ghat commence the Calcutta Port Commissioner's (now Port trust's) warehouses.

They have been very much run down, what with the problem of declining draft in the river and consequent decline in the number of vessels coming up to Calcutta.

The Strand Road (which was constructed in 1820) runs north from the Strand in between the warehouses on the river side and old commercial house on the city-side.

Further down there are some interesting warehouses, in red-brick, with turreted and pedimented roofs, which make them appear at first sight as residential buildings rather than warehouses. Built during the 19th century, they combine utility with some rough beauty.

Several old houses are still to be seen on the Strand Road, with the typical pedimented windows and doorways, pillars to set off the solidity of the walls, porticos, ornate cast iron grills and the like.

MULLICK GHAT

This Ghat which lies just to the south of Howrah Bridge, has a large and ornate two-storied square pavilion overlooking it. The pavilion and ghat was built by Ram Mohan Mullick in 1855 in memory of his father, Nemai Chandra Mullick (1736-1807), who was known as one of the wealthiest men in Calcutta at that time. He had his major interests in the salt trade and real estate business. The largest flower market in Kolkata functions each morning between the ghat and Strand Road. Mullick Ghat has a more native appearance, built as a small pavilion rather than any elaborate Doric pillared frontage.

This is also a major bathing ghat and also where the devotees come to do "puja" or to offer prayers at the local shrines of Lord Shiva and of Lord Krishna. There is a large platform to the left where in the morning the local youth engage in vigorous native exercises, yoga and a bit of friendly wrestling to stay in form; most of them are devotees of the deity, Hanuman.

They have to a peculiar practice of smearing themselves with the light mud of the river. Some people come here for an oil massage before taking a dip in the river. Here and there devotees sit with the Brahmin priests in front of a fire to do "puja" in memory of their parents or some near relative who has passed away.

OLD SILVER MINT

A small concrete overbridge, though much congested by buyers and sellers for the flower market, and beggars, takes one to the Howrah Bridge fly-over.

JAANNATH GHAT

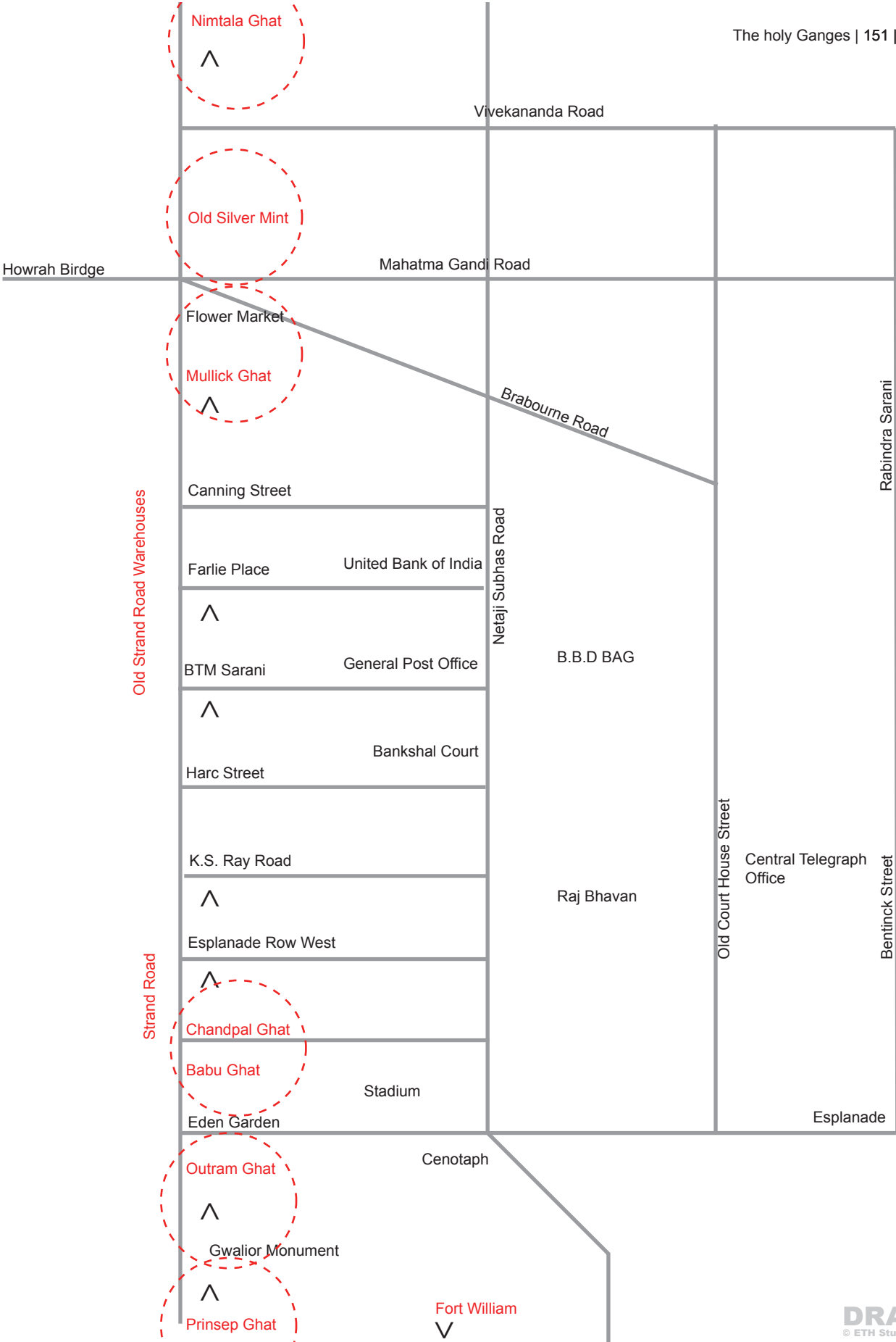
Here the warehouses were located and offices of River Steam Navigation Company and Indian General River Navigation Cooperation of the then Incharge Group.

NIMTALA GHAT

One would have to have a fairly strong constitution and equally strong resolve to walk further up towards Nimtala Ghat. There are taken up by shops and warehouses for timber, lime, oils.

NIMTALA BURNING GHAT

Burning Ghat for cremation of the dead. Many of the illustrious sons of Bengal and citizens of Kolkata have had their last rites performed at this place.



Old Strand Road Warehouses

Strand Road

Nimitala Ghat



Old Silver Mint

Flower Market

Mullick Ghat



Canning Street

Farlie Place



BTM Sarani



Harc Street

K.S. Ray Road



Esplanade Row West



Chandpal Ghat

Babu Ghat

Eden Garden

Outram Ghat



Gwalior Monument



Prinsep Ghat

Vivekananda Road

Mahatma Gandhi Road

Brabourne Road

Netaji Subhas Road

B.B.D BAG

Bankshal Court

Raj Bhavan

Cenotaph

Fort William



Rabindra Sarani

Old Court House Street

Central Telegraph Office

Bentinck Street

Esplanade



STRAND ROAD

The old warehouses and buildings of the British empire on the Strand Road are blocking, dominant and separating the city from the river.

The connection to the river gets lost.

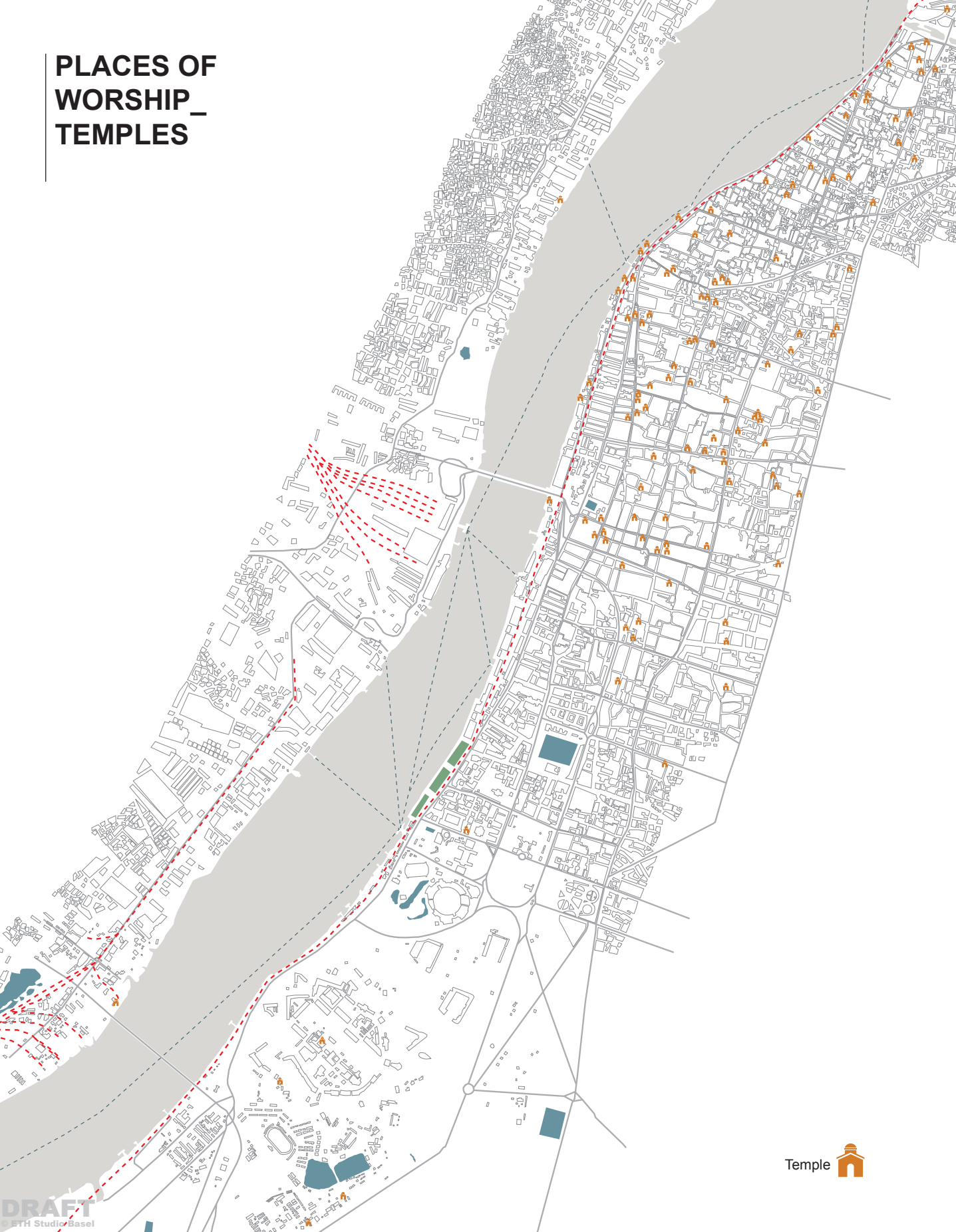
The Ghats are invisible from the street. There are just a few, small and inconspicuous entrances.

On Strand Road little straw huts or just small tents developed. The Street dwellers are close to the river to do their daily activities like, bathing, holy dip, washing clothes etc.



river???

PLACES OF WORSHIP_ TEMPLES





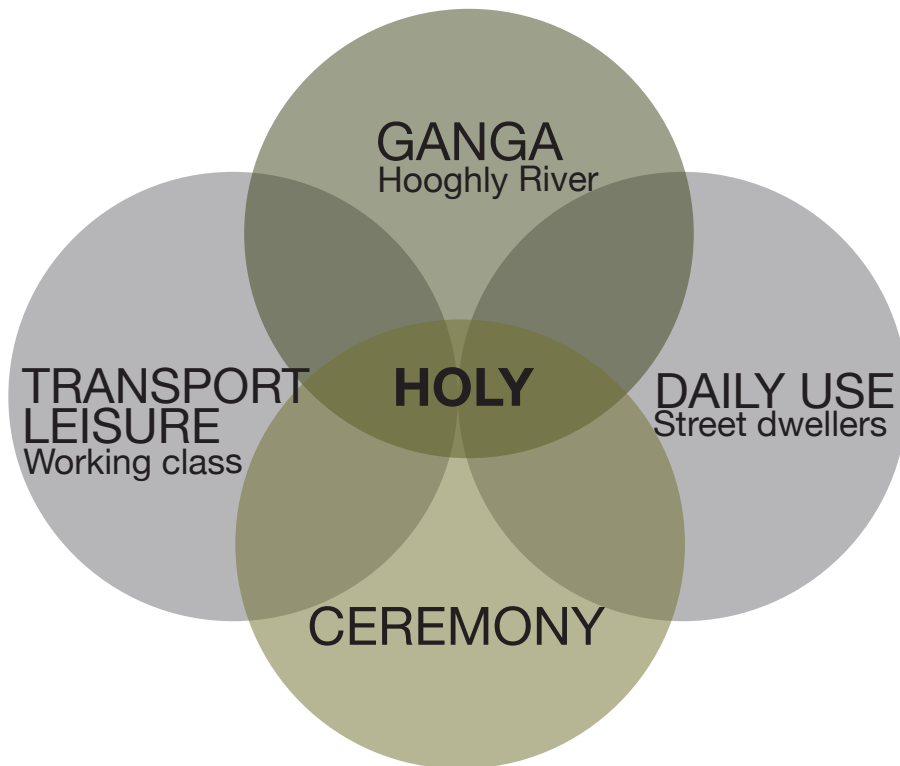
“If only the bone of a person should touch the water of the Ganges, that person shall be honored in heaven”

The Mahabharata

REALITY IS
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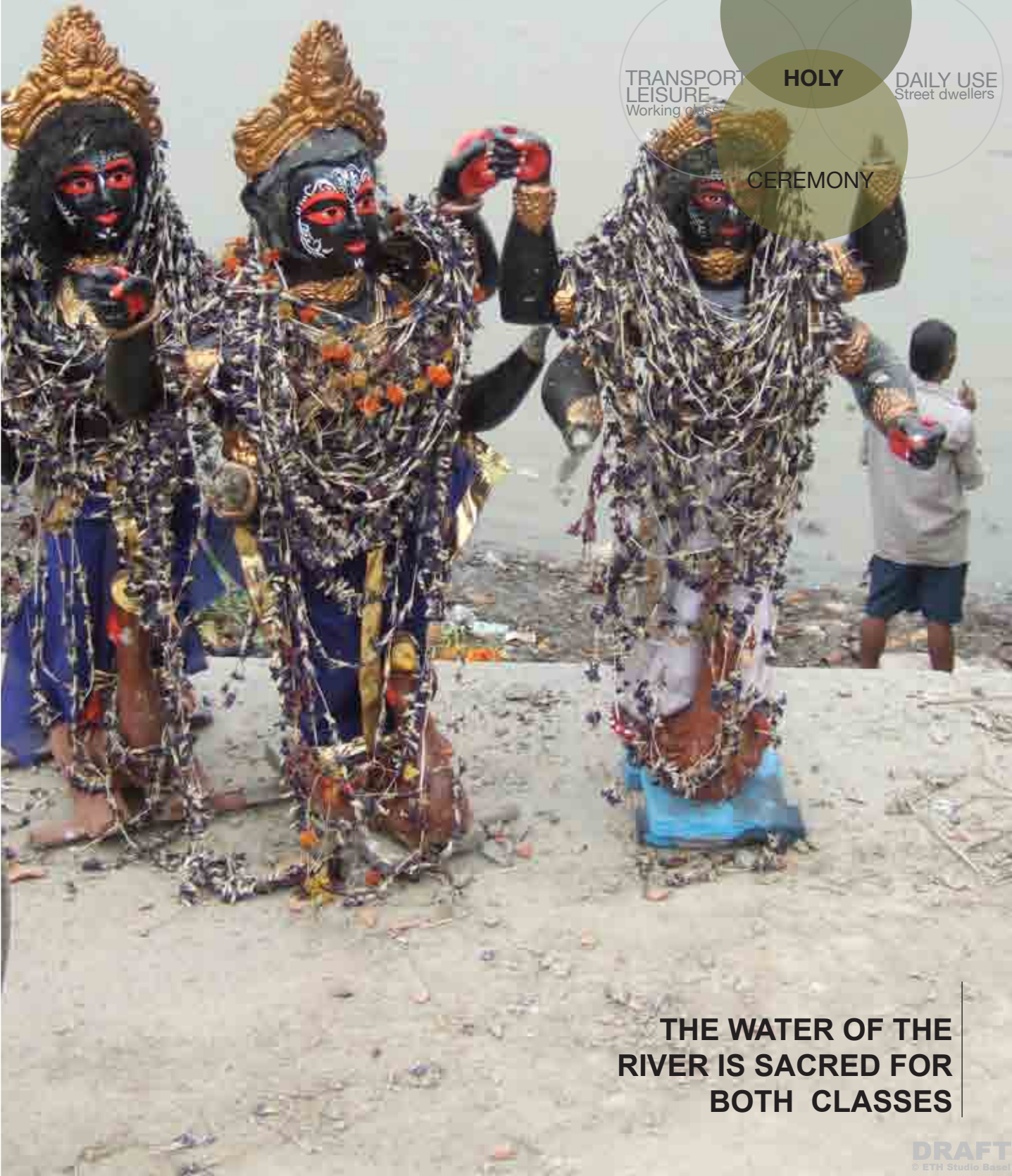
S THAT THE
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TWO CLASSES: WORKING CLASS & STREET DWELLERS



The two classes, the **working class** and the **street dwellers**, both use the river but in different ways. The river is supporting the city by being its back bone for carrying the mass to transport to the other side. Lot's of people come from the agglomeration to work in Kolkata. They arrive at Howrah Station and use a ferry to cross the water to get to the business district of Kolkata. Also the working class, especially young love couples, **use the riverbanks to spent their leisure**. They go to places which specially were designed for that purpose, for example the **Millennium Park**. On the other hand the **street dwellers** use the river for their **daily needs** like bathing, brushing their teeth, washing clothes etc. They **live along the water edges**, so the river is their **living space**.

Although the **different classes have different ways in using the river** they have something that combines them. The **water of the Ganges is holy for both**. Both have the **same festivals and ceremonies** to worship the Mother Ganga. The river symbolizes life and purity. Hindu believe holds, that bathing in the river causes the remission of sins and facilitates the attainment of salvation. The Ganga is a place of death and life. In hinduism when one passed on in order to reach the world of the ancestors the waters of ganga are needed. Cremation anywhere along the Ganga is desirable, if that is not possible, then the relatives may later bring the ashes of the deceased to the Ganga.



GANGA
Hooghly River

TRANSPORT
LEISURE
Working class

HOLY

DAILY USE
Street dwellers

CEREMONY

**THE WATER OF THE
RIVER IS SACRED FOR
BOTH CLASSES**

GANGA
Hooghly River

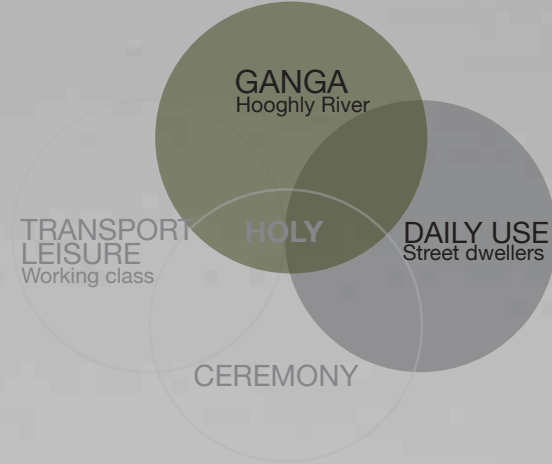
TRANSPORT
LEISURE
Working class

HOLY

DAILY USE
street dwellers

CEREMONY

**PARK USED AS PROM-
ENADE
WITHOUT PHYSICAL
CONNECTION**



USE OF WATER FOR
DAILY NEEDS

TRANSPORT
LEISURE
Working class

HOLY

DAILY USE
Street dwellers

CEREMONY

বাট অফিস বাট দূর কড়

ব্রহ্মগি

স্বাস্থ্য পরিদপ্তর
কলিকতা
১৯৫৬



RIVER USED IN
ECONOMICAL WAYS

GANGA
Hooghly River

TRANSPORT
LEISURE
working class

HOLY

DAILY USE
Street dwellers

CEREMONY

USE OF WATER FOR
DAILY NEEDS





_05 **POLLUTION**

Major cities along the Ganges **166**
Indicator for Pollution **170**
Holy use vs. mundane **188**

MAJOR CITIES ALONG THE GANGES

There are **29 cities, 70 towns and 1000 of villages** situated along the banks of the Ganges and **discharging daily nearly 5000 million liters of wastewater**, including sewage.

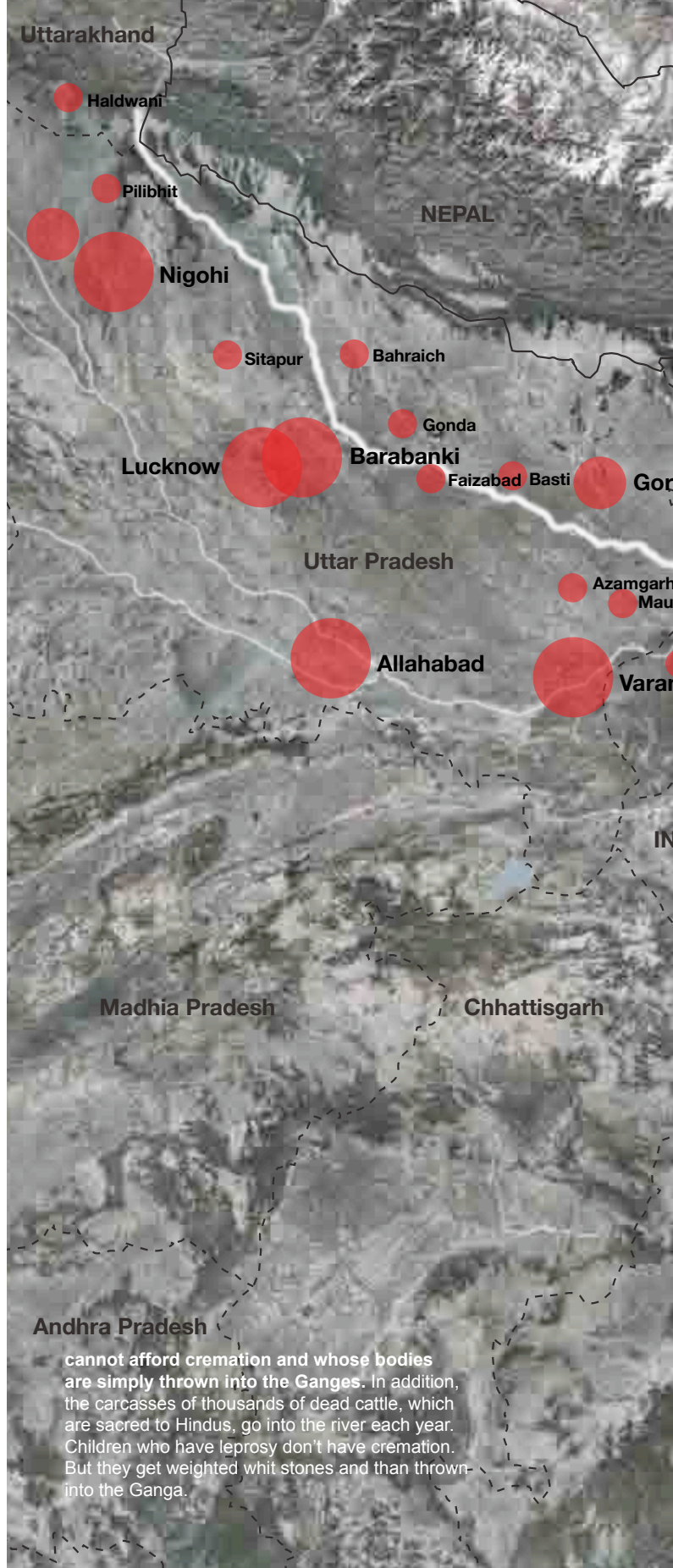
SEWAGE

The tremendous life that the Ganges supports is also the source of its greatest threat: pollution. The majority of the Ganges' **pollution is organic waste—sewage, trash, food, and human and animal remains**. Over the past century, city populations along the Ganges have grown at a tremendous rate, while waste-control infrastructure has remained relatively unchanged. Sewage systems designed near the turn of the 20th century today do little more than channel waste into the river. **300 million gallons of waste go into the Ganges each day**, and the effects are stunning: recent water samples collected in Varanasi revealed fecal-coliform counts of about 50,000 bacteria per 100 milliliters of water, **10,000% higher than the government standard for safe river bathing**. The result of this pollution is an array of water-borne diseases including cholera, hepatitis, typhoid and amoebic dysentery. An estimated **80% of all health problems** and one-third of deaths in India **are attributable to water-borne diseases**.

Industrial waste from textile, leather and paper factories contribute 15% of the waste dumped into the river. Yet it has a worse impact on pollution than the raw sewage. Some of the chemicals include cancer causing dioxins. India has few environmental regulations which makes it easy for companies to disposal their waste. The only major law that stands in the way is a requirement to pay a small fee for permit to pump pollutes into the river. An estimated 6 million tones of chemical fertilizer and there are 9 thousand tones of pesticides are added into the ganges each year, along with the raw sewage and the factory waste. The pollution caused by certain industries has wiped out others. During the 1970's over 570 fishing villages resided along the river ganga. Today fishing is extremely rare because the polluted water is a killer of much of the marine life. the fisher have been left with little or no job alternatives, as the pollution of the ganga has nearly wiped out the fishing industry.

CREMATIONS

The **sacred practice of depositing human remains in the Ganges also poses health threats** because of the unsustainable rate at which partially cremated cadavers are dumped. In **Varanasi**, some **40,000 cremations are performed each year**, most on wood pyres that do not completely consume the body. Along with the remains of these traditional funerals, there **are thousands more who**



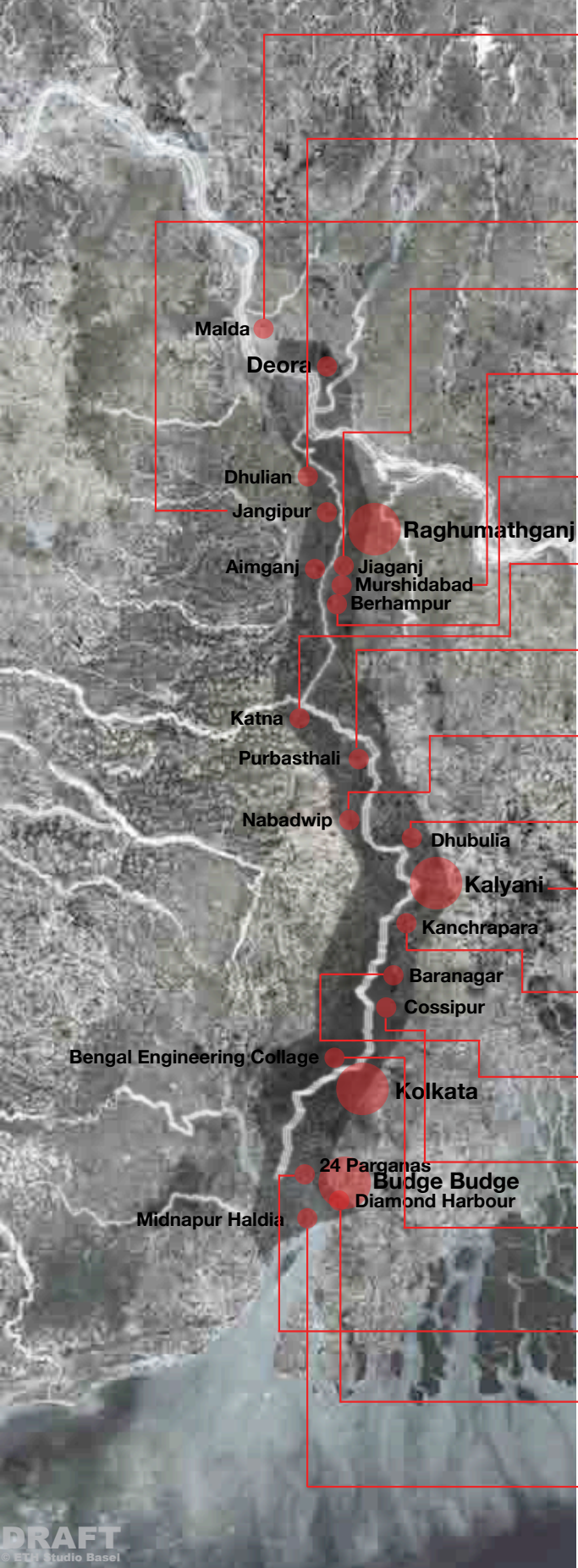
cannot afford cremation and whose bodies are simply thrown into the Ganges. In addition, the carcasses of thousands of dead cattle, which are sacred to Hindus, go into the river each year. Children who have leprosy don't have cremation. But they get weighted whit stones and than thrown into the Ganga.

CHINA

"The dirt comes from upstream, so why should Kolkata take care about the problems alone to keep it clean!"

Partha Das, Architect





- 18 **Malda_Arsenic Water Supply Scheme**
Utilising ground water as source of supply. There is a existence of Arsenic in groundwater. One Water Supply Scheme has been formulated converging such affected areas. It will serve Arsenic free water to Arsenid affected people.
- 17 **Dhulian_Residential Town**
Waste Water of the civic body is being drained to the river through 7 outfalls points. Some small drains also contribute to the discharge into the Ganges which make the water of the Ganges polluted.
- 16 **Jangipur**
One water treatment plant was commissioned in 1996, utilising raw water of Ganga as source of water supply.
- 15 **Jiaganj-Aimganj_Town with two seperate lands**
Civic wastes from the municipality are carried to he drains drains through number of outfall drains. Pollution by discharge of civic waste of the town.
- 14 **Murshidabad_Residential Town**
The waste water generated from the civic body and is directly discharged to the river trough four main outfall drains. Apart from this, there are other small drains that also contribute to the discharge directly or indirectly to the Ganges.
- 13 **Berhampur_Historical Place**
The mode of disposal of waste water from diefferent drains used to cause pollution in the Ganges. A Seweages Treatment Plant was set up. After that the quality is within acceptable standards.
- 12 **Katna_Municipal Abatement pf Pollution Scheme**
Waste water gerneration from the Municipality is drained to the river through a number of outfall drains. Consequently the river water is being polluted by the discharge of waste water from the civic body.
- 11 **Purbasthali_Arsenic in Ground Water**
Existing water supply scheme utilizes ground water as source of supply. There is a existence of Arsenic in Groundwater. Preparation of one water supply is under consideration as an alternative measure.
- 10 **Nabadwip_Old Holy City_Sewerage Scheme**
The waste disipal methode was very old. The new project: Waste water is teated before hand and discharged in Ganga making it safe through the environment point of view.
- 9 **Dhubulia_Hospital Sewerage Treatment Plan**
It was set up around 1958 with a Tricking Filter as mode of biological treatment. Waste water of this complex is discharged to river Ganges.
- 8 **Kalyani**
The town is fully sewerred and full with Tricking Filter as bioical means of treatment. Ub 1991 a additional treatment plant was constructed. Thee effluent of these two units are discharged to the river. The quality is well within the stadards laid down by the WBPCB.
- 7 **Kanchrapara_Old Hospital Sewerage Scheme**
In 1958 a sewerage scheme with biological Treatment facilities was commised so as to discharge the wastes to the river through bagh Khal after attaining stadard.
- 6 **Baranagar_Old successfully treatment Plant**
But with th increase in population the demand for potable water increased. A new water supply project was taken in hand to augement the existing scheme for covering additional areas.
- 5 **Cossipur_Old sewage disposal method**
Waste water, after treatment is discharges to the river, where effluent quality is wihtin acceptable stadard.
- 4 **Bengal Engineering Collage**
The old water supply system utilizes river water as souve of supply through their pre-settling tank. Howrah Municipal Cooperation is supplying around 0.1 mld. from their Water Qorks which utilizes raw water from Ganges at Botanical Garden.
- 3 **24 Parganas_Presens of Arscenic in Ground water**
They utilizing ground water as source of supply. Arsenic is toxic to human health.
- 2 **Diamond Harbour**
Halida Towns serves industrial units. They using Ganga Water as source of supply at Hoogly point at Geonkhali in the district of Midnapore.
- 1 **Midnapur Haldia**
Halida Towns serves industrial units. They using Ganga Water as source of supply at Hoogly point at Geonkhali in the district of Midnapore.

The pollution bomb is ticking

4 Jun 2002, 2357 hrs IST, Somshankar Bandyopadhyay, TNN

KOLKATA: As World Environment Day approaches, **alarming levels of air and water pollution** continue to plague the citizens of Kolkata, with the authorities turning a blind eye to the problem. The average suspended particulate matter (SPM), the major indicator of air quality, is at an average of 159 $\mu\text{g}/\text{m}^3$ (micrograms per cubic metre), according to figures released by the West Bengal Pollution Control Board.

With the maximum permissible limit being 200 $\mu\text{g}/\text{m}^3$, the guidelines of the Central Pollution Control Board state that anything above 140 $\mu\text{g}/\text{m}^3$ surely indicates a high level of pollution.

At Shyambazar in north Kolkata and Behala Chowrasta in the south, SPM levels are 200 $\mu\text{g}/\text{m}^3$ and 224 $\mu\text{g}/\text{m}^3$, respectively.

The pollution control board figures reveal that parts of south Kolkata — Gariahat, Mominpur and Hyde Road — have higher pollution levels than the northern parts of the city.

Moreover, pollution was pretty high at Minto Park and Moulali in central Kolkata.

Of course, water pollution is a more serious issue.

According to the pollution control board, **the quality of water at several places in the Hooghly is far below acceptable standards.**

For example, at Palta, where water is drawn from the river to produce the bulk of the city's filtered water, the presence of coliform bacteria stands at **50,000 per 100 ml.**

The CPCB guidelines are that water to be used for **drinking** purposes should not have more than **5,000 bacteria per 100 ml** before filtration. **At Garden Reach,** too, the quality of water is even worse, with the bacteria count standing at **85,000 per 100 ml.**

Another case in point is the quality of water at **Dakshineswar,** where **thousands of devotees bathe daily.** While the CPCB recommended that the number of coliform **bacteria should not be more than 500 per 100 ml for outdoor bathing,** the figure stands at an alarming **110,000** in Dakshineswar.

However, the pollution control board officials are unimpressed by the figures.

"The air pollution levels remain high during the dry season. Last year, air pollution went down below the critical point for the first time during the rainy season. We hope to maintain that this year, too," claimed a senior board official.

Water pollution, he said, was more difficult to tackle as untreated sewerage was being disgorged into the river at many points.

"It needs a comprehensive programme involving the local bodies," he added.

INDICATORS FOR POLLUTION

PEOPLES ACTIVITIES IS LEADING TO RIVER POLLUTION

- obsolete - industrial / port activities
- closed warehouses
- high density residences / settlement
- ghats - mismanage squatters invasion
- extreme waste creating activities
- the river as dump yard
- the river as sewer

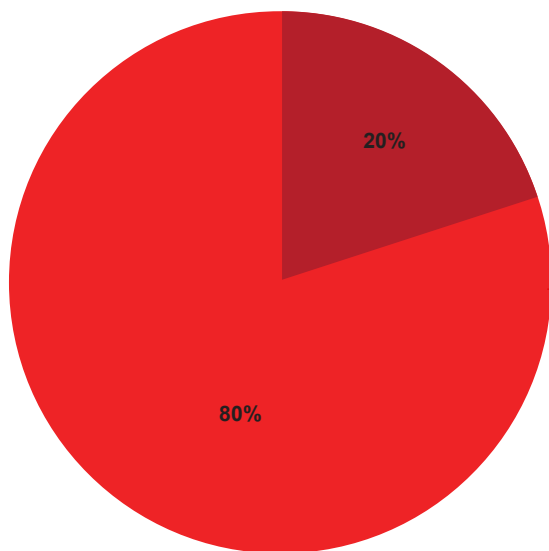
Since the 1970's there has been an emphasis, in developed countries specially, on cleaning up bodies of water and water supplies.

The demand for water cleanup in the interest of health and, not incidentally, to encourage new waterfront investment is now widely appreciated.

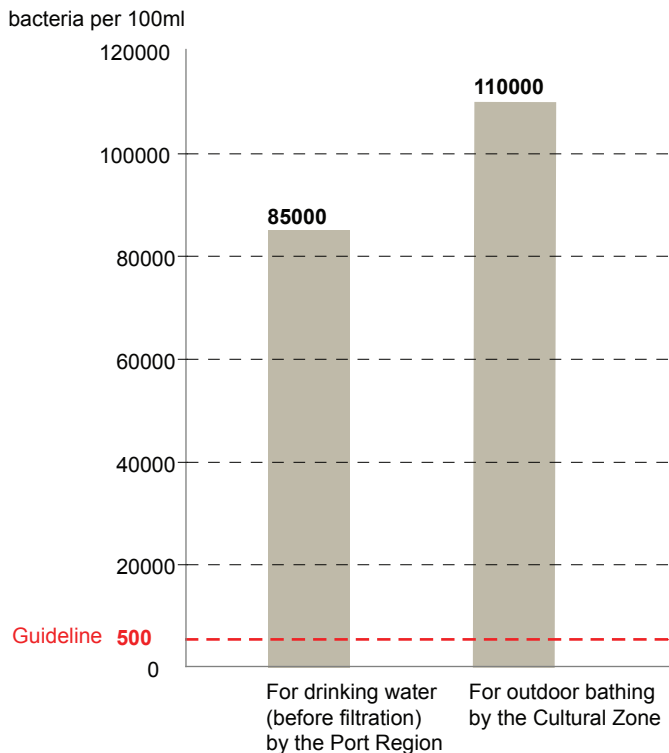
With growing civilization, the amount of detergent concentration in the water is rising. Some **detergents that are not biodegradable are causing toxicity** to aqueous life and is affecting the ecological balance between the rivers and cities. The extensive domestic use of detergents especially in **washing clothes** and utensils, is leading to **voluminous drainage** and ultimate accumulation of a number of toxic substances that poison the aquatic environment.

Detergents contain certain **phosphorous compounds** called phosphates that are used as whitening agents. Due to their complex properties, these compounds not only soften water but also cause damage to the biological system. Even through alternative chemicals are now used for softening water, the question of biodegradability and toxicity remains a question. It is time for the Government, the society and individuals to become aware of this menacing problem and take measures, as far as possible, to





80% OF ALL HEALTH PROBLEMS AND 1/3 OF DEATHS ARE ATTRIBUTED TO WATER BORNE DISEASES



QUALITY OF WATER IS FAR BELOW ACCEPTABLE STANDARDS

DAILY ACTIVITIES

THIRTEEN ACTIONS ON THE BANKS OF THE GANGES

The instruction enjoins „Thirteen actions, in particular, must be prohibited on arrival at the banks of the Ganges (Gangam punya-jalam prapya trayodasa vivarjayet), namely:

1. discharge or washing of excreta (saucam)
2. ablution or cleaning of mouth (acamanam)
3. discharge of water (seekam)
4. throwing of floral wreaths and other offerings (nirmalyam)
5. rubbing of filth's (mala-gharsanam)
6. body-shampooing (gatra-samvahanam)
7. frolicking about without any purpose (kridam)
8. acceptance of gifts, fees, money etc. (pratigraham)
9. obscene acts (atho ratim)
10. offering of eulogies, uttering praises to waters other the of Ganga (anya-tirtha-ratim anya-tirtha-prasamsanam)
11. discharging of garments (vastra-tyagam)
12. washing of cloths by thrashing onto the waters (athaghatam)
13. swimming across from bank to bank (santaram ca cisesatah)





WASHING CLOTHES

40% OF THE PHOSPHATES IN THE WATER COME FROM VARIOUS DETERGENT AND WASHING PRODUCTS



“Do you think the water will get spoiled?”

Interviewer

No, the water never gets spoiled. The water is considered pure & it never gets spoiled.”

Street dweller



INDUSTRY

INDUSTRIAL POLLUTION

While industrial pollutants account for a **smaller proportion of contamination in the Ganges**, the health and environmental impacts of toxic chemical waste can be far greater. From the plains to the sea, pharmaceutical companies, electronics plants, textile and paper industries, tanneries, fertilizer manufacturers and **oil refineries discharge effluent into the river**. This **hazardous waste** includes hydrochloric acid, mercury and other heavy metals, bleaches and dyes, pesticides, and polychlorinated biphenyls - highly toxic compounds that accumulate in animal and human tissue. Runoff from farms in the Ganges basin adds chemical fertilizers and pesticides such as DDT, which is banned in the United States because of its toxic and carcinogenic effects on humans and wildlife. Damming the river or diverting its water, mainly for irrigation purposes, also adds to the pollution crisis. Rivers need fresh infusions of water to dilute and dissolve pollutants, and water flow is necessary to flush material downstream.

GANGA ACTION PLAN

In **1985**, the government of India launched the Ganga Action Plan, which was devised to **clean up the river in selected areas by installing sewage treatment plants** and threatening fines and litigation against industries that pollute. **20 years later**, the plan has **been largely unsuccessful**. The Western-style treatment plants simply did not meet the needs of the region. Such treatment facilities are designed for use in countries where the supply of electricity is stable, there's no season of overwhelming monsoon rains, and the population doesn't drink directly from the water source. Many Indians blame the plan's failure on mismanagement, corruption and technological mistakes. A key criticism is that local **communities**, those most **invested in the health of the river**, were not included in the planning process.





FERRY TRANSPORT





IDOLS





POLLUTION PERIL

Some of the guidelines issued to Puja committees

DOs

- Limit the height of idols. Smaller the idols, lesser the amount of synthetic colours required
- Clean rivers and banks within 24 hours of immersion
- Make optimum use of plastic, plaster of Paris and synthetic adhesives

DON'Ts

- Use toxic colours. Instead buy green colours to paint idols
- Use synthetic fabrics



An idol of Durga floats in Line Tank pond in Ranchi on Friday. Picture by Manik Bose



The morning after the immersion, the Subemarekha banks in Jamsheer bear witness to rules flouted. Picture by Bhola Prasad

Why the guidelines were flouted

- Puja organisers say size matters. If the idols are small, they fail to draw crowds
- Unbridled use of synthetic fertilisers has altered quality of soil. To bind clay one needs plaster of Paris and synthetic adhesives
- Green colours are expensive. They jack up the cost of production
- Use of synthetic fabrics cannot be avoided because they add the glam quotient

Muddy muzzle for river

17 Oct 2002, 0102 hrs IST, TNN

Dhiman Chattopadhyay and Soumen Bhattacharjee

KOLKATA: By the time the immersion of Durga idols over, more than 7,500 clay idols of differing sizes, ropes and turpentine oil will make the Hooghly river murkier and more polluted than ever.

Add to that another 2,000-odd idols to be immersed after Kali Puja and it's no longer a surprise that the state Pollution Control Board (PCB) has found that the oxygen level (OL) in the river is four times less than the required minimum at the same time last year.

On Wednesday, while the PCB team continued its tests to prepare this year's report, senior officials feared the findings would be even more alarming than last year. "The Kolkata Police area alone hosts 1,137 barowari pujas. Add to that over 350 pujas held in apartment houses and the magnitude of the problem hits you. Each immersion means five clay idols, polluting the water at an alarming rate," said a senior PCB official. PCB member-secretary Ravi Kant could not be contacted.

Environmental activist Subhas Dutta pointed out that turpentine oil used to paint idols create a layer over the water. "This is harmful for both flora and fauna as are the jute ropes. The decay of these ropes has extremely harmful effects," Dutta said. The paint is especially harmful since it contains aluminium, zinc and lead. Environmentalists like Dutta and members of the PCB suggest using ponds, where fish are not cultivated, or lakes as a possible alternative immersion venue.

Traditionalists obviously don't agree. "Ma Durga is given a farewell on the banks of the Ganga.

"This takes her straight to Lord Shiva's abode on Mount Kailash. It would be an insult to immerse idols in ponds and lakes," said A.S. Chakrabarty, an elderly priest at Babughat.

Chakrabarty has been conducting Durga Puja for several barowari pujas for the past three decades.

In 2001, the PCB found OL levels in the eastern banks of the Hooghly at 2 micrograms per litre, a day after the immersion ended. The normal minimum OL requirement is 9 microgram per litre. "With artisans using clay from the banks of the river and puja organisers dumping clay into the river, dredging the river and making the river bed deeper would come to nought," a senior PCB official said.

Kolkata's Durga: From Home to the Himalaya

Sandy Ao brings a chronicle of the Durga Puja, honoring Hinduism's Great Goddess and overflowing with flowers in the great city of West Bengal.



A clay idol representing Hindu Goddess Durga floats in the Hooghly River, Kolkata, India
Photo: Sandy Ao

"So many pandals, so little time!" ("So many" as in **20,000 of these temporary shrines**, and that's in Kolkata alone!)

Headlines of India's newspapers convey the frenetic and happy spirit of Durga Puja—the long, lush fall festival now winding down. "Now sinking" is more accurate, since after a week of festivity, the clay statues of the **Hindu goddess Durga** are being taken from their dry-land pedestals down **to the closest river's edge and ritually submerged.**

The **pandals** are ephemeral **shrines—temporary structures** put together to shelter Durga's statues, along with all the flowers, food and other offerings given in her honor. During this season, the people of Bengal and much of the rest of India **drop everything** to visit these splendid altars. **The Durga custom is especially strong in Kolkata**, making us at the Human Flower Project especially fortunate. Our friend and correspondent Sandy Ao has been trekking all over the city to photograph Durga Puja. This year, rather than visiting the larger community-built pandals and following their parades to the Hooghly River, Sandy sought out an older observance, the traditional family Durga Puja, conducted in private homes.



A pandal honoring Durga is attended by a pandit (priest) part of household worship ceremonies known as "puja" in Kolkata (Calcutta), India
Photo: Sandy Ao

"It's so different from the Durga Puja that I had been attending my whole life," she writes.

Worship of the great female goddess Durga may be as old as Hinduism itself, but the celebration to venerate her intensified in **Bengal during the Mughal period, the 16th Century**. At that time, the **wealthy families of the region began to elaborate the old religious rituals** with more complex and ostentatious observances. Leading families (in Eastern India's version of potlatch) put on competitively exorbitant, private displays.

And of course, that requires flowers, lots of them. Sandy tells us that the pink lotus is

one flower especially beloved by Durga. But with the puja season extending over several days, **each one with its own demands**, many other plants and blossoms join the celebration. Among them are marigolds, hibiscus, spicy "kusum" and medicinal "horitoki flowers" (*Terminalia chebula* Retz.).

"For the daily puja, simple garlands are used," Sandy explains, but for Durga puja, "the garlands have to be made with 108 flowers." This is a sacred number in **Hinduism, she** says: "Almost all the God and Goddess have 108 names, and it also refers to the reincarnation of lives—108 times."

High tide, dirty waters keep the faithful at bay

7 Oct 2002, 0055 hrs IST, TNN

KOLKATA: An alert on high tide, interpreted as the dreaded Sanra-sanrir ban, created panic among the devotees and many of them avoided the tarpan (holy dip in the Ganga) on Mahalaya day. On the occasion, marking the beginning of Devipaksha and the end of Pitripaksha, people offer homage to their ancestors through tarpan.

River traffic police later confirmed that it was a high tide and the speed of water was more than usual, but not Sanra-sanrir ban.

One person, Deepak Ojha, 22, a resident of Barrackpore drowned at Dhobighat while taking the ritual dip. The growing pollution of the Hooghly river and poor condition of the ghats also made many worshippers avoid the ritual bathing. "We hoped that the Ganga Action Plan would help control the dumping of effluents into the Hooghly. But this has not happened," said Prabir Mitra of Bally-gunge Circular Road, a regular visitor to Babughat on Mahalaya. Some attributed the thinner crowd to the erosion of faith.

All along the river from Ratan Babu's Ghat in Baranagar, through Sovabazar and Ahiritola to Jagannath Ghat and Babughat, the condition of the bathing areas is woeful. A former judge of the Calcutta High Court rued, "The only ghat that re-mains decent is the one opposite the water gate at Fort William near the Gwalior Monument, but it is overcrowded."

Rameshwar Bhattacharya, a priest from South 24-Parganas, who has been conducting tarpan for four decades, said that business was declining with each passing year. "People now prefer to do tarpan at home or in a tem-ple. There is always a bidhan (sanction) for doing things differently in religious scriptures," he pointed out.

In the afternoon, however, it was a touch of nostalgia that attracted curious onlookers in large numbers. A horse-driven carriage rolled out from Chowringhee all the way to Madhyamgram in North 24-Parganas, stirring up memories of a Kolkata of yesteryears. The organiser was Udayrajpur Pearabagan Puja Committee of Madhyamgram.

It charmed Rachel Deverly, a foreign tourist on her maiden visit to the city. "It is really wonderful to see history being staged in front of me. I think it would be a good idea to provide guided tours of the city on such carriages for tourists," she said. The event was a recreation of a special carriage service started on November 22, 1830 from the Monument to Barrackpore along river Hooghly. "This was basically a bus driven by horses. We have got the photos and the history from the museum and tried our best to create the same imagery," said Keshab Kumar Dev, secretary of the Puja committee.

Among the other activities on Mahalaya day at various parts of the city, the Kumartuli Park Sarbajanin honoured the local artisans who make the idols but remain backstage during the Pujas. "This was perhaps the first time our efforts have been recognised," said a visibly emotional sculptor Madan Pal.

PEOPLE CAN'T SEE
THE DIRT FROM THE
CITY





CONFLICT OF HOLY USE VS. MUNDANE

Winding 1,560 miles across northern India, **from the Himalaya Mountains** to the Indian Ocean, the Ganges River is not a sacred place: it is a **sacred entity**. Known as **Ganga Ma—Mother Ganges**—the river is revered as a goddess whose purity cleanses the sins of the faithful and aids the dead on their path toward heaven. But while her spiritual purity has remained unchallenged for millennia, her physical purity has deteriorated as India's booming population imposes an ever-growing burden upon her. The river is now sick with the pollution of human and industrial waste, and water-borne illness is a terrible factor of Indian life. But the threat posed by this pollution isn't just a matter of health—it's a matter of faith. Veer Badra Mishra, a Hindu priest and civil engineer who has worked for decades to combat pollution in the Ganges, describes the importance of protecting this sacred river: **"There is a saying that the Ganges grants us salvation. This culture will end if the people stop going to the river, and if the culture dies the tradition dies, and the faith dies."**

Just as important as V. B. Mishra and the foundation's work to develop a practical scientific solution to cleaning the Ganges has been their work to incorporate Hindu culture and tradition in the clean-up. They've found new ways to talk about the river that respect the Hindu worldview and veneration of the Ganges. According to Mishra's view, to tell a Hindu that Ganga, goddess and mother, is **"polluted" or "dirty" is an insult**; it suggests that she is no longer sacred. Rather, the approach must acknowledge that human action, not the holy river herself, is responsible: **"We are allowing our mother to be defiled."** This approach has stimulated grassroots involvement in the clean-up effort, and is transforming the work for environmental preservation into a model for cultural and religious preservation as well.

But the question is, **why don't the people care more about it?** For us it is so unclear. But people there think different and everything is so complicated.

For Hindu people, the water of the **Ganges is so sacred**, that they believe that the **Ganges never could be spoiled**. The water is mainly used by the street dwellers for their daily dips every other daily needs, like bathing, washing clothes etc. When we asked some street dwellers, why they're not taking care more, they answered: "Everybody else is bathing too, and the water never gets spoiled". Actually they know that the water is polluted, but so what? **The river is the only thing they have. They have no work, no home, no bathroom, no place to stay.** The river edges or the river itself and their philosophy of Hindu religion is the only thing they

have. And they are happy with it. **If you don't have public toilets or bath nor a home, wouldn't the river be the place you would go?** The river acts here as the **natural source**. They do what people did in almost every city for hundred of years. The only difference is, that the Ganges is holy. **It can be polluted no matter how, it always will be holy.**

Some initiatives have begun to try and clean up the river, for example the Ganga Action Plan has been set up under the Indian government and is attempting to build a number of waste treatment facilities with the British and Dutch support as well as a number of voluntary organizations. Surprisingly the Hindu political parties in India are not very active in the efforts to clean up the Ganga.

To provide people from throwing things into the water, the government has to enlighten the people.



***“No one talks about not throwing things into
the river”*** Partha Das, Architect





06 WESTERN IDEAS VS. EASTERN LIVING

Idea of the river being an interactive zone 192
Western idea of the river edges and the reality of eastern living 194

IDEA OF THE RIVER BEING AN INTERACTIVE ZONE

“The river has become the

ONE CITY?

HAORA

(sister city of Kolkata)

city growth

DEVELOPMENT OF TWIN CITIES SEPARATED BY THE RIVER

In this context one naturally refers to Kolkata and Haora. In similar cases all over the world the **usual pattern of growth has been more or less comparable** with developed transport and communication system **between the two cities**. That **has not happened in case of Kolkata and Haora** and the later has essentially remained a **poor cousin of Kolkata** in terms of living conditions, environmental infrastructures and planned interventions.

Lately **working class people have a bigger demand on connecting the city back to the river**. But it's not that easy, because all classes have different understandings, assessments and ideas of a river.

background of the city, it's like a natural barrier!"

Partha Das, Architect

**natural barrier
the river became
a backyard**

KOLKATA

city growth

**idea of having
the river as a
part of the city**

WESTERN IDEA_ BEAUTIFICATION OF THE RIVER EDGES



Millennium Park



Prinsep Ghat is used for concerts

Kolkata's waterfront is in the process to become a desired address for new communities, cultural venues, commercial development and outdoor recreation. People want the river back, as a part of the city.

Already, projects such as **renovation** of the Outram ghat region, the Millennium Park, the Floatel, have set marks for design, construction and connectivity along the river Ganga – a preview of things to come.

But the **northern portion of Howrah Bridge** along Kolkata side has been totally **ignored** of undergoing any conservation / preservation / redevelopment project.



Floatel Hotel and Bar

Kolkata, once the nation's forerunner in urban redevelopment, has joined the fold of world cities determined to pull its waterfront back from marginal use and neglect into the main stream of public activity and private investment.

Today, everyone recognizes the **value of public access to the waterfronts**. A renewed waterfront offers investors a promising return on capital. Cities enjoy increased tourism, employment and growth. Residents gain new recreation opportunities and an expanded awareness of the natural aspects of river life.

Most importantly, a vital and vibrant waterfront serves to unite residents and visitors in a shared experience of Kolkata, just as the public commons and main street did a century ago. It is in that daily exchange of ideas and points of view that a city finds the energy and desire to continually improve and remake itself.



Renovation of the Outram ghat region

REALITY OF EASTERN LIVING & TRADITIONS



The river edges is used as living space



The river edge is used for daily needs



The strong religious relationship to the Ganges is performed



The river edge is the home of the street dwellers

The river edges are the **living space** of the street dwellers. They **depend on the natural source of water**. All of their daily activities, rituals and needs take place along the river banks. For these reasons and the lack of space they settle there.

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Street dwellers

MONY



British experts focus on Strand godowns

2 Apr 2003, 0144 hrs IST, TNN

KOLKATA: After the success of the Millennium Park on the bank of the Hooghly river, plans are afoot **to remodel the warehouses and godowns along Strand Road.**

Speaking at a workshop organised by the British deputy high commission on Tuesday, chairman of the London Rivers Association George Nicholson announced a £20 million project to develop Kolkata's waterfront, refurbish BBD Bag and promote the metropolis as a tourist sopt.

Nicholson said, **"Similar to the warehouses along the Thames in London, those along the Strand can be better utilised by opening restaurants, galleries, museums, conference facilities and space for night life."**

Nicholson, along with Phillip Nicholson along with Phillip Davies, director, English Heritage, London, are leading a six member British delegation in Kolkata to assist in the development of an Urban Design Framework focusing on the future of the Strand warehouses, associated waterfront areas and the entire heritage zone of Dalhousie.

"Kolkata is one of the finest classical cities where tourism is waiting to be explored," said Davies.

State urban development minister Asok Bhattacharya, who skipped the occasion, in a message reiterated the need to promote tourism and **encourage economic activity along the riverfront.** Assurance was also given by the minister on land belonging to the Kolkata Port Trust being made available to the state government for the implementation of the riverfront development plans.

Mayor Subrata Mukherjee, who was present on the occasion, welcomed the initiatives but asked the British team to also look into "the self-funding and maintenance aspects" of the plan.

The British team is holding a two-day workshop at the Oberoi Grand to deliver a practical and action-oriented framework for the transformation of the waterfront, founded upon economic viability, environmental quality and social vitality.

The British organisations will chalk out plans and work along with the state government and local civic bodies.

Subhas dreams of tram below Hooghly

21 May 2002, 0237 hrs IST, TNN

Kolkata: The twin cities of Howrah and Kolkata could soon boast of a miniature version of the Chunnel, an underwater tunnel that connects Dover in England to Calais in France.

West Bengal transport minister Subhas Chakraborty said the state was contemplating an underground tram service between Howrah Maidan and Kolkata Maidan.

The project, still at a conceptual stage, envisages tram services through a tunnel passing under the Hooghly river, connecting its two banks. If the dream project does materialise, Kolkata will be the first city in the country to have such a system.

The city already boasts of the first underground railway in the country and is the only city where the tram still plies. Speaking at an interaction with industrialists at the Bengal Chamber of Commerce & Industry, Chakraborty's surprised everyone with the 3.5 kmlong dream project that would see tram lines running through a tunnel below the Hooghly.

"The project is estimated to cost under Rs 300 crore, much lower than the cost of constructing a bridge across the river," he said.

There were questions galore on the practicality and viability of such a project but, typical of Chakraborty, there was no answer. He only explained that the project would help run modern trams while the old ones in the city could be dispensed with from certain sectors.

"Even I don't like to see old trams and ugly buses running in the city. It is not good for Kolkata's image. But everytime, there is an attempt to correct the situation, a strike is called to frustrate actions," he admitted. In a candid admission of the workers' opposition to changes in the city, Chakraborty recalled how computers had been opposed in West Bengal while other states welcomed it. "Even in the transport sector, the multiplicity of organisations like PWD, Kolkata Metropolitan Development Authority and others make comprehensive planning impossible," he said.

Though Chakraborty's underground tram tunnel were received enthusiastically by a section of the participants, some others were critical of the minister's grand plans, several of which had come a cropper, like a 100-storey building in Kolkata and a moving pathway from Sealdah to BBD Bag!

Floating auditorium soon on Hooghly

20 Aug 2007, 0131 hrs IST, TNN

KOLKATA: Kolkatans could soon view live performances floating on river Hooghly, courtesy a project the state public works department is initiating.

After the floating mall of West Bengal Surface Transport Corporation, the government is now working on a plan to set up a 500-seat open-air floating auditorium on the river. "The project is at a preliminary stage. We are currently drawing the design of the floating stage. The project cost would be estimated later," said a PWD official.

According to plans, the stage would be fixed to the river bank and there would be arrangements to float it slowly along the river during a performance. Live performances, like dramas and musical programmes, will be held round the year.

Every year, minister Subhas Chakraborty takes the initiative to enact Kallol by Utpal Dutta on a floating barge on the river. Last year, though, chief minister Buddhadeb Bhattacharjee did not allow the play to be held on the barge for safety reasons. "Having such a floating auditorium on the river for organising plays and other functions would attract a huge audience," an official said.

Apart from PWD, Hooghly River Bridge Commissioners (HRBC) is also working on a plan to construct an open-air auditorium on the banks of the river with a capacity to accommodate 1,000 people. "The plan is to attract more people to the river as an entertainment and recreational area," said an official. The Kolkata Metropolitan Development Authority (KMDA) and Kolkata Port trust (KoPT) are jointly working on a riverfront beautification plan.

Port Trust on beauty drive

29 Oct 2001, 1941 hrs IST, TNN

kolkata: the kolkata port trust (kopt) will emphasise on river bank beautification and commercial utilisation of its land across the hooghly river bank. the river beautification project, which was initiated by the calcutta metropolitan development authority and kopt from fairlie ferry jetty and the shipping corporation of india office will be further extended north-wards towards jagannath ghat and mallickghat, according to senior kopt officials. the kopt also has plans to extend the beautification project on the other side of the hooghly. however, the drive will be far from easy. a large number of warehouses are located along the two kilometre-long stretch between burrabazar and prinsep ghat on strand road. these were built during the british period when kolkata used to be a booming centre of maritime trade. these warehouses which were once used for stacking goods which arrived from vessels, have long since fallen into disuse. each warehouse floor is 20 metres high. the kopt plans to dismantle these warehouses and construct buildings which can be put to commercial use. while some of the warehouses have been declared 'condemned' by the authorities, some are occupied by unauthorised residents. these are embroiled in litigation. some of the places along the bank are also leased out to private parties. kopt wants to extend the lease term for a longer term so that it can bring a one time heavy earning to kopt. the land along the river bank has two strips divided by the circular railway tracks. kopt officials say that it is not possible to exploit land across the railway line and only parks can be built there. "circular railway authorities may not permit adequate level crossings once the entire track is electrified and frequency of trains increase," said chief engineer of kopt pradipta mukhopadhyay. any development has to be done on the other side. the kopt even proposes to build a new administrative building on this land. although the beautification was initiated by cmda, the entire stretch was divided into four parts between cmda, coal india, cmc and kopt respectively.

THE TIMES OF INDIA

Welcome to the strand

1 Oct 2004, 0032 hrs IST, SOUMYADIPTA BANERJEE AND MADHURIMA NANDY, TNN

Victoria needs tickets, Nandan is passe, but the riverfront still offers a fine alternative

From a dimly lit, criminal infested locality to a swanky, up-market pleasure zone -- the waterfront along the Strand Road is perhaps the biggest surprise waiting for you in the next 10 years. Families had altogether banned this stretch for years when the place was a haven for drug addicts and promiscuous activities. But all that is history now. This particular stretch is set to be the hottest family destination in Kolkata in the next five years.

For starters, it'll be branded as 'The Strand', which would look like a canopied, cobbled stretch with an undisturbed river-facing promenade on one side. On the other hand, the old-time warehouses of the Raj would still be there, but with a difference. While the façades will retain the old-world charm, they will house coffee shops, theme restaurants and even swanky offices. The imposing Doric pillars which were built on the Strand more than a century back will be restored back to its old glory.

The ball has been set to roll. After former sitting MP Sudip Bandyopadhyay approached the Centre with a proposal of revamping the waterfront and former tourism minister Shatrughan Sinha gave a ready nod, the thread was picked up by defence minister Pranab Mukherjee, who has already taken stock of the situation last month. "Mukherjee informed me that he will call a joint meeting with KMDA, Port Trust and concerned authorities to speed up the development work on the 11 km long water front of Kolkata," said Bandyopadhyay. According to the blueprint, sources say, that out of the 41 ghats of the Ganga along the water front from Princep Ghat to Kashipur Ghat, 33 will be rebuilt. The rest of the stretch will be beautified with gardens.

In addition is a proposal of London Rivers Association and English Heritage last year to develop the waterfront along the river Hooghly as a recreational and commercial hub where the old warehouses would be developed into art galleries, restaurants and gift shops. It was also proposed to paint all the buildings on the Strand Road in one colour to give it a uniform, smart look.

caltimes@timesgroup.com

Housing project and IT hub on riverfront

Pramangshu Ray
Kolkata, July 20

"THE ROADS in the project area add up to 17 km. We thus have to have some transport in the area and have decided to use motorised rickshaws," says Sumit Dabriwal, the managing director of Riverbank Holdings Private Limited. The company, which is a 50:50 joint venture between Calcutta Metropolitan Group Limited and Tata India Limited, has undertaken the city's first riverfront development project, Calcutta Riverside.

The 282-acre township beside the Hooghly at Batanagar is planned as a self-contained complex with 11 million sq ft of built space. From

3,125 houses, schools, a hospital, hotel, IT park, retail area, convention centre and entertainment facilities, including a 9-hole, 50-acre executive golf course. Calcutta Riverside will have it all so that residents hardly need to step out.

Six top architects from across the country — Dulal Mukherjee, Bimal Patel, Aniket Bhagwat, Kiran Kapadia, Pramod Balakrishnan and Rajeev Kathpalia — have come together for the project whose development "takes inspiration from the architecture of Kolkata", as Dabriwal puts it.

It is not as if the various components have been cluttered together. Some areas in the project, which will have a

400-metre riverfront promenade, are far from the riverfront. "It is in those areas that we will create something that looks good," says Patel, who has the responsibility of golf housing — buildings around a golf club that open out onto a wide vista of green.

"The architects have worked well together. There have been a series of working sessions," says Patel, where everyone has critiqued everybody else's design. "Aniket Bhagwat played the role of custodian of the masterplan (prepared by the US based company HOR Ltd) and handled anything that needed to be resolved," says Patel.

Health is a prime concern. Riverbank Holdings has en-



An artist's impression of the riverside project

tered into an agreement with Asia Heart Foundation, chaired by cardiac surgeon Devi Shetty. The aim is to initially set up a 400-bed super speciality cardiac facility, around which other super-speciality centres can come up.

The outlay for construction, besides the hospital, school and hotel, is Rs 1,400 crore. There has been a soft launch of the dwellings with the invitation pricing being set at Rs 1,050 per sq ft for the lakefront houses; Rs 2,100 per sq ft for riverfront homes; and Rs 2,200 per sq ft for the golf housing.

The project is expected to be completed by 2012.

Dabriwal acknowledges the key role played by the government. "The land reforms department of West Bengal allowed the conversion of the land from industrial to residential," he says. However, no concession was sought on the price of the land, said the Riverbank Holdings MD, ending the conversation by saying that he would like to work on many more such projects, but has not committed on anything till now.

pramangshuray@timesgroup.com

RIVERSIDE PROJECT ON TO HOOGHLY RIVER



***“If we would change things on Haora side,
Kolkata would loose its character”***

Supriyo Nandy, Film maker

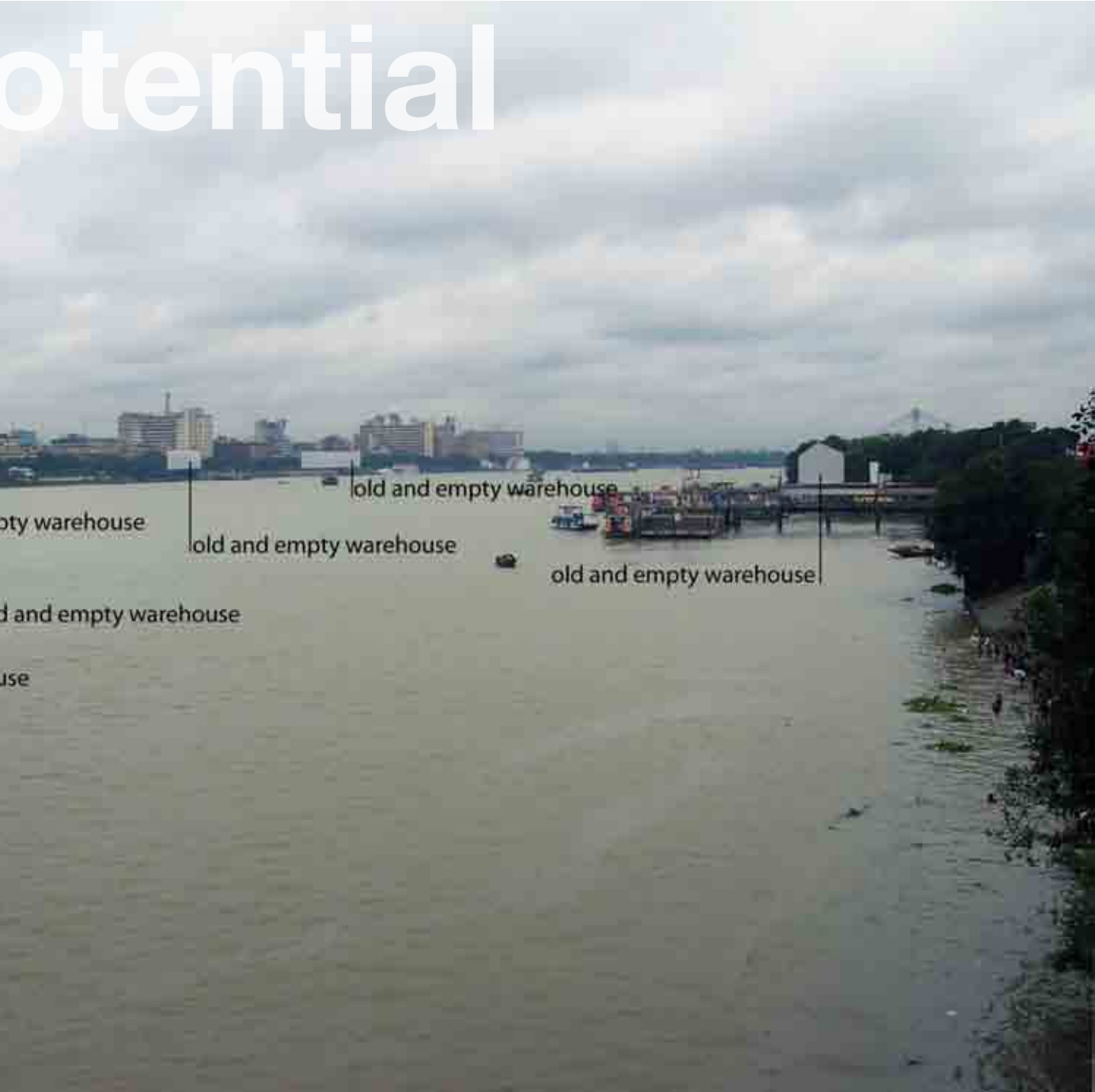


YOUR HOWRAH... OUR VIEW

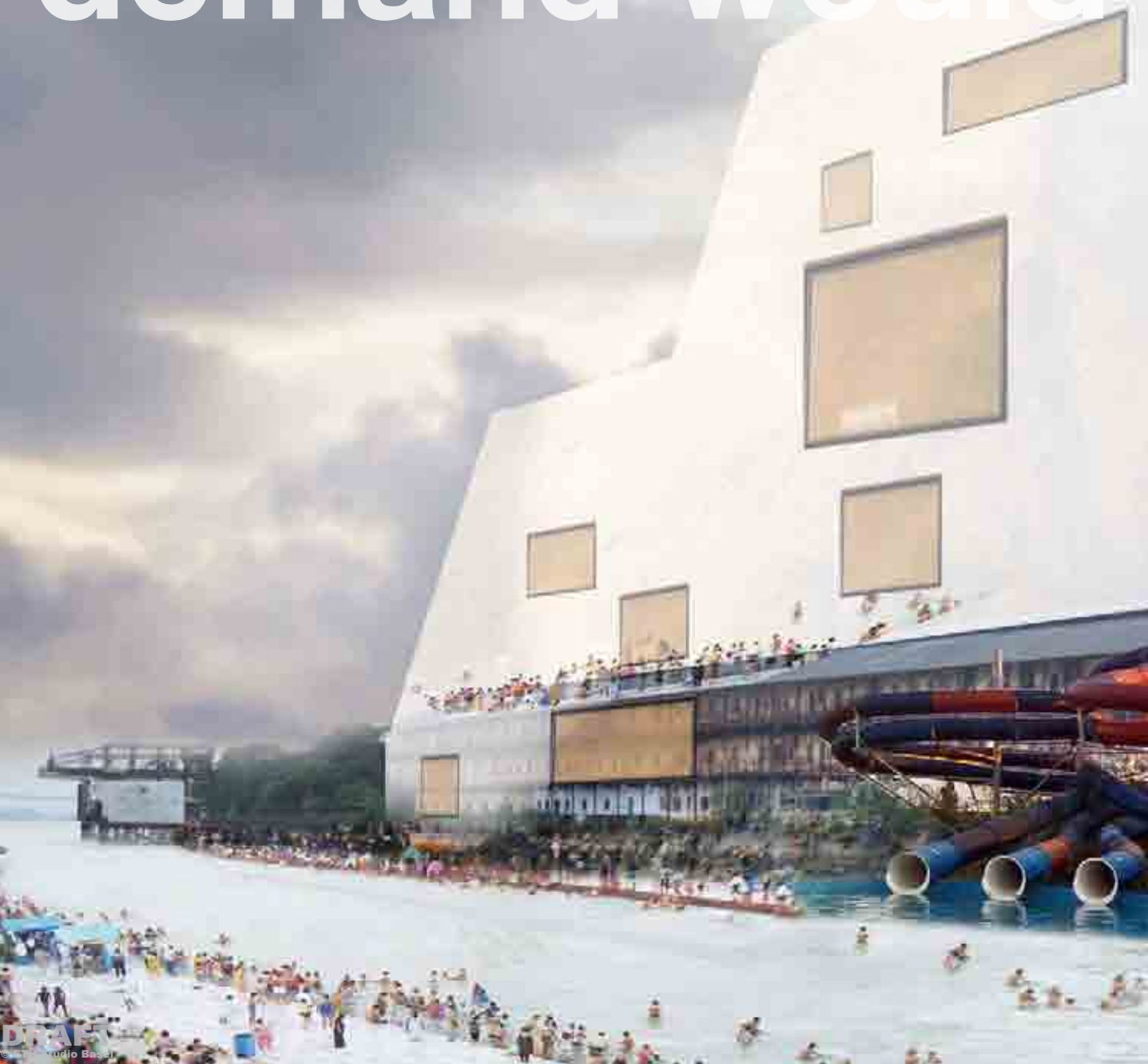
there is great potential for upgrading



potential



what would be demand would



if everyone's be fulfilled?



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