

## HOWRAH STATION and BRIDGE



ETH Studio Basel Mira Habermann Andrea Pozzoli

### THE KOLKATA STUDIO

Professor Jacques Herzog Professor Pierre de Meuron Manuel Herz Shadi Rahbaran Ying Zhou



Institut Stadt der Gegenwart Contemporary City Institute



**HOWRAH STATION - HOWRAH BRIDGE** 





### HOWRAH STATION & HOWRAH BRIDGE

the book

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# HOWRAH STATION<sup>O</sup> HOWRAH BRIDGE Kolkata 2008



### 1 The Gateway to Kolkata









### 1.1. Howrah Station

History Railway Development Industrial Development Present Impressions
Important Stations around Kolkata









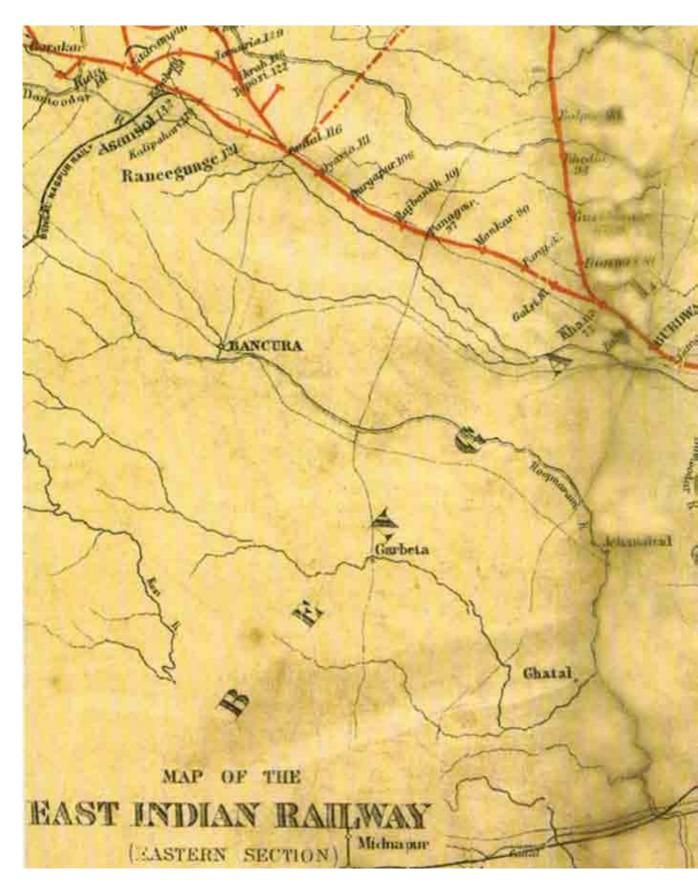
### History

In 1854, a railway link was constructed from the British from Howrah to the coalfields in Bardhaman. It was the second railway link in India after the first one laid only one year before from Mumbai to Thaney. Howrah was just besides the Hooghly River in proximity to Kolkata, the then capital of India. And Howrah at that time had started to be the industrial centre of the country, what was another main reason for it's positioning. Thus, the first station building was meant for goods only.

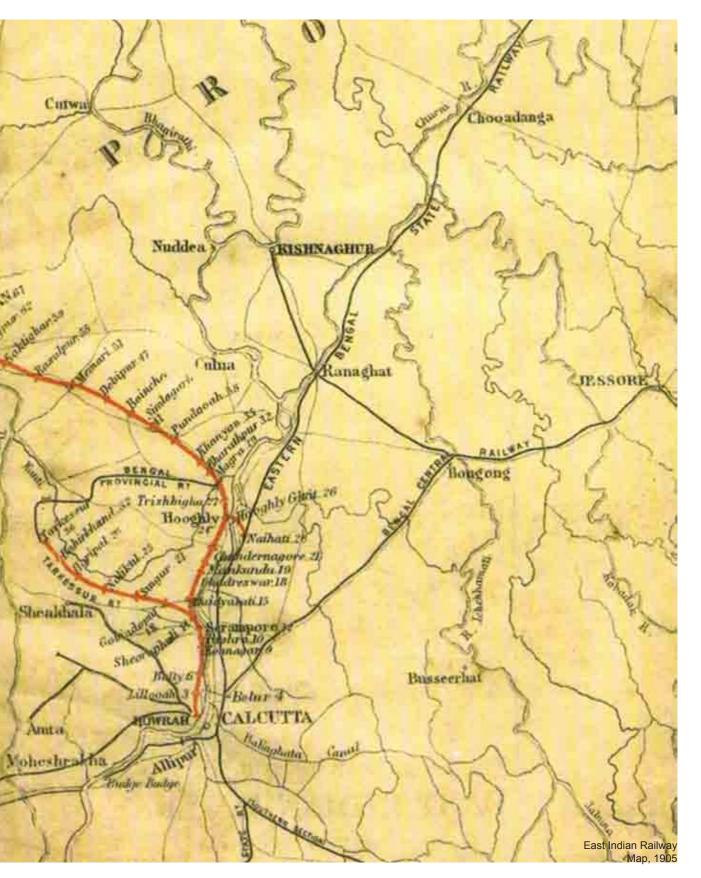
In 1901, as traffic was still increasing, started the constructin of a new station building. At this time, it had definitly also as objective to serve as a link with the public transport system.

The british engineer Hasley Ricardo was charged with the design of a new sparkling Station for the British's Indian capital Kolkata. It started in 1901 and carried on untill 1911. After it's creation, drawn from far away London, there have been several extensions and it's main part is still today fully in use.

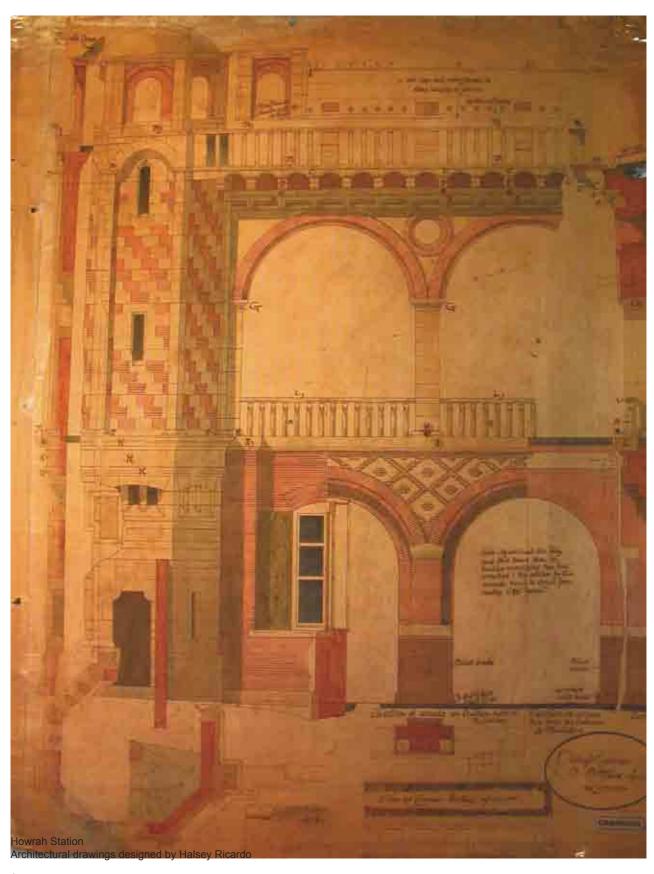








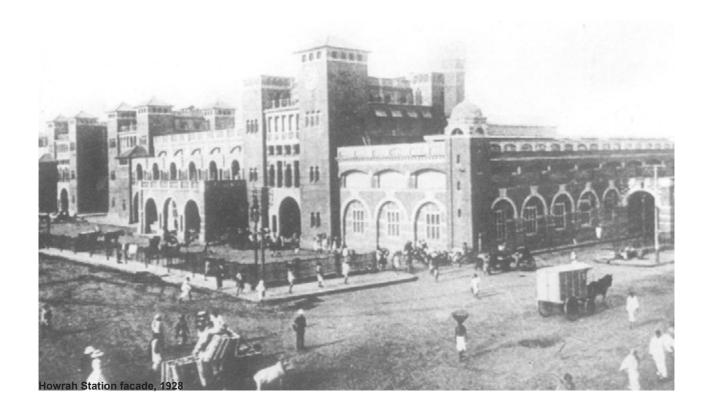








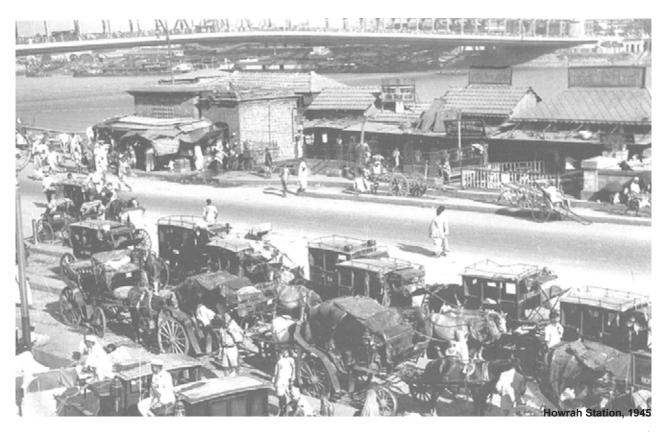












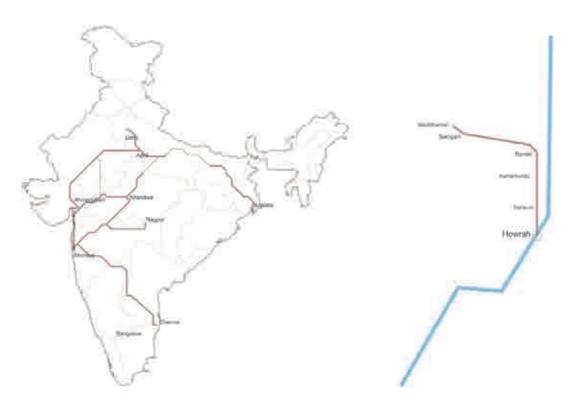




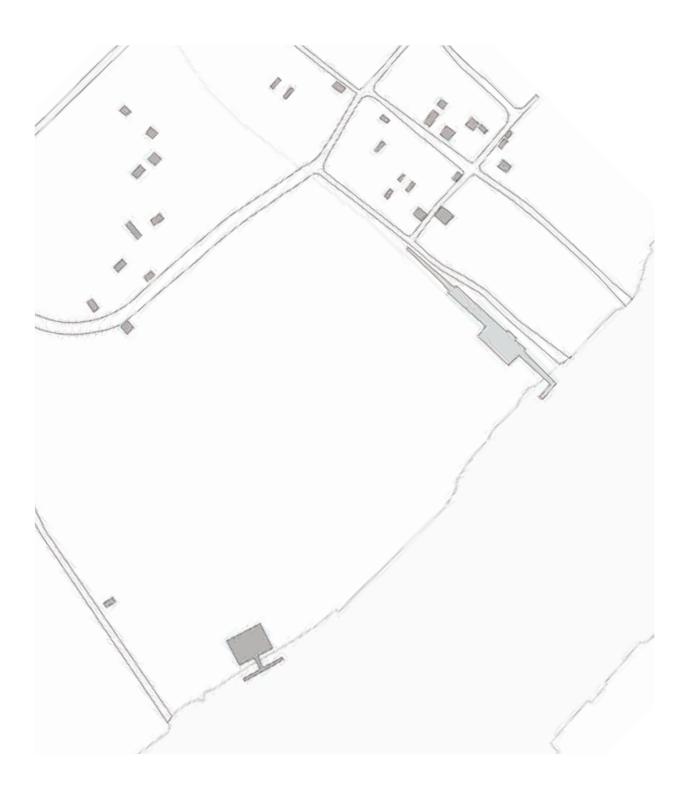
### 1.1. Howrah Station

History
Railway Development
Industrial Development
Present Impressions
Important Stations around Kolkata

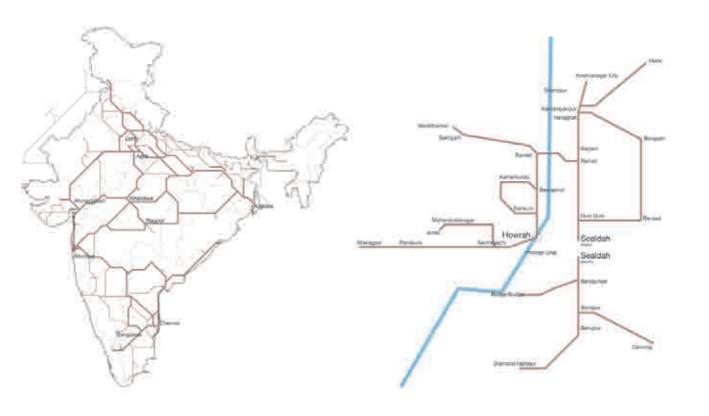








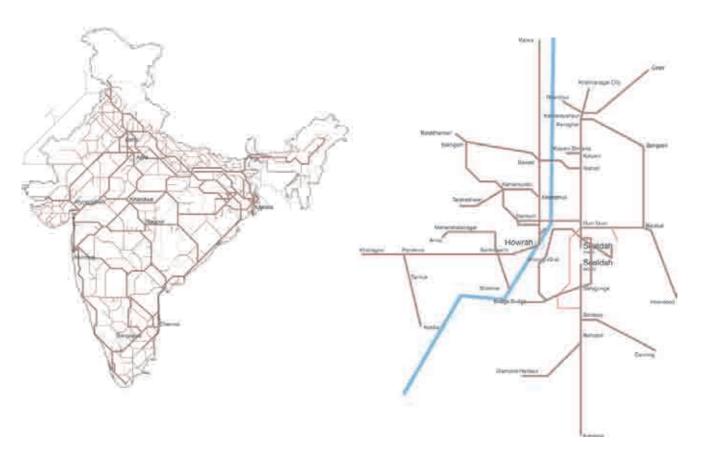








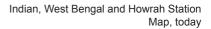












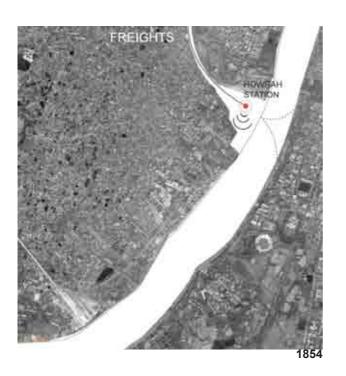


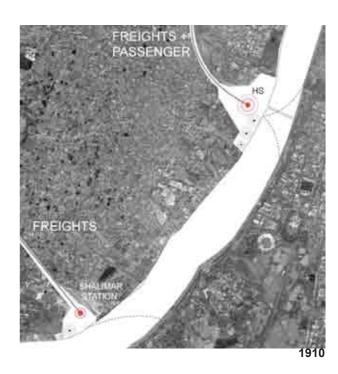


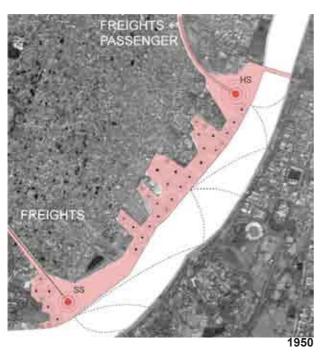
### 1.1. Howrah Station

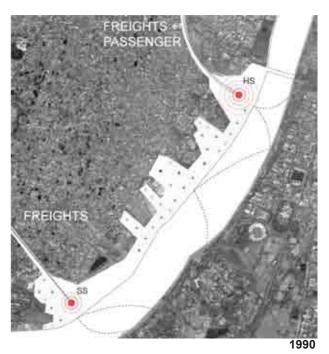
History Railway Development Industrial Development Present Impressions Important Stations around Kolkata



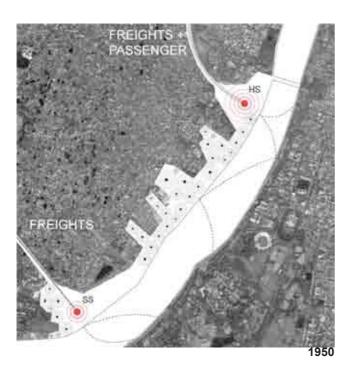


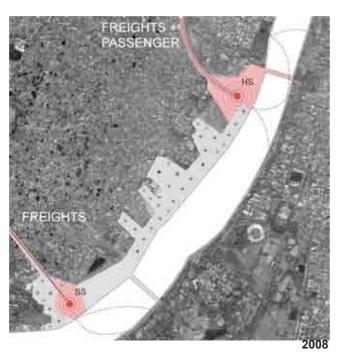






Howrah's schematic industrial development





### **Industrial Development - Steps**

### 1854

- Howrah Station started as a goods terminal; freights were transferred to Kolkata side through boats.

Hence Howrah's side took advantage from the station's nearness for the industrial development.

### 1910

- Howrah Station was enlarged, working both with goods and passengers.
- -Pontoon was the first bridge constructed to connect the two settlements.

Also Shalimar Station started operating near the growing industrial settlements

Thanks to the infrastructures and to the river Howrah became one of the first industrial clusters in British India

-The main sectors were paper, jute and metal.

### 1950

- Both stations were enlarged, bigger freights traffic thanks to Howrah Bridge opening.
- -The ship's routes risen, letting Howrah becoming the largest foundry cluster in the country.
- -The metal production was the leading sector being Railways its largest purchaser (huge need of pig-iron and steel to build rails and structures) and also providing the steel for Howrah Bridge.

### 1990

- Due to manifolds aspects the industrial cluster lost its predominance and power; the main had been:
- -the price hike
- -the poor quality of raw materials
- -Railways started procuring metal from other parts of India (Orissa)

### 2008

- Polymers have replaced certain railways components, earlier made of cast-iron.
- -The industries have been obligated installing antipollution devices, being the foundry cluster one of the worst polluters of the city.
- As a consequences the industrial area in between the two stations became abandoned and inactive, making Howrah Station and Shalimar isolated in their relation with the coastline.

























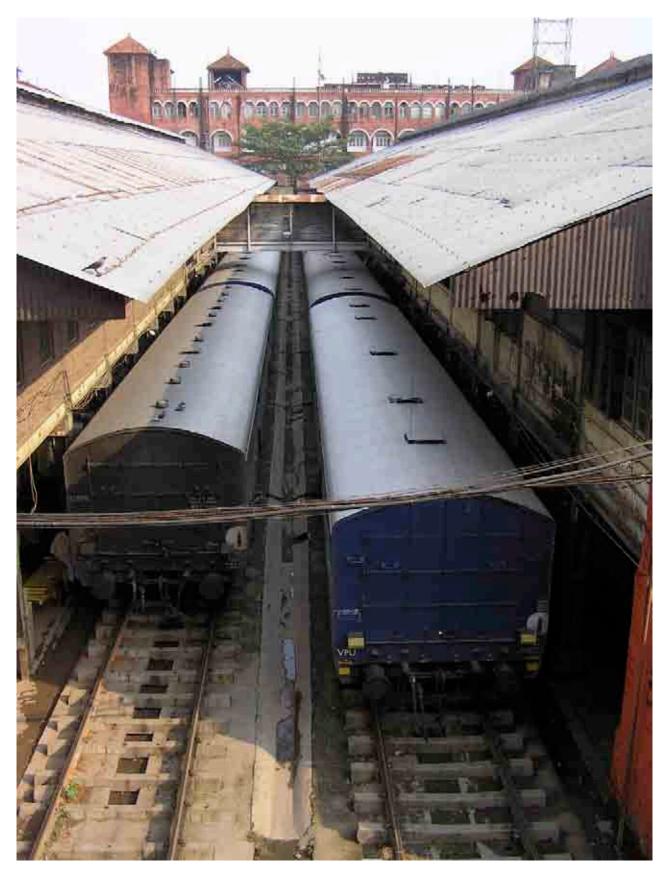




















## 1.1. Howrah Station

History Railway Development Industrial Development Present Impressions Important Stations around Kolkata





**Howrah Station facade** View from Howrah Bridge









**Howrah Station Back** View from Howrah









**Howrah Station Complex**Bridge, bus terminal and the station complex







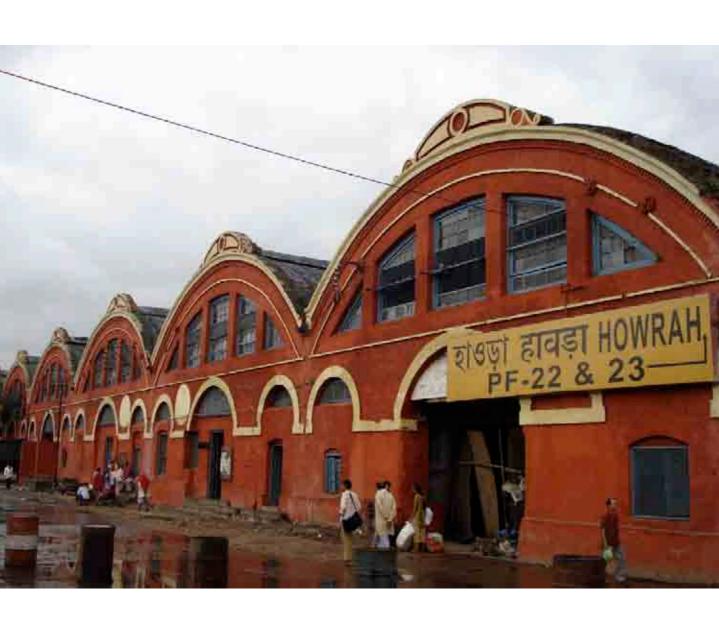


Howrah Station facade View from the cab lane









**Howrah Station main deposit** View from front and back









**Howrah Station's cab roads**View of the old one from back and the new one from the front-entrance











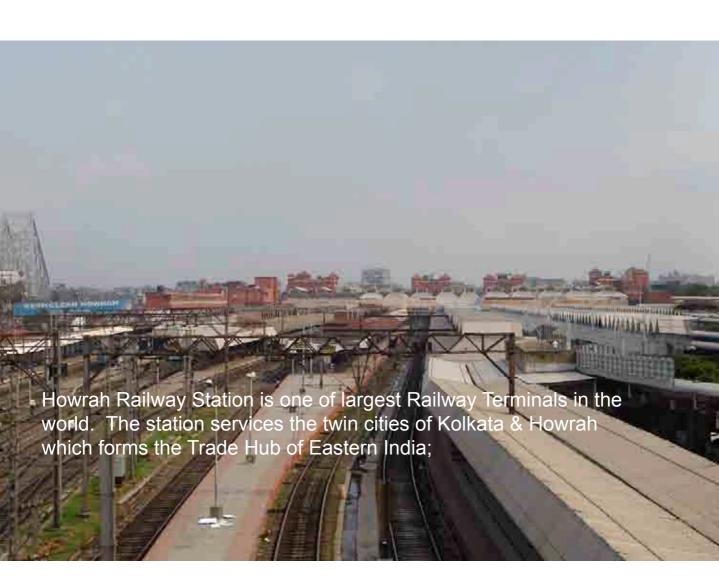


Eastern Railway passengers turnover (07/08) 28.132.000.000 .CHF Arcelor Mittal turnover (07/08) - World's leading steel company Howrah Division passengers turnover (07/08) .CHF Ticket price for 250 km in second class 58 .CHF Ticket price for 250 km in second class - Switzerland Ticket price for 250 km in first class 98.CHF Ticket price for 250 km in first class - Switzerland

































## 1.1. Howrah Station

History Railway Development Industrial Development Present Impressions Important Stations around Kolkata

















































# 1.2. Howrah Bridge

History Present Impressions













When Kolkata had grown up to the most important cultural centre of India and in parallel Howrah to its biggest economic one, there was finally fallen the decision to bridge the separating Hooghly River.

The first direct connection between the Twin Cities Kolkata and Howrah has been a Pontoon Bridge designed by Sir Bradford Leslie in 1874 - almost at the same time as the establishment of the Port of Kolkata (1870). It was built using timber on pontoon and it could be opened to let the river traffic through.

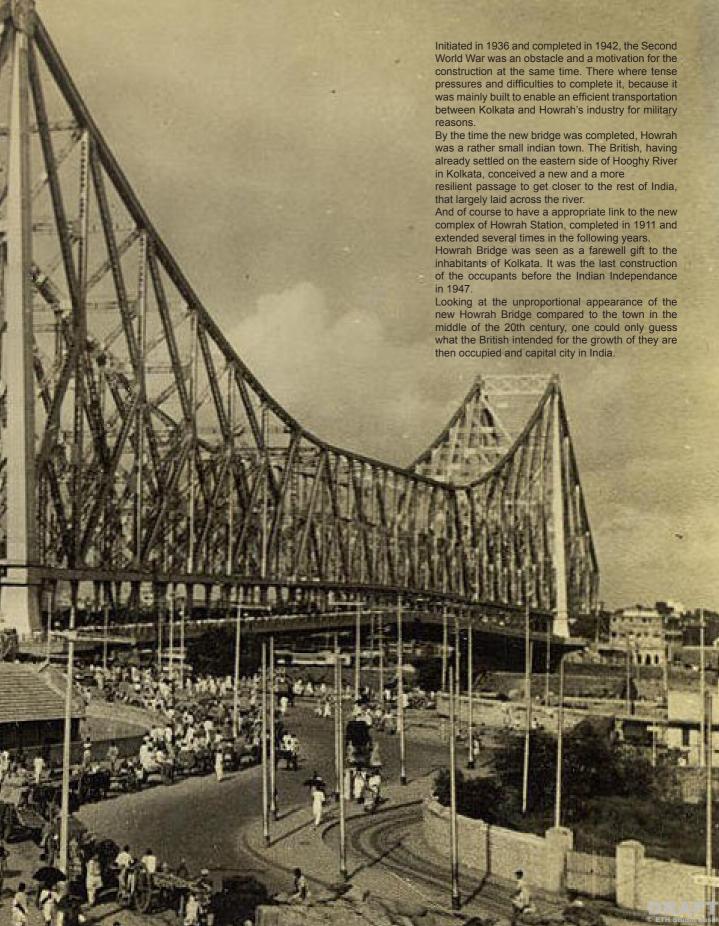
70 years later, the old Floating Bridge was decommissioned when the new

Howrah Bridge got into exertion.











# 1.2. Howrah Bridge

History Present Impressions



Recently, in 1992, the Vidyasagar Setu ("Second Howrah Bridge"), was built connecting more southwards Kolkata with the Shalimar Station on the Howrah side of the Hooghly River. But still, the first Howrah Bridge acts as the needle eye between Kolkata and Howrah Station and is India's biggest and busiest bridge and the longest single span in the world.

Besides the transport by ferries, it is the most direct way from Howrah Station to Kolkata. This is one of the the reasons why 150.000 vehicles and over 4.000.000 passengers are passing it every day.

Right after the bridge's opening, one had to pay a small toll for passing the bridge, also as a pedestrian. Later, the Port Commissioners could support the bridge by their own revenues and by levied charges from the Railway terminal.

already in 1946, with its 27.400 vehicles, 121.100 passengers and 3.000 cattles it was 20% busier in vehicle traffic as the London Bridge in the same period. Initially, tramways where also conducted on the bridge. Today, the traces on the bridge aren't visible anymore.

"All these years, it has withstood the unprecedented changes in the mode of transportation and traffic density and silently borne the ravages of time. Yet it has successfully stood the test, remaining as functional and reliable as ever."

http://www.howrahbridgekolkata.nic.in/

Eventual repair works are observed and payed by the Rabindra Setu division under the department of Civil Engineering of Kolkata port Trust who is the custodian and therefore the responsible of the bridge.

Recently there have been restorations of ceased bearings at towers and mechanization of underslung trolleys.

Other problems occuring are the continuous collection of birds excreta that cause prolonged chemical reactions

"The Kolkata port Trust through its Rabindra Setu division serving Kolkata and the nation by properly maintaining this bridge through continuous monitoring satisfying all the safety aspects, in addition to its normal Port activities. The Rabindra Setu Division too is determined to keep this structural marvel in active condition as long as possible."

http://www.howrahbridgekolkata.nic.in/



Striking in its appearance, it is a real landmark with sense of identity for Kolkata. Due to its historical importance and its monumental status it got to a nostalgic symbol for the people of Kolkata.

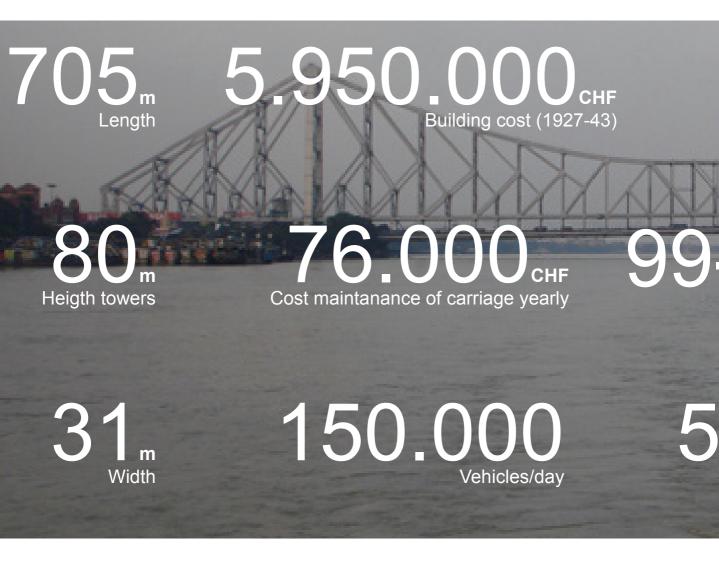
The culture of Kolkata has also gone over the bridge: It has been the scene for several movies e.g. the Bollywood "Howrah Bridge" 1958 starring Madhubala, and Ashok Kumar. Also in poetry it has served as a creative inspiration; e.g. from Rudyard Kipling or the New Zealand poet James Baxter.

"... besides bearing the brunt of many stormy weathers of the Bay of Bengal region, it has also been stoically bearing the weight of nearly lakh of vehicles and innumerable pedestrians crossing it daily ..."











4.5<sub>m</sub>
Width footpath

4.000.000 Pedestrians/day

-458-99<sub>m</sub>
Span Lengths

26.500 steel utilised

5  $\times$  25 m Monolith holding bridge

2.200.000<sub>m²</sub> Steel Surface

All members of the super structure comprise built-up reverted sections with a combination of high tensile and mild steel. Between towers, bridge deck hangs from panel points in the lower chord of the main trusses with a series of hangers (39 pairs). Roadway beyond the towers is supported on ground leaving anchor arm free from deck loads. Bridge deck comprises 71 ft. (21,6) carriageway and 15 ft. (4,6 m) footway, projecting either side of the trusses and braced by longitudinal facia girder.





Howrah Bridge Maintenace's works









"Rabindra Setu is a suspension type balanced cantilever bridge constructed entirely by riveting, without nuts or bolts.

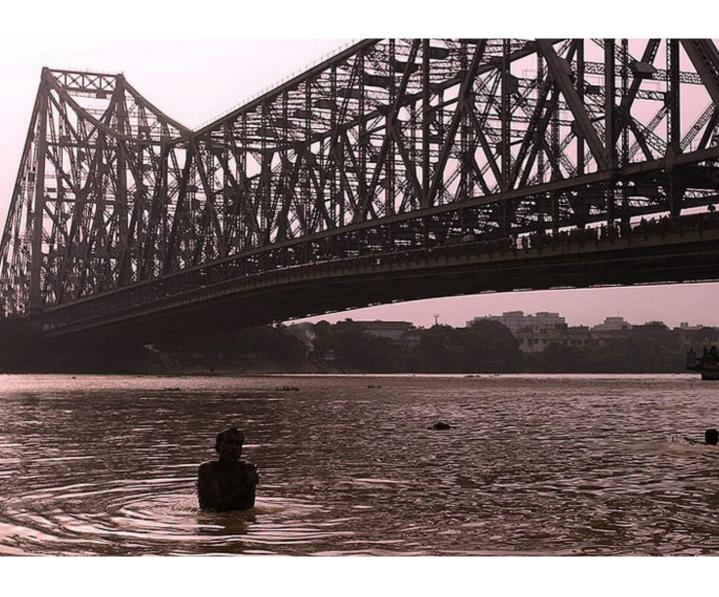
It has a central span between centers of main towers."









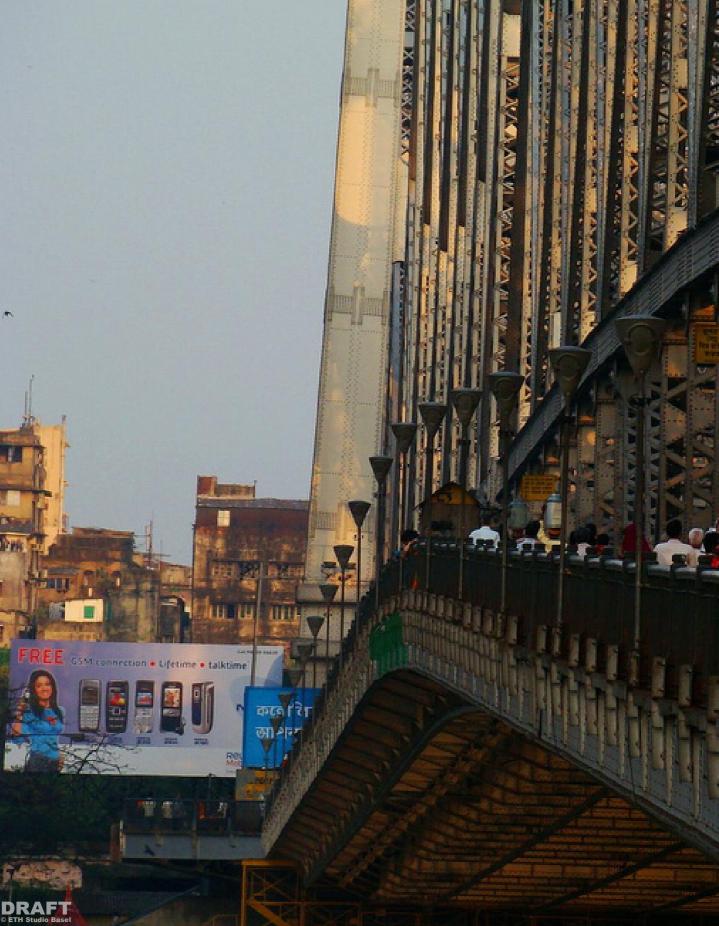


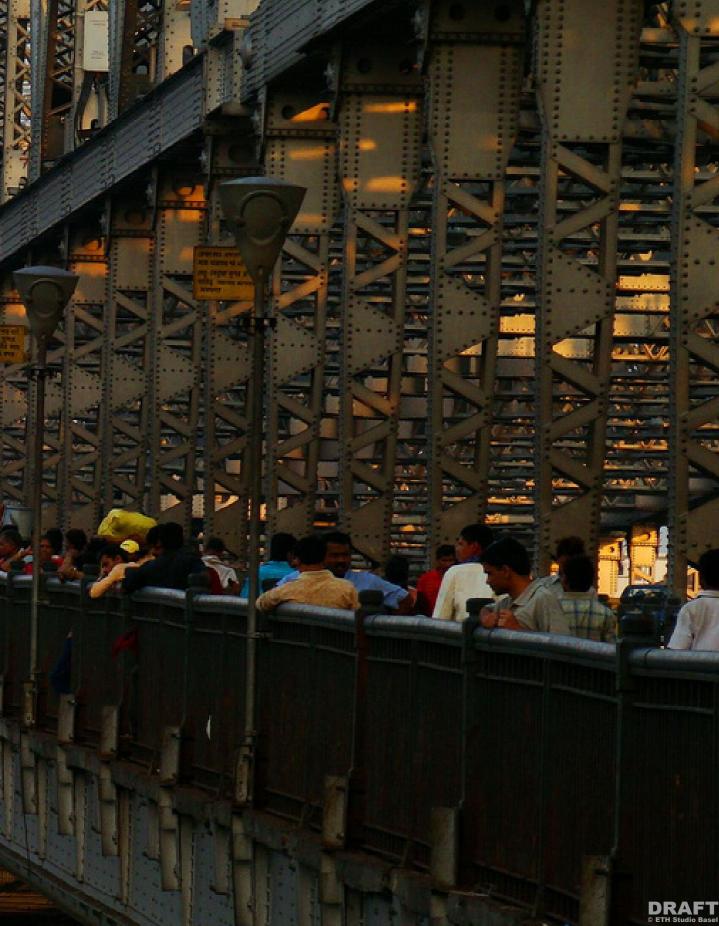
**Howrah Bridge** View from Kolkata side













# 2 Activities & Structures





## 2.1. The City within the Twin Cities

Howrah Station is a very dense complex that shows, seen as a whole, citied structures in a spacially very limited area. It functions in many aspects independant of it's surrounding, as for example in security means, traffic handling or internal social associations

Instead of using numbers to define what is a city, Studio Basel uses 6 activities to describe it. So if a city is not defined by a quantity but by a presence of other requirements like those 6 activities, one can state, that any structure that isn't a city in a conventional meaning, can nevertheless be seen as a city.

### 2.2. Activities & Structures

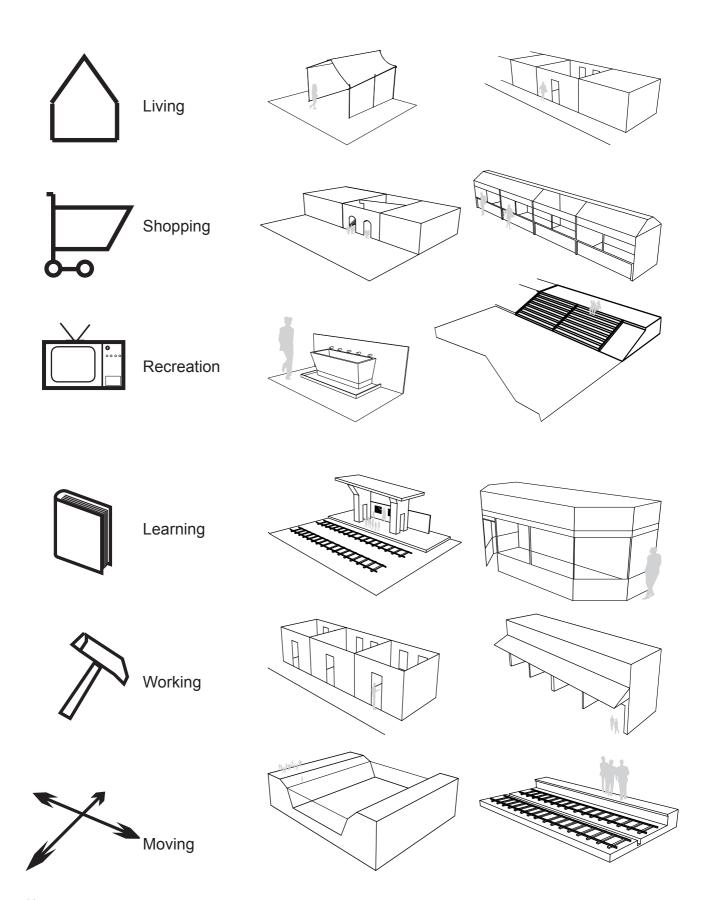
Having seen the dimensions of Howrah Station, the immense amount of people and goods in relation to it's spacial display, we have constated that Howrah Station is specially dense. There's a high density of people of course but also a relatively high amount of offers. How do all these offers function next to each other? How are they distributed? And specially: which structures features the station consciously and which ones dispose unintentional usage?

To structurise the complex of Howrah Station inside and outside we split it up and made categories, based on the 6 activities:

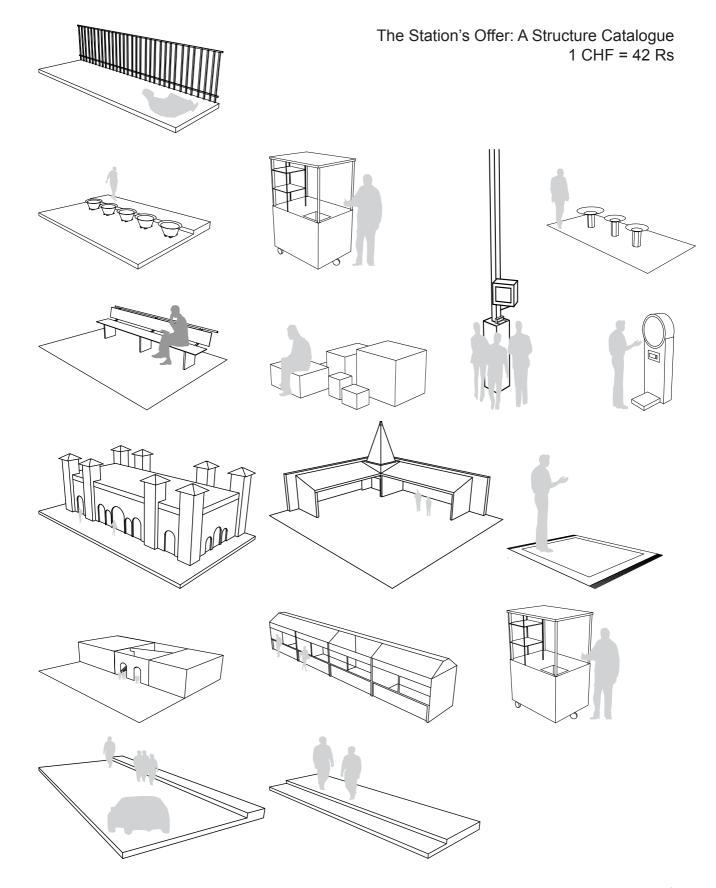
> Living Shopping Recreation Learning Working Moving

Observing people and how they make use of the station's built elements, we put toghether a catalogue of structures and infrastructures.

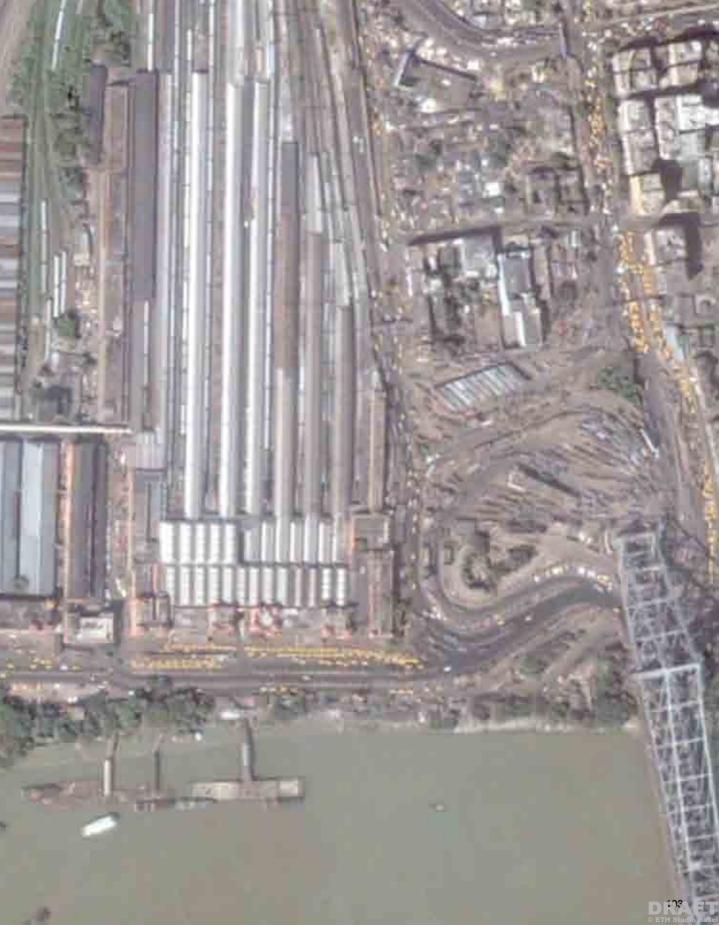


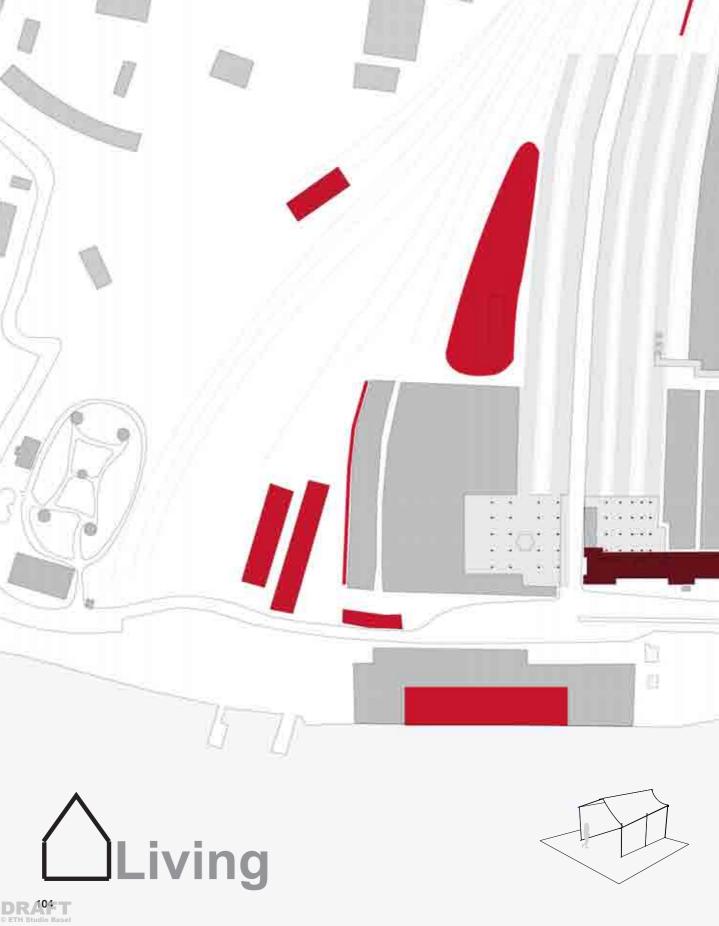




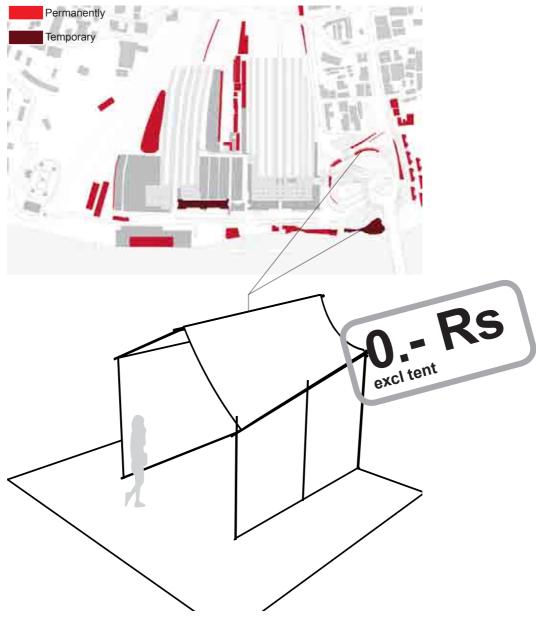












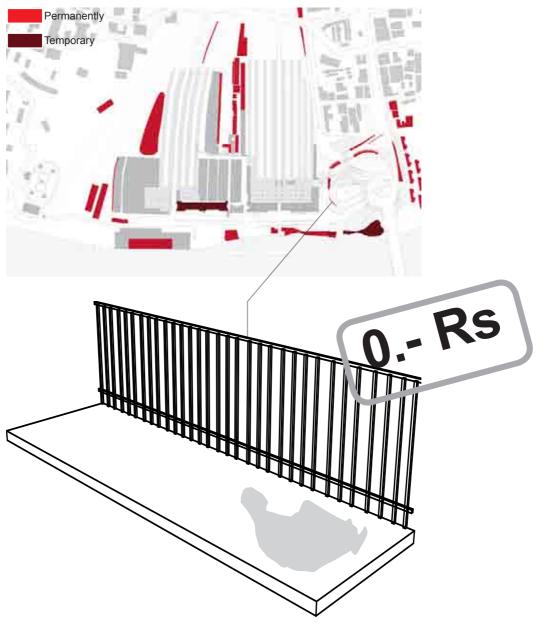
Permanently - Tents











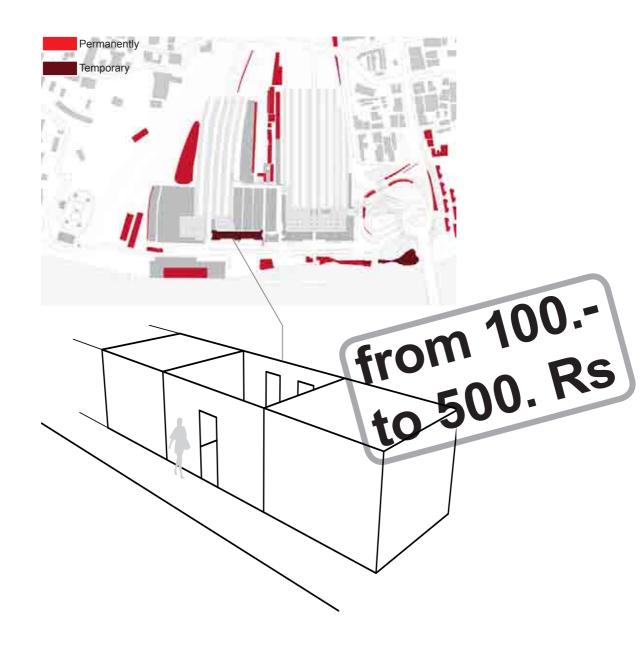
Permanently - Floor











Permanently - Hotel rooms































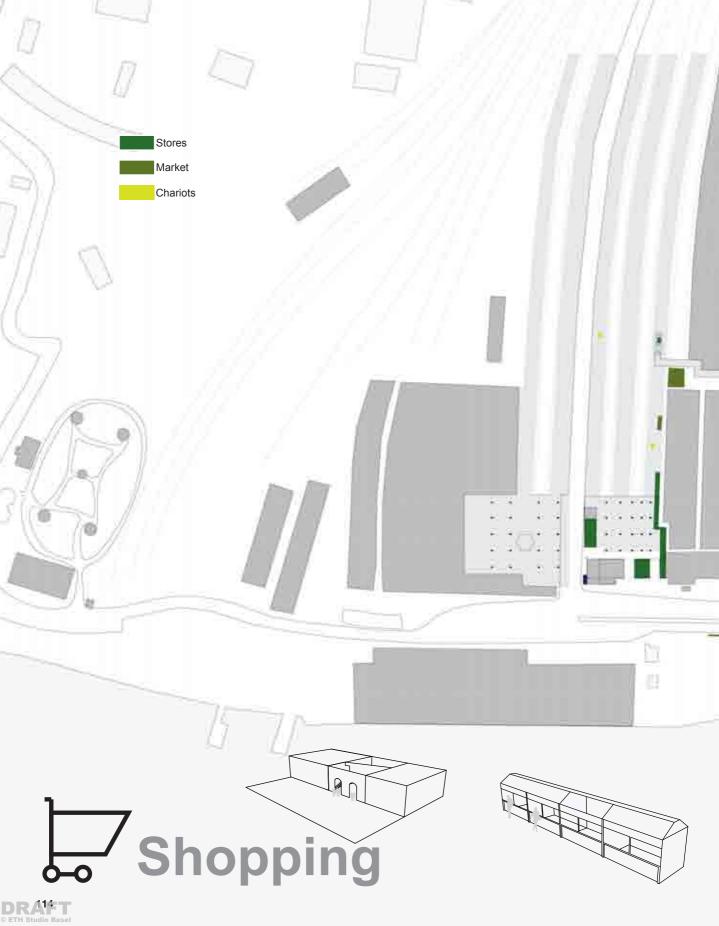




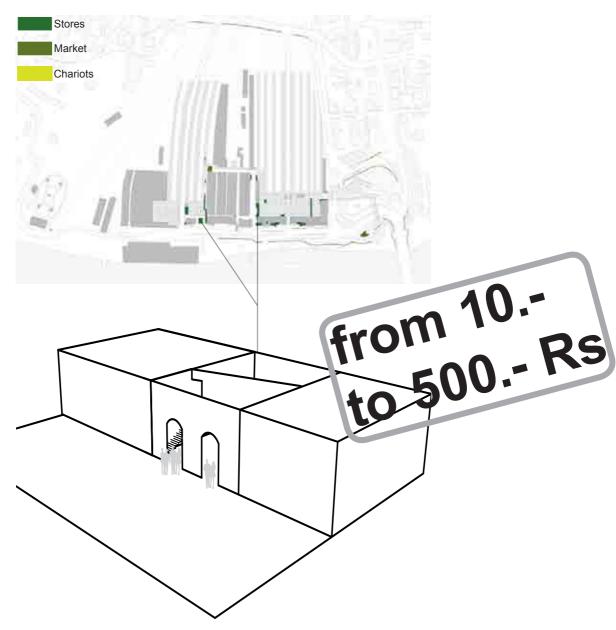








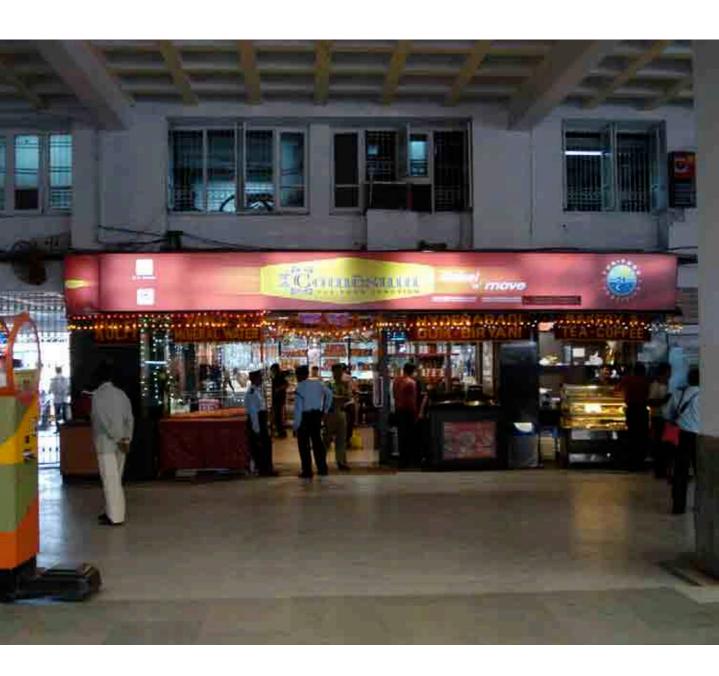




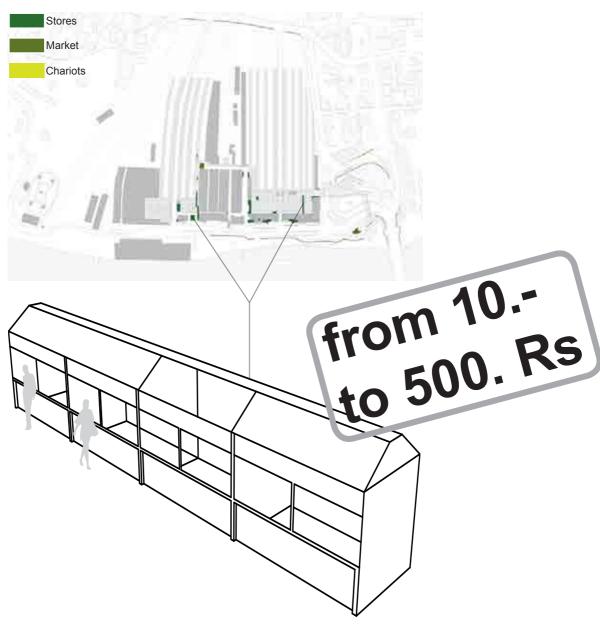
Shopping - Stores











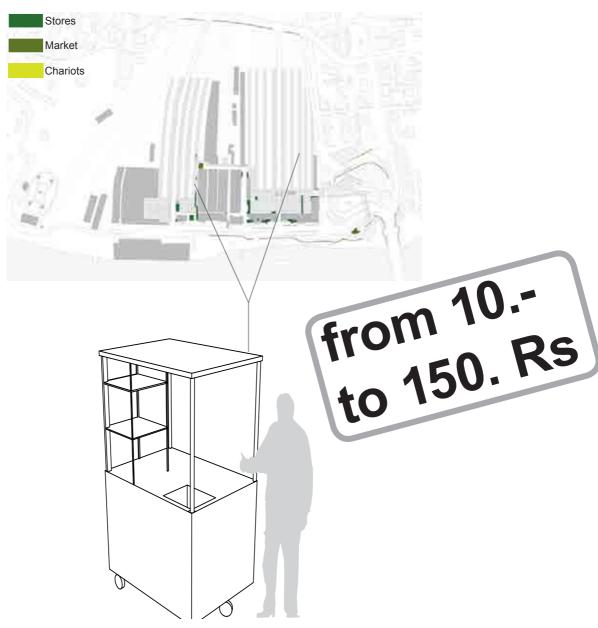
Shopping - Stands







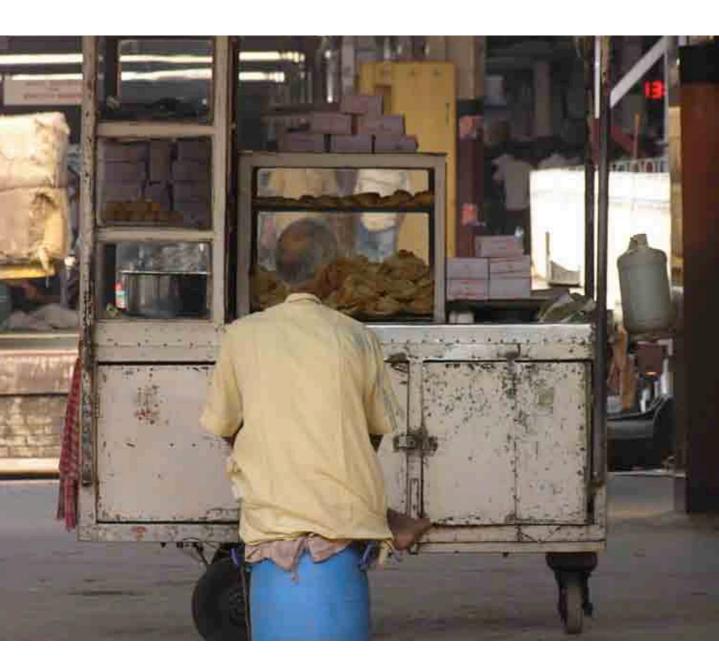




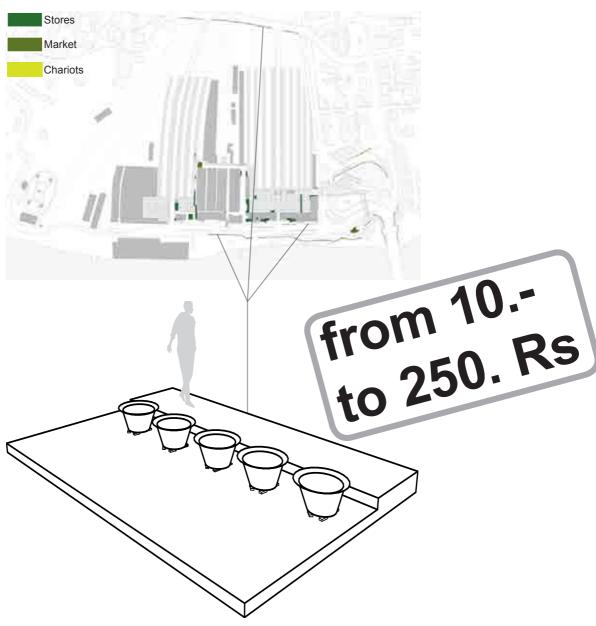
Shopping - Chariots











Shopping - Markets































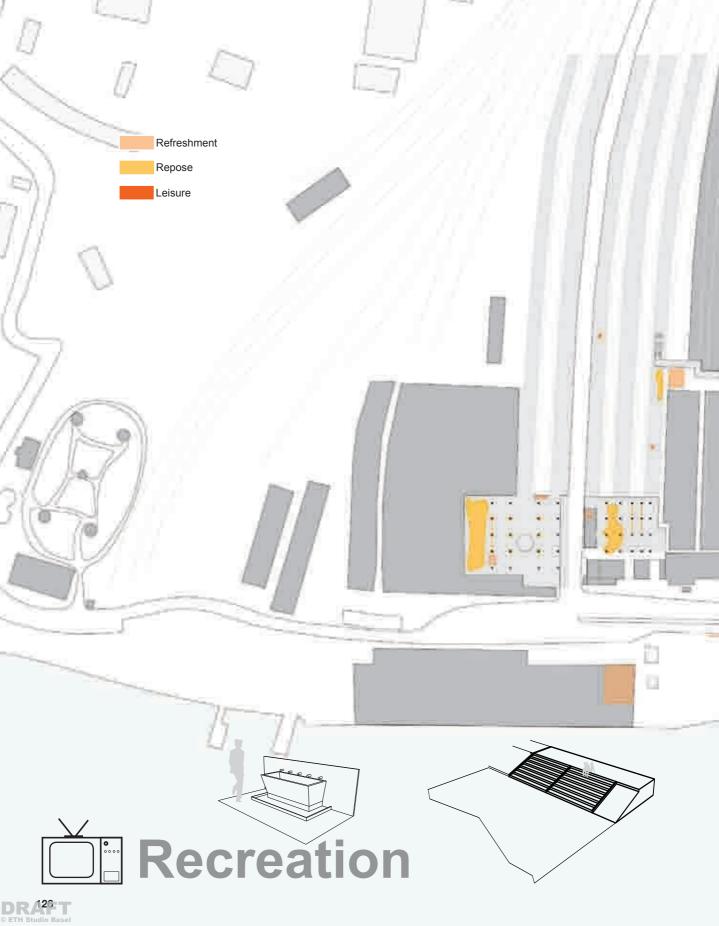


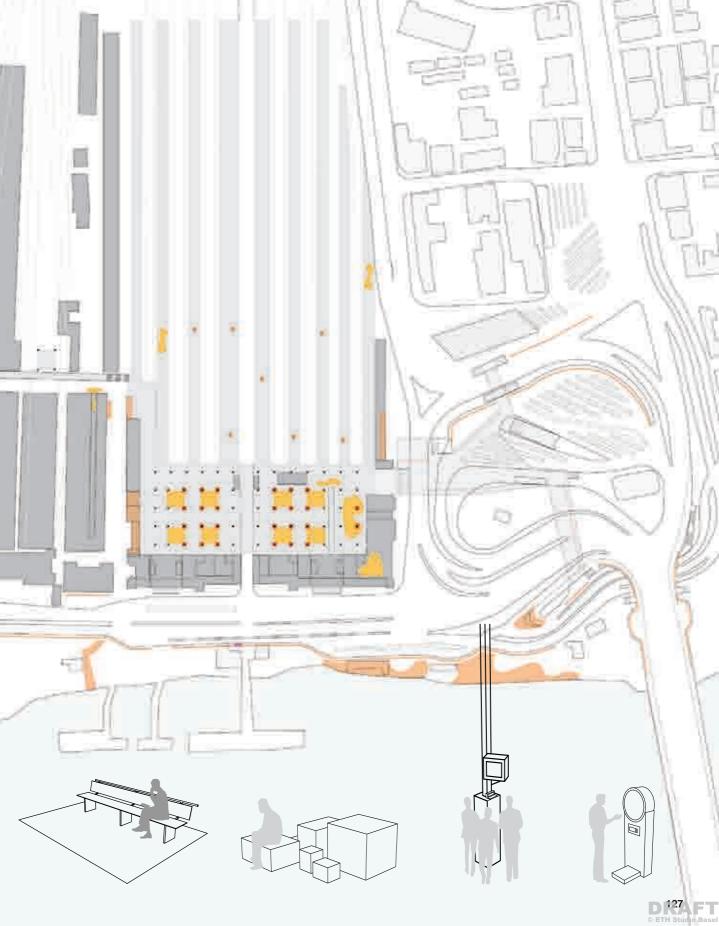


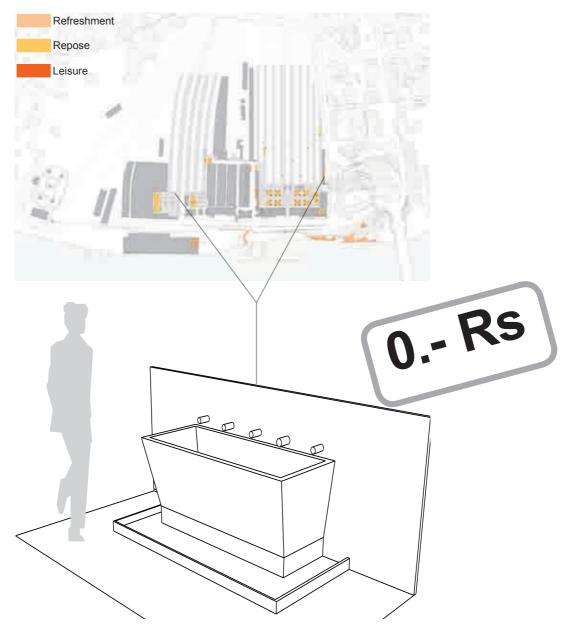












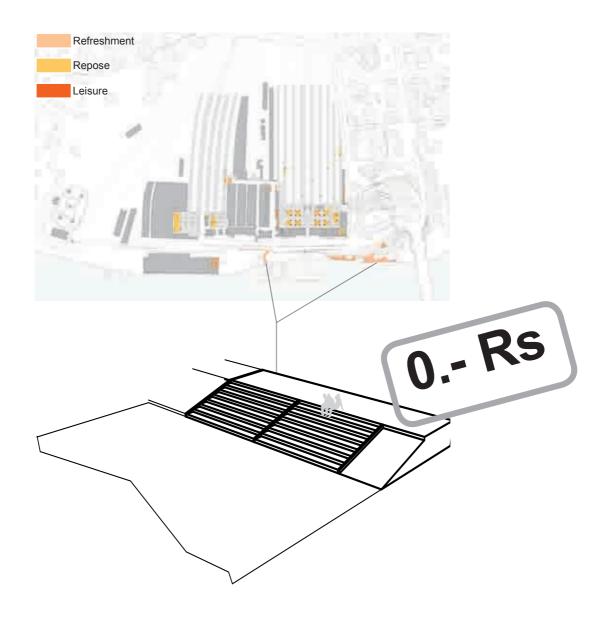
Refreshment - Drinking spaces









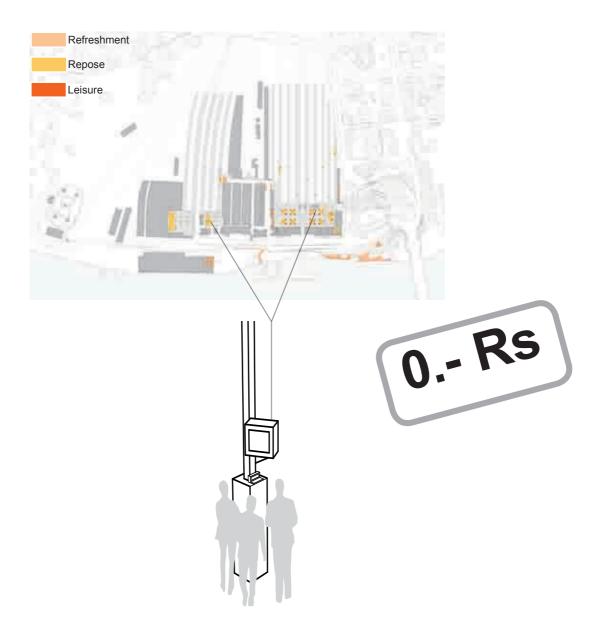


Refreshment - Riverside







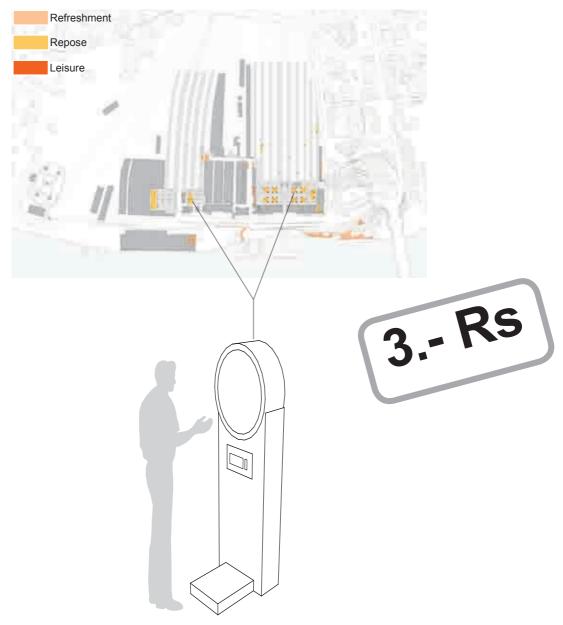


Leisure - TV and Battery loading









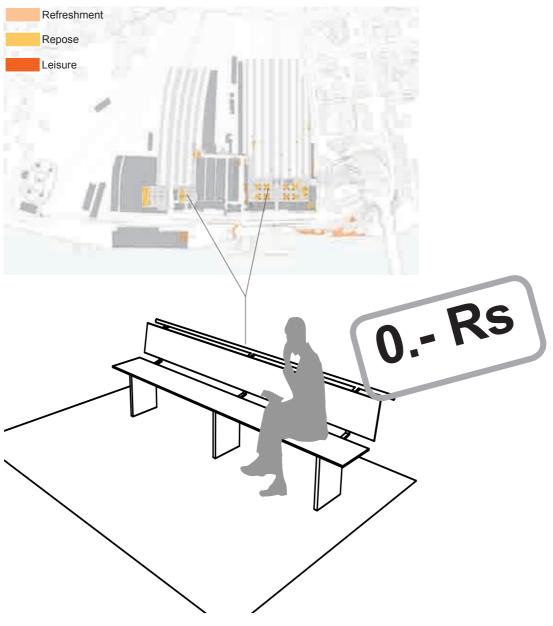
Leisure - Gambling











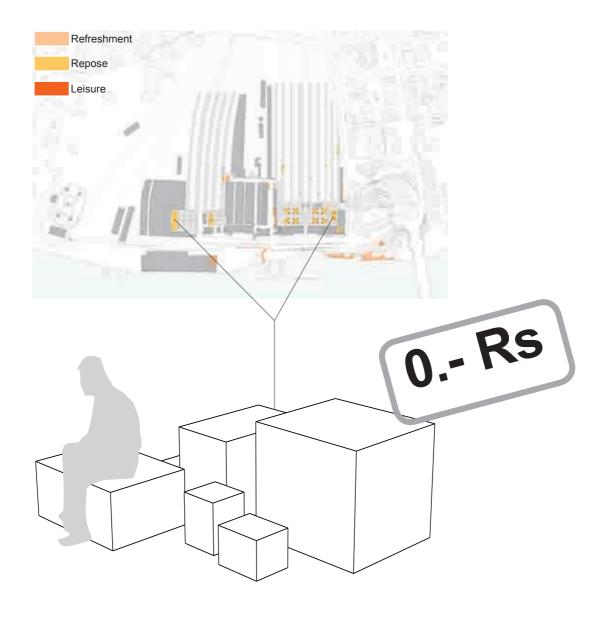
Repose - Benches











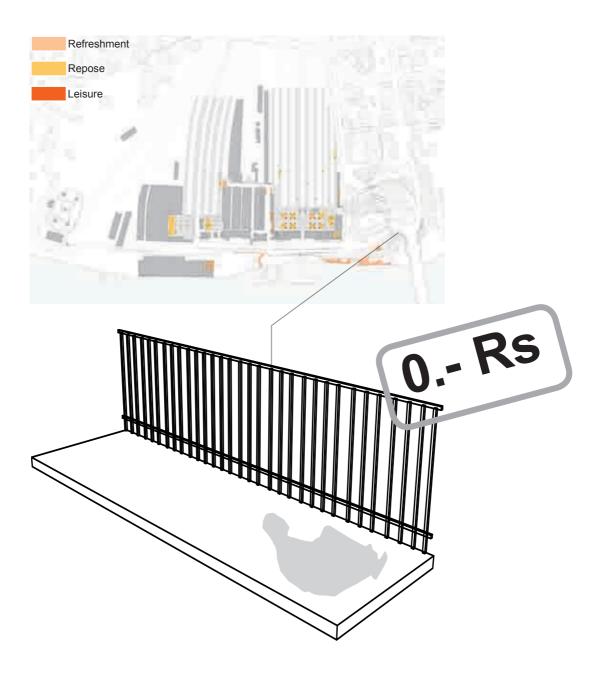
Repose - Freights











Repose - Street































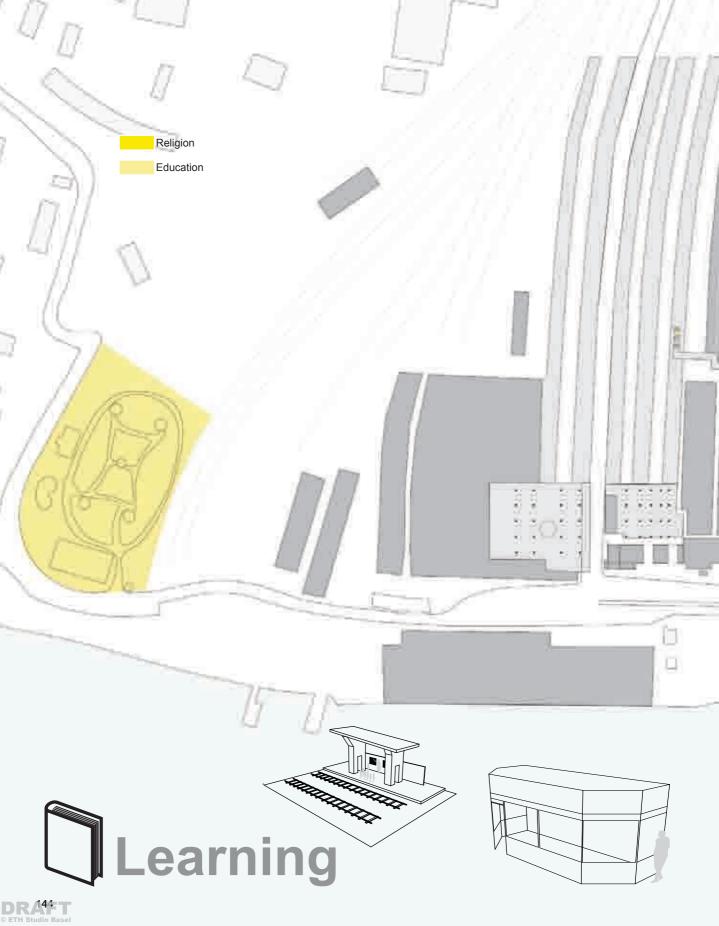


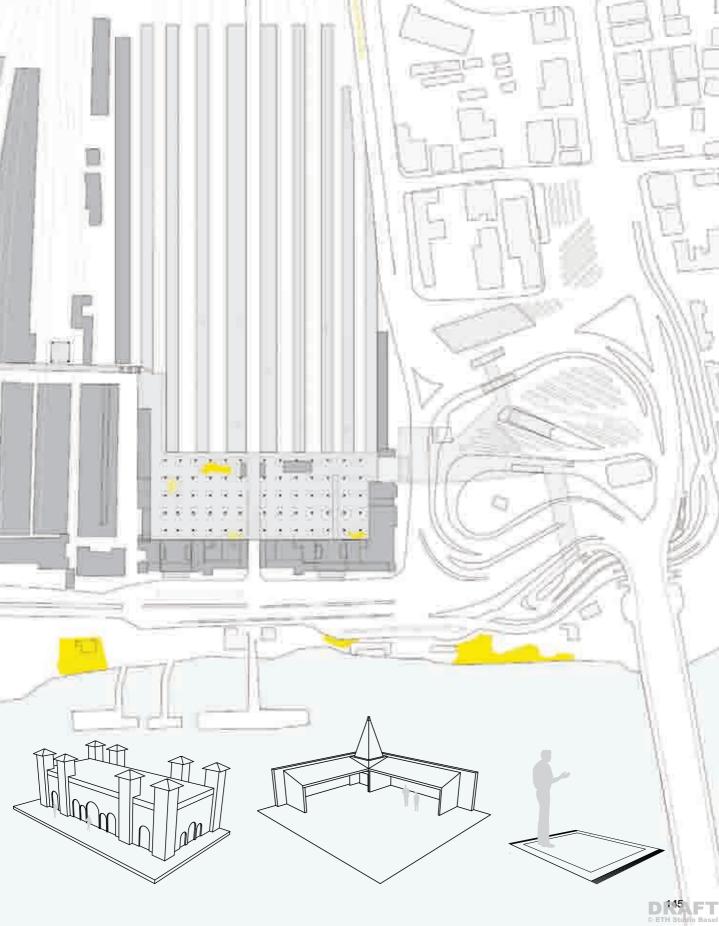


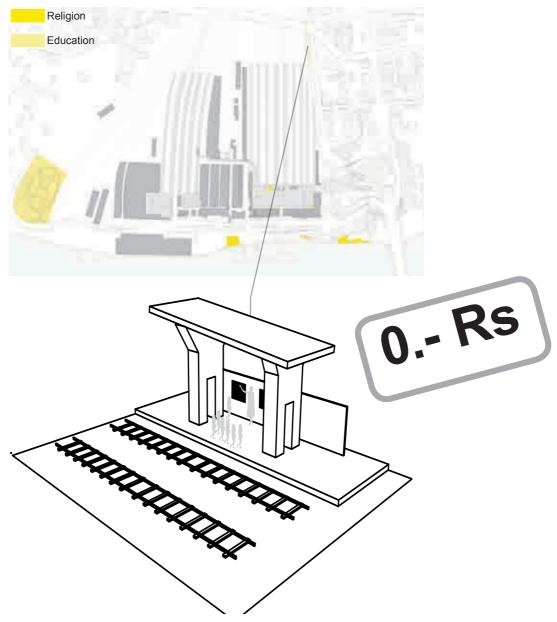












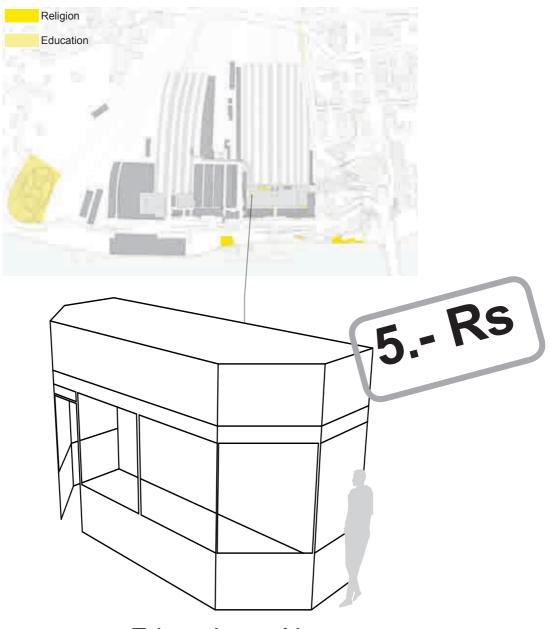
Education - School





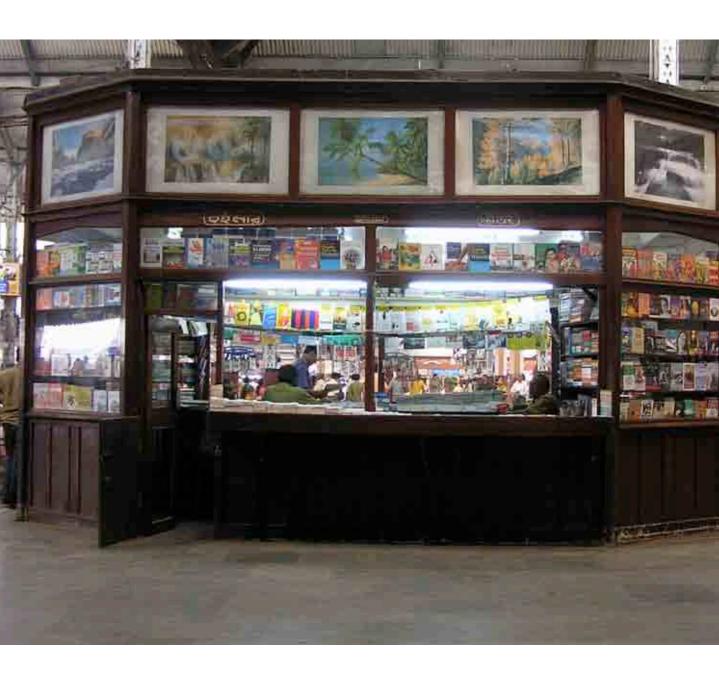




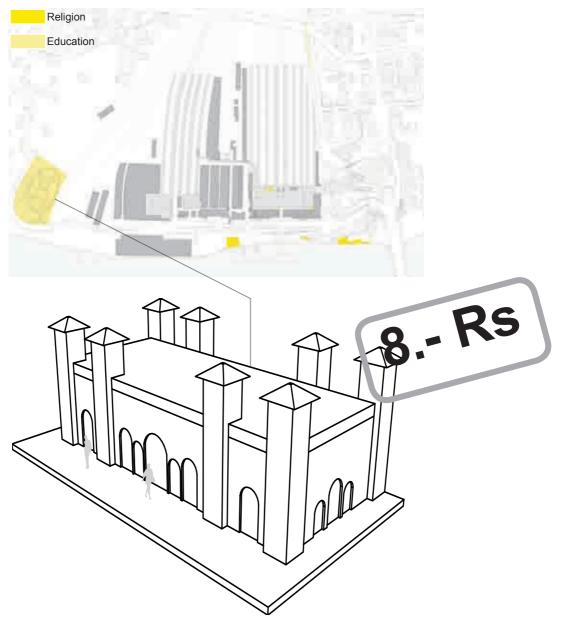


Education - Newspaper





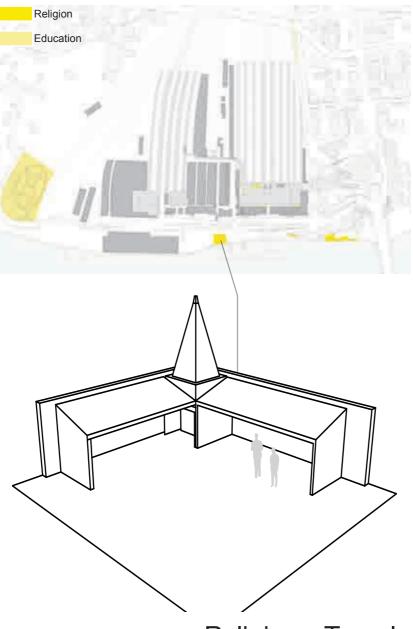




Education - Rail museum







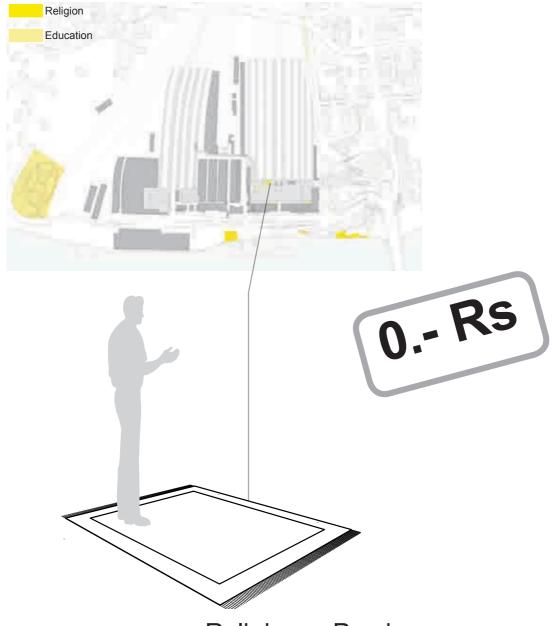
Religion - Temple











Religion - Praying































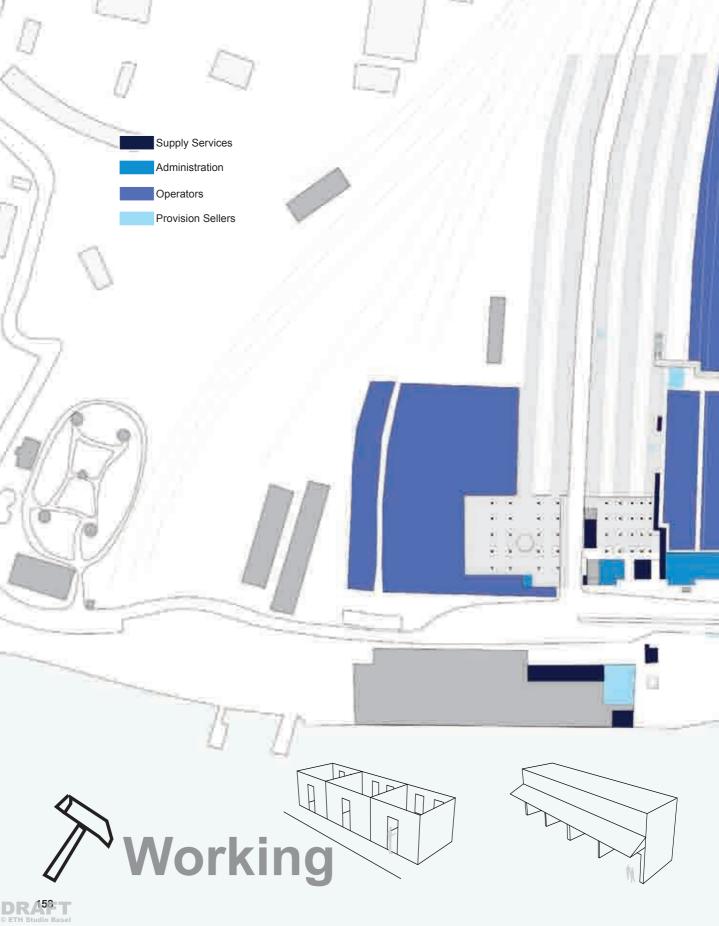


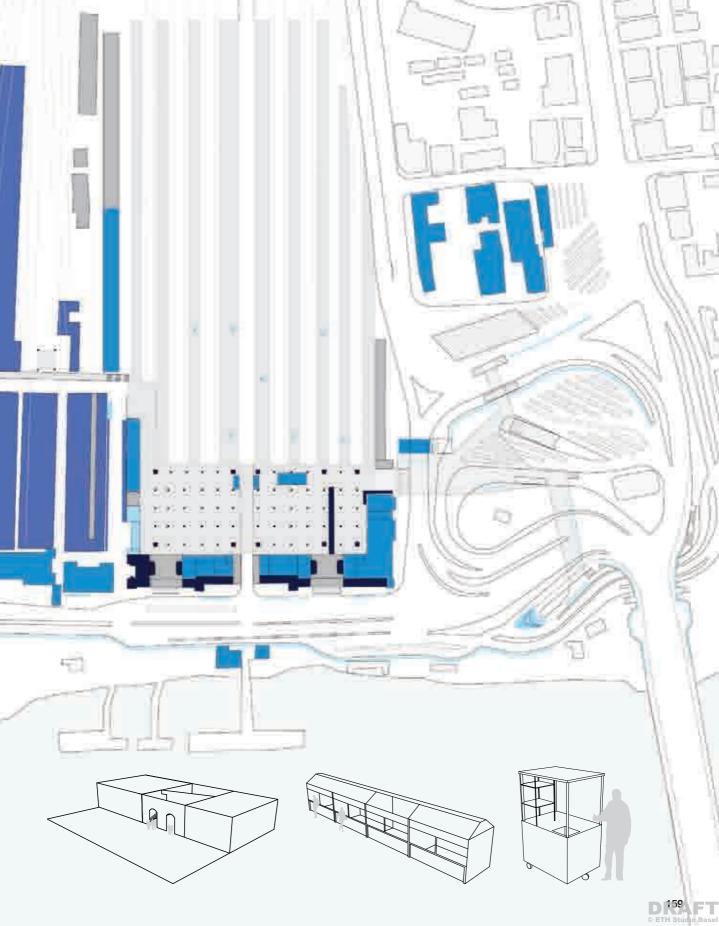












## Train Driver Director

Ticket Controller Accountant

**Operator** 

**Traffic Policeman** 

Baggage Porter

Nurse

**Doctor** 

**Waitress** 

**Cleaning Staff** Teacher

**Bottle Collector** 

**Guards** 



## Cook

## **Administrator**

Beggar

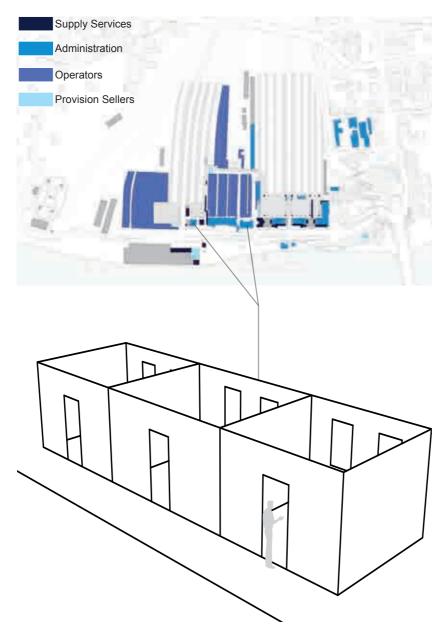
**Traffic controller** 

Parking Attendant Security Staff

**Postman** 

Ticket Seller
Hairdresser
Policeman
Checkout Assistant
Clerk

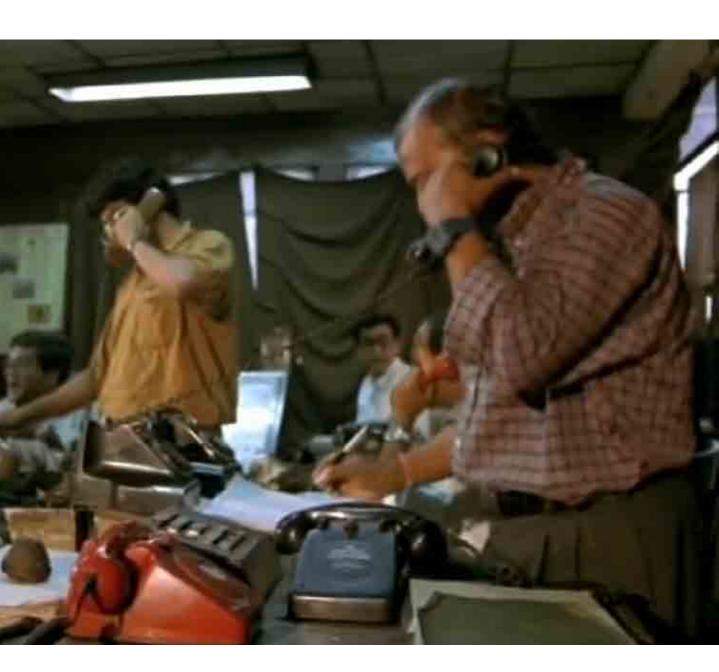




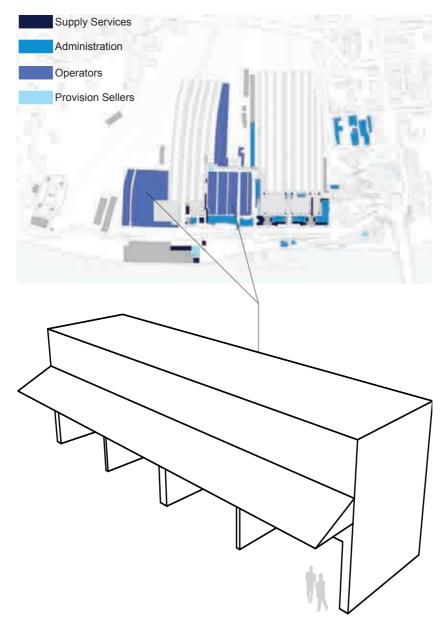
Administration - Rooms











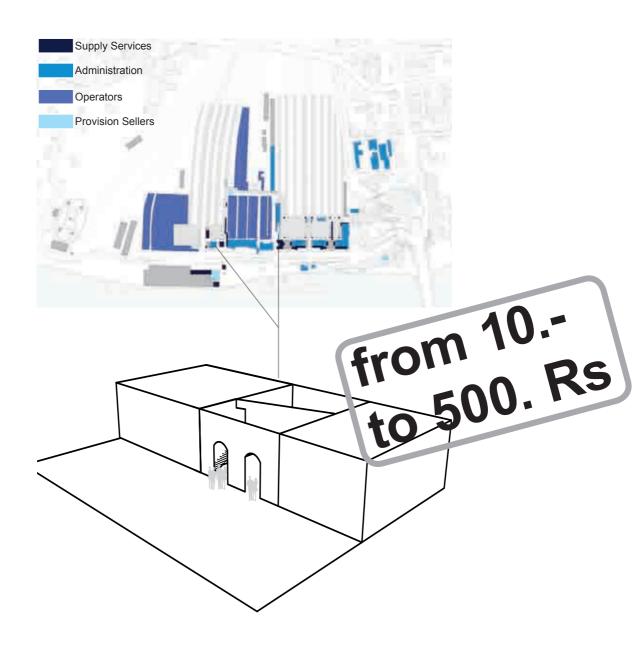
Operators - Warehouses





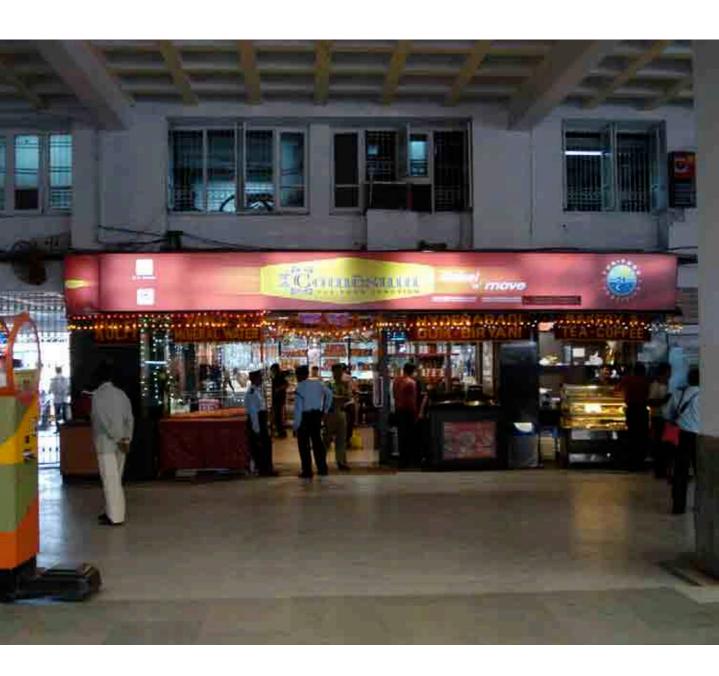




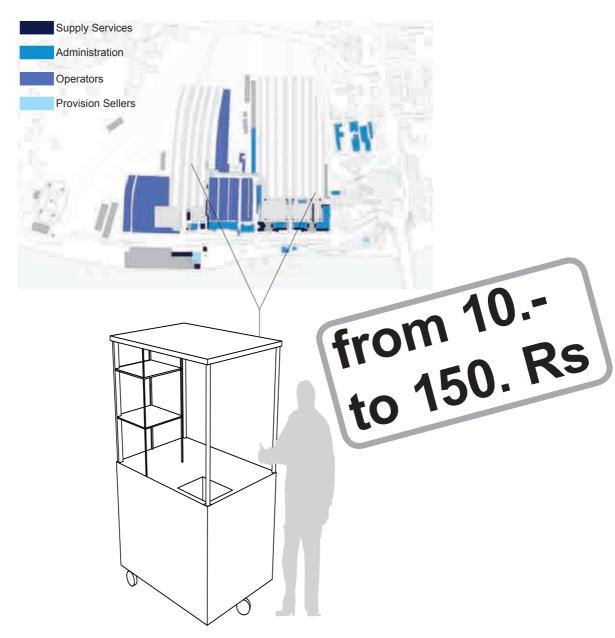


Provision sellers









Moving sellers

































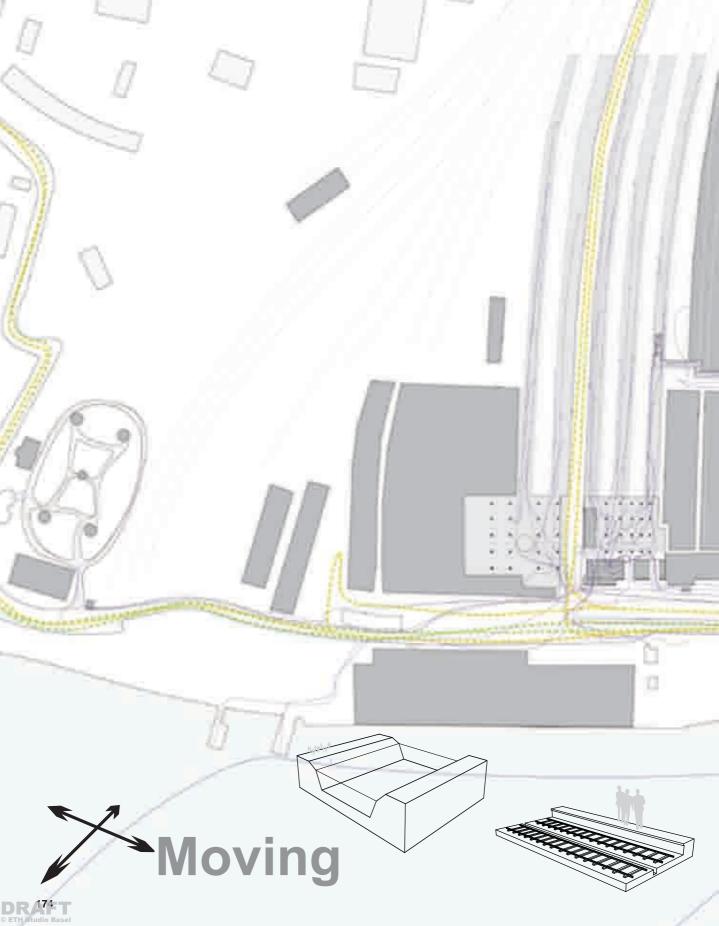




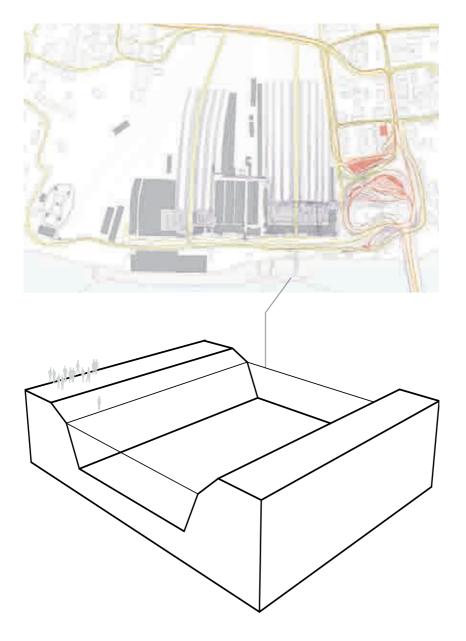










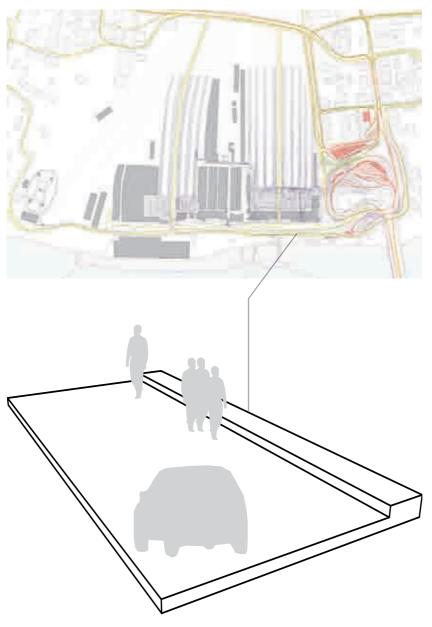


River







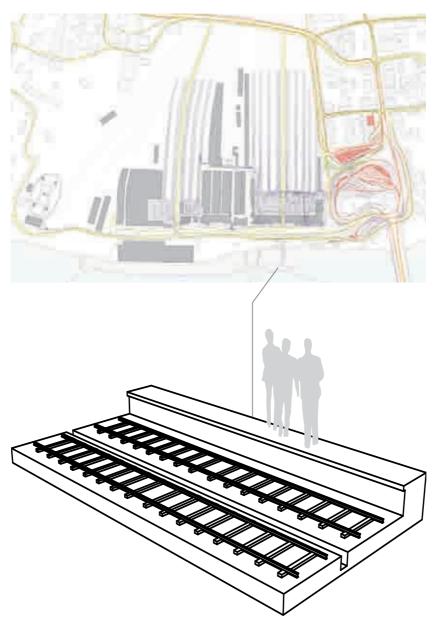


Street







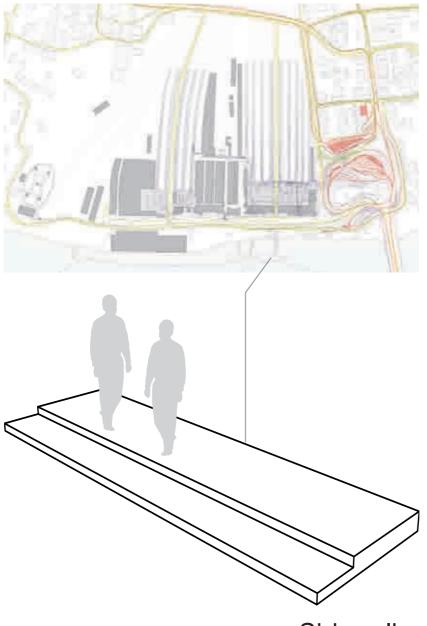


Tracks







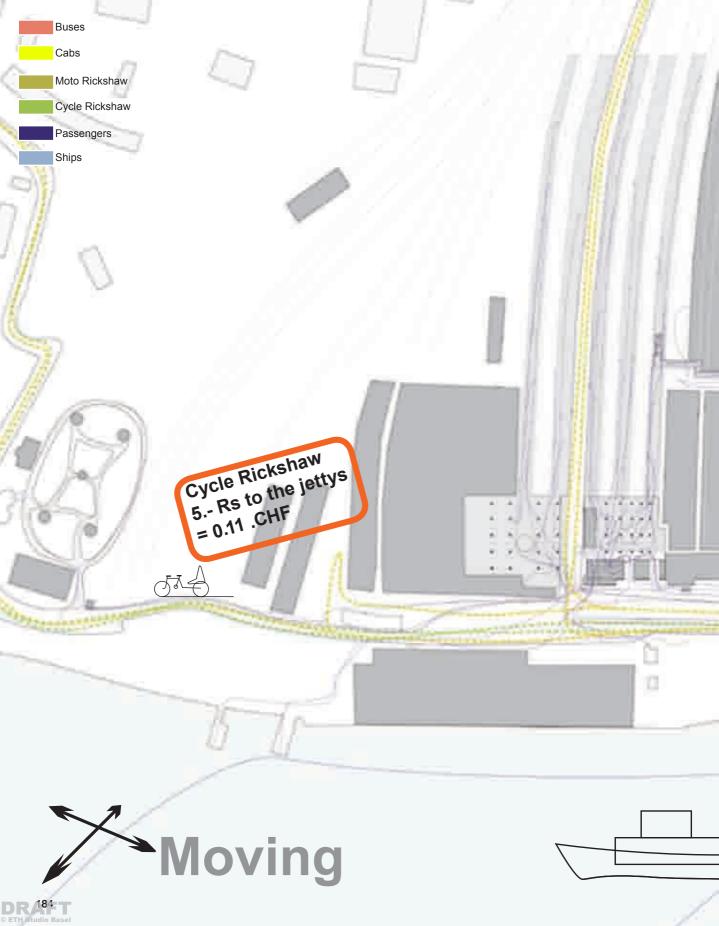


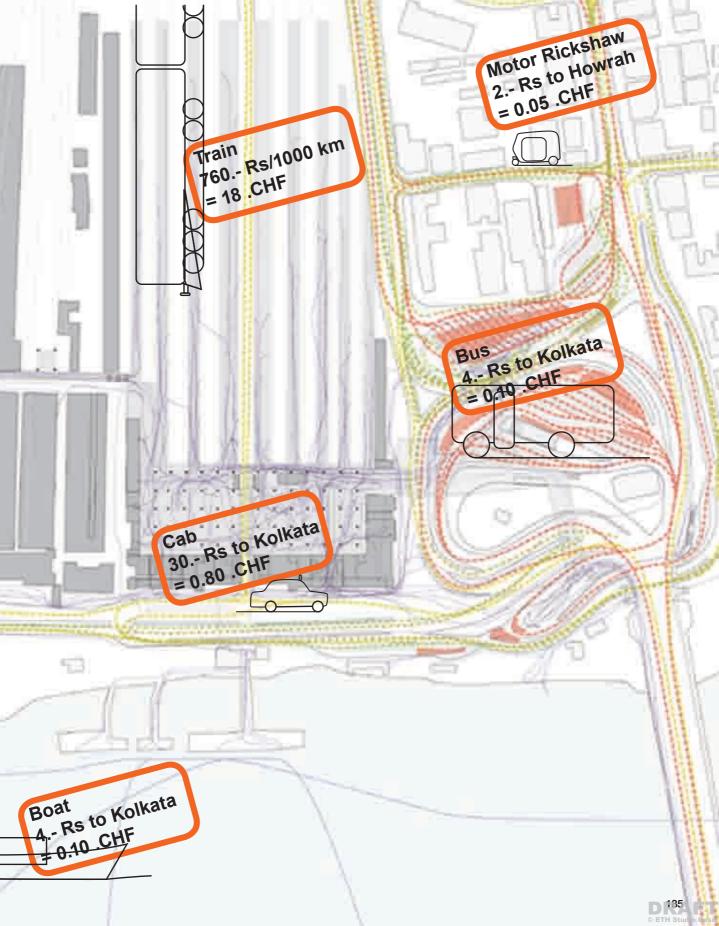
Sidewalks









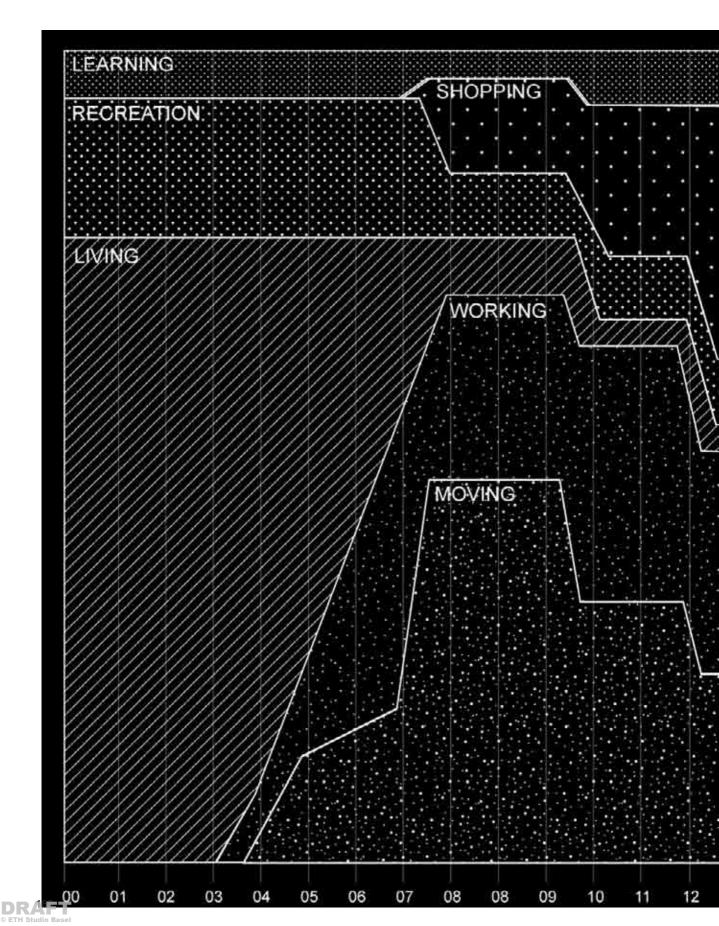




## 2.3. Intensities of Activities during one Day

Howrah Station offers with it's structures all 6 activities required that confirm the Station in beeing a city. But the time factor remains unattended. When does one activity take place and how present is it compared to the others? Could it be, for example, as our city is actually a station, that entertainment is more present than in a conventional city as for example in a shopping centre?





Not surprisingly for a station, the moving activity is highly present from 4 o'clock in the morning. More astonishing may be the permanent presence of the living activity.

The diagramm shows the 6 activities during one day. Each stripe shows how much every activity takes part at the whole presence in the related hour.





# 3 Links & Relations





### 3.1. The Actors

The Visitor Mallika
The Commuter Purnendu
The Police Agent Lokprakash
The Orphan Dinanath





# The Actors



Lokprakash police agent living in Kolkata



Dinanath 12 year old boy living in Howrah Station





### 3.3. The Actors

The Visitor Mallika

The Commuter Purnendu
The Police Agent Lokprakash
The Orphan Dinanath



### Mallika

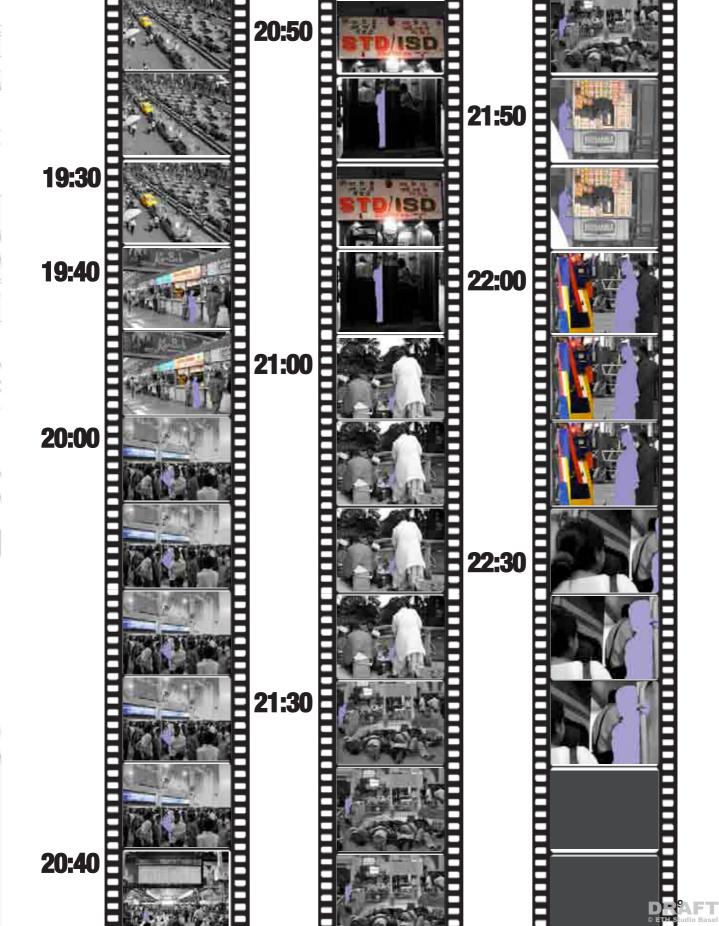
Coming only once a year from Delhi to Kolkata to visit her brother, Howrah Station means both to Mallika: Delight when she arrives and sorrow when she has to leave her brother again.

In case of eventual delays in the kolkatan traffic, Mallika arrives early at the station and plans to take some food and books for the travel at Howrah Station itself.

This time, the train has some delay and she takes advantage of the advertising structures the station offers.













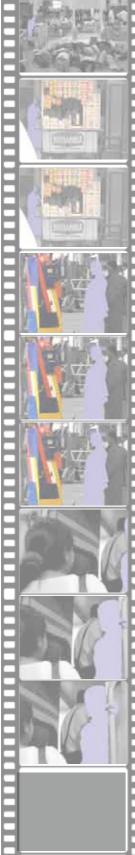




























### 3.3. The Actors

The Visitor Mallika
The Commuter Purnendu
The Police Agent Lokprakash
The Orphan Dinanath

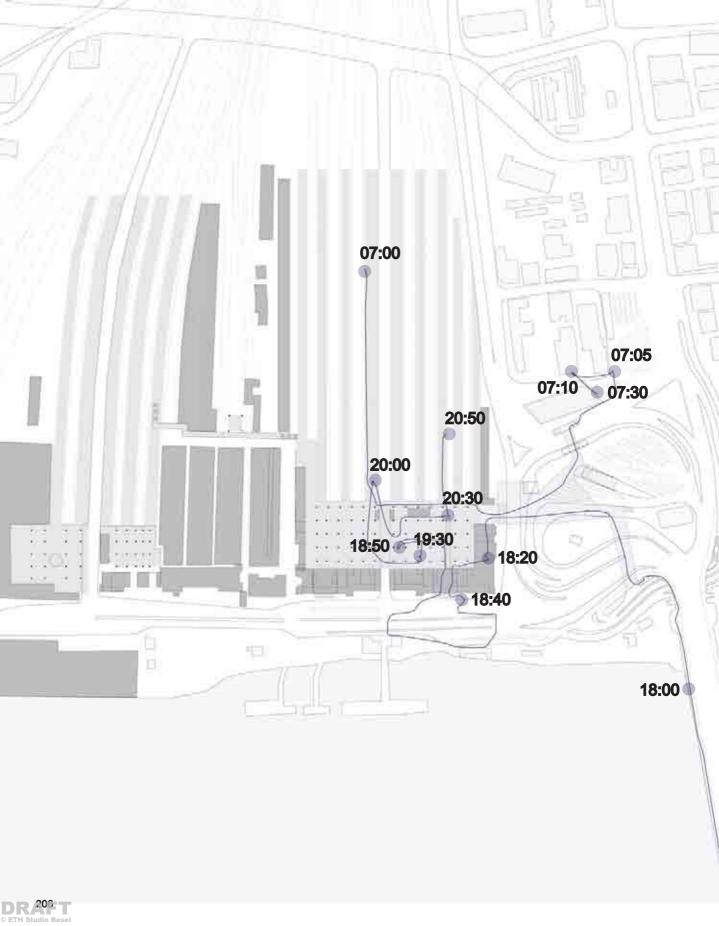


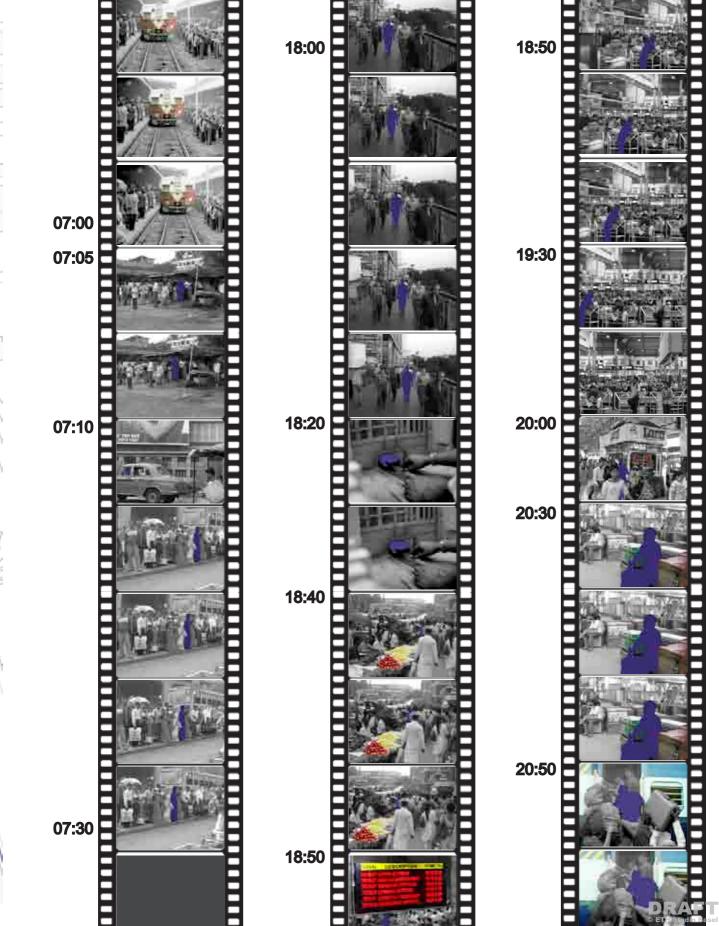
### Purnendu

5 days a week, Purnendu is one of thousands of commuters passing Howrah Station at peak hours, when the density gets to it's almost 5 persons per square meter. He tries to go through the station as fast as possible, beeing channelled from the bulk of other commuters, he hasn't lots of possibilites to go astray.

Coming back from his office in Kolkata, he mostly passes the bridge by foot, seeing the stagnant traffic besides.

Often, his train is behind schedule, so he distracts himself with the food offer in front of the station, beeing starched to get into the fight to enter the waggon.











































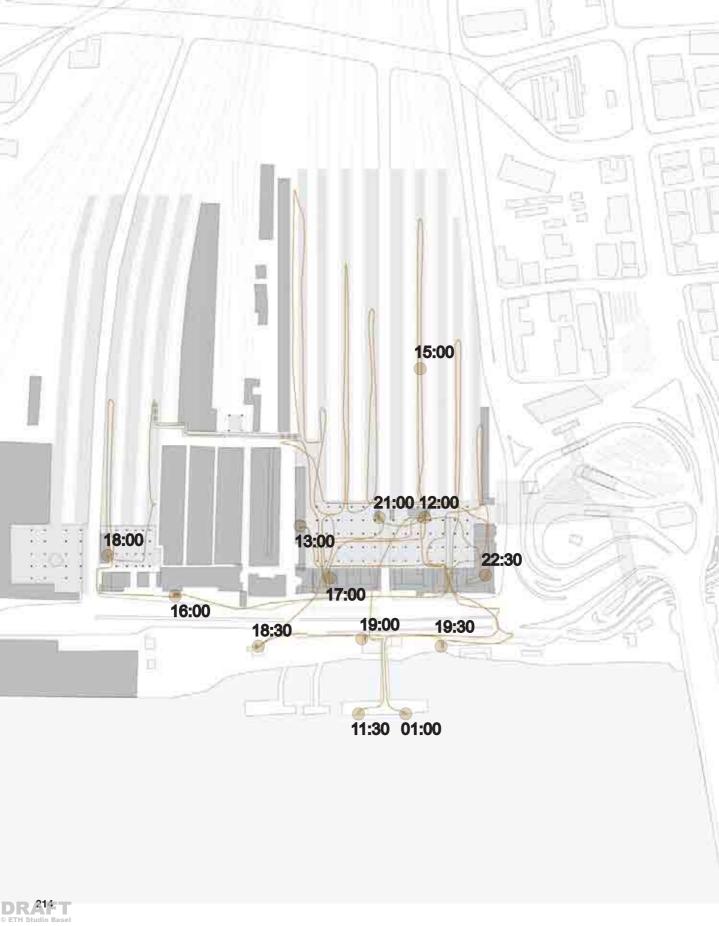
### 3.3. The Actors

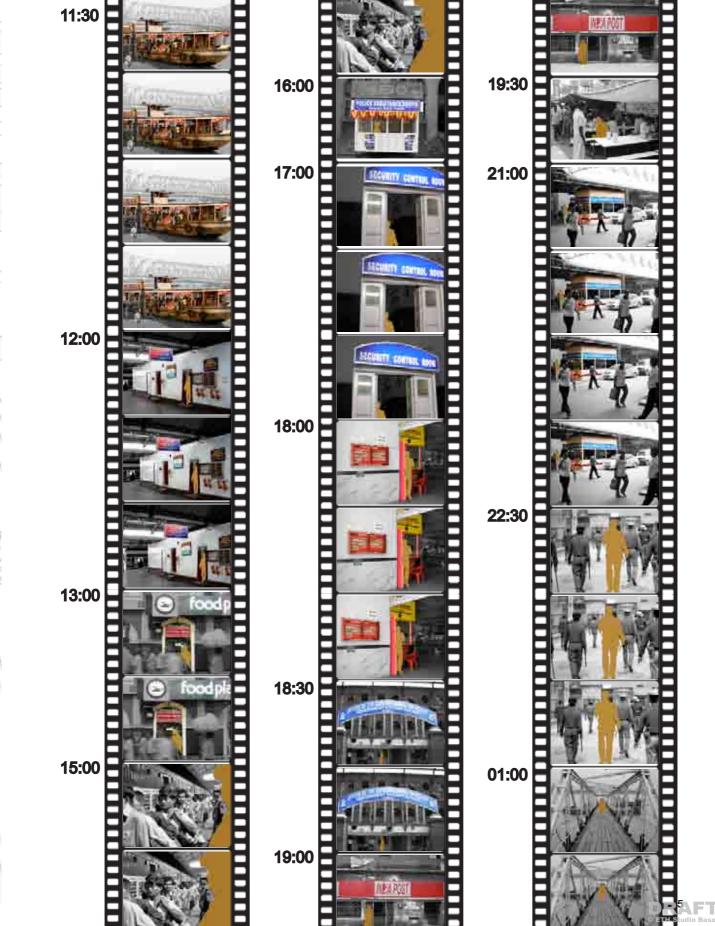
The Visitor Mallika
The Commuter Purnendu
The Police Agent Lokprakash
The Orphan Dinanath



# Lokprakash

For Lokprakash, Howrah Station is a workplace for itself. As a Police Agent, he's observing it closely, and tries to see conspicuous things through the crowds and into the many rooms and spaces in Howrah Station. Having different shifts during the week, he knows it in all conditions and daytimes.



























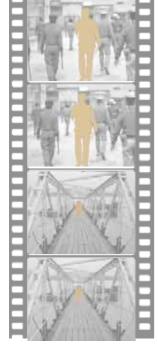




















#### 3.3. The Actors

The Visitor Mallika
The Commuter Purnendu
The Police Agent Lokprakash
The Orphan Dinanath

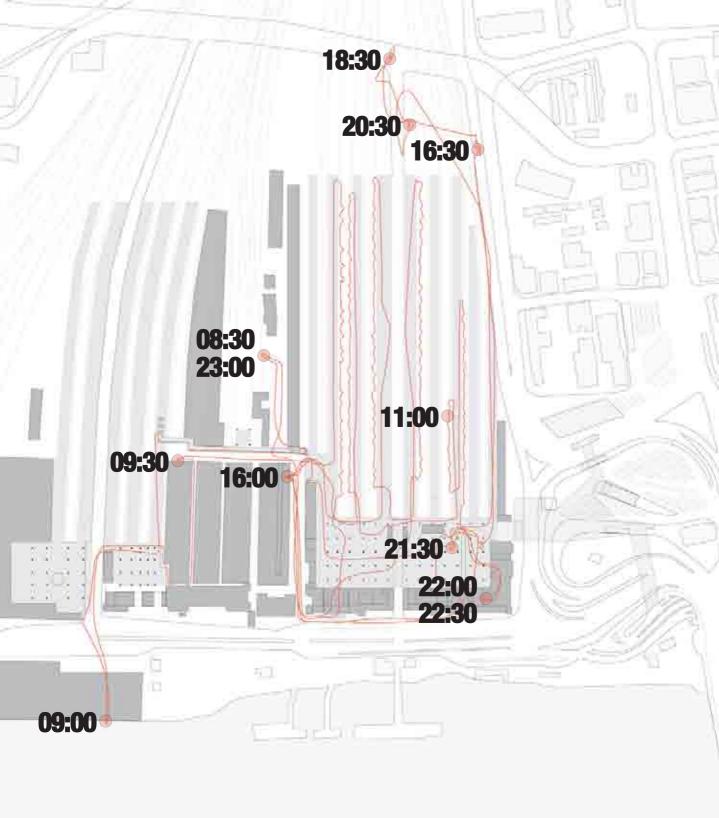


### Dinanath

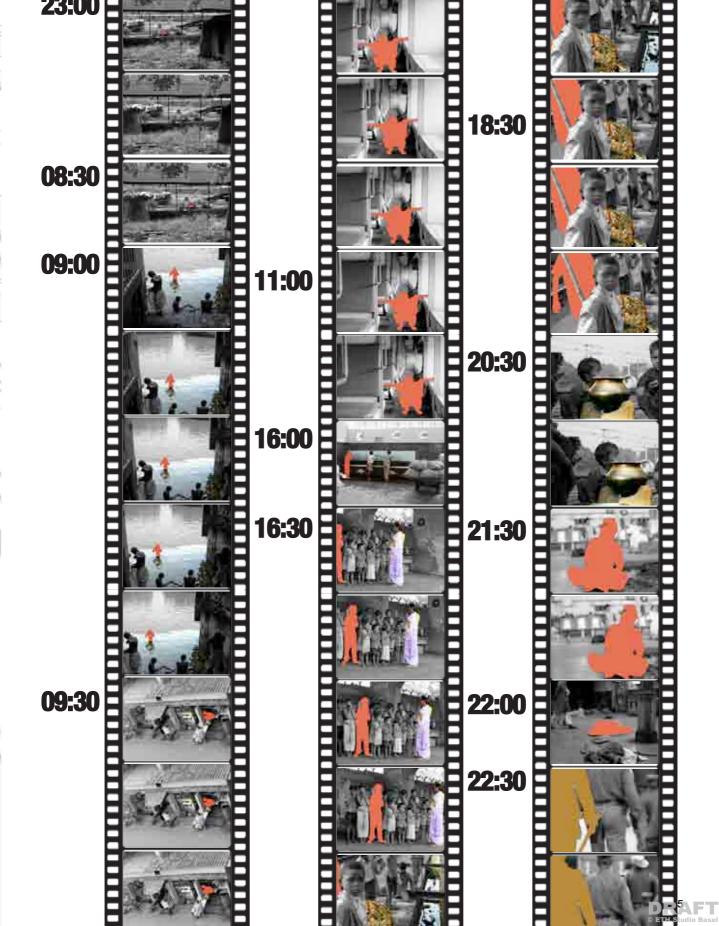
For Dinanath, Howrah Station means even more than a mere workplace. He is one of hundreds of children, taking care of oneselfs having lost their parents or coming from very poor famillies.

Dinanath knows Howrah Station like the back of his hand. He came here 5 years ago and found refuge at the station's SEED school or other companions in misfortune. Necessity is the mother of invention and Howrah Station offers to him the possibility to survive.

Dinanath and his fellows live in between legality and illegality. Begging for example is not allowed but many abandoned places are not steadily controlled and are occupied as living spaces.



















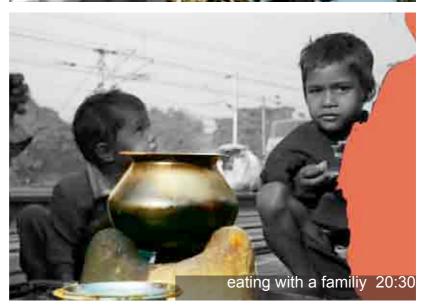














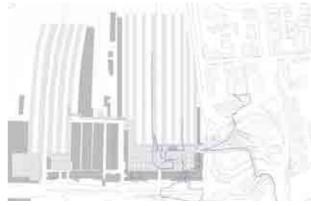








Orphan Dinanath



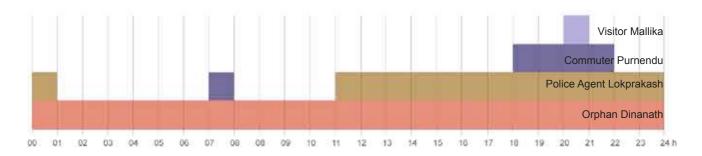
Commuter Purnendu



Visitor Mallika



Police Agent Lokprakash Passages in one day in Howrah Station



Appearances during one day in Howrah Station

During night time, workplaces close, stations close. Cities though stay awake. The example with Dinanath shows permanent usage of Howrah Station.





Orphan Dinanath

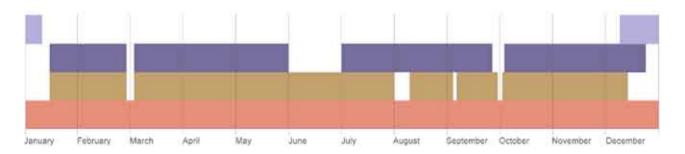
Commuter Purnendu



Visitor Mallika



Police Agent Lokprakash Passages during one year in Kolkata



Appearances during one year in Howrah Station



name:Rajni age: 46

coming from:Jaipur stays in: Tata

reason: going home after visiting children who study in Jaipur, via Kolkata, No direct train from

coming from: Uluberia reason: work in hospital frequency of commuting: 3 times a year

duration of stay: min. 7 hours

frequency of commuting: 6 days a week

Person 1

coming from: Kanpur Allahbad reason: Football tournament duration of stay: 10 days frequency of commuting: first visit

Person 6

Person 7 coming from: Howrah going to: Uluberia reason: work duration of stay: 10 hours

frequency of commuting: 5 days a week

name:Santosh Kumar Das

age: 16

going to:Indore (Madhya P stays in: Kolkata

reason: vacations frequency of commuting: 3

for 10-15 days

name:B.K.Basu

age: 56

coming from:Kamarkundu stays in: Kamarkundu

reason: office in Kolkata, Dalhousie frequency of commuting: 6 days a week

Person 3

coming from: Kharagpur reason: Business duration of stay: 4 hours

frequency of commuting: 7 days a week

Person 4 coming from: Konnogar reason: office

Person 2

duration of stay: 7 - 8 hours

coming from: Allahbad

reason: Mother's death

duration of stay: no idea

frequency of commuting: 6 days a week

frequency of commuting: occasionally

name:Swati Samanta

age:32

coming from: Bagnan stays in: Uttarpara

reason: teaches in Kolkata, schooltead frequency of commuting: 6 days a wee

name:Biman Shau

age:42

going to: Malda stays in: Kolkata

reason: To take care of sick relative frequency of commuting: once in 2 months Person 5 coming from: Hooghly reason: college

duration of stay: 10 hours frequency of commuting: 5 days for college, 2 days for tuition

name:Shalini Sethia

age:23

coming from: Bangalore

stays in: Patna

reason: works in a software firm in Bangalore, going home for vacation

had to stop in Kolkata as there are no direct flight

from B'lore

frequency of commuting: twice a year



name:Manju Dasv

age: 40

coming from:Midnapore

stays in: Kolkata

reason: Business there and here frequency of commuting: 2 times a week

radesh)

times a year, stays

name:Mansa Singh

age: 35

going to:Benaras via Mughalsarai

stays in: Kolkata

reason: They have a house there too, business

nere

frequency of commuting: 1-2 times a year, stays

one week

her ek

name:Sarita Roy

age: 25

going to:Satna (Madhya Pradesh)

stays in: Kolkata

reason: houswife,going to visit parents

from in-laws place

frequency of commuting: once a year

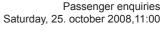
and stays there for a month

name:Amrit age: 23 going to:Patna stays in: Patna

reason: going home for vacations, studies here frequency of commuting: 2 times a year

Based on observations in and around the station the stories above are invented.

However, we got in touch shortly with passengers going through the entrance hall. It has been a saturday morning around 11 o'clock.



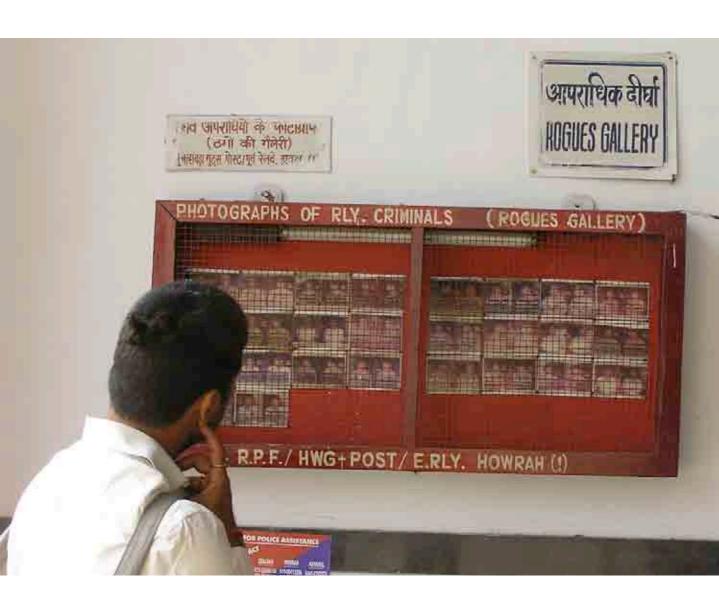




#### 3.2. Help & Support

Security & the Station's Concessions A new home: SEED



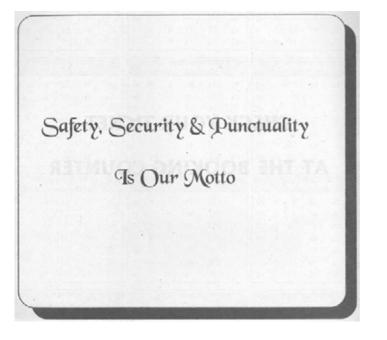






Claims, reminders, warnings fom the Eastern Zone





#### Disclaimer

Every attention is paid to ensure punctuality of trains as published in this Time Table as far as practicable. It may be appreciated that there are many extraneous factors, not under the control of the Railway Administration e.g. tampering with tracks, signalling, chain pulling apparatus, public agitations, law and order issues, inclement weather etc. which affect the Railway operations adversely. These do have chain repercussions. The administration, hence, does not guarantee that the trains will always start or arrive at the time specified in the Time Table, nor will they be accountable for any loss, inconvenience or injury that may arise from delays or detentions. The right to stop the trains at any station on the line, although not marked as a stopping station, is reserved. Every effort is made to inform the travelling public about unforeseen changes in schedules through Notice Board at stations, Public Address System at stations, Rallway Enquiry System etc.

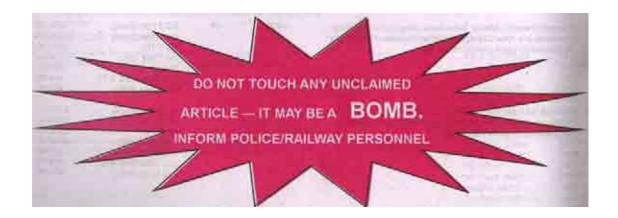
The inter station distances shown in the Time Table are only indicative and may vary in certain cases with actual chargeable distances.

As such these can not be viewed as a part of contract between Indian Railways and travelling public. The Railway Administration disclaims liability for any inconvenience, expense or damage resulting from errors in this Time Table or from delayed/cancelled trains.

ANY UNCLAIMED OBJECT LYING IN RAILWAY
STATION OR IN TRAIN COULD BE A

"PLEASE REPORT LOST OR MISPLACED ARTICLES LEFT ON TRAINS OR AT STATIONS TO THE RAILWAY AUTHORITIES"







Arrive at the Station well in advance to avoid last minute rush.

Remember, boarding or disembarking from
A moving Train can endenger your life.

## DON'T BE DUPED BY TOUTS COME TO THE RAILWAY COUNTERS

# AT THE BOOKING COUNTER

"Travelling without a ticket
may land you on a sticky wicket"
REMEMBER!
Ticketless Travel is a punishable offence
And minimum penalty is Rs. 250/-

AVIOD FOOT BOARD OR DOOR TRAVEL.
WATCH YOUR STEP WHILE BOARDING OR LEAVING THE TRAIN

"COME....LET US ALL HELP TO KEEP THE RAILWAY CLEAN"

WE STRIVE HARD TO RUN TRAINS ON TIME.
HELP US TO SERVE YOU BETTER.

Claims, reminders, warnings fom the Eastern Zone Timetable of July 2008



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Concession forms

fom the Eastern Zone Timetable of July 2008



#### 3.2. Help & Support

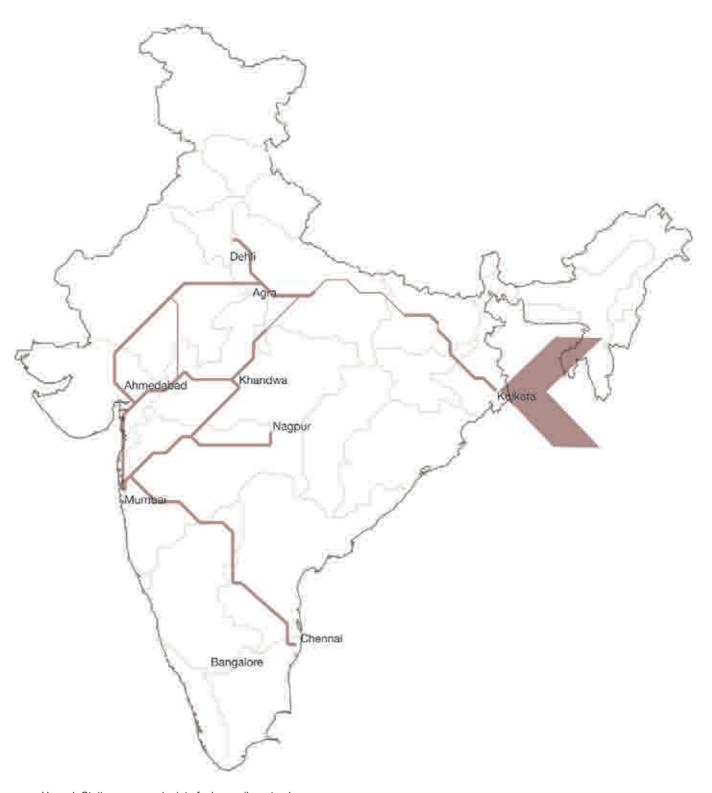
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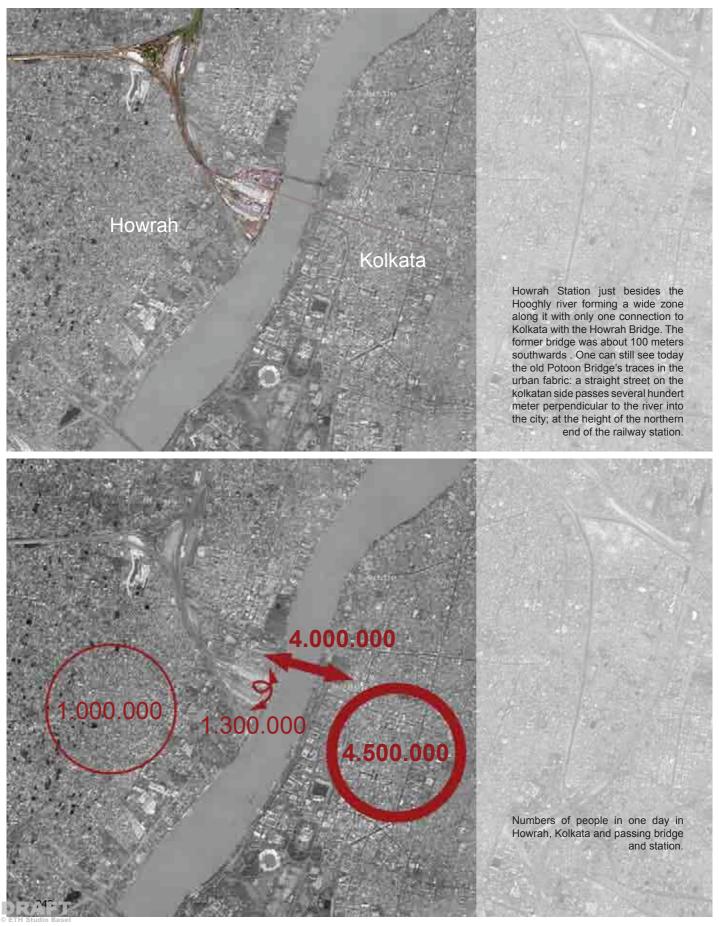


Howrah Station as an endpoint of a long railway track



3.1. Urban Factor











Howrah and Kolkata - the so called Twin Cities. In what way are they twins? In what way aren't they?

Geographically, they could be seen as mirrored, the river as an axis.

Many other similarities though are harder to find. Before having been to Kolkata, and only having a short glance on a google map, one could perceive it as a city with a river in it's middle. Dense housing is on both sides but they are not an entity. There are many and sometimes surprisingly big differencies as showed one the map beside. Having passed shortly through Howrah, the difference to Kolkata was immediatly visible. Howrah seemed a rather smaller city, with mostly 3-4 level buildings. Also noticeable a very bad waste management - mostly rotting on the streets. Howrah counts 1 million inhabitants.

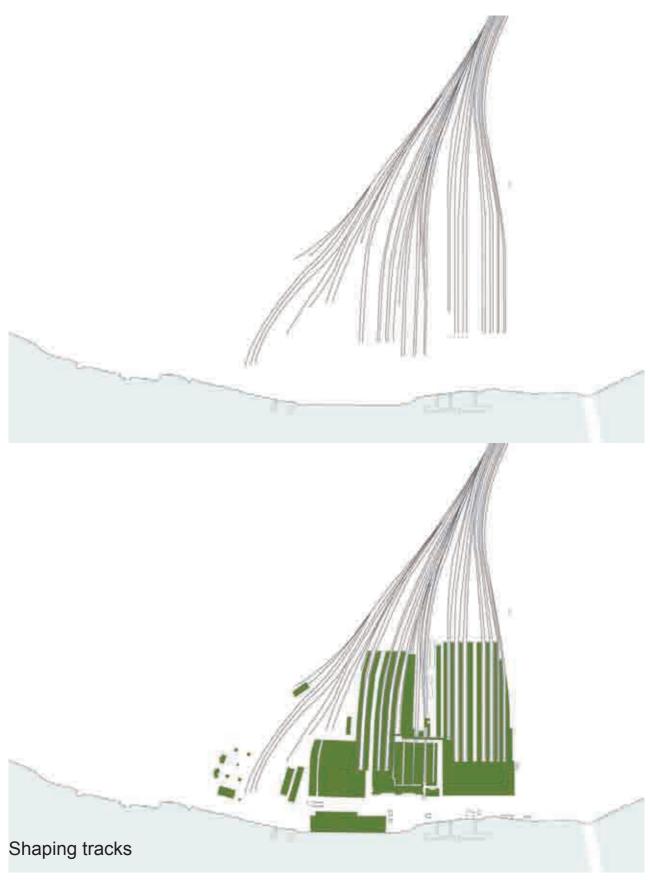
Kolkata however seems an entirely other city, having high edifices, huge parks and a remarkable better waste management then Howrah.

Howrah's high period of industrial growth has passed. Many companies left the city years ago. Kolkata on the other hand, despite it's own huge problems, is still seen as a cultural capital, still attracting people from the surroundings. It is growing immensily.

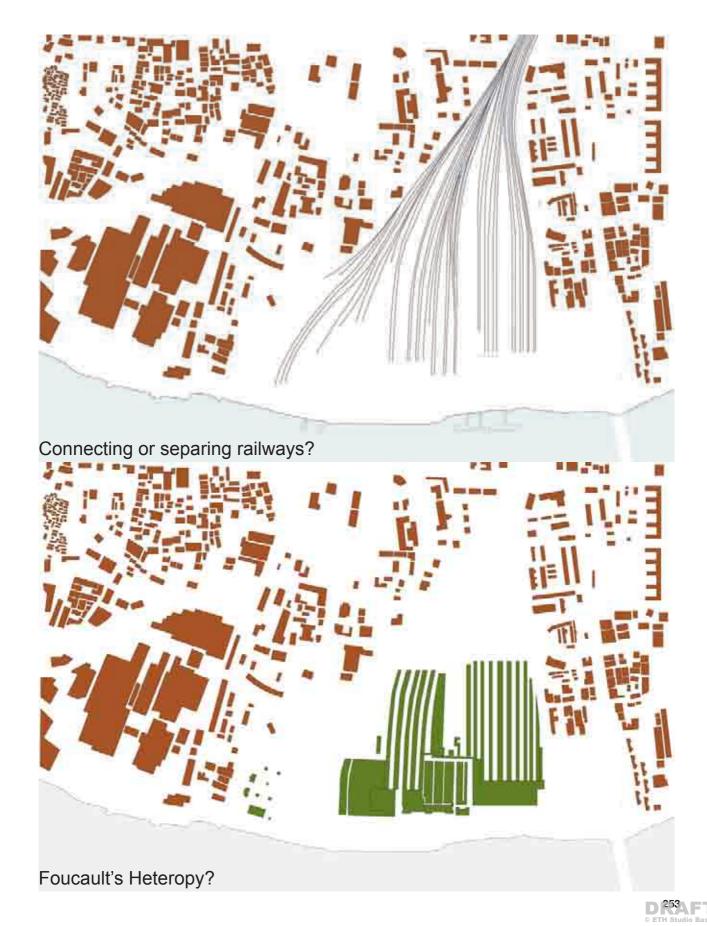
At Howrah Station, initially build to transport mainly industrial products from and to Howrah, the weaknesses of Howrah are also visible. The former industrial part of the station is mostly abanandoned. Howrah Station focusses more and more to a Passenger station. This show also today's ideas, planning mainly extensions to facilitate the amount of passenger flows.

So most people's reason going through Howrah Station is then the passage to Kolkata. And most Kolkatan's only reason to pass on the other side of Hooghly River is to go to Howrah Station.

On an urban level this could be a reason, why there are not many bridges built over Hooghly River near the two city centres. One does not have lots of reasons to go over it. A second bridge very close to Howrah Station though, seen on an urban level, wouldn't make much sense. Erecting another bridge from Kolkata to somewhere in an economically and socially very different and also weaker area is certainly not planned.











Is Howrah an outgrowth of Howrah Station?

Is Howrah Station an outgrowth of Kolkata?

Is Howrah Station an outgrowth of Howrah?

Is Kolkata an outgrowth of Howrah Station?

## Who belongs Howrah Bridge to?

To the city it is coming from?
To the city it is going to?
To it's eponym Howrah?
To the city that benefits more?

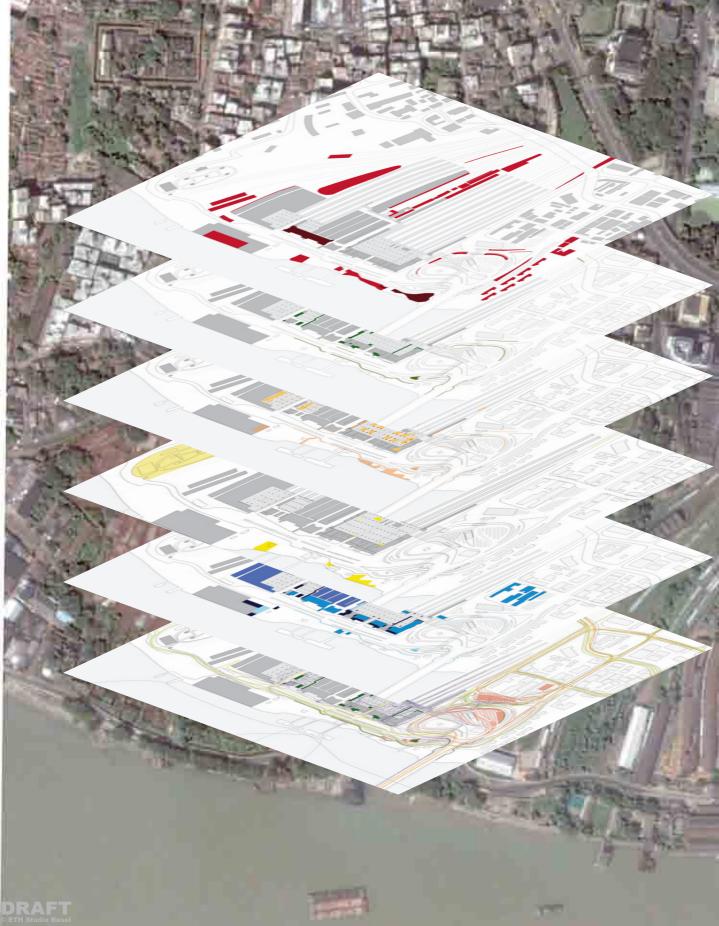
To the city needing to be connected to the station?

### Who belongs Howrah Station to?

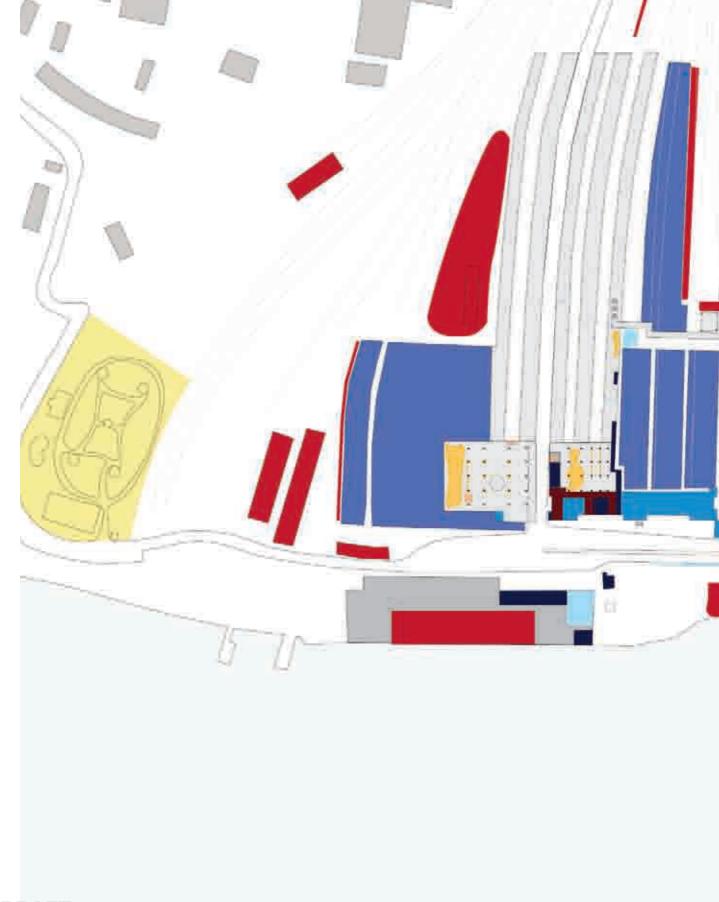
To it's eponym Howrah? To the city it is cutting? To the city it was built in?

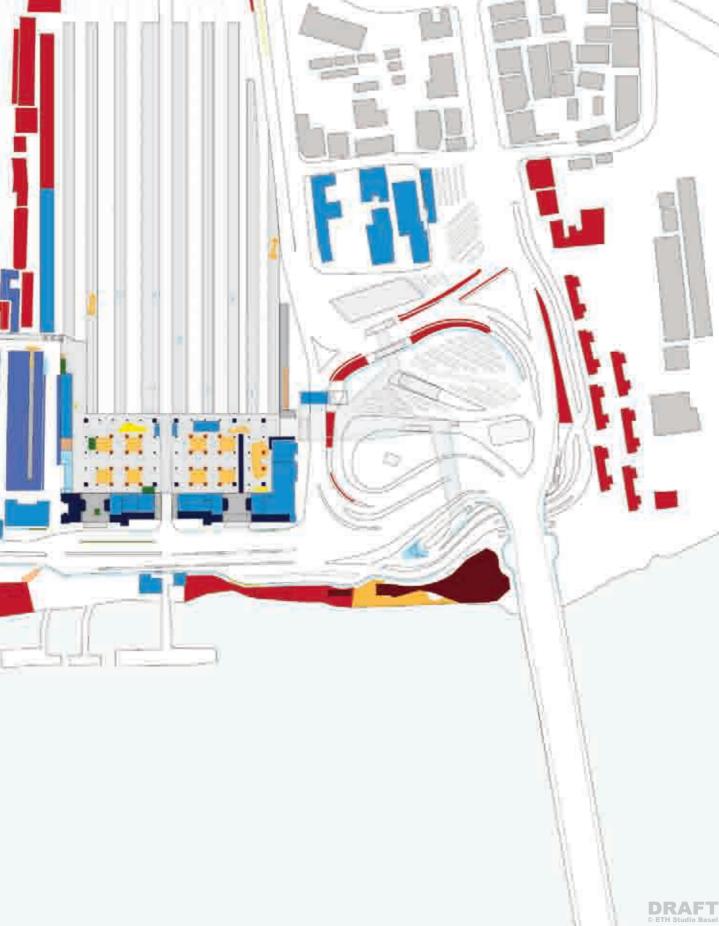
To the city that benefits more? To the city it is facing?













# 4 Appendix





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#### Quotes

Bengal Urban Infrastructure Development Pvt Ltd







Our thanks go to our families

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