

DESIGNING A SIGNAGE SYSTEM FOR DADAR RAILWAY STATION

COMMUNICATION DESIGN PROJECT 2

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02

MUMBAI SUBURBAN RAILWAY

Five years back I came to Mumbai, for my graduation. I was new to everything in this city. The big, huge city. Never had I seen crowd like what I saw on my first day on Chhatrapati Shivaji Maharaj Terminus.

Being known as the city of opportunities, so many people migrate here every single day. That only means more and more crowd. And the fastest way of traveling in this densely populated place? Locals! Fast and cheap. That is what people said, but when I first traveled by the Mumbai suburban railway, it was very overwhelming and confusing for me. Overwhelming to see so many people, and such a complex system. Confusing because I could not figure out how to go where I needed to go.

The Mumbai Suburban Railway is one of the busiest commuter rail systems in the world. Built by the British, the first train ran from Bori Bunder (now known as Chhatrapati Shivaji Maharaj Terminus) on 16th April 1853, thus making it the oldest railway system in Asia.

The Mumbai suburban railway operates around 2,342 train services daily. Trains run from 04:00 until 01:00, and some trains also run up to 02:30. It is the fastest and cheapest mode of transport in the densely populated city of Mumbai. Hence, there is severe overcrowding on the local trains on a daily basis.

According to a report, over 4,500 passengers are packed into a 9-car rake during peak hours, as against the rated carrying capacity of 1,700. This has resulted in what is known as Super-Dense Crush Load of 14 to 16 standing passengers per square metre of floor space.

According to a report in the MidDay newspaper on 3rd May 2016, there were 67 lakh people using the service in 2006. By 2016, around 80 lakh people are said to travel by locals daily. The number of people using the Mumbai suburban railway keeps increasing every year.

The Mumbai Rail Map designed by Jaikishan Patel and Snehal Patil (under the guidance of Prof. Mandar Rane). The different colors make it easy to identify the different lines on the Mumbai suburban railway.



03

UNDERSTANDING THE NETWORK

Two zonal divisions - Central Railways and Western Railways operate the Mumbai sub-urban railway network. The Central line, Harbour line, Trans Harbour line, and the Vasai Road - Diva - Panvel line come under the Central Railways. The Western line comes under the Western Railways.

The Central and Western line contains 'slow' and 'fast' tracks. Slow tracks are dedicated tracks for suburban trains, while fast tracks are shared with long distance trains operated by Indian Railways.

The number of trains running on the western line is approximately 1,306 daily and see around 37 lakh passengers on a daily basis. Both slow and fast trains run on this line.

The number of trains on the central line is around 1,710 daily. Around 43 lakh passengers use the central line everyday. Both slow and fast trains run on this line.

Around 10 lakh people use the harbour line services everyday. Only slow trains run on this suburban line.

Number of stations:
 Western line: 36
 Central line: 62
 Harbour line: 32
 Trans-harbour line: 10

UNDERSTANDING PLATFORMS

Before starting to design, it was really important for me to understand the scale of crowd getting out from trains, space available on platforms and also the dimensions of trains and platforms as it will help me to understand the stations better. Also, an overview of the platforms will help me understand where to place the signages on platforms.

To understand the space, platforms and trains, I chose to study platform 1 and 2 on Kanjurmarg Station. Mentioned below are the approximate measurements.

PLATFORM

Length of platform: 270.86m (differs station to station)
Width of edges (Red & Yellow): 1.27m

STAIRCASE

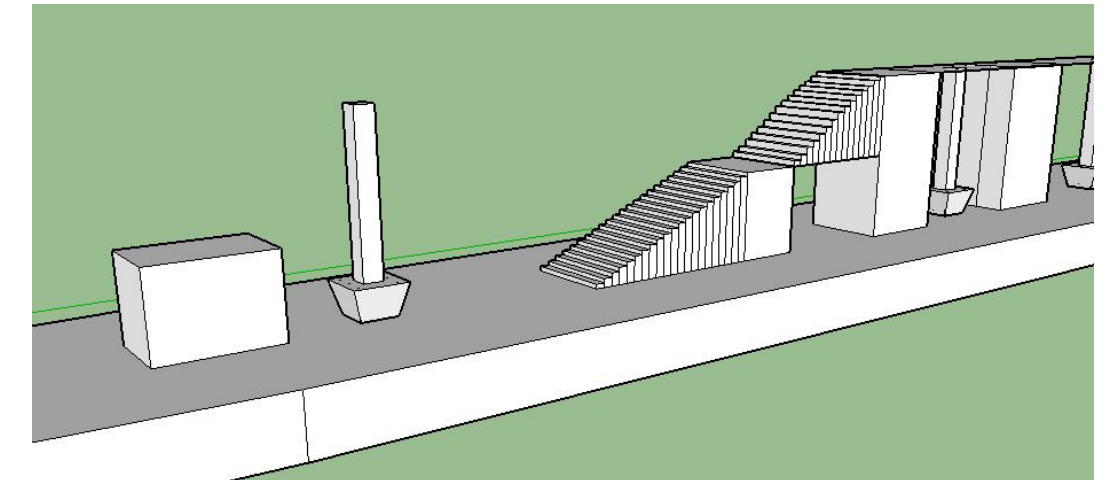
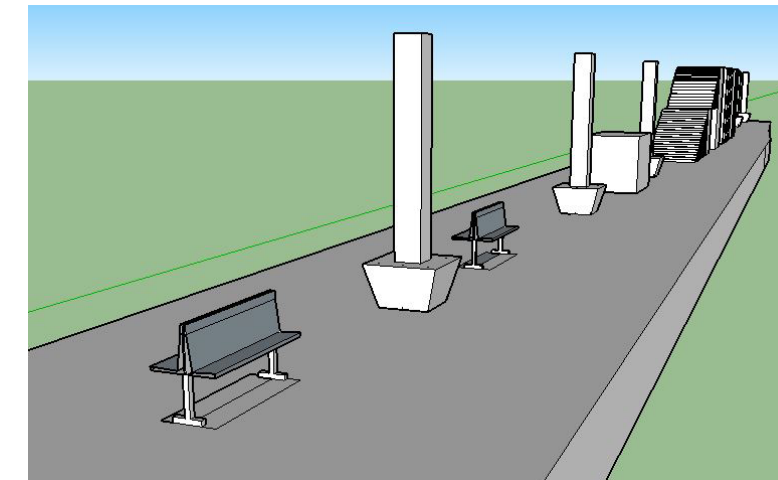
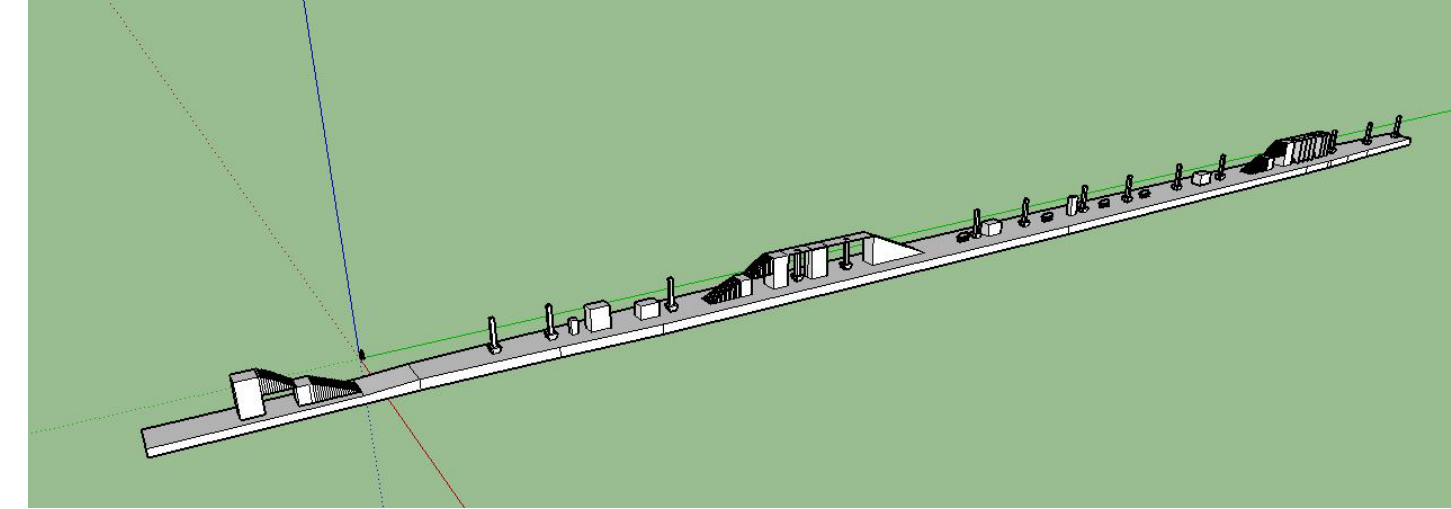
Riser (1 staircase height): 0.15m
Total height: 5.85m

LOCAL TRAIN

Length of 1 coach: 20.88m
Length of gap between coaches: 0.8m
Length of 12 car train: 29.68m
Width of door: 1.16m
Height of door: 1.86m

Taking into consideration all the measurements and different 'blocks' on the platform, I made a 3d model of platform 1 and 2 of Kanjurmarg station.

There are shops, escalator generators, vendors, water taps, chairs, pillars and supports on the platforms. These, as well as the staircases, ramps, escalators take up a lot of platform space. Hence, the actual walking area for the public is very less. Hence, faster movement of crowd becomes all the more necessary.





05

DADAR RAILWAY STATION

Dadar Railway station is a prominent railway junction station on both the Western and Central lines of the Mumbai suburban railway network. It is the only railway station that falls on both, the Central and Western line. This makes it a transit point for many commuters using the suburban railway.

Dadar station is a stop for local trains starting from Chhatrapati Shivaji Maharaj Terminus and Chuchgate. A lot of local trains also start from Dadar itself. A lot of people living in the central suburbs work in the western suburbs and vice-versa. During the peak hours, there are a lot of people crossing from one line to other. Therefore, the station is always crowded. It is said to be one of the most busiest station in Mumbai. The station approximately receives more than 500,000 visitors on a daily basis.

Along with the local trains, a large number of express trains stop at Dadar. Dadar station is a stop for long distance trains starting from Chhatrapati Shivaji Maharaj Terminus and Mumbai Central. Also, the Dadar terminus accommodates trains starting from Dadar.

The Dadar Western station has 5 platforms, whereas the Central station has 8 platforms.



06

EXISTING SIGNAGE AT DADAR STATION

I started documenting the existing signages at Dadar station in order to understand the current wayfinding system there. A wide variety of signages can be seen at the station. Some hand painted, some printed and some with a back light. It feels as though signages have been added time after time according to the need. It is clearly seen that less importance is given to ‘information providing’ for the public.



There are different signages for the same kind of information. The color coding is not followed throughout.



Some signages are tri-lingual while some are bi-lingual.



There are hand painted signages put up at certain areas where proper signage is missing.



The design of signages vary throughout the station and lack consistency.



Arrows, colors, type and sizes of the signages differ.



The signages are not maintained properly.



There are different signages for the same kind of information. The signage for ladies coach is different on the Western and Central side.



Symbols are not easily recognizable from a distance.



Indicators on the Central side differ from those at the Western side of the station. Their layouts and color are different.



Sometimes the indicators don't change quickly and show the information of the train that has already left.



There are advertisements on signage boards.



Advertisements overpower the signages. It feels as though advertisements are given more importance than signages.



There are boards at the escalator announcing that it is an escalator. There are no boards anywhere on the platform mentioning where the escalators or ramps are located at.



There are problems related to typography. Fonts have been stretched. FOB from a distance looks like FOD. Even if the word in Hindi and Marathi are same, they are written twice.



There are very few indicators for mail trains.



At certain places, there is very less light, thus reducing the visibility of the signage board.



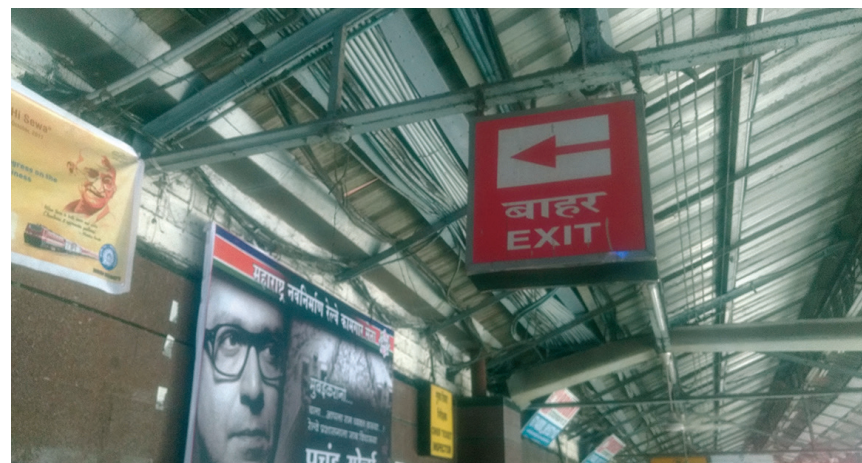
There are many different color schemes. Signs are usually seen outside the place itself, nowhere else.



A signage in the booking office itself. Due to its placement, a part of the board is not visible.



Common indicators in middle of the platforms do not mention that the information is for train on which platform.



It seems like some signs are placed randomly. They exist at one place, but aren't there everywhere. Exits do not mention where they go.

NEW SIGNAGE AT MATUNGA STATION

In 2016, the Matunga station on Central line had their regular signages replaced with new designs. The new signages are colorful, and very vibrant. They point to the platform where a particular train arrives, and indicate with the help of specific colors, special coaches like the first class, ladies coach and the luggage coach. The signages are placed on platforms and foot over bridges.

Although the aim was to help the commuters, I think that some of the symbols on the new signage design lack the clarity to explain what they stand for. It is difficult to recognise them from a distance. (Eg: Ladies coach)

Since Matunga station is a smaller station and has only two platforms, I think the colourful signage are still kind of okay and might work for that station. However, I do not think that these designs will be of much help at a crowded junction station like Dadar where two railway lines meet, and see local as well as express trains.



The contrast between the background color and text color is low at some places.



I feel that if a major part of the board was stripes, it would be easier to identify it.



Low contrast colors have been used. This signage uses six colors, but none of the colors seem to be justified.



The symbols for men and ladies is very simple, while that for drinking water is quite complex.



It is difficult to recognize the symbols from a distance. The red lips and bindi are hardly seen from a distance.



08

USERS

All kinds of people use the mumbai local train service daily.

- children accompanying their mothers
- school and college students
- men and women going for jobs
- old people
- sellers
- dabbawalas
- trans-genders
- beggars
- a lot of novices

The users that I spoke to were:

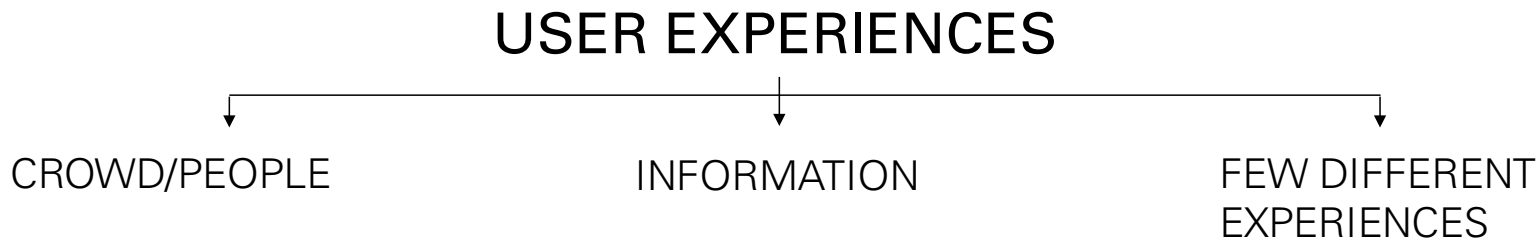
- Novices
- People who have been traveling occasionally since one year
- People who have been traveling occasionally for more than 5 years
- People who travel daily on the same route
- People who travel on multiple routes

USER STUDIES AND EXPERIENCES

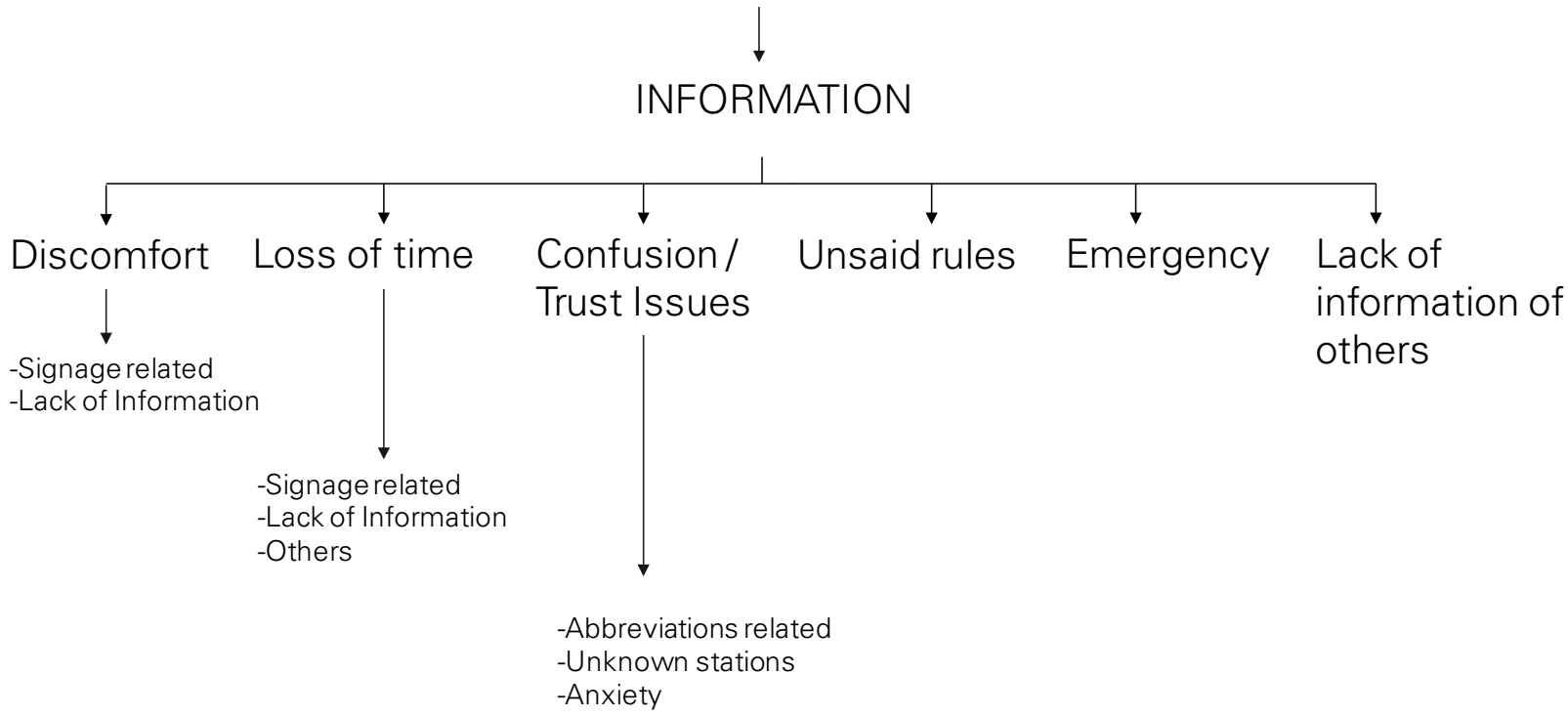
Before starting the project it was important to understand at how people think and feel. This would help me to find opinions, problems, reasons and experiences of people.

User studies helped me understand who the users are, what are their needs, what difficulties they are facing, how do they currently navigate and what problems they have faced. User studies was done through interviewing people and field studies (observing the scenarios at railway station, particularly Dadar, and taking pictures and notes).

After interviewing / talking to different kind of users, the experiences were segregated and categorized to get a better understanding of the problems and the situations that different people face while traveling.



USER EXPERIENCES





F: Female
M: Male

←
One of the exits
on the Western
side. None of the
exits are named or
tell where they go.

EXPERIENCES CATEGORIZED UNDER INFORMATION

DISCOMFORT

- **Signage Related:**

1) F. Reached late on platform, could not figure out which side ladies coach is on. Got into the general coach. Was a very uncomfortable ride as it was crowded and few men were staring. It was very scary as there was so much rush. Did not like being touched.

2) F. I had a lot of heavy luggage with me as I had come from an express train. I was alone. I somehow climbed the entire foot over bridge. Later I realized there was an elevator and ramp at the same platform.

3) F. I wanted to go to Kurla east. I was on one bridge, not many people were there. It was late in the evening, and kind of shady. I was a little scared and went back. I searched for the main bridge and went from there.

- **Lack of Information:**

1) M. I was new in Mumbai. I was fined once because I got into the 1st class. I had the normal second class ticket. I did not know it at that time.

- **Others:**

1) F. Earlier only 1st coach ladies had police at night. The other two did not have police. I was in middle ladies. It was late and dark. It was a Thane train. All women got down at Mulund and I was the only one in the coach. Train stopped between Mulund and Thane. I was so scared as there was no police in coach. I was worried that any man can climb in the coach.

TIME WASTE

- **Signage Related:**

1) F. East and West is very confusing. I went to the wrong direction couple of times.

2) F. Always get confused in East and West. Even today I end up going in the wrong direction.

3) F. Someone told me to meet at western exit at Dadar. I was at the western exit, but still couldn't find the person. Later after so many calls, and asking around I understood there are multiple exits and we both were at different exits.



F: Female
M: Male

←
Ticket lines at main stations are very long. Standing in the wrong line can end up in lot of loss of time.

- 4) F. Took a foot over bridge at Dadar to change the platform, got very confused as it did not go to the platform I needed to go.
- 5) M. I was at Bandra, I had to take the harbour train to Wadala. I climbed the foot over bridge, but it did not go to harbour platform. I did not know that. It wasn't mentioned anywhere. I missed my train and had to wait for 20 minutes for the next train to arrive.
- 6) F. I haven't taken the wrong foot over bridge at Dadar many times. CR to WR is confusing.
- 7) F. On Harbour line I have missed some trains because I couldn't find where the ladies coach is. It is different than Central Railway I think.
- 8) M. Dadar station has multiple entries. I would never understand on which entry the ticket counter is located.
- 9) M. At CST station I did not know which exit to take to go to fort. I had taken the wrong exit and I was very confused, plus I had to walk a lot unnecessarily.
- 10) F. I stood in the long line for a ticket. When my chance came, they said card is accepted on other counter. I had to stand in the line all over again, ended up missing one train.

- **Signage & Lack of Information:**
 - 1) M. I had to take a train from Lokmanya Tilak Terminus. I was coming from Vashi to Kurla in local train. I had luggage with me. I got into the second class. I was stuck and could not get down at Kurla. I did not know there was a luggage compartment.
 - 2) At Dadar station, I would get lost all the time. When I asked people which platform to take, they said 3, I went to 3. But it was not the train I needed. Later realized there are 2 platform 3. (Central Railway & Western Railway)
- **Others:**
 - 1) F. I was in hurry, I got down from foot over bridge, I got into the wrong train. Instead of platform 3 train, I got into platform 2 train.
 - 2) F. Not from Mumbai. Had to get down at Vile Parle, there was no announcement in train. I missed the station. Got down at Andheri.
 - 3) M. My family members had educated me about the local trains. I would take the same train from the same platform everyday. Couple of times took the wrong train as indicator would show my daily train, but train would be different & indicator didn't changed.



F: Female
M: Male

←
Novices have no idea what the abbreviations seen on the indicators stand for. 'B' could be Bandra, Boisar, Borivalli or Bhayander.

CONFUSION/TRUST ISSUES

• Abbreviations Related:

1) M. New in mumbai, wasn't a frequent traveler. The abbreviations used on indicators was little confusing. I got into a train. I wanted to go till Borivalli, but train was only till Bandra.

2) M. I rely on M-indicator as it is easy, I get confused on the station otherwise. M-indicator is trustworthy as it gives detailed information. Short Forms of stations are not used.

3) F. I was new in Mumbai. I never understood which train to take. So I would always call my friend and ask, since the boards had short forms.

• Unknown stations:

1) F. I get confused when I am traveling to Western side (because I am not used to it). I don't understand if Andheri train will take me to Goregaon or not. I get confused because I don't know order of stations.

2) F. Got very confused at Belapur station since I did not know that instead of foot over bridges, there are subways there.

3) F. I always get confused on which side the station will come. (Not a frequent traveler)

4) M. I wanted to go to Borivalli. I got into the train from Grant Road. The train started coming back to Churchgate after Andheri. I did not know that train is only till Andheri.
5) M. I had to catch a train to Bhopal from Dadar. I got so confused as I didn't know where long distance trains will come.

• Anxiety:

1) F. At Dadar station, I can never see the signage. I keep asking people. To go from one platform to another, I would at least ask 3-4 people.



F: Female
M: Male

←
The '4th seat' rule is followed in the ladies general coach. In this image, the lady with the blue dupatta is sitting on the 4th seat.

UNSAID RULES

1) F. Once I had to get down at Thane. I got up from my seat at Mulund. There were people in front of me at the door. When Thane came they did not get down. Turns out they were going to get down at the next stop Kalwa. When I said, let me get down, let me get down' people started making annoyed faces and even said rudely to take a Thane train next time.

2) F. 4th seat has created some arguments because I didn't know about the rule.

3) I saw ladies pointing fingers at me and I had to say which station I am getting down at. They just point fingers and reserve seats. I didn't know what to say when they pointed fingers towards me.

4) People gear up to alight 2 or more stations prior to their destination due to high density. You would not be entertained if you miss to stand up / approach the exit prior your destination.

5) F. New in the city. Had not traveled by locals a lot. I was standing and had told the lady sitting at the window for seat. When she got up I sat at the window. The woman next to me started yelling that it is her seat. I refused to get up. A lot of woman started talking bad about me. It is later that friends told me about the 'rule' of 4th seat.

6) Due to high density when the trains arrive at the last stations (e.g. Churchgate, C.S.T, Borivali, Virar, Thane, Kalyan, etc.) during the the peak hours the rule of 'Please let allow people to alight first' does not stand true. For e.g. The train is arriving at Borivali station at 8:00 am (peak hour) and it will be returning back to Churchgate from here, then the people who are alighting at Borivali must stand back till the people board, as the ratio is quite high of people boarding. This same scenario is observed at Churchgate in the evening while the people return back home.

7) If you are travelling from Churchgate and getting down at Andheri, you cannot board a Virar local or Borivali local at peak hours. You will not be allowed to alight, or if you manage to alight people would pass comments making you realize you have boarded the wrong train. not practiced in the First class).

8) One can stand in the gap between the seats in second class during peak hours, but one cannot do so in the First class. Also the fourth seat concept is not practiced in the First class.



People usually block one side of the bar so that they can wait for their station to arrive and people climb in from other side.

F: Female
M: Male

9) As the train coaches have a bar installed in center of the door, the population uses that as a divider to organize themselves while getting down / boarding the train. At peak hours, it is decided from where one should alight and which side people should block so that they can get down at the next station. (Otherwise they will be stuck due to the high density of people).

EMERGENCY

1) F. Once in Panvel-Andheri train, a lady just fell from a seat. People thought she is dead or something. She had fainted. That one time I wanted the helpline number, I could not see it anywhere inside the train.

DUE TO LACK OF INFORMATION OF OTHERS

1) M. Got into an argument with one person because I jumped the line (you don't need to stand in line for 1st class ticket). The person did not know that and started shouting at me.

2) M. I used to catch my daily train every morning. One couple would come every day. I would travel in first class. I was run and catch a seat. That women and man would stand. I used to feel awkward myself that the women in standing in the rush hours of a general coach. I have given up my seat for her few times. It was very irritating as I would come early and run to take a seat. Then I stopped giving up my seat as this had become regular. I ignored the 'bichara' faces the women made. She should use the ladies coach if she would feel weird.

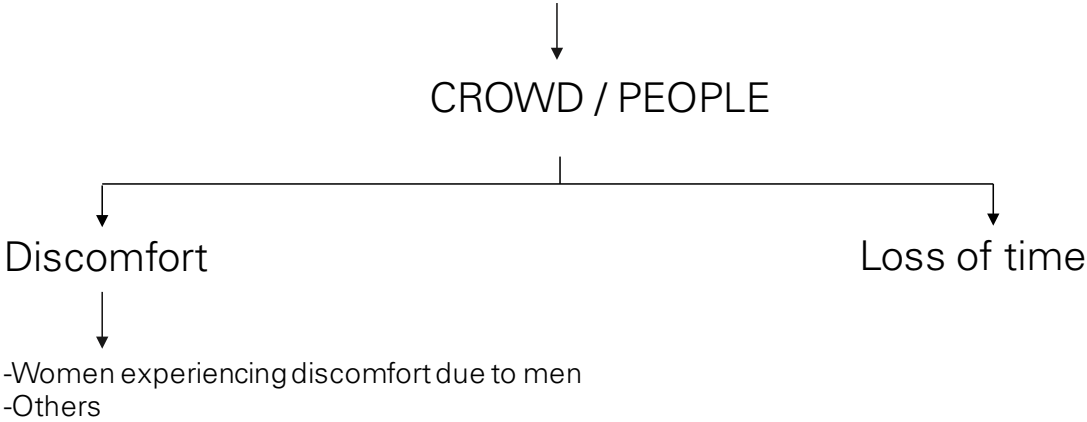


F: Female
M: Male



The middle ladies is connected to handicapped coach (usually men get into this coach). It has a divider in between.

USER EXPERIENCES



EXPERIENCES CATEGORIZED UNDER CROWD / PEOPLE

DISCOMFORT

• **Women experiencing discomfort due to men:**
 1) F. Once I was in ladies. There was jaali in the middle, and general (men's) on the other side. One drunk man got in that dabba and he was swearing and talking rubbish. He was looking through the jaali and making weird actions to the women. It was very scary. He was drunk or mad.

2) F. At Andheri, it is so crowded during peak hours (morning 9ish). When I would get down from train, everyone would run towards footover bridge because it used to get extremely crowded. Once a man tried to touch me from behind. I don't know if it was on purpose or by mistake. But it was very uncomfortable. I was so annoyed and upset. But I had to use train everyday. Couldn't do anything. If I would wait thinking crowd will go, next train would come.



F: Female
M: Male



A crowded staircase of a foot over bridge during peak times.

3) F. I would travel by 1st class ladies. There is Gents compartment joined with a jaali in the middle. The men would sometimes stare. I would feel very much uncomfortable, so I would turn and sit or not make eye contact with them.

4) F. When it is crowded and I am climbing the stairs at station, I have felt men touching me. I don't know if it was intentional or not, but it was uncomfortable.

5) F. I have experienced times where men just want to stick they body part to you. They will not necessarily use fingers but touch by elbow. It is very disgusting.

6) F. Once I was in general with a male friend. A man tried to take a picture of me. I gave him bad looks, I didn't say anything as I did not want to create a scene. It was annoying.

7) F. At Koparkhairne I would avoid the last exit as there would be weird boys over there. If anytime I would go from there, I would walk very fast. That area has no light, so it has become like an adda for those people.

8) F. At CST, I would enter the station from Mainline entrance. I had to pass through those security detectors everyday. Once I was walking thru there, and ahead was an old man, maybe around 60years. He said something really cheap to me, it was sick. He was staring at me. I did not know who to tell this. I could

not see the police. I went to the food stall there and asked them who the man is and told them he is doing cheap things. I felt so disgusted that day. But you can not help it, train is the only way of traveling. So I made up my mind that at these hours I am going to feel uncomfortable, but I can't do anything about it.

• **Others:**

1) F. During rush time, there is a crowd of people climbing up the stairs. I was the one to climb down the stairs. People climbing up has occupied the entire staircase. They were doing chik chik and called me stupid as I was getting down, but even I had a train to catch, I kind of felt bad.

2) F. I was new in the city. It was very crowded, I got into the ladies coach. When I heard someone talking 'Nowadays first class is also so crowded', I realized I was in first class. I was nervous about getting fined the entire journey.

3) F. In the evening while getting down from the train, my kurti tore because of the amount of people pushing to get out of the train.



F: Female
M: Male

←
Due to the crowd,
people sometimes
have to leave 2 or
3 trains before they
can actually get
into one.

4) F. Once I had to get down at Dombivilli during peak hours. I was pushed out and fell on the platform. The crowd which was getting down was so insensitive, didn't even bother or allow me to get up in spite of my screams. It was the worst because I had one leg on the platform and one in between the gap of the local and the platform.

5) I saw a lady on the second seat and I asked the man to shift a bit in the third seat and he said, "Bhai ladies bahithi hai (There is a lady sitting here)."

TIME WASTE

1) F. I have to leave 2-3 train before I climb into one because of the crowd. I travel all weekdays.

2) M. Sometimes I have to let go of 1-2 trains before I can climb in a train. It is very crowded.

FEW OTHER EXPERIENCES

1) F. Sometimes when in a hurry, I judge 1st class and 2nd classed based on the kind of seats. (foam and fiber)

2) F. When I am at CST and have a male friend with me, I get into general. Men can not tell you to shift and make space. They do not stick to you. I used to get more space there.

3) M. I came to know where the toilet is because of the dirty stink.

4) M. Sometimes I get confused which side the train will come from. So I look at the signal at end of platforms and guess accordingly.

5) F. I only go by local when I have a lot of time, since it is cheap. Whenever there is something important I prefer cab as I cannot risk getting lost at stations.



10

INFORMATION RELATED PROBLEMS

DIRECTIONS RELATED

- Difficulty finding the coaches
- Finding ticket counter, toilets, elevators and ramps
- How to go from Dadar Central to Western railway
- Position of ladies coach
- Finding taxi stands
- Finding how to go to mail platform

IDENTIFICATION RELATED

- Novices have difficulty identifying different coaches of the local
- Which foot over bridge goes where - East and West
- Exits. They are not named and do not tell where they go towards
- Windows for ticket counters that accept cards
- Some stairs don't mention which platform they go to
- Identifying slow and fast platforms/trains
- Drinking water
- Ladies accidentally get into handicapped coach since it is beside general ladies
- Platforms for mail trains
- Can't identify what the abbreviation on electronic indicators stand for

LACK OF KNOWING

- Lack of knowing which all facilities are available
- Not knowing main bridges
- Rules (1st class/2nd class)
- Kind of coaches (General/Ladies/1st class/ Luggage/ handicapped/senior citizens)
- Which train goes where
- When inside the train, people don't know which side platform will come on.
- Unsaid rules. Leads to discomfort and arguments
- 3 lines - changing trains

OTHER PROBLEMS

- People rely on announcements. Sometimes there are no announcements, hence it causes trouble.
- Emergency numbers are difficult to find
- Order of platforms in different at some stations



Mail trains often come on the local train platforms. Passengers who are new often get confused by this.



11

INSIGHTS AND FINDINGS

- A person feels anxious and nervous when they cannot find what they are looking for.
- A novice does not know the system and rules and hence can feel scared/intimidated.
- When a person's time is wasted at the station, it means that he/she is hanging around the station for more time than required, thus adding to the crowd on the station.
- Crowd increases when people are unable to find their way quickly.
- Varied symbols and position of coaches causes some confusion.
- People make their own rules when there is a high density of crowd.
- The majority tend to make the rule which others have to follow.
- Unsaid rules are tricky for novices or for people who do not travel regularly as they are not mentioned anywhere on stations or trains.
- People not knowing the rules can cause discomfort to others people.

A larger system is required to solve this problem completely. Some of the components of that system are:

- Static signs (boards, signage)
- Dynamic signs (indicators, displays, interactive kiosks, etc)
- Audible information (announcements, sounds for the blind people)
- Tactile information (braille maps for blind)
- Maps

Along with the above mentioned components, a successful way-finding revolves around the construction of the building, lighting, staff, etc.



The symbol for ladies coach is different on central and western lines.

NEED FOR A BETTER SIGNAGE SYSTEM

Dadar station being a large and complex junction can get confusing not only for novices, but also for people who travel to that station occasionally. Trying to guide people through the station can be a particularly complex activity.

Different kinds of people use this service every single day. The existing signage system not only lacks maintenance but also lacks consistency in the design. This adds to confusion. More over, necessary signage is missing on a lot of the main decision making points thus making people lose their way.

The lack of a proper signage system makes a user anxious and reduces his chances of finding the way quickly. This means the person spends more time than required on the station. Being a densely populated junction, one of the main focus should be quick movement of the people. A better signage system is required for on-time decision making so as to guide people on their direct path instead of them losing their way due to lack of information.

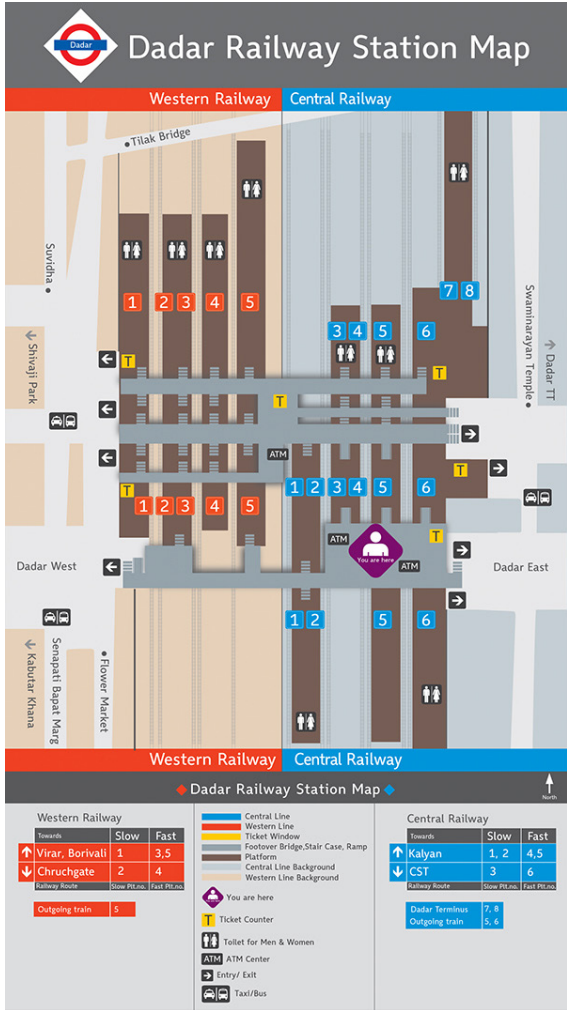
The signage system also needs to be consistent throughout the Western and Central stations of Dadar so that all areas of the station integrate effectively, thus helping the passengers have a seamless experience. A better signage system and information providing will also avoid a lot of people from experiencing discomfort caused due to the lack of information. A better design of signage means more consideration and empathy towards a person's travel experience.

AREAS OF FOCUS

Way finding is a system. Many different components make up this system. For this particular project 'Designing A Signage System For Dadar Railway Station, my main areas of focus (the components that I will design and decide upon) are:

- 1) Navigation around the station
 - Finding platforms
 - Finding all the ticket counters at the station
 - Finding exits
 - Finding the elevators and ramps.
- 2) Proper placement of the signages on the Dadar railway station.
- 3) Providing information about the abbreviations used on the indicators.

3D MODEL OF DADAR STATION

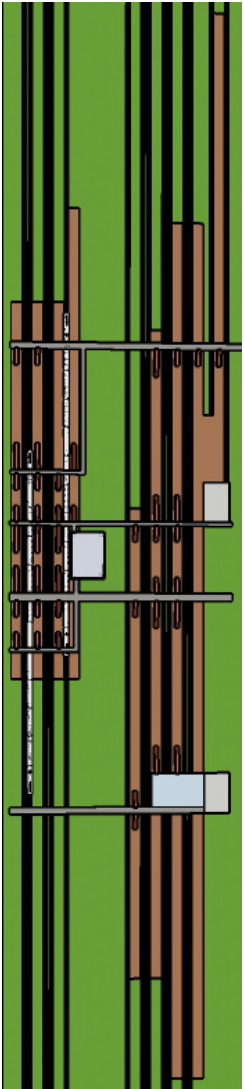


A 'You are here' map for the Dadar junction station designed by Mughda Kale.

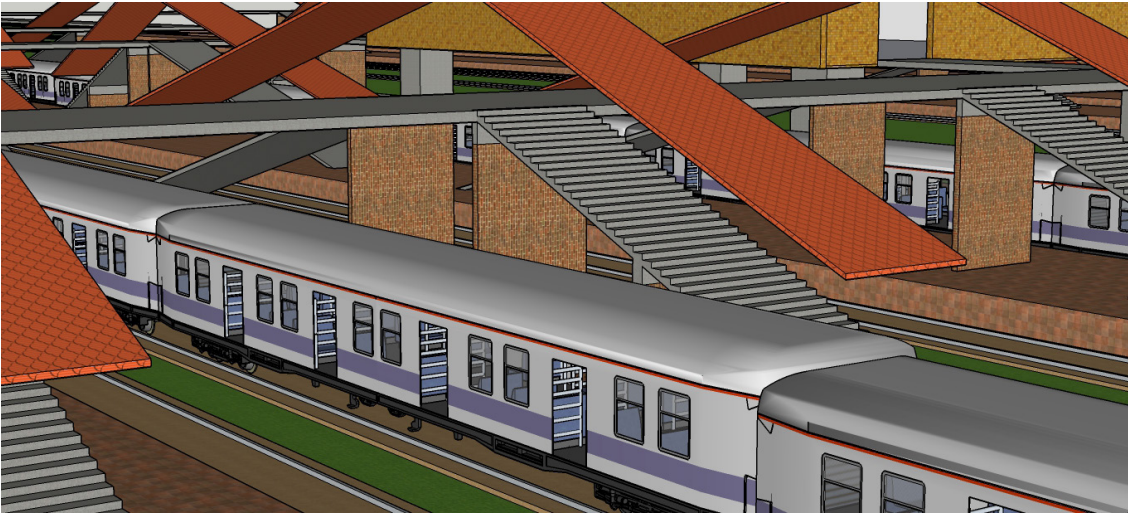


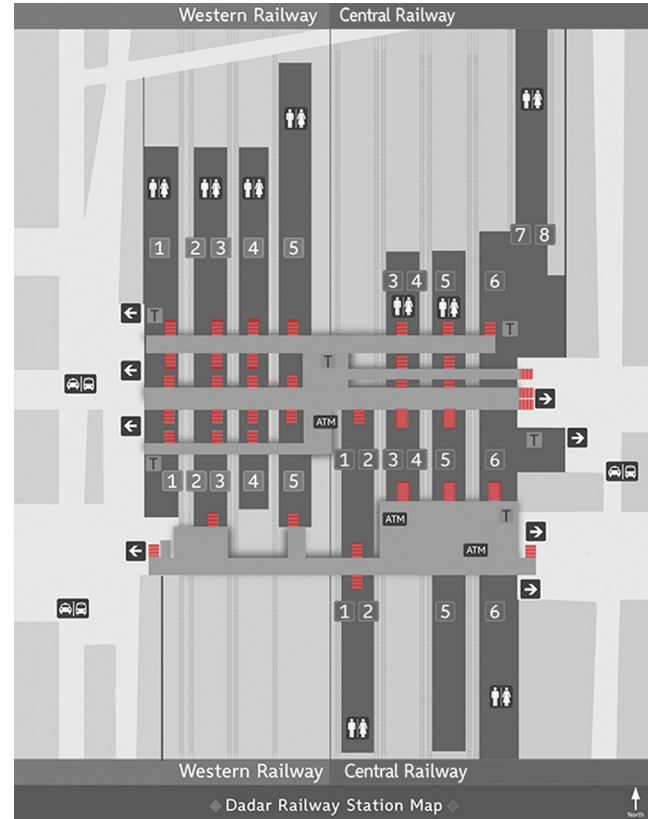
Google earth image of Dadar Station.

Before starting to design the signage, it was necessary to understand the station. For this I went to Dadar quite a lot of times. The map designed by Mughda Kale and Google Earth helped to get an overview of the station. With the help of this, I started making a 3d model of Dadar station to show my final execution.

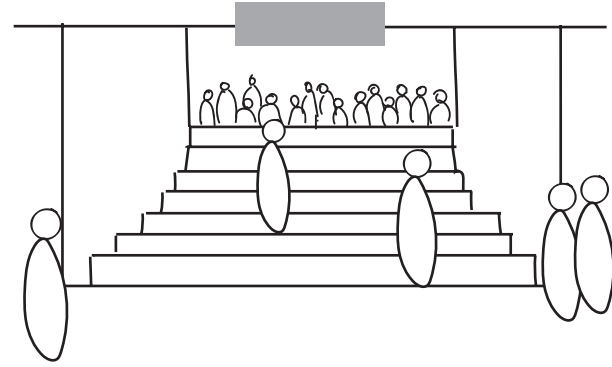


Screenshots of the 3d model of Dadar junction station. (work in progress)

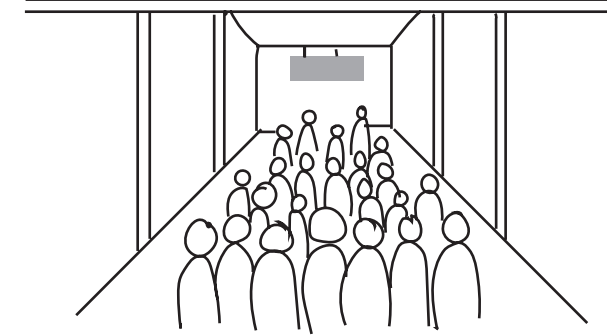




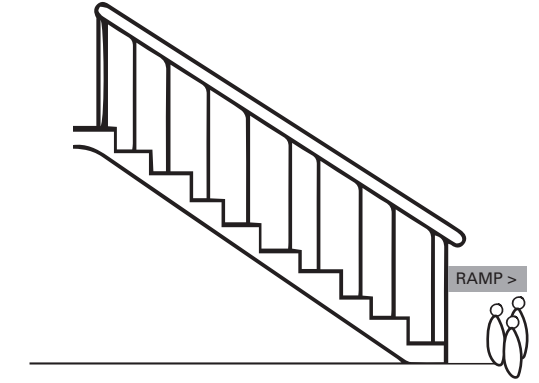
Entries to foot over bridges through staircase / elevators / ramps marked in Red on Dadar station.



There are multiple foot over bridges on Dadar station. Some connect all platforms of Central line and Western line, while some don't. There should be a signage on the entrance of the foot over bridge which announces where all the bridge will take you.

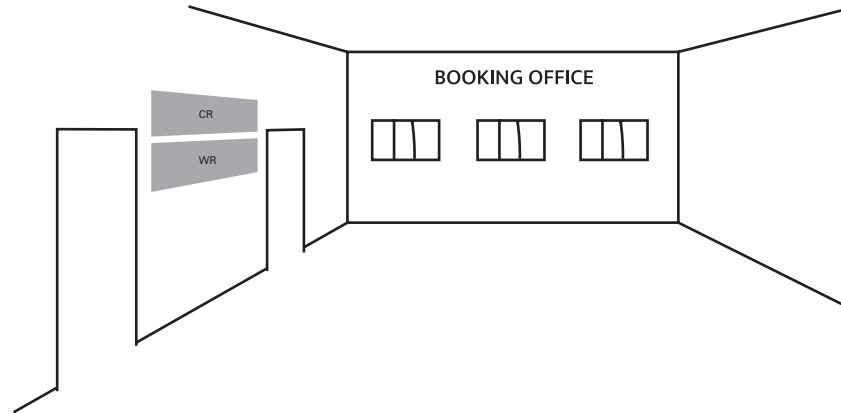
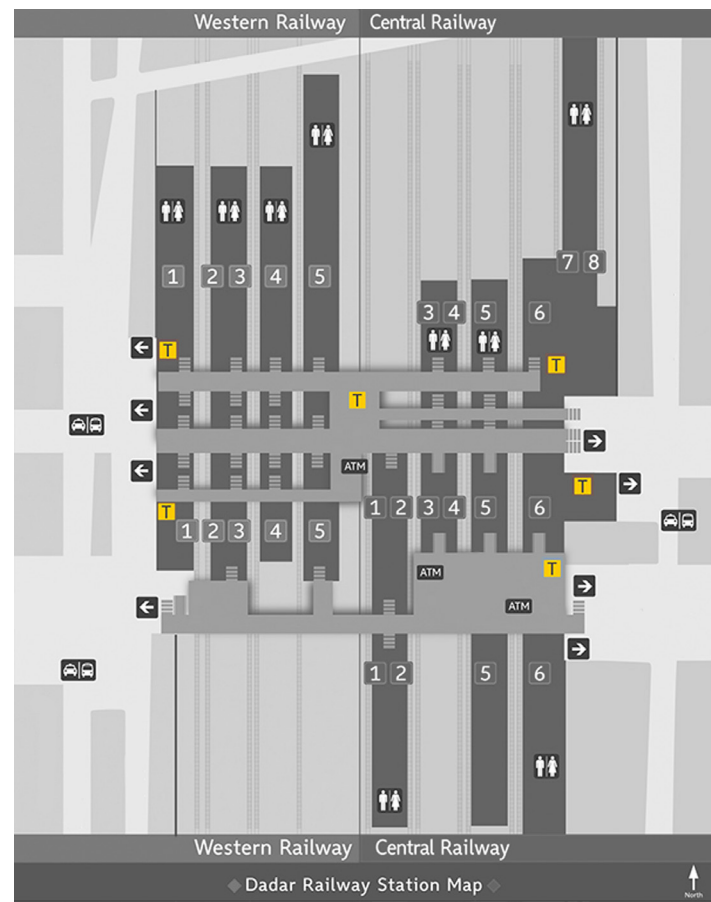


Usually, people climb the entire staircase, get on the foot over bridge and then look left and right to see which direction they need to go. There should be a signage on the staircase, before getting on the bridge which announces what is on the right and left side. This way people can segregate themselves on the staircase itself.



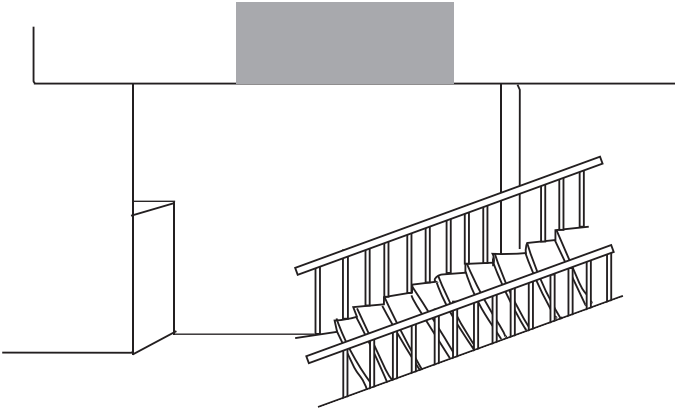
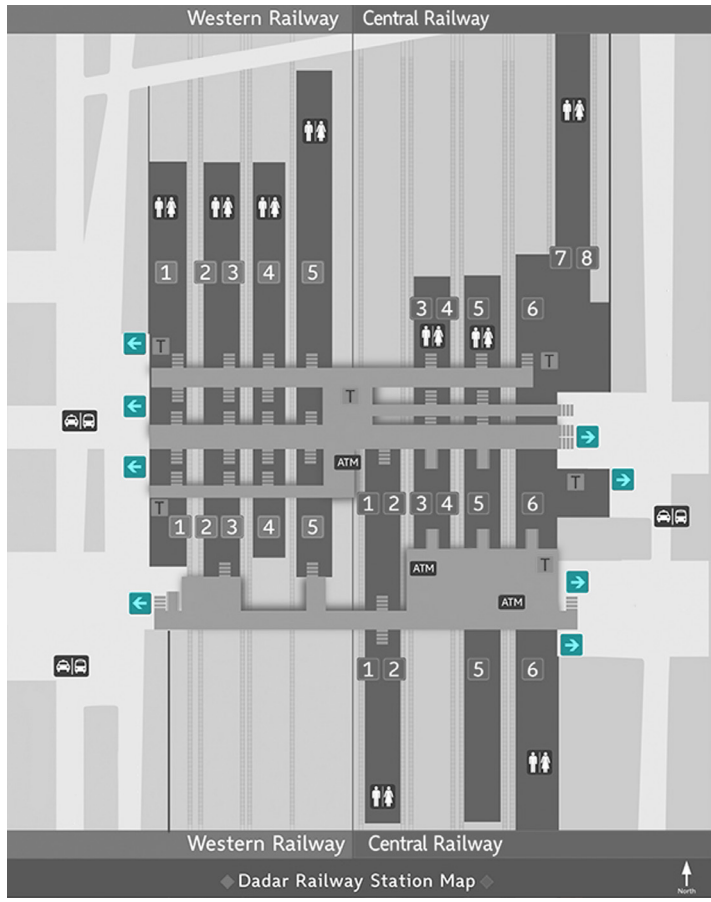
Along with stairs there are ramps as well as elevators on most platforms. There are boards at the ramps and elevators announcing 'Ramp', but nowhere else is it mentioned if there is a ramp/elevator on platform. There could be a signage near each staircase, which mentions if there is a ramp and elevator on the platform. It will mention in which direction a person should go so that he/she can find them.

Ticket counters marked in Yellow on the map of Dadar station.



There are multiple ticket counters on Dadar station. Ticket counter is usually the first place a commuter goes to. Ticket counters should provide information about trains and which platform they will arrive. There should be indicators with train information at every ticket counter. The map of Mumbai rail should also be put up near every ticket counter.

Entry / Exits marked in Blue on the map of Dadar station.



There are multiple ticket exits / entries located all over the station which take people to the East side or West side of Dadar. None of the exits are named or numbered and creates confusion. The exits do not tell where they go to. There should be signages on the exits mentioning this.

(Work in Progress)

COLORS

Colour acts as another option in trying to distinguish between different types of signs or information. Color coding is a system for displaying information by using different colors. When we think about wayfinding and colour, it is important to think not only in terms of directional signage but also to think about which colors the system is using. When all the components in a system tend to follow the given colors, it becomes easier to identify and understand information.

The Mumbai Rail Map designed by Jaikishan Patel and Snehal Patil sees distinct colors used for different lines of the suburban railway network. If these colors are followed throughout the system, it will very soon become a visual language in itself. It will help the users to understand the railway network in the city of Mumbai. This will also help the commuters to identify different lines at junction stations like Chhatrapati Shivaji Maharaj Terminus, Dadar, Kurla, Thane, Diva, Andheri, Wadala, Bandra, etc.

For this project, I will be using colors from the Mumbai Rail Map wherever needed.



To denote Central Line



To denote Western Line

TYPOGRAPHY

All the signages at the station should look like they belong to the same family. To keep a uniform and consistent look on the station, it is necessary to use the same font throughout the signages.

HELVETICA

For the latin words, the typeface that has been used is Helvetica Neue. It is available in many weights and widths. Helvetica is known for its readability and legibility due to the larger x-height.

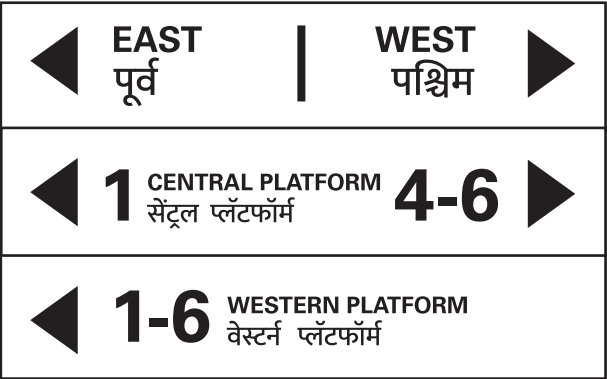
MUKTA

For Devanagari, the Mukta type has been used. Mukta is also available in various weights.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

अआइईउऊऋएऐओऔअंअः
कखगघङचछजझञटठडढण
तथदधनपफबभमयरलवश
षसह०१२३४५६७८९

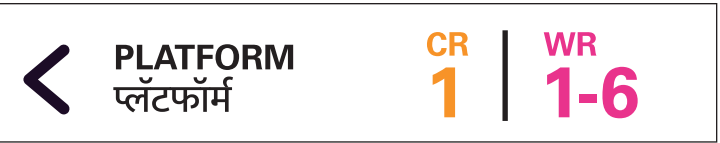
INITIAL DESIGNS



I started with doing basic sketches of the signages. It is necessary to think about illuminated signages for after sunset. I realized that the arrows (triangles) will attract more attention than the words when there is back light. Hence I decided to change the shape of arrows for the signages.



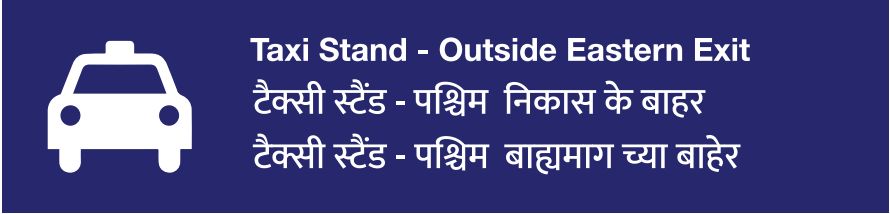
Trying different options for the signages and how color can be used. (signages on the staircases / ramps).



Although too much information can get chaotic, it is necessary to have 'clear to understand' information on the signages since there will be a lot of novices taking help from these signages.

If white background signages will be used, there might be a little difficulty to gain attention of people. It will be easier to locate and understand signages if the colors are used as the background color of the boards.

(Work in progress)



Again, I changed the shape of the arrow. The bracketted arrows cannot show a ‘u-turn’.
People can relate more with the actual arrow.

The existing design on the back of the local tickets.



WESTERN LINE		CENTRAL LINE		HARBOUR LINE	
A	Andheri	A	Ambernath	AD	Andheri
B	Bandra	AN	Asangaon	BA	Bandra
BY	Bhayandar	BL	Badlapur	BR	CBD Belapur
BO	Borivali	D	Dadar	CM	Chembur
C	Churchgate	DI	Dombivli	M	Mankhurd
D	Dadar	G	Ghatkopar	NU	Nerul
DN	Dahanu Road	K	Kalyan	PL	Panvel
G	Goregaon	S	Karjat	VD	Wadala Road
M	Malad	N	Kasara		
BC	Mumbai Central	KP	Khopoli	TRANS HARBOUR LINE	
NS	Nallasopara	C	Kurla	NU	Nerul
PN	Panvel	T	Thane	VA	Vashi
BS	Vasai Road	TL	Titwala	T	Thane
V	Virar				
		ST Chhatrapati Shivaji Maharaj Terminus छत्रपती शिवाजी महाराज टर्मिनस			

नोंडियां में रेलि जुडको - डिस्टेंस आसंगाना से ३ किलोमीटर में ठुंडी गडगड को पीछे छोड़ कर पुणे की ओर अग्रसर करी किलो मी. (३०)। वासनापूर में ठुंडी गडगड डिस्टेंस छोड़ कर (३) किलोमीटर को पूरा, आगू, और अजमरक के बिना सीधे डिस्टेंस छोड़ कर (३)। वासना डिस्टेंस पर रिमोकांन को छोड़ कर आगू-वाशनापूर को ठुंडी गडगड छोड़ कर (३) किलोमीटर डिस्टेंस छोड़ कर - डिस्टेंस छोड़ कर (१०) किलो. क. लवदाग्राम सेमी में (३५) किलो. क. विरवार सेमी

Every traveler has a ticket that they buy before commencing their journey. Commuters who travel daily usually purchase a season pass.

The existing design of tickets have quite a lot of space given to ‘Swacch Bharat’ message at the front and back side of the ticket.

Instead this space can be utilized to give necessary information like abbreviations of stations (seen on indicators at platforms) so that people have that information ready in their hand and will reduce their confusion regarding which train goes where.

The space at the back can be used to give this information, which is again categorized alphabetically and according to different lines. The colors from Mumbai Rail Map have been used for the same to make identification easy.

REFERENCES

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- Colour us thrilled! by <http://www.mid-day.com>
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VIDEOS

- The story of 7 billion people, all going from place A to place B by Anushree Fadnavis on TEDxEMWS

WAY FINDING PROJECTS

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- London Underground
- Wayfinding and Signage System by Mughda Kale
- Wayfinding guidelines and Sign standards by Massport
- Mumbai Rail Map by Jaikishan Patel and Snehal Patil

IMAGES

- Google Images