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Livable Streets - Impact of Pedestrianisation in Establishing Social Interactiveness on Commercial Streets of Delhi

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Abstract: *From ancient times, streets have been the designated urban spaces for people to celebrate different activities like festivals, political protests, selling- purchasing goods, etc. The streets are the public realm which should have people its first priority. The street design has shifted their centre from people and social spaces to vehicular congestion solutions. The augmentation of vehicular movements on streets have shattered the urban livable environment of a street and converted these public realm for a vehicular movement only. The research is around the commercial streets of Delhi. The Research will begin by understanding the unfavorable conditions for pedestrians on commercial streets and impact of pedestrianisation in improving such conditions. The motive is to hierarchically re-orient the street in order to create a sense of place that fosters social interaction. Various elements of a street including furniture, neighborhoods, etc will be studied and the influence of these elements on the overall urban life of a street to encourage livable walkable space for pedestrians will be drawn. Depending on case studies, surveys and observations, ways of making these streets interactive and livable for pedestrians will be studied. From aforementioned work, some modules and sections will be proposed on the basis of the context of Delhi. Ultimately, the paper will conclude the set of modules that encourages the pedestrian activities rather than vehicular movement.*

Keywords: *Commercial streets, Pedestrianisation, Urban livability, Pedestrians, Social interaction.*

I. INTRODUCTION

A city is known by its streets. Streets are the public realm that have been used for multiple activities like carrying vehicles, city services, exchange of goods, etc. However, the streets are more than the transportation.

From ancient times, streets have been the place to perform many activities and allow people to interact with each other, which maintain the social livability of a city. There are various types of streets divided on the basis of its uses. The commercial streets are one of them which are better known for their crowded behaviour. These streets are a major part of a city which attracts a large amount of population and brings the social, communicable environment within a city. These commercial streets also provide employment to many ones, and contribute to a good amount in country's economy. The Indian commercial streets are always known for their very different urban street life, the extraordinary combination of variety of shops, historic buildings, line of vendors, open markets, etc. In the past, these streets had a great pedestrian capacity and walking was the main transportation, where people found leisure by shopping, interacting with each other. The invasion of industrialization has changed the street urban life. The change in architecture and planning ideologies in modernism has brought many concepts like segregate houses, broadened streets, and more space for automobiles, houses on suburbs etc., which affects the city's urban life badly. The influence of modernism on cities' streets has brought the transition from social gathering of people to gathering space by cars; whispering sounds of people to irritated horns; different aromas of foods, flowers to toxic gases from vehicles. The streets that are better known for their livability are then dominated by automobiles. The book named "The Death and Life of Great American City" by Jane Jacobs has discussed the dullness of the streets due to urbanization and its impact on sociality, livability of the city.

The Indian commercial streets have extraordinary features that cater the city from many decades are being ruined. The deadliest combination of these historical streets and modernism has brought the pedestrians and cyclists in danger. The parked vehicles on sidewalks, the encroachment of shoppers on footpaths, and sometimes no or narrow footpaths drove the pedestrians forcefully walking on traffic roads which many times struck by a vehicle. The streets design practices are only working to overcome the traffic congestion and other functions which cater the people are overlooked. The increasing congestion of automobiles in Indian commercial cities has changed the urban life of the importance for people who travel afoot and ignoring behaviour of urban planners has turned the urban street space to deadliest space where there is no space left for pedestrian activities.

Many other side effects of urbanization like pollution, fossil fuel consumption, lack of parking spaces, etc. have retrieved us from the lifelessness of modernism to the sustainable livable environment. Nowadays, many streets and urban places are planned to encourage walkability and NMVs. The density of cars on roads have been decreasing in some places and better spaces are planned for annoying elements of the streets. The conversion of commercial streets to pedestrian only streets has resolved many pedestrian related issues.

The pedestrianisation of Mall Road, Shimla is an excellent example of the need for change. The excessive increase of retailer exchange and pedestrian activities has made the place a tourist hotspot. Today, progress is still unrecognized, the capital city of India is still suffering from this issue.

According to NCRB report, out of 1.8 crore population of Delhi almost half (48%) of them are pedestrians and cyclists. With the increase of road accidents 6.55% per annum, Delhi became the highest accident rate in India and third-highest in the world. Having the largest road length in India shows that the demands to fill the spaces for cars has left the city almost zero space on streets for people. The historical, cultural recognition of Delhi streets are ruined by forcefully fitting of technology.

II. RESEARCH PROBLEM

In this paper we want to find the Impact of Pedestrianisation in establishing Social interactiveness on commercial streets of Delhi. The paper is discussing the problems of Delhi commercial streets and pedestrians.

Concept of Pedestrianisation and its conditions (arrangement of street elements) to make streets more socialize and livable will be presented.

III. LITERATURE REVIEW

From the past, pedestrian streets have been the symbol of joy and considered as the origin of prosperous cities. The beginning of pedestrianised streets were started from ancient cities of Mesopotamia, Egypt and Indus. The cities in these civilizations are well organized for pedestrian activities.

The reason for such streets pedestrianisation was to overcome hard metallic noise from carts, congestion, safety, make streets aesthetically appealing and peaceful urban spaces. Another reason is the collection of animal dung on roads due to which the entire population suffers from various diseases.

In the classical age, the Romans used the pedestrian zones to solve design problems throughout their empire (Rosen, 2006). They restricted the vehicular traffic from roads for certain times in a day and designed the streets like they all will meet at a large social and civic centre called Pompeii centre.

The places along the other pompeii areas have traffic calming solutions called Woonerf was applied. Street design became an integral feature of Roman cities, which had paved streets with elevated sidewalks. Concern for aesthetics of street design resurfaced during the Renaissance in fifteenth century Europe (Sen, 1999). During the middle ages, northern Italy was the main urbanized centre of Europe.

The polymath Leonardo Da Vinci has proposed the grade system that has segregated the pedestrian routes from vehicular routes. The invasion of the industrial revolution has exacerbated the problems of city street life before this era. Some municipal governments of America, UK, Germany, French have restricted the car and wagon movements in central areas during day hours. Around the second world war, the impact of pedestrian only streets was noticed when the pedestrianised downtown areas of the city have increased public activities more than areas which are not pedestrianised. The first modern pedestrianisation were completed at the same time in Germany and the United States, the pedestrianisation of Kettwiger Straße in Essen in 1959 and of Burdick Street in the small town of Kalamazoo, Michigan (Kalamazoo Mall, by Victor Gruen Associates) in 1959–1960 marking the actual invention of the pedestrianisation in Western cities.

IV. METHODOLOGY

As the paper is focusing more on social life and livable environment on streets. The people (pedestrians) should be the first concern because they are the only one who are facing the issues.

The survey will be conducted to know the opinion of people who walk and how they feel in such an environment and what changes they want to make. Due to the ongoing situation of Covid-19, the survey will be conducted through an online questionnaire and observation will be drawn according to the responses.



Figure 1. Reaction of Pedestrians

Source: <https://i.pining.com/474x/c7/36/29/c73629240b1213facfb80368de62ad53.jpg>

People were asked about how they feel when they see this image. The graph is showing the reaction of people on the crowded commercial Indian roads. Approx. 75% people feel irritation from noise and dust. 71% of people feel unsafe from vehicles. And 45 % of people feel streets are unhygienic. Shopping is the most desirable and basic form of activity done by people. If we talk about Indians, then we have the ability to enjoy each activity.

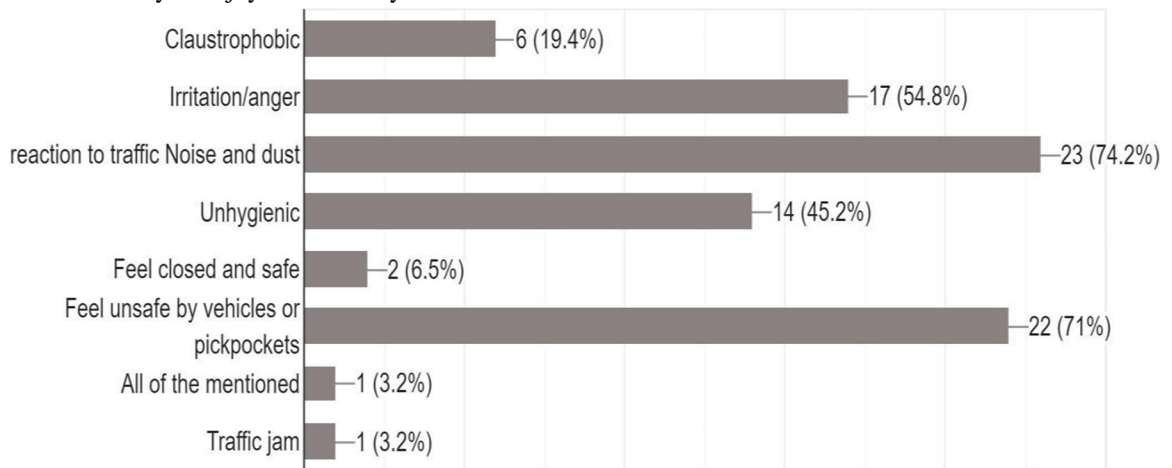


Figure 2. Survey by Author

A. Problem faced by Pedestrians While Walking on Such Streets?

People were asked to tick the following problems that they feel while walking on such commercial streets. 72% have issues in walking because of lack of footpaths. 54.8% have issues with no public facilities like toilets, drinking water. 58.1% feel difficulty in finding directions due to lack of signages and no sittings and 32.3% feel danger from vehicles. The observation tells us that pedestrians are the only one who faced the highest number of obstructions on the streets. And due to such bad conditions of Indian commercial streets, they are forced to take private vehicles.

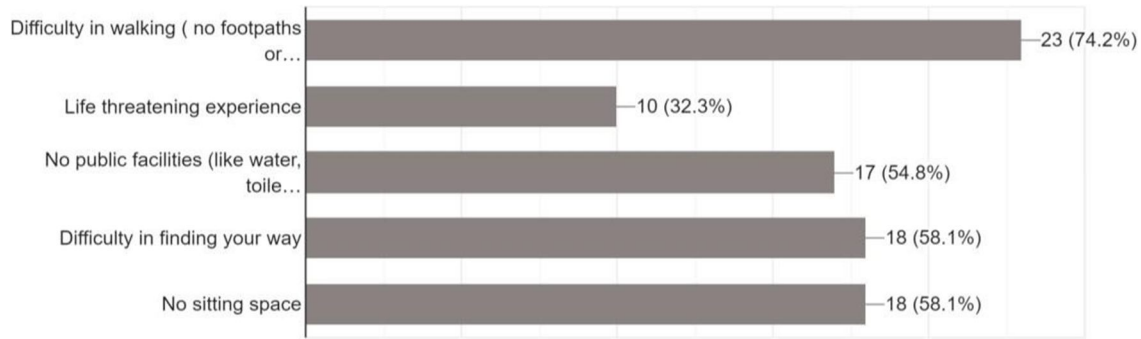


Figure 3.Survey by Author

B. Reasons for Such Street Condition ?

People were asked to tell the reason of such problems and from the above charts the most responses are putted in descending order (from most likely to rarely) :

- Narrow Streets.
- Lack of Proper planning=No traffic Rules.Overpopulation.
- Encroachments.
- Lack of public awareness.
- Lack of Economic development.

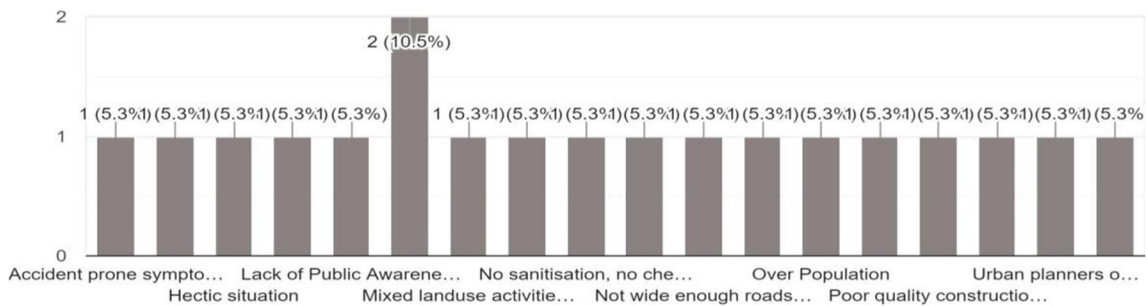
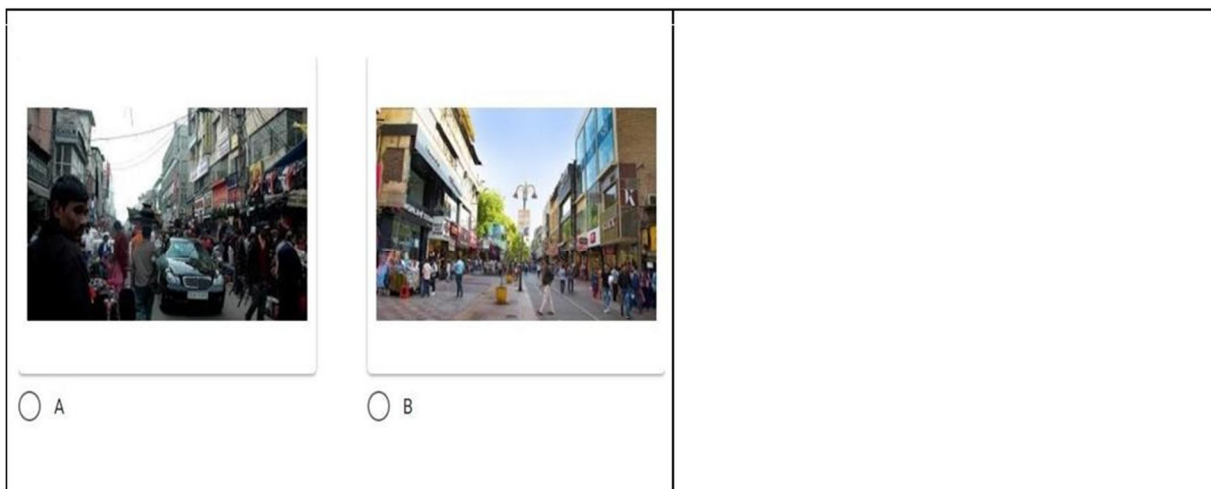


Figure 4: Survey by Author

From the above data, the maximum number of people have the mindset that streets are not spacious according to their needs. Secondly, improper planning and no traffic rules on these streets.

C. On Which Street they Wanted to Walk on?



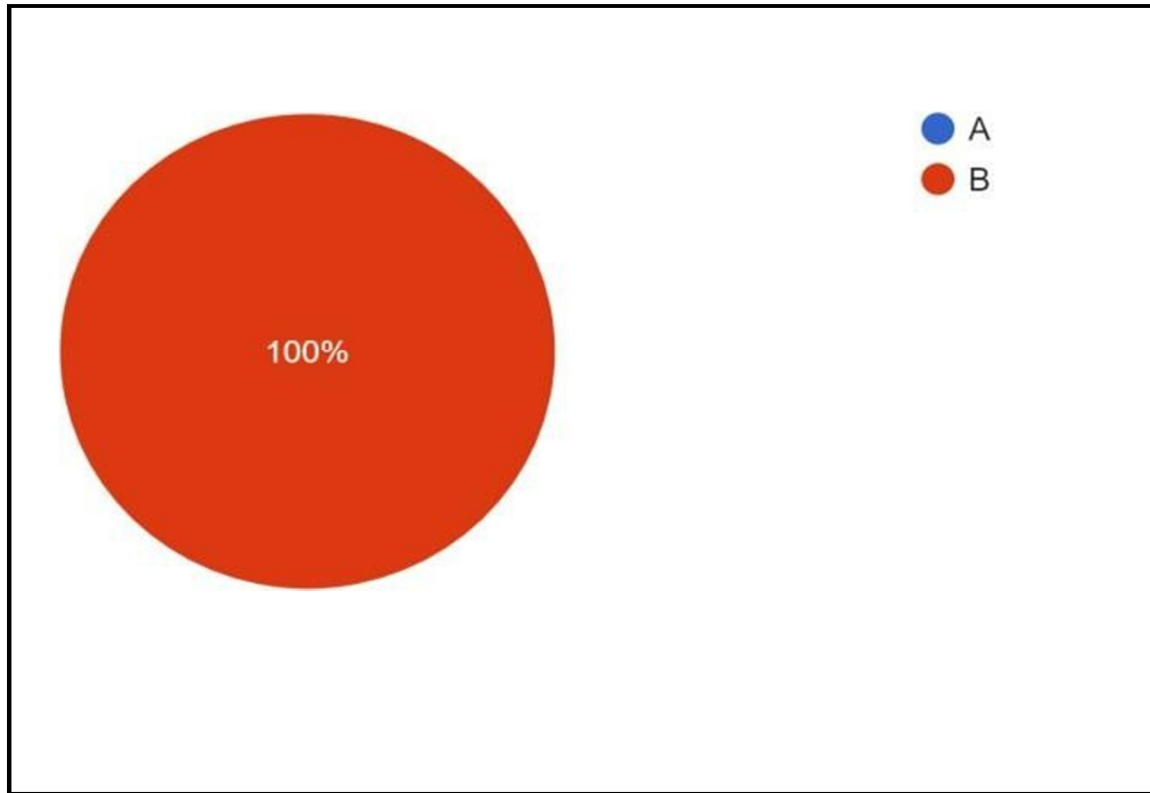


Figure . Above two images are of the same place which is Karol bagh before and after pedestrianisation. and 100% people wanted to walk on

“Option B” road which is karolbagh after pedestrianisation.

1) *Their favourite street, that they like to visit again ?*

Mall Road, Shimla.

Amritsar Golden temple to town hall corridor.Oxford Street.

Chandigarh pedestrian street.Mall Road, Mussoorie.

Connaught place corridor.

2) *When asked about the things they had noticed on their favourite streets?*

Roads with shading of trees

Proper sittings, toilet facilitiesNo vehicular movement Should have eateries.

3) *Inferences*

The people like to walk on areas which are non-traffic region, Also when they asked to tick one of the image in which one is pedestrianised with beautification symbol like attractive furniture, lamps, greenery, no vehicles and other is showing chaotic environment with no beautification and cars running along with people. I most like to visit the area which is attractive. From this it is concluded that an interesting physical environment attracts people and vehicles repel them.

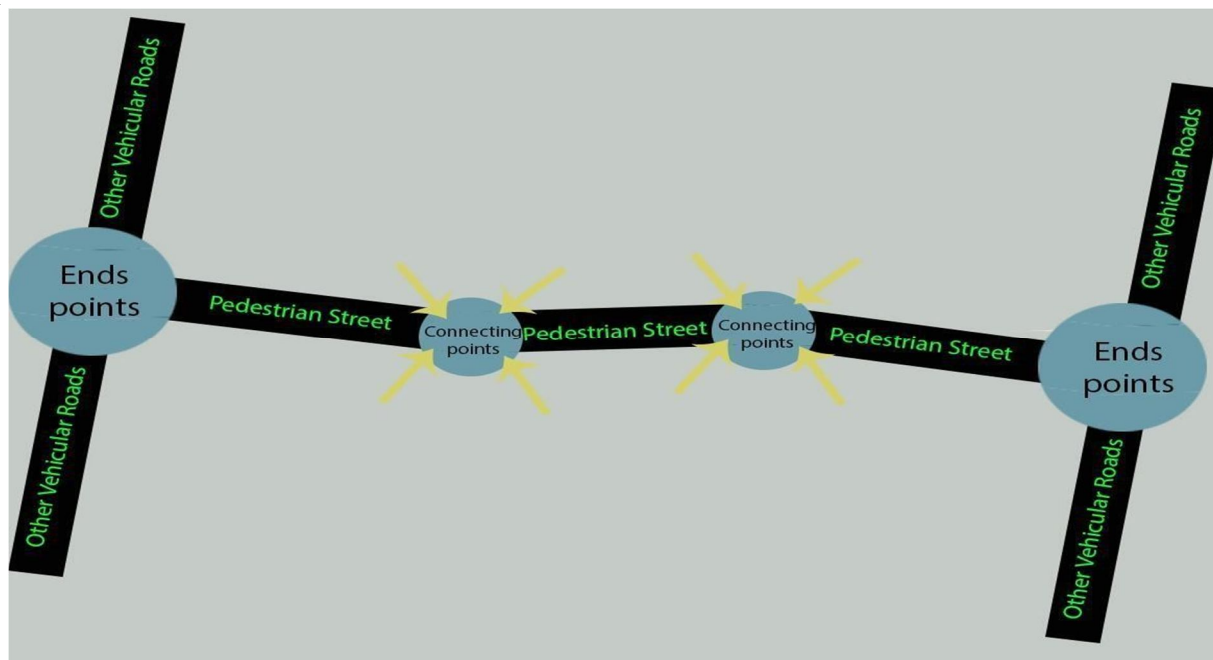
From the aforementioned favorites' street list answered by people, many of them are properly planned for pedestrians, which are socially livable and come under government Pedestrianisation projects. So from this, it is clear that people like to visit car free zones and they will enjoy if Delhi commercial streets become pedestrianised.

People want to walk but uneven conditions don't allow them and force them to take even short trips by vehicle. They do so because they don't want to harm their belongings.

Pickpockets and chain snatchers are the biggest problems of commercialized streets.

V. RESULTS

A. Proposed Street Form



Whole pedestrian street should not follow the same layout of a straight line because it will be boring for a pedestrian to see the same thing during such a long stretch. There should be interrupted spaces in between like squares, or if there are intersections in the street then these intersections should be treated to attract a large population.

These interspaces act as an extension of a street, which will make a pedestrian curious to walk further. There should be following features presented in these connecting points.

- 1) Cafes, Restaurant with sittings in outer.
- 2) Fountains, Sculptures.
- 3) Change in pavings, a speciality of a place will get enhanced if the surface of that place is made different from other places.
- 4) Well greened with dense trees and plantations providing shadings.
- 5) Public amenities like Toilets, Drinking Water will be provided here (another reason of attraction).

End Points and Edges- Edges and end points is another reason for making a place sociable, these points in most cases are inviting crimes and dead ends to a place. These places should be treated by creating space for amenities and attractions like public toilets, drinking water, sculptures and fountains, Parking facilities could also be here.

B. Proposed Settings To Get Ideal View Scale-

The ideal scale is $D/H=1$. If $D/H > 1$,



Figure 5: Drawn by author Figure 6: Drawn by author

To make the view perspective equal or approximate to the ideal scale then, trees should be lined up on both sides to cut the wide perspective view to ideal view.

To make the view perspective equal or approximate to the ideal scale then, Small billboards should be applied to shops, No 90 degrees billboards should apply, Light colours should be used in street side buildings and corners to get a wide view, Trees should not be applied.

C. Proposed Section Showing Settings of Elements

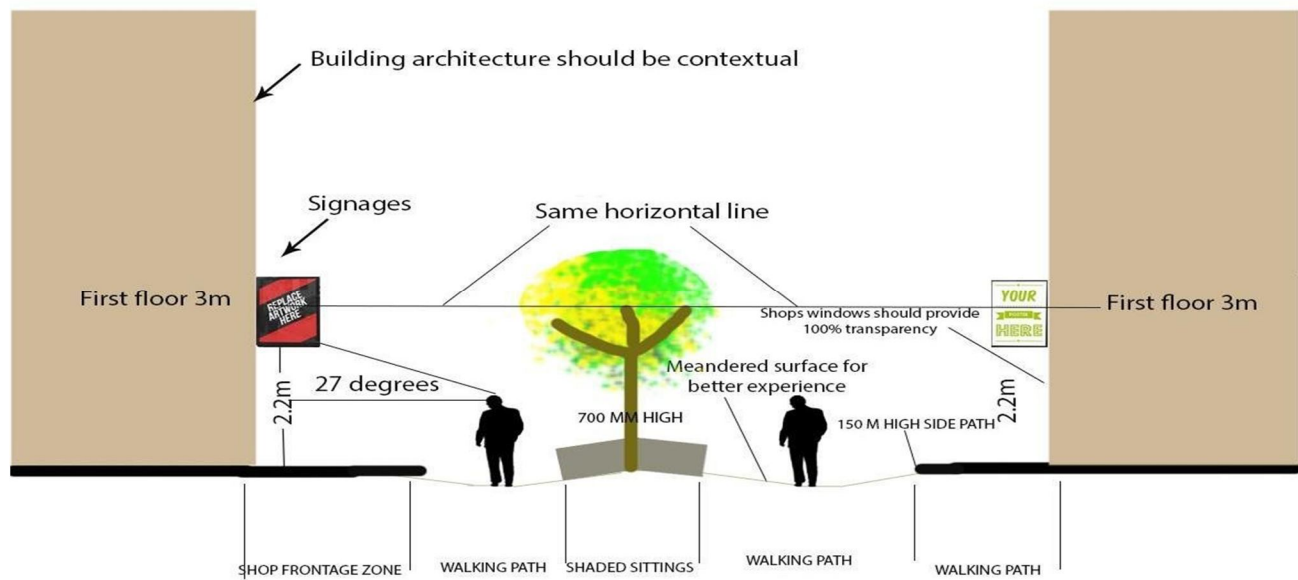


Figure 8: Drawn by author



Figure 9. Drawn by Author

VI. CONCLUSION

Indian Commercial streets are better known for their very different urban life. Indians have the nature of celebrating everything and from past decades, they have been using streets as a basic place for their activities. The encroachments of cars on roads somehow have prevented the people's freedom and make them more sophisticated to themselves. In the case of Delhi, the city's commercial streets have its historical and cultural values which are represented by activities on streets and its environment. But the deteriorated condition of these streets have destroyed that sense of cultural and social presence that attracted the people to visit again. Today, people just visit these streets to fulfill their needs and wanted to get out of this critical scenario as soon as possible.

According to Jan Gehl, the spontaneous activities and the social activities are casual and uncertain. Urban space design has to give such places or circumstances for activities as much as possible. The squares in the nodes alternate in the pedestrian street link the close and open spaces with rhythm which become the active essential factor to bring dramatic public spaces. The pedestrian streets and squares' combination makes the spatial structure harmonious and stable.

Talking about the Stroget street, the arrangement of each element is designed for all types of pedestrians. Special arrangements are done to embrace the architectural beauty of the city and the cultural recognition. The well designed squares and pathways with plantations on both sides of the street give the natural connection. The arrangement of demography around the street keeps the vehicular traffic and noise away. The pedestrianisation of Karol Bagh Main road, the area like karolbagh is very tough to regain the urban livability. The cutoff of vehicular traffic has made a drastic change to the commercial street of karol bagh. From the surveys and observations, it is concluded that people are keen to do outside activities, inspite of living in a technical world where everything we can get on doors, people are searching the places where they can findleisures. A street environment will decide by how much space we provide for its people and it will decide the future of a city. A dark and deserted street or crowded full of noise and vehicles will have no future for the city, but if the same street has spaces which helps indulging the activities will be the best street that makes its people safe and healthy as well. The Design for people becomes a necessity for both a better city environment and to regain the lifelessness of urban spaces.

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