

# Women in Public Spaces

Spatial interventions towards gender inclusive environment : the case of New Delhi, India



## P2 Report

Research Theme\_Design of the Urban Fabric

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Master of Architecture,Urbanism and Building Sciences  
Mater track\_Urbanism

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# Colophon



Master : Master of Architecture, Urbanism and Building Sciences  
Track: Urbanism

## Project Information

Project title : 'The Women Safety Harbor. Spatial interventions towards gender inclusive environment- the case of New delhi, India'

Graduation Studio: design of the Urban Fabric

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Keywords: Gender Inclusive spaces, Gender sensitive urban design, Accessibility, Safety and crime against women.

Cover Image by author

# Preface

The present report is an explanatory documentation of the graduation project with the title : 'The Women Safety Harbor. Spatial interventions towards gender inclusive environment- the case of New delhi, India'. The research is done on the themes based of the graduation studio "Design of the Urban fabric". It includes the thesis plan, the theory literature review paper and the documentation of the Graduation Orientation course (a workshop organised) which are the deliverables of the P2 stage of graduation. Through this report I resolve the initial issues like project definition, problem analysis, hypothesis, research question and the methodology. It contains a clear description of the first desk site analysis and reason behind choosing the particular area and the need to study and research this topic.

## **The Women Safety Harbor**

*Sugandha Gupta*



Spatial Interventions towards gender inclusive environment: the case of New Delhi.

This thesis is a small step towards reintroducing women in the labor force by making women safety harbor in form of bus stops.



# Reading Guide

Colophon

Preface

This P2 report consists of 4 reports and this page tells all about these 4 parts of the report :-

- A. Introduction
- B. Methodology & Research
- C. Strategy & Deliverables
- D. Graduation Essentials

Part A : Introduction

This section forms the global problem of gender inequality, problem statement, research questions, best practices, hypothesis and relevance of the project.

Part B: Methodology & Research

It discusses the main methodology and research by literature and design.

Part C: Strategy

This part has the main strategy that I would like to take for my design project.

Part D. Graduation Essentials

It contains the thesis plan, graduation workshop report and literature review paper.

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## Colophon

## Preface

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*"Oh, come on!"*

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Agroforestry Today, Vol 1, No 2.

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# **A. INTRODUCTION**

# 1.1 Introduction- Inequality in Cities (a global issue)

We live in a world where the people and their lives are moving ahead but a very less percentage of fortunate people think about the unfortunate people of the society. In our contemporary cities issue of inequalities is rising day by day due to competitiveness and in developing countries in the name of culture and traditions. The inequalities can be in social, economic and spatial terms.

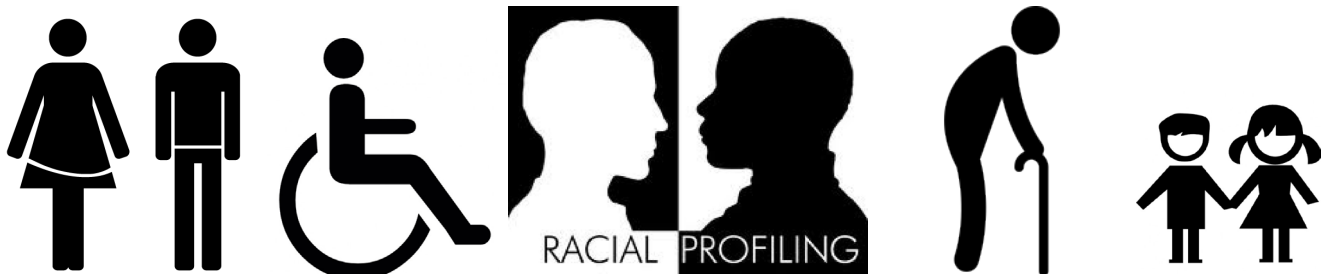
Here what I am looking for is the inequality in terms of spaces and the ignorance urban designers and planners have while designing urban spaces.

## The notion of inclusivity :-

“Inclusion is community. No one becomes included by receiving handouts, even if these handouts are given by public bodies and with public resources. No one becomes included by being treated by a program in which they are no more than a number or a statistic. Inclusion is connection to the network of community development, it is to become more than a speck of dust, to have a forename and surname, with, one's own distinctive features, skills and abilities, able to receive and give stimulus, to imitate and be imitated, to participate in a process of changing one own life and collective life.” (Busatto, 2007)

A feeling of inclusion is about:

- Taking into consideration that diverse groups have different needs that might require extra effort before they can access the opportunities and events that everyone else has.
- Treating each person and group according to their needs,
- The responsibility taken by everyone in terms of betterment for the ones who are deprived of basic rights. It has to be done by the people who are stronger and powerful.



*Image: Representing inequalities in the social groups seen in spaces*

*Source: by author*

## Social Parameters :-

The simplest definition of society is a group of people who share a defined territory and a culture. In sociology, this definition can be taken a little further by arguing that society is also the social strata and interactions of that group of people. Social structure is the relatively enduring patterns of behavior and relationships within a society. Thus, a society is not only the group of people and their culture, but the relationships between the people and the institutions within that group.

The sundry ways in which different vulnerable groups exist in society are:-

- **Exclusion:** A situation in which the deprived are left being outside of a certain activity.
- **Segregation:** It is a condition in which the marginalized are separated from certain activities in society.
- **Integration:** It is a condition in which the vulnerable groups are 'fit in' to existing conditions in society,
- **Inclusion:** Inclusion at the end is about creating everything according to the marginalized group, basically according to their needs and desires as well as much as it is for the other people.



## Why inclusive city?

Inclusive cities are more affluent because they mobilize and enable a wider spectrum of people and talents than a city in which some of those human resources are marginalized. They are also more socially just. By including the otherwise marginalized in the productive activities and opportunities of the city, they offer better access to pathways for social and economic betterment.

Inclusivity works against social and economic exclusion, and their shadow: urban decay. It works against dividing the city into chunks of despair without opportunities for upward economic mobility. It does not mean freezing growth or preventing redevelopment; rather, the opposite encouraging more sustainable, prosperous, comprehensive growth and development by avoiding exclusivity and dislocation and the heavy, often ignored costs they carry.

Advantages of being inclusive:

- Fulfilling the mandate of serving and involving the community as a whole.
- Enhancing problem solving and creative thinking skills.
- Having access to diverse, best qualified individuals.
- Building partnerships with culturally diverse businesses, religious groups and other cultural organizations.
- Empowering people to contribute the best of what they have to offer without holding back because they don't fit in.
- Diversifying volunteer base and support from a broader constituency.
- Responding more quickly and easily to broader community needs.
- Avoiding legal and other disputes associated with discrimination, harassment and other human rights.

## Inequalities in Spaces shown to this marginalised Group:-

Examining the concept of inclusion with a specific group of marginalized people in mind as shown in the figure on previous page is an important approach to locating exclusion in the societal framework. The following section contains a discussion of some of the important social groups where the issue of social inclusion is most relevant;

***-Women are subject to social exclusion caused by issues such as poverty, power imbalances, gender-based violence, conflict, restrictions in access to resources and exclusion from decision-making.***

**-Youth** have difficulty of finding decent work, and productive employment is compounded by a host of other problems, including illiteracy and insufficient training. The crisis of youth unemployment deprives young people of the opportunity to secure independent housing or the accommodations necessary for the establishment of families and participation in society.

**-Elderly** are a growing segment of the population. They face barriers at workplaces in promotions and hiring. The developmental potential and diversity of late life need to be explored and supported, while also addressing the health care and income security needs of this stage of life.

**-Differently abled:** Many people with disabilities are excluded from active participation in society because of barriers for their physical access to public space and other types of barriers, for example oral communication, Which ignores the needs of the hearing impaired and written information which ignores the needs of the visually impaired.

**-Migrants** are often victims of discrimination, racism, xenophobia and social exclusion, having little or no participation, influence or communication with the processes in society.

**-Children** especially of urban poor are subjected lack of health services, education, legal protection, etc.

**-Indigenous people** are often violated against their rights to their identities, their way of life, their right to traditional lands, territories and natural resources.

## Why Gendered Spaces?

***Women are almost 50% of the world and therefore it is not a minority, so I choose to work with this section of society . In this thesis the spatial interventions will try to have an impact on the social and economic inequalities between humans.***



## Gender Inequalities

The vision Of UN Habitat III aspire cities and settlements that are participatory, promote civic engagement, engender a sense of belonging and ownership among all their inhabitants, prioritize safe, inclusive, accessible, green, and quality public spaces, cultural expressions, and political participation, as appropriate, and foster social cohesion, inclusion, and safety in peaceful and pluralistic societies, where the needs of all inhabitants are met, recognizing the specific needs of those in vulnerable situations such as women , children, elderlies , etc (“Quito Declaration on Sustainable Cities and Human Settlements for all,” 2016)



**Figure 1.2 :** Settlement reconstruction in Nias, Indonesia. 2005.  
**Source:** UN Habitat Report Nairobi 2012



**Figure 1.3:** Women demand for justice in all parts of the World  
**Source:** <http://oxfamblogs.org/wp-content/uploads/2015/11/Gender-Inequality-protest-India-1024x490.jpg>

Gender Inequality is a global issue and identified by UN as one of the problems for urban planning and development referring gender to men and women , girls and boys. Women in all the parts of the worlds experience this inequality and have started showcasing their rights to spaces and basic necessities ( Figure 2,3 )

Early approaches to Urban planning and design has always been by the male society and for the healthy white male society making patriarchal suppositions about the women (Woodsworth, 2005). The basic unit for policies and urbanism was a family which was stereotyped where the private realm was made for the female members and the public realm was designed for men as they were the main bread earners of the family. This approach in the western world remained till 1960s when the ‘second wave’ of feminism came and started playing a role as well (Greed, 1994)

Cities undergo changes caused by technology, economics and politics. We are strongly affected by technological evolution. A radical change came with Steam Revolution in 18th century which gave cities rapid transportation, steamships and large factories. With great changes come great challenges like it gave the earth first industrialized slums and also air pollution. Women during this revolution were housekeepers or worked majorly in the textile industries as they offered cheap labor (Figure 4) . A revolutionary change came again with electricity age in the early 20th century which gave us artificial light but inhabited people in high rises and made them used to artificial environments blocking sunlight. The male utopians like Ebenezer Howard, Le Corbusier and Frank Lloyd Wright gave new insights and roles to women by giving concepts of cooperative housing, kitchen less houses and communal nurseries (Watson, 2007).



Figure 1.4 : Woman portrait in 20th century as housekeepers  
Source : <https://ladyeconomist.com/>



Figure 1.5 : Woman now are a multitasking with use of technology  
Source : <http://naturalawakeningsokc.com/wp-content/uploads/2016/05/women-multitasking.bmp>

The automobile age then allowed the city to expand in every direction, providing access to more job opportunities and joyful rides. But it also gave us sprawl, traffic jams, and smog and nearly killed the central city. The fourth revolution of big data, artificial intelligence in the 21st century gives women much more freedom from the household chores and they are out interfering in the public realm of the men demanding space, safety and freedom (Figure 5) (Daniel L. Doctoroff, 2016).

In the developing countries of global south nothing was different and the conditions in terms of gender inequality even now are much worse than developed nations. Because of colonization the policies and urban planning approach determined by stereotyping in the western world was imposed even on the colonies where in some of the colonies women previously had role in land owning traditionally. This imposing of planning and designing approach of cities had an adverse effect on the developing world as they urbanized at a much higher rate than the western world because of increasing population. Cities in developing countries, designed by stressing on zoning and based on the postulation that people travel by car, have had a negative influence on the mobility of women (Reeves, Parfitt, & Archer, 2012)

India is a developing nation but according to an economic report by WEF, it will be one of the financial leaders of the world in the next decade. Although a fear exists as a new social urbanist if we are ready for it? There are issues in India of misconduct, crime, corruption, poverty, increasing population, lack of infrastructure in whose direction the steps are being taken by recent movements of Smart Cities and Corruption Ban but are we still considering a long persuasive issue of gender inequality. The government is taking footsteps towards the communal issue but not taking it as a socio-spatial concern.

## 1.2 Motivation - Why I want to do it?

I am the motivation for myself.

As a young Indian woman I want to live in a city where every woman feels free and safe in a public space.

As a young urbanist I want to plan and design gender inclusive, safe and vibrant public urban spaces.



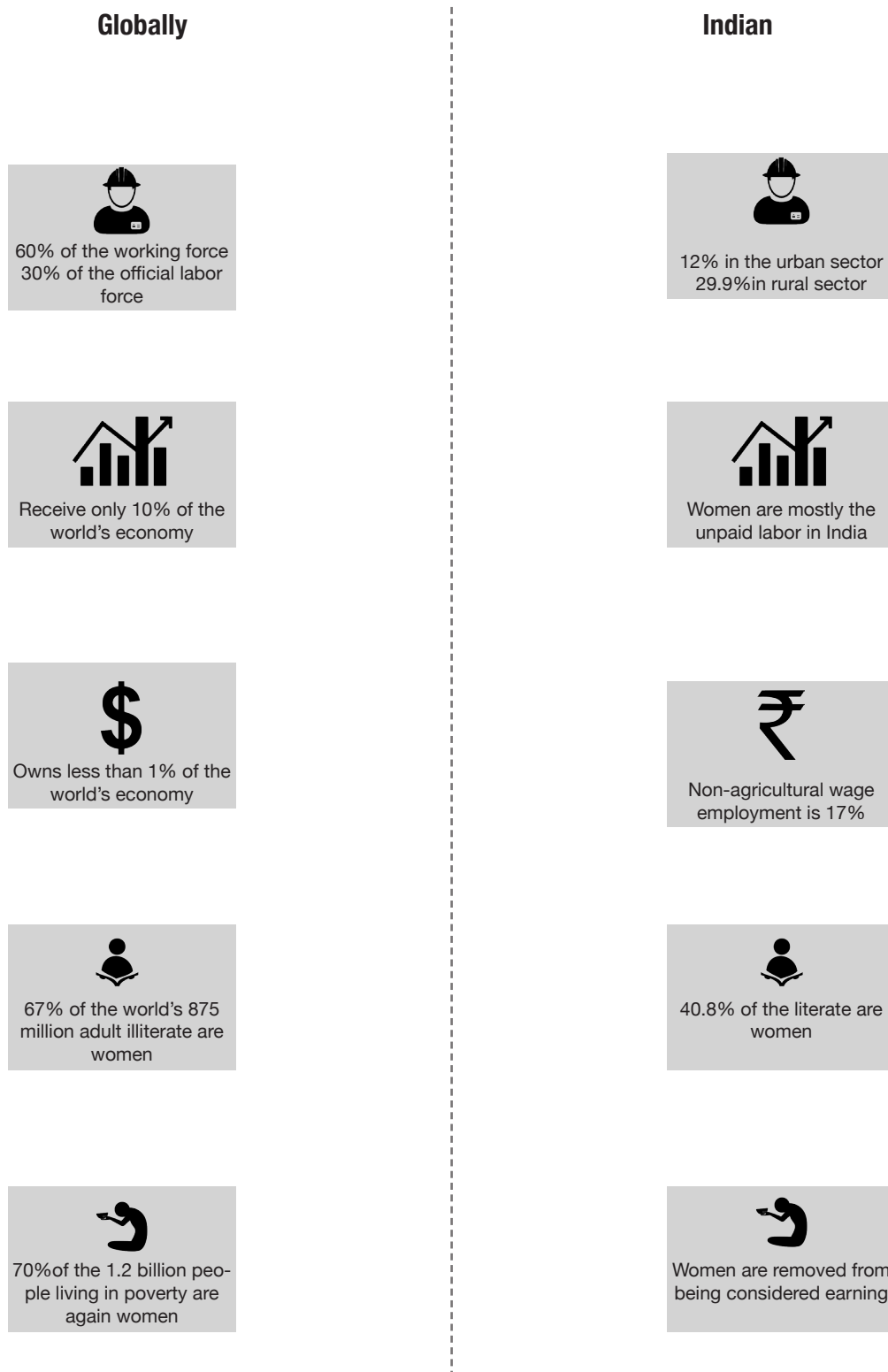
*Figure 1.1 : Cities can improve public spaces to make women feel safer.*

*Source: [http://img.huffingtonpost.com/asset/crop\\_0\\_85\\_2122\\_1306,scalefit\\_630\\_noupscale/571874471900002d0056bc2f.jpeg](http://img.huffingtonpost.com/asset/crop_0_85_2122_1306,scalefit_630_noupscale/571874471900002d0056bc2f.jpeg)*

As a young Indian woman I have grown up with my own insecurities of living in a developing country. Gender discrimination is one of the main problems that have pertained in the nation since centuries. Never in my home or during my studies have I always felt completely safe about the streets once its dark and even when its not. I have always lowered down my gaze while walking so that I do not have to see the unwanted eyes on me. My motivation comes from women like me who still do not feel safe in the public spaces and streets due to the increasing number of rape cases and eve teasing. All in all Indian women have actually developed this tolerance level inside them to ignore eve teasing incidents and move on with their respective works. Moving to Netherlands was an eye-opener for me to see and feel the emotion of safety and security, be it day or night. The question comes up in my mind if the built environment and spaces are as much responsible for this safety factor as much as education and the fear of getting imprisoned.

It motivates me to take actions as an urbanist to improve the life of women like me in my country who goes to work daily in a metropolitan city like New Delhi and comes back in the night to far off places. Can I provide an environment using the modern technologies in this digital age to make it much safer for these women. I aspire to see if Smart City initiative in India are even smart for the women inhabiting 48.5% population in the country(Ministry of Statistics and Programme Implementation, 2011).

## 1.3 Problem Field- Global vs India



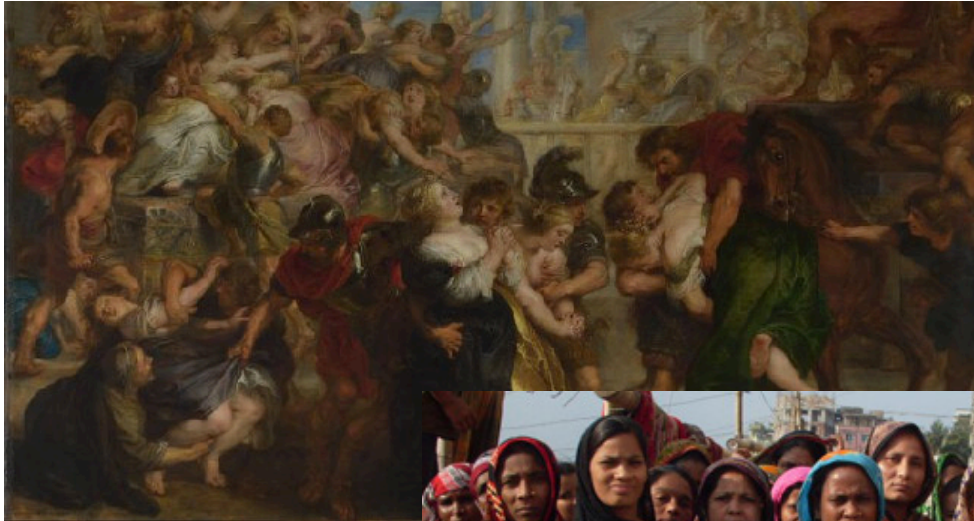
**Source of information:** [www.ilo.org/public/english/region/asro/bangkok/library/download/pub96-01/chapter2](http://www.ilo.org/public/english/region/asro/bangkok/library/download/pub96-01/chapter2)  
UN statistics  
<http://www.undp.org.in/webbook/Enlrg-spc-wmn-india.htm>  
Human Development Report, 2003

### A small description:-

The position of women as described in this infographic is a neglected group globally as well as in India. Women occupy just 9% of the parliamentary seats and less than 3% are appointed as managers in multinational companies in spite of their qualifications and work (Green, D. n.d)).

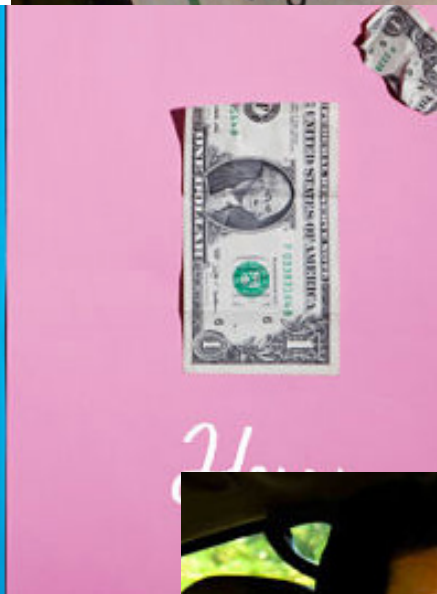
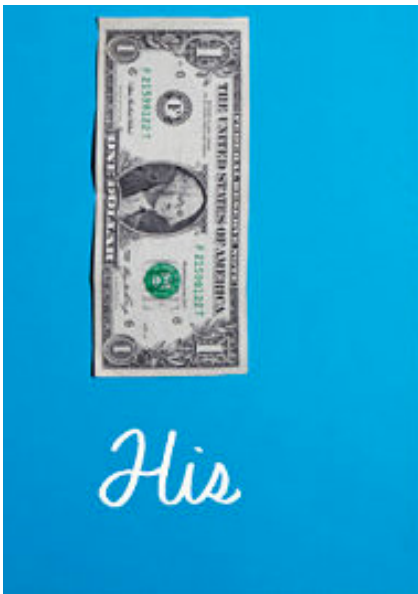


# 1.4 Women in the World (a long history of inequalities)



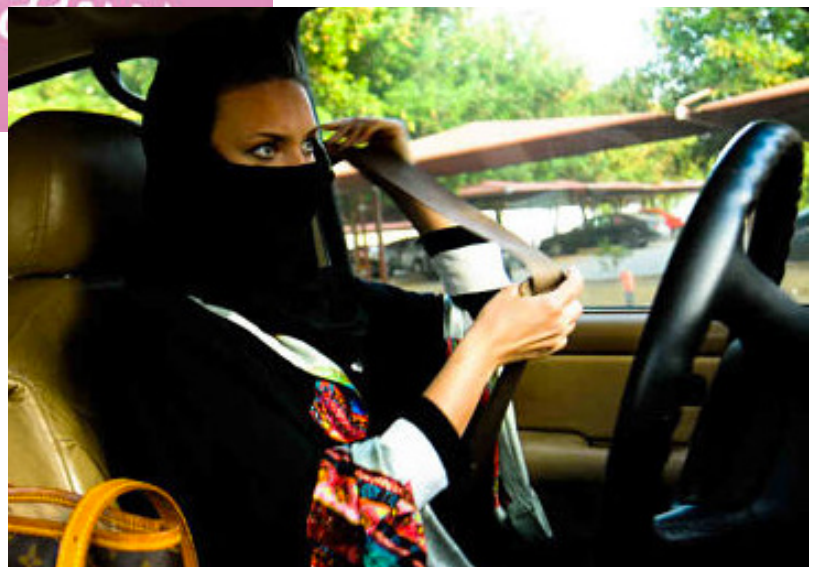
*A Rubens painting showing molestation of women since 1635-40.*

*Street Harassment campaigns all over the world.*



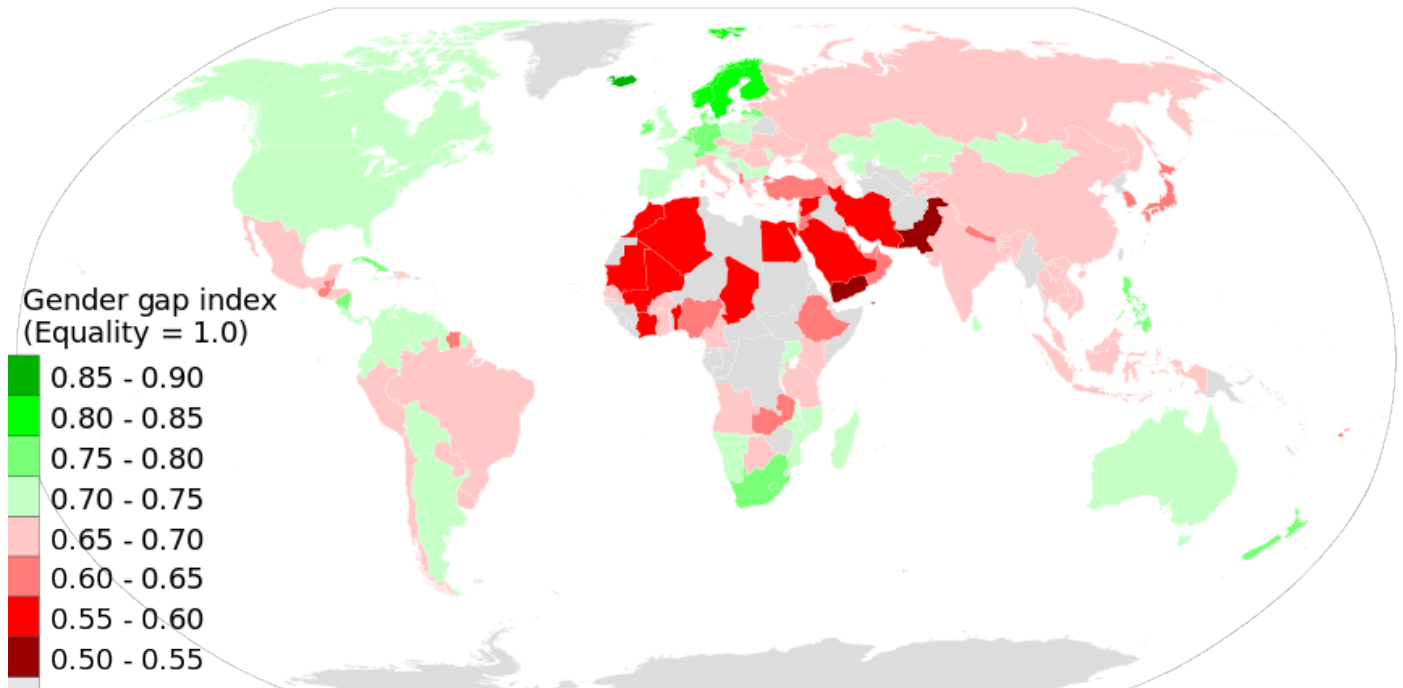
*Economic Disparity in terms of wages even in developed countries.*

*Lack of mobility in some parts of the world like Saudi Arabia, Egypt, Bahrain.*



# 1.5 Gender gap and `Women in India

## Gender Gap Index compared with the World



*Figure 1.7: According to 2015 survey of World Economic Forum the overall rank of India according to 2015 gender Gap Index by World Economic Forum is 108 while that of Netherlands is 13. The Gender Gap Index of India is 0.664 while of Netherlands is 0.776.*

*Source : <http://www.mckinsey.com/global-themes/employment-and-growth/how-advancing-womens-equality-can-add-12-trillion-to-global-growth>*

## World Economic Forum Report

The Gender Gap Index assesses countries on how well they are dividing their resources and opportunities among their male and female populations, regardless of the overall levels of these resources and opportunities. The Global Gender Gap Index featured in the 2015 Report ranks over 140 economies according to how well they are leveraging their female talent pool, based on economic, educational, health-based and political indicators. By providing a comprehensible framework for assessing and comparing global gender gaps and by revealing those countries that are role models in dividing these resources equitably between women and men, serves as a catalyst for greater awareness as well as greater exchange between policymakers.

India's position as 108th has improved in recent years and that is only because of the increase in women politicians in the government. The gap is still really wide and we have a long way to go in all the terms (World Economic Forum Team, 2015)

We have a lot of women who are controlling the country, a lot of them working, a lot of them housekeeping, a lot of them providing services, what we need to do is provide a safe and healthy environment to them so that they can experience everything in the best manner.



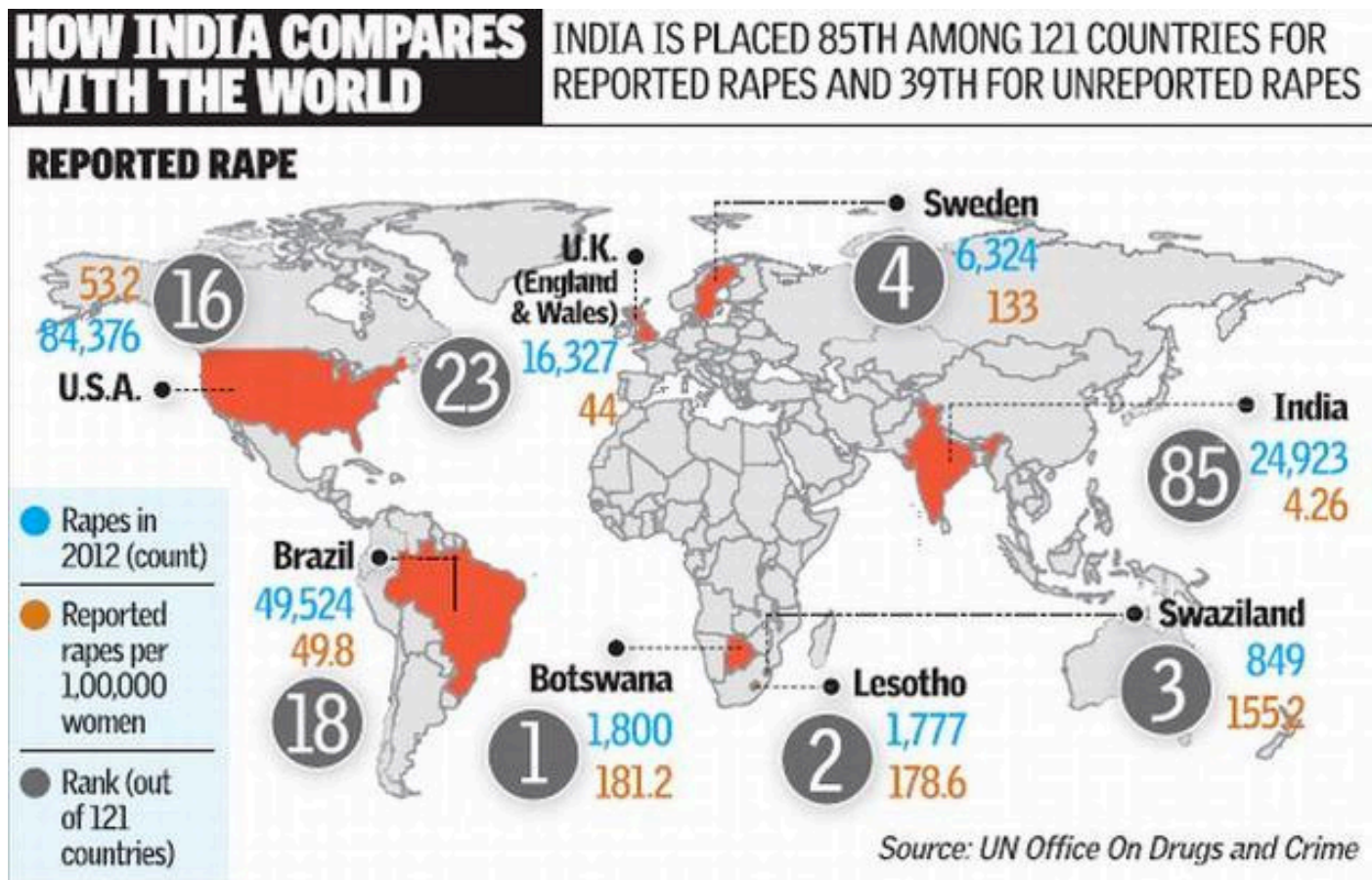


Figure 1.8: India ranks 85th for the number of reported crimes in 2015 in the world where data is collected from 121 countries

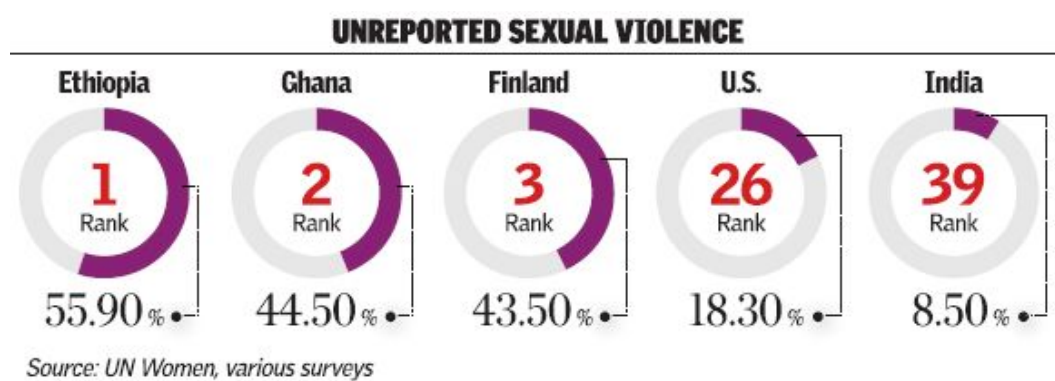


Figure 1.9: A lot of cases get unreported and are avoided, therefore India ranks 39th in the unreported sexual violence (Includes data from domestic violence too)

Source : Times of India Newspaper

## Indian News Reports

Statistics can be a bit misleading as well, India is 85th for reported number of cases but 39th for unreported. It is widely acknowledged that the rate of unreported sexual violence in Indian society is far higher than official statistics would indicate, and that this is likely to be a bigger problem in India than in other countries, as it is a more patriarchal society. The crime that is not reported does not mean is not done and not reporting is a conclusion of cultural, religious and educational disparity.

## Contrasting Picture of Indian Women



Figure 1.9 (L-R): Rani Laxmibai, Mother Teresa, Indira Gandhi, Saina Nehwal

### A small description:-

Rani Laxmibai was the first female freedom fighter who fought for the independence of India against Britishers in 1857 carrying her child at the back. Mother Teresa has been an example of giving and forgiving, till now she has several orphanages and old age homes taking care of the neglected. Indira Gandhi was the first female Prime Minister of India who ruled an independent India for about 10 years. Saina Nehwal is the first woman badminton player to bring gold in the Olympics.



Figure 1.10 (L-R): Sarojini Naidu, Kiran Bedi, Arundhati Roy, Kalpana Chawla

### A small description:-

Sarojini Naidu was an Indian independence activist and a poet famous as the Nightingale of India. Kiran Bedi became the first woman IPS officer and served India working for woman's safety. Arundhati Roy is an energetic writer who has written award winning books like The God of Small Things. Kalpana Chawla was the first female astronaut and the first Indian women to go to space.



## **2. What is the issue/problem/opportunity?**

2.1 Problem Analysis- Context of India & Delhi

2.2 Delhi- India's Crime Capital (Cultural & Spatial Issue)

2.3 An Economic issue- serves as an opportunity

2.4 A spatial Issue- Women in Public Spaces in Delhi

2.5 Problem Statement

2.6 Hypothesis

2.7 Research Question

2.8 Pre- methodology Diagram

2.9 Timeline

## 2.1 Problem Analysis - The context of India & Delhi

India is the second-most populous country in the world with an estimated population of over 1.2 billion where almost half the population are female. They had equal rights as men in the vedic age of India as mentioned in Rigveda but their condition began to deteriorate in the medieval period (Madhok, 2008) In India women are worshipped as goddess of wealth and power while on the other hand they are one of the most unsafe groups of the lot in terms of the outside spaces, the non-private places. The public spaces for girls and women in India are the places to be visited due to a reason, for some work or agenda, they would not think about loitering around just like that (Phadke, Ranade, & Khan, 2009)

India, officially the Republic of India, is a country in South Asia. It is the seventh-largest country by area, the second-most populous country (with over 1.2 billion people), and the most populous democracy in the world. As per Census 2011, the population of India is 1210.19 million comprising 586.47 million (48.5%) females and 623.72 million (51.5%) males. The economy of India is the seventh-largest economy in the world with the GDP of \$2.25 trillion (Ministry of Statistics and Programme Implementation, 2011)



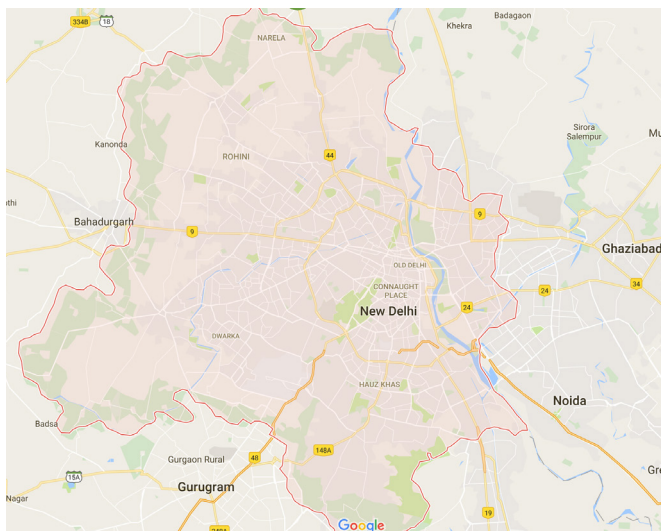
**Figure 2.6:** World Map with India located

**Source:** Made by the author



Figure 2.8: Location of Delhi on map of India

Source: Made by author



*Figure 2.7: Delhi on Google Maps*

**Source:** Google Maps

Delhi (Dilli), officially the National Capital Territory of Delhi (NCT), is a city and a union territory of India. Demographics of Delhi as per Census 2011, the population of Delhi is 16.7 million comprising 7.8 million (46.46%) females and 8.9 million (53.54%) males. Delhi has a GDP of US\$67 billion as in 2014-15 "Department of Dte. of Economics & Statistics," 2015).

## 2.2 Delhi- India's crime Capital

### Cultural & Spatial Issue

New Delhi is the capital of India and the most diverse city of the country with people from all the states North, South, East and West. According to the data collected by India's National Crime Records Bureau showed a sharp increase of 26 per cent in reporting of crimes against women in 2013 after the Nirbhaya rape and murder case in 2012. The number of rape cases have doubled from 2012 to 2013 in Delhi. Delhi has the highest number of cases of crimes against women among India's 'million-plus' cities, followed by Mumbai and Bangalore (National Crime Records Bureau 2013, 79). The crime on women in New Delhi has not been changed in a span of 20 years. In 1995 it was 5.7% and in 2015 it continues to be 5% of the total crime rate of New Delhi (Figure 11). This includes only the reported cases of Rape, Eve teasing and Molestation of women in public spaces and streets ("Department of Dte. of Economics & Statistics," 2015).

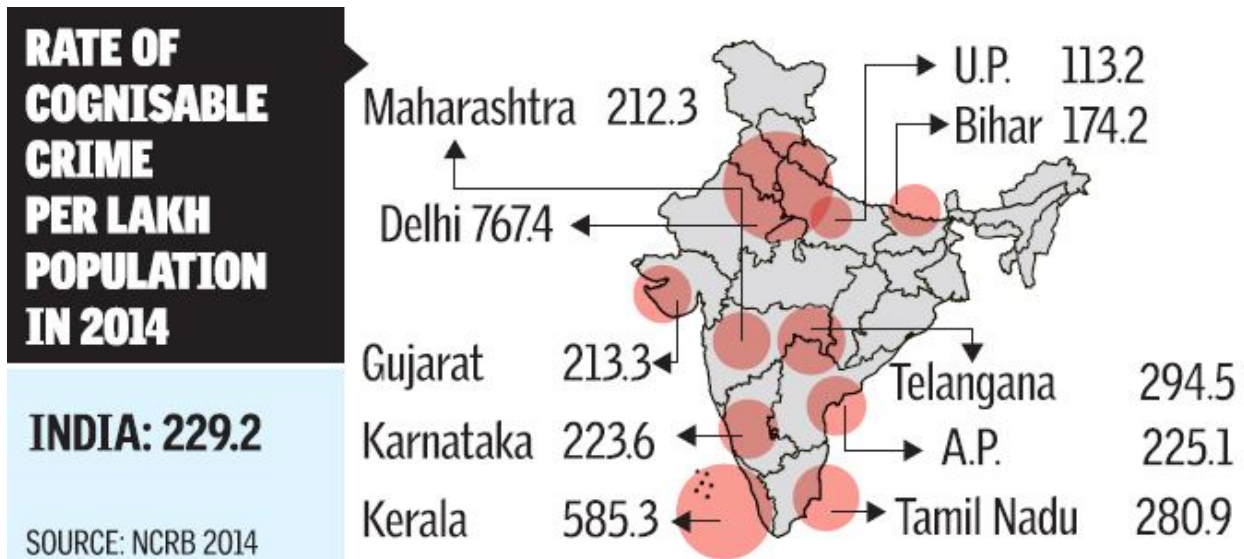


Figure 2.9: Reported Crime in India in 2014 where Delhi tops the list

Source: [http://www.thehindu.com/multimedia/archive/02515/2\\_2515249a.JPG](http://www.thehindu.com/multimedia/archive/02515/2_2515249a.JPG)

Safety of girls and women in the cities is a matter of concern in the today's world. In India a milestone in awareness about safety in public spaces was the macabre rape and murder of 'Nirbhaya', in December 2012 has led to widespread and increasing awareness about the issue (Sikdar, 2012). An International Anti-Street Harassment Week is currently celebrated in March each year and the studies states that in 2014, a 2,000-person national survey in the USA with surveying firm GfK found that 65% of all women had experienced street harassment ("Statistics | Stop Street Harassment," 2014)

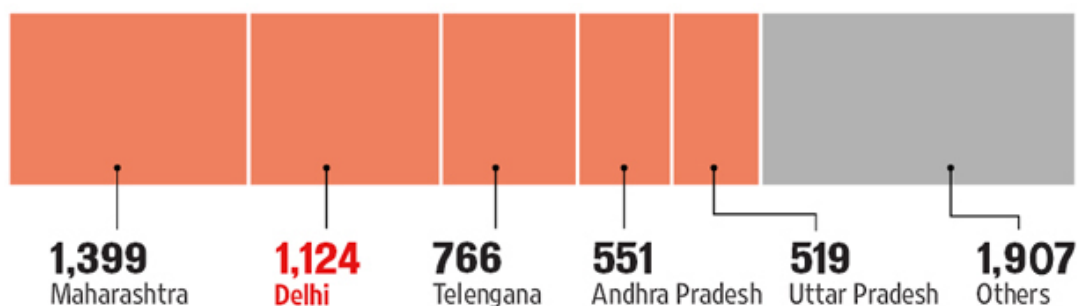


Figure 2.10: Delhi is the second in reported Stalking and eve teasing cases in India

Source: <http://www.hindustantimes.com/delhi/delhi-india-s-rape-capital-ranks-2nd-in-stalking-cases/story-7PoBMHP6OTP9qEqkQmUoWK.html>

2015: Average of 6 rapes, 15 molestations each day (in public spaces)

Delhi accounts for 18% of all stalking cases in India, 97% of all stalking cases in UTs (Figure 12)

6,266: Total number of stalking cases registered in India in 2015. Delhi ranks second position in terms of the registered stalking cases in public spaces.

## A CAPITAL SHAME

Total Number of Rapes in India- 34,650

Total Number of Rapes in New Delhi- 2199

Delhi Police Commissioner B S Bassi said 70 per cent of the perpetrators in rape cases belonged to the age group of 21-35 years. "Crime-mapping analysis of the city suggested that any woman in a locality is surrounded by between 250 and 400 men who would not think twice before assaulting a woman. Analysis also suggests that 60 to 65 per cent of women victims are between 15-30 years old (Rukmini, 2014).

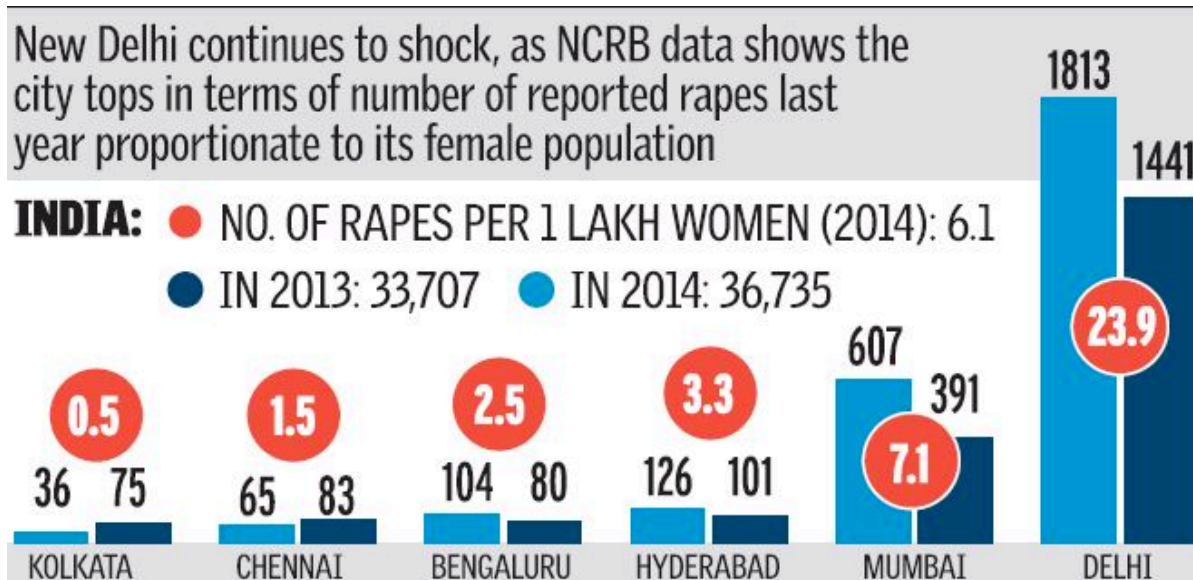


Figure 2.11: Delhi tops the most heinous crime against women, rape.

Source: <http://www.thehindu.com/news/cities/Delhi/delhi-is-now-indias-rape-capital-show-ncrb-data/article7554551.ece>

### CRIME AGAINST WOMEN (UP TO DEC 15)

Crime Heads	2012	2013	2014	2015
Rape	706	1,636	2,085	2,095
Molestation	727	3,515	4,182	5,192
Eve-teasing	214	916	1,282	1,444
Dowry death	134	144	147	119
406/498-A IPC	2,046	3,045	3,005	3,301
Dowry Proh. Act	15	15	13	18
Kidnapping	2,210	3,609	3,887	4,160
POCSO Act	-	136	104	82

Figure 2.12: Crime against women has increased in the last year in Delhi

Source: <http://www.hindustantimes.com/delhi/delhi-india-s-rape-capital-ranks-2nd-in-stalking-cases/story-7PoBMHP6OTP9qEqkQmUoWK.html>

## Impact of Crime

The threat of violence has serious effects in terms of curtailing women's freedoms lack of safety in public spaces is often the reason given by families and parents for not sending their daughters to school, or not allowing women to go outside their homes to work or meet their friends. This fear curtails women from going outside without any work and are accompanied by a male member, family or friend, when going out in the dark or unidentified places and sometimes everywhere (Menon-Sen & Shiva, 2001)

Delhi is just 0.5% area of India but 7% of the Public Harrassment cases in India happen in Delhi.



## A cultural Issue- Story of Rapes by Men



Figure 2.4: Convict of the Nirbhaya Rape Murder Case, New Delhi

Source: Al Jazeera, 2012

### The Nirbhaya Rape Case 2012, New Delhi :

The Nirbhaya case of 2012, in which a young woman named Jyoti Singh was gang-raped on a bus in Delhi and subsequently died of the injuries she sustained, became a landmark in the struggle against gendered violence in India.

As the most prominent rape case in recent years, analyzing the response to the case reveals common attitudes towards gender and violence. The case set off a wave of protests in India and solidarity actions around the world, and sparked a public conversation about women's safety.

In this still, Mukesh Singh, one of the men convicted of Nirbhaya's rape and murder expresses an all too common view of sexual violence.

Many commentators echoed Mukesh Singh's assertions, even as they expressed outrage at Singh's death. They seized on the fact that Singh was assaulted while she was out at night with a male friend to both impugn her virtue and prove that women who dare to go out suffer grave consequences.



Figure 2.5: Defence Lawyers Nirbhaya Case

Source: Al Jazeera, 2012



In our society, we never allow our girls to go out of the house after 6:30, 7:30 or 8:30 in the evening with an unknown person. You are talking about a man and a woman as friends. Sorry, that sort of thing doesn't have any place in our society. We have the best culture. In our culture there is no place for a woman. - M.L. Sharma (Defense Lawyer, Nirbhaya Gang Rape)

If my daughter or sister engaged in premarital activities, disgraced herself and allowed herself to lose face and character by doing such things, I would most certainly take this sort of sister or daughter to my farmhouse, in front of my entire family, I would put petrol on her and set her alight. - A.P. Singh (Defense Lawyer, Nirbhaya Gang Rape)



GENDER EQUALITY  
IS NOT JUST A WOMEN'S ISSUE...  
IT'S A PEOPLE'S ISSUE!!

*Figure 2.13: Gender Equity in India*

*Source: Google Images*

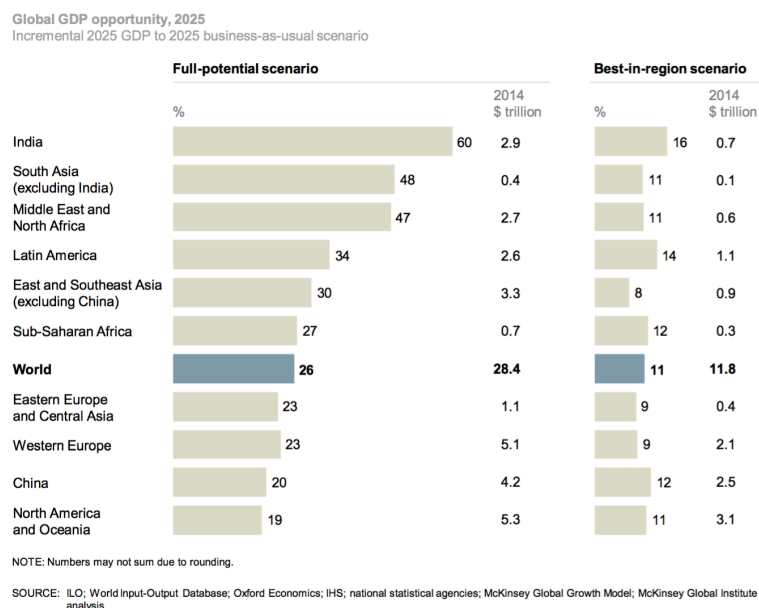
In the document of Women in India it has been clearly stated that The Constitution of India pledges to secure to all the people . justice, social, economic and political; equality of status, opportunity and before the law; freedom of thought, expression, belief, faith, worship, vocation, association and action, subject to law and public morality. The Indian Constitution is one of the most broadminded in the world, and guarantees equal rights for men and women. All this is quoted as proof to support the argument that Indian women are free and equal members of society(Menon-Sen & Shiva, 2001)

## 2.3 An Economic Issue - Serves an opportunity

As explained earlier, the percentage of educated women is high in an urban area like India but the working women population is low after a certain age as they go into domestic labor. It is not only the social structure of a family in India but also a cultural thing that women do not work because of safety reasons and they would always need a companion otherwise if they have to work. But on the other hand awareness has started and women are coming up on roads to do campaigns. Further it is explained with evidences how female labor participation works.

The female labor force participation rate implies that only 125 million of the roughly 380 million working-age Indian females are seeking work or are currently employed (see Census of India 2011 for additional details). Moreover, India's gender gap in participation (between males and females) is the one of the widest among G-20 economies at 50 percent. Additionally, female labor force participation has been on a declining trend in India, in contrast to most other regions, predominantly since 2004/05 (Green, n.d.)

\$2.9 trillion can be added to India's GDP by 2025 if it improves Gender Parity as stated in a report from McKinsey which is the maximum for India (Figure 6). One of the factors involved in decrement of women in labor force is their safety on streets and public spaces as recognized by them and many other organizations. The findings of the study titled 'The power of Parity: How advancing women's equality can add \$ 12 trillion to global growth' show India would be the principal gainer from the efforts to improve gender parity. This is because the nation stands to gain almost a quarter of the full economic potential of \$ 12 trillion that can be garnered by gathering gender parity at the global level (Figure 7). The study's finding shows that improving gender parity alone will double the contribution of the women workforce to the GDP during the next decade (Dobbs, Manyika, Chui, & Lund, 2015) (Raghavan, 2015)



*Figure 6 : All regions have a substantial incremental GDP opportunity from bridging the gender gap and India has the maximum opportunity*

*Source: <http://www.mckinsey.com/global-themes/employment-and-growth/how-advancing-womens-equality-can-add-12-trillion-to-global-growth>*



# The economic case for gender parity



## \$28 trillion

of **additional annual GDP in 2025** in the full-potential scenario of bridging the gender gap...

... equivalent to the **combined US and China economies today.**

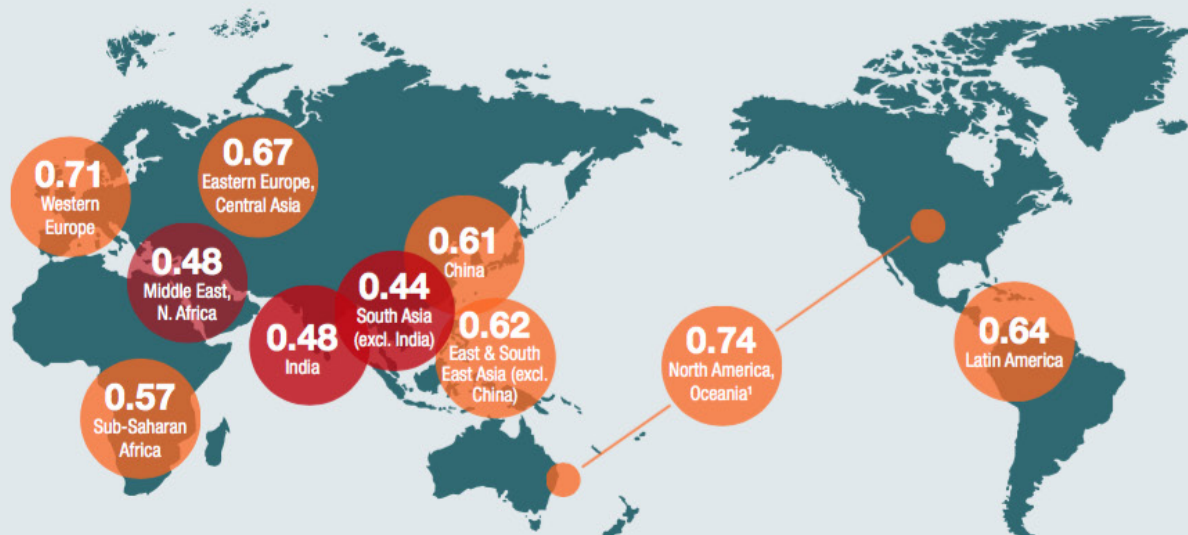


## \$12 trillion

could be added in 2025 if all countries matched their best-in-region country in progress toward gender parity.

*Equal to **2x** the likely contribution of women to global GDP growth in the business-as-usual scenario*

McKinsey Global Institute's **Gender Parity Score** points to where 95 countries stand on gender parity.



These countries, grouped into 10 regions, are home to **93% of the world's female population.**

Gender inequality (1.00 = gender parity)  
● High ● Extremely high

*We linked economic potential to 15 outcome-based indicators in 4 categories...*

Equality in work

Essential services and enablers of economic opportunity

Legal protection and political voice

Physical security and autonomy

*...and identified the **largest concentrations of gender gaps** around the world to prioritize for action.*

**10** impact zones, covering **>75%** of women affected by gender inequality globally

*Our research for the first time links **gender equality in society** with **gender equality in work**. The latter is not possible without the former.*

McKinsey&Company | <sup>1</sup> Oceania = Australia and New Zealand.

Figure 2.2: World Economic Infographics from McKinsey Report

Source: <http://www.mckinsey.com/global-themes/employment-and-growth/how-advancing-womens-equality-can-add-12-trillion-to-global-growth>



## The Changing trend- A Need to Study the topic

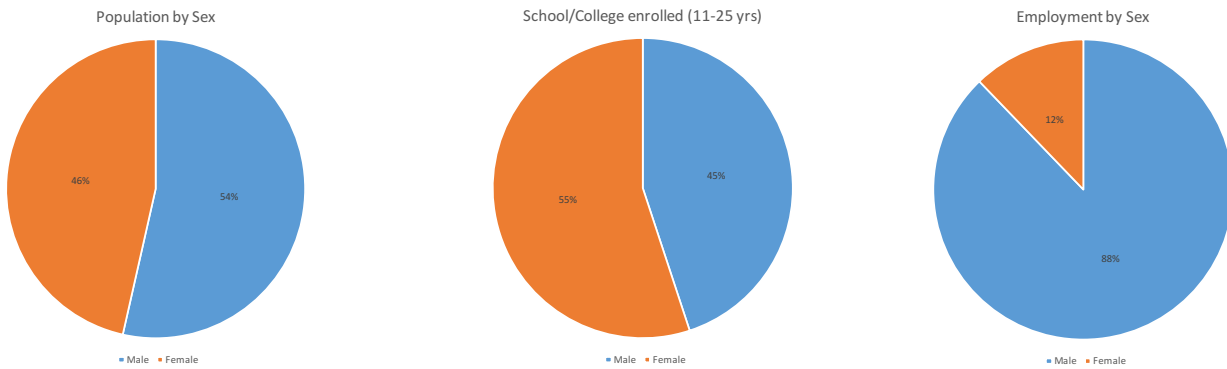
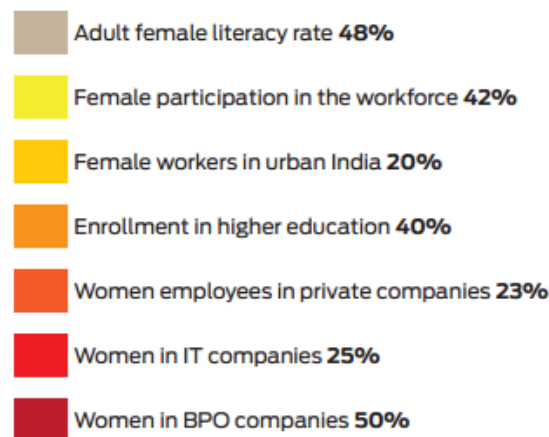


Figure 2.3: Graphs representing information of Demographics, employment & literacy

Source: Made by author (Census Data, 2015)

### Interpretation of Graphs :

In a city where almost half the population is women and where more than half of the educated lot is female, the employment sector has just 12% of the working population female. The question arises why and MC Kinsey report answers this question where different factors have been reported along with one mentioned as fear of crime in women's family. Safety is considered as one of the main issues to why the female in a household can not take permission from the head of the family to work outside, in spite of the fact that 97% of the rapes are done by someone known to the victim irrespective of private/public space (Dobbs, Manyika, Chui, & Lund, 2015).



Figures obtained from official Government of India and private industry sources.

Figure : Statistics of different women in the workforce

Source: Deloitte : Women in India

### The Changing Trend :

Prior to understanding the issues that lie in the security and safety of women, it is necessary to empathize to the need for a change in existing mindset of a public realm. Nowadays, it is evident that a large number of educated Indian women have stepped out of their homes in search of opportunities which is a welcoming change. It is seen that 62% of women in the country are illiterate and there is very low 42% female participation in the total workforce (paid and unpaid labor). Only 18% of women are part of the organized labor sector, just 20% of the total 18% in urban areas. Women workers in the new IT-related occupations are only 0.3% of urban women workers.

Although, the number of women pursuing professional careers is still very small, the trend is expected to grow and in a drastic manner. The number might be small in the picture but the Indian women professionals of today are seen as the trend-setters of the future. Insecurity and the threat of violence prevent women from participating as full and equal citizens in community life. Women have a "right to the city." and when this right is not realized, women and girls face significant obstacles and hurdles to educational, economic, and political opportunities.

## 2.4 A spatial Issue- Women in the Public realm (Delhi)

### Public spaces - A concept

Public space is defined by the nature of its use having physical, social, cultural and political dimensions. The notion of public space presumes a public sphere with cooperative social use, and a diversity of functions. It is a site for relating to and identifying with others, political protests, contact among people, urban activities, and jargons of community (Viviescas, 1997). The quality of a public space can be determined based on the strength and the value of the social associations it enables, its capacity to welcome and inspire a mixture of diverse groups and behaviors, and its potential for promoting mutual connection on a symbolic level, cultural expression and integration (Falu, 2009). Women in these public spaces feel insecure due to a lot of reasons including poor design and infrastructural facilities, behavioral patterns of society, etc. The type of public spaces in India are streets, railway stations, parks& gardens, streets, roads, highway, cinema halls, malls, plazas, bus stops (Mahadevia, Lathia, & Banerjee, 2016).



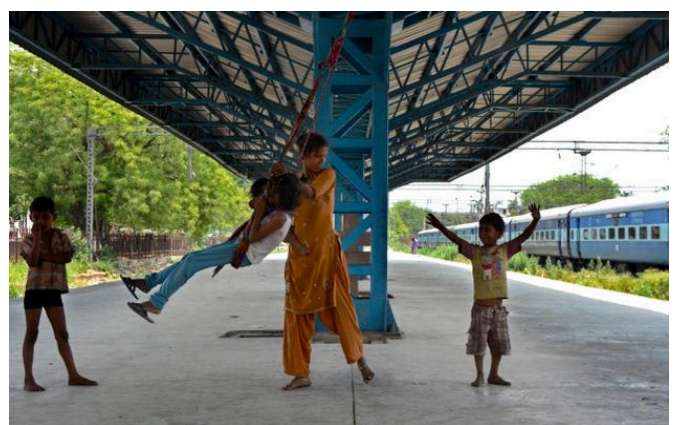
**Figure 2.14:** *Bus stops* are one of the most visited public spots by women and they are scary as hell when asked from a few working women in Delhi, during nights its almost impossible for them to take such public transports and have to spend on private ubers or ola cabs. **Engendering bus stops** can help a lot thereafter as it is one of the most fearful places at night.



**Figure 2.15:** *Women Versatility* as a mother, housekeeper, working women has different uses of spaces. They need to feel safe and secure when moving for work. This is an example from **sabzi mandi (vegetable market)** of India showing the multilevel working of a women.



**Figure 2.16:** *The dominance of a particular gender on streets and the poorly done infrastructure make it almost impossible for women to dominate these spaces. In the surveys done by Jagori most of the women are accompanied by someone at the night. The ones who are not are scared to the utmost fear especially while walking on these vulnerable streets.*



**Figure 2.17:** *Gender Disparity* in a young age iduces the fear of crime and accessibility to open spaces. **Railway Stations** in India are none less than an open public park. Every station foresee a number of people from all income groups and diversity in one place.



## Women's Experience of Safety in the Public Realm

As mentioned earlier, women and men experience spaces differently. The feeling of safety and fear is also relatively different and higher in women. It depends on the location, time of the day, maybe the mode of transport, the urban setting, sometimes pre-conceived notions regarding a place. Women have a mental list which indicates strict dos and do not in the urban realm. This drastically affects their lifestyle and their daily routine as well. This triggers the extensive need to consider the thoughts and intellect of women in the process of design or planning to carry off fear from their mindsets.

## Women's experience and use of the Public Realm

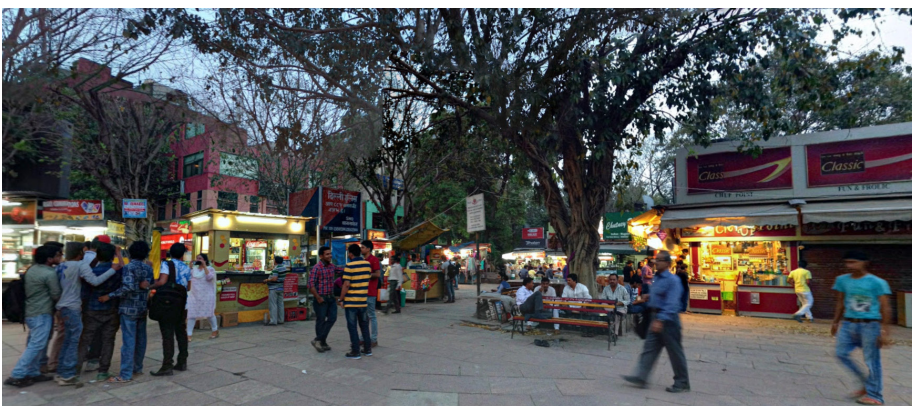
The accessibility of women to the public realm depends on the **mobility**, that is in terms of availability of a **secure transportation mode** and secondly in terms of **safety of the mode/ transit hub**. The journey of women when mapped is seen to be more complex than men owing to the functions they perform (shopping, running errands, picking up children, work etc). Women are mostly pedestrians as they usually have to cover lesser distances. The public spaces visited by women are mostly shopping centers, parks, schools, residential areas and the transit links which are the areas most known for a higher crime rate.

Thus, it is necessary to maintain functions in these spaces throughout the day and avoid inactivity. The links to these spaces are sometimes isolated and induce fear among women. Shopping centers, parks etc are usually isolated as women visit these spaces during the off-peak hours. Integrating these spaces with activities that attract a larger section of population to these spaces such that they are under constant vigilance. **Major issues concern isolated alleys, car parks, bus stands etc, i.e mostly the transportation system to the public realm.**

The figures below give a clear contrasting picture between a lonely park area and a busy market bazaar and the women terrify to go to the park when asked through a telephonic interview.



*Figure 2.18: Gender Mainstreaming in the public parks, **neighborhood public areas** and gardens. Vacant and underused parks are also used by the low income group to sleep and spend their day to day activities sometimes which hinders the activities of the people of the neighborhood.*



*Figure 2.19: Social Inclusiveness in the **market square** can be achieved through proper designing. Most of the market squares are controlled by the male as they are culturally and traditionally the bread winners who do most of the outside work.*

## Issue of Safety and Security:

In the present day scenario, Urban Design and Planning studies are gathering sensitivity to the gender perspectives in response to the past tendency to exclude the experiences of women in urban space when defining, interpreting and acting upon planning issues. Tertiary Planning courses are now including subjects such as Gender and Planning aiming to explore, examine, analyze and challenge conventional planning thought and practice from the perspective of gender (Ferretti, 1997).

Today, Women and community safety with respect to the urban design is evolving into the new focus point world wide. Leavitt stated that 'Women face problems of such significance in cities and society that gender can no longer be ignored in planning practice' (Leavitt,1986). Cooper Marcus Sarkissian and Stimpson et al. also wrote on the importance of gender as a focus in planning practice (Cooper Marcus Sarkissian,1986) (Stimpson et al.,1981).

It is often expressed that men and women experience spaces differently. The spaces meant to be safe by men need not be comprehended the same way by women. This leads to a disparity in the design and calls for a cohesive approach in order to make spaces equally accessible to all.



## Women & Fear:

Women usually express fear as a common element when they experience spaces and hinders their participation in the public realm. It also moderates the way in which women use and respond to spaces. The same was expressed by Valentine in 1989 – “Feminist perspectives on the patterns of inequality in both space and culture, acknowledge fear to be a more important concept in the theory of social control than violence itself”. Fear is a major factor that restricts women from participating in the public life. The fear can only be eliminated when the issues and concerns are dealt in the urban design of spaces and thus creating an environment which is safe and secure and which also aims at increasing the use of spaces by women and thus bringing women outside of their homes.

The design of the public realm has been shown by research in the UK (Valentine 1990) to be a major influence on women's sense of safety in that space. This is a hindrance to women withdrawing them from the ability to enjoy the use of urban areas during the day and after hours in particular. Many beliefs are attached to certain localities and the women are particularly warned from accessing such localities. This attitude towards such places needs transformation.

## 2.5 Problem Statement

### 1. Cultural Issue

The general problem this thesis project will deal with is the issue of gender disparity in public spaces and the loss of right to the city by a section of human race i.e. woman in South Delhi in India. The foremost issue is the cultural zone in Indian context as her status in a family is not really high. There is a missing link between different spheres political, economy, social relations, safety and communities. With the upcoming modernization there is a sense of segregation and vulnerability because of the social structure of Indian society which differs in terms of rights and access given according to the gender, class, caste, creed, religion, migrant status, age, sex or sexual orientation. One of the most vulnerable section of Indian society is the women and exclusion of their presence in the public space traditionally has many implications on the use of that space by this susceptible group.

### 2.Economic Issue

At the same time the relationship between activities of women and how the infrastructure and urban fabric has been planned is poor. A fear of crime and public realm dominates women minds due to the non- gender friendly environments. This forces women to leave working outside as paid labor and in spite of the highly educated female member she is pinned to stay at home and be part of the unpaid labor force, which is a huge loss to the GDP and economy of the country. Valentine (1990) asserts that 'by facilitating a perception that a physical space is informally controlled the design and layout of public space can increase women's confidence in going out'.

### 3. Spatial Issue - Unsafe Public Spaces

Women inequality starts as a social problem but when it comes to the gendered spaces in public it becomes a spatial issue, in terms that the freedom of using public spaces is not there inside them. Gender inequality in spatial terms is about not giving equal rights in private and public spaces that are in the reach of people which are the houses people live in and the outside environment. Basically to exercise equal rights the situations and conditions to be given in the surroundings should be based upon equality in designing as well which I cannot see in the case of Delhi in India. Delhi is not an inclusive space to be there and if the capital of India do not have such an urban fabric and infrastructure then how can someone imagine rest of the India to have that. Moreover this problem is topped with the issue of crimes against women taken in the shadow of poorly designed or not designed at all urban areas which induce that sense of fear inside them.

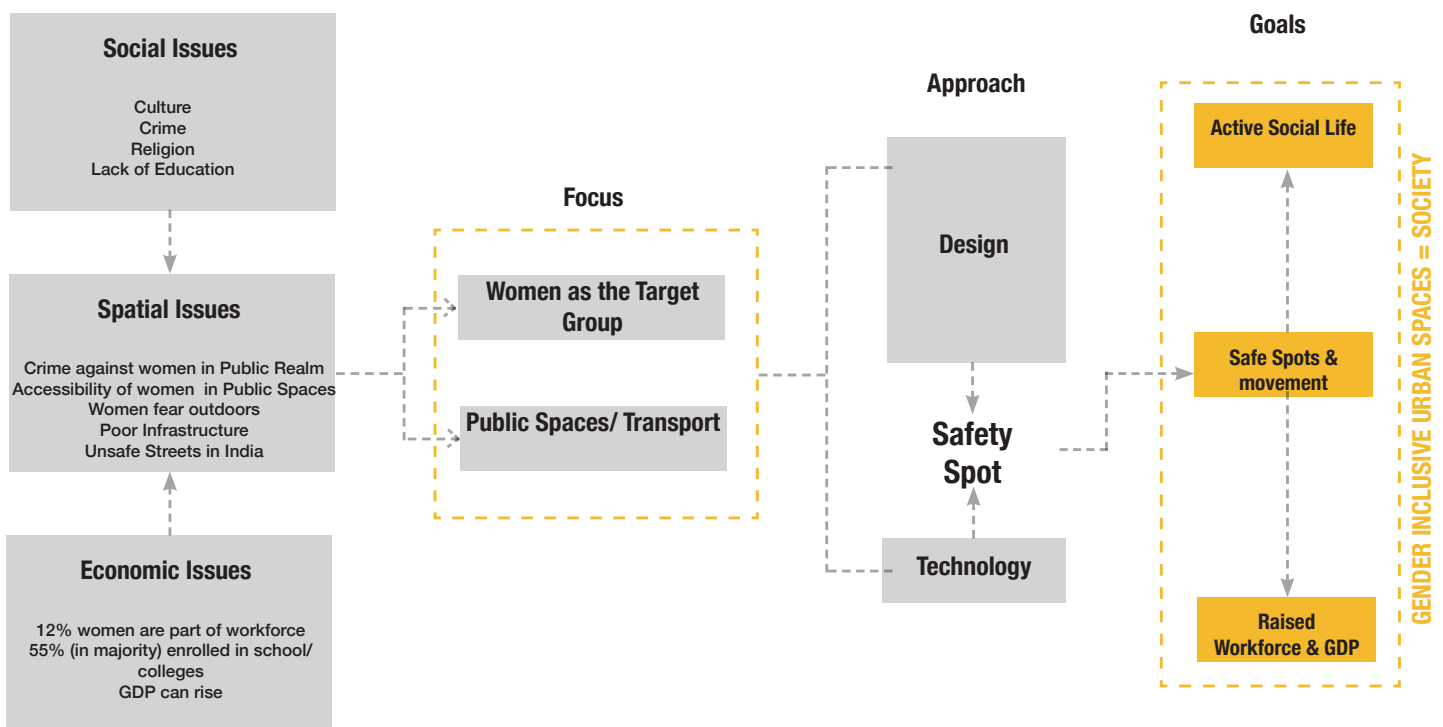
**In a country where women comprises 48.6% of the population the issue of gender inequality practiced in public spaces cries for spatial gender inclusive environment to thereby give women what belongs to them - right to the city, freedom of being in public realm and a safe environment.**

**I see here an opportunity to increase India's GDP by elevating percentage of women workforce through providing a safe and gender inclusive public environment for them.**

## 2.6 Hypothesis

By providing a safe, and gender inclusive network of public spaces in South Delhi, women will be encouraged to participate to the active social life of the city and join the workforce.

By this, India's GDP would increase significantly, as well as women' equality in Indian society.



In the hypothesis as explained above the Spatial issue of gender inequality and safety will be what I would like to look at with the help of concentration on the Women as a Target group. The approach includes mainly the design part along with the technology to achieve the goal of Safe Spots and safe movement of women. This would eventually impact the cultural and social problem of girls going outside the private space and therefore impact indirectly the economic status of the city and the country.

This small initiative cannot change the world but it can be an expression to create awareness and to raise voice for an inclusive environment, women equality and a sense of freedom for them.

## **2.7 Research Question**

**Which spatial interventions with technology based solutions could give women of Delhi a gender inclusive network of public spaces and ultimately the right to enjoy what the city has to offer ?**



## 2.8 Pre- Methodology Diagram

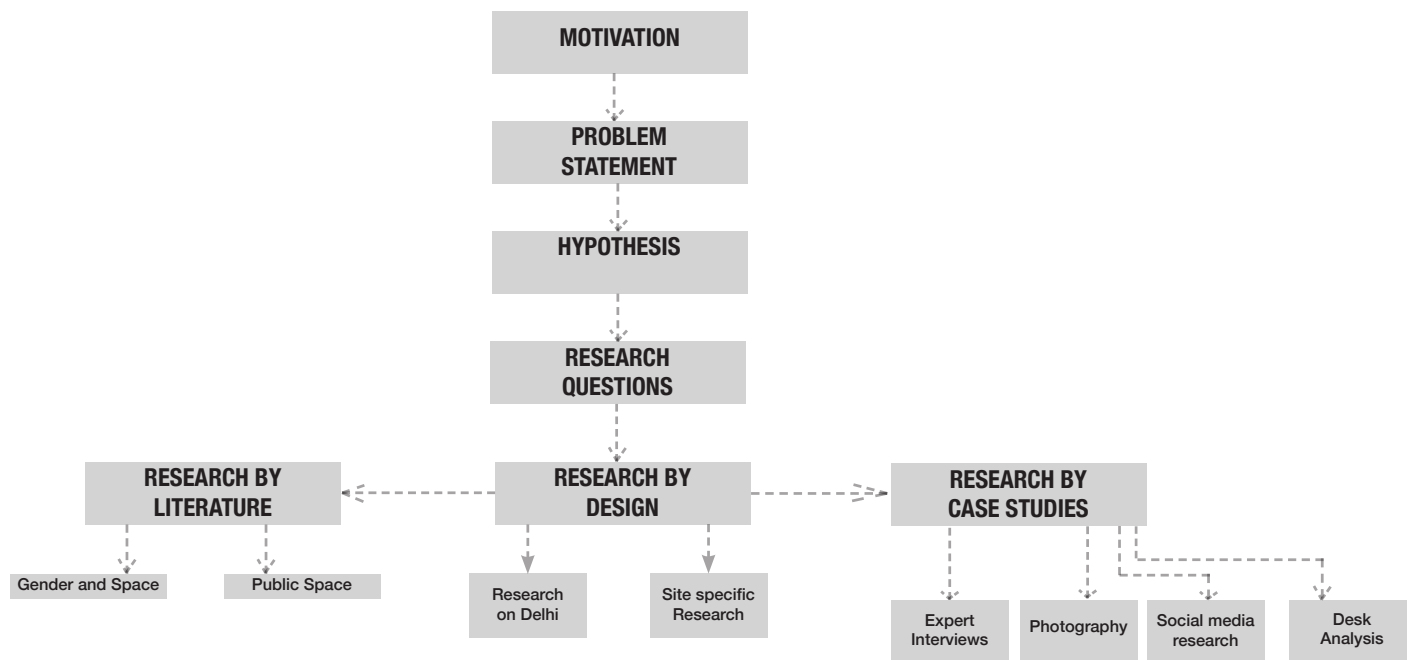


Figure: Pre- Methodology Diagram

Source: by author

The Pre- methodology diagram states my approach to deal with the research question which will be done in 3 stages :-

1. Research by Literature
2. Research By Design
3. Research by Case Studies

### Research by Literature:-

The research by literature would constitute my theoretical framework and the help I would have to take from the academic background of the project.

### Research by Design:-

This section is about learning by doing. This section would mainly start with my site study as it is going to be mostly about site inspection, interviews and workshops.

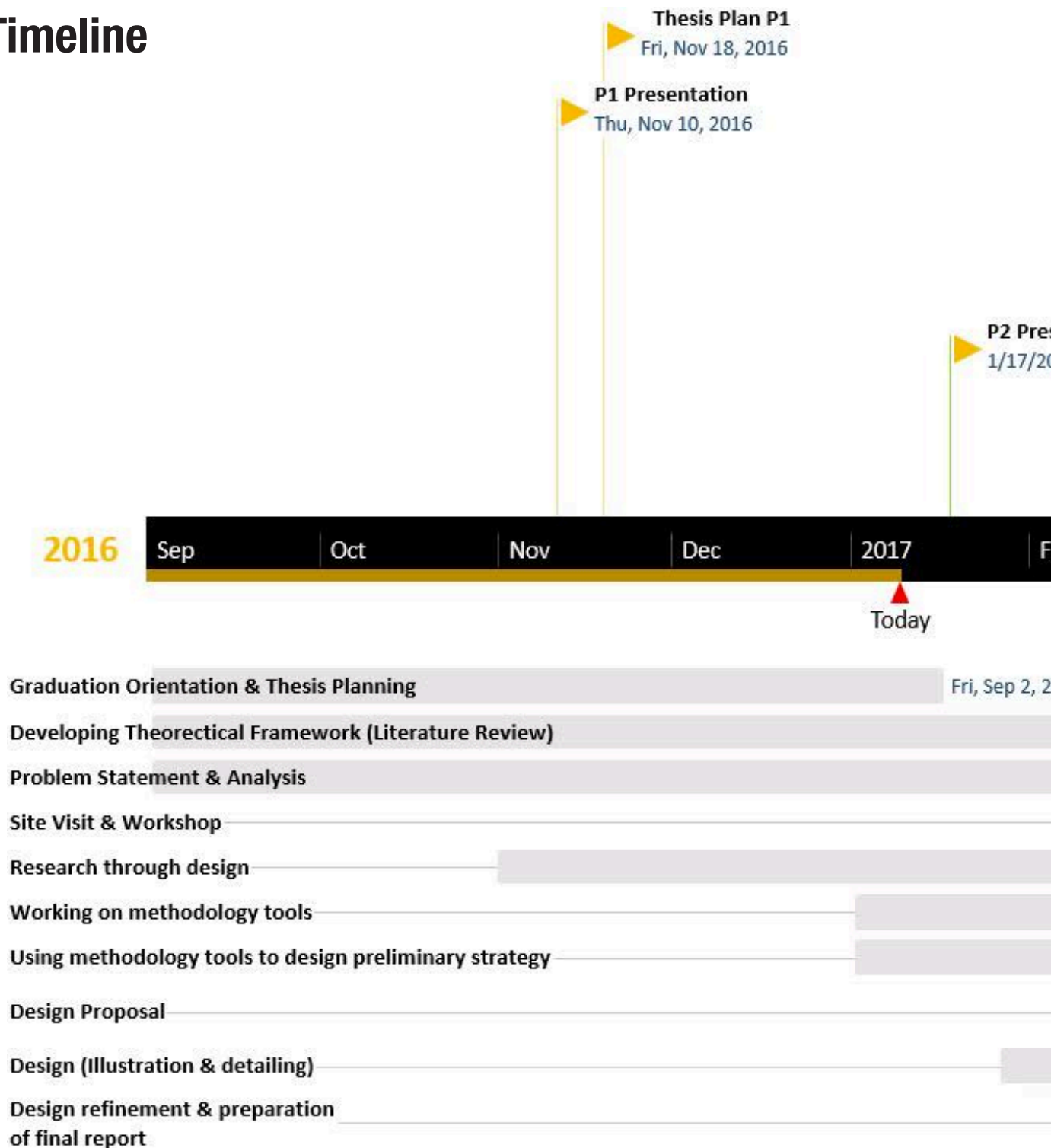
### Research by Case Studies:-

A desk analysis of the case studies from all over the world will be done as the topic does not have real design interventions in the theory.





## 2.9 Timeline



### Phasing of the Project

The diagram above illustrates the time planning for this project. The activities undertaken for each stage above are outlined in more detail below.

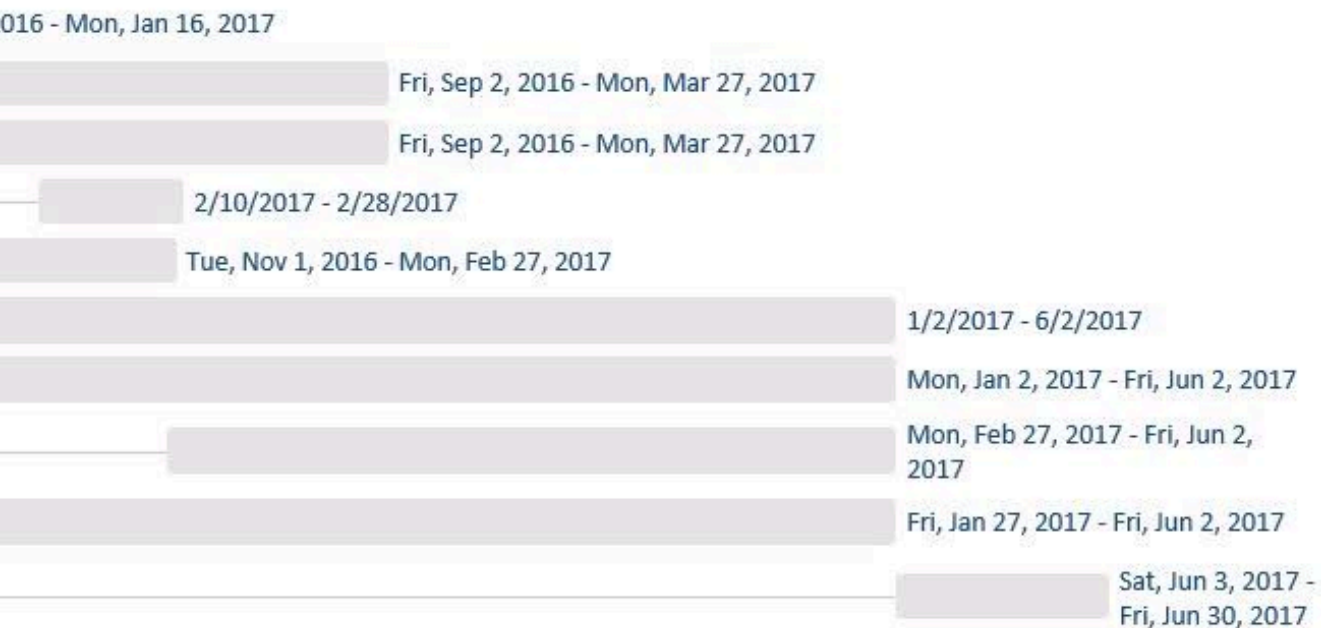
During the whole project site visit will be made once before the design start and then the other would be done to take the reflection of the project.

### Details of Stages

*Graduation Orientation & Thesis Planning:* This stage includes formulation of problem statement, initial research questions, project goal, theoretical framework. Main products P1 & P2 report.

*Developing Theoretical Framework (Literature review)-* Still ongoing reading and desk research for writing the theoretical framework of thesis report, theory paper and case studies.

*Problem statement and analysis:* There are a variety of methods that have been used for this purpose, desk research and reading of reports contributed the most. Site visits, personal interviews and expert interview will throw more light upon these.



**Site Visit & Workshop:** This step is done in a duration of 15 days and will give me a closer look to the harsh reality on ground.

**Research through design:** In a project like this there are a number of methods and tools that need to be found out first to be used further in the project. For this the old tool of sketching and mapping will be used.

**Working on methodology tools:** This is an ongoing process which extends till the end of the project as the methodology might change at times during the project.

**Methodology framework & strategy:** A methodology framework is made to make and test the design strategy in further steps.

**Design Proposal:** A design strategy for the neighborhood will be followed up by the design proposal of a small scaled down location.

**Design (Illustration & Detailing):** This is a step to be taken in the end to make explanatory illustrations and detail the design plan.

**Design Refinement & Preparation of Final Report:** Further refining is done on the report after P4 to the last comments that are given and for the reflection of the design proposal taken from the workshop visitors on-line.

### 3. Research & Sub Research Questions (What I would like to achieve?)



# Research & Sub Research Questions

*Which spatial interventions and technology based solutions could give women of New Delhi  
a gender inclusive network of public spaces and ultimately  
the right to enjoy what the city has to offer ?*

The main research question can be answered through a detailed research and investigation of the following sub 3 categorical research questions:-

## **A. Generic**

*A1. What are the social, economic and cultural impacts of a place on the position and behavior of women in public spaces globally?*

*A2. Which spatial intrusions/ best examples can induce safety and inclusiveness of women in the public sphere of the society?*

## **B. Global**

*B1. What are the design principles for safe gender sensitive urban design and the tools to study the same theoretically and practically?*

## **C.India Case Study**

*C1.What are the different activities carried out by women in India in the public setting (street, square, marketplace, routes) ?*

*C2.Which attributes of the physical setting contributes the most towards movement of a women and change in which component of the urban fabric affect the most?*

*C3.What are the current barriers spatially and politically to implement gender sensitive urban design in Delhi?*

*C4.What is the relationship between the built form, public spaces and women crime in vulnerable area and how can it be improved?*

*C5.How will the spatial interventions and technology based solutions integrate with the spatial structure in New Delhi?*

- 4. Relevance of the Project**
- 4.1 Social Relevance
- 4.2 Academic/Scientific Relevance
- 4.3 Ethic Paragraph

# 4.1 Social Relevance

## Social Relevance of Gender Sensitive Urban Design

The topic taken for graduation is about the safety and security of women in public spaces. Safety of Women in India is none the less a problem and the changing trends show that the improving literacy rates move women to the urban centers to seek job opportunities. These women coming for attending colleges or working do not have the feeling of safety inside them while their movement in the city due to poor urban infrastructure. A fear of a crime happening in their surroundings or to them is always there in their minds while roaming around as asked in a few interviews. The numbers shown completely reflects the picture of how women are being playing with by the other gender under the name of culture or religion. A need for improvement of the urban infrastructures is a cry from every women living in the city so that she can use whatever the city has to offer without any fear. In a country like India, such projects are a necessity not only for the vulnerable group but also the other majority to realize the importance of needs and desires of others.

Through this project I want to create awareness that work is being done in the world on gendered cities and successful stories can be heard through the people of respective locations, for example, Vienna and Seoul.

At the same time, the world is changing but in India still loitering or hanging around in public spaces for women is not considered ethical and if they are in the public sphere of the society then it is only because of a purpose. Phadke in her paper writes about how a girl illustrates her purpose by using a cell phone, carrying babies and parcels or a handbag. Hindu unmarried women often wear traditional markers like sindoor in hair or engagement rings or the customary necklace to show the respect and be safe. She gives an overview of how an anti-social woman is considered more respectable over the girls being social, working, partying and returning late (Phadke, Ranade, & Khan, 2009). Most of the criminals performing indecent acts against women have given statements that they did it because the women were in inappropriate clothing or because they thought that the girl was not decent as she was outside on the roads in the night. All these incidents occur in the public spaces of the city because of poor physical setting of spaces and planning policies that are not in favor of gender inclusiveness. Urban Design and planning is a way through which a change in the urban setting can set a change in the minds of the people, like remove the fear of crime from women and create a fear in the minds of the criminals that they can get caught.

Finally according to the United Nations also this is a universal issue and gender inclusive planning was included as one of the main focal point of Habitat III conference.

## 4.2 Scientific / Academic Relevance

### Academic Relevance of Gender Sensitive Urban Design

Ana Falú from the National University of Cordoba and the Coordinator of the UN-Habitat UNI Gender Hub in her lecture states that the women are cross-cut by differences of class, income, education, sexual option, race, ethnicity, place and territory we live in. She states that making a women-friendly city means creating a space that is safe for everyone. She takes this as a necessity of the hour and mentions four principles to be undertaken while planning gender inclusive cities. In the literature a lot have been written about gender inequality, distinctive gender usage of spaces and economic disparities. Not much have been done in terms of gender sensitive urban design and therefore I feel this project can be a small example which can have big implications.

Urbanism is a discipline which through spatial transformations can generate socio-economic opportunities for the citizens of a place. So from a scientific point of view though an urbanist works on the spatial characteristics of a place he/she can produce a framework of possibilities and opportunities. There are a wide range of these opportunities and it is in the hands of an Urbanist of how to manipulate the spatial conditions to improve the social and economic status of the people.

So, I see the relevance of the chosen topic and hereby a case of new possibilities and opportunities for those who are deprived. Delhi is huge, almost the size of Netherlands and therefore I choose a part of Delhi for my interventions to represent this project as an abstraction of a global issue. I would try making this project practically feasible for the government to adopt the principles.



## 4.3 Ethics Paragraph

### **The Ethical Statement :-**

The graduation thesis that I do largely involves the citizens of the city and I have till now and will further make sure that I include pictures and statements of only those who agree to be printed and also mention clearly the contribution of different people. I also hereby ensure the quality and integrity of this research proposal by mentioning the reference of the texts and images that have been taken directly. I also respect the confidentiality and anonymity of the research respondents who does not want to be a part of the research in name. Also I have made sure that all the participants of my workshop and the ones to be further conducted have a clear idea on what is the purpose of it. My research is completely independent, though I have used innumerable sources and will keep on using them, explicitly telling about each of them in the report.

( How I want to do it? )

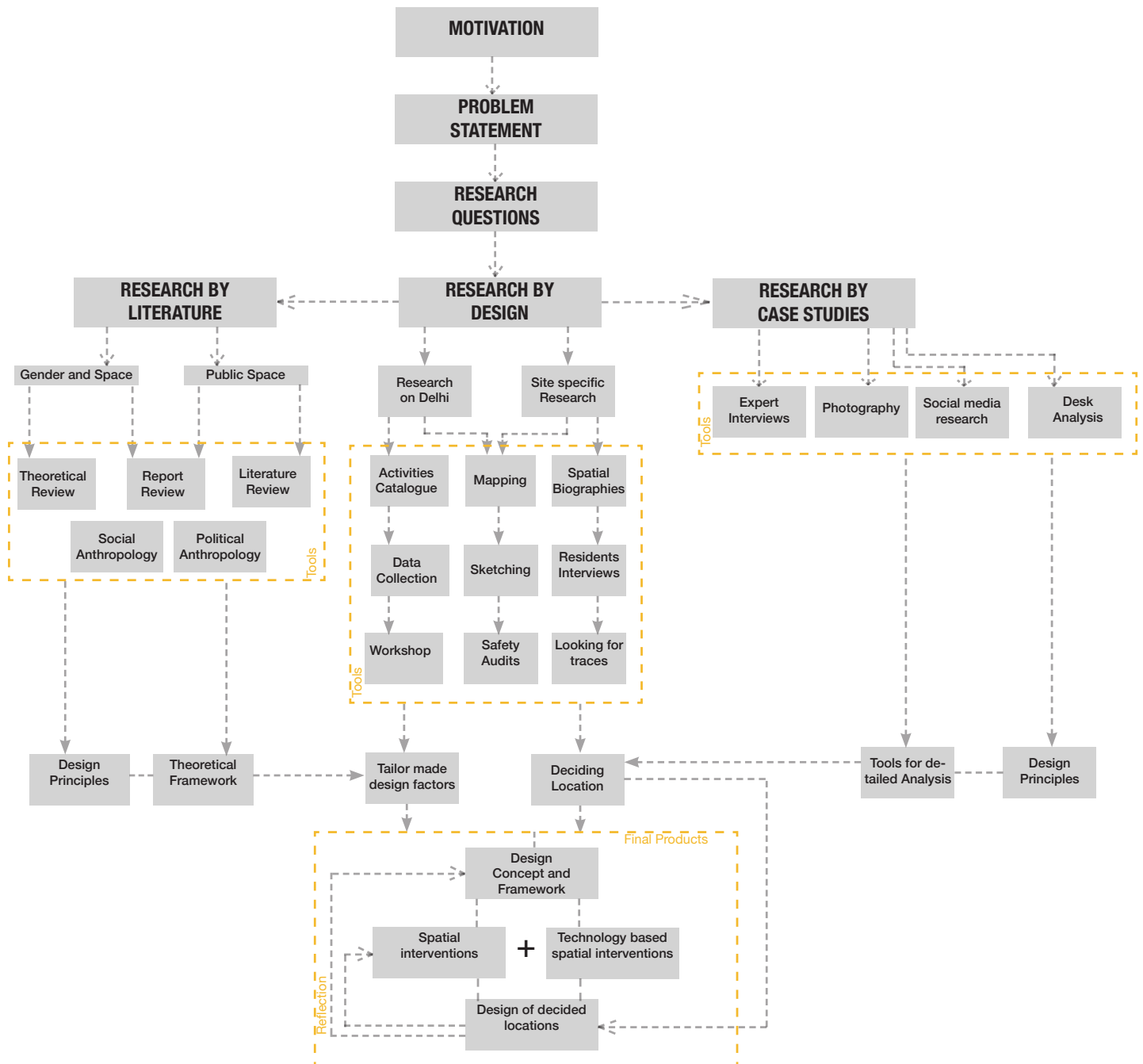
## **B. METHODOLOGY & RESEARCH**

## **1. Main Methodology**

### **1.1 Methodology Diagram & Tools**

### **1.2 Research Questions Methodology**

# 1.1 Methodology Diagram & Tools



Questions answered in which category

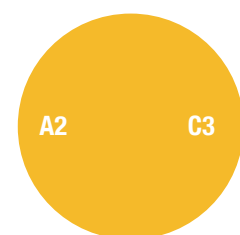
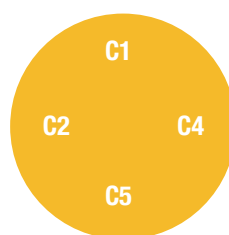
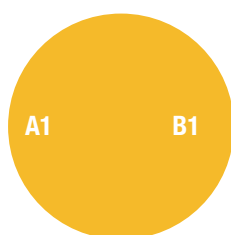


Figure: Methodology Diagram

Source: by author



## Explaining the Tools Used

The respective research questions can be answered by using the following tools:-

**Theoretical/Literature Review** – The academic literature to be consulted will be from interdisciplinary fields related to history, sociology, gender inequalities, urban planning and design and human psychology (focus on women).

**Collection of Data**- Recording data by mapping from the information accessed by open data. Safetipin( the application) can be used to record movements and dark spots. Statistics will be obtained from National Crime Bureau (NCB) and Department of Economics and Statistics in Delhi.

**Practical/Report Review** – This process will be done by critically analyzing the reports produced by social foundations like UN Habitat, Asian Foundation, Jagori (NGO) , etc.

**Spatial Analysis**- An analysis of the city and classic maps are made to understand Delhi and therefore to understand the site selected. It is also about seeing the land use of area and using them to make spatial biographies of women in South Delhi.

**Interviews**- Interviews will be segregated in 3 categories :

1. Expert Interview
2. Victim Interviews
3. Target Group ( Women in Delhi)

**Site Visits**- Demarcating different needs of men and women in terms of public spaces. Clearly picturing, sketching, mapping different activities of women in public spaces.

**Case Studies Booklet**- Case studies from different parts of the world are done and critical analysis results will help me which framework of the policies would help to put my design in a framework as well.

**Activities Catalogue**- Sketching is an old tool but helps in drawing conclusions the best. In this thesis sketching will be done to draw results in terms of area taken by the women to sit, walk, eat and perform other activities in public spaces.

**Mapping**- Behavioral mapping as explained by Jan Gehl is used to plot people's movement, sitting, standing and chatting, etc. marked with symbols (Jan Gehl,1936).

**Photographing**- This is an efficient tool to study the relationship between people and urban form and where they fail to respond to each other.

**Workshop**- The workshop to be organised is an added feature in which people from different sections, journalists, sociologists, architects, planners, target groups, experts would take part in order to make this project and their fruitful comments will help be to make a safer and better community.

**Design Strategy**- A design strategy is thought of through the desk research for the location to be chosen and then proposing an overall framework to work within including spatial and technological interventions.

**Spatial & Tech Interventions**- Specific interventions according to the concept and requirements are to be made for the decided project.

**Reflection**- A reflection is made on the whole project at the end to suffice the hypothesis and if the design interventions can be helpful to the end user.

# 1.2 Research Questions Methodology

## A. Generic

*A1. What are the social, economic and cultural impacts of a place on the position and behavior of women in public spaces globally?*

This question will be answered by *literature review method* and through *socio-cultural anthropology* of India. All the different cultures and language *data analysis* is done and then it can be seen how diverse the culture is and how does it impact the movement of men and women in public spaces.

*A2. Which spatial intrusions/ best examples can induce safety and inclusiveness of women in the public sphere of the society?*

Knowledge of this will be obtained through *Internet Research* and *Practical/Report review* by social foundations and governmental organization.

## B. Global

*B1. What are the design principles for safe gender sensitive urban design and the tools to study the same theoretically and practically?*

A *theoretical framework* will be made about the design principles that can be followed while designing and a framework of the tools to study the site and people's behavior will be made after the *case studies* and *site observations*. This constitutes most of my literature review paper which gives methodology and research tools to study gender sensitive urban design.

## C.India Case Study

*C1.What are the different activities carried out by women in India in the public setting (street, square, marketplace, routes) ?*

An *activity booklet* will be made to see what activities are actually carried out by the women in different public spaces. *Behavioral mapping* will be done during *site analysis* and this will be a *personal narrative* of the city along with the story of the interviewee.

*C2.Which attributes of the physical setting contributes the most towards movement of a women and change in which component of the urban fabric affect the most?*

This will be identified by carrying out a *spatial analysis* and descriptive of the city. This will be supported by a *desk analysis* and the *spatial biographies* of the citizens of the area. The analysis will be based upon the personal interpretation and narrative of the location and also as a narrative of the interviewee.

*C3.What are the current barriers spatially and politically to implement gender sensitive urban design in Delhi?*

*Analysis of data* from *safety audits* of Jagori and Safetipin application will elaborate about the spatial barriers and study of social and *political anthropology* sheds light on the political strata of the system and gives an input of the stakeholders. *Expert interviews* will facilitate this investigation further.

*C4.What is the relationship between the built form, public spaces and women crime in vulnerable area and how can it be improved?*

**Morphological Maps** throws light upon the classical problems and analysis, while **personal interviews** focuses on the problematic areas. A detailed tracing of different layers of the safety audits highlights vulnerable spots as well. The **theoretical review** of the defensible spaces facilitates in targeting the issues in urban fabric.

*C5.How will the spatial interventions and technology based solutions integrate with the spatial structure in New Delhi?*

**Research by design** is the main method to be used here with hit and trial. **Scenario making** is part and parcel of the project using spatial biographies for creating scenarios. Also **technology based case studies** help in seeing which best technological interventions can be useful for the project.

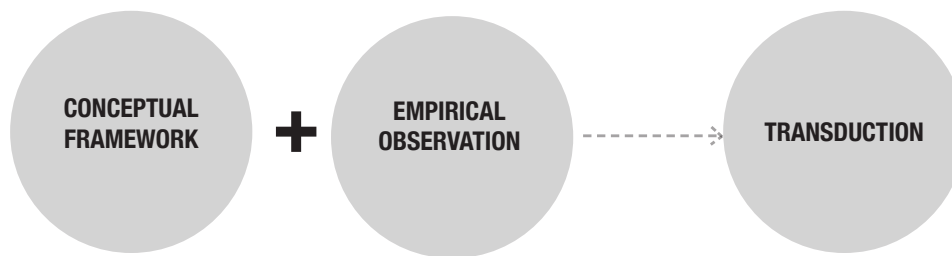
- 2. Research by Literature**
- 2.1 Gender & Space
- 2.2 Definition of Space
- 2.3 Public Space
- 2.4 Inclusive Space
- 2.5 Practical Approaches for research
- 2.6 Safety Approaches
- 2.7 Socio-Cultural Anthropology
- 2.8 Political Anthropology
- 2.9 Conclusive Framework



## 2.1 Gender & Space

### 1. Right to the City

Henri Lefebvre has written about the rights to the city and has mentioned taking different approaches in lieu of the old practices. He gave a general theory of urban time spaces that includes the old practices of including humans that can be seen as a new theory in which philosophy and science come together. Transduction is a practice that can be methodically carried out and which differs from classical induction methods (Lefebvre, 1996).



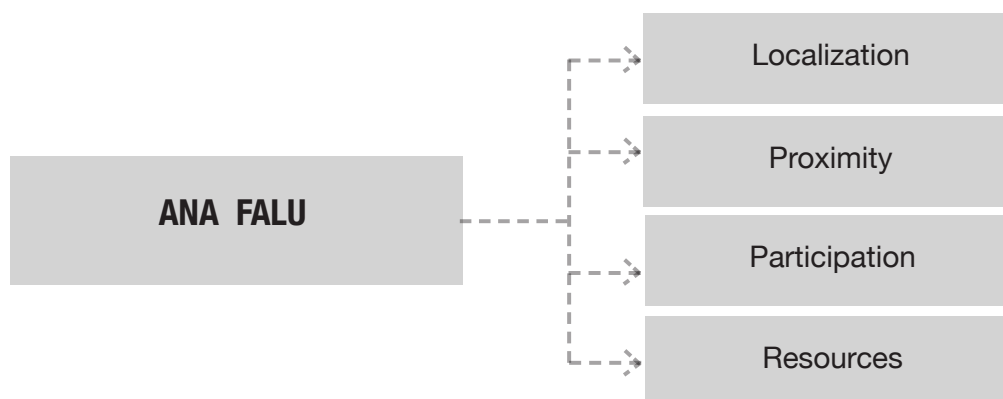
*Figure: Transduction Theory*

*Source: by author*

He announced right to the city as a cry and demand which can be transformed and renewed as the right to urban life. On a conclusion, he stated to concentrate on understanding the daily life and movements of the people. That's the key, and it has to be included in the science and art of the city. Centralizing is not the solution, understanding people's behaviors and their response towards cities in terms of their movements is what is required.

### 2. Proximity

Ana Falú from the National University of Cordoba and the Coordinator of the UN-Habitat UNI Gender Hub in her lecture states that the women are cross-cut by differences of class, income, education, sexual option, race, ethnicity, place and territory we live in. She concludes the main factors to be looked at while designing a women-friendly city are localization, proximity, participation and resources. Localization in terms of the services, proximities according to the movement of different genders, participation at all the levels from high government politicians to the citizens and resources in the form of georeferenced violence, statistics, and data. According to her the abandonment and fear of spaces is a vicious circle that is created by the social construction of public and so-called protected spaces.

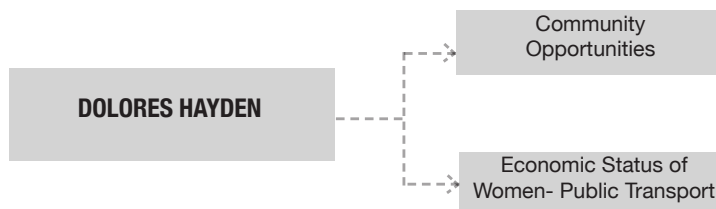


*Figure: 4 Rules given by Ana Falu for making Gender Sensitive Cities*

*Source: by author*

### 3. Community Opportunities

Dolores Hayden comments about the special housing facilities given for working women and their families in Copenhagen by Oho Fick in 1903 and highlights the Scandinavian solutions of the problems faced by these women. This was carried on by Sven Ivar Lind and Sven Markeliuch in the 1970s who designed Marieberg Collective House in Stockholm, Sweden. In 1970 Steilshoop Project in Hamburg, Germany facilitated public housing with supporting services. In 1972, Nina West homes in London designed an iconic project in the name of Fiona House which provides Day Care centers, collective babysitting and created jobs for single parents. All these examples are successful real experiments done to reach a gender conscious environment (Hayden, 1980).



*Figure: The two main focal points as proposed by Dolores Hayden*

*Source: by author*

### 4. Economic Status related to Movement

The percentage of women in the US participating in the workforce can be found to be 58% over the 12% of women participation in India. The factors and barriers of the variance in this participation level are different for distinctive countries. The economic status though is one of the reasons that show the number of participation of women in paid labor force. Hayden had identified that in the machine age after the home was equipped with latest machines like a washing machine, home blender, etc. women had to go out to earn to pay for these additional loans even when these machines actually helped them with the household works (Hayden, 1980).

### 5. Place is a Process

Even in the United Kingdom in the mid-1960's an economic reform shook the stability of all the jobs where jobs were decentralized and were now being overpowered by the women. The basic reason of this occurrence was that the female group constituted cheap labor and part time availability suited them and officials of the companies as well. In the book Space place and gender, Doreen Massey has tried to configure about A Woman's Place and the economic structure which was the main reason why the whole United Kingdom was talking about relationships between men and women. It was basically studying about how the regional planning affected employment sector, and jobs were transferred from one section to the other. Questions were being raised upon the old patriarchal form of domestic production which was torn apart (Massey, 1991). So basically the



*Figure: Doreen Massey proposes a place organic development*

*Source: by author*

## 2.2 Definition Of Space

### 1. Spaces

As Jan Gehl (2001) describes in 'Life Between Buildings', there is a worthwhile differentiation between places where people merely come and go and places where they stop and stay. They are those who include good opportunities for staying that make public spaces lively. As a result, streets with high concentration of various groups need to support land uses that permit the 'sitting function'. Regarding the selection of the activities, a great potential have the following uses in public spaces: eating, reading, sleeping, knitting, playing chess, sunbathing, watching people, talking etc (Gehl, 2001).

Dorst says about the social control that there are specific kind of spaces that humans witness in public. The intimate space is the immediate space and its important to learn about it for this project, as no interference with this space is likable. It is linked to the livability of the place and enhance that increase the inclusiveness of spaces for everyone (Dorst, M.V , 2011)

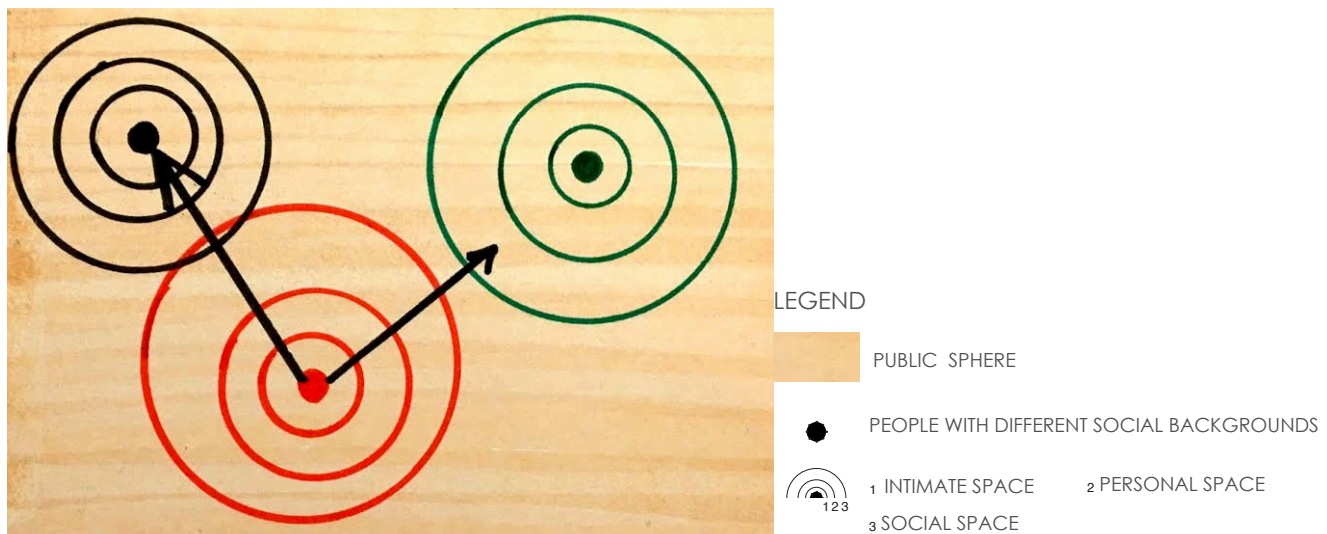


Figure: Represents Intimate Space, Personal Space and Social Space

Source: by author (inspired by Dorst's theory of Livability)

### 2. Territories

To achieve a desired level of privacy for the pure residential parts of the Carnisse, it is important that the crossing points between areas where public territories meet more private territories should be redefined. What is needed is a clear demarcation between public and private areas (Hab-raken, 2005), or alternatively, a high level of closure (Sampson, Morenoff & Earls, 1999). The key idea is that the urban form can guide the flow of people in certain paths.

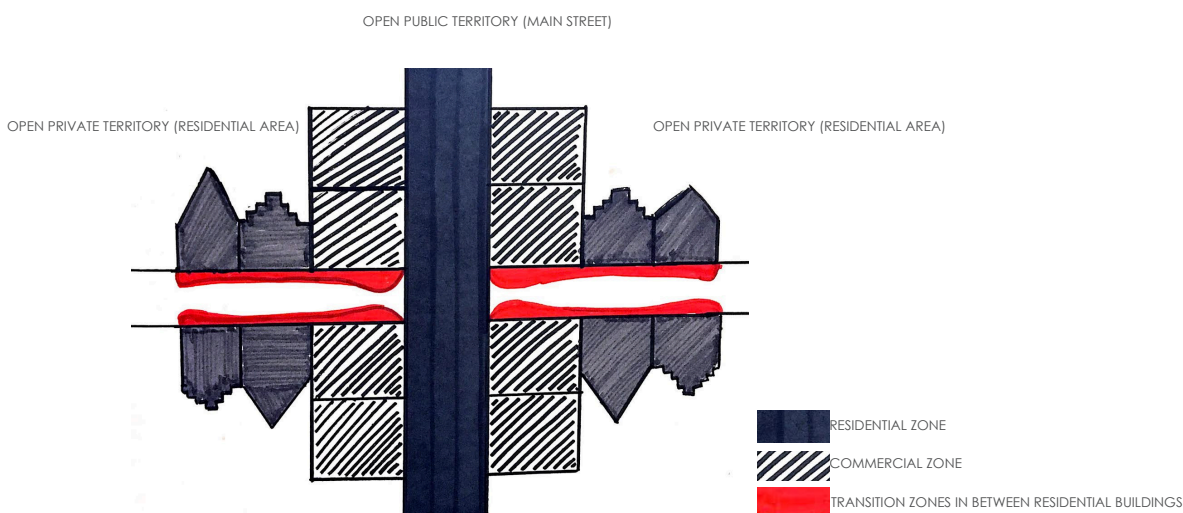


Figure: Represents relationship between public and private territory

Source: by author (inspired by Dorst's theory of Livability)

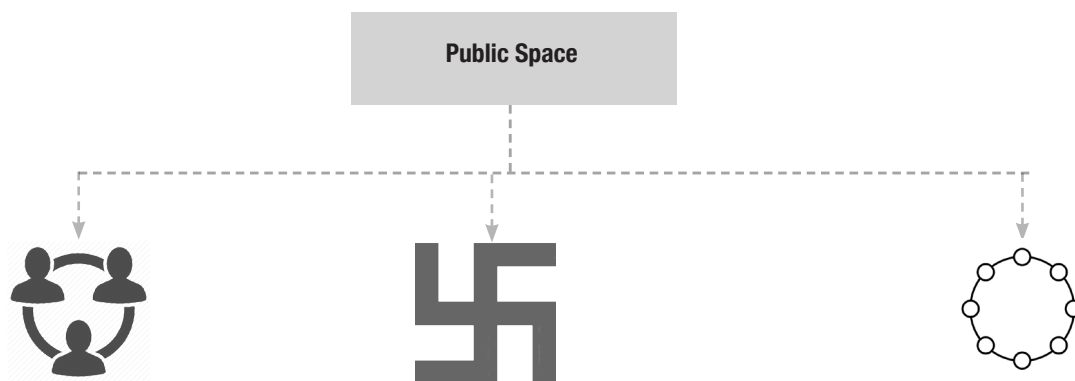
## 2.3 Public Space

### Public Space as a notion of gendered Space

Gender equality in spatial terms can be achieved by equal rights in private, and public spaces that are in the reach of people which are the houses people live in and the outside environment. Public space is defined by the nature of its use having physical, social, cultural and political dimensions. The notion of public space presumes a public sphere with cooperative social use and a diversity of functions. It is a site for relating to and identifying with others, political protests, contact among people, urban activities, and jargons of the community (Viviescas, 1997).

### Quality of a Public Space

The quality of a public space can be determined based on the strength and the value of the social associations it enables, its capacity to welcome and inspire a mixture of diverse groups and behaviors, and its potential for promoting mutual connection on a symbolic level, cultural expression and integration (Falu, 2009). Women in these public spaces feel insecure due to a lot of reasons including poor design and infrastructural facilities, behavioral patterns of society, etc. The type of public spaces in India are streets, railway stations, parks& gardens, streets, roads, highway, cinema halls, malls, plazas, bus stops (Mahadevia, Lathia, & Bannerjee, 2016)



*Figure: The 3 potentials of a public space mutual connection, cultural expression and integration (L-R).*

*Source: by author (inspired by Ana Falu's theory)*

Jane Jacobs in 1961 stated that “Cities have the capabilities of providing something for everybody, only because, and only when, they are created by everybody” (Jacobs, 1961) . This statement clearly signifies that the cities have to be designed taking care of needs and desires of all the inhabitants.

These varied factors of culture, socio-economic status and freedom of genders to use public spaces define how the usage of space can change due to planning policies and change in urban structure.

## 2.4 Inclusive Space

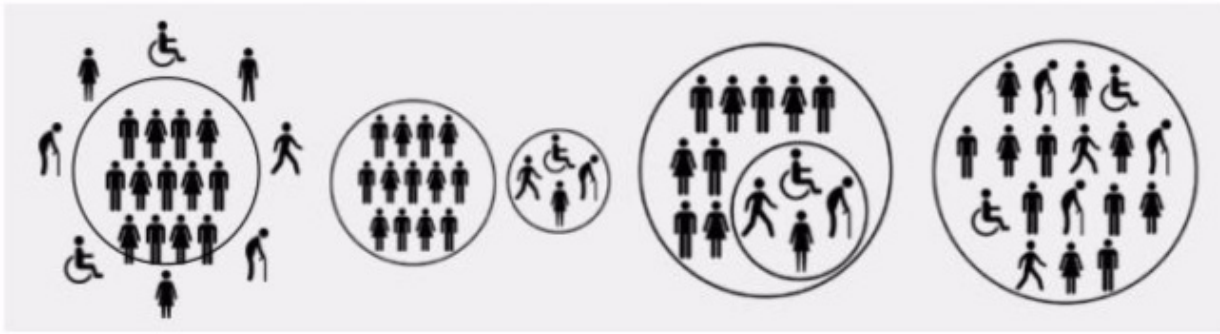


Image: Exclusion, Segregation, Integration, Inclusion (L-R)

Source: Inclusivity Report, SPA Delhi, 2015

### What is an inclusive city?

“An inclusive city is a city that over-rides differences of race, gender, class, generation, and geography, and ensures inclusion, equality of opportunity as well as capability of all members of the society to determine an agreed set of social institutions that govern social interaction.” (Expert Group Meeting on Promoting Social Integration, Helsinki, July 2008)

An inclusive city provides one and all an opportunity to grow to their maximum potential, irrespective of all differences or inequalities, by sharing public resources equally through all economic and ethnic sections. The World Summit for Social Development (Copenhagen 1995) defines an inclusive society as a “society for all in which every individual, each with rights and responsibilities, has an active role to play”. Such an inclusive society must be based on respect for all human rights and fundamental freedoms, cultural and religious diversity, social justice and the special needs of vulnerable and disadvantaged groups, democratic participation and the rule of law. It is promoted by social policies that seek to reduce inequality and create flexible and tolerant societies that embrace all people.

In an inclusive society, members not only have the right to education or the right to political participation but actually take part in the process, using the right to education and having a vote that actually counts in a political process. What is most significant in creating an inclusive society is the engagement of the individual in the process by which society is managed, ordered and represented.

In an Inclusive city:

- All its citizens have access to basic services.
- People have access to employment opportunities and can engage in productive livelihoods.
- Recognizes each person's cultural rights and provides facilities and public spaces for people to express these rights.
- Recognizes the human capital of all its people and strives to actively enhance this through appropriate programs.
- Political freedom and political expression.
- A city that is both socially and spatially cohesive, where people from every race, ethnicity, nationality and socio-economic background are welcome.
- Cherishes and promotes human rights.
- Proactive in meeting development challenges, and plans ahead to meet future needs.
- A city that promotes growth with equity.
- A city where everyone, regardless of their economic means, gender, race, ethnicity or religion, is enabled and empowered to fully participate in the social, economic and political opportunities that cities have to offer.

(Source: Inspired from Inclusivity Report, Delhi)



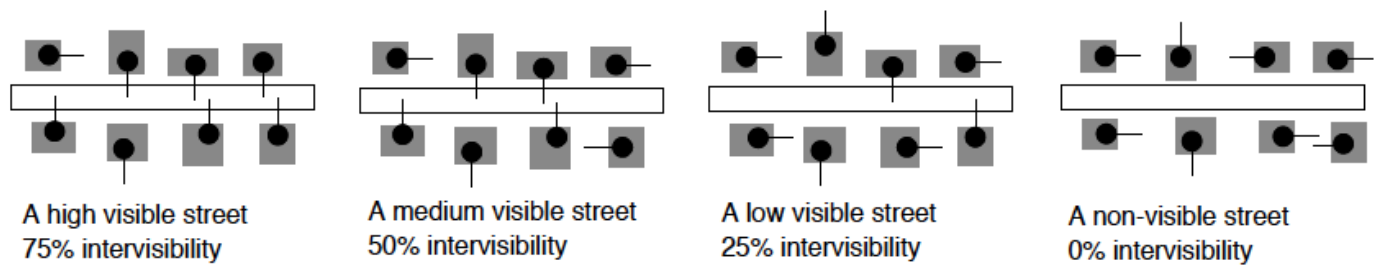
## 2.5 Practical Approaches for Research

### 1. Space Syntax

Space Syntax is a tool that will be used to study the street segments in Delhi. A brief study of the same is given at which level the tool can be used. Micro scale spatial relationship in urban studies is about the relationship between buildings and street segments. According to Jane Jacobs and Jan Gehl, one formula to ensure urban liveliness is many entrances and windows facing a street [Jacobs, 2000] and [Gehl, 1996]. What these authors are missing in their research on urban street life, is a consistent spatial tool for measuring it (AkkeliesV.Nes, 2011).

#### The topological depth between private and public space

There are several ways of analyzing the spatial con-figurative relationships between building entrances and the street network. An easily way is to register the topological depth between private and public space [Hillier and Hanson, 1984, p. 102] which is done as follows: Counts the number of semi-private and semi-public spaces from the private space to the public street. These numbers are then compared to see the safety index of a street.



*Figure: Different degrees of inter-visibility between entrances and streets.*

*Source: A. van Nes, Space syntax in urban studies – an introduction, 2011*

As identified by Akkelies Van Nes space syntax is a method and a tool that can be used for the analysis of the streets through visual sight lines to calculate the spatial configuration of built environments and can be realistic on a wide scale level in research on built environments. It is able to categorize the streets spatial features for vital shopping areas, crime distribution, various social classes spatial preferences, etc. (Van Nes, 2011).

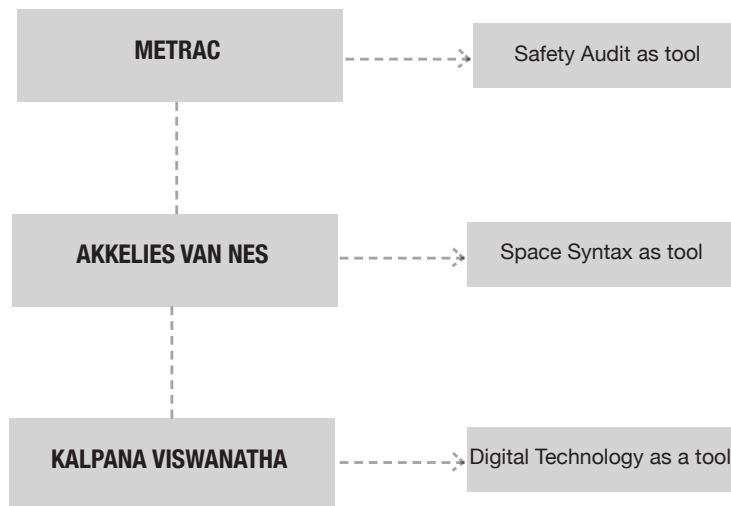
### 2. Safety Audits

The first safety audit method was made in Canada by METRAC (The Metro Action Committee on Public Violence Against Women and Children) and has been efficaciously used throughout Australia, North America and Great Britain, to measure ostensible danger in the urban setting (METRAC, n.d.). These safety audits are a mapping tool to study an area in terms of crime and to recognize the problems.

### 3. Use of technology

Kalpana Viswanatha, a sociologist and NGO worker, started an application named as Safetipin which collected the data from a number of cities and a number of points from a varied database provided by different user groups including men and women. This database now signifies the safe and unsafe places in a few metropolitan cities of India and also provides a function of emergency calling. In this world of computer and tech-savvy lifestyle most of the low-income countries are still inaccessible to computers but Smartphone technology has reached hands of many Indian citizens who can avail the opportunity to contribute and access data and services including banking, payments, market intelligence for business and other amenities. A report estimates that smartphone usage in 2014 is 1.76 billion and it is estimated that one in three persons will have a smartphone in India by 2017 (Vishwanath & Basu, 2016).

The public wireless network and extending CCTV cameras are a method that is undertaken by the government of India to ensure the security of women after the brutal rape in public transport in 2012 but critically reviewed this method is proving more to be moral policing and capturing the young couples on the road under the law of spoiling culture and obscene acts in public rather than paying attention to safe built environment.



*Figure: The practical approaches that taught which tools can be adopted to research the spatial aspects in this thesis. Also one of it suggests how it can be combined with the design interventions further.*

*Source: A. van Nes, Space syntax in urban studies – an introduction, 2011*

### Conclusion

The respective theories and concepts focuses on the keywords of proximity, movement, citizen participation, participation at government level, mixed use public spaces and streets, safe environments and inclusive spaces. This moves me to have a structure about some safety principles for which I chose to mention the work of Oscar Newmann in Defensible Spaces and Akkelies V. Nes in Space Syntax. In my theoretical framework I also include social control as a theory because it enhances what is the difference between spaces.

## 2.6 Safety Approaches

### Defensible Spaces

The defensible space theory is about creating the environment and urban spaces in order to enhance safety and vigilance (Newman, 1970).

Four principles to remove fear from Women's mind by Newman-

There are four principles which can be applied to eliminate fear from the mindsets of women almost immediately:

**1) Natural Surveillance:** An attempt to make spaces safer through continuous eyes at all times of the day by proposing landuses/activities that keep the spaces active throughout the day. This discourages anti-social behavior and instills a feeling of safety.

**2) Access Control:** Controlling and surveillance of the public spaces through regulating the entry/ exit locations through physical or visual barriers.

**3) Ownership:** Spaces that are owned by a certain authority are continuously under vigilance and thus give a feeling of security. The authorities are meant to act responsibly for the events and activities in such spaces. Thus, such spaces are accessed with ease in comparison to spaces which are not taken care of.

**4) Maintenance:** One feels safe and secure in areas which are maintained and seem to be regulated constantly. The feeling towards areas that are taken care of are very positive and thus eliminate the fear of anti-social elements. This does not indicate complete safety but least it contributes towards the fear factor.

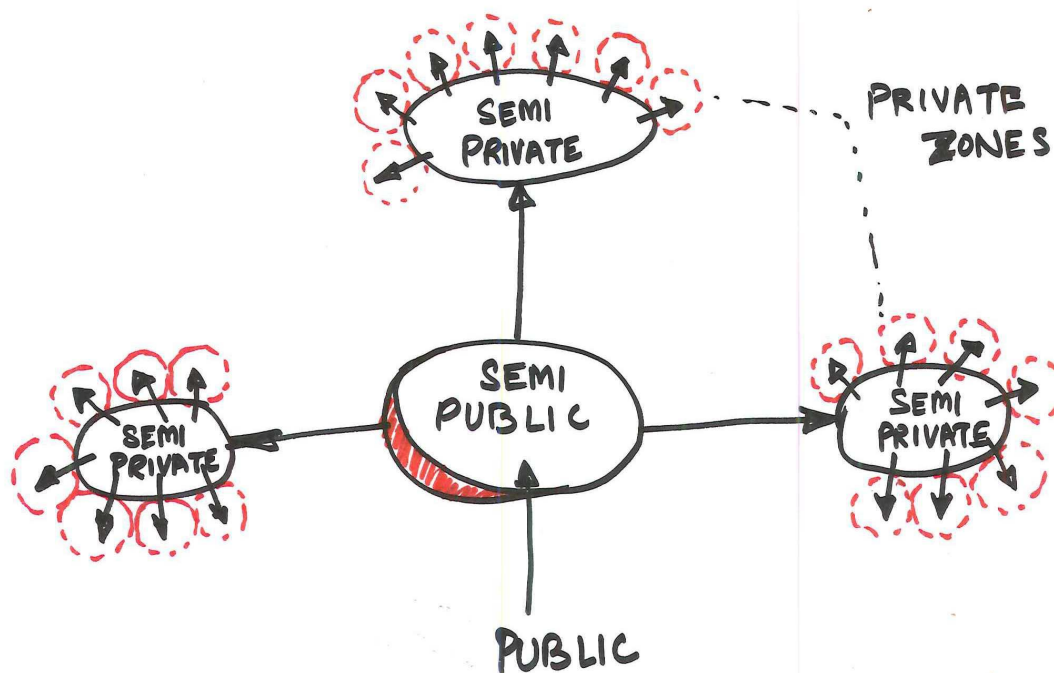


Figure: Defensible Space Diagram by Oscar Newman

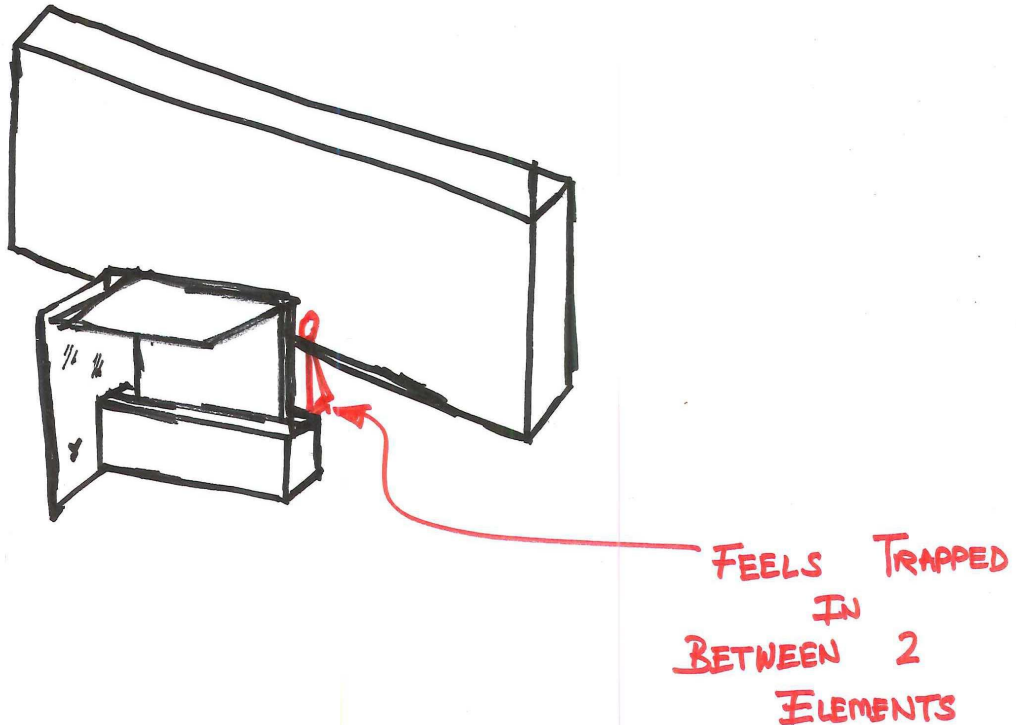
Source: by author

As explained in the figure above it is clear that a space can be more safe if the private, public, semi public zones are clear and have a transition in between. Though this theory might contradict with Indian context which we will see further in research by design.

# Safety through urban Design

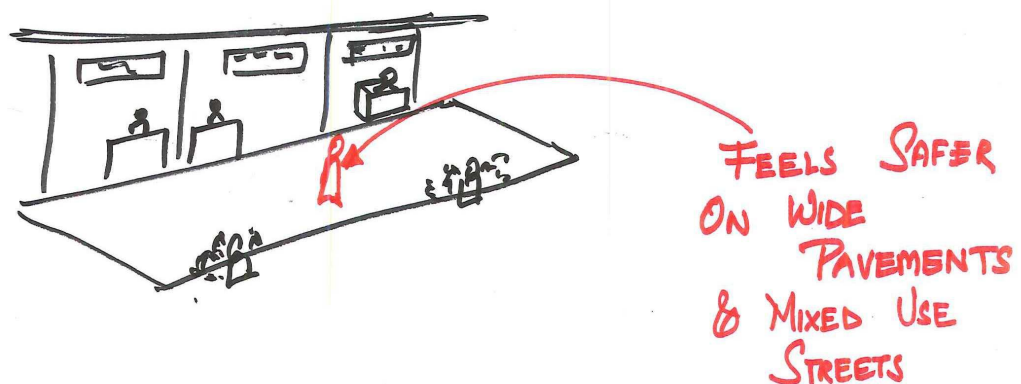
## Urban Design Safety Principles:

Tara Hirabet showed in a video these two examples which she saw and interviewed people to induce these two situations where a woman feel more trapped than other spaces. I give this piece of information in the theoretical framework as I take them as two principles to further move with the design.



*Figure:* To have low boundary walls or transparent walls so that people do not feel trapped in between.

*Source:* by author

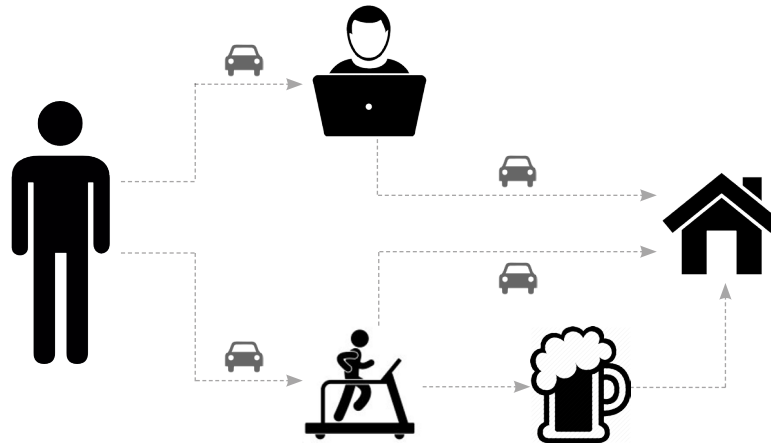


*Figure:* Wide pavements and number of uses on the streets increases the vigilance.

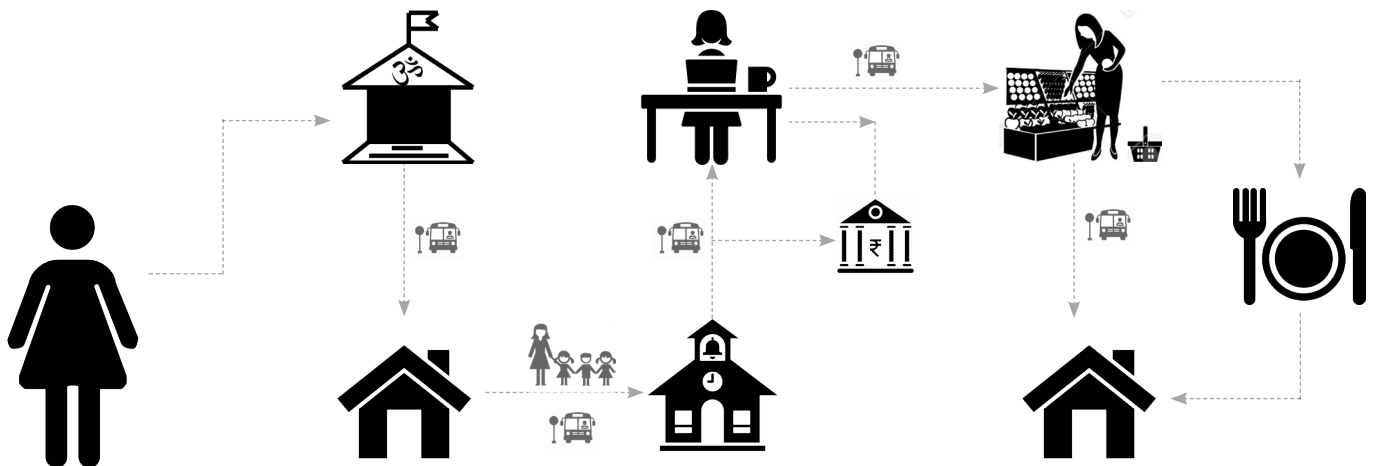
*Source:* by author

## 2.7 Socio- Cultural Anthropology - Women Physical movement

Women and men have different movement patterns in a city as identified now in many researches, to refer to one will be the Vienna Development Program (Foran, 2013). The diagram below shows the movement patterns in India by men and women in the city.



*Figure : Movement of men at different levels in a city*  
*Source: Made by author*



*Figure : Movement of women at different levels in a city*  
*Source: Made by author*

Dolores Hayden states clearly in her paper that the movement of men and women are different and that a women has to travel a lot many places than men usually. Also the first private car that comes in a family follows a general trend to go to the male member and female generally take up the public transport. The women has to use public transport more and therefore it should be planned according to the needs of the women as well. The first need of them is safety in a public transport as identified by UN Women that fear of being unsafe is one of the biggest rivals of women movement in a city.



## 2.8 Political Anthropology

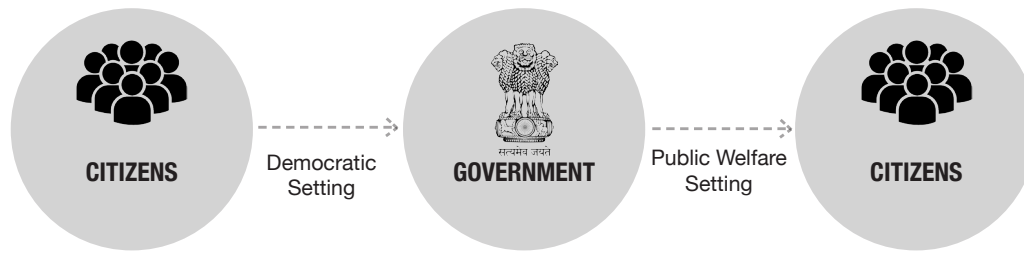


Figure : Government selection Hierarchy

Source: Made by author

### Delhi Government

The National Capital Territory (NCT) of Delhi is one of the India's 29 states, with a population of 16.6 million. Its powers are closely dependent on the Indian national government. At the state level, powerful bodies like the Delhi Development Authority and the Delhi Police are centrally supervised. Executive power is exerted through the Chief Minister of Delhi, who is elected by 70 members of the Delhi Legislative Assembly. The central government appoints the Lieutenant Governor and he belongs to the ruling political party. At the local level, there are 11 districts administered through four Municipal Corporations and, partly, by the Delhi Cantonment Board. The executives within these institutions are appointed by national ministries.

22% of the NCT's budget is allocated to public transport and 13% to urban development and housing.

### Delhi Governance Structure

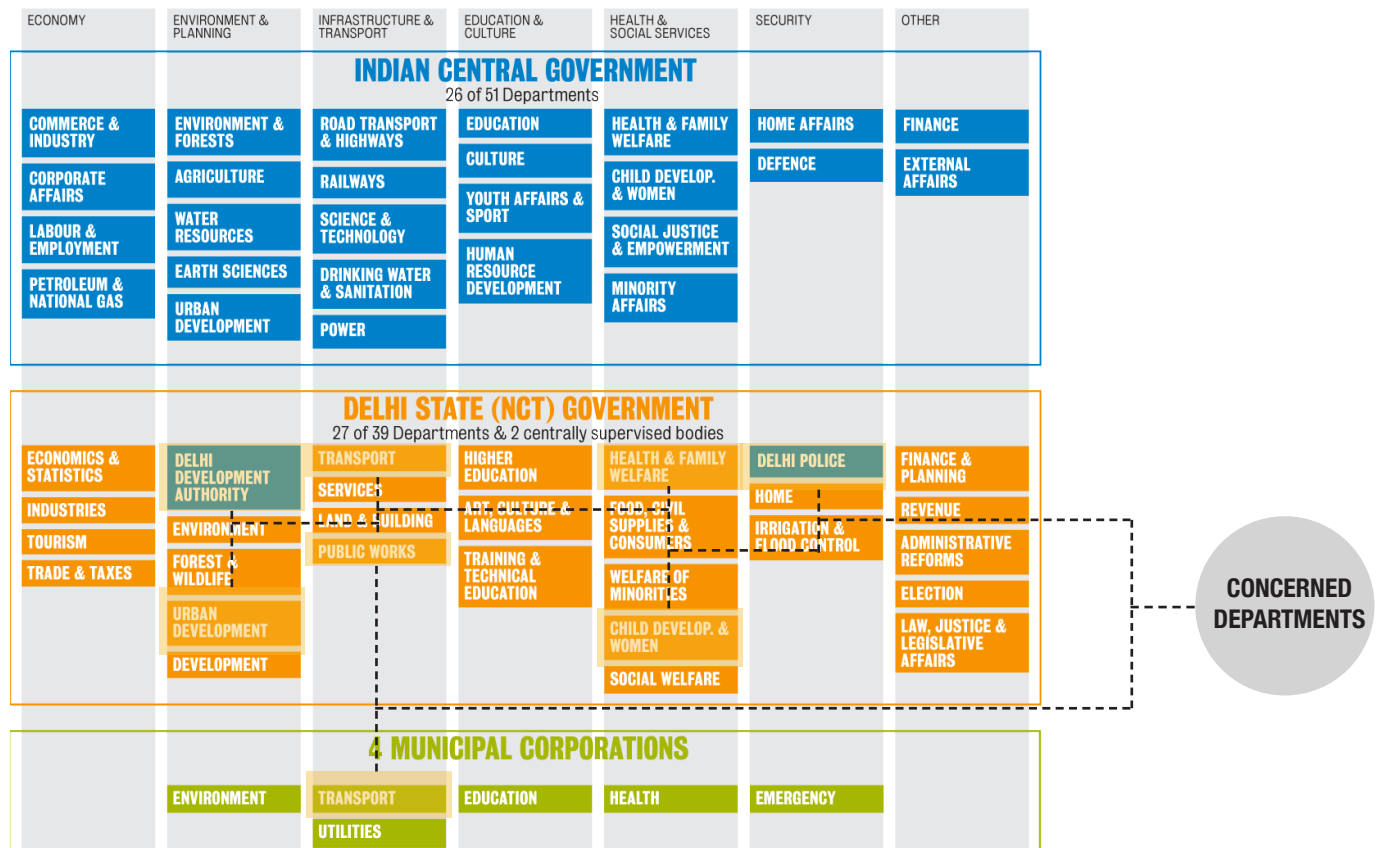


Figure : Different municipalities & ministries under delhi government

Source: made by the author

Multi-level governance

■ National level
 ■ State level
 ■ Sub-city level

Delhi police is not under the state government which is matter of a big conflict at the government levels but do the irregularities and mismanagement be the reason of the sufferings of one of the majorities of the city?



Ministry of Urban Development  
Government of India



Delhi Transport Corporation



Parivartan (Change)



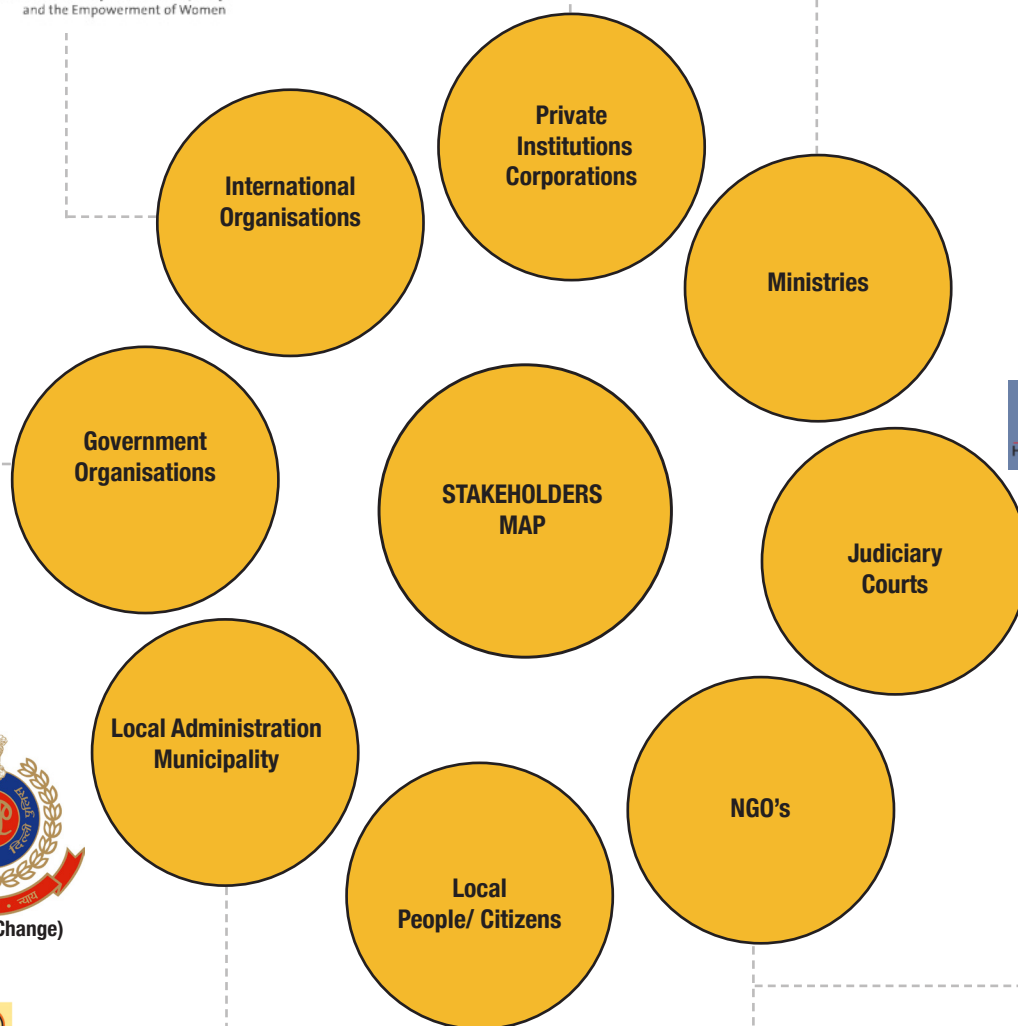
Department of Women and Child Development  
Government of NCT of Delhi



THE ASIA FOUNDATION  
New Delhi



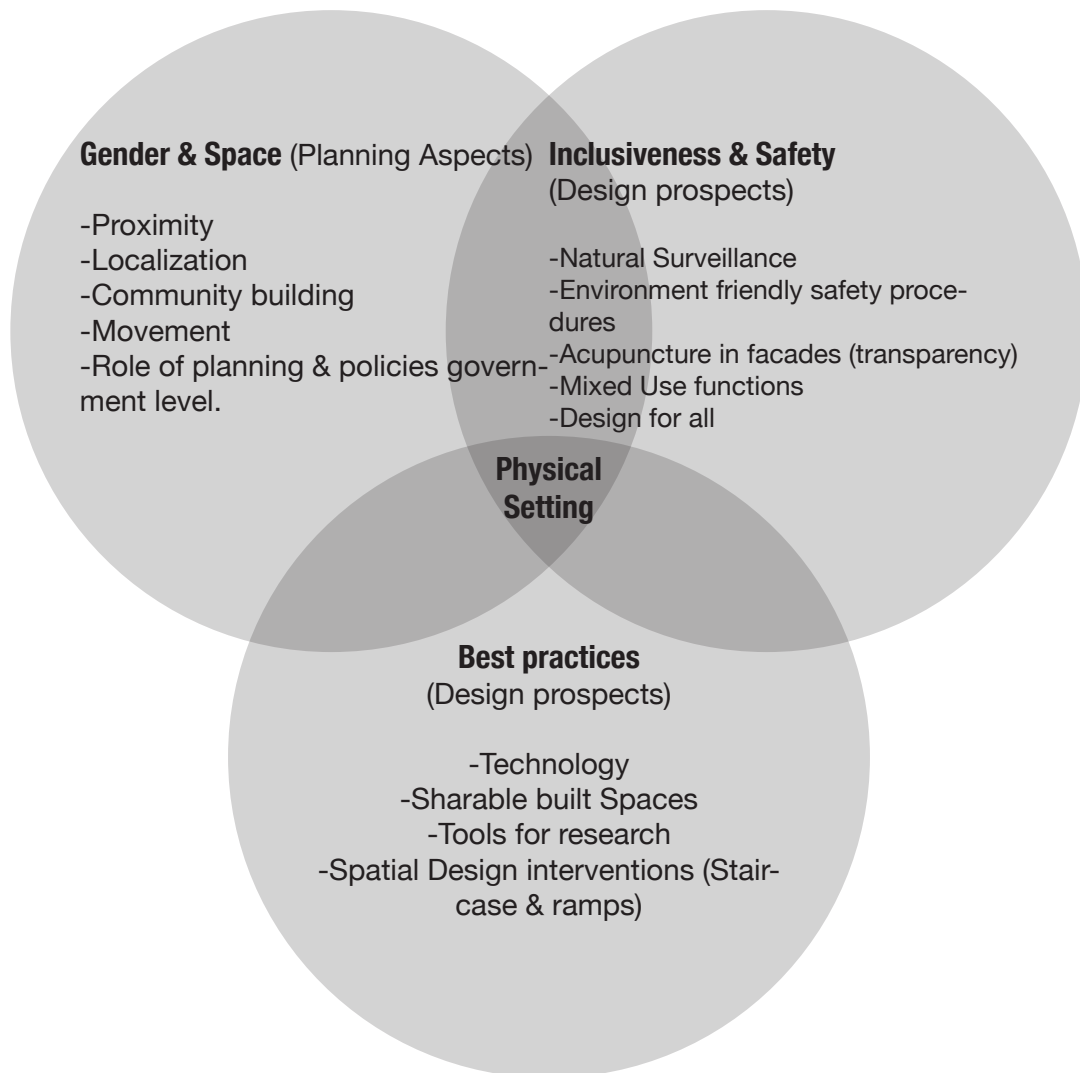
HUMAN DEVELOPMENT SOCIETY  
New Delhi



These stakeholders at all the levels are working for women safety in terms of social, economic and urban structures. After studying about them I came to know which stakeholders have an actual impact on the government and how the government proceedings thereafter take place under which ministry. Some of them work on collection of data like Safetipin and give it to the local government and Delhi police for the interventions. It is also used by people from Urban development and Public Works Department for different design & planning purposes.

Figure : Stakeholder Map  
Source: made by the author

## 2.9 Conclusive Framework:-



*Figure : Conclusions*

*Source: made by the author*

From the theoretical framework I deduced this diagram which will help me in design interventions further and for hit and trial to which theories are practically possible in Delhi and which of them are not suitable for the urban fabric of Delhi.



# 3.1 Social practices against Gender Inequality

## Social Awareness & Actions

### #Walkalone & #WhyLoiter

#### #WalkAlone

A volunteer-run collective called Blank Noise has been working against street harassment since 2004. In June, it launched a campaign – #WalkAlone – to encourage women to reclaim public spaces. Women are being asked to walk alone to places they have never visited, or have been warned about. The campaign is urging women to undertake the challenge at any time of the day, for three weeks, humming a song, daydreaming, with hands unclenched, shoulders relaxed, until they get back their right to walk without fear(Agarwal, 2016)

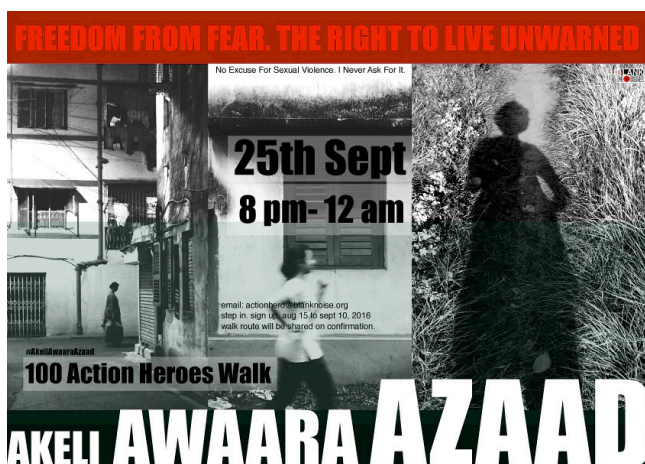


Figure 3.1: A Blank Noise poster demanding freedom from fear and the right to live unwarned. Akeli Awaara Azaad means to be alone, an unattached wanderer and free. Photograph: blanknoise.org



Figure 3.2: Don't stay out after dark. Avoid empty streets, and never loiter around on the streets or in parks. Don't invite trouble! is the message this group of girls want to contradict.

#### #Whyloiter?

Pukar Organisation, Mumbai- The Gender and Space Project focuses on gender as a category to examine the ordering and experience of the city and its varied spaces, particularly public space. Public space in the context of the study refers to public places, ranging from streets, public toilets and market places to recreational areas and modes of public transport. The project is located in and focuses on the city of Mumbai(Phadke et al., 2009)

Hanging out in public spaces, just for fun — or “loitering,” as we call it in India — is something we don’t even consider doing. We Indian girls and women are conditioned to expect harassment and sexual assault every time we step outside our homes, even inside the houses it is not considered an activity for the girls. These are the messages that every Indian girl hears growing up. The main reason behind this is safety outside. A group of young women in Mumbai are trying to change that as they think we should be able to hang out in public spaces with no apparent reason, but simply because we want to do it. Like all the boys and men who loiter, sometimes doing nothing but staring or chit-chatting, catching up with friends, and having fun being outside. The group of women are part of a small but growing movement called “Why Loiter.” They meet often to deliberately loiter, to wander the city by foot, tweeting pictures with the #WhyLoiter hashtag as they explore their city(Chatterjee, 2015)



## 3.2 Spatial Practices towards Gender Inclusive Urban-sim

### Seoul Gender Inclusive City (towards inclusiveness, safety and equity)

#### Existing City Strategy :-

The existing women related policies in Korea mainly targeted at the improvement of the socio-economic status of women, and gender equality. But, the authorities also felt that the present policies in Korea had little consideration of a woman's perspective and experiences pertaining to roads, transportation, and cultural aspects. This led to inception of the Women-friendly City Project which was focused to improve the city spaces by reflecting women's perspectives in all city policies and thereby facilitating their day to day urban life. Around 90 sub-projects came up in 5 areas. The objectives of the Women-friendly City Project were broadly represented as :-

- Resolving the factors that cause inconvenience, discomfort and uneasiness in their daily lives.
- Enhancing women's rights and helping women achieve their potential.



Figure 3.3: Seoul Women Friendly Campaign

Source: <http://www.seoulwomen.or.kr/nhpeng/archives/policy>

#### Vision :-

- Gender equality
- Women's independence
- Women's health
- Women's safety
- Safe environment for women
- Women's wellness

#### Proposed Strategy :-

In order to achieve the objectives, the Project was divided under five major aspects:

##### 1. Women and Family Policy Affairs

which emphasized on the different ways to help career-interrupted women regain employment. Provision of affordable yet high quality daycare facilities was a thought that was involved.

##### 2. Green Seoul Bureau

Building parks with women-friendly amenities. This is of significant interest to this study from the successful project which has showcased to the world how to create parks that are safe for a woman by using simple mechanisms.

##### 3. City Transportation

Parking zones and Public Transport systems were featured to be amongst the most feared zones for women on survey. This called for a creation of safe and easy parking systems for women drivers and attempt to encourage women to travel by para-transit and public transit at night through strengthening the existing system

##### 4. Seoul Metro

The reliability and safety of metro services were studied and accordingly proposals to revamp existing system considered.

##### 5. Protection

Another important aspect was the creation of crime free zones. The process involved participation of female citizens from policy making to implementation. 244 experts and professors were consulted during policy making. 200 women (workers and housewives) were involved in on-site monitoring. Policy consultations and on-site monitoring was carried out by 3250 people in 25 autonomous districts.

## Projects Executed for safety of Women (towards safety)

The projects that were executed for the safety of women in the city included:

**1.Women-Friendly Parking Lots:** 56,000 parking lots that give first priority to female drivers (7.9% of around 7,00,000 slots in 13,00 parking lots. And installation of CCTVs and emergency bells in underground parking lots along with improving lighting.



*Figure : Image taken at one of the designed parking lots in Seoul*

*Source: Women Friendly Seoul Project Report*

**2.Women-Friendly Roads** - Existing roads were improved in terms of their quality and safety through installation of more CCTVs and increasing the lighting to 30 lux. Separating resting spots from pedestrians to give more privacy.

**3.Women-Friendly Parks** - Parks, the most feared zones were made accessible by provision of good lighting of the parks and the pedestrian pathways, removal of visual barriers, safe and cleaner public toilets and parking lots.



*Figure : Pathways and parks along with roads designed as per safety guidelines of the policy.*

*Source: Women Friendly Seoul Project Report*

**4.Women-Friendly Built Environment** - Crime prevention systems, such as windowed (transparent) elevators, in consideration for safety. Building childcare facilities along with female bathroom facilities. Subway ticket gates were modified for stroller use.



## Jagori- Safe Delhi Campaign (towards safety)

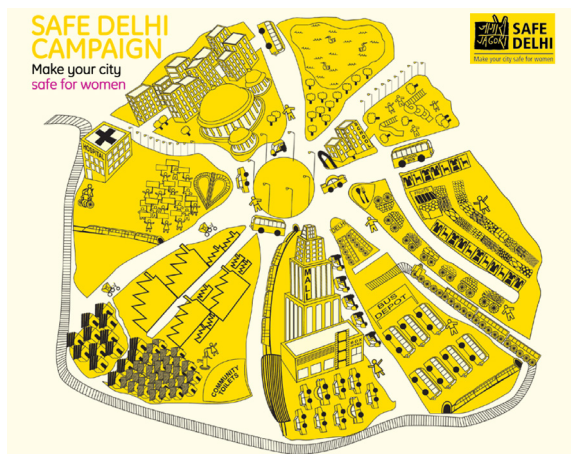


Figure 27: Safe delhi Campaign started by Jagori as an initiative to make the city a better place.

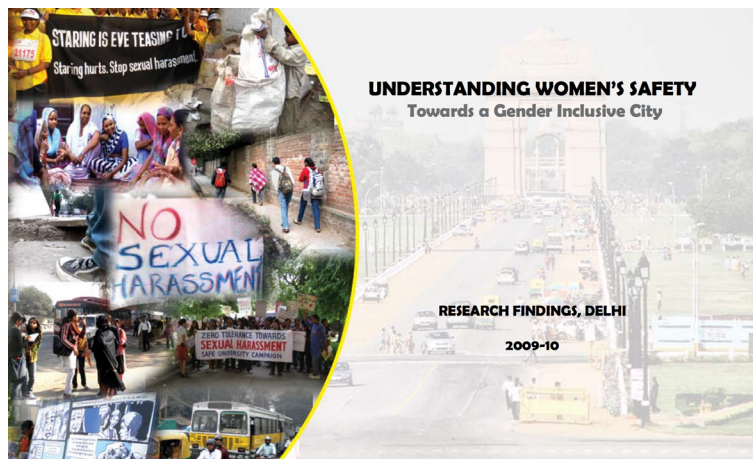


Figure 28: Safe delhi Campaign started by Jagori as an initiative to make the city a better place.

## Indian News Reports

In the year 2009, Jagori in partnership with UN Women and Department of Women and Child Development launched the ‘Safe City Free of Violence against Women and Girls Initiative’. The goal of the initiative is: “Cities where women and girls are able to move around freely without the fear of harassment and violence at all times and enjoys what the city has to offer”.

JAGORI undertakes action-research that serve as the basis for focused advocacy and women-led interventions in the community. These studies raise crucial questions regarding the centrality of women-centered perspectives that need to be brought to the attention of policy makers and implementers. These studies are aimed at supporting the struggle of the community to claim their rights and entitlements as citizens of Delhi (Jagori,2015).

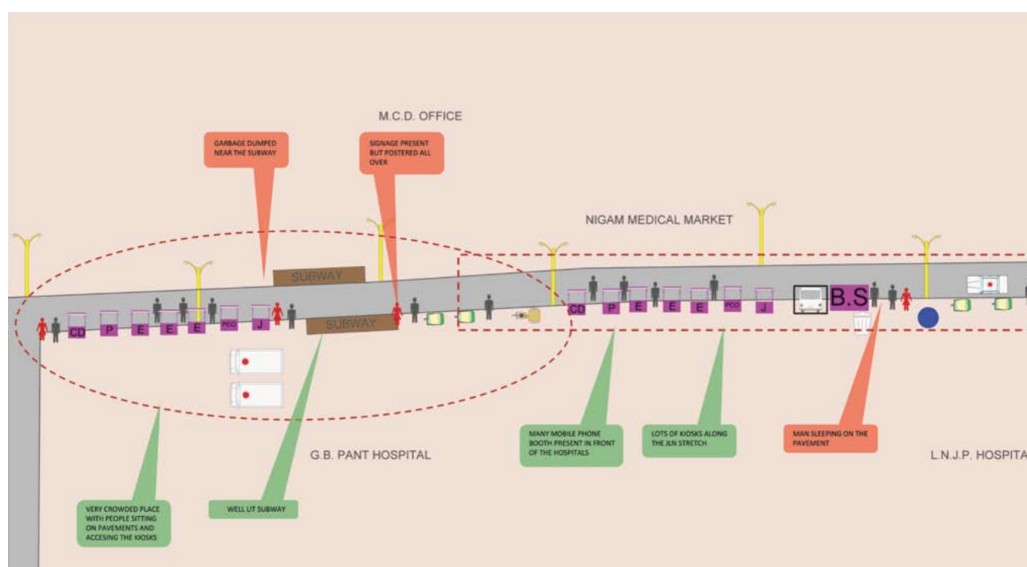


Figure 29: Safety Audits done by Jagori in order to submit these to municipalities and government.

## Safety Audits & Space Syntax (towards safety)

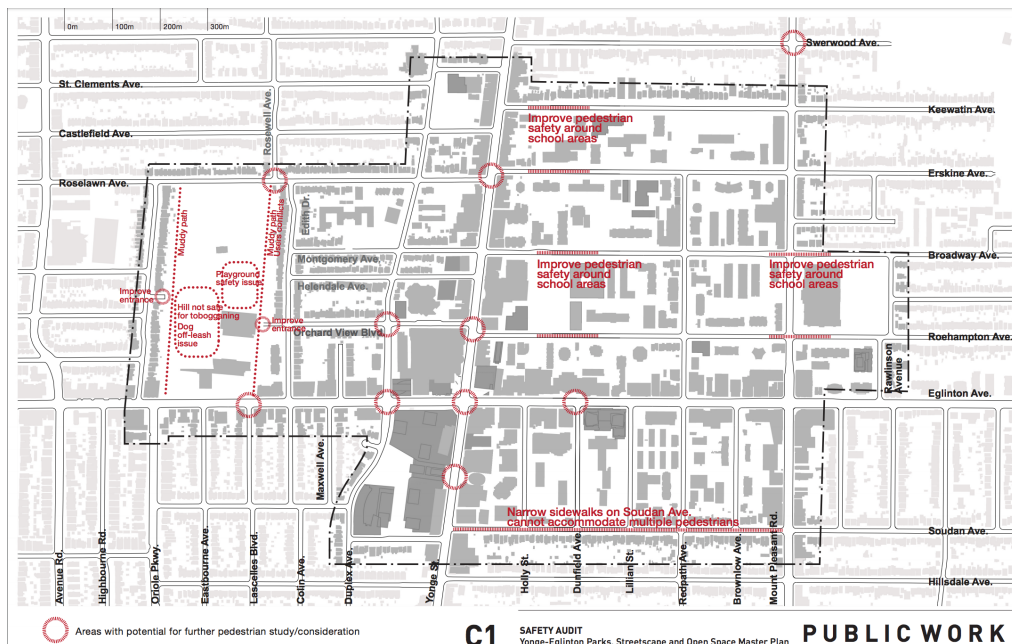


Figure 29: The first safety audit done in Canada and has been repeated all over the world since then.

### First Safety Audit, Toronto

The safety audit method was first developed in Canada by METRAC (the Metro Action Committee on Public Violence Against Women and Children), and has been successfully used across North America, Australia and Great Britain, to evaluate perceived risk in the urban environment. (METRAC, n.d.)

### Space Syntax Analysis

As identified by Akkelies Van Nes space syntax is a method and a tool that can be used for the analysis of the streets through visual sight lines to calculate the spatial configuration of built environments and can be applied on a wide scale level in research on built environments. It is able to identify the streets' spatial features for vital shopping areas, crime distribution, various social classes' spatial preferences, etc. (Van Nes, 2011).



Figure 30: This is an illustration representing space syntax techniques for the analysis of safety on the streets.



## Vienna

### (Towards accessibility & inclusiveness)



*Figure 31: Slope introduced as a design intervention to increase the accessibility for women with children and handicapped in Vienna*



*Figure 31: The redesigned park in Vienna according to the requirements to increase inclusiveness in the space.*

A gigantic staircase with a ramp running through the middle was installed near a major inter-section to make crossing easier for people with strollers and individuals using a walker or a wheelchair. Additional lighting was added to make walking at night safer for women. Side-walks were widened so pedestrians could navigate narrow streets.

Women-Work-City was also built keeping in mind the requirements of the women. It consists of a series of apartment buildings surrounded by courtyards. Circular, grassy areas dot the courtyards, allowing parents and children to spend time outside without having to go far from home. The complex has an on-site kindergarten, pharmacy and doctor's office. It also stands in close proximity to public transit to make running errands and getting to school or work easier, by making it much more easier for the working women with kids.

The study, which took place from 1996 to 1997, showed that after the age of nine, the number of girls in public parks dropped off dramatically, while the number of boys held steady. Researchers found that girls were less assertive than boys. If boys and girls would up in competition for park space, the boys were more likely to win out.

In 1999, the city began a redesign of two parks in Vienna's fifth district. Footpaths were added to make the parks more accessible and volleyball and badminton courts were installed to allow for a wider variety of activities. Landscaping was also used to subdivide large, open areas into semi-enclosed pockets of park space. Almost immediately, city officials noticed a change. Different groups of people -- girls and boys -- began to use the parks without any one group over-running the other.

People have started to pay attention. In 2008, the United Nations Human Settlements Pro-gramme included Vienna's city planning strategy in its registry of best practices in improving the living environment. Vienna's park redesign project, along with a program to create a gender mainstreaming pilot district, has even been nominated for the United Nations Public Service Award, a badge of honor recognizing efforts to improve public administration(Foran, 2013)

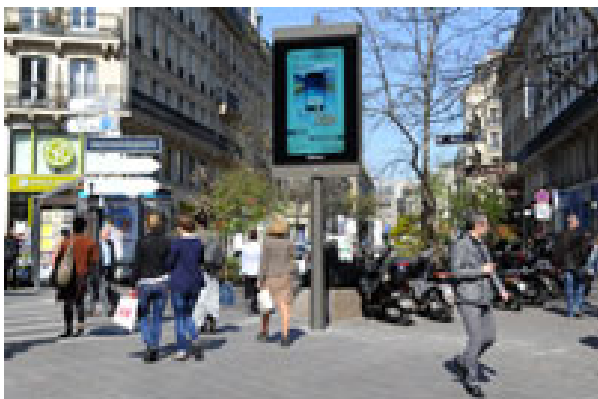


## 3.3 Inclusive & Sustainable Public Transport Examples

A case study have been done for the smart JC Deaux designed bus stops in order to facilitate design in a better manner.



The **Concept-Bus Shelter** offers an array of multi-service innovations designed by Patrick Jouin, combining unprecedented levels of comfort along with innovative features such as a free WiFi connection, and mobile phone charging points.



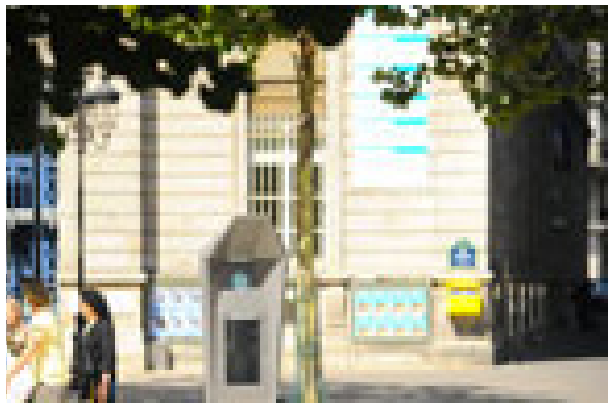
The **Digital Totem** is an information system specifically designed for Paris. The content is managed remotely and can be updated in real time. Totem will provide information about the range of cultural activities in Paris, the latest municipal news as well as Twitter updates from the Town Hall.



The **Digital Harbour** provides a 100% connected area with internet access and space for discussions for people who want to work, rest or access information. It has a Wi-Fi connection.



This **“City Box”** offers users a range of applications on a 42-inch screen (or a 22-inch screen accessible to people in wheelchairs).



The **e-Village totem** was designed as a solution to the demand for local information that is easily accessible in public spaces. It comprised of three multi-touch screens, including one designed for users in a wheelchair. It has been specifically designed to provide access to local classified ads. Initially, e-Village will display advertisements for jobs in Paris.



The **Play table** is a playground for the digital age designed by Mathieu Lehanneur, created specifically for Paris' parks and gardens.

## Safe installation Systems (Towards safety)



Source: By Original uploader was Goldfinger at sr.wikipedia - Transferred from sr.wikipedia; transferred to Commons by User:BokicaK using CommonsHelper., CC BY-SA 3.0 rs, <https://commons.wikimedia.org/w/index.php?curid=17812741>

### Strawberry Tree (Solar Energy Devices) :-

Strawberry Tree is a solar and WiFi station which is permanently installed in public places such as streets, parks and squares, providing passersby with the opportunity to charge their mobile devices for free when they are outside.

Source:[https://en.wikipedia.org/wiki/Strawberry\\_Tree\\_\(solar\\_energy\\_device\)](https://en.wikipedia.org/wiki/Strawberry_Tree_(solar_energy_device))



Source:<http://www.3fficient.com/store/smart-solar-bench/>

### Smart Solar Bench:-

The Smart Bench offers a modern aesthetic that looks great in any public space. It includes free charging for mobile devices, environmental sensing, emergency calling and local info on public spaces.

### Conclusions:-

Studying all these examples it is clear to me how digital technology can be integrated and wired with the urban fabric to produce safe environments other than using techniques like natural surveillance.

- 4. Research by Design: Case of Delhi, India**
- 4.1 Introducing Delhi- as an Urban Space
- 4.2 Safe/Unsafe Zones
- 4.3 Women Activities tracked for catalogue



## 4.1 Introducing Delhi-as an Urban Space



Figure : Position of New Delhi on Map of India

Source: Made by the author

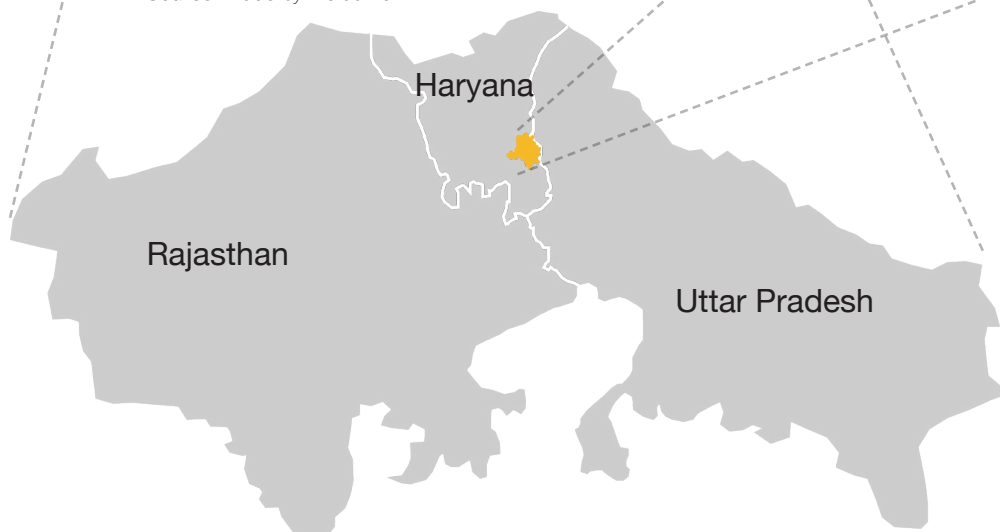


Figure : Impact of neighboring states

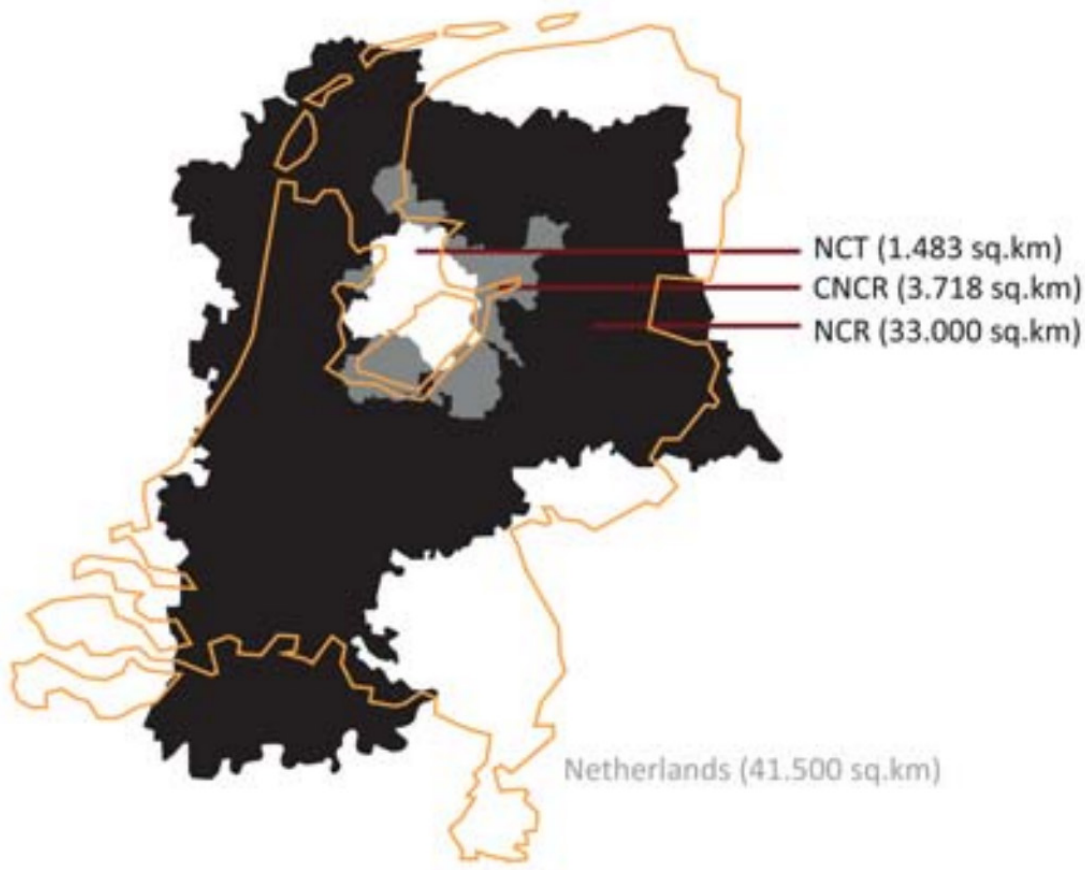
Source: Made by the author

### Delhi:-

Delhi (Dilli), officially the National Capital Territory of Delhi (NCT), is a city and a union territory of India. Demographics of Delhi as per Census 2011, the population of Delhi is 16.7 million comprising 7.8 million (46.46%) females and 8.9 million (53.54%) males. Delhi has a GDP of US\$67 billion as in 2014-15 “Department of Dte. of Economics & Statistics,” 2015).

### Impact of Nearby States:-

The states nearby, Rajasthan, Haryana and Uttar Pradesh has the maximum influence on the city of Delhi and even vice versa. Most of the satellite towns are found in the states of Uttar Pradesh, Rajasthan and Haryana. The cultures brought in are from all over the India but these states have maximum impact.



*Figure : Scale of Delhi as compared to the Netherlands*

*Source: [http://venhoeven.nl/wordpress/wp-content/uploads/2012/01/20130318\\_Delhi2050\\_lpad.pdf](http://venhoeven.nl/wordpress/wp-content/uploads/2012/01/20130318_Delhi2050_lpad.pdf)*

This map shows the scale of Delhi as compared to the Netherlands.



*Figure : Expansion of Delhi till 2021*

*Source: [http://venhoeven.nl/wordpress/wp-content/uploads/2012/01/20130318\\_Delhi2050\\_lpad.pdf](http://venhoeven.nl/wordpress/wp-content/uploads/2012/01/20130318_Delhi2050_lpad.pdf)*

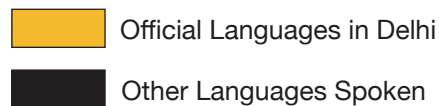
The above figure shows expected expansion of Delhi by 2021. The South of Delhi therefore becomes even more popular area thereafter. Its connection with Gurgaon, a satellite town will be stronger and that is connection one of the weakest when it comes to women safety and inclusiveness.

## Cultural Diversity in Delhi



Figure : Languages used in Delhi

Source: Made by author



### Languages

Delhi has very diverse culture with approximately more than 100 languages spoken all over the area. Hindi is the most used language by 80% people, followed by English, Punjabi and Urdu. English is understood by almost 80% people in Delhi. Since Delhi is the capital and surrounded by different states, its culture, religion, languages, festival are really diverse and distinctive.

### Religions

The Hindu population of the city is the highest and again religion wise as well the area is very sundry mixed with other religions such as muslims, sikhs, jains, christians and others.

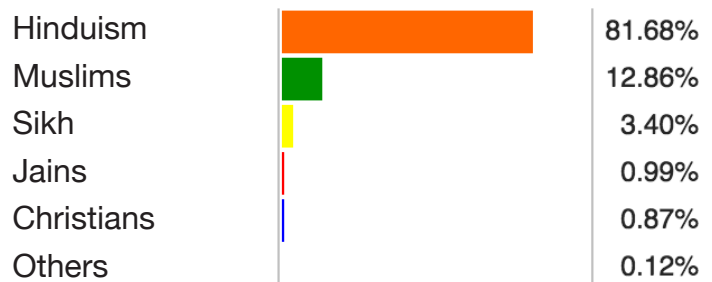
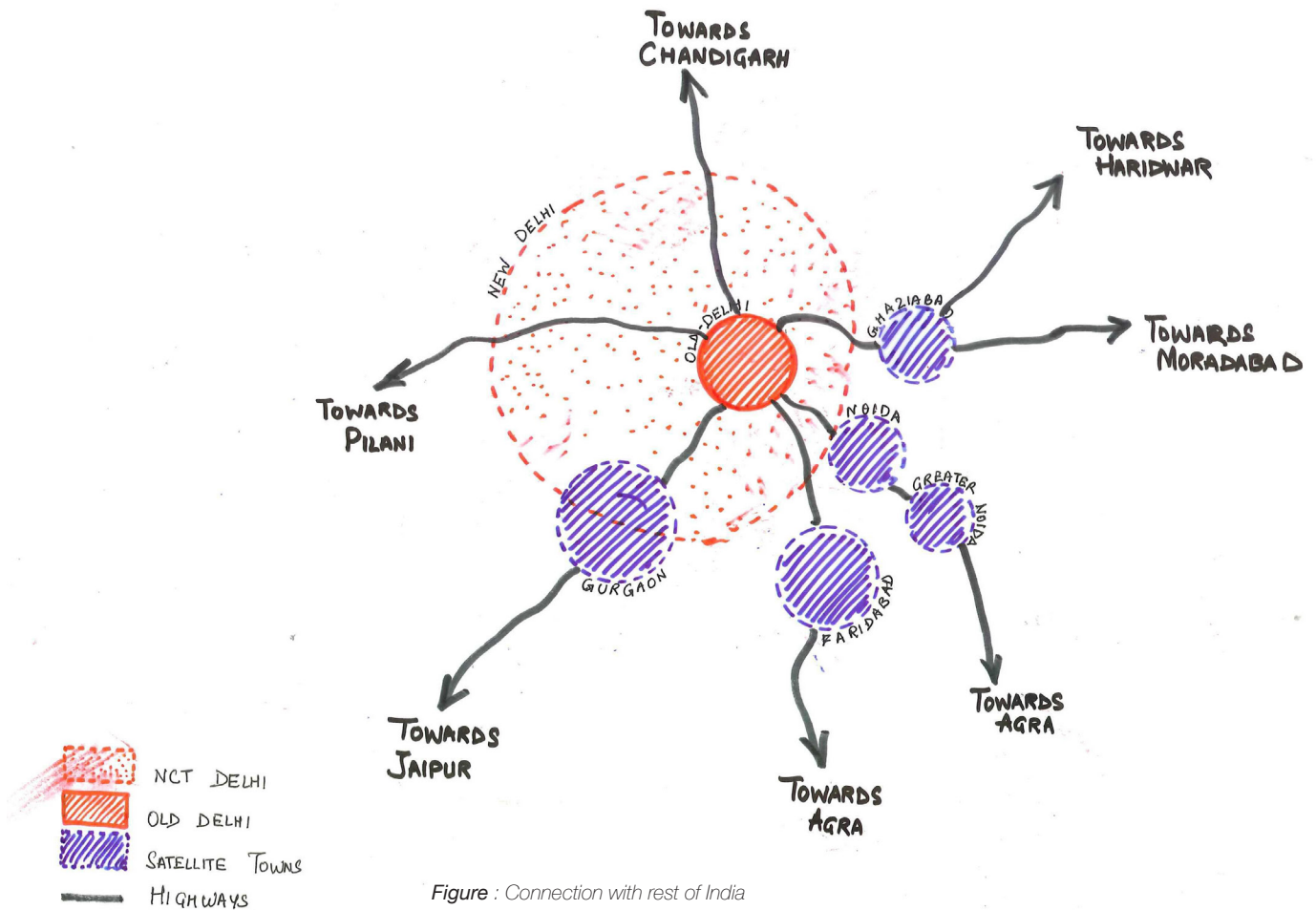


Figure : Religion Percentages in Delhi according to survey in 2011.

Source: Made by author

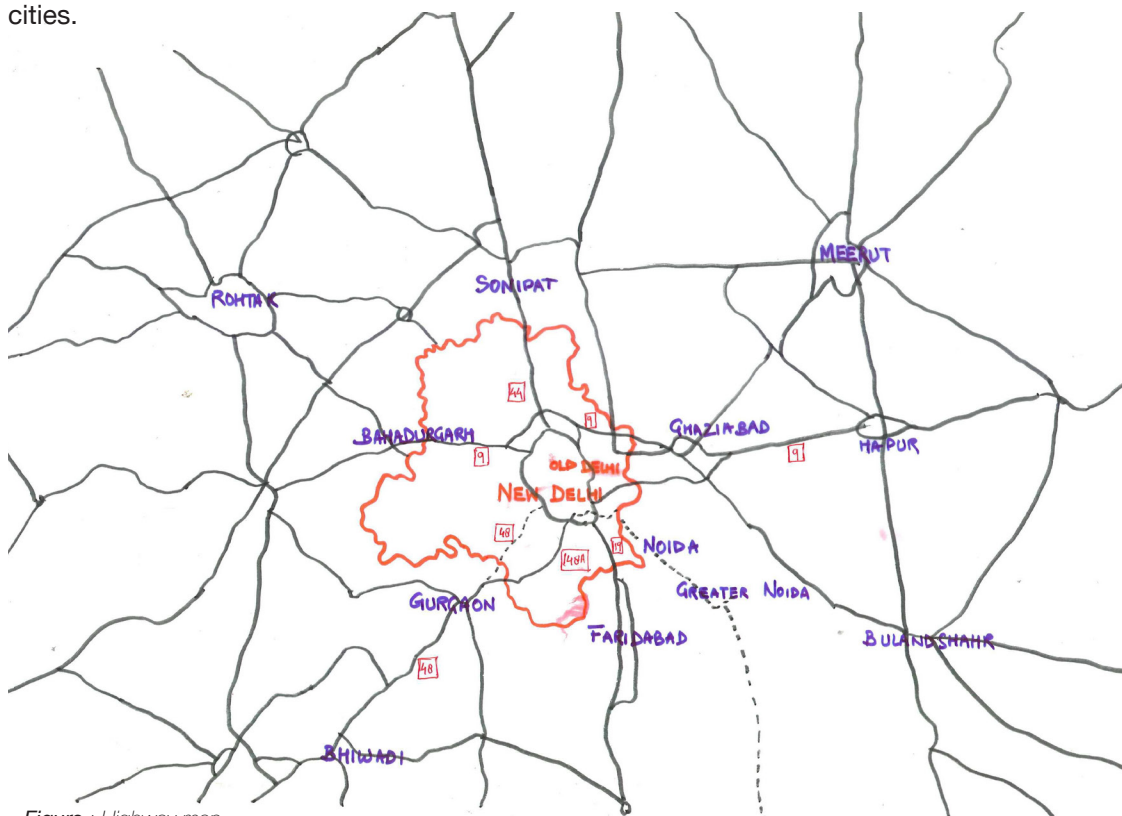


## Connectivity



### Satellite towns

Gurgaon and faridabad in the south, Noida and Greater Noida in the south east and Ghaziabad in the east are the main satellite towns of Delhi. Noida, Gurgaon, faridabad and ghaziabad all the cities are declared as non gender inclusive cities.



## Transport Diagram

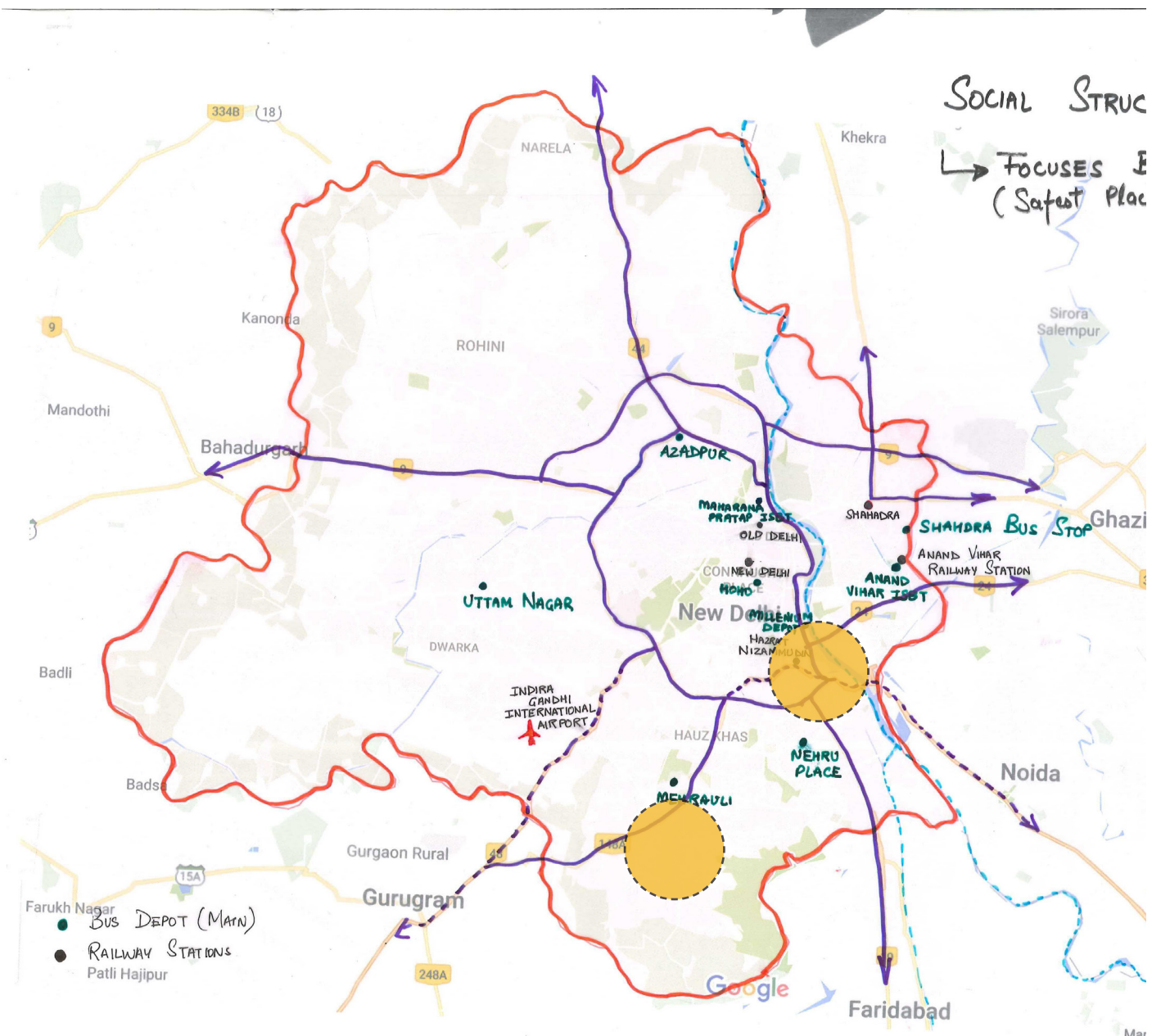


Figure : Main Bus depot and railway Stations Map

Source: Made by author

This map is based to showcase the two most unsafe bus stops and connection in south of Delhi. For a women in Delhi, let her be a housewife or working, movement is really important as learned by theory and evidences most of the middle class women take public transport. Also still 70% of the movement is done by buses in-spite of the metro stations that have come up.

## 4.2 Safe/Unsafe Areas

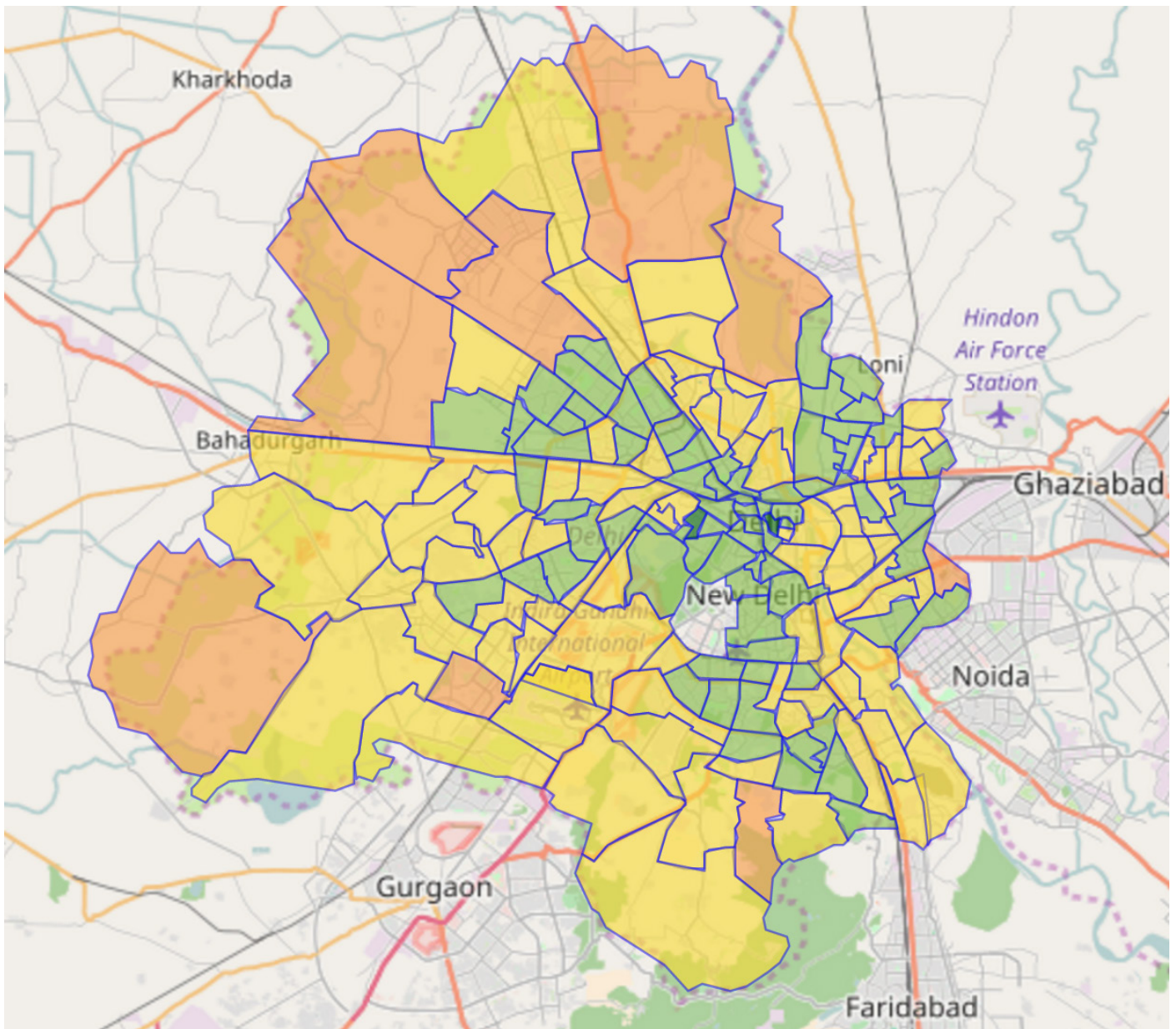
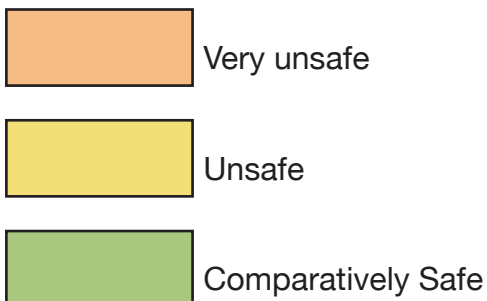


Figure : Safe Unsafe area in Delhi

Source: [http://www.safetipin.com/resources/files/Delhi\\_Report.pdf](http://www.safetipin.com/resources/files/Delhi_Report.pdf)



Security is scored lowest of all the audit parameters, followed by gender usage. This graph reinforces the fact that visible security, both public and private, is poor in the city and less women are present in public spaces, especially after dark. While there is not much significant difference among the regions, the Central area scores higher in several parameters. Interestingly, north Delhi also scores higher in some parameters. West Delhi appears to have the lowest score in all parameters except in gender usage, where South Delhi has an even lower score.



## Zones in Delhi (proposed in MPD-2021)

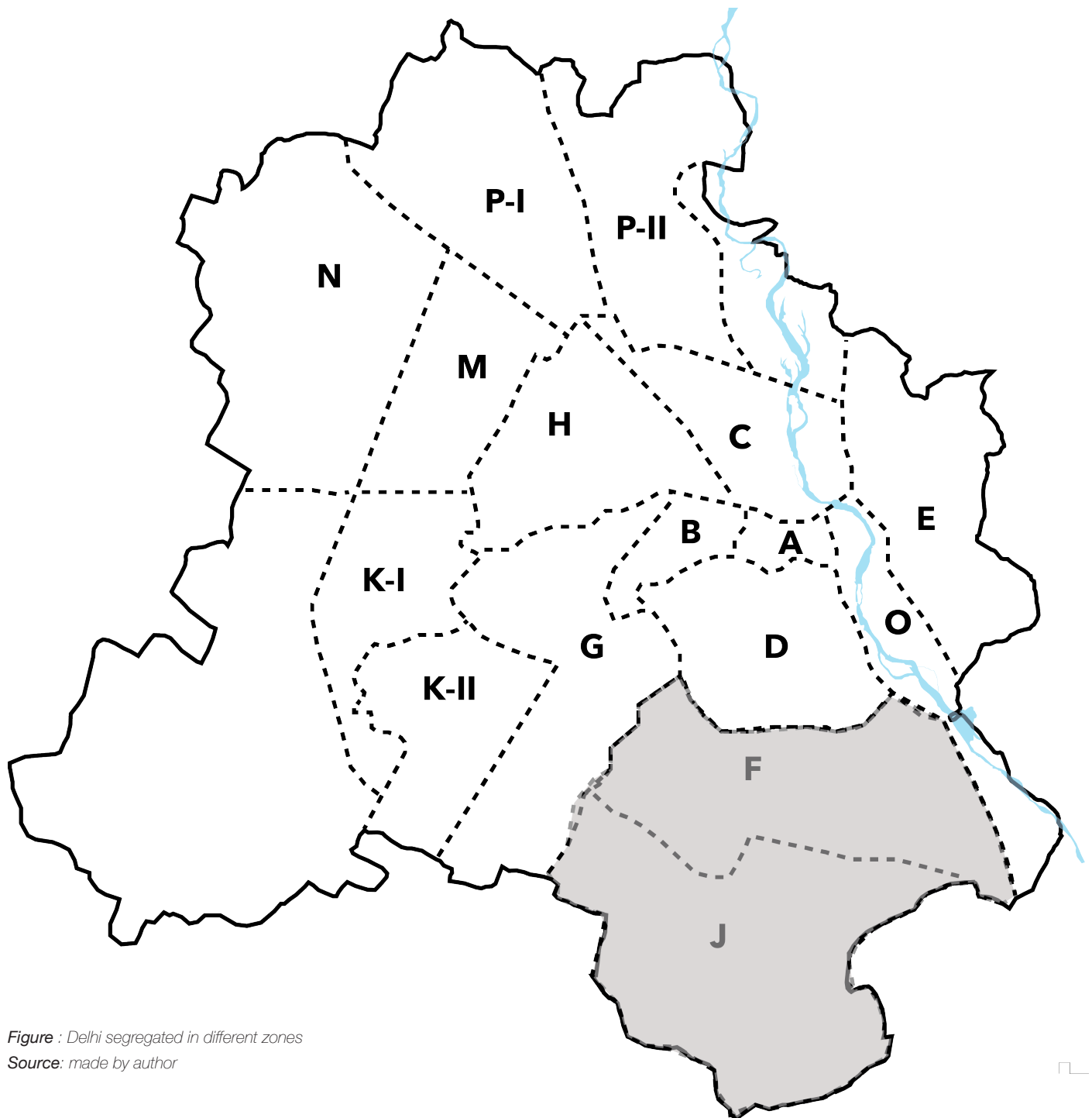


Figure : Delhi segregated in different zones

Source: made by author

- Zone- A (Old City)
- Zone- B
- Zone- C (Civil Lines)
- Zone- D (New Delhi)
- Zone- E (Trans Yamuna)
- Zone- F (New Delhi)
- Zone- G (West Delhi-I)
- Zone- H (North West Delhi-I)
- Zone- J (South Delhi-II)
- Zone- K part(South West Delhi)
- Zone- L (West Delhi-III)
- Zone- M (North West Delhi- II)
- Zone- N (North West Delhi- III)
- Zone- O
- Zone- P (North Delhi)

The chosen location is due to unsafe areas according to safetip-in application and also personal interest as I am most acquainted with these zones. Though I will focus more after my research on site to the neighbourhood level.

## Zone-F as proposed in MPD-2021

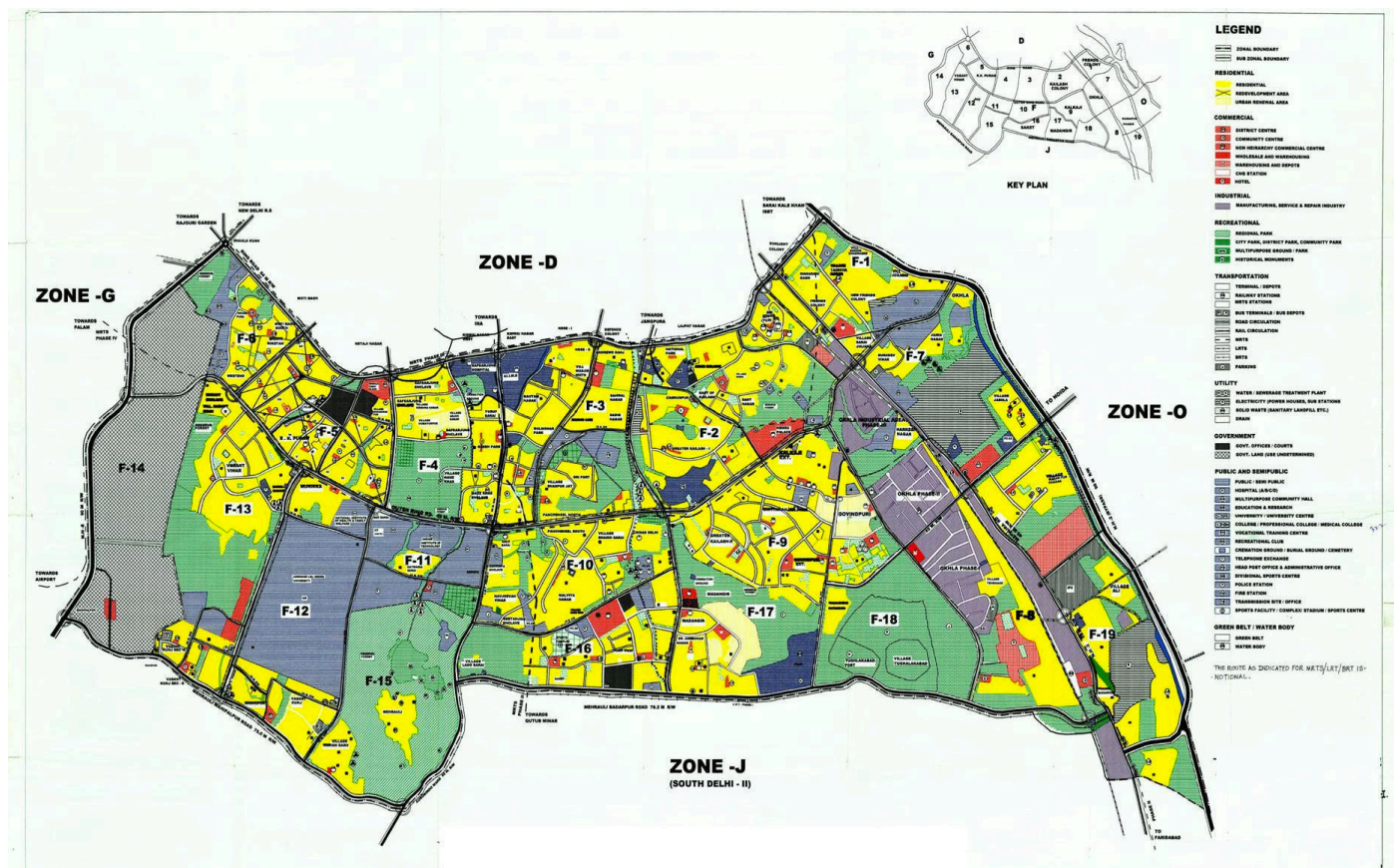


Figure : Zone-F masterplan

Source: <http://delhi-masterplan.com/zonal-plans-mpd-2021>

In the context of Urban Delhi, Zone-F is identifiable with its low density green character. This zone is mainly comprised of planned, well maintained posh residential localities. This also included rehabilitation colonies and Government housing areas. This Zone is situated in the south of Zone-D.

(Source: <http://delhi-masterplan.com/zonal-plans-mpd-2021/zone-f-new-delhi/> )



## Zone-J as proposed in MPD-2021

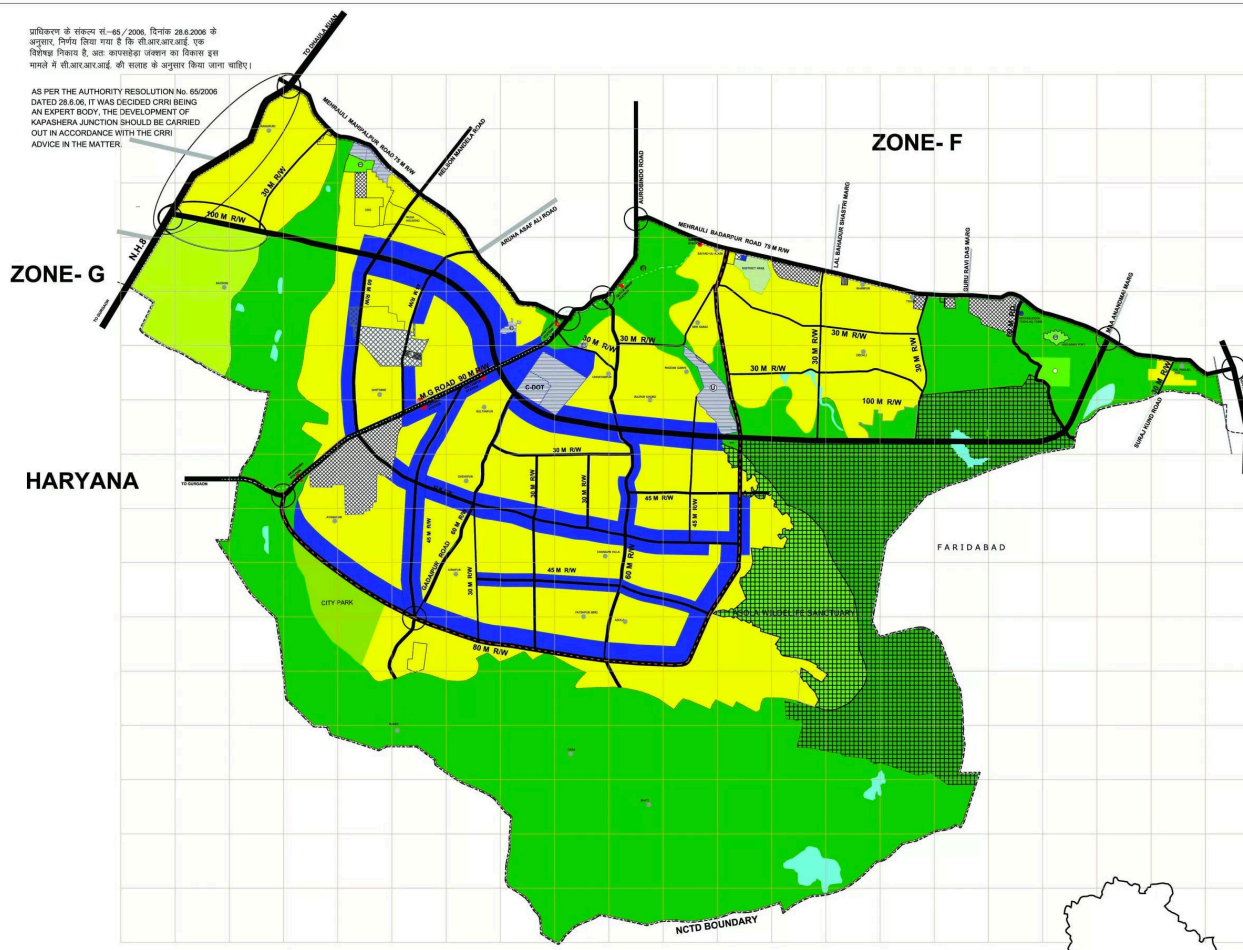


Figure : Zone- J master plan

Source: <http://delhi-masterplan.com/zonal-plans-mpd-2021>

### Proposed Land use break up of Urban Extension area:

Land Use	Area in Hect.	Percentage
Residential	4547	55
Commercial	413	5
Public & Semi Public	827	10
Govt. Offices	165	2
Use Undetermined	165	2
Recreational Use	1239	15
Circulation	912	11
Total	8268	100

Figure : Proposed Land Use

Source: <http://delhi-masterplan.com/zonal-plans-mpd-2021>

Other than residential use this side of Delhi has in present and recommended recreational use, commercial and offices which attract labor from all parts of the city. The residential use is mostly high income and safety of the labor who is working class in these residential neighborhoods is more important.

## 4.3 Women Activities tracked for the Catalogue

Women living Alone	Housewife	College Students	School Girls
Sex- Workers	Street Vendors	Shop-owners	Women Travellers



Figure 1.11: The collage shows kind of possible target groups in Delhi  
Source: Collage is made by the author

These are the possible target groups in India, the women who scales from the people below poverty line to the richest and still has to surpass the looks and fear of crime in public spaces. Let it be a sex worker, a multi national worker or a housewife every women on the streets of Delhi undergo same kind of fear system inside their head and heart.



## Women Activities Catalogue

### Built Spaces:

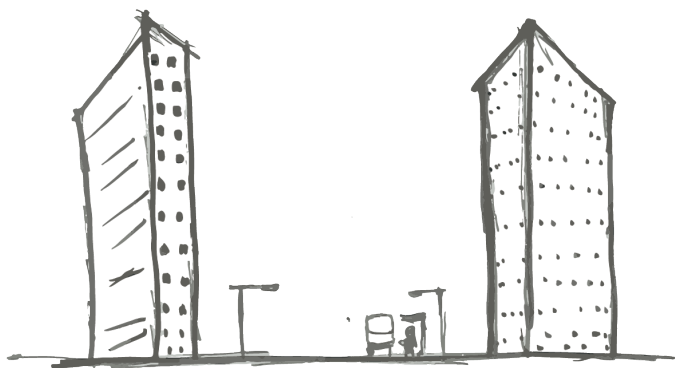
- Library/Museum/ Cultural Centre/ Inter Arts School/ Amphitheatre
- Sports Club/ Fitness Centre/ Gymnasium
- Shopping Mall / Supermarket / Departmental Store
- Cinema Hall / Multiplex
- Club/ Bar/ Cafes / Restaurants / Marriage Halls
- Community Centre / Convenient Shopping Centre
- Vegetable Market / Bazaar / Local Shops
- Places of Shops

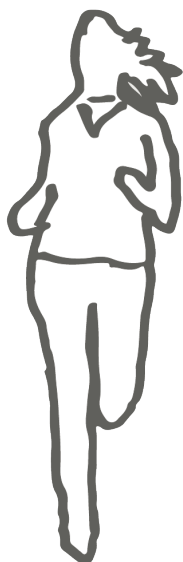
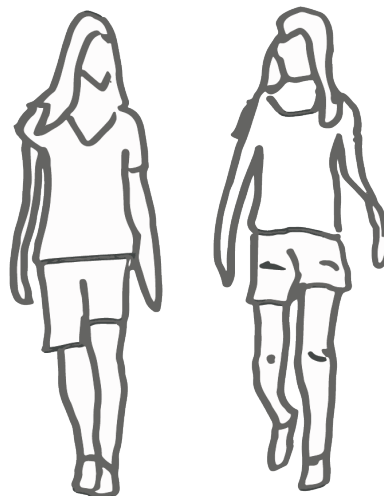
### Open Spaces:

- Tot Lots / Neighbourhood Parks / Natural reserve / Maidan / Fair ground
- Public Square/ Plaza/ Terraces
- Streets / Activity nodes
- Central Markets/ Weekly Haats
- Public transportation

The programme is conceived primarily as **an ethological space model** to create appropriate behaviour settings which is key to success to any user friendly environment. The above thematic approach to programme relates and reinforces these ethological spaces- **the territory and the personal space of an individual's appropriation habit.**



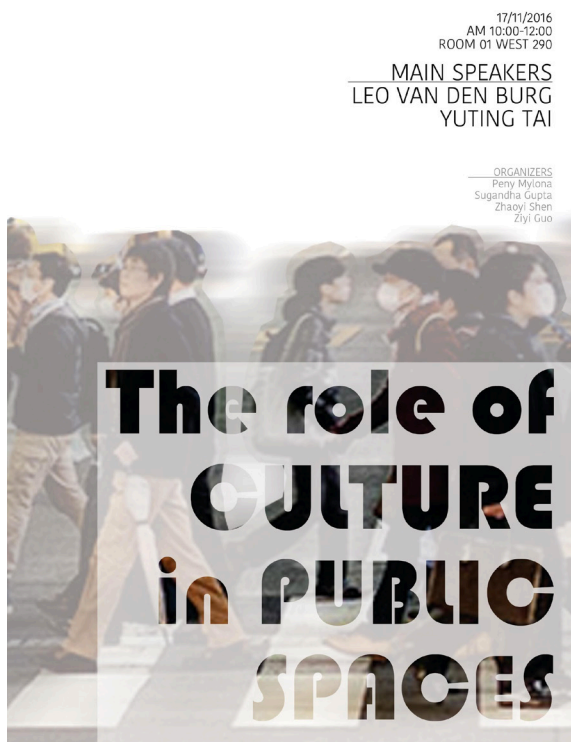






## 5. Workshop Organized

# Role of Culture in Public Spaces, BK City, Delft



*Figure 2.1 : Posters in the faculty were put up*

*Source: Workshop Team*



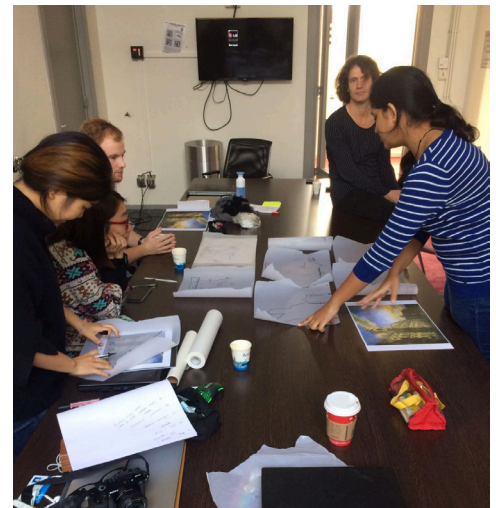
*Figure 2.2 : The teams trying to figure out the essence of the picture*

*Source: Workshop Team*



*Figure 2.4: Drawings produced during the workshop*

*Source: Workshop Team*



*Figure 2.3 : Teams explaining their doings of the*

*Source: Workshop Team*

This workshop helped me a lot and was a learning experience for the graduation thesis. The main thing that I will be using is the analysis of the picture. A picture or a painting for that matter has a lot to say about a public space, its architecture, culture and the space as a physical setting and not just some random open space.

It was an amazing experience and details of the workshop are mentioned later in the report under title “Graduation Essentials”.

## **6. Workshop to be Organized**

# Women Safety , Delhi Flying Club, New Delhi

People to Call/Personal Interviews (Trying to do so)



Dr. Kalpana Viswanath,  
Co-Founder, SafetiPin



Sonali Vyas  
Program Associate at  
SafetiPin, Urban Designer



Suneeta Dhar  
Jagori Team Leader

Other people who are coming for sure-

College Students- Age (20-27 yrs) male and female  
Working Women ( I have many friends)

Firoz Ahmed (Asst. Architect, Delhi Development Authority)  
Aakanksha Agrawal (Depty. Architect, Delhi Development Authority)  
Raghav Agrawal (Independent Architect)

People visiting the workshop-

Mukul Kumar Sahu (Public Prosecutor) , Delhi High Court  
Priyanka Agarwal Choudhary (Senior Journalist), Delhi DoorDarshan  
Divyamanu Choudhary (Manager, Corporate Affairs) , ITC Limited  
Salik Ahmed ( Editor) , Times of India  
Sanjeev Gupta, Businessman, Aligarh

Around 50 people will be there attending this workshop.

Why this Workshop?

I am organizing this workshop in order to learn the intricacies of the relationship between different stakeholders. Its a citizen engagement workshop to learn how people from different fields perceive a problem and reacts to it.

Followed by this I want to learn site specific delicacies by taking inputs in form of filling surveys and mapping with some fun gender sensitive inclusive activities. This workshop also lets me put my strategy in front of a wide audience, take the criticism and act to it in further developing my project.

## C. STRATEGY



# 1. Main Strategy- In process

**Reverse the role of bus stops**

**Make them safety harbors**

**Network the bus stops with digital technology**

**Make them inclusive with design**

**Drawing will be made**

## Strategy - In process

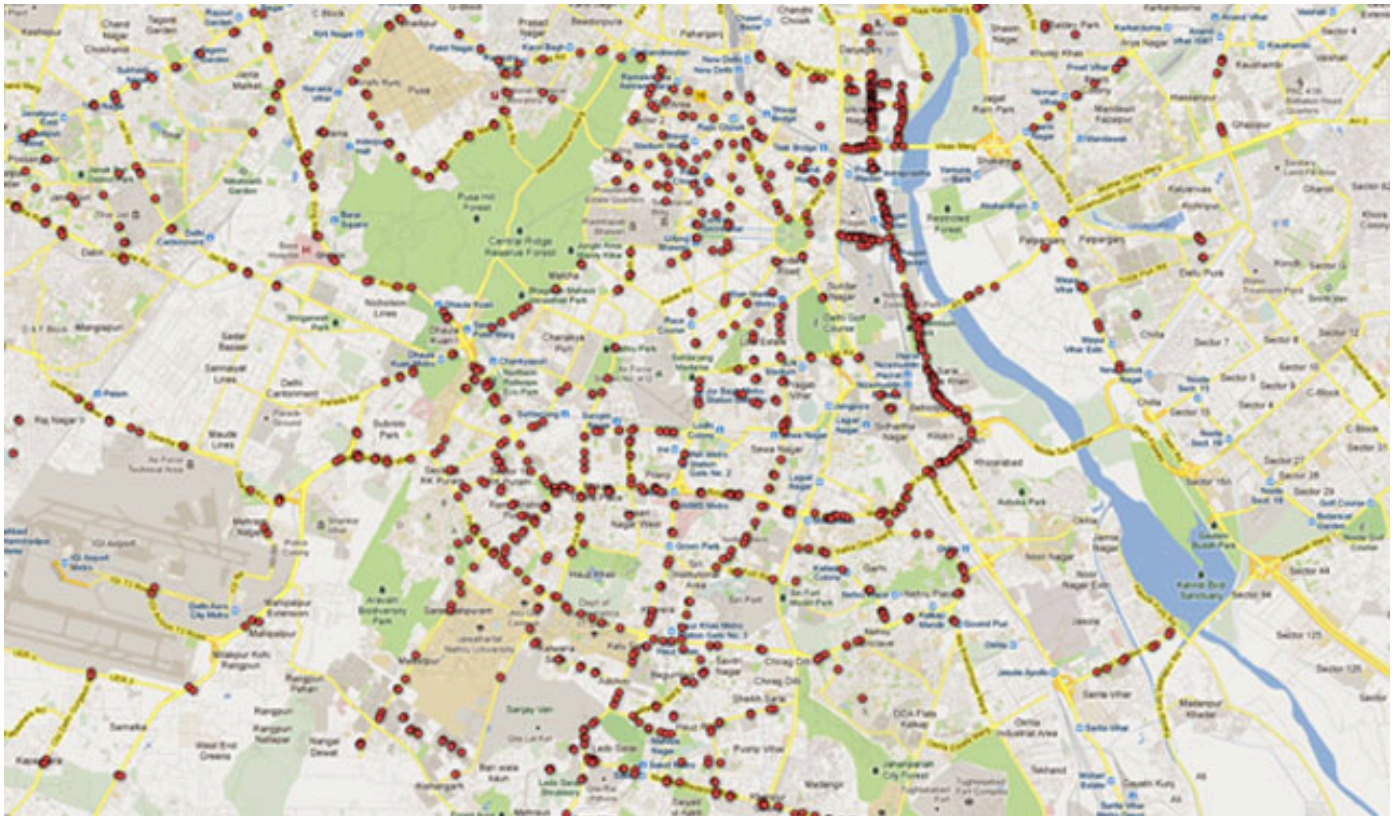


Figure : Bus Stops spread throughout the city

Source : [http://www.jcdecaux.co.in/images/mediaoffering\\_map.jpg](http://www.jcdecaux.co.in/images/mediaoffering_map.jpg)

**70% movement through public transport**

**Women are moving**

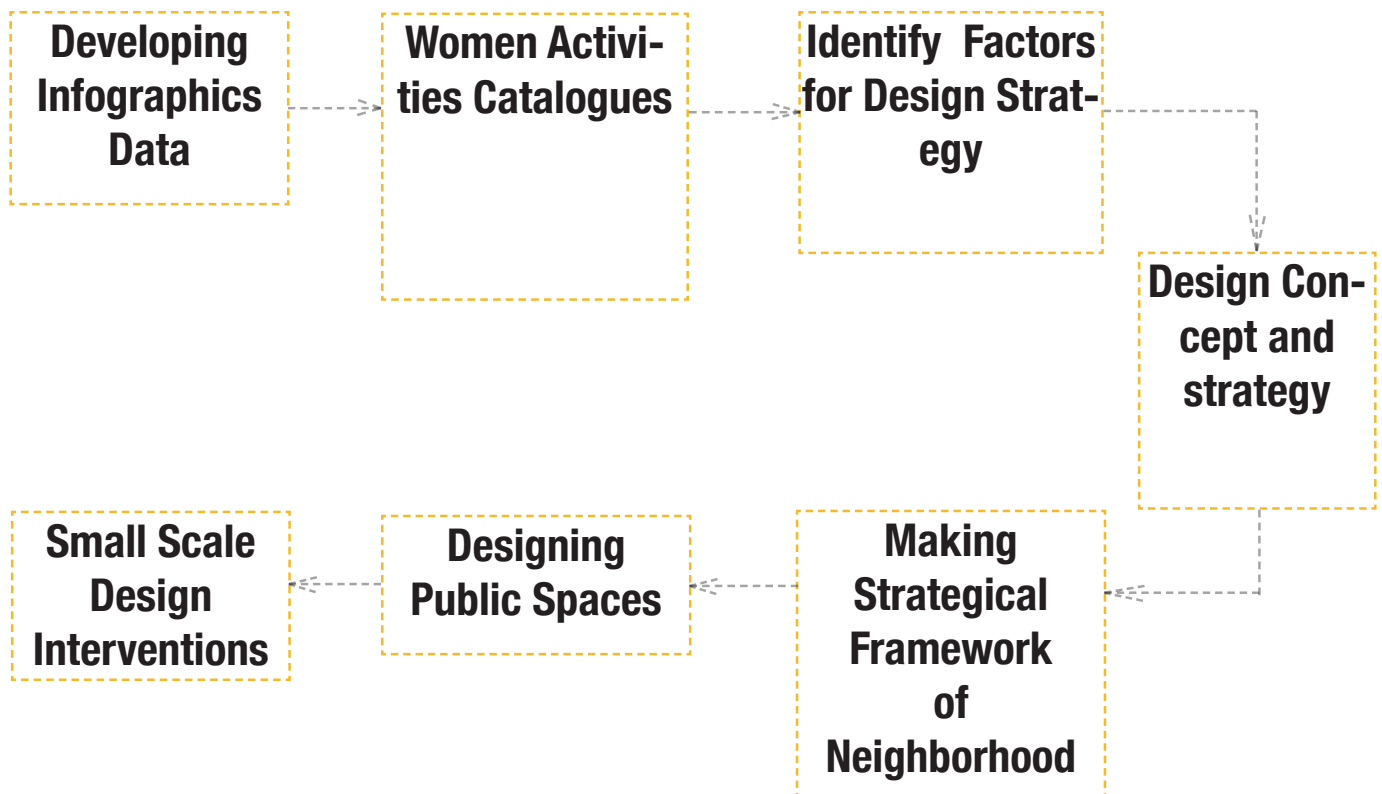
**Cater the movement**

**Bus Stops are widely spread in the city**

**all caste, religion pass through narrow door of public transport**

**Bus stops are widely spread to be the safe spots**

## 2. Expected Deliverables



### *Design End Products:-*

The design products as of now will be a 5 fold process-

1. Developing infographics of the historical situations of women during industrialization, urbanization and globalization in the world. Comparing situations of women in Amsterdam and New Delhi.
2. Documenting different activities of the women on streets and public spaces in India in a visual representation focusing on their daily routine of life.
3. Based on the data and observations, listing the different things needed for gender sensitive urban design.
4. Developing strategical framework for the particular neighborhood of New Delhi done by a tailor-made approach in order to make it safer and better for the women of the area depending on factors- age, occupation, noticed activities, physical factors supporting crime, factors contradicting safety, conditional assessment of the space, etc.
5. Designing the routes, paths and public spaces according to safety and urban design principles to produce environments that are more safe, livable and healthy.
6. Small scale design interventions that includes not just the public spaces but the relationship of the built fabric with them.

## **D. GRADUATION ESSENTIALS**

## **1. Thesis Plan**



# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

## Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners ([Examencommissie-BK@tudelft.nl](mailto:Examencommissie-BK@tudelft.nl)), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Sugandha Gupta
Student number	4516044
Telephone number	+31645431673
Private e-mail address	Sugandha2108@gmail.com

Studio	
Name / Theme	Design of the Urban Fabric
Teachers / tutors	Dr. ir. Luisa M. Calabrese Dr. A. (Akkelies) van Nes
Argumentation of choice of the studio	<p>The Design of the Urban Fabric studio has been chosen so that I can take the gender inequalities in public spaces not just as a mere political and verbal issue but a spatial issue. I want to design outdoor spaces such that they are safe and secure for women and the Urban Fabric studio will let me incorporate that urban design component into my work, the field in which I want to specialize in. I believe in the potential of physical design to bring about a positive change in the social environment of a city. I want to take this opportunity in the last year to develop my design skills and prove through my project that spatial changes done through design constituents can support to make the world a better and safer place to live. I would like to use the new technology in order to modify and redesign the urban fabric which contributes safe and vital urban environments. Though gender equality in India is a much complex issue to be tackled just spatially but physical reformations in the built environment can increase the safety of women and make the areas more accessible for them to reach.</p>

Graduation project	
Title of the graduation project	Women in public Spaces – Spatial & technological interventions towards gender inclusive environment: the case of New Delhi, India

Goal	
Location:	Delhi, India
The posed problem,	<p><b>Gender Inclusiveness of Spaces</b>  The general problem this thesis project will deal with is the issue of gender disparity in public spaces and the loss of right to the city by a section of human race i.e. woman in South Delhi in India. Gender inequality is a social, economical, political, cultural and spatial issue. Women inequality starts as a social problem but when it comes to the gendered spaces in public it becomes a spatial issue, in terms that the freedom of using public spaces is not there inside them.</p> <p><b>Economic Issue</b>  At the same time the relationship between activities of women and how the infrastructure and urban fabric has been planned is poor. A fear of crime and public realm dominates women minds due to the non- gender friendly environments. This forces women to leave working outside as paid labor and in-spite of the highly educated female member she is pinned to stay at home and be part of the unpaid labor force, which is a huge loss to the GDP and economy of the country.</p> <p><b>Crime against Women- Safe Urban Environment issues</b>  Basically to exercise equal rights the situations and conditions to be given in the surroundings should be based upon equality in designing as well which I cannot see in the case of Delhi in India. Moreover, this problem is topped with the issue of crimes against women taken in the shadow of poorly designed or not designed at all urban areas which induce that sense of fear inside them.</p>
research questions and	<p>To this end the primary research question is: -  <i>Which spatial interventions and technology based solutions could give women of Delhi a gender inclusive network of public spaces and ultimately the right to enjoy what the city has to offer?</i>  The main research question can be answered through a detailed research and investigation of the following sub 3 categorical research questions: -</p> <p><b>A. Generic</b>  <i>A1. What are the social, economic and cultural impacts of a place on the position and behavior of women in public spaces globally?</i>  <i>A2. Which spatial intrusions/best examples can induce</i></p>

	<p><i>safety and inclusiveness of women in the public sphere of the society?</i></p> <p><b>B. Global</b></p> <p><i>B1. What are the design principles for safe gender sensitive urban design and the tools to study the same theoretically and practically?</i></p> <p><b>C. Case of Delhi, India</b></p> <p><i>C1. What are the different activities carried out by women in India in the public setting (street, square, marketplace, routes)?</i></p> <p><i>C2. Which attributes of the physical setting contributes the most towards movement of a women and change in which component of the urban fabric affect the most?</i></p> <p><i>C3. What are the current barriers spatially and politically to implement gender sensitive urban design in Delhi?</i></p> <p><i>C4. What is the relationship between the built form, public spaces and women crime in vulnerable areas and how can it be improved?</i></p> <p><i>C5. How will the spatial interventions and technology based solutions integrate with the spatial structure in New Delhi?</i></p> <p>These research questions have been set accordingly to ensure the future validity as the demographics, technology, cultures and values change over time.</p>
design assignment in which these result.	<p>The design assignment contains a two fold process which comprises of <b><i>Spatial interventions/design principles in terms of gender sensitive urban design</i></b> and <b><i>Technological innovations</i></b> that can be connected to these interventions in order to achieve a safe and secure urban environment for women.</p> <p>The intended outputs / end products are a part of the main design assignment which includes a <b><i>women activities booklet</i></b> segregated according to public open spaces. At the end of this thesis I aim to have <b><i>a design of the bus stops in a safe urban setting</i></b>. Along with this a spatial strategy to connect the <b><i>safety harbors (bus stops)</i></b> has to be made which is to be done with the help of the technology in hand. The women activities booklet will be kind of a product that we can use further to see the different requirements of a women in public spaces and the area they need for specific uses. Then after tracing their paths it is known that a woman is always moving and needs public transport, therefore a bus stop typology will be made in different urban settings during site visit and the design strategy thereafter.</p>

## Process

### Method description

#### Approach to methodology

This research and design project is about solving a social issue through spatial transformations. To make a methodology to solve the research questions a knowledge of the specific tools to study gender sensitive urban design was necessary and therefore a detailed study of the tools is necessary.

The respective research questions are answered by using the following tools: -

- *Theoretical/Literature Review* – The academic literature to be consulted will be from interdisciplinary fields related to history, sociology, gender inequalities, urban planning and design and human psychology (focus on women).
- *Collection of Data*- Recording data by mapping from the information accessed by open data. Safetipin (the application) can be used to record movements and dark spots. Statistics will be obtained from National Crime Bureau (NCB) and Department of Economics and Statistics in Delhi.
- *Practical/Report Review* – This process will be done by critically analyzing the reports produced by social foundations like UN Habitat, Asian Foundation, Jagori (NGO), etc.
- *Spatial Analysis*- An analysis of the city and classic maps are made to understand Delhi and therefore to understand the site selected. It is also about seeing the land use of area and using them to make spatial biographies of women in South Delhi.
- *Interviews*- Interviews will be segregated in 3 categories:
  1. Expert Interview
  2. Victim Interviews
  3. Target Group (Women in Delhi)
- *Site Visits*- Demarcating different needs of men and women in terms of public spaces. Clearly picturing, sketching, mapping different activities of women in public spaces.
- *Case Studies Booklet*- Case studies from different parts of the world are done and critical analysis results will help me which framework of the policies would help to put my design in a framework as well.
- *Activities Catalogue*- Sketching is an old tool but helps in drawing conclusions the best. In this thesis sketching will be done to draw results in terms of area taken by the women to sit, walk, eat and perform other activities in public spaces.
- *Mapping*- Behavioral mapping as explained by Jan Gehl is used to plot people's movement, sitting, standing and chatting, etc. marked with symbols (Jan Gehl, 1936).
- *Photographing*- This is an efficient tool to study the relationship between people and urban form and where they fail to respond to each other.
- *Workshop*- The workshop to be organized is an added feature in which people from different sections, journalists, sociologists, architects, planners, target groups, experts would take part in order to make this project and their fruitful



comments will help be to make a safer and better community.

## Connection with research questions:

### A. Generic

*A1. What are the social, economic and cultural impacts of a place on the position and behavior of women in public spaces globally?*

This question will be answered by **literature review method** and through **socio-cultural anthropology** of India. All the different cultures and language **data analysis** is done and then it can be seen how diverse the culture is and how does it impact the movement of men and women in public spaces.

*A2. Which spatial intrusions/best examples can induce safety and inclusiveness of women in the public sphere of the society?*

Knowledge of this will be obtained through **Internet Research** and **Practical/Report review** by social foundations and governmental organization.

### B. Global

*B1. What are the design principles for safe gender sensitive urban design and the tools to study the same theoretically and practically?*

A **theoretical framework** will be made about the **design principles** that can be followed while designing and a framework of the tools to study the site and people's behavior will be made after the **case studies** and **site observations**. This constitutes most of my **literature review paper** which gives methodology and research tools to study gender sensitive urban design.

### C. Case of Delhi, India

*C1. What are the different activities carried out by women in India in the public setting (street, square, marketplace, routes)?*

An **activity booklet** will be made to see what activities are actually carried out by the women in different public spaces. **Behavioral mapping** will be done during **site analysis** and this will be a *personal narrative* of the city along with the story of the interviewee.

*C2. Which attributes of the physical setting contributes the most towards movement of a women and change in which component of the urban fabric affect the most?*

This will be identified by carrying out a **spatial analysis** and descriptive of the city. This will be supported by a **desk analysis** and the **spatial biographies** of the citizens of the area. The analysis will be based upon the personal interpretation and narrative of the location.

*C3. What are the current barriers spatially and politically to implement gender sensitive urban design in Delhi?*

**Analysis of data** from **safety audits** of Jagori and Safetipin application will elaborate

about the spatial barriers and study of social and **political anthropology** sheds light on the political strata of the system and gives an input of the stakeholders. **Expert interviews** will facilitate this investigation further.

*C4. What is the relationship between the built form, public spaces and women crime in vulnerable areas and how can it be improved?*

**Morphological Maps** throws light upon the classical problems and analysis, while **personal interviews** focuses on the problematic areas. A detailed tracing of different layers of the safety audits highlights vulnerable spots as well. The **theoretical review** of the defensible spaces facilitates in targeting the issues in urban fabric.

*C5. How will the spatial interventions and technology based solutions integrate with the spatial structure in New Delhi?*

**Research by design** is the main method to be used here with hit and trial. **Scenario making** is part and parcel of the project using spatial biographies for creating scenarios. Also **technology based case studies** help in seeing which best technological interventions can be useful for the project.

### **Workshop:**

I am organizing this workshop in order to learn the intricacies of the relationship between different stakeholders. It's a citizen engagement workshop to learn how people from different fields perceive a problem and reacts to it.

Followed by this I want to learn site specific delicacies by taking inputs in form of filling surveys and mapping with some fun gender sensitive inclusive activities. This workshop also lets me put my strategy in front of a wide audience, take the criticism and act to it in further developing my project.

The diagram below explains how I solve research Questions :-

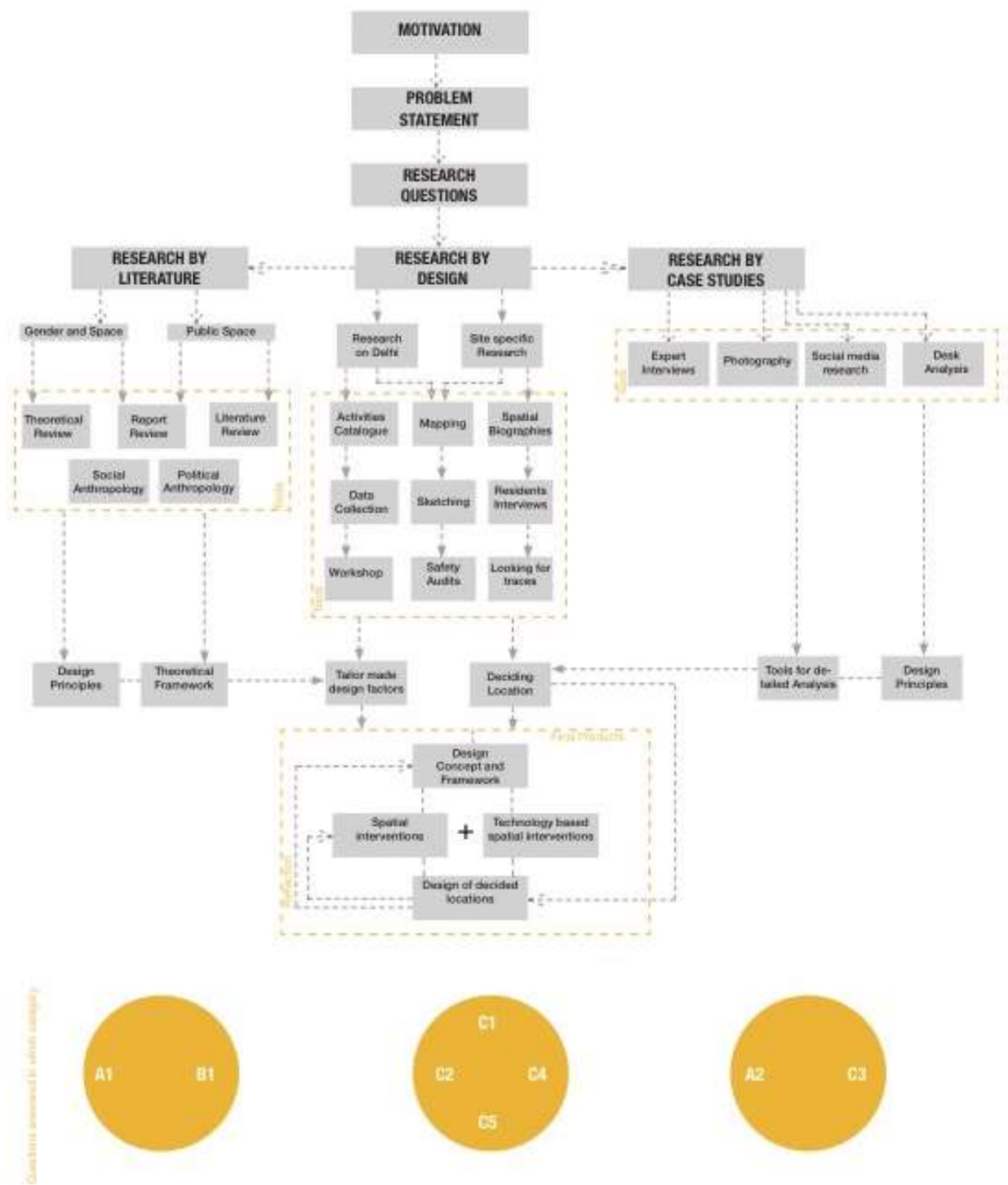


Figure: Methodology Diagram

## Literature and general practical preference

### Literature to be studied:-

#### ***Literature focused on Gender Sensitive Urban Design and Planning:***

1. Agarwal, S. (2016). Women walk alone to reclaim India's streets from fear and harassment | Global development | The Guardian. Retrieved from <https://www.theguardian.com/global-development/2016/aug/26/women-walk-alone-blank-noise-india-reclaim-streets-fear-harrassment>
2. Chatterjee, R. (2015). #WhyLoiter reclaims public — and inner — space for Indian women | Public Radio International. *PRI*. Retrieved from <http://www.pri.org/stories/2015-09-17/whyloiter-reclaims-public-and-inner-space-indian-women>
3. Falu, A. (2009). Women in the City on Violence and Rights.
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8. Kuhlmann, D. (2013). *Gender Studies in Architecture*. Routledge.
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11. Moser, Caroline O.N. "Gender Planning In The Third World: Meeting Practical And Strategic Gender Needs". *World Development* 17.11 (1989): 1799-1825.
12. Phadke, S., Ranade, S., & Khan, S. (2009). Why loiter? Radical possibilities for gender dissent. *Dissent and Cultural Resistance in Asia's Cities*.
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15. Whitzman, C., Legacy, K., Andrew, C., Klodawsky, F., Shaw, M., & Viswanath, K. (2013). *Building Inclusive Cities: Women's Safety and the Right to the City*.
16. Woodsworth, E. (2005). Making Space for Women in Cities. *Space.Winter*.
17. Sanchez de Madariaga I and Roberts M (eds) (2013) *Fair Shared Cities. The impact of Gender Planning in Europe*. Ashgate.
18. Viswanath, Kalpana (2013) 'Planning cities as if women matter', Seminar 648: 72–5, [http://www.india-seminar.com/2013/648/648\\_kalpana\\_viswanath.htm](http://www.india-seminar.com/2013/648/648_kalpana_viswanath.htm) (last checked by the authors 16 January 2015)
19. Whitzman, Carolyn, Caroline Andrew and Kalpana Viswanath (2014) 'Partnerships for women's safety in the city: four legs for a good table', *Environment and Urbanisation* 26: 443–56 WICI (2012) Tackling Gender Exclusion: Experiences of the Gender Inclusive Cities Programme, Montreal

**Urban Design related Literature:**

Gehl, J. (2010). Cities for people. Washington, DC: Island Press  
Public Streets for Public Use

**Methodology Framework:**

Lefebvre, H. (1996). *Writings on Cities*.

How to study Public Life- Jan Gehl

The Social life of Small Urban Spaces- William H. Whyte

**Literature on Safe Public Spaces:**

Jacobs, Jane (1960) *The Death and Life of Great American Cities*, New York: Vintage  
Defensible Spaces by Oscar Newman

**Audits & Reports:**

UN-Habitat, (2012). *Gender and Urban Planning: Issues and Trends*. Nairobi: UN-Habitat

JAGORI (2010) *Understanding Women's Safety: Towards a Gender Inclusive City*, New Delhi: Jagori

Quito Declaration on Sustainable Cities and Human Settlements for all. (2016).

METRAC. (n.d.). *Safety Audit Report - Toronto, Canada*.

Dobbs, R., Manyika, J., Chui, J. W. M., & Lund, S. (2015). McKinsey report 2015, (September).

**Reflection****Relevance****Social Relevance of Gender Sensitive Urban Design**

The topic taken for graduation is about the safety and security of women in public spaces. Safety of Women in India is none the less a problem and the changing trends show that the improving literacy rates move women to the urban centers to seek job opportunities. These women coming for attending colleges or working do not have the feeling of safety inside them while their movement in the city due to poor urban infrastructure. A fear of a crime happening in their surroundings or to them is always there in their minds while roaming around as asked in a few interviews. The numbers shown completely reflects the picture of how women are being playing with by the other gender under the name of culture or religion. A need for improvement of the urban infrastructures is a cry from every women living in the city so that she can use whatever the city has to offer without any fear. In a country like India, such projects are a necessity not only for the vulnerable group but also the other majority to realize the importance of needs and desires of others. Through this project I want to create awareness that work is being done in the world on gendered cities and successful stories can be heard through the people of respective locations, for example, Vienna and Seoul.

At the same time, the world is changing but in India still loitering or hanging around in public spaces for women is not considered ethical and if they are in the public sphere of the society then it is only because of a purpose. Phadke in her paper writes



about how a girl illustrates her purpose by using a cell phone, carrying babies and parcels or a handbag. Hindu unmarried women often wear traditional markers like sindoor in hair or engagement rings or the customary necklace to show the respect and be safe. She gives an overview of how an anti-social woman is considered more respectable over the girls being social, working, partying and returning late (Phadke, Ranade, & Khan, 2009). Most of the criminals performing indecent acts against women have given statements that they did it because the women were in inappropriate clothing or because they thought that the girl was not decent as she was outside on the roads in the night. All these incidents occur in the public spaces of the city because of poor physical setting of spaces and planning policies that are not in favor of gender inclusiveness. Urban Design and planning is a way through which a change in the urban setting can set a change in the minds of the people, like remove the fear of crime from women and create a fear in the minds of the criminals that they can get caught.

Finally, according to the United Nations also this is a universal issue and gender inclusive planning was included as one of the main focal point of Habitat III conference.

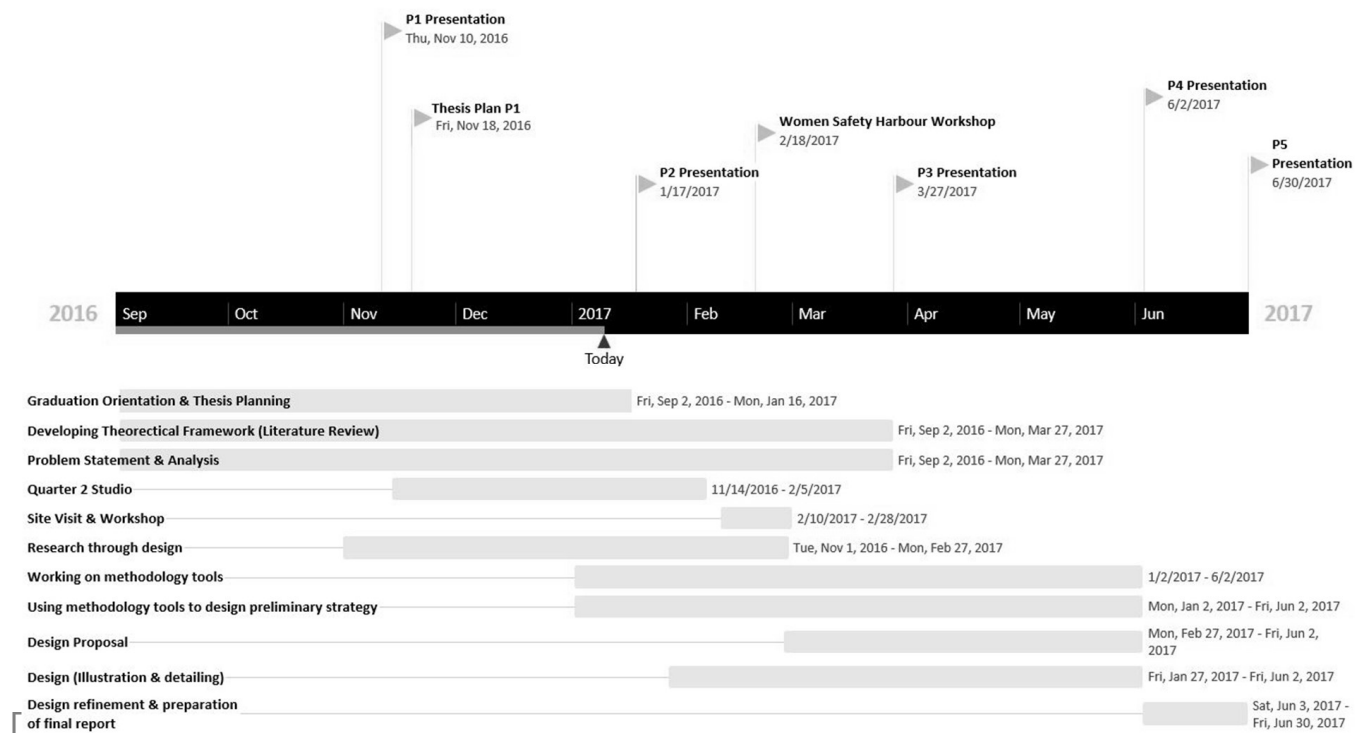
### **Academic Relevance of Gender Sensitive Urban Design**

Ana Falú from the National University of Cordoba and the Coordinator of the UN-Habitat UNI Gender Hub in her lecture states that the women are cross-cut by differences of class, income, education, sexual option, race, ethnicity, place and territory we live in. She states that making a women-friendly city means creating a space that is safe for everyone. She takes this as a necessity of the hour and mentions four principles to be undertaken while planning gender inclusive cities. In the literature a lot have been written about gender inequality, distinctive gender usage of spaces and economic disparities. Not much have been done in terms of gender sensitive urban design and therefore I feel this project can be a small example which can have big implications.

Urbanism is a discipline which through spatial transformations can generate socio-economic opportunities for the citizens of a place. So from a scientific point of view though an urbanist works on the spatial characteristics of a place he/she can produce a framework of possibilities and opportunities. There are a wide range of these opportunities and it is in the hands of an Urbanist of how to manipulate the spatial conditions to improve the social and economic status of the people.

So, I see the relevance of the chosen topic and hereby a case of new possibilities and opportunities for those who are deprived. Delhi is huge, almost the size of Netherlands and therefore I choose a part of Delhi for my interventions to represent this project as an abstraction of a global issue. I would try making this project practically feasible for the government to adopt the principles.

# Time planning



## Phasing of the Project

The diagram above illustrates the time planning for this project. The activities undertaken for each stage above are outlined in more detail below.

During the whole project site visit will be made once before the design start and then the other would be done to take the reflection of the project.

## Details of Stages

*Graduation Orientation & Thesis Planning:* This stage includes formulation of problem statement, initial research questions, project goal, theoretical framework. Main products P1 & P2 report.

*Developing Theoretical Framework (Literature review)-* Still ongoing reading and desk research for writing the theoretical framework of thesis report, theory paper and case studies.

*Problem statement and analysis:* There are a variety of methods that have been used for this purpose, desk research and reading of reports contributed the most. Site visits, personal interviews and expert interview will throw more light upon these.

*Site Visit & Workshop:* This step is done in a duration of 15 days and will give me a closer look to the harsh reality on ground.

*Research through design:* In a project like this there are a number of methods and tools that need to be found out first to be used further in the project. For this the old tool of sketching and mapping will be used.

*Working on methodology tools:* This is an ongoing process which extends till the end of the project as the methodology might change at times during the project.

*Methodology framework & strategy:* A methodology framework is made to make and test the design strategy in further steps.

*Design Proposal:* A design strategy for the neighborhood will be followed up by the design proposal of a small scaled down location.

*Design (Illustration & Detailing):* This is a step to be taken in the end to make explanatory illustrations and detail the design plan.

*Design Refinement & Preparation of Final Report:* Further refining is done on the report after P4 to the last comments that are given and for the reflection of the design proposal taken from the workshop visitors online.

## 2. Graduation Workshop

### Hosted by:

Sugandha gupta  
Ziyi Guo  
Zhaoyi Shen  
Peny Myl

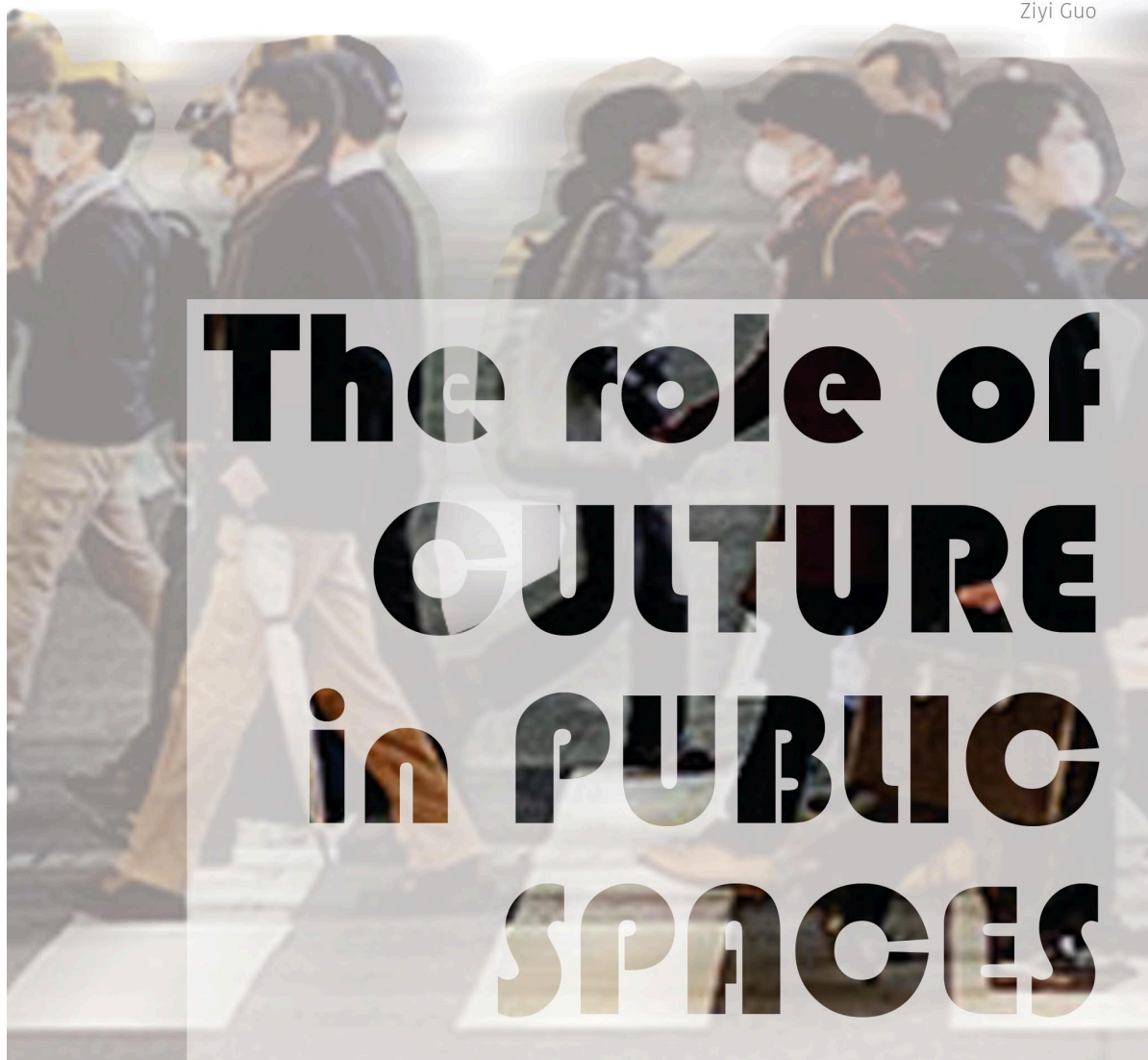
### Conducted by:

Leo van den Burg  
Yuting tai

17/11/2016  
AM 10:00-12:00  
ROOM 01 WEST 290

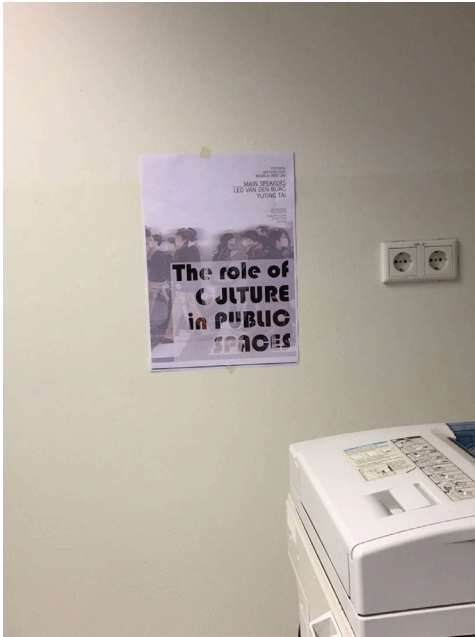
MAIN SPEAKERS  
LEO VAN DEN BURG  
YUTING TAI

ORGANIZERS  
Peny Mylona  
Sugandha Gupta  
Zhaoyi Shen  
Ziyi Guo



*Figure 2.1 : Posters in the faculty were put up*  
*Source: Workshop Team*





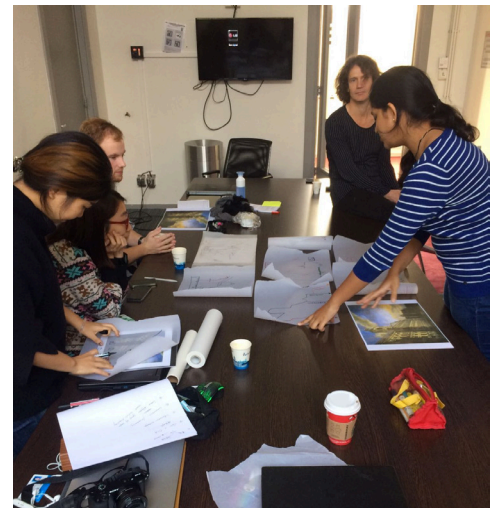
*Figure : Posters in the faculty were put up*  
*Source: Workshop Team*



*Figure : Leo introducing with the activity*  
*Source: Workshop Team*



*Figure 2.2 : The teams trying to figure out the essence of the picture*  
*Source: Workshop Team*



*Figure 2.3 : Teams explaining their doings of the*  
*Source: Workshop Team*

## Minutes of the Workshop:

Number of people who attended: 10

Our workshop was in the duration 10:00-12:00 on 17th November in room 01 West 290.

Title- "Role of Culture in Public Spaces"

We started with Leo Van den Burg's presentation at 10:15 for around 20mins ,  
 Then the PhD Yutong presented for 20 minutes.

Then we had a small workshop at 11 for 30 minutes on "Methods of analyzing a public space" where we work in groups of 2-3 people and the mentors helped us with it.

We finished at around 11:30 with a small discussion of 15 minutes and wrapped up everything by 12:00.



## Learning by Doing:-



Figure 2.4: Drawings produced during the workshop

Source: Workshop Team

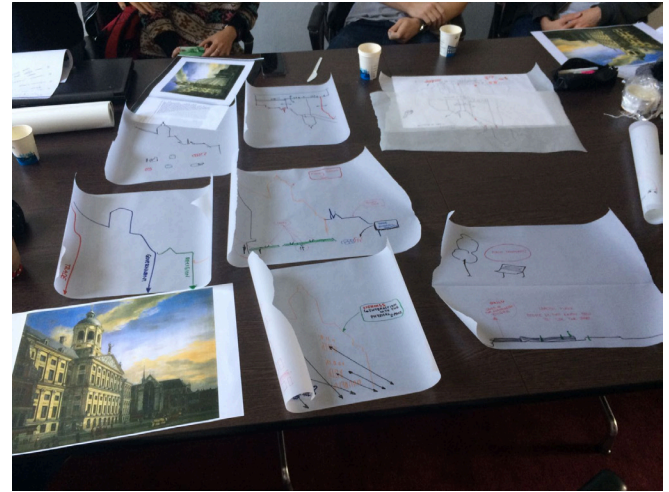


Figure 2.5: Drawings produced during the workshop

Source: Workshop Team

## Role of Culture in Public Space

**Question:-** How would you go about designing a space in the world of mix social groups as this is the era of migration?

**Answer:-** It really depends on how the space functions and what kind of migrants come in. Example- People from Antwerp, Belgium came to Amsterdam in the 17th century and brought with them their economic expertise which helped Amsterdam in growing in economical terms. The public spaces also developed as the part and parcel of merchant lives.

### Some of the points I learned from the Workshop:-

**Architecture and The Built Environment-** After the whole discussion and the discourse about the painting I have realized that an open space is a part of its surroundings and the architectural spaces have a direct connection and interaction with the public space.

**Role of Culture** - Culture and traditions are an emergence of the political and economic state of a city. The type of activities that take place on the streets or in the open spaces are an outcome of the kind of businesses and requirements of a city core. For an example, Rotterdam is a work place, it has so many companies and the people in the central Rotterdam are mostly young and working. So the public space is being used in the manner of relaxation on weekends and in terms of transitional spaces on weekdays.

**Safety and Security-** Since safety is one of the main topics that I rise with in my own thesis, I learned an important lesson from Leo's presentation of the development of Amsterdam in the 17th century where they brought about many changes in order to keep the city secure at the edges of the city.

**Economic Status-** Since I study gender inclusive spaces, through the presentation and the workshop thereafter I came to know that a gender inclusive space can be achieved by urban planning and design since the spaces are then provided for both the genders in order to keep everyone's requirements fulfilled. Also the area of space make visual and emotional changes. For a poor women trading her stuff on the dam square would be much more safer than doing in a narrow damp shrunk lane.

All in all in a conclusion I have learned about not just the culture aspects but also how social cohesion takes place, how economic disparity is a factor in shaping culture and the physical space and also that the identity of a city is a result of the social mix, interaction and nature of open spaces.

This workshop would help me a lot when I have to make derivations of the pictures taken in site analysis.

### **3. Literature Review Paper**

# Gender encompassed Cities

An overview of right to the city, methodologies & best practices

**Sugandha Gupta**

4516044 – sugandha2108@gmail.com

Delft University of Technology, Department of Urbanism

December, 2016

**Abstract** – Gender inclusive cities in the world of urbanization is an opportunity that can be offered to the women deprived of the rights to enjoy what the city has to offer. This paper is a review of the academic research analyzing the inclusiveness of cities based on the varying methodologies adopted theoretically and practically in order to make public spaces more accessible and exploitable by all with a special focus on a country like India. It digs into the different approaches taken worldwide in order to achieve a gender-conscious city. It documents the results of various steps taken regarding urban design and planning to improve the conditions of one of the most vulnerable groups of humankind which are women as identified by the United Nations. The best efforts done in the western world are a part of the examples from which the global south can learn to make improvements in the direction of creating or renovating places to gender inclusive spaces.

The review summarizes the social, spatial and economic aspects of women rights and accessibility to the city which will ultimately help me make the spatial and physical design interventions for my design project assembling a framework in which the women make proper use of what the city has to offer. The paper on a conclusion enlists different approaches taken on a global level to make the cities inclusive and gender conscious as a whole while planning and designing.

**Keywords** – Gender Inclusive Cities, Cultural Uses of Space, Right to the City, Vibrant Public Spaces

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## 1 Introduction

The vision of UN-Habitat III aims for cities and settlements that promote civic engagement, participatory planning, engender a sense of belonging and possession among all their inhabitants, prioritize safe, inclusive, accessible, green, and quality public spaces, cultural expressions, and political participation and foster social cohesion, inclusion and safety in peaceful and pluralistic societies, where the needs of all inhabitants are met, recognizing the specific needs of those in vulnerable situations such as women, children, elderlies, etc. (“Quito Declaration on Sustainable Cities and Human Settlements for all,” 2016)

Early approaches to urban planning and design have always been dominated by the male society, and all the decisions were taken for the healthy white male individuals making patriarchal suppositions about

the women (Woodsworth, 2005). The basic unit for policies and urbanism was a family which was stereotyped where the private realm was made for the female members and the public realm was designed for men as they were the foremost bread earners of the family. This approach in the western world remained till the 1960s when the ‘second wave’ of feminism came and started playing a role as well (Greed, 1994).

In this review paper, I would summarize the different methods and approaches taken by philosophers, architects, urban designers and planners, artists in order to understand the distinctive use of spaces by both the genders and realizing the fact that understanding the need and plight of the vulnerable gender in terms of accessibility and usage of public spaces is very important. Thereafter, an analysis of the distinctive successful approaches taken in order to take care of everyone’s demands irrespective of caste, creed, age,

ethnicity, religion or gender. After reading this paper, one will have an unblemished picture of the methodologies and tools that are to be adopted in order to understand the urban fabric in terms of gendered usage.

## 2 A brief historical review

If we talk about rights to women, they have been one of the vulnerable groups in spite of the caste, creed, religion and location. In this section, a brief history and excerpts define how gender inequality has been a worldwide issue. Despite comprising almost 50% of the world's population a general mindset of people highlights men as the owner, worthy and to be awarded as accentuated by Dorte Kuhlmann. A very explanatory example of this is given in the book *Gender Studies in Architecture* when in 1991 Robert Venturi was awarded a Pritzker prize which is the most highly valuable award in Architecture based on the designs which were a contribution of his wife Denise Scott Brown as well. This decision was appreciated and condemned at the same time by Robert Venturi himself in his speech. This small example in the world of art and architecture unfolds a side of inequality which is evident even in the most developed world (Kuhlmann, 2013).

Also in the paper, "What a non - sexist city would look like?" published in 1980 clearly stated how women started leaving homes already in the United States to join the economic workforce, which accounted for approximately 38% in 1975 (Hayden, 1980). In 2014 that number rose to 60% which has led them to search for family caretakers which is one of the possible solutions for this problem. The idea of old grandparents taking care of the kids, while the young generation is a part of the economic workforce is a trend which is noticed over the years in the United States.

Even in the United Kingdom in the mid-1960's an economic reform shook the stability of all the jobs where jobs were decentralized and were now being overpowered by the women. The basic reason of this occurrence was that the female group constituted cheap labor and part time availability suited them and officials of the companies as well. In the book *Space place and gender*, Doreen Massey has tried to configure about A Woman's Place and the economic structure which was the main reason why the whole United Kingdom was talking about relationships between men and women. It was basically studying about how the regional planning affected employment sector, and jobs were transferred from one section to the other. Questions were being raised upon the old patriarchal form of domestic production which was torn apart (Massey, 1991).

Talking about gender inequality and safety is still a major issue. In the developed countries it is more about the economic disparity in the workforce while in developing countries it is about the minimal rights to the women to access public spaces and to be a part of them. Their safety in terms of sexual violence, rape, and molestation, is the key subject to be resolved not just by social reforms but by providing a suitable infrastructure and built environment to them. Basic facilities and necessities like public toilets, safe parking areas, proper sanitation, safe public transport, accessibility to public spaces and no to sexual violence are the basic human rights which they should be able to access (Whitzman et al., 2013).

## 3 Factors for gendered use of spaces

Gender planning and design approaches vary country to country and place to place. The simplest reason being the freedom to women and the right to use the city. The different factors that influence the further steps to be taken at this point of time vary according to the social and economic status of women in different countries.

### 3.1 Cultural Factors

The world is changing but in India still loitering or hanging around in public spaces for women is not considered ethical and if they are in the public sphere of the society then it is only because of a purpose. Phadke in her paper writes about how a girl illustrates her purpose by using a cell phone, carrying babies and parcels or a handbag. Hindu unmarried women often wear traditional markers like sindoor in hair or engagement rings or the customary necklace to show the respect and be safe. She gives an overview of how an anti- social woman is considered more respectable over the girls being social, working, partying and returning late (Phadke, Ranade, & Khan, 2009). Most of the criminals performing indecent acts against women have given statements that they did it because the women were in inappropriate clothing or because they thought that the girl was not decent as she was outside on the roads in the night.

### 3.2 Socio-economic status

The percentage of women in the US participating in the workforce can be found to be 58% over the 12% of women participation in India. The factors and barriers of the variance in this participation level are different for distinctive countries. The economic status though is one of the reasons that show the number of participation of women in paid labor force. Hayden had identified that in the machine age after the home was equipped with latest machines

like a washing machine, home blender, etc. women had to go out to earn to pay for these additional loans even when these machines actually helped them with the household works (Hayden, 1980).

Moreover talking about India, \$2.9 trillion can be added to India's GDP by 2025 if it improves Gender Parity as stated in a report from Mc Kinsey. One of the factors involved in a decrement of women in labor force is their safety on streets and public spaces as recognized by them and many other organizations. The results of the analysis titled as 'The power of Parity: How advancing women's equality can add \$ 12 trillion to global growth' represents that India would be the principal gainer from the efforts to improve gender parity. This is because the nation outlooks to take advantage of almost a quarter of the full monetary potential of \$ 12 trillion that can be acquired by collecting gender equality at the global level. The study's findings shows that refining gender parity and safety in public spaces will almost double the contribution of the women workforce to the GDP for the next decade (Dobbs, Manyika, Chui, & Lund, 2015).

### 3.3 Private- Public Spaces

Gender equality in spatial terms can be achieved by equal rights in private, and public spaces that are in the reach of people which are the houses people live in and the outside environment. Public space is defined by the nature of its use having physical, social, cultural and political dimensions. The notion of public space presumes a public sphere with cooperative social use and a diversity of functions. It is a site for relating to and identifying with others, political protests, contact among people, urban activities, and jargons of the community (Viviescas, 1997).

The quality of a public space can be determined based on the strength and the value of the social associations it enables, its capacity to welcome and inspire a mixture of diverse groups and behaviors, and its potential for promoting mutual connection on a symbolic level, cultural expression and integration (Falu, 2009). Women in these public spaces feel insecure due to a lot of reasons including poor design and infrastructural facilities, behavioral patterns of society, etc. The type of public spaces in India are streets, railway stations, parks& gardens, streets, roads, highway, cinema halls, malls, plazas, bus stops (Mahadevia, Lathia, & Banerjee, 2016)

Jane Jacobs in 1961 stated that "Cities have the capabilities of providing something for everybody, only because, and only when, they are created by everybody" (Jacobs, 1961) . This statement clearly signifies that the cities have to be designed taking care of needs and desires of all the inhabitants.

These varied factors of culture, socio-economic status and freedom of genders to use public spaces define how the usage of space can change due to planning policies and change in urban structure.

## 4 Methodologies

Any problem or issue can be solved in different layers and through different kind of scales. Specifically, for the gendered use of spaces, it is not just about feminism but about different uses of spaces by different target groups. Different methodologies and systems have come up in the past stating clear knowledge of the problem recognition and steps taken at different scales like planning, theories on researching to collect data and information, practical methods to gather records and the rules and regulations that are made at the government level and authorities envisioning future in terms of reservations for the deprived part of the society.

### 4.1 Theoretical Approaches

Henri Lefebvre has written about the rights to the city and has mentioned taking different approaches in lieu of the old practices. He gave a general theory of urban time spaces that includes the old practices of including humans that can be seen as a new theory in which philosophy and science come together. Transduction is a practice that can be methodically carried out and which differs from classical induction methods (Lefebvre, 1996).



Figure1: Abstract explaining transduction theory  
Source: made by author

He announced right to the city as a cry and demand which can be transformed and renewed as the right to urban life. On a conclusion, he stated to concentrate on understanding the daily life and movements of the people. That's the key, and it has to be included in the science and art of the city. Centralizing is not the solution, understanding people's behaviors and their response towards cities in terms of their movements is what is required.

Ana Falú from the National University of Cordoba and the Coordinator of the UN-Habitat UNI Gender Hub in her lecture states that the women are cross-cut by differences of class, income, education, sexual option, race, ethnicity, place and territory we live in. She concludes the main factors to be looked



at while designing a women-friendly city are localization, proximity, participation and resources. Localization in terms of the services, proximities according to the movement of different genders, participation at all the levels from high government politicians to the citizens and resources in the form of georeferenced violence, statistics, and data. According to her the abandonment and fear of spaces is a vicious circle that is created by the social construction of public and so-called protected spaces.

## 4.2 Practical Approaches

The first safety audit method was made in Canada by METRAC (The Metro Action Committee on Public Violence Against Women and Children) and has been efficaciously used throughout Australia, North America and Great Britain, to measure ostensible danger in the urban setting (METRAC, n.d.). These safety audits are a mapping tool to study an area in terms of crime and to recognize the problems.

As identified by Akkelies Van Nes space syntax is a method and a tool that can be used for the analysis of the streets through visual sight lines to calculate the spatial configuration of built environments and can be realistic on a wide scale level in research on built environments. It is able to categorize the streets spatial features for vital shopping areas, crime distribution, various social classes spatial preferences, etc. (Van Nes, 2011).

Kalpna Viswanatha, a sociologist and NGO worker, started an application named as Safetipin which collected the data from a number of cities and a number of points from a varied database provided by different user groups including men and women. This database now signifies the safe and unsafe places in a few metropolitan cities of India and also provides a function of emergency calling. In this world of computer and tech-savvy lifestyle most of the low-income countries are still inaccessible to computers but Smartphone technology has reached hands of many Indian citizens who can avail the opportunity to contribute and access data and services including banking, payments, market intelligence for business and other amenities. A report estimates that smartphone usage in 2014 is 1.76 billion and it is estimated that one in three persons will have a smartphone in India by 2017 (Vishwanath & Basu, 2016).

The public wireless network and extending CCTV cameras are a method that is undertaken by the government of India to ensure the security of women after the brutal rape in public transport in 2012 but critically reviewed this method is proving

more to be moral policing and capturing the young couples on the road under the law of spoiling culture and obscene acts in public rather than paying attention to safe built environment.

On the whole, these methodologies are a great way to make a framework for the survey of the project, on site and on the desk as well.

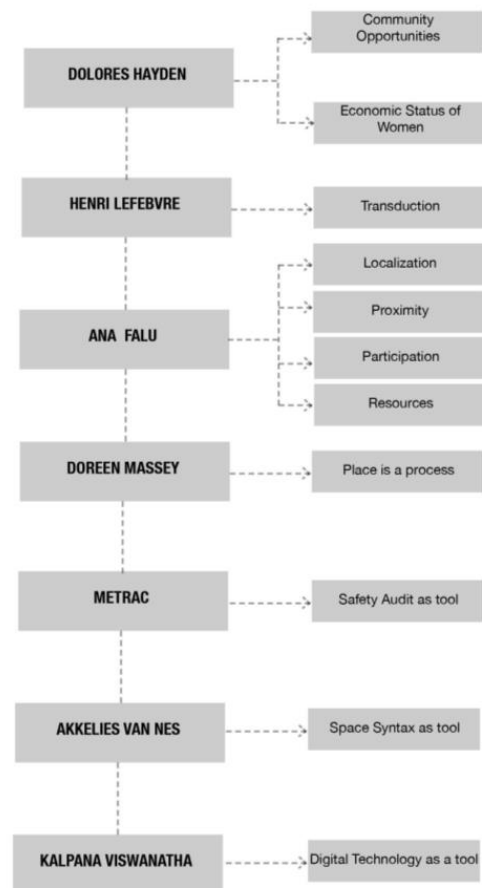


Figure2: Different Methodologies & tools used to study gender inclusiveness of a city  
Source: made by author

## 5 The Best Practices

The best practices refer to the initiatives taken in India and globally in order to improve the living environment with a gender lens and also how they proved to be a boon to the vulnerable society and pose that it was a requirement by the needy.

### 5.1 Social Practices in India

Jagori is an NGO that works for the women empowerment and has been working on the diverse kind of issues that are faced by them. They focus on the underprivileged section and have done a number of surveys which showcase the disparity of the services used by women in slums and relocated colonies by Delhi government (Jagori, 2010). In the year 2009, Jagori in corporation with the UN Women and Department of Women and Child Development started the 'Safe City Free of Violence

against Women and Girls Initiative.' The goal of the initiative is to achieve cities where women and girls are able to pass around freely without the fear of violence and harassment at all times and so as to enjoy all what the city has to offer."

JAGORI undertakes action research that serve as the basis for focused backing and women-led involvements in the society. These studies raise critical questions regarding the centrality of women-centered views that need to be brought to the attention of policy makers and the ones involved at the implementation stage. These studies are aimed at supporting the struggle of the community to claim their rights and entitlements as citizens of Delhi; the studies are further used as reports and safety audits to be submitted to the local government in order of the actions to be taken (Jagori, 2015).

A volunteer-run organization called Blank Noise has been working against street harassment since 2004. In June, it hurred a campaign – #WalkAlone – to inspire women to regain public spaces. Women were encouraged to visit never seen places, or the ones about which they have been warned for sometime. The campaign is counseling women to undertake the challenge at any time of the day, for at least three weeks, buzzing a song, daydreaming, with hands unclenched, shoulders relaxed, until they get back their right to walk without fear (Agarwal, 2016)

Pukar Organisation in Mumbai started gender and space project which accentuate on gender as a class to scrutinize the scaling and know-how of the city and its sundry spaces, especially talking about the public areas. These public spaces in relation to the research area are the ones extending from public toilets, streets and marketplaces to the recreational areas including transportation mediums. The project is located in and focuses on the city of Mumbai in particular (Phadke et al., 2009).

A group of young women in Mumbai is trying to change the concept of Why Loitre as they think we should be able to hang out in public spaces with no apparent reason, but simply because we want to do it just like all the boys and men who roam around, sometimes doing nothing but staring with those unwanted gaze or chit-chatting, meeting up with friends, and just having fun being outside. This cluster of women is part of a small but growing movement called Why Loitre (Chatterjee, 2015).

## 5.2 Spatial Practices (Urban Design & Planning)

All over the world, there have been innumerable spatial and planning practices that have been done over years in order to change the vision of the residents and force them to think about this

perspective where gender disparity is taken into account, and thought is given to realize to consider gender inclusive spaces. In 1974, The Cuban's Family Code mentioned about Men's participation in the domestic work which marked the importance of unpaid labor.

In 1999, the city of Vienna began a redesign of two parks in Vienna's fifth district. Footpaths were added to facilitate the parks and make them more accessible. Volleyball and badminton courts were installed to allow for a variety of actions. Landscaping was also used to segment large, open areas into semi-enclosed pocket parks. Almost immediately, city officials observed a variation. Dissimilar groups of people girls and boys began to use the parks without any one group over-running the other as they all had spaces for their own activities and a sense of privacy. In 2008, the United Nations Human Settlements program incorporated Vienna's city planning strategy in its records as one of the best practices in improving the living environment. Vienna's other project was about generating a gender mainstreamed pilot district, and it included a courtyard park so that the mothers could view their children playing. It also had a day care center in the society and a general store in the vicinity. A public transport station was also planned nearby so that the commuters do not have safety and dragging issues (Foran, 2013).

The current policies in Korea did not pay much attention to the women usage of roads and transportation in general. So Seoul made policies in order to achieve Women friendly cities where they aimed to refine the city urban spaces by showcasing women's perspective in all the city policies thereby improving their daily urban life and chores. They worked on solving the issues that cause trouble, uneasiness, and inconvenience in a female day to day lives which also propagated women rights. They worked in the subprojects of parking lots, parks, roads and built environment which includes CPTED, Crime prevention systems, like windowed transparent elevators, in lieu of safety. It is also about building childcare facilities along with female bathroom facilities. Subway ticket gates and bus stops are modified for stroller use.

## 5.3 Spatial practices (Architecture)

Dolores Hayden comments about the special housing facilities given for working women and their families in Copenhagen by Oho Fick in 1903 and highlights the Scandinavian solutions of the problems faced by these women. This was carried on by Sven Ivar Lind and Sven Markeliuch in the 1970s who designed Marieberg Collective House in Stockholm, Sweden. In 1970 Steilshoop Project in Hamburg, Germany facilitated public housing with

supporting services. In 1972, Nina West homes in London designed an iconic project in the name of Fiona House which provides Day Care centers, collective babysitting and created jobs for single parents. All these examples are successful real experiments done to reach a gender conscious environment (Hayden, 1980).

A review of these practices presents a clear picture that gender spatial interventions and inclusive cities are a responsibility of an urban designer/planner while designing a space to facilitate the needs and desires of all the sections of the society equally.

## 6 Conclusions

This paper gives an impression of the rights given to women since the 19<sup>th</sup> century and the minimal role that has been played by the government of most of the countries to uplift the society. Through the best spatial and urban design, planning practices followed globally the position of woman has risen to an exceptional level in comparison to other countries where basic rights to the girls are still not there.

The question still arises if the steps taken at the planning level are the ones who should be adhered to when designing at a smaller scale. Also, a big question arises in terms of the implementation of the big plans and policies at a scaled down level. A knowledge gap in between the various barriers of gender inequality and the best spatial gender inclusive practices emerges.

Through this paper the methods undertaken to study gendered spaces and cities for all it is clear that these processes can be used to study a place, but then design interventions need to be location based and tailor made approach which changes due to the diverse cultural usage of place and space.

The review text clearly states that designing a gender-conscious city is not only about spatial interventions but also understanding the social, economic and cultural prospects of a place. On a conclusion now I know what methodologies and tools like safety audits, space syntax, transduction and more are to be taken for studying the site and which spatial interventions and planning policies are undertaken in Vienna and Korea impacted different set of cultures.

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**The Women in Delhi Hope ,  
CHANGES.....**

## Spatial Design Solutions

The design solutions in the theoretical framework are given like mixed use streets are safe streets as identified by Sunita Dhar and Jacobs also said that eyes on streets make them much more safer, these concepts can be converted to a spatial aspect with the help of urban design in spaces (George, Devi, Dhar, Bishnoi, & Philipose, 2014). In India conventionally the streets are designed for the 4 wheeler vehicular traffic and the pedestrian footpaths are reduced to almost non existing spaces sometimes. This creates an unsafe environment for the pedestrians be it for any gender and in the dark alleys at night when there is no proper lighting, it makes women change their paths to much longer routes (Jagori, 2010).



*Figure 2.13: Girls or women generally roam around with a trusted man or in groups in the night*

*Source: <http://safetipin.com/site/getImage/409>*

There are many layers in which women's safety can be identified like in terms of rights, economic status, social status, violence against women, etc. but here in this thesis a gender inclusive environment will be achieved by studying women's access to public spaces and the infrastructure hurdles faced by them in order to experience the city. The problems they come across in leading their daily life and the spatial issues which can be solved by design perspective. Most of the women as

Jane Jacobs in 1961 stated that "Cities have the capabilities of providing something for everybody, only because, and only when, they are created by everybody" (Jacobs, 1961). This statement clearly signifies that the cities have to be designed taking care of needs and desires of all the inhabitants. The idea of safety was also propounded by her and therefore ascribed the role of urban planners and designers.