

RESEARCH SERIES SAFE MOBILITY

EXPANDING ACCESS TO OPPORTUNITIES FOR GIRLS AND WOMEN

WORKING TOWARDS SAFE MOBILITY

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The FIA Foundation Research Paper series seeks to provide interesting insights into current issues, using rigorous data analysis to generate conclusions which are highly relevant to current global and local policy debates.

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CONTENTS

| | | | |
|--|----------|-------------------------------|-----------|
| INTRODUCTION | 1 | FINDINGS | 16 |
| SUMMARY OF FINDINGS | 3 | OVERALL SAFETY | 16 |
| BACKGROUND | 5 | PUBLIC SPACE - ACCESS AND USE | 19 |
| INDIA | 5 | BEHAVIOURS AS PROTECTION | 19 |
| TRANSPORT CHOICES AND OPTIONS | 5 | INFRASTRUCTURE | 19 |
| SAFETY | 5 | HARASSMENT | 20 |
| ADOLESCENTS | 7 | CONCLUSION | 21 |
| STUDY METHODOLOGY | 9 | APPENDIX A | 23 |
| THE STUDY AREAS | 11 | END NOTES | 24 |
| THE SAFETIPIN APP AND SAFETY AUDIT WALKS | 13 | | |
| FOCUS GROUP DISCUSSIONS | 14 | | |
| KEY INFORMANT INTERVIEWS | 14 | | |





INTRODUCTION

A woman's place in the world, in society and the economy is shaped by her ability to move freely. Restricting that freedom has long-ranging impacts for her life and the lives of those for whom she cares.

These impacts, however, are rarely addressed by transport planners, predominately because there is little data about how women move, what they experience and how that shapes their lives. As a result, transport systems, vehicles, even timetables are all designed with men in mind and that fail women on every level often forcing them out of education, out of the workplace and, in some cases, out of public spaces entirely.

For many, these experiences begin at the point of adolescence, when girls are able to, potentially, move more freely alone or in groups around their environment, while also experience the societal perceptions which arbitrarily shift from 'child' to 'woman' with all the dangers that entails. The tension between these two factors is pronounced, and the experiences of the latter can prevent young women from using public spaces or making journeys to access education, employment and societal engagement based on their personal concerns

or those of their family units. The built environment plays a significant role in these experiences, which influence the safety and perceptions of safety for women, and can play a significant role in ensuring the visibility of women in public space and society as a whole.

That is why the FIA Foundation has partnered with Safetipin for this innovative study to build a picture of how adolescent girls make their journeys. From door-to-door this study uses innovative technology, supported by frank discussions with local women to understand how their experiences and behaviours are shaped by the physical and social framework in which they live. The project specifically focused on adolescent girls' experiences to highlight the risks they in particular face as they move around their communities.

Sheila Watson
Deputy Director
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SUMMARY OF FINDINGS

To understand the challenges faced by girls and young women, due to lack of safety in public spaces and public transport, data was collected in three areas in and around Delhi.

A combination of quantitative and qualitative primary data was collected through safety audits using the My Safetipin mobile phone app, 'safety audit walks' and focus group discussions with participants and key informant interviews with local stakeholders.

KEY FINDINGS:

- 44% of all audit points assessed felt 'frightening' or 'uncomfortable', which women would avoid if possible.
- Street use is notably gendered, with women regularly using less than a third of public spaces assessed.
- Greater use of an area by women correlated with a better feeling; of the audit points with higher gender use, 89% were perceived as 'comfortable' or 'acceptable'.
- The most significant infrastructure issue is the presence and quality of walkpaths, with 84% of audit points rated as non-existent or extremely poor.
- There was a significant variation in experiences from location to location – in the peri-urban location, walkpaths were entirely absent from 70% of audit points, compared to 16% in the inner-city location.
- The experiences of girls vary but many similar factors impact the ways they interact and move in their worlds, for example adapting plans to avoid particularly busy or quiet periods of the day.
- Girls reported feeling the onus was on them to prevent harassment, by travelling in groups, preferably at times when there is less traffic but still light, and to particularly avoid using buses – which carry a significant risk of sexual harassment – when forced to travel alone.
- Infrastructure was identified as a significant barrier to girls' and women's mobility; poor road conditions do not just make it difficult and uncomfortable for them to walk, but in inclement weather the streets are unusable and many skip school during rainy days.
- Experiences of sexual harassment and the fear of sexual harassment emerged as one of the significant barriers to girls' mobility both in public spaces as well as public transport across the three audit points. In one location, street harassment was cited as one of the major factors for abandoning education.



BACKGROUND

INDIA

New Delhi, India, was ranked as the fourth most dangerous megacity for women¹ and it is seen to be struggling to address the underlying issues which place women's wellbeing and future outcomes at risk.

Harassment while navigating through public spaces in their everyday lives is not unique, however, the Indian context has a profound impact on the life chances of these young women. Concerns about safety don't just restrict freedom of movement, but limit academic prospects and curtail future employment opportunities. It is the only country where female participation in the workforce is falling - just 26% of women now work, falling from 35% in 2005 - while over a similar time period, reported crimes against women in India rose more than 80%. Female Delhi University students have reported choosing less prestigious colleges to avoid harassment², while according to research by the Institute for Transportation and Development Policy and Safetipin, urban Indian women are turning down more lucrative jobs further away from home to avoid the public transport system.³

New Delhi's reputation has become linked with international concern about violence against women, and in particular the intersection of public transport and safety, following the gang rape and murder of a student, Jyoti Singh Pandey, on a Delhi bus in 2012 which sparked a global outcry about women's safety and marked India for a particular battleground for women's rights. It was rated the fourth most dangerous of megacities for women, but led in the risk of sexual violence including rape or sexual attacks and harassment.⁴ Public spaces and transport form a particular flashpoint for gendered violence - Delhi Police reports in 2004 identified almost 45% of the reported cases of molestation took place in public places, with a quarter taking place by the roadside.⁵

TRANSPORT CHOICES AND OPTIONS

Women's travel patterns and their perception of safety while using public transport are also influenced by cultural and social expectations and constraints. Close contact with non-related men in public spaces and on transport hold social stigma, discomfort, and perceived threats to physical safety and personal reputation.

Women in the wider Delhi region rely on various modes of transport, especially Intermediate Public Transport (IPT) which constitutes the informal feeder service to public transport mostly used for short distance travel, such as autos, e-rickshaws, tata magics and gramin seva (three or four wheeler vehicles which have been filling gaps in transport services to urban villages on the periphery of the city since 2010) for fulfilling their everyday needs.

The decisions about how and when women travel across the region are not necessarily autonomous - men play a critical role in determining whether and how female family members will travel. The Center for Economic Research in Pakistan (CERP) in Lahore, Pakistan found that half of all the male respondents discourage female family members from using low occupancy vehicles.⁶

SAFETY

The perceived safety in the context of this research refers to women's level of comfort, ease and perception of risk during the complete public transport journey. Perceived safety includes how at risk of theft, intimidation or assault a woman feels on her journey from doorstep to destination, not just on a form of transportation.

Lack of safety in any part of the journey can adversely impact girls' and women's self-confidence, thereby restricting their mobility and opportunities of growth.

Male social behaviour - underpinning the wider functionality of urban environments is the behaviour of those with whom women share public spaces. Harassment and particularly sexual harassment have a great impact on safety perception of girls and women. Harassment can take on many forms, be them visual, verbal or physical. These threats come not just from other users of transport - pedestrians and passengers - but also transport workers such as drivers or conductors.

This experiences are reflected in urban spaces around the country - Safetipin research across the smaller cities of Bhopal, Gwalior and Jodhpur, 95% of respondents identified public transport as the most unsafe public space for women.⁷

Opportunistic, predatory behaviour can take place in crowded spaces, to avoid detection, or at times where the victim or perpetrator may be unseen when spaces are quiet. Such experiences may seriously impact the emotional, mental and physical wellbeing of women. To overcome such issues, women tend to wait for long hours for the appropriate public transport or choose more expensive modes of transport to avoid interaction.

Physical environment includes factors which are related to infrastructure, urban planning and the navigation of physical spaces within the built world and on modes of transport. Poor streetlighting poses risks for women from sexual harassment or violence, and wider safety issues such as injuring themselves on unseen obstacles. The quality and existence of pavements is another significant factor as pedestrians are forced to walk on the roads where they are prone to injuries from vehicles and other road users.

The social environment, how women can navigate and use public space, also plays a critical role in shaping the safety perception. Public spaces dominated by men, those used recreationally for group activities such as drinking and playing cards, are avoided. The social use of a space also changes with time. Girls and women may feel safe and comfortable at a place during busy hours when there are more people and activities on the streets, but quieter times are perceived to offer no protection should they be harassed.

Management of services is another factor; overcrowding and low occupancy on transport modes such as buses both pose a particular threat to women. Extreme close proximity leads to reports of opportunistic sexually motivated contact by men against women, while, conversely, the experience of extremely under-occupied transport also posed concerns.

The city has introduced a number interventions and programs measures to address concerns, such as CCTV and GPS tracking on buses, women-only metro carriages, and, from December 2019, free bus journey for women, however confidence in transport safety remain low.

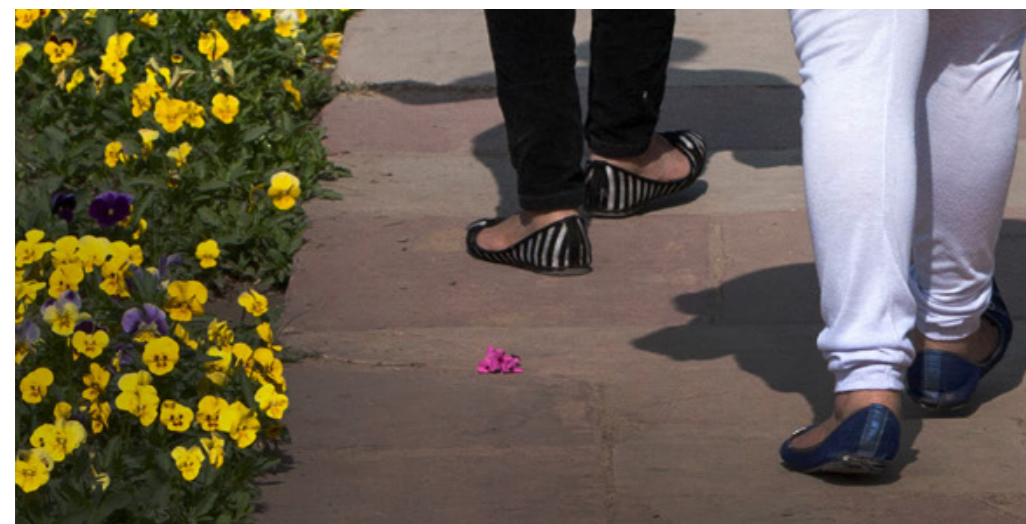
These issues impact the everyday mobility of women due to which they may be forced to alter their travel patterns.

ADOLESCENTS

Providing safe and equitable access to education and employment is not only a basic human right, but it is also part of national commitments to the United Nations Sustainable Development Goals (SDGs) and The New Urban Agenda. Yet there is a fundamental data gap which limits how cities, countries and regions understand women's transport experiences and patterns. This gap is most stark around adolescent girls.

We know that the point of adolescence is when many disappear from education - UNESCO estimates some 39 million girls between 11 and 15 years will miss out on their education this year, disappearing from public spaces and wider society. Distance from schools is a factor, especially in remote, rural and semi-urban areas where just a half kilometre increase in distance to school decreases girls' enrolment by almost 20%.⁸

The transition from childhood into puberty can pose new and extreme risks. Sexualised violence against girls and young women in public spaces is one of the greatest barriers to their social and economic development. Girls are most likely to be abused on their journey to, or in and around, schools research shows.⁹



STUDY METHODOLOGY

To understand the challenges faced by girls and young women due to lack of safety in public spaces and public transport, three low-income neighbourhood locations - Rojka Village, Mewat, Bawana and Jamia Nagar - located in different parts of Delhi and the National Capital Region (NCR), were selected for their geographical diversity and the substantive issues facing girls and young women in the site contexts.

The research was undertaken in five months between May and September 2019 by Safetipin, who worked with two local organizations focused on development issues with girls and women in the low-income communities, Jagori and CEQUIN.

The methodology had two parts, a review of relevant literature and primary data collection.

A combination of quantitative and qualitative primary data was collected. Quantitative data was collected through safety audits using the My Safetipin app in Bawana and Jamia Nagar and supervised activities 'safety audit walks' in Rojka Village. This data was supplemented by focus group discussions with participants and key informant interviews with local

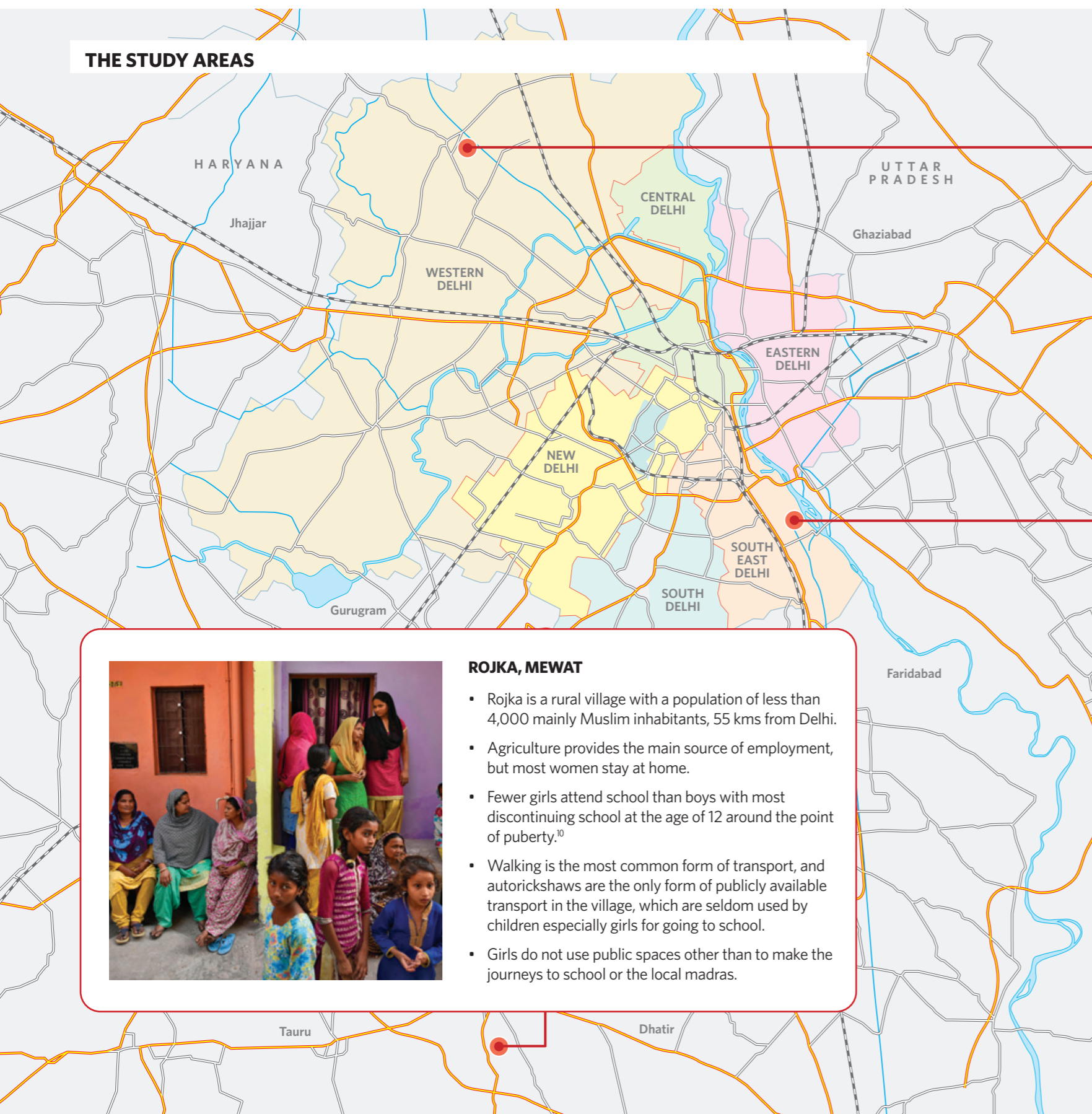
stakeholders. These interactions provided deeper insights regarding the challenges faced by residents, particularly girls and women in the three project audit points.

There were some challenges in the methodology, particularly around building rapport and trust with the participants. This was especially difficult in Mewat as the girls there have very limited interactions with people outside their community. Facilitators from Safetipin team observed that most of the participants had never been asked about their aspirations in life. The girls were reticent to talk about instances of harassment in public spaces and took time before sharing details of their everyday lives.

In Jamia Nagar, some of the girls were accompanied by a female relative for the group discussions which may have impacted their participation. Finding enough time with participants was also a challenge as they were quite busy and had limited mobility.

In Jamia Nagar, it was difficult to find women who travelled outside the locality as most of the participants studied and worked in Jamia Nagar itself.

THE STUDY AREAS

**BAWANA**

- Bawana is a peri-urban area, 23km north west of the centre of Delhi. The majority of the 150,000 residents, a mix of Hindus and Muslims, are members of so-called 'lower castes' and are some of the most oppressed groups in India.
- The conurbation is a resettlement colony, developed in 2004, where residents of slums across the city were forcibly displaced.
- Manual and domestic labour, alongside small-scale retail form the majority of employment. Most women stay at home, though some engage in domestic, factory and retail work.
- Most girls study at the nearby schools and colleges, between 2km and 3km away.
- Gramin seva and e-rickshaws are popular transport modes, with metro and bus access available.

**ROJKA, MEWAT**

- Rojka is a rural village with a population of less than 4,000 mainly Muslim inhabitants, 55 kms from Delhi.
- Agriculture provides the main source of employment, but most women stay at home.
- Fewer girls attend school than boys with most discontinuing school at the age of 12 around the point of puberty.¹⁰
- Walking is the most common form of transport, and autorickshaws are the only form of publicly available transport in the village, which are seldom used by children especially girls for going to school.
- Girls do not use public spaces other than to make the journeys to school or the local madras.

**JAMIA NAGAR**

- Jamia Nagar is an urban area in South Delhi with a majority Muslim population of 1.4 million, mainly made up of migrants from states like Uttar Pradesh, Bihar, Assam and Bengal.
- Small-scale business and retail form the majority of employment for men, while more than half of women are employed in domestic industries and local factories.
- Girls attend schools and colleges located in the vicinity of Jamia Nagar.
- Jamia Nagar is well connected to different parts of the city through multiple modes of public transport such as bus, metro and autos. E-rickshaws and gramin seva are also available in Jamia Nagar area for shorter commutes.

THE SAFETIPIN APP AND SAFETY AUDIT WALK

My Safetipin is a mobile phone application that works to make cities safer by collecting safety-related information on a large scale through crowdsourcing. At the core of the app is the safety audit that has been designed based on the safety audits from around the world.

A location is audited based on nine parameters using the app from which a Safety Score is generated for that point, for the full criteria see Appendix A.

The app measures physical infrastructure and social usage at an audit location, including geo-coordinates and images for evidence-based assessment.

Safety audits were conducted in Bawana and Jamia Nagar using My Safetipin app from 6pm to 9pm by a team of

trained auditors comprising of girls, women and boys and men from the community to identify factors that make girls and women feel unsafe and uncomfortable.

The 286 audits undertaken were used to understand the existing infrastructure, both physical and social, and to identify gaps in it in Bawana and Jamia Nagar. Residential areas were reviewed as well as popular markets, public parks and transport hubs frequently visited by girls and women.

In Rojka village, adolescent girls do not have access to mobile phones, so participants undertook supervised safety audit walks from home to school to understand their mobility patterns and challenges and assess information about perceptions of safety in public spaces.

SAFETY PARAMETERS



LIGHTING

Availability of enough light to see around you



SECURITY

Availability of police or private security guards



WALK PATH

Either a pavement or road with space to walk



PEOPLE

Number of people walking around you



PUBLIC TRANSPORT

Availability of any form of public transport



GENDER USAGE

Presence of women and children around you



VISIBILITY

Vendors, shops, buildings from where you can be seen



FEELING

How safe you feel at that place



OPENNESS

Ability to see and move in all directions

FOCUS GROUP DISCUSSIONS

Focus group discussions offer valuable insights into perceptions, attitudes and biases. A total of seven focus group discussions were conducted across the three audit points. In each location a focus group discussion of girls attending school as well as a focus group of women took place, while in Mewat an additional group gathered the views of girls who had dropped out of the education system.

The girls were aged between 13 and 18 years, while the women interviewed were between 20 and 40 years. Facilitator-led focus group discussions were carried out to get insights into everyday life and the challenges they face accessing and using public transport and spaces. The discussions focused on the concerns of safe mobility for girls and women and how it impacts their access to opportunities of education, employment and overall development in life.



A focus group discussion in Bawana

KEY INFORMANT INTERVIEWS

Key Informant Interviews gathered in-depth information on how local key stakeholders perceive girls' and women's safety and inclusion in public spaces. These interviews were instrumental in understanding how these key informants perceive their own role in building safe and inclusive spaces particularly for girls and women. Questions for the interviews pertained to girls' and women's safety while using public transport and public spaces,

improvements that have been made in the past and how the existing situation could be improved.

Seven key informant interviews were conducted across the three audit points. In Rojka village, interviewees were the school principal, a teacher and a senior member of the village council (known as a panchayat). In Bawana, they were conducted with the ward councilor and president of the resident welfare association. In Jamia Nagar, a school principal and ward councilor were interviewed.



FINDINGS

OVERALL SAFETY

Safety audits were conducted in various public places in Jamia Nagar and Bawana. They assessed locations on a series of parameters: lighting, openness, visibility, people, security, walkpaths, public transport, gender usage and feeling (see Appendix A for full criteria).

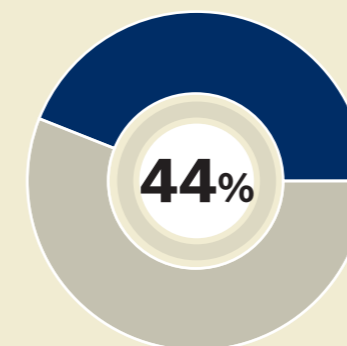
Each parameter was assessed on a scale of zero to three, where zero is very poor, and three is good. Any rating below two, an 'average' rating, is considered in need of change.

44% of all audit points were rated as feeling 'frightening' or 'uncomfortable' which women would avoid if possible.

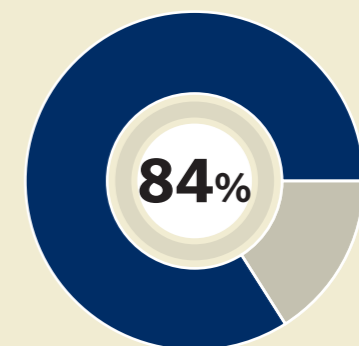
Of the audit points assessed, women regularly used less than a third of spaces and on those streets where women were regular users, the feeling on the street was ranked significantly higher; 89% of audit points were perceived as 'comfortable' or 'acceptable'.

At 95% of the audit points assessed, security was considered insufficient, with little to no access to or visibility from private or police personnel.

The most significant infrastructure issue is the presence and quality of walkpaths, with 84% of audit points rating them as either 'non-existent' or 'extremely poor'.



44% of all audit points rated 'frightening' or 'uncomfortable'



84% of walkpaths at all audit points rated 'non-existent' or 'extremely poor'

JAMIA NAGAR

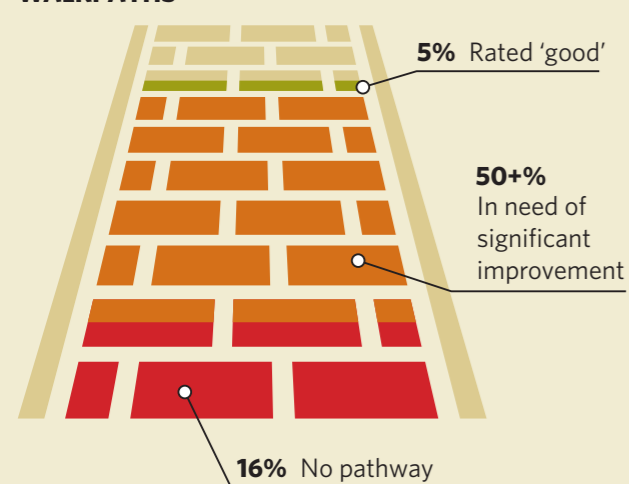
Walkpaths were rated the least safe infrastructure element in the area; 16% of audit points had no pathway at all, and more than half were in need of significant improvement; just 5% were rated 'good'.

At a quarter of the audit points, women recorded feeling 'frightened' or 'uncomfortable', but of the audit points regularly used by women this dropped to 10%.

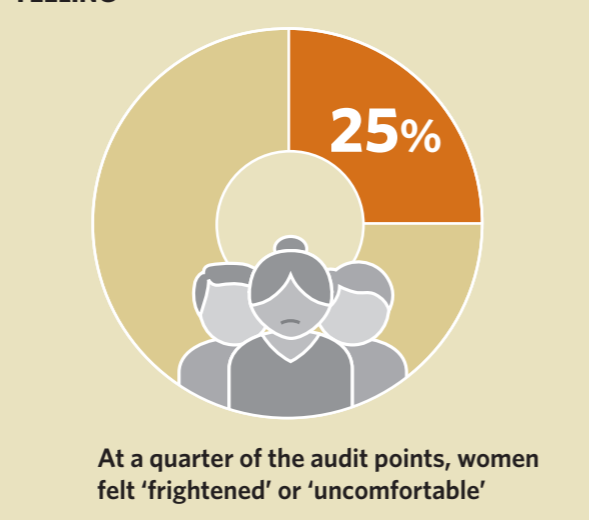
More than half of audit points (55%) were more than five minutes from a form of shared mobility like a bus or auto stop, while one in ten audit points (11%) were more than 10 minutes away.

90% of audit points where assessors reported the feeling was 'acceptable' or 'comfortable', were also locations where gender usage was high.

WALKPATHS



FEELING



PUBLIC TRANSPORT

% of audit points that were more than a 5 or 10 minute walk from a transport stop



More than a 5 minute walk



11%

More than a 10 minute walk

AUDIT POINTS REGULARLY USED BY WOMEN

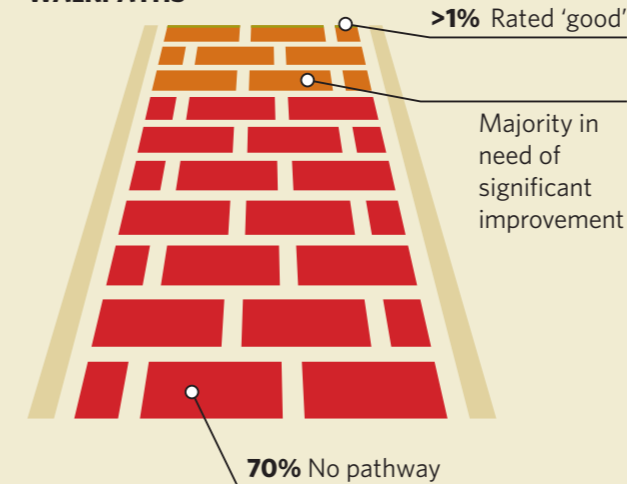


BAWANA

More than half of the audit points assessed in Bawana (50.5%) were felt to be 'frightening' or 'unsafe' by assessors, and would be avoided whenever possible.

The majority of assessed audit points did not have walkpaths at all (70%), the remaining majority were difficult to walk and of the 211 audits just two locations received a 'good' walkpath rating - less than 1%.

WALKPATHS

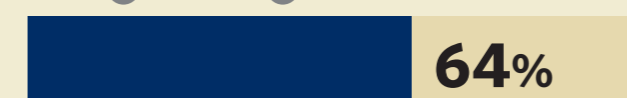


FEELING



PUBLIC TRANSPORT

Audit points with insufficient public transport facilities and provisions



SECURITY

Audit points within sight of some form of security



Just one audit point was rated high for safety

VISIBILITY



x2

Audit points where feeling was rated higher were twice as likely to be areas with higher visibility....



10+

x3.5

... and three and a half times more likely to have more than 10 people within sight.



A passage in Jamia Nagar with poor walkpath

PUBLIC SPACE – ACCESS AND USE

In Rojka village, Mewat, girls have very limited access to the outside world, and public spaces like streets are predominantly used by boys and men. On those sanctioned journeys, the poor maintenance of physical infrastructure force some to leave the built areas entirely, opting to walk through fields when the narrow, unpaved roads are obstructed with rubbish.

Girls in Jamia Nagar do have access to public spaces, however, it is time restricted. Girls reported going out with their friends and – like in Bawana – visiting each other's homes but are expected to return early and can rarely be seen on the streets in the evening, although both groups had further opportunities to develop friendships through social media. The School Principal reported this was a response to fear of harassment and even kidnapping after sunset.

In Bawana there is access to wider education and employment, while the use of public spaces is not restricted. However, there remains stigma for using public spaces for recreational activities. Girls will opt to venture further into the city (such as the Sarojini Nagar market) for recreational purposes to avoid judgement.

BEHAVIOURS AS PROTECTION

A unifying theme from the in-depth conversations with girls, and community stakeholders is the use of herd protection from harassment and violence.

“The availability of public transport in this area is not good. I have to walk back from the factory with other female co-workers especially in the evening. The roads are broken and unpaved. I do not feel comfortable walking alone.”

A working woman in Bawana

Despite varying degrees of social freedoms, all the girls reported adapting their behaviour and movements, for example trying to move in groups and adapt plans to avoid particularly busy or quiet periods of the day.

In Rojka village, teachers discussions highlighted the lack of safe mobility as one of the major deterrents to girls' education and employment opportunities, as parental concerns about social reputation for the girls and their wider families is paramount. Measures to protect from these risks include instructions for girls only to move in groups, and split school-children by gender even on the journey to school.



Route taken by girls from school to their homes in Rojka village, Mewat

In Jamia Nagar, girls reported feeling the onus was on them to prevent harassment, by travelling in groups, preferably at times when there is less traffic and to particularly avoid using buses when forced to travel alone. Girls reported that some parents restrict their girls' mobility following reports of harassment, but perceptions were shifting and some would be prepared to complain to the police rather than exclude the young women from public spaces.

“People in our neighbourhood talk badly about a girl's character if she is talking in a group with her friends in public. They would also complain to her parents.”

A school going girl in Bawana

In Bawana, sexual harassment is not usually considered the fault of the victim and, in some cases, parents are prepared to hold the harasser and harasser's family to account, rather than restrict their daughter's mobility, however, public spaces are still not encouraged for recreation. In the absence of efficient and safe public transport services, girls reported altering their travel patterns, walking in groups and trying to reach home before dark.

INFRASTRUCTURE AND OPERATIONS

Infrastructure and management of transport services were identified as significant barriers to girls' and women's mobility in Jamia Nagar. Despite the availability of multiple transport, mobility is constrained by long distances between transit stops and residences, and the perceived dangers of those journeys. Crowded transport modes exacerbated feelings of vulnerability to sexual harassment particularly on buses and, to some extent, gamin seva. The poor condition of roads does not just make it difficult and uncomfortable for them to walk, but in inclement weather the streets are unusable and many reported skipping school during rainy days.

“The streets in this area are narrow. There is no space for us to walk. This is a busy area. There are so many fast moving vehicles on the road. I do not feel safe walking here.”

A young girl in Jamia Nagar

Despite significant improvements in Bawana since its establishment in 2004, poor infrastructure and operational management of transport services continue to undermine safety on journeys. The audit, alongside conversation with the girls, highlighted the impact of poor maintenance of streetlights and pathways on the sense of personal safety. The distance to the nearest metro stop (14km) poses an infrastructure and operational challenge. Passengers, particularly women and girls feel unsafe using e-rickshaws and gamin seva, the transport link to the metro, due to their unpredictable stops, which can force them to make long, unplanned journeys by foot. Girls and women feel more vulnerable and unsafe using these modes after evening. Infrequent and unreliable bus services also put girls at risk of harassment while waiting at stops for long periods of time, as well as on the buses themselves which are over-crowded because they are too infrequent for demand.

HARASSMENT

Experiences of sexual harassment and the fear of sexual harassment emerged as one of the significant barriers to girls' mobility both in public spaces as well as public transport across the three audit points. The study shows that the impact of harassment, and the fear of it makes girls and women modify their travel patterns.



A stretch of road in Bawana with poor lighting

In Mewat, street harassment was cited as one of the major factors for abandoning education and retreating to the homestead.

“The streetlights near the bus stops do not work. I feel scared to wait at the bus stop especially if I am alone.”

A young girl in Jamia Nagar

Girls and women in Bawana and Jamia Nagar reported buses as posing the greatest risk of sexual harassment, and felt unprotected by officials such as the conductor or driver. They avoid using public transport particularly during the peak hours and prefer to travel in groups with other girls and women. In Jamia Nagar, girls limit their travel to their locality even if it leads to the compromise of their future career prospects. In Bawana, girls were notable in their confidence and awareness of their rights to address wrongdoing, but still felt the need to alter their behaviour.

“My daughter faced sexual harassment while she was going to her college in a crowded bus. She got scared and told me ‘I do not want to go to college’. I encouraged her to continue her education. Now she travels with her friends on the bus.”

Mother of a young girl in Jamia Nagar



CONCLUSION

A general lack of safety is, this study shows, a key limiting factor to access to public spaces and subsequently education, employment and societal engagement for these young women.

While it is clear there is no 'universal experience' for young women, even within the close locations around Delhi, the shared factors offer city planners insight into key areas to explore.

Infrastructure

The built environment is the physical structure around which all activities and social frameworks are based. The absence or poor quality of walk paths, in particular, is recognised as a key issue raised by girls at all the sites. Well-designed, properly paved walk paths allow women and girls to move freely in public spaces, reducing feelings of vulnerability. They separate pedestrians from fast-moving traffic and provide adequate space to avoid overcrowding. These elements are important to improve the experiences of girls, but they are universal elements which impact all journeys – for women, children, those with disabilities, and, ultimately, the wider population.

Audits across all urban areas, with a focus on gendered use, would be able to inform re-designs and infrastructure maintenance to create streets that are safer and more accessible for all.

Transport services

Public transport provision must be a particular focus for all cities to achieve the UN Sustainable Development Goal 11 to provide access to safe, affordable, accessible and sustainable transport systems for all by 2030. Unless women are made to feel safer using shared modes, there will be two key results; further demand for private vehicles, with all the challenges of poor air quality, more dangerous roads and congestion – from those who can afford it and further withdrawal from public spaces by those women and girls who cannot afford them.

Understanding the demands currently on transport systems, the requirements for further buy-in to the system, and using a gendered lens to examine door-to-door journeys is essential. Transport operations can adapt services to improve reliability and accessibility, reduce over- and under- crowding, and commit to undertake gender-sensitization training for transport staff, all of which were key issues limiting girls' use of transport, especially buses.

Deterrents from harassment

Shifting from a focus on shielding girls by preventing journeys altogether or demanding group movement, to discouraging and reprimanding perpetrators of harassment is a longer-term, cultural shift, however, building datasets using tools like Safetipin that reflect female experiences and the decisionmaking about women's movements are critical. Visibility, in particular, is a deterrent for all forms of crime – be that from suitable street lighting, presence of other people or the presence of some form of security. This is true for harassment and the threat of sexual violence, but also more widely in society – and the case for investment for gendered improvements should be made with the explicit link with safer journeys for everyone.

What is clear from these findings, from listening to and elevating personal experiences, is that the challenges for women's journeys are varied, but the elements remain consistent. What is also clear is the investments and changes that need to be made are well-defined, possible and will deliver significant benefits to young women, the wider female population and society as a whole. Strong, well-communicated investments to address security concerns will reassure women as well as the family and society units which restrict behaviours as a means of protection. That means the possibility for greater engagement/opportunities with education, subsequent workforce participation, and a stronger economy that will deliver a better, and more equitable, future for all.

The only way to balance equity, improve mobility, and ensure sustainability for all – beyond the Delhi context to the wider transport planning community – is to make informed and targeted investments, to deliver the greatest number of improvements for the widest range of the population. That means investment to engage and understand complete journeys, especially those of underrepresented groups like adolescent girls.

The project shows the benefit of combining of qualitative and quantitative data to build a picture of lived experience and provides strong, consistent feedback for transport planners about the measures needed to make journeys accessible.

We have the means to collect and share data about these journeys, now urban stakeholders including elected representatives and city authorities must show they are ready to invest and act for their girls' futures.

APPENDIX A

Full criteria of nine parameters used to audit a location, or point, and generate a Safety Score.

| | | | | |
|-------------------------|--|--|--|---|
| LIGHT (NIGHT) | None No street or other lights | Little Can see lights, but there is low visibility in the area | Enough Lighting is enough for clear visibility | Bright Whole area brightly lit |
| OPENNESS | Not Open Many blind corners and no clear sightline | Partly Open Able to see a little ahead and around | Mostly Open Able to see in most directions | Completely Open Can see clearly in all directions |
| VISIBILITY | No Eyes No windows or entrances of shops or residences overlook this point | Few Eyes Less than 5 windows or entrances overlook the point | More Eyes Less than 10 windows or entrances overlook the point | Highly Visible More than 10 windows or entrances overlook the point |
| PEOPLE | Deserted No one in sight | Few People Less than 10 people in sight | Some Crowd More than 10 people in sight | Crowded Many people within touching distance |
| SECURITY | None No guards or police visible in surrounding area | Minimal Some private security visible in surrounding area but not nearby | Moderate Private security within hailing distance | High Police / Reliable security within hailing distance |
| WALKPATH | None No walking path available | Poor Path exists but in very bad condition | Fair Can walk but not run | Good Easy to walk fast or run |
| PUBLIC TRANSPORT | Unavailable No metro or bus stop, auto / rickshaw within 10 minutes walk | Distant Metro or bus stop, auto / rickshaw between 5-10 minutes walk | Nearby Metro or bus stop, auto / rickshaw between 2-5 minutes walk | Very Close Metro or bus stop, auto / rickshaw available within 2 minutes walk |
| GENDER USAGE | Not Diverse No one in sight or only men | Somewhat Diverse Mostly men, very few women or children | Fairly Diverse Some women and children | Diverse Balance of genders or more women and children |
| FEELING | Frightening Will never venture here without sufficient escort | Uncomfortable Will avoid whenever possible | Acceptable Will take other available and better routes when possible | Comfortable Can take this route even at night |

ENDNOTES

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ABOUT THE FIA FOUNDATION



The FIA Foundation supports safe, clean, fair and green mobility to improve health and protect lives around the world. It funds an international programme of activities promoting road safety, the environment and sustainable mobility, as well as supporting motor sport safety research.

The Foundation works with a wide range of international partners. It is a contributor to major global action campaigns including the Decade of Action for Road Safety 2011-2020 and played a leading role in ensuring road safety targets were included in the UN's Sustainable Development Goals.

ABOUT THE AUTHORS



Safetipin is a social organisation working with a wide range of urban stakeholders including governments to make public spaces safer and more inclusive for women. Safetipin collect data using mobile phone applications and present this to relevant stakeholders with recommendations.

Safetipin also generate a safety score based on the data they collect and provide it in the My Safetipin app for users to make safe and informed decisions about their mobility.



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