

# Gender Responsive Urban Mobility Planning (A Case of Lagankhel to Jamal Stretch)

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## Abstract

Gender responsive urban mobility means considering the needs of different gender and thereby offering equal levels of accessibility to mobility to all different groups. The need to adopt a gender-responsive perspective is emerging as a stimulating and imminent task for urban mobility policy makers and planners. In this sense, to be effective, urban mobility policy action needs to be more gender-responsive. As such, the purpose of the research is to explore how urban mobility planning is understood and how it is designed to meet the gender needs.

A review of the body of literature and research confirms that still little is known about specific needs of genders. However, mobility and safety are the two major concerns that needs to be looked upon while planning. From the literature, several parameters of gender responsive urban mobility and their respective indicators are studied. On the basis of which, a framework matrix is prepared. This framework matrix is used as a source for the case study and analysis of the site from Jamal to Lagankhel stretch area. The mobility issues while using public transport and while walking around the site are observed and surveyed. To know about the existing mobility issues while using public transport, Sajha Yatayat is chosen.

The analysis highlighted several issues of urban mobility like road congestion. Also the unsafe and uncomfortable footpaths, overhead bridges and subways are emphasized including their immediate maintenance. The insufficient and unlit street lights in commercial and residential areas are observed. However, the positive aspects of mixed land use planning in a city are highlighted. People felt unsafe while riding bicycle, because of no dedicated cycle lane in the stretch. People are satisfied with the Sajha Yatayat in terms of safety and comfort ability. In the contrary, in other public buses, women have to face several harassment incidents and crimes in their day to day mobility which must be considered upon by the concerned agencies.

The gender imbalance emerging from current patterns and trends in mobility and transport reveals the existence of a disparity, which essentially affects three different aspects: the lack of knowledge of gender issues and the scarcity of gender mobility data and statistics, the need to plan gender based mobility services and the need to better exploit the combined effect between urban and mobility planning. In this thesis some noteworthy gender-responsive urban mobility issues are presented. However a consolidated and shared gender perspective in mobility policy-making is still far from being achieved. Furthermore, addressing women's mobility requires interaction between transport and welfare policies which might increase the complexity and length of the decision-making process. From these considerations gender-responsive policy recommendations are drawn: key issues to be tackled are ensuring safe and comfortable walking environment, implementing concept of 24x7 urban environment, designing people centric infrastructure emphasizing on NMT, alleviating overcrowding and ensuring safety on public transport, proper planning of stations and stops, ensuring women's participation in decision-making and preparing national design standards and guidelines related to gender responsive mobility.

## Keywords

Gender, Urban Mobility, Safety, Lagankhel, Jamal

## 1. Introduction

Kathmandu Valley is the largest metropolitan city of Nepal with more than a million inhabitants [1]. As

Kathmandu continues to urbanize rapidly, there is an urgent need to effectively plan and manage the transportation system and link it with urban planning. It is the central hub so there is a continuous flow of

people from other parts of the country. Roads are narrow and poorly planned, and traffic is congested almost all the time. The main means of transport are public vehicles, private vehicles and pedestrian. Despite the political advances, most women in Nepal are still expected to perform their gender roles and occupy spaces determined by traditional norms and cultural and religious values, such as, not leaving the house without a family member, their husband or an elder [2] Yet, these traditional roles are juxtaposed with new responsibilities and opportunities that urban women have taken on as they have migrated to cities. The new responsibilities for work or opportunities require women to be more mobile and to access public transport alone. People with high socioeconomic class are able to use private vehicles. Most of the rest of the girls and women must take public buses.[3] Thus, Mobility and Safety are two major issues that affect everyday life of working women in metropolitan areas (especially at night), especially those who use public transport or walk on foot. The purpose of the research is to explore how urban mobility planning is understood and how it is designed to meet the gender needs. More specifically, this research tries to know about the guiding factors on mobility choices made by men and women and the effect of mobility choices on planning of the streets and public transport.

The research is based on descriptive research design. A descriptive research is a study undertaken in areas where little prior knowledge about the problem is available but problem is not fully defined. Hence, the research deals with social reality. The research tries to find out the choices men and women make in their daily mobility patterns which cannot be done by qualitative approach and hence needs quantitative approach of research. So, the correlational research strategy is used. However, the study also needs to look at the way mobility is planned according to their choices and needs to explain social reality. The research area will be observed and interpreted using casestudy research strategy.

Since the mobility choices and needs may vary between men and women, the research needs large amount of closed ended data to get the valid dataset. It needs to maintain the objectivity with the respondent. As social reality cannot be explained like a universal fact, the most likely fact can only be obtained. Hence, the research follows post positivist paradigm using co-relational and casestudy research strategy.

## 2. Literature Review

In the literature several keywords that were used were defined. The need of gender responsive urban mobility was there because of the difference in travel behavior among men and women and also because of the safety and security concerns. Several parameters of gender responsive urban mobility were identified.

**Table 1:** Several Parameters of Gender Responsive Urban Mobility [4]

Parameters
24x7 urban common (Creating mixed land use planning)
Eyes on Street (Visible windows overlooking footpath)
Safe Urban Common (Visible Parks and play areas)
People Centric Infrastructure/Walkability (Pedestrian paths free from potholes)
Public Transportation (Well designed transit points)
Last Mile Connectivity (Smooth shift from one mode to other)
Safe Sanitation Facilities (Planning of outdoor toilet blocks)
Make Big Infrastructure Human Centric (Adding human centric soft infrastructure)
Grass Root Level Innovations (Safety alarms/CCTV cameras in emergency)

**Table 2:** Several factors and indicators of Urban Mobility [5]

Factors
Safe and Comfortable Walking Environments <ul style="list-style-type: none"> <li>i. Street Network: Block length, Safety, Comfort</li> <li>ii. Pedestrian Infrastructure: Minimum R.O.W 3.5m</li> <li>iii. Walking friendly and well lit streets</li> </ul>
Increase Women’s Cycling Shares <ul style="list-style-type: none"> <li>i. Streets with shaded ncycle tracks</li> <li>ii. Shared streets with traffic calming element</li> </ul>
Increase Women’s Safety and Use of Public Transport <ul style="list-style-type: none"> <li>i. Availability of buses</li> <li>ii. Load factor of the bus</li> <li>iii. Level and perception of safety, comfort/convenience</li> <li>iv. Waiting time, disaggregated by gender</li> <li>v. Universally accessible, well lit sheltered stations</li> <li>vi. Public toilets</li> </ul>

Also, while planning the urban mobility several factors with their respective indicators were considered which are given in Table 2.

From the above key literature, a framework matrix was prepared as shown in Table 3 which consist of dimensions, parameters and their respective measurable indicators.

**Table 3:** Framework Matrix [5, 4]

Parameters, Dimensions and Indicators	
Safe and Comfortable Walking Environments	
i.	Safe urban commons
a.	Street Network width: Safe and Comfortable
ii.	Eyes on Street
a.	Well –lit, accessible building entrances
b.	Human centric soft infrastructures
c.	Pedestrian subways/skywalks surveillance
iii.	24/7 Urban Environments
a.	Mixed land use planning
b.	Safe public spaces
c.	Safety alarms
d.	Installation of CCTV Cameras
Cycling Network and Infrastructure	
i.	People Centric Infrastructure-Walkability
a.	Continuous, even, shaded, cycle tracks
Use of Public Transportation	
i.	Public Transportation
a.	Availability of buses
b.	Load factor of bus
c.	Safety, comfort, convenience
d.	Waiting time
e.	Women transportation professionals
f.	Designated auto-rickshaws/ taxis areas
g.	Sheltered Stations
h.	Well-lit stations with sittings
i.	Information and Communication
ii.	Safe Sanitation Facilities
a.	Public toilets within 250m walking distance

indicators were done.

According to “The Nepal Road Standards, 2070”, the width of the carriageways for single lane road is 3.75 m whereas for intermediate lane is 5.5 m. In the site, all the roads from Lagankhel to Jamal are Primary roads whose carriageway for single road i.e one way from (Sundhara to Sahidgate) is 15m and for intermediate lane is 15m. On inquiry, more than 63 percent people said that they found it to be congested, the main reason for which was the traffic congestion and roadside parking.

Footpaths are almost on both sides along the road within the study area. Which are finished with concrete blocks. According to “The Nepal Road Standards, 2070”, the minimum width of the footpath is 1.5m. The footpath in the study area varies from 4m, 3m, 2m and 1.5m. On inquiry, more than 65 percent of the people found it out to be uncomfortable and more than 59 percent of people found out to be unsafe. The level of comfort ability and safety varies among male and female. More than 75 percent of females found footpath uncomfortable whereas more than 52 percent of male found it comfortable. Similarly, more than 78 percent of women found the footpath unsafe whereas more than 73 percent of male found it safe.

Upon asking, majority of them (27 percent) said that the width of footpath needs to be increased as it is very difficult to pass through even two people comfortably sometimes at some locations. Along with bigger width, 15 percent said that there should be provision of sittings (benches) at certain intervals (although there are sittings at some stops). Also, 12 percent of the people said that the footpath should be shaded in case of sun and rain. Still, the bus stops are covered at certain location which provides shade to the people. Almost all of the people above 60 responded that they are having problems with the uneven and discontinued footpath surfaces. The footpaths are poorly maintained and damaged in several places. There is no origin to destination continuity. Most of the footpaths are being encroached by the street vendors. So, only half of the width is used by the pedestrians. Also, it is obstructed by bike parking, electric pole, vegetation/plants and overhead bridges. This makes the space congested. Also the maximum height of the footpath (including kerbs) shall not exceed 150mm from the road level (according to IRC, 2012). But, in the study area there are kerbs more than 150mm. So, the elderly and children would find difficulty while steeping in it.

### 3. Findings

The stretch of Lagankhel Buspark to Jamal is taken as study area. Among the public vehicles that provide service in the Lagankhel-Jamal route, Sajha Yatayat is considered as one of the great benchmark for the further evaluation and study. The analysis was done based on the information obtained from the case study of the site and from the questionnaire survey. The sample size was determined based on the Principle of Saturation. While interviewing, the responses obtained were repetitive, so the survey was brought to an end after 52 people. The people of different age groups were covered. The analysis of the framework matrix consisting of general parameters and their respective

Upon asking on if respondents feel comfortable going out alone, more than 51 percent responded that they feel comfortable going out alone. But, after cross tabulation, it was found that more than 69 percent of females do not feel comfortable going out alone whereas more than 89 percent of male felt comfortable going out alone.

According to “The Nepal Road Standards, 2070”, the provision of artificial lighting should be made on all roads near populated areas, bus stops and roads intersections (up to a distance of 250m from the point of intersections). There are total of 105 street lights within the study area. Upon asking on if the street lights are proper in the area, more than 53 percent said that the lights are proper. However, on cross tabulation, it was found that more than 54 percent of females said that the street lights are not proper. The survey was conducted in the day time, so the result was not as expected. Although there are 105 street lights, almost 40 percent do not lit and are not properly maintained. However lights are coming from the shop fronts in commercial areas.

Whereas moving from Thapathali to Tripureshwor the right hand side stretch is much better than left due to the shops lights. Moving from Tripureshwor to Sahidgate because of official area on the left and Rangashala and Army barrack on the right, the place is almost deserted with high compound walls and elevated footpaths. But the street lights are properly maintained in this stretch. Furthermore, moving from Sahidgate to Jamal, the place is a very busy lit area with Bir-hospital, Trauma centre and Buspark. From Jamal to Bhadrakali, it is also a very busy area, though not lit properly, along Rani Pokhari, Tri Chandra Campus and Bhadrakali Temple.

This is the scenario of the main stretch. But if we go just 10 mins away from this Primary road to the residential road stretch, the scenario is different. One such example is Bakhundole residential area. While entering south west to Kandevsthan, Kupandole, there is Kupandole banquet and Hotel Sasa. There is pure residential unit after that. It is difficult to walk through this stretch after sun set. There is no proper street light. The huge compound walls pose a threat since the light coming from the house is blocked by these huge compound walls. The balcony lamps and lamps kept on the house gate are the only sources of light. Also, the long narrow cross lane function as an entrapment area. The high compound walls of the building poses a threat by creating long stretches of

street fronts that are deserted and lack surveillance. The presence of balcony on street fronts contributes to improving eyes on the street. While surveying, questions were asked if they have see through compound walls in their houses. 61 percent said that they have see through compound walls which means that they are knowingly or unknowingly making a safer residential building environment. Also people were asked if their house have balcony facing street and if they find the necessity of lamps in building entrances. More than 51 percent responded that they do not have house balcony facing towards street. Most of them said that they do not have enough space to keep balcony since land price is very high. But, more than 84 percent found out the necessity to keep lights/lamps in front of their entrance gate. It shows that people are aware about the consequences it can bring.

According to IRC, 2012, a minimum of 3m wide pedestrian crossing must be provided at all road crossings. The crossings must be provided at all T-junctions. The spacing range of crossings at residential areas must be at every 80-250 m and in commercial/mixed used area must be at every 80-150 m. As per the subways, the width should be 4.8 m, vertical clearance 2.75m with good visibility and security (IRC, 2012). In the Lagankhel-Jamal stretch, the total number of zebra crossings is 34. There are nine overhead bridges and one subway at Ratnapark. The overhead bridges are kept at the major junctions where there is huge flow of vehicular movement. While surveying, people were asked if they were satisfied with the placement of zebra crossings in these area. More than 69 percent said that they were not satisfied with the placement of zebra crossings. Most of them said that they have to walk long distance in search of zebra crossings. They are faint and faded. Some of them even said that the placement is very close to the road junctions. Because of this, traffic problems in the capital have increased resulting in more accidents. More than 50 percent of people said that they use overhead bridge very often. Also when asking if they feel safe/ comfortable in overhead bridge, more than 55 percent of people felt safe/ comfortable in overhead bridge and more than 51 percent felt unsafe in subway. While cross tabulating it, it was found that more than 51 percent of women felt unsafe/ uncomfortable whereas more than 68 percent of male felt comfortable/ safe.

There were several reasons for an overhead bridge to

be unsafe/ uncomfortable. More than 44 percent of the respondents found difficult to climb the large number of steps. 21 percent said that the steps are slippery and damaged and it is scary at night since there is no light. They found zebra crossings more convenient to use than overhead bridge. Ratnapark subway is the only subway crossings we have in Kathmandu. Huge mass of people are seen crossings the road using subways. There are small shops inside the subways that create a vibrant environment. But the space is congested in case of huge mass flow. The lights are satisfactory. There are entry and exit gates in subway which gets closed after 7pm. Hence, the space will not be used after dark which is very good in terms of security reason. Similarly, after cross tabulating among male and female if they feel safe/ comfortable in subways, more than 66 percent of females felt unsafe/uncomfortable whereas more than 73 percent of male found it safe/comfortable. There are several reasons for a subway to be unsafe/uncomfortable. 44 percent respondents said that good visibility and lighting is the must. 30 percent said that CCTV should be there along with good visibility.

In whole stretch, mixed land use planning is seen. From Lagankhel to Kupandole is a pure commercial area with restaurants, banks, ATM centres and commercial shops. There is Patan hospital and Mental hospital at Lagankhel and Institute of Engineering is located in Pulchowk. The place is very vibrant area with people all the time. The Kupandole bridge area lies in midway of the stretch which joins two metropolitan areas, Kathmandu and Lalitpur. The place is scary at night due to the absence of street light. The stretch from Tripureshwor to Sundhara is an Official area where major of the offices like Kathmandu Metropolitan Office, Water supply Office, Nepal Telecom Office and Army headquarter lies. This place is vibrant in office time and after dark because of the high compound walls of the offices, it becomes a bit scary to walk through it. However the street lights are properly lit in this area. Again, the stretch from Sundhara to Jamal is a very vibrant space because of Kathmandu Mall, Bir hospital, Trauma centre, where the flow of people is almost throughout, day and night. The Trichandra campus area is also a vibrant area. But, the area lacks surveillance because of lack of proper street lights and commercial shops. However there is Buspark nearby where the flow of people is seen in significant number.

The public space in my stretch area is the Ratna Park

and Tudikhel. Both of them are fenced by the metal railings all over which is visible from everywhere. Ratna park even has a CCTV camera installed and is safe. But it is not comfortable. It is surrounded by crowded people near to the bus stand and noisy moving vehicles with dust and smoke everywhere. While surveying in this area people were asked what should be done for insuring safety in public spaces. 31 percent responded that there should be CCTV cameras installed in several locations. 17 percent responded that the public spaces should be properly planned and there should be strict enforcement of laws or punishment if anyone found guilty.

Also people were asked about the time they reach home after work or study. More than 65 percent responded that they reach home before 7 pm. Also, while asking what difficulties you face going home after 7, 45 percent said that they do not get public buses properly. In rare case if they get one, they are overcrowded. Also, 19 percent responded that there are no proper street lights. The roads are empty and scary with no people at all.

The stretch from Lagankhel to Jamal do not have a separate cycling lane. However people are seen cycling on the vehicular road. While surveying people were asked if they ride bicycle. 50 percent people said that they do not ride bicycle, more than 34 percent said they ride sometimes and more than 15 percent said they always ride it. On asking what difficulties people face while riding bicycle, 63 percent said that they have to ride in vehicular lane which would be risky since there is no dedicated cycle track.

The Sajha bus starts its service from 7 am in the morning to 8 in the evening (in summer) and 7 am in the morning to 7 in the evening (in winter). After getting assistance from Kathmandu Nagarpalika, the Sajha Yatayat had initially given services till 12 at night keeping one police inside the bus targeting for the people going to the Hospital and Thamel. But, it had to stop its service since the number of passengers went to nil. While surveying, people were asked how often they travelled by Sajha bus. More than 55 percent said that they travel sometimes/occasionally and more than 40 percent said that they travel very often for going to study, office, shopping and visiting relatives. There are 13-15 buses which provide services in the Lagankhel-Jamal route. According to the size of the bus, each bus has 41- 52 seats. The Motor Vehicles and Transport Management Act, 2049 (1993) of Nepal under sub-section 107, Reservation of

Seats, states that “It shall be the duty of the owner or manager of a passenger heavy motor vehicle operating the transport service on a local route to reserve two seats for female passengers in that vehicle”. An additional category is one seat for those above 60 years of age. In Sajha yatayat, there are 4 to 6 seats reserved for women which is almost 10 percent of the total seats in the bus. While surveying respondents were asked if they were satisfied with the number of seats reserved for women. More than 92 percent were satisfied with the number of seat reservation for women. After cross tabulating this data, it was found that not only women but all men were satisfied with the number of seat reservation for women. When fully loaded the load factor of the bus can reach from 2 to 2.5. Since there are two CCTV installed inside the bus, the crime rate is almost nil. There are grab bars and grab handles at certain intervals inside bus which makes the bus comfortable. There is sufficient space inside the bus and also there are separate entry and exit doors. While surveying respondents were asked if they feel safe and comfortable in Sajha bus and in other buses. More than 98 percent said that they feel safe and comfortable in Sajha bus and more than 94 percent said they do not feel safe and comfortable in other buses. More than 38 percent people said that they feel safe in Sajha bus because it is spacious inside, it has grab bars and grab handles, CCTV and separate entry and exit doors.

On inquiry on what kind of sexual harassment or crimes they have faced in buses, 32 percent said that they have been stared by the people of opposite gender. Also, 30 percent said that they have not faced any kind of such incidents. 17 percent of people said that they have lost their mobile phones or money. 14 percent of people said that they have received verbal comments and 7 percent said that they were unwantedly touched by the people of opposite gender. While cross tabulating, it was found that 64 percent of men responded that they have not faced any kind of sexual harassment or crime. 36 percent of men responded that they have either lost their mobile or money. Whereas, 40 percent of female said that they have been stared by men (especially in their private parts). 25 percent said that they have received verbal comments, 20 percent of females responded that they have not faced any kind of harassments and 15 percent said that they have been physically touched. Also, it was found that more than 70 percent of women between age group 20-40 years were the victims of the sexual harassments or crimes.

The maximum waiting time of the bus is 10min. Because of the “Mero Sajha App”, the availability of bus can be easily seen in the mobile so that they do not have to wait for the bus for longer period and can make the move accordingly. While surveying, people were asked if they know about the “Mero Sajha App”, more than 76 percent said that they are unaware about this app and its function. Upon asking on how much time they wait for Sajha Yatayat to come, more than 59 percent said that they wait for 11-15 minutes. Also, they were asked if they find any difficulty waiting for the bus. 27 percent responded that they do not have proper knowledge when the bus comes and how long to wait. Along with that 25 percent said that there is no proper sitting space. Also, some of them said that during evening shift they have to wait for the bus in the dark since there is no properly lighted stop which is scary. Initially, there were 11 women sub-drivers in Sajha bus. But due to the 12 hours duty, women’s problem and eve teasing from the male passengers, only one sub-driver (Rebika Thapa) is working now. The Sajha bus stops only at designated stops. There are twelve bus stops in the Lagankhel - Jamal stretch. (Lagankhel, Kumaripati, Jawalakhel, Pulchowk, Hariharbhawan, Kupandole, Sundhara, Jamal, Oldbuspark, Sahidgate, Tripureshwor, Thapathali). The bus do not park inside the Lagankhel buspark because the buspark do not have enough space to cover its huge space. The Sajha bus stands in queue in front of Patan Hospital Gate. By 8 PM., all the Sajha Buses are parked inside the Sajha Bus Office at Pulchowk. Eight of the twelve stations (Lagankhel, Pulchowk, Hariharbhawan, Tripureshwor, Sundhara, Jamal, Oldbuspark and Sahidgate) are sheltered, have sitting space but do not have leveled boarding. Every station are not well lit. But, in some stops the illuminating boards are kept which provides light to the waiting passenger. The real time information of the bus can be found out by the Mero Sajha App. But this app is useful only for the people with internet access in their mobile. For the general people, there should be the display board or announcement system in each stops/stations. The route maps along with bus information should be displayed in the information board in each of the stations/stops. But there are no such route maps displayed in every stops. However, the information board with area maps are seen in some of the stops. There is a toll free emergency number (1660017777) given by the Sajha Bus in case of emergency. But there is no availability of telephone booths nearby. In survey, it was found that

more than 75 percent people were unaware of the helpline numbers to call in emergency. There should be universally accessible public toilets within 250m walking distance of public transport. There is one public toilet in Lagankhel buspark area but there are not such universally accessible public toilets within 250m walking distance of public transport. However, public toilets were seen under the overhead bridges and on Ratnapark area. Foul odour could be smelt from outside. The toilets were not properly maintained and were dirty. On asking how often they used public toilets, more than 48 percent said that they sometimes used public toilets but found them very dirty. More than 30 percent responded that they never used public toilets since it is not easily available, very dirty and even not separated as male and female.

#### 4. Discussion

Most of the people alleged for the road expansion. But it would be totally impractical and expensive. The practicable approach would be to expand public transit capacity to shift from privately owned vehicle to mass transit. Most of the people felt safe and uncomfortable walking in footpath. and necessitated the bigger width of footpath. But, had there be no encroachment and clear width of minimum 1.5m on both sides provided, the width would be fair enough. However, at some places immediate maintenance of footpath is needed. People (especially women) felt uncomfortable and unsafe using overhead bridges and subway. Rather, they were seen comfortable using zebra crossings. whose conditions were also not good and needed immediate maintenance. Females panic going out alone. The street lights were insufficient in number and most of them are damaged and unlit. However, mixed land use planning has solved the problem. The commercial shops not only provide lights but there is the presence of people almost 24/7. But, in some core residential areas, the number of street lights needs to be increased and there should be the immediate maintenance of the unlit street lights. Majority of people responded that they do not prefer riding bicycle because they feel very unsafe while riding, since there is no dedicated cycle lane. Among the public buses that provide services, people are satisfied and felt safe and comfortable with the Sajha Yatayat because it is spacious, has grab bars and grab handles, CCTV and separate entry and exit doors. Not any sexual harassment or crimes have been reported till date in Sajha Bus. In the contrary, in other public

buses, people have to face several harassment incidents and crimes in their day to day mobility. Hence, such incidents must be realized as the serious crime by the concerned agencies.

#### 5. Conclusion and Recommendation

Public transport services often falls short of the quality, safety and comfort measures required by the different target groups such as women. Women are also more exposed to danger through sexual harassment. Lack of quality refers to the inadequacy of transport services in meeting the needs of women with reduced mobility. In most countries, these groups use public transport more than men. Nonetheless, public transport and collective services are, unfortunately, not designed for them (i.e. they are designed for commuting to the city centre during rush hours, disregarding the needs of part-time/shiftworking or non-working people). Safety is one of the central requirements of a well-functioning collective passenger transport service from a gender perspective and it disproportionately affects women and more vulnerable users. To deal with these safety problems, tests are being conducted to allow women greater scope to alight closer to their final destination, outside normal bus stops, especially in the evening and at night. In addition, bus stops and related pathways must take account of safety needs, with proper lighting, together with adequate visibility (with the removal of bushes or physical barriers that may hamper full visibility). The inadequacy of collective passenger transport services in meeting gender needs is also related to the low level of comfort offered to users. The design of vehicles on the one hand, and of stations and bus stops on the other, needs several improvements in order to be equally accessible to all genders. Examples of such improvements are: spacious, grab bars and grab handles, CCTV and separate entry and exit doors, low-floor buses for easy boarding and exiting; and barrier-free, welcoming and pleasant-to-use stations and stops with clearly visible transport information. Also some specific recommendations have been made like to ensuring safe and comfortable walking environment, implementing concept of 24x7 urban environment, designing people centric infrastructure emphasizing on NMT, alleviating overcrowding and ensuring safety on public transport, proper planning of stations and stops, ensuring women's participation in decision-making and

preparing national design standards and guidelines related to gender responsive mobility.

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