

# ENHANCING LAST MILE CONNECTIVITY

a safety analysis of the AIIMS Metro Station



This Report has been prepared as part of the Project being undertaken with NDMC to Enhance the Last Mile Connectivity along the metro stations within it's jurisdiction. The safety audits were conducted by Smt. Saroj Sethi and Smt. Renu Wasandi, architects from NDMC, in collaboration with Jagori and the National Association of Blind.



# AIIMS

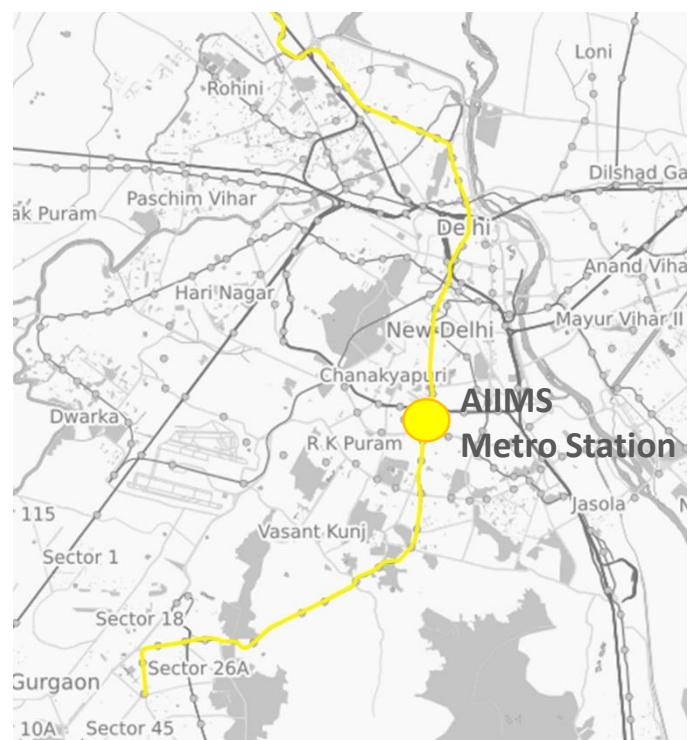
**SAFETY SCORE: 3.4/5**

SafetiPin, is a map-based mobile phone and online application, which works to make communities and cities safer by providing safety-related information collected by users and by trained auditors. At the core of the app is the Women's Safety Audit. A Women's Safety Audit (WSA) is a participatory tool for collecting and assessing information about perceptions of urban safety in public spaces. The audit is based on nine parameters – Lighting, Openness, Visibility, Crowd, Security, Walkpath, Availability of Public Transport, Gender Diversity and Feeling.

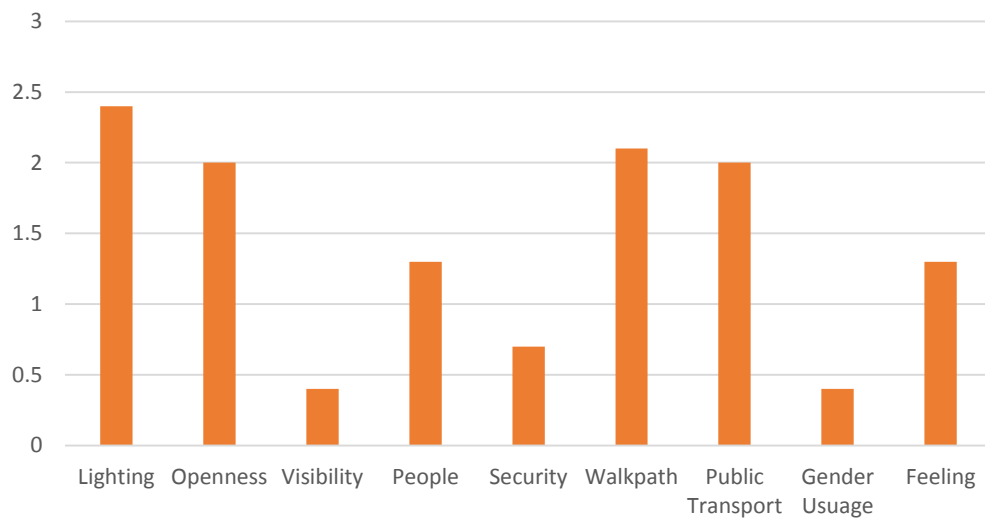
The audits were conducted along with Jagori and students from the National Association of Blind (N.A.B.). The assessment was done with the students from N.A.B. during the day, and with architects from NDMC post sunset till 9pm.

AIIMS metro station is located towards the south of the AIIMS flyover along the junction of two major roads namely Ring Road and Sri Aurobindo Marg. It caters to AIIMS Hospital and Medical Institute, and Safdarjung Hospital.

An area of approximately 500m radius around the metro station has been studied and 72 audit pins have been generated. The area outside the metro entry/exit and the Bus Stop were studied. The areas around Ring Road and Aurobindo Marg were studied in detail.



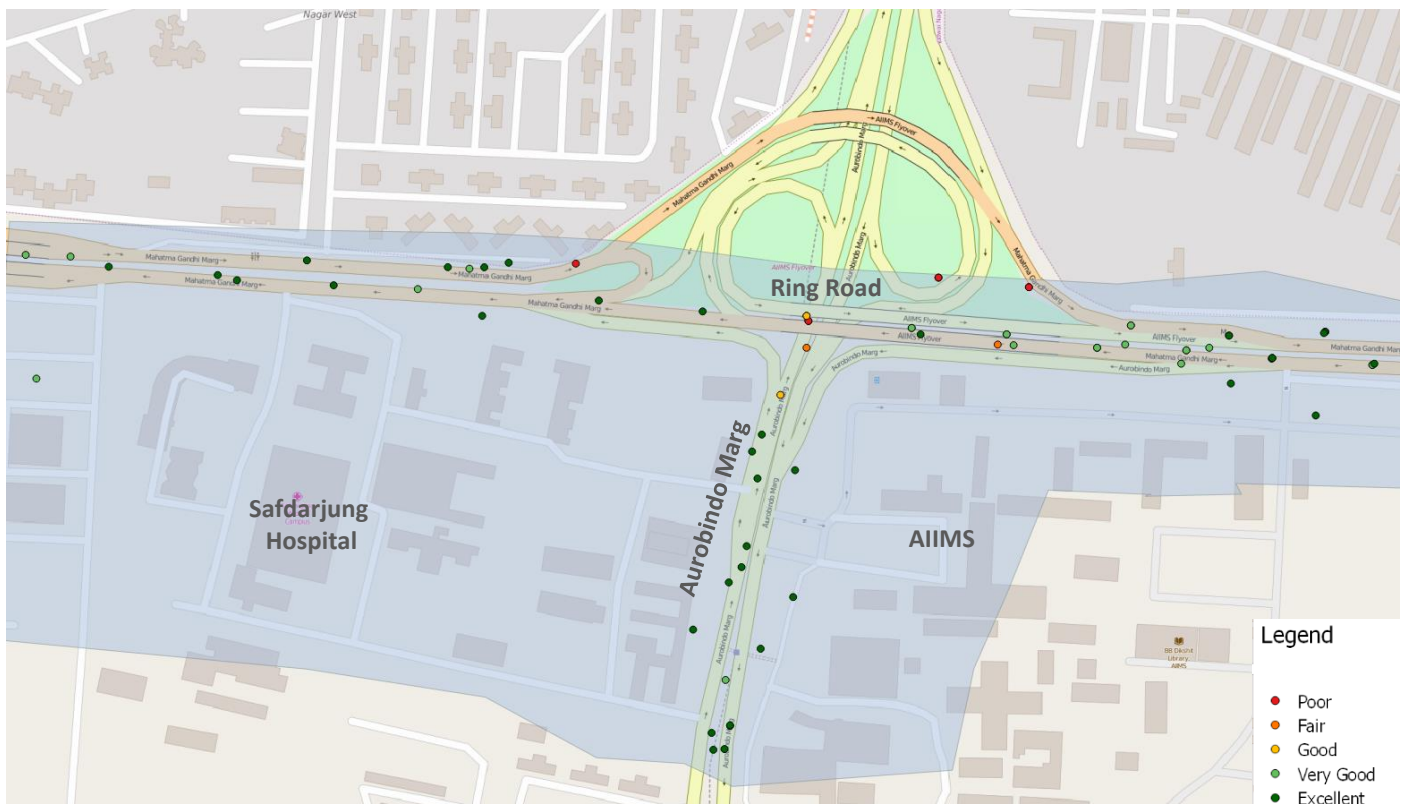
### Average Audit Parameters (on a scale of 3)



Safety Audits indicate that the area around the metro station is safe. The parameters of Lighting and Walkpath have been rated Above Average. The footpath is present throughout the audit area but its condition is poor at most of the places.

The availability of Public Transport has been rated Above Average owing to the presence of interchange stops for buses as well as auto/taxi stands at the exit gates of the hospital.

The parameters of Visibility and Security have been rated Poor and Below Average respectively. Despite being in a hospital zone i.e. 24/7 open, the huge setbacks and high boundary walls offers no visibility on the walkpath. As a result, the presence of people and especially women on the streets is low. Compared to the Ring Road, Aurobindo Marg fared better in terms of safety. Overall, auditors have rated the Feeling in the area as Average.



Map indicating Safety Score



# Lighting

Lighting Parameter has been rated 2.4/3 i.e. Above Average. At the major junction, lighting was found to be enough for clear visibility. However, currently the streetlights have been provided focusing towards the road and not the footpath.

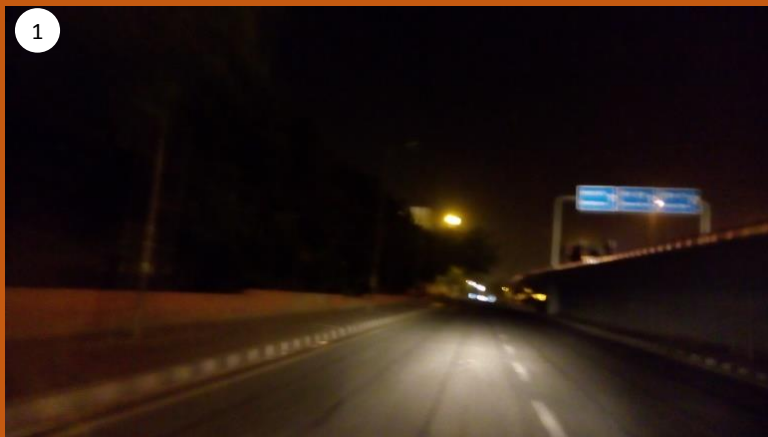
In an institutional area where pedestrian movement is more, the streetlights are provided along the roads. At the junction of Ring Road and Aurobindo Marg, streetlights are provided only on the central median which results in well lit road but dim lit footpath.

Also, along Safdarjung hospital, streetlights are focused on the service lane. Pedestrian scale streetlight along the footpath should be provided that will ensure a brightly lit pedestrian path safe for women to walk on at night.

Along the inner roads within this locality, the streetlights have been provided only on one side of the road. Some streetlights are hidden behind foliage resulting in low levels of lighting in the area.



Lighting Rating



The areas outside the entry/ exit of both AllMS and Safdarjung Hospital are well lit. However, along the Ring Road near AllMS flyover, some streetlights are not operational. As a result, the lighting along the footpath is low while the flyover is brightly lit. Streetlights need to be made operational so that the area used for walking is well lit.



Dark spots are created in lanes adjacent to Safdarjung Hospital. At present, there are light poles on one side of the road that are hidden in trees. Installing additional light poles alternatively on the other side of the road will ensure uniform illumination throughout the road.



Currently, the streetlights have been provided focusing on the vehicular carriage way of the road. Seen here in Pic 3, near AllMS Gate no. 2 streetlights are focused on service lane resulting in poorly lit footpath. Additional lights should be installed alternatively on both sides i.e. one on the edge of the footpath and other on boundary side, facing the service lane.

Also, the foliage along the streetlights needs to be pruned regularly as the overgrown leaves shield the light fixture resulting in poor illumination



On Aurobindo Road, streetlights are installed only on central median, resulting in low illumination on the walkpath. Seen here in Pic 4, at the junction of the Ring Road and Aurobindo Marg, pedestrian scale streetlights need to be located along the footpath. These should be provided on the edge of the footpath so as not to obstruct the pedestrian movement.



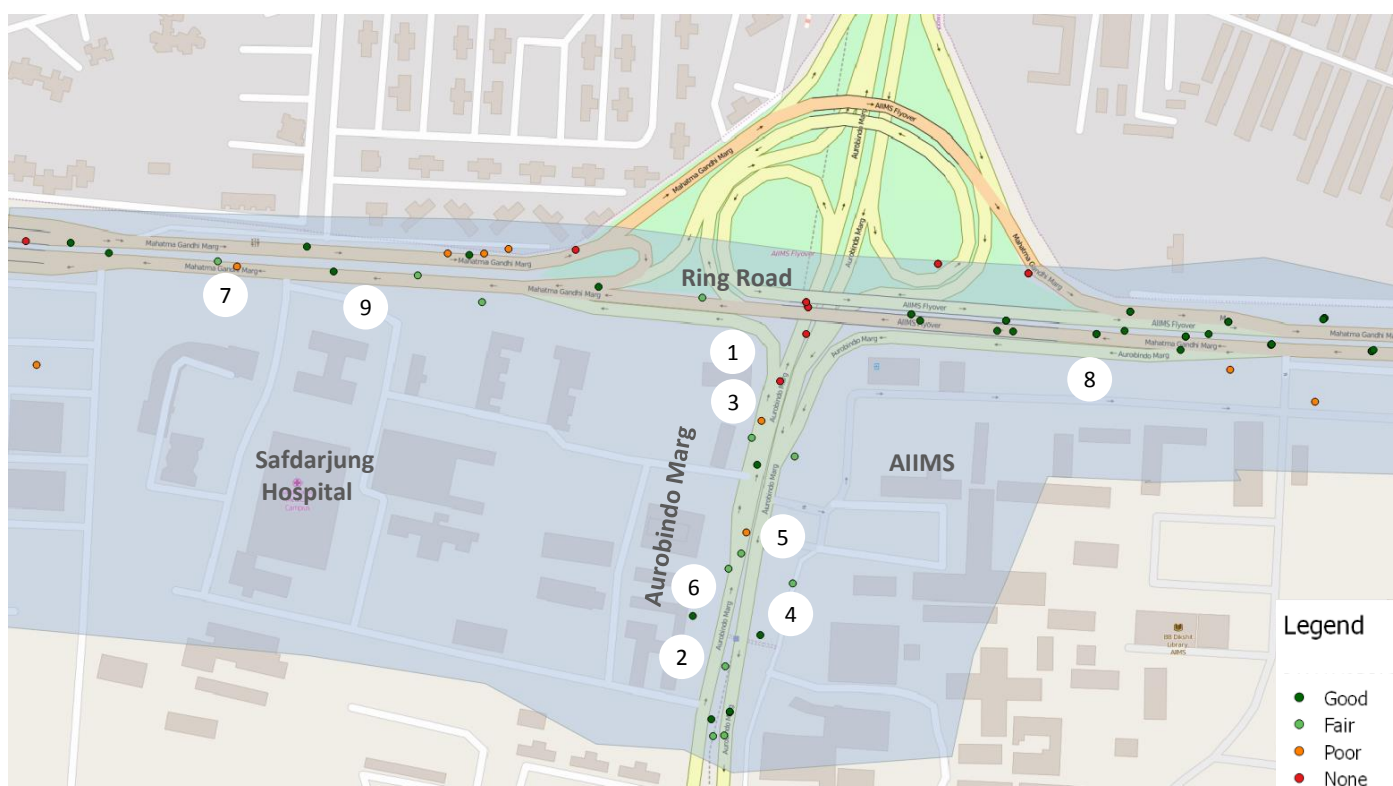
# Walkpath

Walkpath Parameter has been rated 2.1/3 i.e. Above Average. While the footpath exists in most parts of the area, it is in poor condition at most of the points. Also commonly observed are various types of obstructions along the footpath – street vendors, temporary stalls, parked vehicles, electrical units, concrete footings, signage etc.

The survey with the students from the National Association for Blind reveals that while the footpaths are in a fair condition, people with disability especially the visually impaired women, find them unsafe to walk on.

Along many parts the pavement is broken and is covered with construction material and debris. These need to be cleared and repaired. At certain locations the footpath is too narrow and the kerb height is too high. This too needs to be repaired.

In an institutional area with high footfall, street vendors and people occupying the pavement is a persistent problem for the pedestrians. Designated space or a hawker zone should be created for them so that the pavement is clear for pedestrian use.



Walkpath Rating



Though the footpath exists throughout the audit path, the condition is poor in most of the areas. As seen in the Pic 1, broken footpath and open drains can prove risky for the pedestrians. This footpath should be repaired and the manholes' cover should be flushed with the level of the footpath to ensure smooth movement of the pedestrians.



The street vendors should be located in a way that doesn't obstruct the pedestrian movement. At places where footpath is wide enough, a segregated space should be provided for them. As seen in the Pic 3, open toilet and dustbins has led to a deteriorated footpath which is highly unhygienic and unsafe. Dustbins should be relocated and open toilet should be removed to clean the area so as to set up a hawker zone.. Similarly, at the entry/exit to the metro stations, a space to be provided for the vendors and street furniture to be provided for the people.



Seen here in Pic 5, footpath is obstructed by the autos in front of Gate no. 1 of AIIMS. With existing kiosk for prepaid auto, an auto stand should be provided clear of the footpath. Bollards need to be provided to ensure that the autos don't obstruct the pedestrians' movement.

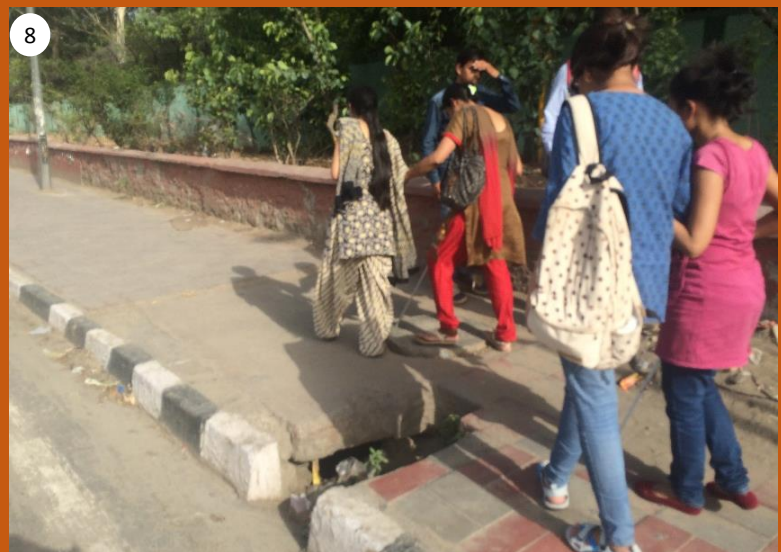


With no tactile paving outside the metro station lift, it is difficult for the visually impaired person to walk alone. As a result, they always need assistance right from the metro entry/exit to the hospital / bus stop. In order to make Public Transport easily accessible, proper tactile paving should be provided from the metro station to the bus stop, and the hospital clear of any obstruction.

Seen here at the bus stop, the tactile paved path is obstructed by the board and ending abruptly. Also, the improper edges and steep level difference in the walkpath makes it dangerous for pedestrians especially the disabled group. The footpath should be constructed with proper ramped edges and flushed with the level of the bus stop.

As seen in the Pic 8, open drains are risky for the pedestrians. These drains should be covered and the cover should be flushed with the level of the footpath to ensure smooth movement of the pedestrians.

Seen here, inappropriate placement of signboards and the streetlight (Pic 9A and 9B) on a narrow stretch of the footpath proves to be nuisance rather than beneficial. These obstructions to be removed and placed at the edge of the footpath to provide a clear passage.



# Visibility

Visibility Parameter has been rated 0.4/3 i.e. Poor. This is the case despite being in hospital zone that is 24/7 open. The study area comprises of three sub-zones: the Ring Road towards South Extension, Ring Road Road towards Bhikaji Cama Place, and Aurobindo Marg.

Along the Ring Road, visibility has been rated the poorest. While there is some visibility near the entry/ exit of hospitals due to the presence of vendors, largely the stretch offers very poor or no eyes on the street owing to high boundary walls. Hence, making it seem unsafe for women at night.

In such cases, the visibility can be improved by lowering the height of opaque boundary walls. These should be replaced with grills such that a visual connection is maintained between the pedestrian and the building's premises. This would offer some security and eyes to the pedestrian on the street.

Aurobindo Marg offers some eyes on the street due to presence of numerous medical shops, temporary stalls of vegetable, fruits, clothes etc. However, this needs to be further enhanced by creating a designated space for the vendors so that they do not obstruct the path of the pedestrians.



Visibility Rating



In absence of a designated space, hawkers present near AIIMS gate no. 1. end up crowding the footpath (Pic 1A). Seen here in Pic 1B, there is unused space near public convenience where a hawker zone should be set up clear of the footpath. The dustbins should be relocated within the hawker zone. Also as seen below, to avoid blocking of entry/exit of the metro station, street furniture should be installed for people.



On the same road (Aurobindo Marg) near Safdarjung hospital, space has been provided for public convenience (2A) and medical shops (2B) clear of the footpath. The similar provision should be made for the hawkers. Seen in Pic 2C, there is an open toilet and a dump yard. This should be cleared to make a way for a hawker zone. Also, parking on footpath should be disallowed.

Another issue seen here in Pic 2B , is the lack of street furniture that forces people to squat and obstruct pedestrian movement.







Seen here in Pic 3A, a locked walkpath inside AIIMS premises overlooking parking bay and SBI bank (Pic 3B). Since external footpath is narrow and occupied by people (Pic 3C), this edge needs to be redesigned to cater to the needs of both pedestrians and people visiting the hospital.

This walkpath should be opened up for the people and can be developed as interactive edge equipped with street furniture. This way the external footpath would be clear of any obstruction and provide some eyes on this stretch of the road.

Also, the boundary wall design of these areas needs to be modified. The solid surface of the boundary wall needs to be reduced to at least 1m and the remaining height be achieved using a grill.



At present, the footpath near the metro station is obstructed by the temporary stalls, which need to be shifted. Further down this stretch, there is a buffer space between the boundary wall and the footpath (Pic 4B). This stretch should be redesigned to accommodate the temporary stalls, thus clearing up the footpath. Also, proper provisions should be made for garbage collection.

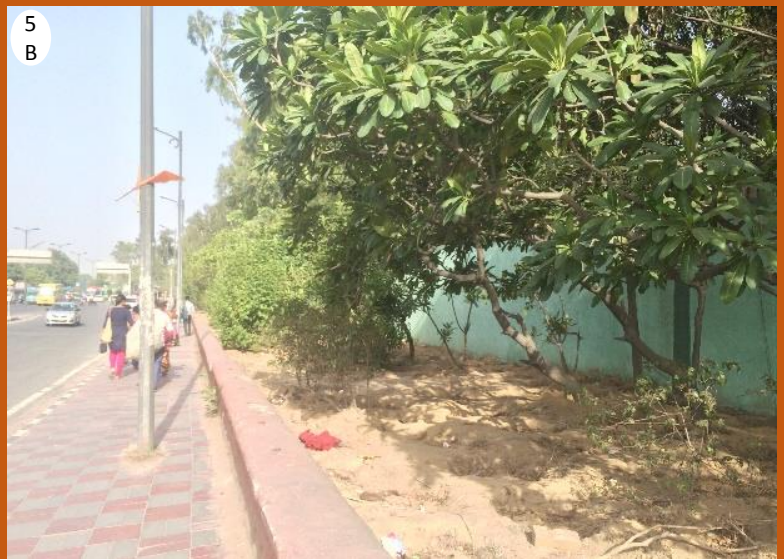


*There is a level difference between the walkpath and AIIMS building premises. Additionally, the buffer space along the boundary results in low visibility towards the walkpath. (Pic5A)*

*To activate this stretch, the buffer space should be redesigned to integrate it with the footpath. A shaded space equipped with street furniture should be provided for the pedestrians, which would accommodate the street vendors as well.*

*Further down this stretch (Pic 5B), the solid surface of the boundary wall needs to be reduced to atleast 1m and the remaining height be achieved using a grill.*

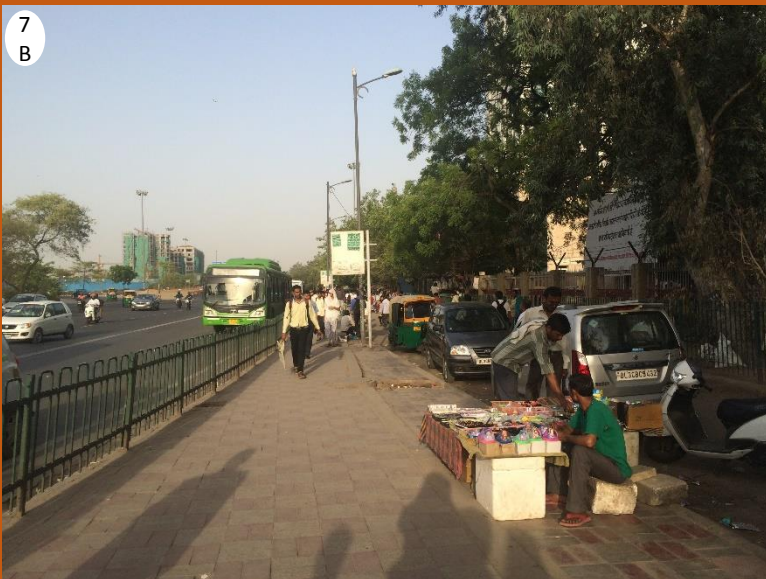
*Seen here in Pic 6A and 6B, the area outside Gate no. 2 of AIIMS (Ring Road) is occupied by street vendors. Public convenience facility is present but not operational. This space can be further enhanced by making it a para transit hub. A designated auto stand should be set up with proper parking space for the autos, clear of the footpath and service lane (Pic 6C). A hawkker zone should be created along the boundary wall of the hospital, thus ensuring activity in this stretch.*







Seen here in Pic 7A, the boundary of Safdarjung Hospital is marked by double grills creating a buffer space. The, outer railing can be removed and the edge can be used to accommodate the hawkers, thus not obstructing pedestrians / vehicles in the service lane.



Alternatively, in stretches where footpath is wide enough (Pic 7B), hawkers can be placed along the footpath clear of service lane.

Seen in Pic 8A at entry/ exit gate of Safdarjung Hospital, in absence of a designated space, they have occupied the service lane. A hawker zone should be created along the boundary wall of the hospital. This would ensure smooth movement of the pedestrians and vehicles in the service lane .

Unauthorized parking should be disallowed in the service lane. Vehicles parked behind the subway / bus stop obstruct the service lane. (Pic 8B)



There is a squatter settlement in the lane adjoining the boundary wall of Vardhman Mahavir Medical College. With high boundary walls on one side and offices on other, the visibility is very poor in this area (Pic 9). An entry/ exit gate for pedestrians/ vehicles to the Medical college can be opened towards this lane so as to activate this area.



# Public Transport

Public Transport Parameter has been rated 2/3 i.e. Above Average. With metro station and bus stop located at a crucial junction of Ring Road and Aurobindo Marg, autos are easily available except at the junction towards South Extension. At the exit gates of both AIIMS and Safdarjung Hospital, there are designated kiosks for prepaid autos. However, proper parking space is not provided for the autos, that results in blocking of footpaths and service road.

Additionally, bus stops and metro stations are inhabited by large number of people. Designated Para-Transit hubs for autos need to be created near their designated kiosks. These hubs should also be integrated with the existing temporary stalls and vendors. These hubs should be well lit and equipped with street furniture as well as public convenience for the people who are waiting outside the hospital, such that they do not cause inconvenience to the pedestrians.



Rating of Public Transport



At AIIMS Gate no. 1, there is a designated kiosk of Prepaid Auto. However, in absence of proper parking space, autos and hawkers obstruct the pedestrian movement. A para - transit hub should be designed which has an auto stand and segregated space for hawkers clear of the footpath. This can be provided along the boundary wall of the building.



Seen here in Pc 2, there is a designated kiosk of Prepaid Auto near the Safdarjung Hospital's entry/exit gate. Autos have occupied the service lane. An Auto Stand can be provided along the boundary wall of the hospital so as not to disturb the movement of pedestrians.



With the large number of people visiting AIIMS, a Para-transit hub should be developed near AIIMS Gate no. 2 as well. As seen here, at present there is no auto stand, and existing public convenience facility is non operational. A para transit hub should be developed along the boundary wall in the service lane. This would improve the visibility as well as provide convenient access to the para-transit facility.



The area around the metro station and the bus stop is inhabited by people. Seen here in Pic 4, the large area outside the entry/exit of the metro station is obstructed by hawkers and inappropriately placed dustbins. Segregated space should be provided for the hawkers, which is equipped with the street furniture.

