

ENHANCING LAST MILE CONNECTIVITY

a safety analysis of the Udyog Bhawan 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. Nutan, architect from NDMC along with Safetipin team.



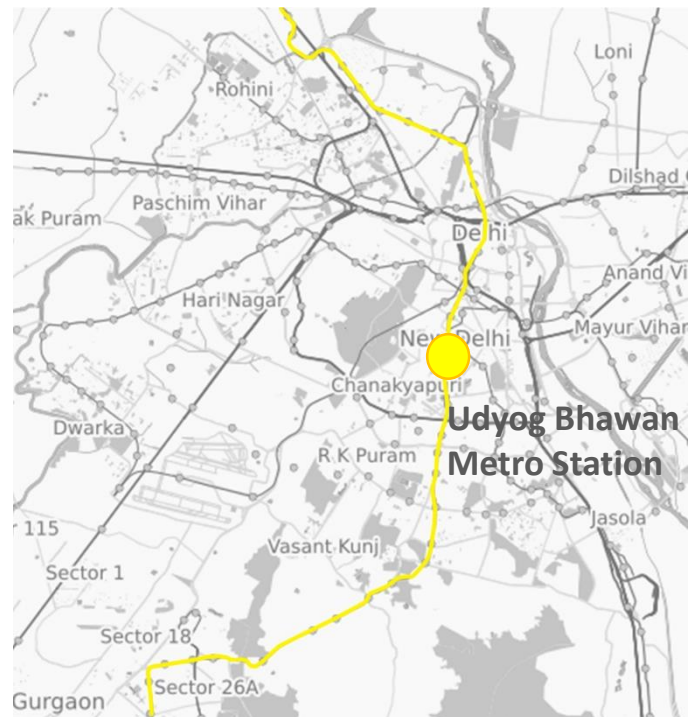
Udyog Bhawan

SAFETY SCORE: 3.8/5

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.

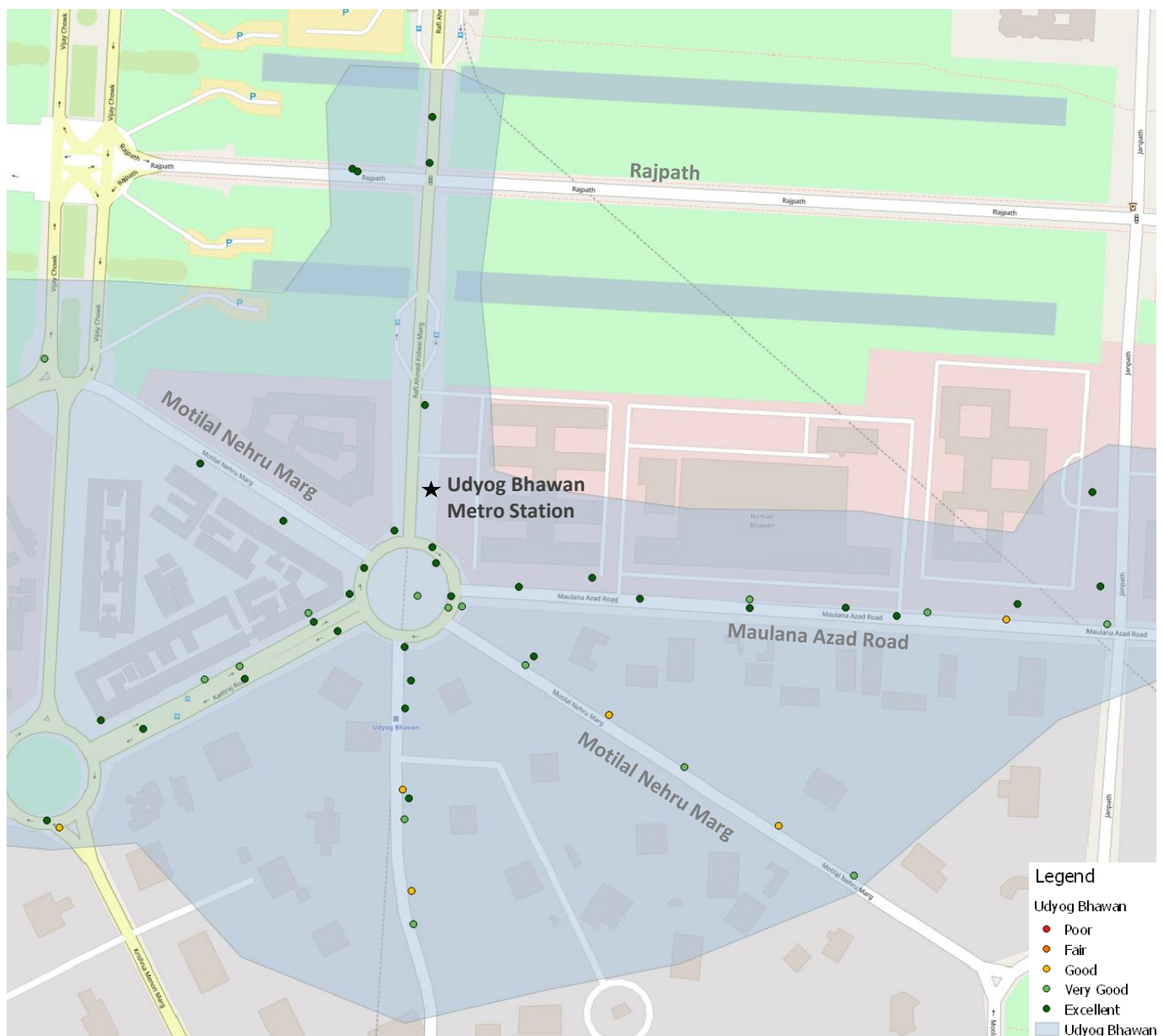
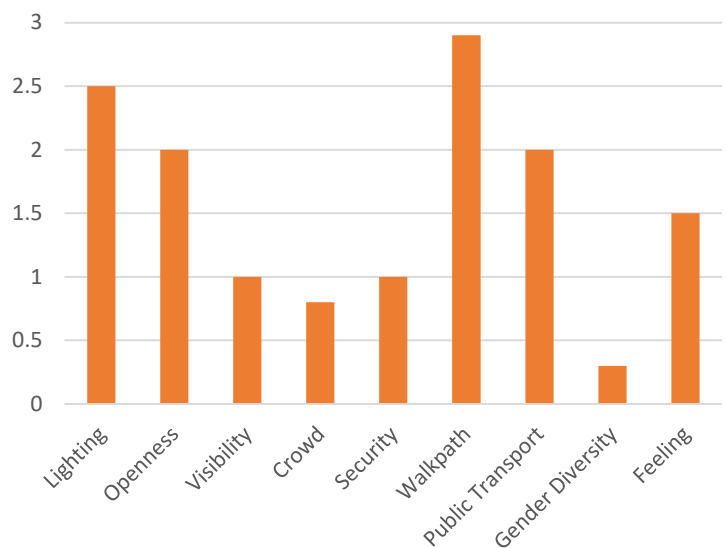
The audits were conducted along with female architect from NDMC. The assessment was done post sunset till 10pm. A total of 50 audit pins have been generated.

Udyog Bhawan metro station is part of Yellow Line of the Delhi Metro. It caters to the administrative zone of the city along with the Central Secretariat station. The area mainly comprises of offices and few cultural institutes like the National Museum. The area witnesses high footfall during the day but becomes secluded in the evening hours.



Safety Audits indicate that the area around the metro station is safe. Lighting and Walkpath parameters have been rated Good overall. Openness and Public Transport parameters have been rated Above Average. The overall Feeling in this area has been rated Average. This is because the area becomes secluded once the offices close resulting in low ratings for Crowd and Gender Diversity. The Gender Diversity was found to have lowest rating in this area as very few women are present here after the offices close. Security and Visibility parameters have been rated Below Average. While certain areas saw Police presence, the area largely fares low on Security. The Visibility parameter fares low on account on very few eyes-on-the-street and high boundary walls in most parts of the audit area.

Average Audit Parameters (on a scale of 3)



Map indicating Safety Score

Lighting

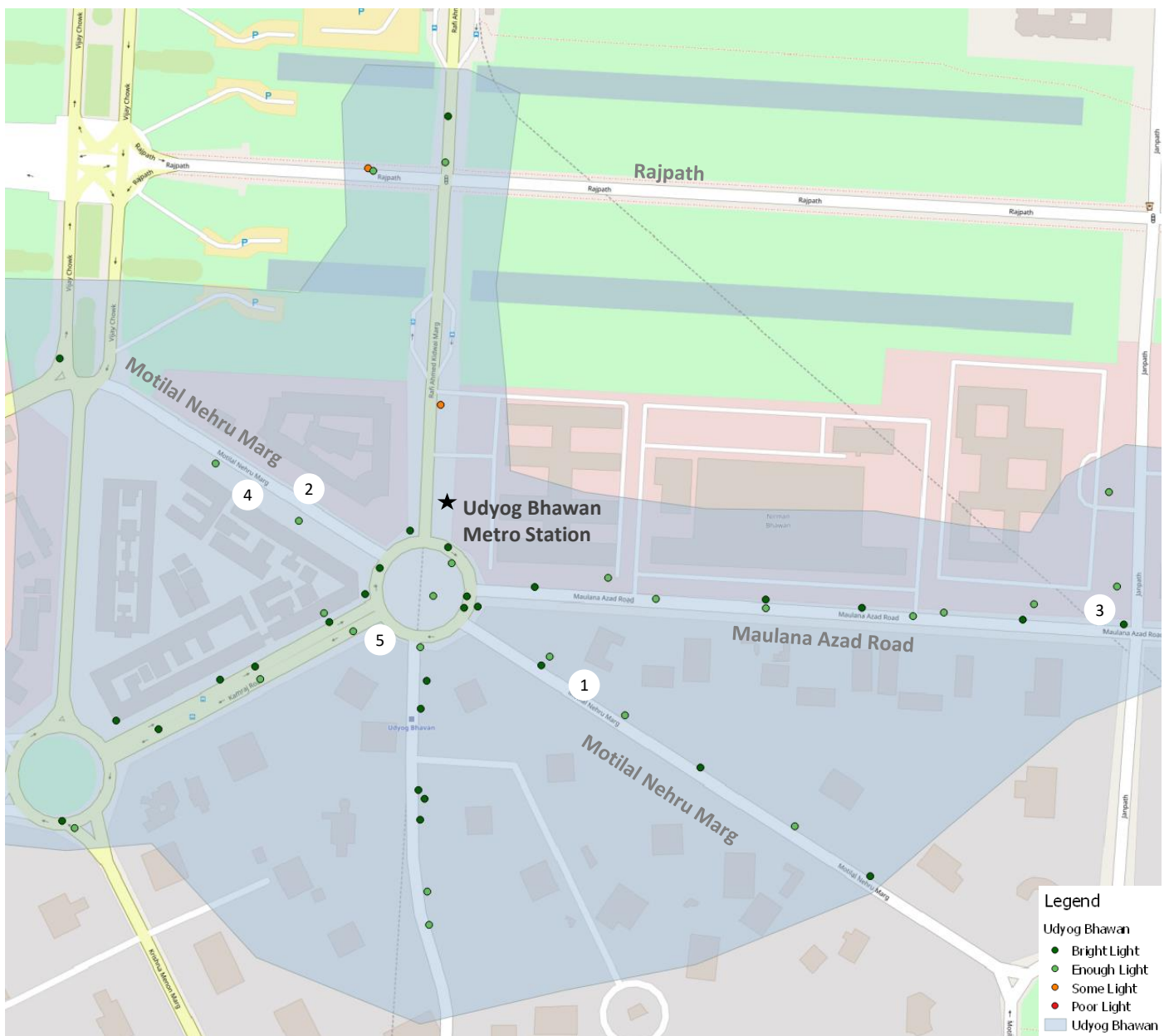
Lighting Parameter has been rated 2.5/3 i.e. Good. The audit area has streetlight installed along the entire road length and on both sides along most of the roads. While this ensures that the area is well illuminated, at certain points the illumination was low due to various reasons.

The streetlights have been provided along the road edge focused towards the vehicular carriageway. Also the dense foliage along these stretches casts dark shadows along the footpath. Reducing the height of the streetlight to a pedestrian scale and regular pruning of tree leaves will help ensure that the

footpath is better illuminated.

At certain points the illumination from the buildings/entry gates was stronger than that from the streetlights creating dark patches at certain points and glare at other. Uniform bright illumination from streetlights will prevent this from happening.

At locations having a bus lane, no streetlights have been provided along the footpath resulting in poor illumination. Streetlights should be added along this stretch. Also additional streetlights are needed in the parking areas outside the offices.



Lighting Rating



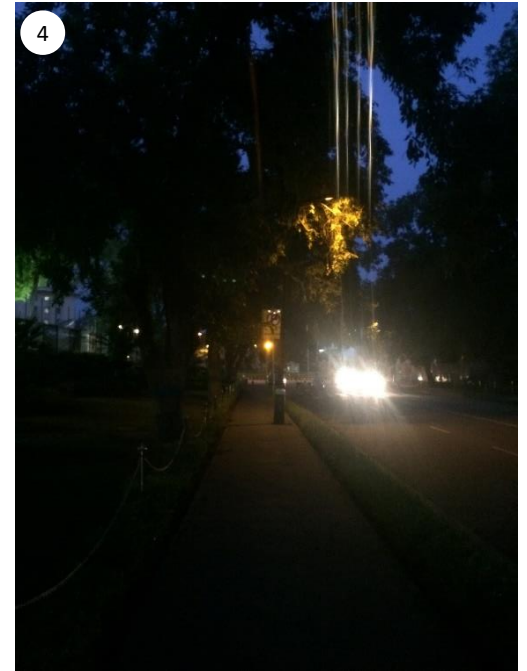
Motilal Nehru Marg towards Akhbar Road. Streetlights have been located only towards the vehicular carriageway and not along the footpath.



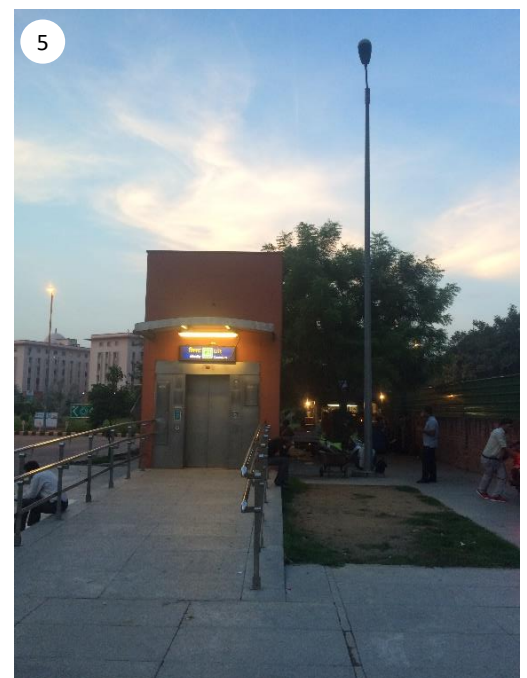
Motilal Nehru Marg towards South Block.



Maulana Azad Road. The footpath along the bus lane does not have any streetlights along it. The light from the building/entry gate or the streetlight towards the road is the only source of some illumination.



Along the points where there is a streetlight, the illumination was found to be high. However, as one moves away the brightness reduces. Strong shadows are cast by the foliage obstructing the luminaire. Regular pruning of tree leaves is essential. At points where there can be no further pruning, the height of the streetlight needs to be reduced such that it isn't obstructed by the foliage.



Some streetlights were found to be un-operational. Regular maintenance checks are essential to ensure that all streetlights are operational at all times.

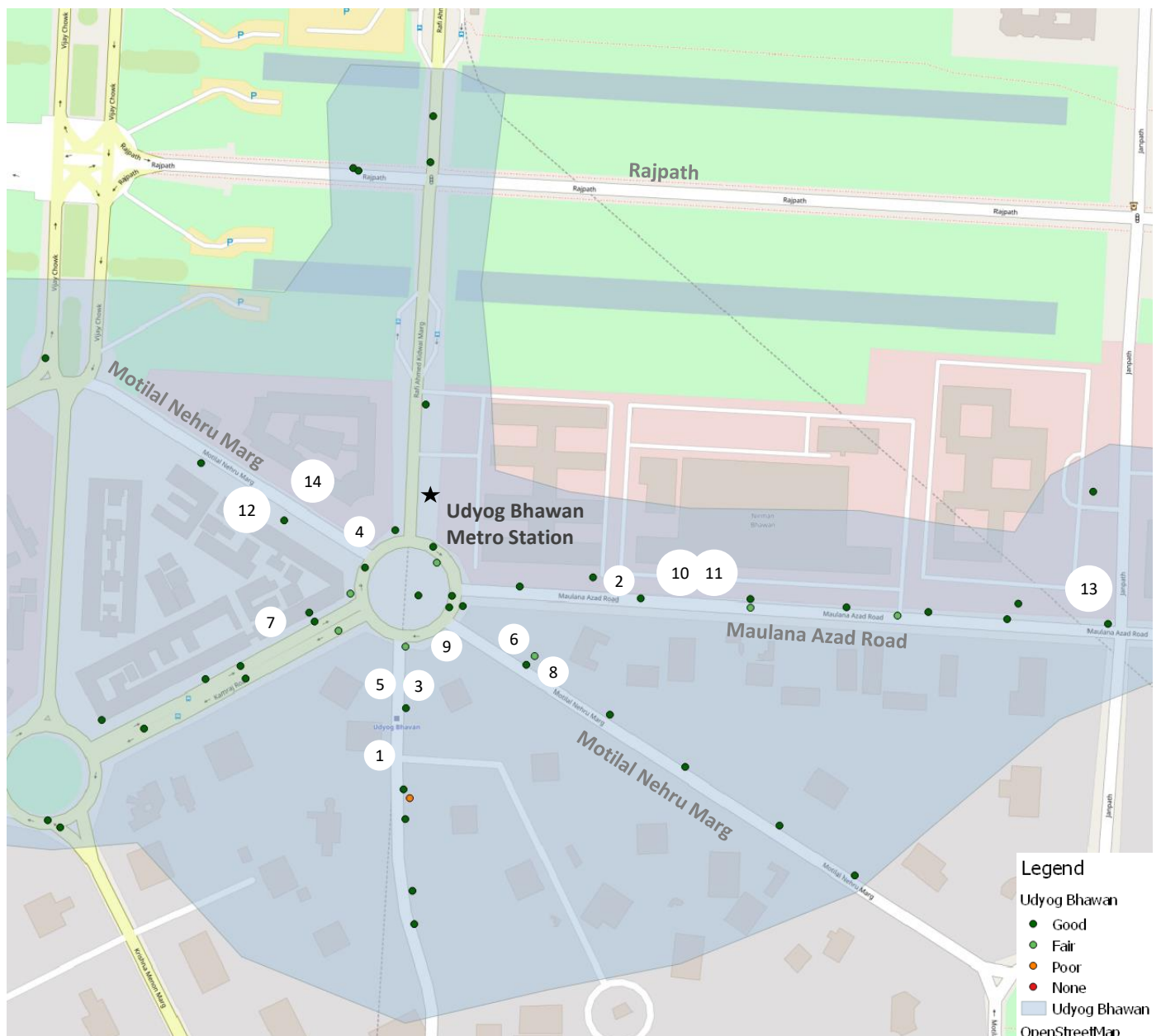
Walkpath

Walkpath Parameter has been rated 2.9/3 i.e. Good. The entire area along the metro station was found to have a footpath and it was in a good condition along most of the audit area.

Outside the offices the footpath was found to be occupied by various hawkers and obstructed at other points due to other factors. Since the footpath and the green belt along it is very wide, a hawker zone can be easily created. This would ensure a continuous unobstructed footpath for all pedestrians.

At few points, the footpath was found to be broken. This was mostly along the manhole covers. Repair

works should be carried out at regular intervals. The location of bollards needs to be changed such that their location doesn't hinder movement of people on wheelchair. The footpath should also have a ramp for ingress/egress. Tactile paving for the visually impaired also needs to be incorporated throughout the area. While the paving is there inside the metro station, outside there is no tactile paving along the footpath.



Walkpath Rating



Motilal Nehru Marg towards Akhbar Road. The footpath should have a ramped interface with the road.



Maulana Azad Road. A table top should be created especially along the entry gates of all buildings, such that pedestrians are able to cross comfortably.



Motilal Nehru Marg. The road has a footpath and a ramped egress. But the bollards at the edge prohibit movement of wheelchair. While the bollards are necessary to prevent entry of vehicles, they should be placed so as to allow smooth movement of pedestrians and people on wheelchair. Also tactile paving needs to be incorporated along the entire length of the footpath including the ramps.

Shown on the right are different types of obstructions that were observed in the study area. The footpath should be continuous with no obstructions throughout its length. At places where it is broken it should be repaired and maintained thereafter.





Shown on the left is the situation along the Dargah Sharief Sunahri Baba road turning. A Public Convenience is located adjacent to it. While both the functions are important, it is necessary that they be well integrated spatially so as not to disrupt the pedestrian movement.

The Public Toilet has been located completely obstructing the footpath. A ramped egress is provided on one side and the entry to the toilet is from the other side where the path merges with the Dargah. Also vehicles were seen parked along the footpath.

The Dargah and its activities occupy the entire footpath. As a result people are forced to walk on the vehicular carriageway. While proper street furniture has been provided for the devotees, it is equally important to ensure that these activities do not affect the pedestrians who are currently at risk especially since the road takes an acute turn at this point.

Therefore, along such areas the footpath has to be widened. This will result in modifying the traffic movement and the traffic island along the median may have to be removed as well. This will not disturb the activities of the Dargah and the pedestrian movement can happen comfortable adjacent to it. The entry to the Public Toilet will remain as such. Also, tactile paving needs to be incorporated throughout the stretch even along the path leading to the Public Toilet.



Also, it was observed in some locations that vehicles were parked along the footpath. At certain places like the unused entry gates to buildings, the area in front was being used for parking. This disturbs the pedestrian movement. At such points a table top needs to be created so that the people can walk comfortably and cars can be parked on the ramp if needed. Ideally Parking Zones, like the one across from the National Museum, should be created at regular intervals.

Along Sunheri Bagh Masjid round about



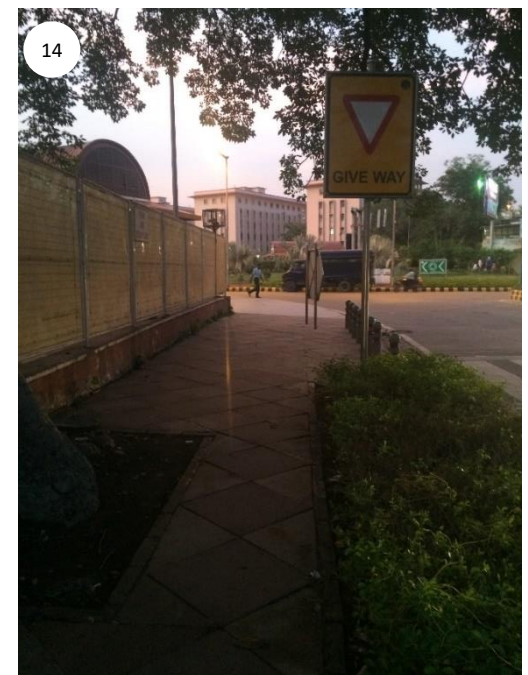
Many hawkers are seen outside Udyog Bhawan catering to the office-goers. At some places there is space for them clear of the footpath. However at few points (as shown above) the stalls occupy the footpath forcing the pedestrians to walk on the supposed-to-be green belt. At such places the footpath should be widened so as to ensure its continuity. The width of the green belt would be reduced in this case.



Seen above along Maulana Azad Road and below along Motilal Nehru Marg, vehicles have been parked either along the footpath itself or adjacent to it such that the pedestrian movement is affected. Vehicles were seen parked even in areas designated as No Parking zones.



Motilal Nehru Marg towards South Block.



Shown in the pics above are locations where the footpath width is reduced owing to the present foliage. At such points where there is an existing tree the footpath has to be widened enough to ensure clear space for the movement of a person on a wheelchair. At points (as seen in pic 14) where there is a green belt as well, there the footpath can be widened by reducing the width of the green belt.

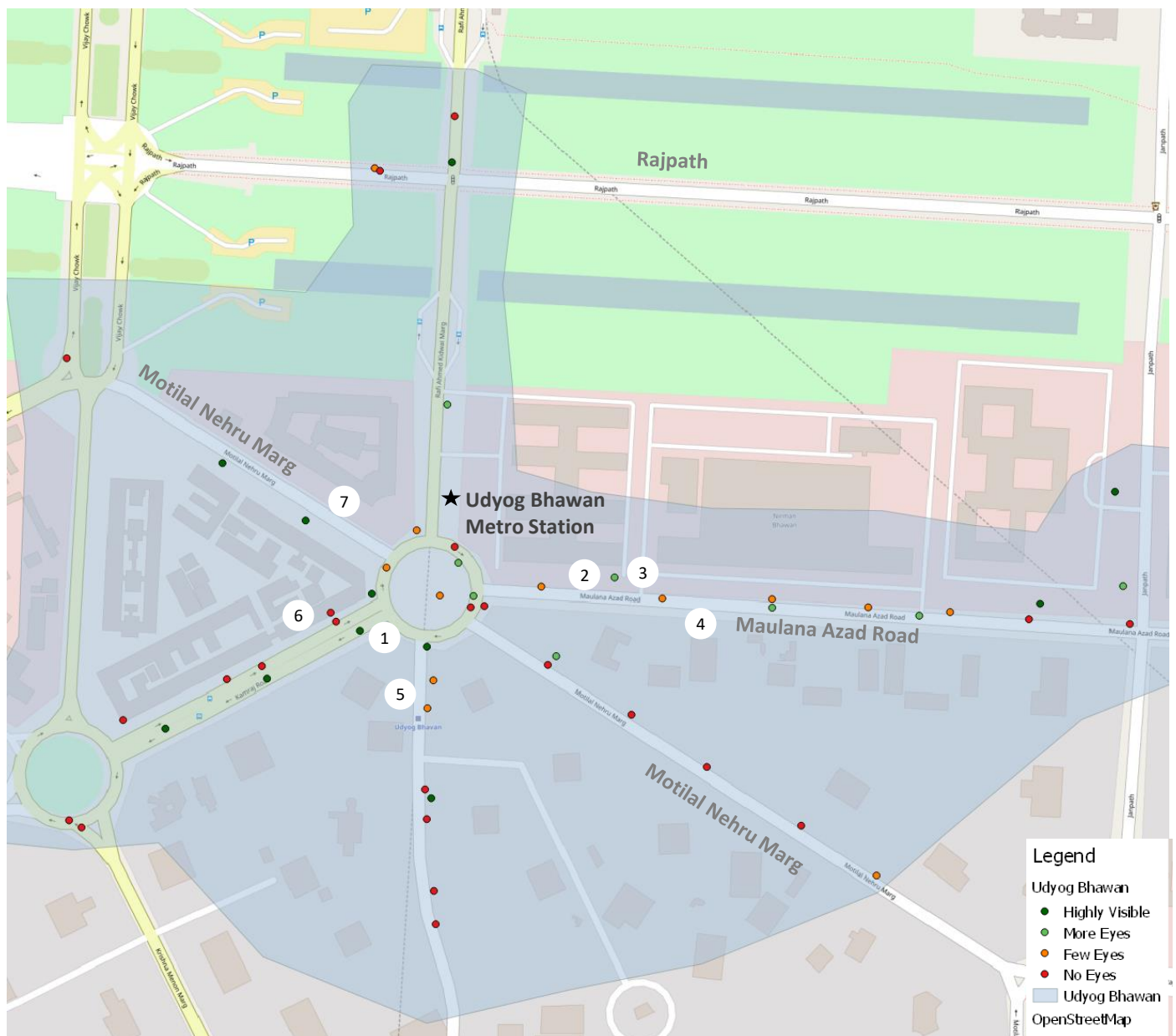
Visibility

Visibility Parameter has been rated 1.0/3 i.e. Below Average. In most parts of the audit area the visibility was found to be low. In some areas like the metro station entry/exits, bus stops and outside the Udyog Bhawan office the visibility was high due to the presence of various food stalls. However, overall the rating has been poor.

One of the main reasons for the poor rating is the inactive edge of the offices with the road(/footpath). Most of these offices have a high boundary wall, others have a low wall with a grill but the porous part has been covered by vegetation or by fiber glass

sheet. As a result, the edge remains dead and inactive with no visual connection between the office complex and the footpath. The high front setbacks of the buildings from the plot edge further reduce the possibility of a connection.

The porous part of the grill should be retained and not blocked. In areas with high boundary wall the height of the wall should be reduced. This area has a wide green belt between the footpath and the plot edge, this should be landscaped properly with street furniture and space for hawkers to create an active edge.



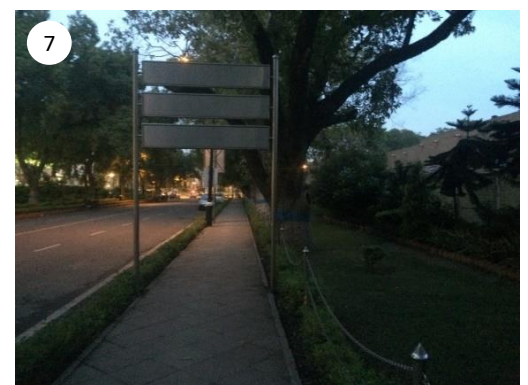
Visibility Rating



1
Entry/exit to the Metro Station. There is a food stall located along it clear of the footpath. However due to lack of street furniture people were seen squatting along the ramps and staircase. As seen above there is space along the boundary wall which is currently being used for vehicular parking. Developing this strip with seaters and stalls will increase the activity here. Provision for a Public Toilet also needs to be made and the entire stretch should be well lit. The green metal sheet on the boundary wall should be removed.



2
3
Food Stalls are located outside Udyog Bhawan but there is no provision for people to sit and enjoy. As a result people do not tend to linger around. The stalls are located clear of the footpath. Street furniture should be incorporated along these stalls. This will help keep the area active.



4
5
6
7
The radials in this area all have a inactive edge defined by a blank boundary wall and vegetation. The opaque part of these walls needs to be limited to a height of 1m and the remaining height should be achieved by a grill. The grill should not be covered by foliage or a screen and transparency must be maintained. Street furniture should be added along the green belt.

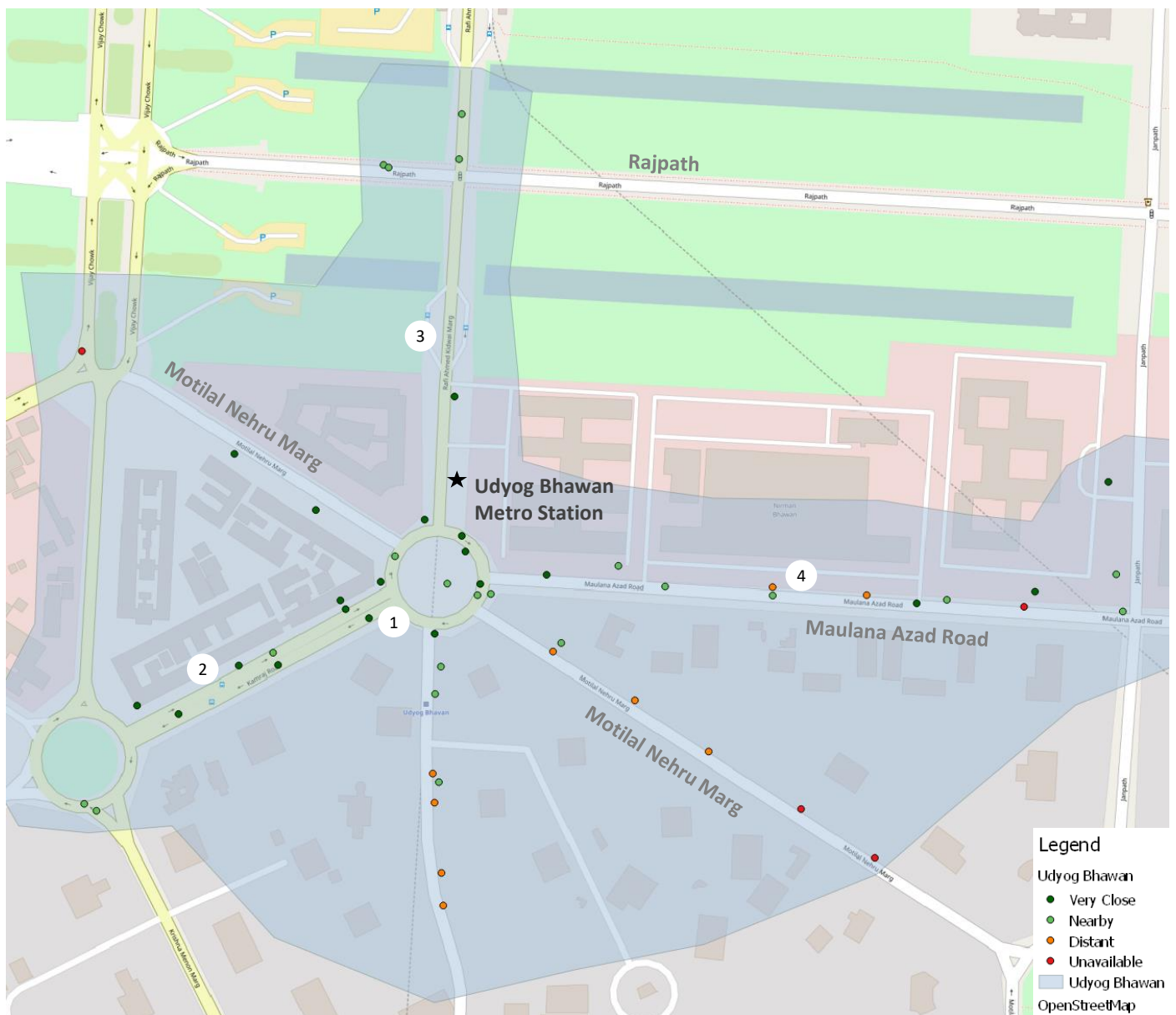
Public Transport

Public Transport parameter has been rated 2.0/3 i.e. Above Average. The area is well connected by metro and bus service. However there is a lack of proper para transit facilities from the metro station and bus stops to various offices and other functions.

Autos are present during the peak hours but other times and especially in the late evening hours, their number reduces. Proper stands need to be created for autos/taxis to wait. A few taxis were spotted waiting on the road. The para-transit stand will also have convenience facilities for the drivers. This would ensure proper service to people at all times.

The metro stations have a lift and ramp for the comfortable movement of the differently abled but there is no tactile paving. Continuous tactile paving should be provided from all metro station exits to the bus stops and well connected to the footpaths leading to the various destinations.

Proper street furniture needs to be added outside the metro entry/exits and along the bus stops. In the absence of required seating people are seen either standing or squatting. These additions will make using public transport comfortable for people.



Rating of Public Transport



The ramps along the metro station entry/exits do not have any tactile paving for the movement of the visually impaired people. This needs to be incorporated and also provided along the entire length of the footpath. The same needs to be provided along the bus stops as well. The tactile paving should be unobstructed throughout.



Seen in pics 2 & 3, bus stops have been provided throughout the study area. However, the seating capacity is inadequate forcing people to stand on the road. Street furniture needs to be provided along the bus stops. A para-transit stand also needs to be established along the bus stops. Currently very few para-transit facilities are available from the metro station and bus stops. The problem is more pronounced in the late evening hours. As a result it is difficult to hail these facilities.



The para-transit stands would also have a Public Convenience facility for the commuters as well as the drivers.



Taxis were spotted waiting on the road for passengers. Establishing dedicated para-transit stands will make hailing these services more convenient for the passengers as well as the drivers. These stands should be well lit with convenience facilities for the drivers and passengers.

