



New Delhi Municipal Council

A Safety Analysis Report



We are thankful for the support and this collaboration with
New Delhi Municipal Council (NDMC)

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1. Introduction



Safety is a major concern for women while accessing public spaces in the city. To enhance women safety, the New Delhi Municipal Council engaged Safetipin to conduct safety audits within the NDMC jurisdiction area in July 2018. Earlier in 2016, Safetipin submitted a safety analysis report of the audited main roads and 15 metro stations to NDMC. Based on the lighting data of the report, NDMC fixed the existing streetlights and installed additional streetlights in the areas of poor lighting. This study in 2018 also focuses on accessing the on-ground improvements made by NDMC.

Safetipin is a technology platform that uses apps to collect data in order to make cities and public spaces safer and more inclusive for women. Data collection is done using two apps, My Safetipin app and Safetipin Nite app. At the core of the My Safetipin app is the Safety Audit. A Safety Audit is a participatory tool for collecting and assessing information about perceptions of safety in public spaces. The audit is based on nine parameters namely **Lighting, Openness, Visibility, People, Security, Walkpath, Public Transport, Gender Usage and Feeling**. All parameters except Feeling are completely objective and are rated on the basis of a well defined rubric (as listed in Annex 1).

Safetipin Nite app generates data by clicking pictures across the city via a camera phone mounted on a moving vehicle. Data in the form of photographs is collected to capture pedestrian's safety conditions at regular intervals.

2. Methodology

Safety assessment for the NDMC area has been done using both of the Safetipin applications. Data has been collected using Safetipin Nite in day time and night time along all the roads of NDMC area except the colony roads. The conditions are examined based on the parameters of the safety audit with greater detail on the existing status of the infrastructure. Manual audits at specific location points were conducted using My Safetipin app. These points are metro stations, bus stops, marketplaces, schools and tourist places within NDMC area. The assessment was done post sunset till 10 pm. A total of 3318 audits have been conducted from July 2018 to October 2018. Of the total audits, 1093 are day audits and the remaining 2225 are night audits. Overall recommendations have been suggested to improve the Safety Score in NDMC area.

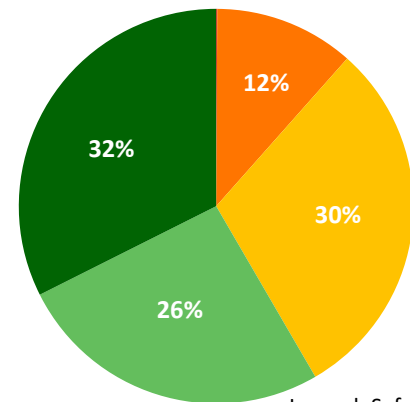
	Lighting measures the amount of brightness or illumination at a place and ranges from Dark to Bright. A place can be lit with street lighting or from other sources.
	Openness refers to whether a person has a good line of sight in all directions.
	Visibility refers to how visible is one to others. It is based on the principle of 'eyes on the street'. This comprises of windows-doors of shops, houses along with the street vendors and hawkers.
	People indicates the number of people around. This increases as a consequence of usage opportunities.
	Security refers to visible security offered either by the police or private security guards (for example along ATM/Bank).
	Walkpath indicates whether a person can comfortably walk at a place. This could refer to the quality of a pavement or space along a road.
	Transport refers to the ease of accessing any mode of public transport i.e. metro/bus/auto/taxi etc. and is measured in terms of the distance to the nearest mode.
	Gender is about diversity i.e. the percentage of women and children amongst the crowd. This increases as a consequence of safety perception.

3. Safety Audit Analysis

3.1. Safety Score

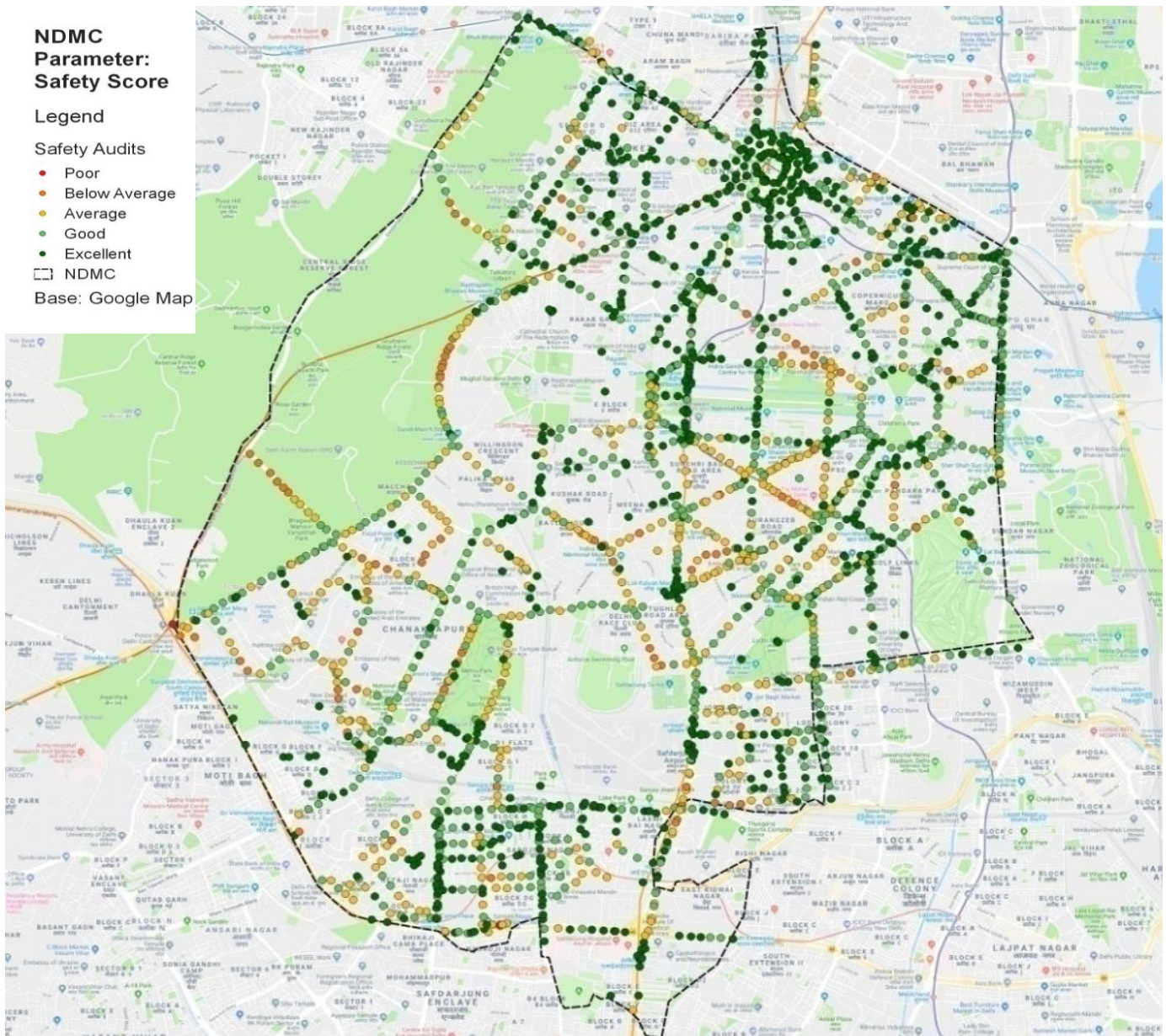
The Safety Score of a point is a reflection of the perception of safety at that particular location. For each audit point it is a number between 0 and 5, (0-1) being Poor and (4-5) being Good in terms of overall safety.

The overall Safety Score for in NDMC area is 3.4/ 5. Indicated in the pie chart is the percentage distribution of pins in each range. None of the points have been rated as Poor, i.e. Safety Score between (0-1). 12 % of the points have been rated as Below Average. These points are mostly located along Mother Teresa Crescent road, Simon Bolivar Marg, Ashoka Road. 30 % of the points are rated as Average, 26% points are rated as Above Average and 32% of the audit points have been rated as Good. Few of the audit points which are rated Good are located near Connaught place , Central Secretariat and Udyog Bhawan Metro stations.



Legend: Safety Score

	Poor	0.0 - 1.0
	Below Average	1.1 - 2.0
	Average	2.1 - 3.0
	Above Average	3.1 - 4.0
	Good	4.1 - 5.0



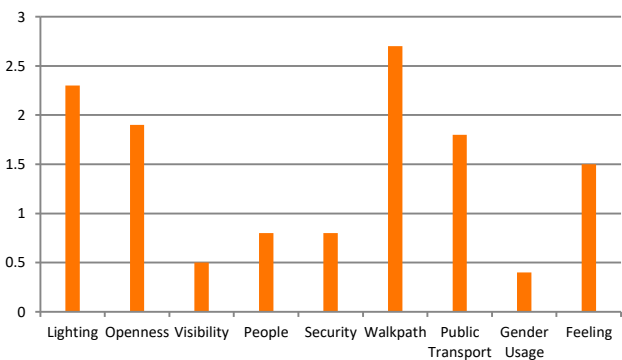
Map 1 indicating Safety Score

3.2. Audit Pin Distribution

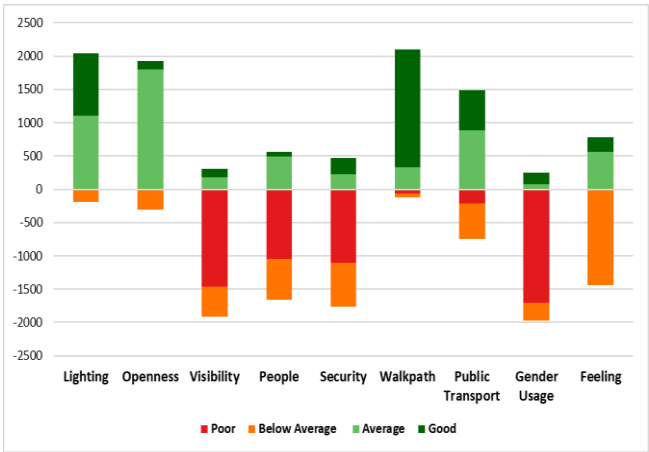
Each of the nine parameters is rated on a scale of 0-3, 0 being the Poorest and 3 Good. The average parameter ratings graph indicates the overall average rating for each parameter. As seen in the graph, the Walkpath parameter has been rated the highest followed by Lighting and Public Transport parameters.

Based on the audit ratings, Visibility, People and Gender Usage are low rated parameters. Low rating for People and Gender Usage parameters indicate limited usage of public spaces particularly by women after sunset. The overall feeling of Safety for NDMC area is rated Average.

The Parameter wise pin distribution graph indicates the number of audit points rated on a scale of 0-3. Ratings 0,1 (Poor, Below Average) are indicated as negative ratings and 1,2 (Above Average, Good) as positive ratings. Audit pins with negative ratings indicate points where improvement needs to be done. As seen in the graph, the parameters of Gender Usage, Visibility, Security and People have been rated poorly for many areas, whereas parameters like Walkpath and Lighting have been rated as Average or Good in most of the areas. Improving Lighting, Visibility and Security parameters would result in safer public spaces.



Graph 1 showing the average parameter ratings



Graph 2 showing the parameter wise pin distribution



Image 1 showing location with Lighting parameter rated 2

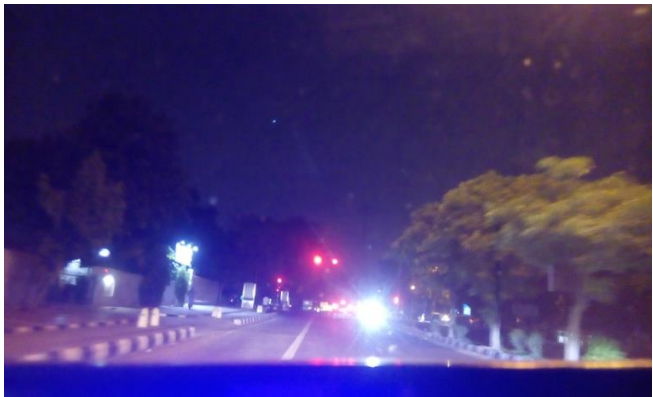


Image 2 showing location with Walkpath parameter rated 2

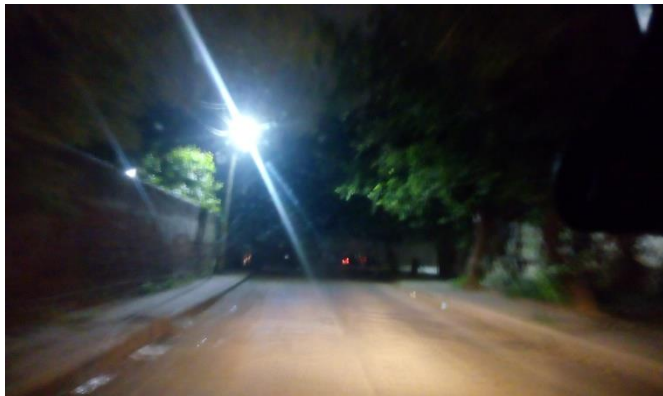


Image 3 showing location with Visibility parameter rated 1



Image 4 showing location with Gender Usage parameter rated 0

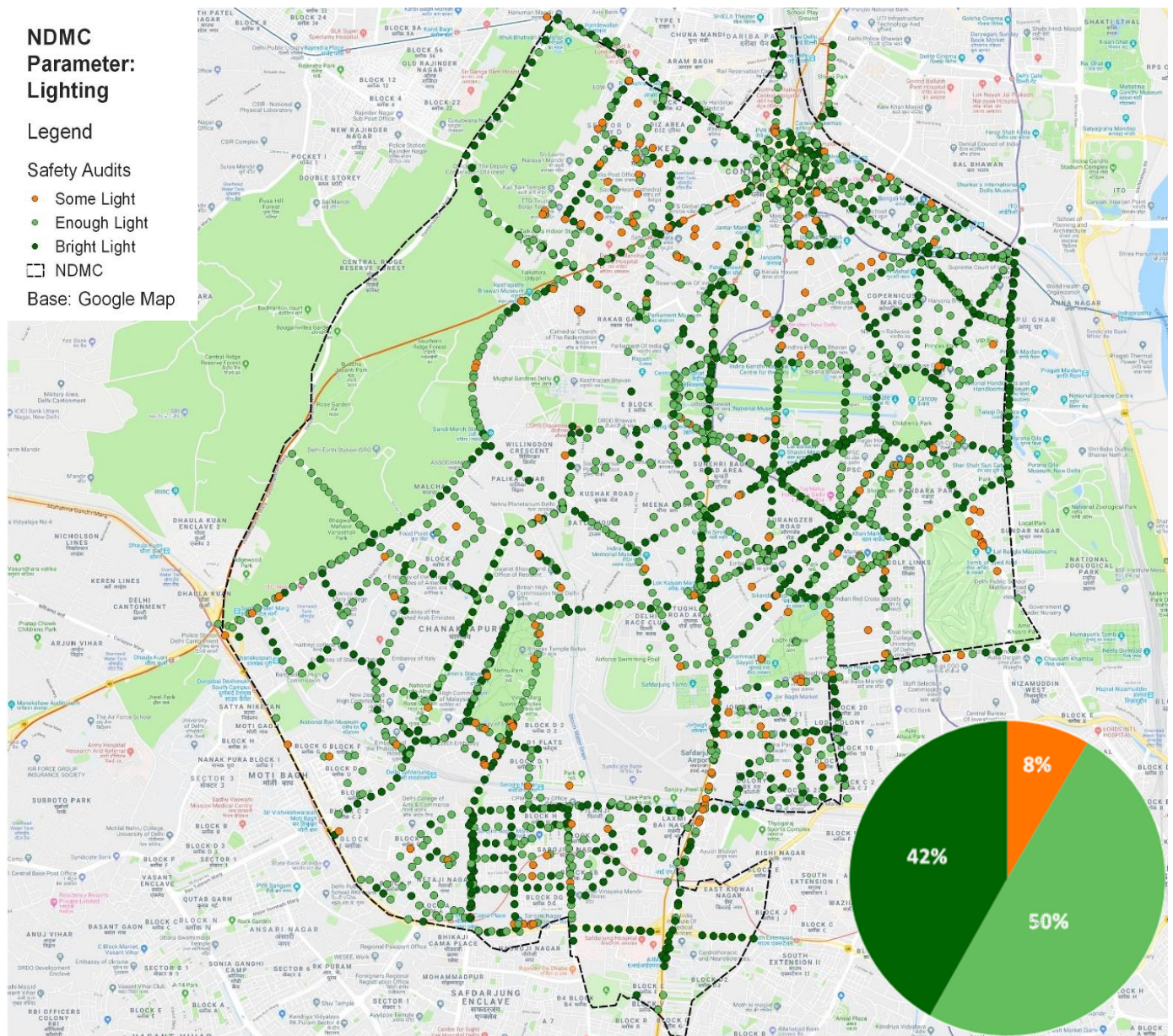
4. Parameter Analysis

4.1 Lighting (2.3 / 3)

Lighting measures the amount of brightness or illumination at a place and ranges from dark to bright (rating 0 -3). A place can be lit with street lighting or from other sources such as light coming from houses, shops, street vendors etc. Light coming from the vehicles is not considered as it is a temporary source of light. Lighting parameter has been rated 2.3/3 i.e. Above Average in NDMC area. No dark spots have been identified. However, 8 % of the audit points have been rated Below Average in terms of overall lighting. This is mainly due to restricted lighting from the luminaire of the streetlights as they are obstructed by tree foliage. Additionally, few streetlights were found non-operational during the time of audits.



Image 5 showing location with Lighting parameter rated 2



Map 2 Indicating Lighting parameter rating

4.1.1 Improvements in Lighting

In the 2016 Safety Analysis study of Delhi, Safetipin reported insufficient illumination in NDMC area. This led to lighting improvement works that includes fixing the non- operational streetlights and installation of new streetlights, wherever dark spots were identified. In some areas where illumination was insufficient, additional streetlights were installed. These improvements can be seen in the images shown below.

1. Dr. Zakir Hussain Marg



Image 6 showing lighting at Dr. Zakir Hussain Marg in 2016



Image 7 showing lighting at Dr. Zakir Hussain Marg in 2018

2. Ramakrishna Ashram Marg



Image 8 showing lighting at Ramakrishna Ashram Marg in 2016



Image 9 showing lighting at Ramakrishna Ashram Marg in 2018

3. Vinay Marg



Image 10 showing lighting at Vinay Marg in 2016

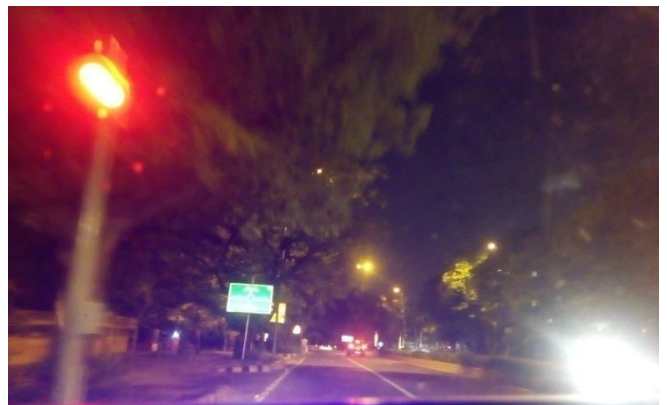


Image 11 showing lighting at Vinay Marg in 2018

4.1.2 Lighting Issues

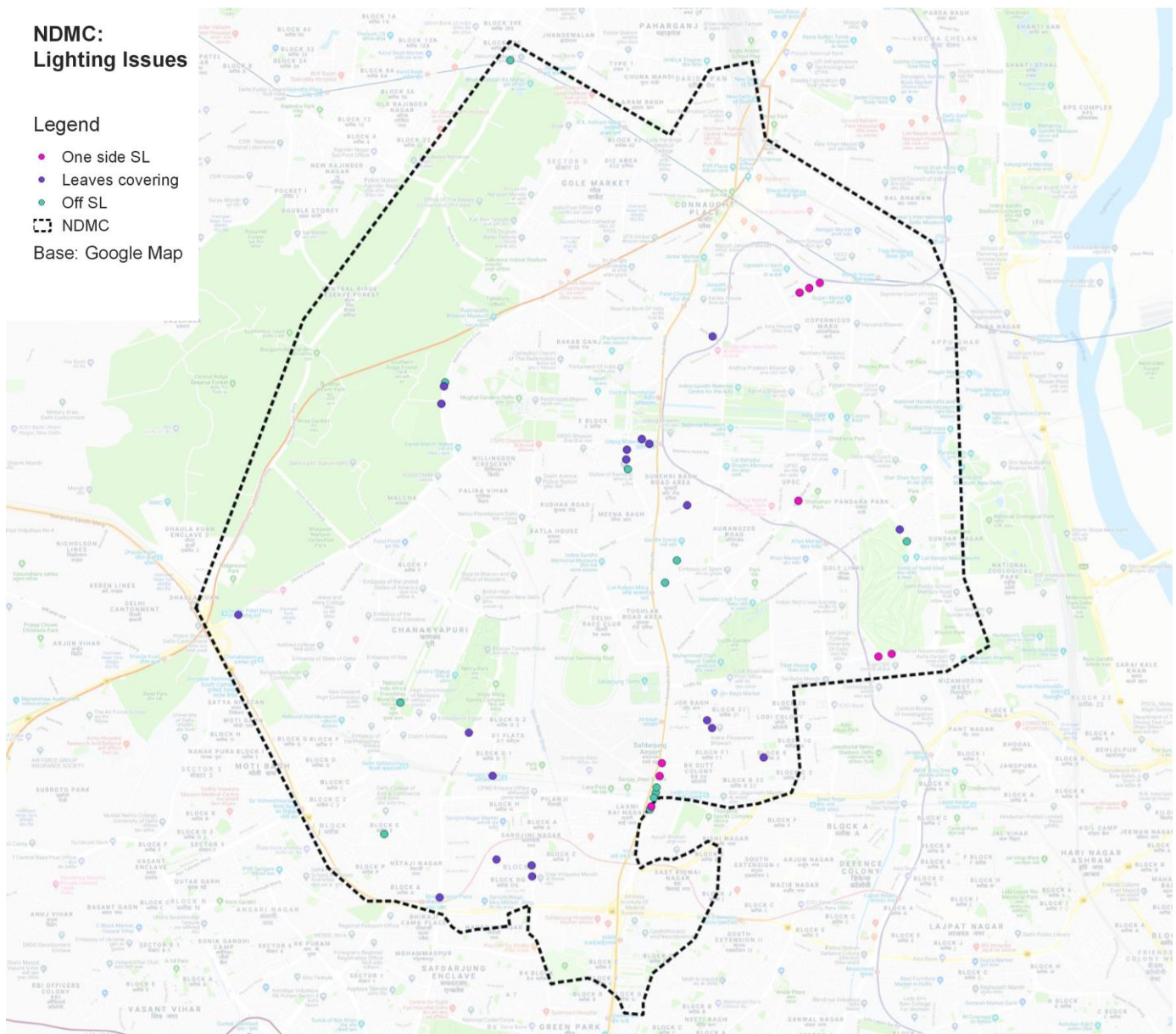
Overall, Lighting parameter has been rated Above Average in NDMC area. The identified issues in Lighting parameter are shown below in Map 3. These issues include non-functioning of the streetlights during the time of audits, installation of streetlights on only one side of the main roads (more than 4 lane roads) and inadequate illumination due to luminaire of the streetlights being covered by tree foliage.



Image 12 showing non-functional streetlights at Prime Chowk



Image 13 showing streetlights on one side of road at Shanti Path



Map 3 showing points with non-functional streetlights, streetlights on one side of main roads and streetlights covered with tree foliage

List of streets in NDMC area with the lighting issues along with suggested recommendations are provided below in Table 1.

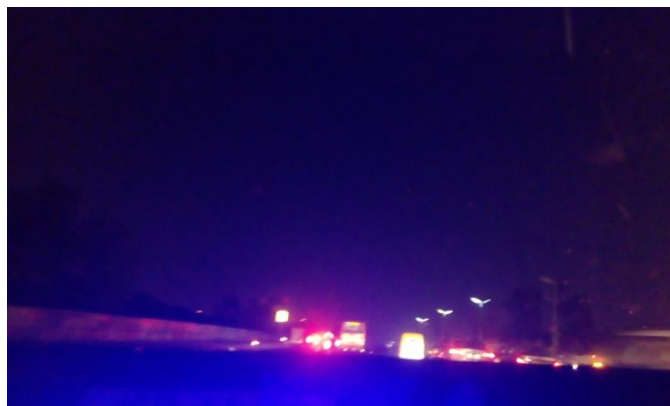


Image 14 showing non-functional streetlights at Sri Aurobindo Marg

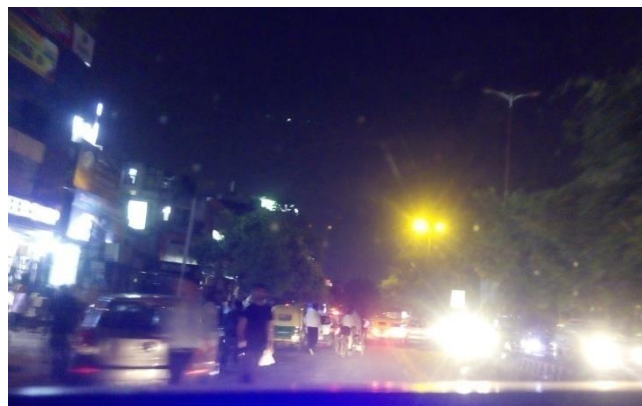


Image 15 showing streetlights on one side of road at Bhishma Pitamah Marg

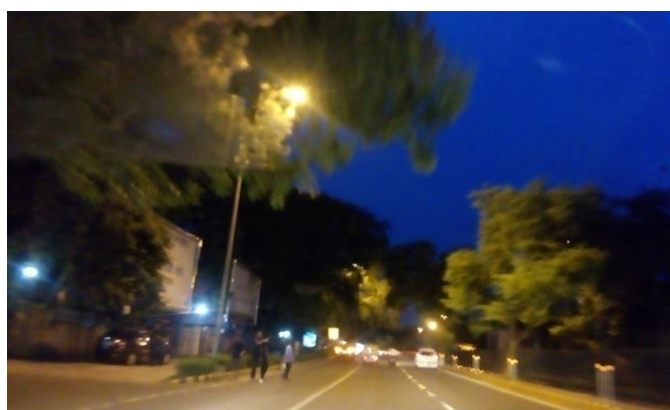


Image 16 showing leaves covering the luminaire of streetlights at Africa Avenue Road



Image 17 showing leaves covering the streetlights at Archbishop Markarios Marg

Sr.No.	Lighting Issues Identified	Street Name	Recommendations
I.	Non-functional streetlight	Mother Teresa Crescent, Sri Aurobindo Marg, Shanti Path, Rafi Ahmed Kidwai Marg	Regular maintenance checks needs to be carried .
II.	Tree foliage covering luminaire of the streetlight	Mandir Marg, Mother Teresa Crescent, Talkatora Road, Ashoka Road, Firoz Shah Marg, Dr. Rajendra Prasad Marg, Akbar Road, Maulana Azad Marg, Moti Lal Nehru Marg, Shahjahan Marg, Pandara Road, APJ Abdul Kalam Marg, Teen Murti Marg, Safdarjung Road, Lodhi Road, Kautilya Marg, Panchsheel Marg, Vinay Marg, Sardar Patel Marg, Shri Vinayak Mandir Marg.	Regular pruning of trees along the streetlights is required
III.	Streetlight on only one side of the main roads (more than 4lanes)	Shahjahan Road, Prithvi Raj Marg, Firoz shah Road, Lodhi Road.	Additional pedestrian scale streetlights needs to be installed along the walkpath.

Table 1 showing recommendations to improve Lighting parameter rating in NDMC area

4.2 Walkpath (2.7 / 3)

Walkpath parameter indicates whether a person can comfortably walk at a place. This refers to the quality of walkpath or space left for pedestrians along a road.

In NDMC area, Walkpath parameter has been rated 2.7/3 i.e. Good. Walkpath has been rated as the highest parameter among all the nine parameters. 79% of the audit points have been rated as Good indicating presence of well-maintained footpath in most of the areas. Very few locations have been identified with no footpath. At some audit points, footpath was found broken or obstructed, leading to people walking on vehicular carriageway.

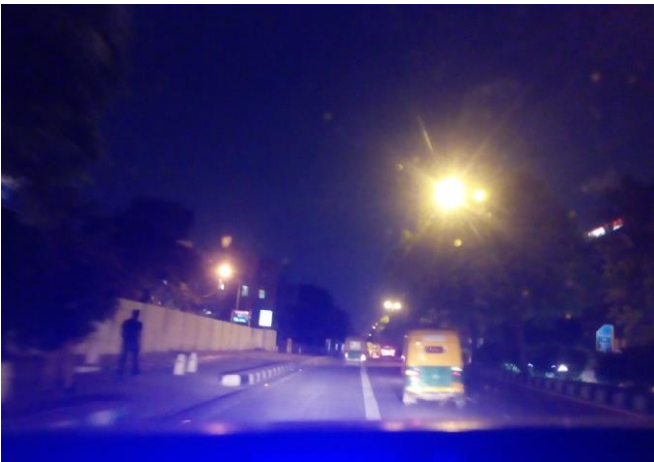


Image 18 showing location with Walkpath Parameter rated 2

NDMC Parameter: Walkpath

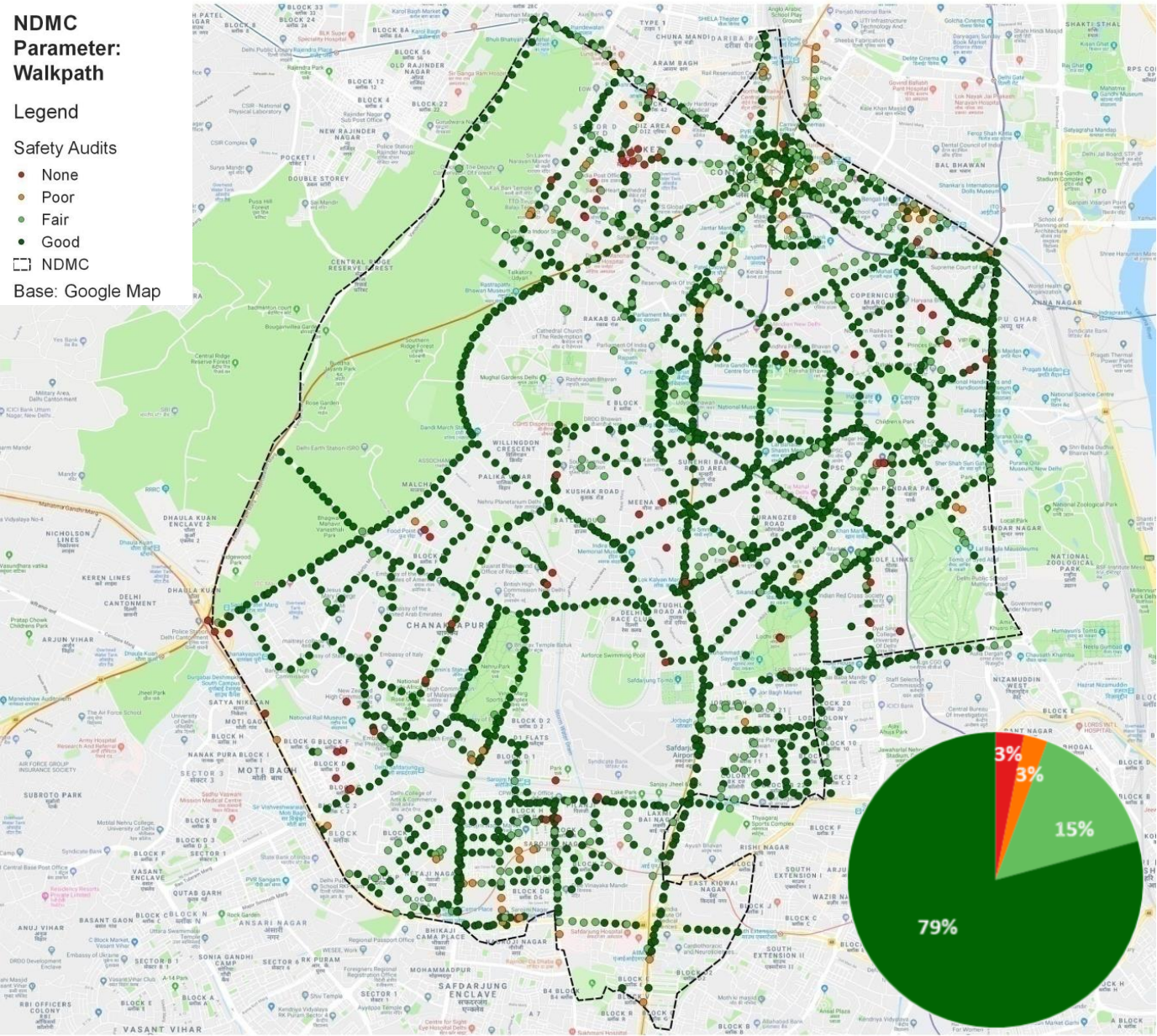
Legend

Safety Audits

- None
- Poor
- Fair
- Good

□ NDMC

Base: Google Map



Map 4 indicating Walkpath parameter rating

4.2.1 Walkpath Issues

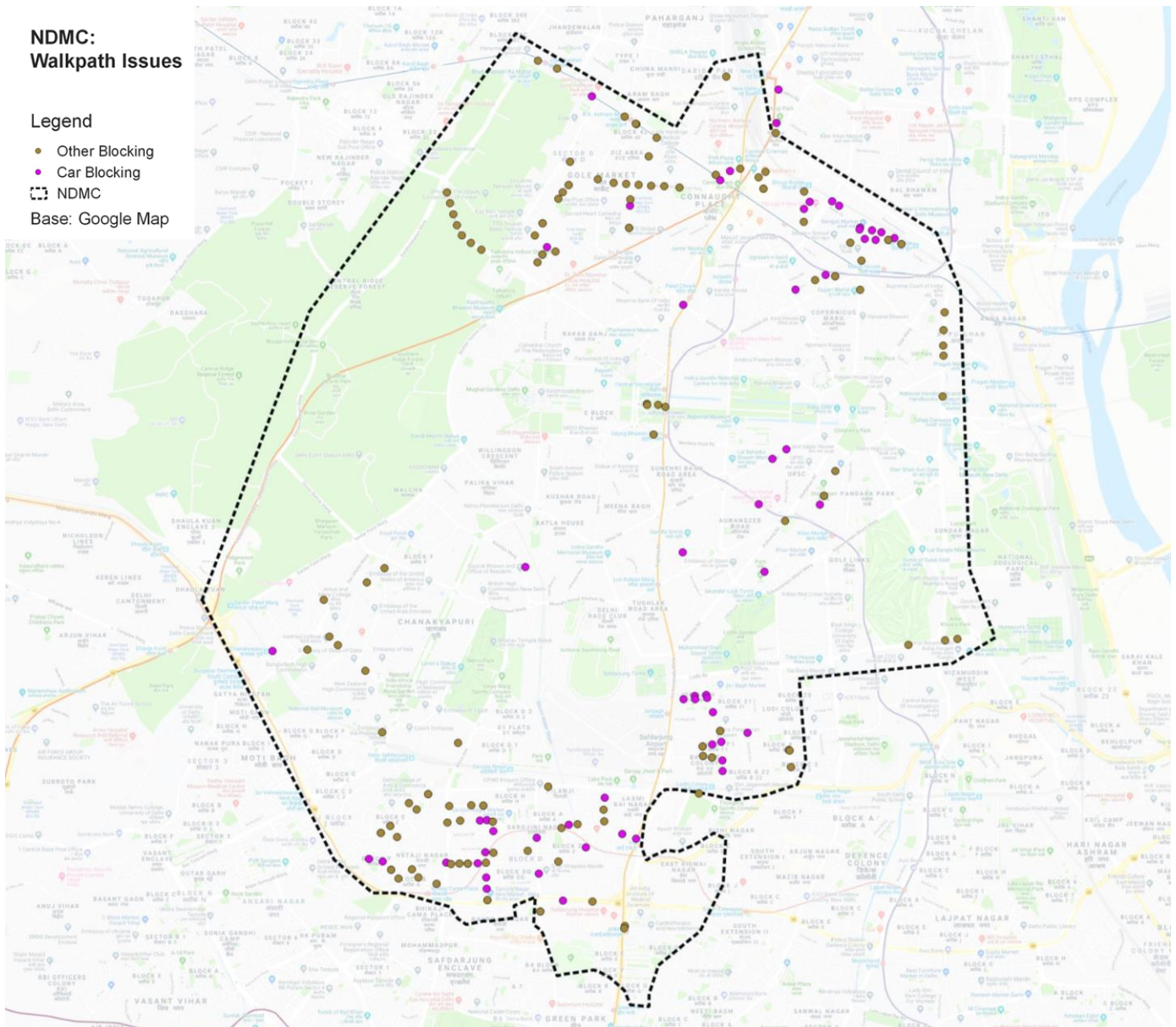
While footpath exist in most of the areas, they were found obstructed in many locations. The commonly observed obstructions on the footpath include vehicular parking, inappropriate positioning of streetlights and signage, dumping of construction debris. As seen in Image 19 below, the walkpath is obstructed by vehicular parking thus forcing the pedestrians to walk on the vehicular carriageway. Image 20 below shows an inappropriately placed signage on the walkpath thereby restricting smooth movement of the pedestrians.



Image 19 showing audit point with vehicular parking on Kanjhawala Link Road



Image 20 showing audit point with obstructed footpath at Shankar Road



Map 5 showing points with obstructions on walkpath

List of streets in NDMC area indicating the identified issues along the footpath with suggested recommendations are provided below in Table 2.



Image 21 showing construction debris on the walkpath near INA metro station



Image 22 showing obstructions on the walkpath near INA metro station

Sr.No.	Walkpath Issues Identified	Street Name	Recommendations
I.	Broken footpath	Shankar Marg, Panchkuian Marg	The walkpath needs to be repaired as required
II.	Obstructions due to vehicular parking	Babar Marg, PVR Cinema Marg, Old Ramakrishna Ashram Marg, Akbar Road, Barda Ukil Marg, Rajmata Vijayraje Scindia Marg, Bengali Market	Vehicular parking on the pavements should be prohibited. Proper level difference needs to be created between footpath and parking space
III.	Other obstructions on footpath	Shankar Road, Shaheed Bhagat Singh Marg, Udyan Marg, Rajpath, Lodhi Road, Barda Ukil Marg, Fourth Avenue Road, Karbala Road, A K Roy Rarg, Shri Vinayak Mandir Marg, Jesus and Mary Marg, Maharani Laxmibai Marg	Walkpath should be kept free from any obstructions. Any obstruction like construction debris or presence of hawkers on the walkpath may cause inconvenience to the pedestrians thus forcing them to walk on the roads

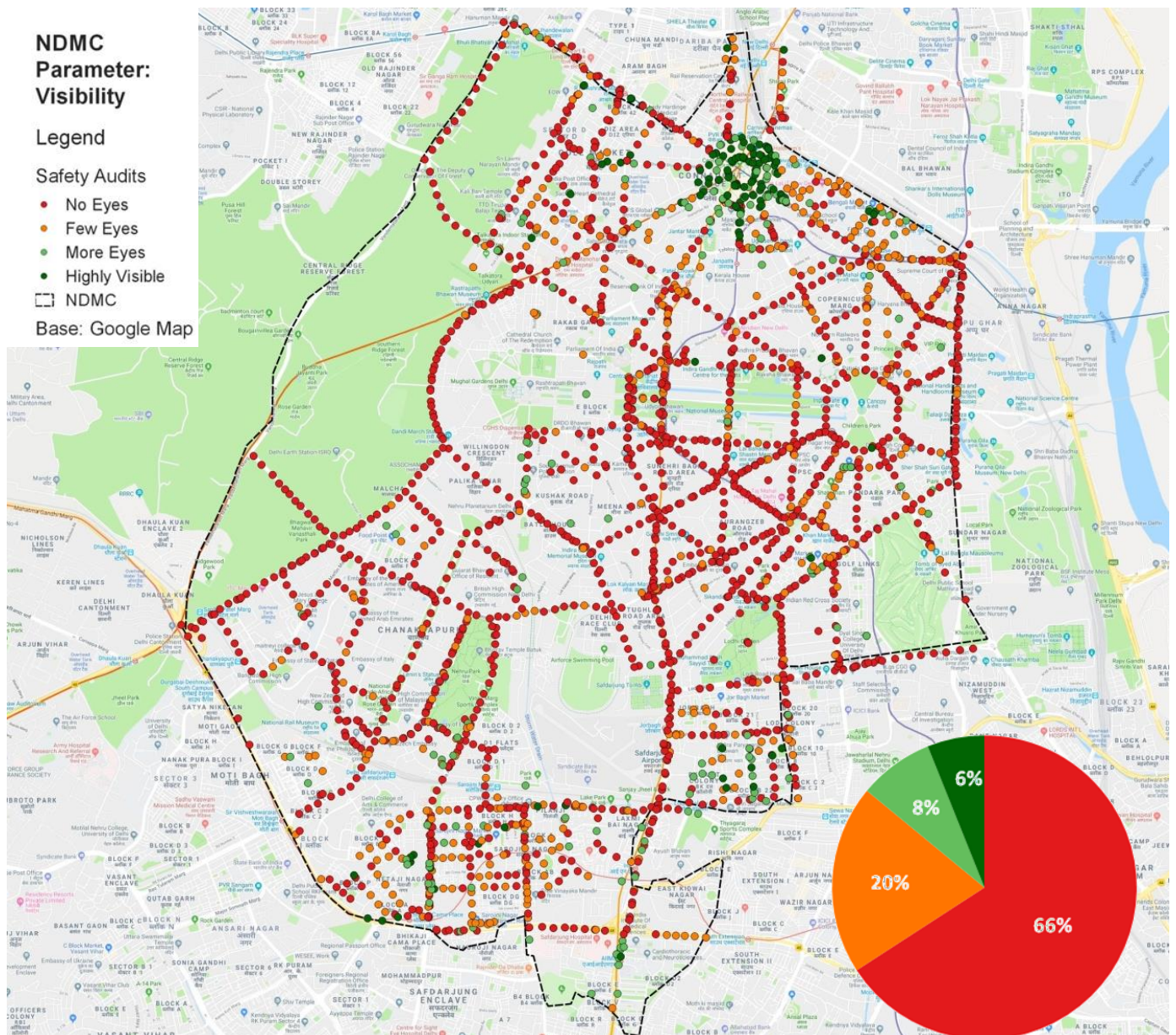
Table 2 showing recommendations to improve Walkpath parameter rating in NDMC area

4.3 Visibility (0.5 / 3)

Visibility refers to how visible is one to others. It is based on the principle of 'eyes on the street'. i.e. can you be seen when on the street. This includes windows- doors of shops, houses along with street vendors and hawkers. Visibility has been rated 0.5/3 i.e. Poor. Only 6 % of the audits have been rated as Good in terms of visibility. 66% audit points have been rated poorly making it the least rated parameter in terms of physical infrastructure. One of the major reasons for low visibility in NDMC area is the presence of high boundary walls resulting in low visual contact between the built environment and the pedestrians on the streets. The areas with street vendors and hawkers were rated high in Visibility parameter. Streets adjoining the government offices are active during the day time owing to presence of street vendors and temporary stalls. However, after the offices close in the evening, these areas become inactive.



Image 23 showing location with Visibility parameter rated 1



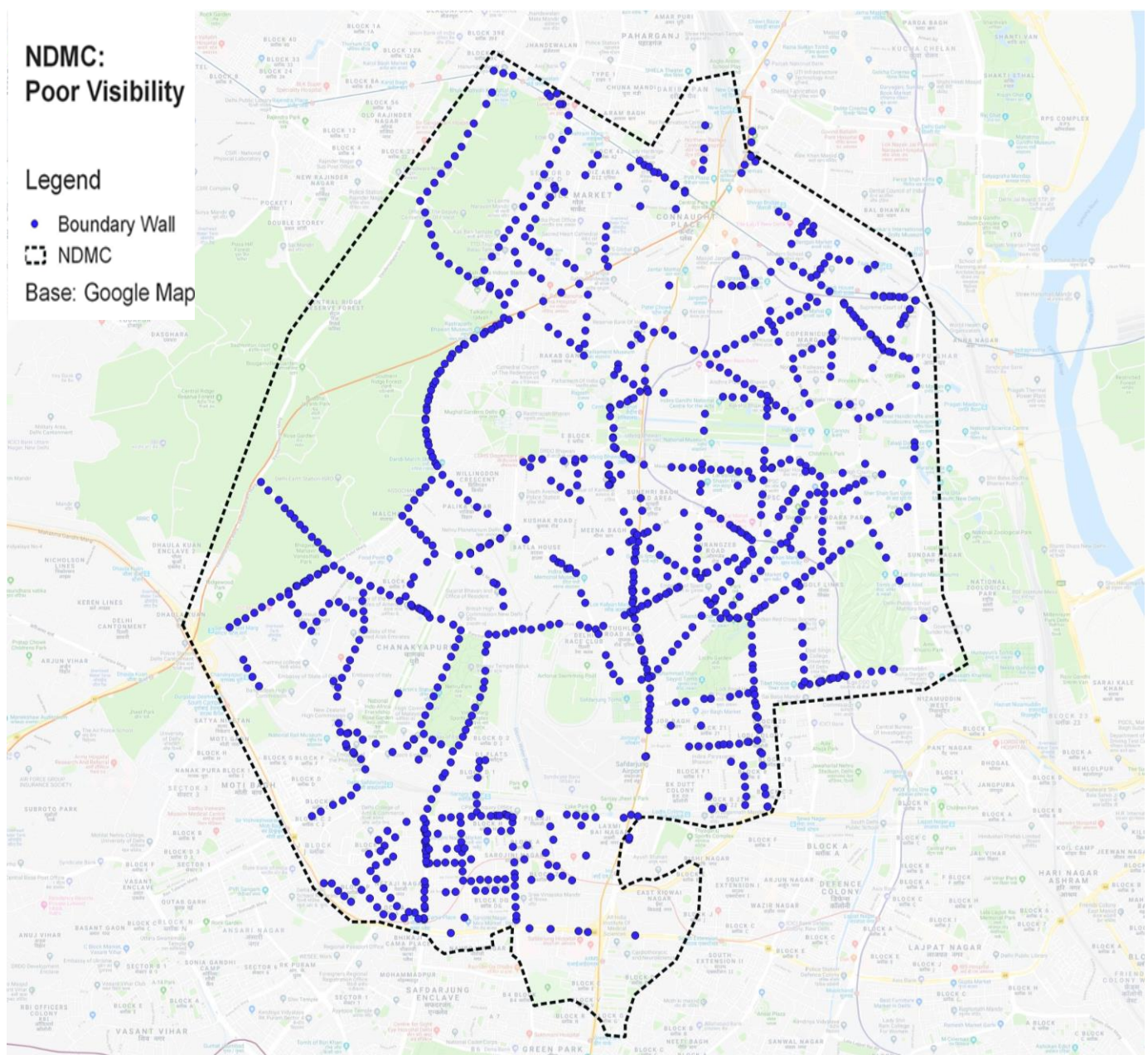
Map 6 indicating Visibility parameter rating

4.3.1 Visibility Issues

Most of the audit points have been rated poorly in terms of visibility in NDMC area. Due to nature of some buildings like Rashtrapati Bhawan (Mother Teresa Crescent Road), PM Residence (Lok Kalyan Marg) and Embassies (Chanakyapuri), boundary walls are high and heavily guarded. In these areas, regular police patrolling ensures pedestrian safety.

However, in other areas with government offices and institutional buildings the boundary wall should not be high to obstruct the visual contact between the pedestrians and built environment. There are few areas like institutions near Mandi House metro station that have low height solid boundary walls with grills on top. Such type of boundary wall design ensures that some transparency is maintained and the pedestrians feel a sense of safety while walking on the streets. Similar type of boundary wall design should be replicated for all the public buildings and educational institutions.

Additionally in government officials residences, the wooden fenced part of the boundary wall were found covered with a green sheet thereby restricting the visual contact between the building premises and the pedestrians on the streets. In such cases, the wooden or metal grills should be uncovered thus providing some eyes on the street.



Map 7 showing points with low visibility due to high boundary walls

Some other issues which result in poor visibility in NDMC area are shown below.



Image 24 showing inactive edges and high boundary wall

As seen in Image 24, inactive edges and high boundary wall result in poor visibility along the footpath. The height of the solid part of the boundary wall should be maintained at 1m. Above the solid part grills can be used for attaining the remaining height.

The edges along the walkpath can be made active by providing space for street furniture and street vendors. Also, the plantation along the walkpath should be regularly pruned so that the pedestrians can clearly view their surroundings.



Image 25A showing low height brick wall and opaque wooden fence of boundary wall

As seen in Image 25A, the wooden fenced part of the boundary wall is made opaque by covering it with a green sheet resulting in low visibility. Also, the edge of the service lane is defined by a low height brick wall. This wall acts as an unnecessary barrier between the service lane and the footpath along the road.

Similarly, as seen in Image 25B, the service lane is obstructed by vehicular parking. In both these cases, the pedestrians feel unsafe walking on the footpath adjoining the building after dark.

To improve visibility along the service lane, following measures can be taken up:

1. The green sheet covering the wooden fence or metal grills should be removed. This would result in partial visibility between the building and the streets.
2. In case of two footpaths i.e. one along the road and other along the building, there should not be a wall obstructing or restricting the movement and view of the pedestrians. Thus, the wall in image 25A should be removed to provide some line of sight for pedestrians walking in the service lane.
3. Vehicular parking in the service lane should be prohibited to avoid creating a barrier for pedestrians.

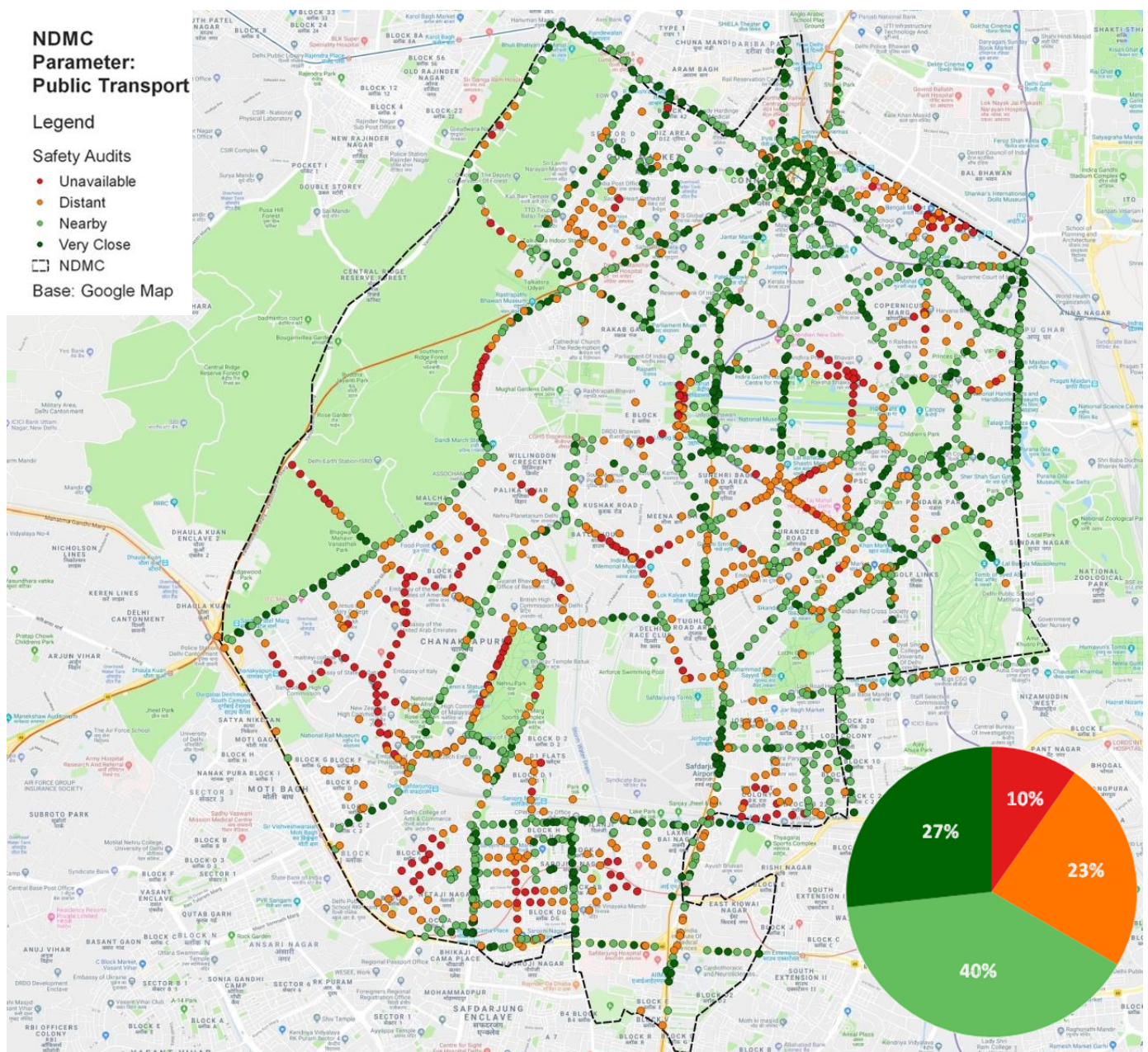


Image 25B showing vehicles parked in service lane resulting in low visibility

4.4 Public Transport (1.8 / 3)

The Public Transport parameter rates the ease of accessing any mode of public transport i.e. metro/bus/taxi etc. It is measured in terms of the distance to the nearest mode. Public Transport parameter has been rated 1.8/3 i.e. Above Average in NDMC area. 10% of the audits in NDMC area recorded no metro station or bus stop within 400 m radius. This can be attributed to the existing land use of the area. These audit points are mostly located in residential neighborhoods like Laxmi Bai Nagar, Sarojini Nagar where bus stops or metro stations are unavailable within 400m radius.

Although, autos are available in most of the areas in NDMC, designated para transit stands are not available. This results in autos waiting at or near the bus stops and metro stations causing traffic congestion on the roads. Designated stands should be set up with proper space for parking autos and rickshaws to avoid congestion on the roads.



Map 8 indicating Public Transport parameter rating

4.4.1 Public Transport Issues



Image 26 showing a bus stop at Patel Chowk

Infrastructure and operations related issues

As seen in Image 26, the footpath at Patel Chowk bus stop is broken. Also, autos can be seen waiting on the vehicle carriageway at the bus stop. Footpath should be properly maintained so that people do not shy away from using them. Designated auto stands should be provided preferably near the metro stations or bus stops. These stands should have adequate parking space for autos/ e-rickshaws and should be well lit. Public conveniences should also be located nearby.



Image 27 showing street hawkers outside AIIMS Metro Station

Lack of designated vendor zones

As seen in Image 27, the footpath outside the AIIMS metro station is obstructed by street hawkers thus forcing the pedestrians to walk on the road instead of the walkpath. Well lit segregated hawkers and vendor zones equipped with adequate street furniture should be provided so as to enable people to use the footpath.



Image 28 showing bus stop near near Khan Market

Lack of shelters at bus stops

As seen in Image 28, bus stop is identified by a sign board on the footpath, no shelter has been provided for people where they can wait for the buses. Also, the space left for buses in front of the bus stop is presently used for vehicular parking. A well lit bus shelter should be provided and vehicular parking in front of bus stops should be prohibited.

Specific Audit Points



MARKET



**METRO
STATION**



BUS STOP



SCHOOL



**TOURIST
DESTINATION**

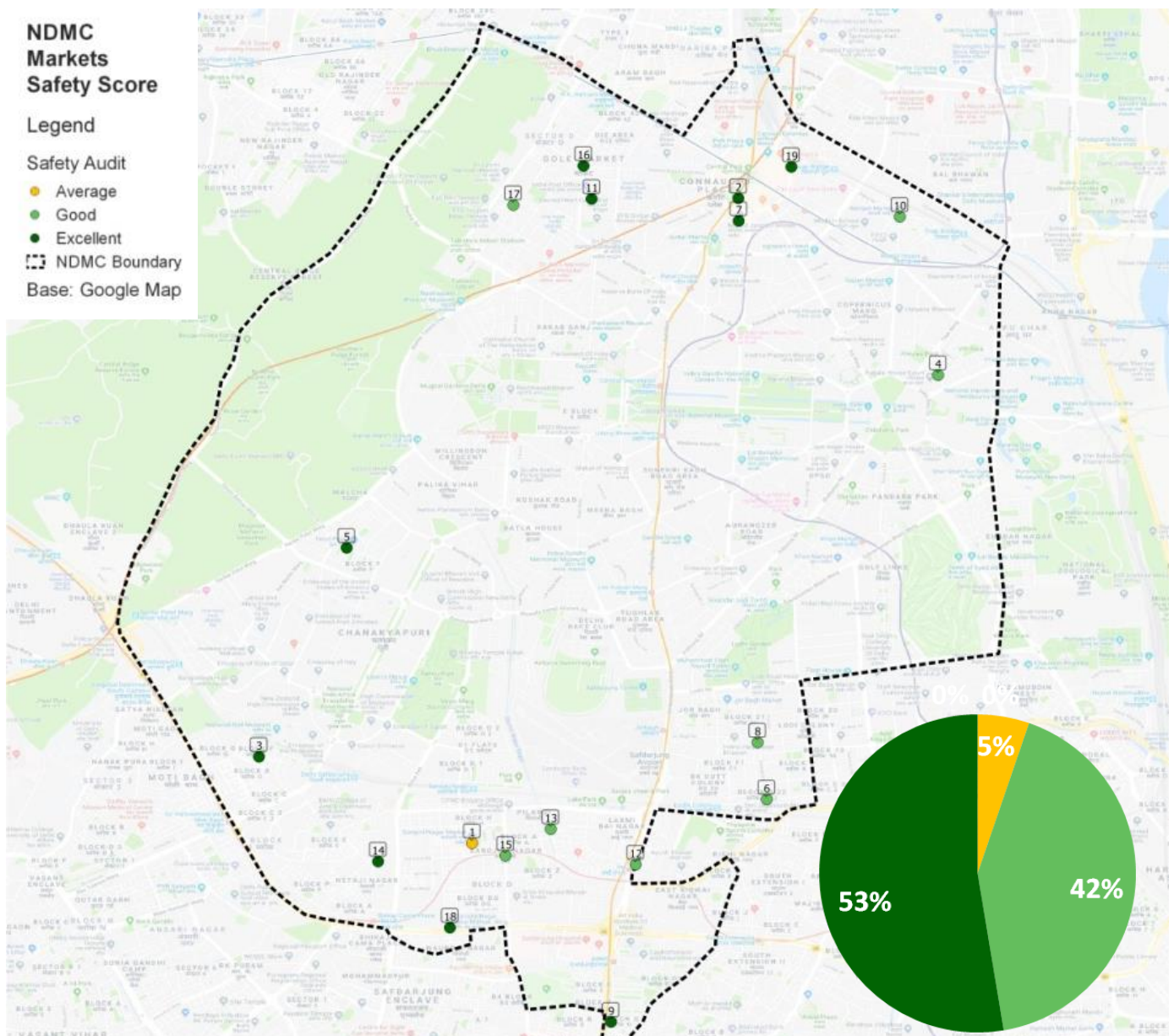
5. Specific Audit Points:

5.1 Markets

NDMC area has 19 Markets which cater to the needs of local residents as well as the floating population. Markets open at 9 am and close at 9 pm, except markets like Connaught Place and Khan Market having food joints and restaurant remain open late till 11 pm. A total of 233 safety audits were conducted within 100 meters radius of the markets. These included critical points i.e. entry points, exit points, parking spaces and bus stop/metro/rikshaw stop(if any). All of these markets are well connected with metro and bus transport, still they face vehicular traffic congestion during peak hours.



Image 29 showing well lit and comfortable walkpath at INA Market



Map 9 showing Safety Score of Markets

Lighting and Walkpath were rated highest among all parameters. Palika Bazar, Khanna Market Tajdar Babar Market, Udhyan Marg Market and Shankar Market were found efficiently lit and having well maintained footpath. Whereas Public Transport was found be rated the least in Sarojini Nagar Market, Begum Zaidi Market, Mini Market (Chanakyapuri), Mini Market(NB Nagar), and Bengali Market. Being a cloth-only market, Sarojini Nagar closes after 8 pm. As a result, the area gets deserted and its Safety Score is least among all the markets.

UID	MARKET	LIGHTING	OPENNESS	CROWD	SECURITY	PUBLIC TRANSPORT	FEELING	GENDER USAGE	WALKPATH	VISIBILITY	SAFETY SCORE
1	Sarojini Nagar Market	1.8	1.4	0.8	0.4	1.5	1.3	0.6	2.1	1.0	2.8
2	Palika Bazar	2.3	1.6	2.0	1.6	2.5	2.3	1.6	2.7	2.1	4.4
3	Begum Zaidi Market	1.8	1.8	1.5	3.0	1.0	2.5	0.5	1.3	1.3	4.2
4	CSC Market	2.3	1.5	0.7	1.4	2.2	1.3	0.3	2.7	0.4	3.4
5	Mini Market, Chanakyapuri	2.0	2.0	2.0	2.3	1.0	2.0	1.0	2.3	1.6	4.6
6	Khanna Market	2.6	2.1	1.8	1.5	1.3	2.0	1.5	3.0	1.1	3.8
7	Janpath Market	2.1	1.8	2.1	1.5	2.3	2.2	1.4	2.6	1.9	4.3
8	Tajdar Babar Market	2.5	2.1	1.2	0.9	2.2	1.7	0.8	2.9	1.1	3.9
9	Yusuf Sarai Market	2	2	2	3	2	2	1	2	2	4.4
10	Bengali Market	2.2	2.1	1.6	1.0	0.4	1.4	0.6	1.9	1.7	3.4
11	Panchkuian Market	1.3	1.0	1.3	2.3	2.3	2.0	1.0	3.0	0.8	4.2
12	INA Market	2.4	2.0	0.6	0.9	2.6	1.4	0.0	3.0	0.9	3.9
13	Mini Market, LB Nagar	2.2	1.9	1.5	1.1	1.0	1.5	1.1	1.9	1.3	3.7
14	Netaji Nagar Market	2.4	2.2	1.5	1.1	1.9	1.9	1.1	2.6	1.6	4.1
15	Community Shopping Center	2.1	1.7	1.1	1.4	2.5	1.8	0.4	2.6	0.5	3.9
16	Gole Market	1.8	1.2	1.6	1.9	2.5	1.9	0.8	1.5	0.8	4.1
17	NDMC Udyan Marg Market	2.5	1.9	0.9	0.4	1.5	1.2	0.4	2.2	0.5	3.2
18	Nauroji Nagar Market	2.0	1.3	2.0	1.5	2.2	2.5	2.1	2.1	0.9	4.2
19	Shankar Market	2.4	1.7	1.7	1.5	2.4	2.4	1.5	2.3	2.5	4.4

Table 3 showing the average parameter rating and Safety Score of markets

Markets : Observations

Overall markets were rated excellent, but few points near these markets have issues of poor lighting, broken footpath, low visibility and poor accessibility of public transport.



Image 30 showing poor lighting at Panchkula market due to leaves obstructing the luminaire



Image 31 showing obstruction on walkpath by vehicles



Image 32 is of Janpath Market. The streets are lit by the lights from adjoining shops. Some areas need installation of additional street lights.



Image 33 showing access roads of Sarojini Nagar Market. These roads have poor lighting. Area needs additional street lights.

Recommendations

	Parameter	Market	Road Name	Recommendations
1	Lighting	<ul style="list-style-type: none"> Panchkuian Market Sarojini Nagar Market 	<ul style="list-style-type: none"> Bhai Veer Singh Marg A K Roy Marg 	<ul style="list-style-type: none"> Pruning of trees required Additional street lights to be installed
2	Walkpath	<ul style="list-style-type: none"> Mini Market Chanakyapuri 	<ul style="list-style-type: none"> Madhu Limaye Marg 	<ul style="list-style-type: none"> Repair broken walkpath
3	Visibility	<ul style="list-style-type: none"> CSC Market, Panchkuian Market 	<ul style="list-style-type: none"> Tilak Marg, Bhai Veer Singh Marg 	<ul style="list-style-type: none"> Make dedicated vending area/spots for Hawkers
4	Transport	<ul style="list-style-type: none"> Begum Zaidi Market Bengali Market 	<ul style="list-style-type: none"> Within market area 	<ul style="list-style-type: none"> Make dedicated Auto-stands

Table 4 indicating recommendations to improve safety at Markets in NDMC area

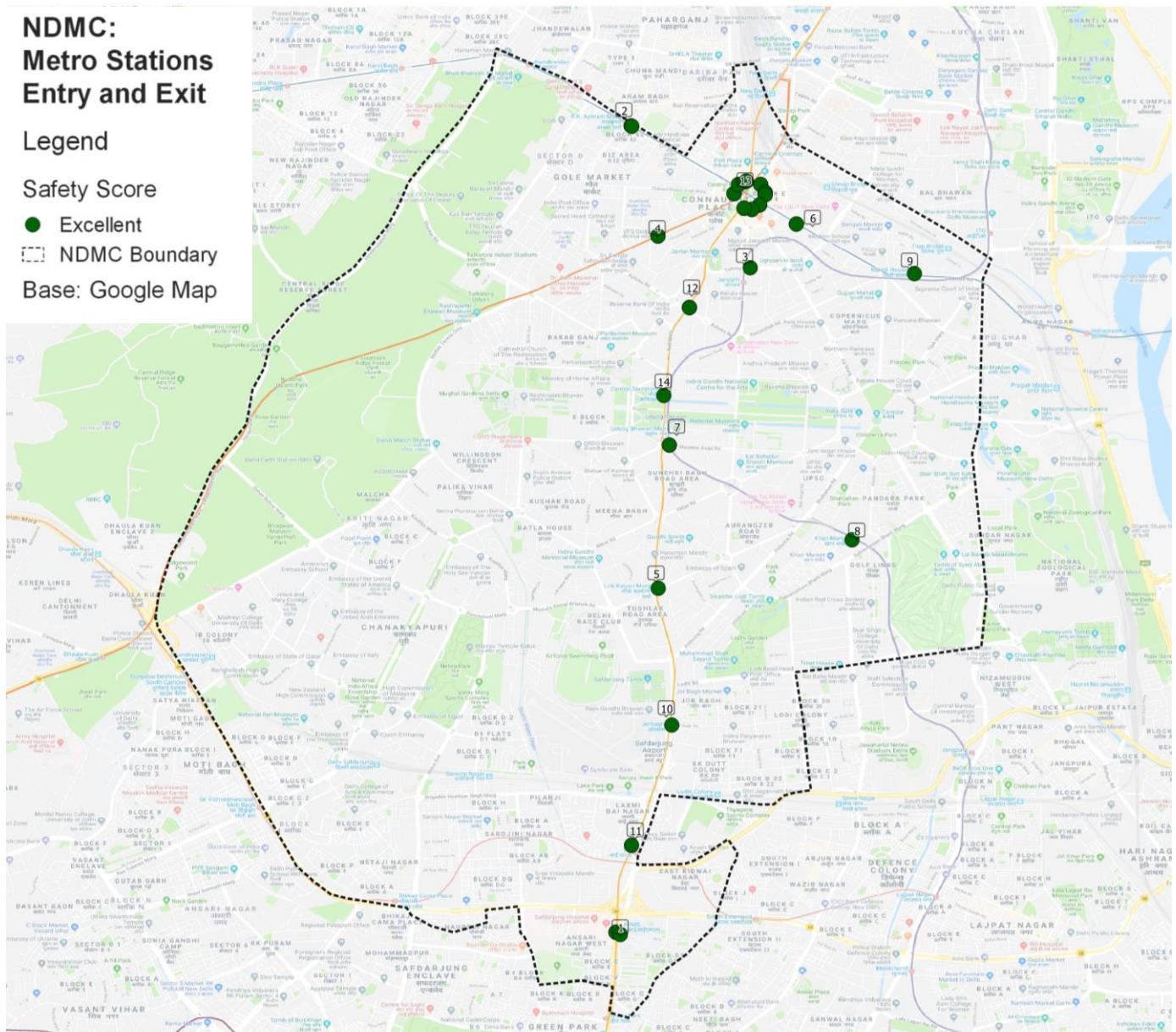
5. Specific Audit Points:

5.2.1 Metro Stations (Entry-Exit Gates)

Entry and Exit gates of metro stations were audited to measure safety at these points. Metro stations have 2-4 entry-exit gates on average but nodal stations like Rajiv Chowk have 8 gates. All metro stations have Excellent Safety Score i.e. above 4 out of 5. Walkpath, Lighting and Security at all stations have got high ratings which implies good conditions of these infrastructure. Though some metro stations like INA, Jorbagh, Patel Chowk and Central Secretariat get deserted after 9. Patel Chowk, INA, Jorbagh and Barakhamba metro station access-egress areas have rikshaws parked in an unorganized manner that block the two lanes of road on each side.



Image 34 showing rikshaws blocking bus lane in front of Patel Chowk bus stop and metro gate



Map 10 showing Safety Score of entry-exit gates of 14 metro stations in NDMC area

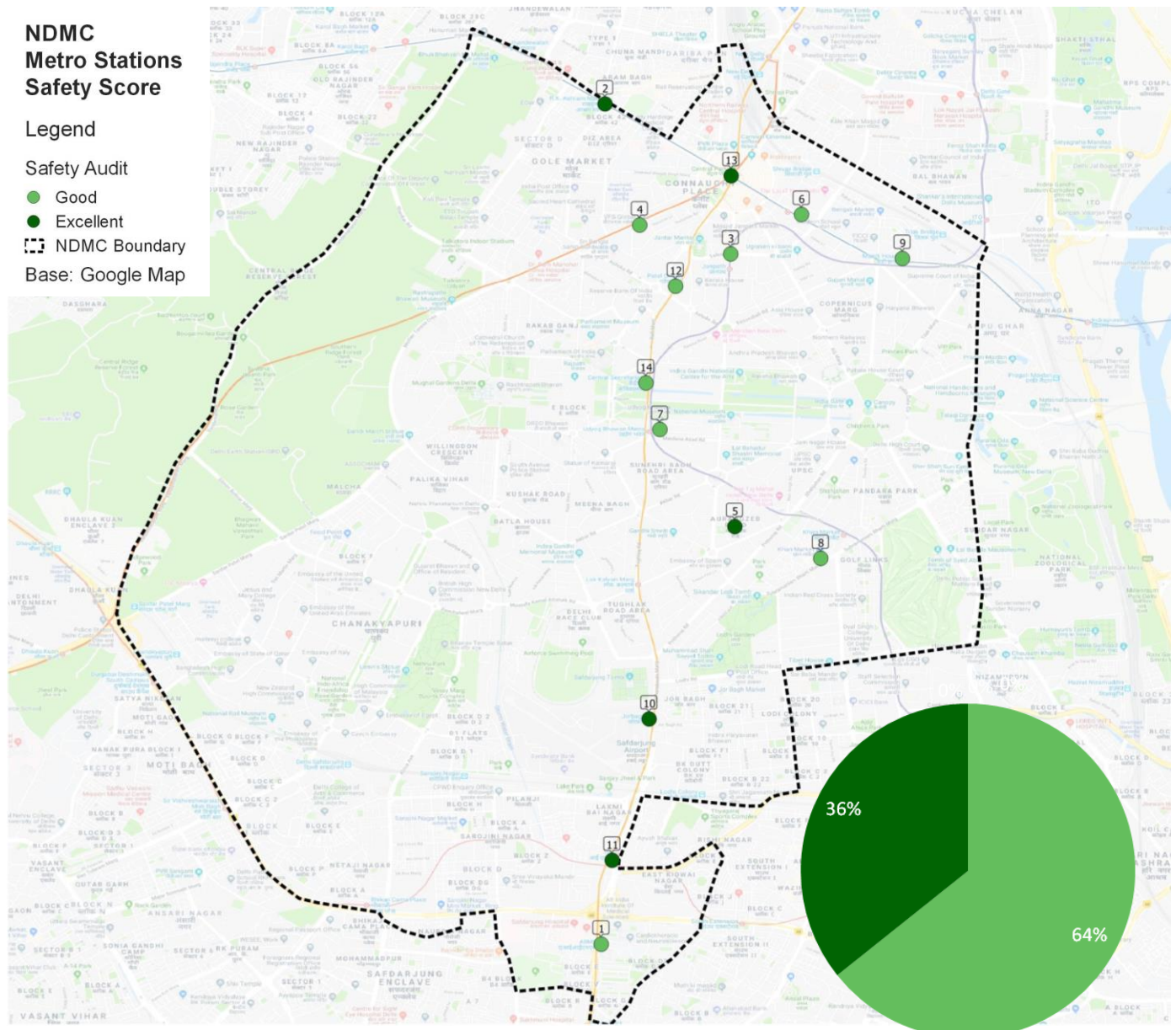
5. Specific Audit Points:

5.2.2 Metro Stations (1 km radius)

NDMC area has 14 metro station situated in their jurisdiction. Audits were done along the roads within under 1 km radius of the metro station to measure last mile connectivity in the area. All 14 metro station were found to have good lighting and well maintained footpath. INA, Rajiv Chowk, Lok Kalyan Marg, Jorbagh and Ramakrishna Ashram metro stations have got highest Safety Score. Some metro stations which have offices and commercial shops around them like Central Secretariat, INA, Patel Chowk and Jorbagh experience huge drop in crowd after 8 pm. Due to absence of activity generating nodes at night, access roads of some of these metro stations remain deserted. Maps for each station with the audit points within 1 km radius are attached in Annex 2.



Image 35 Central Secretariat Metro Station gate at 9 pm

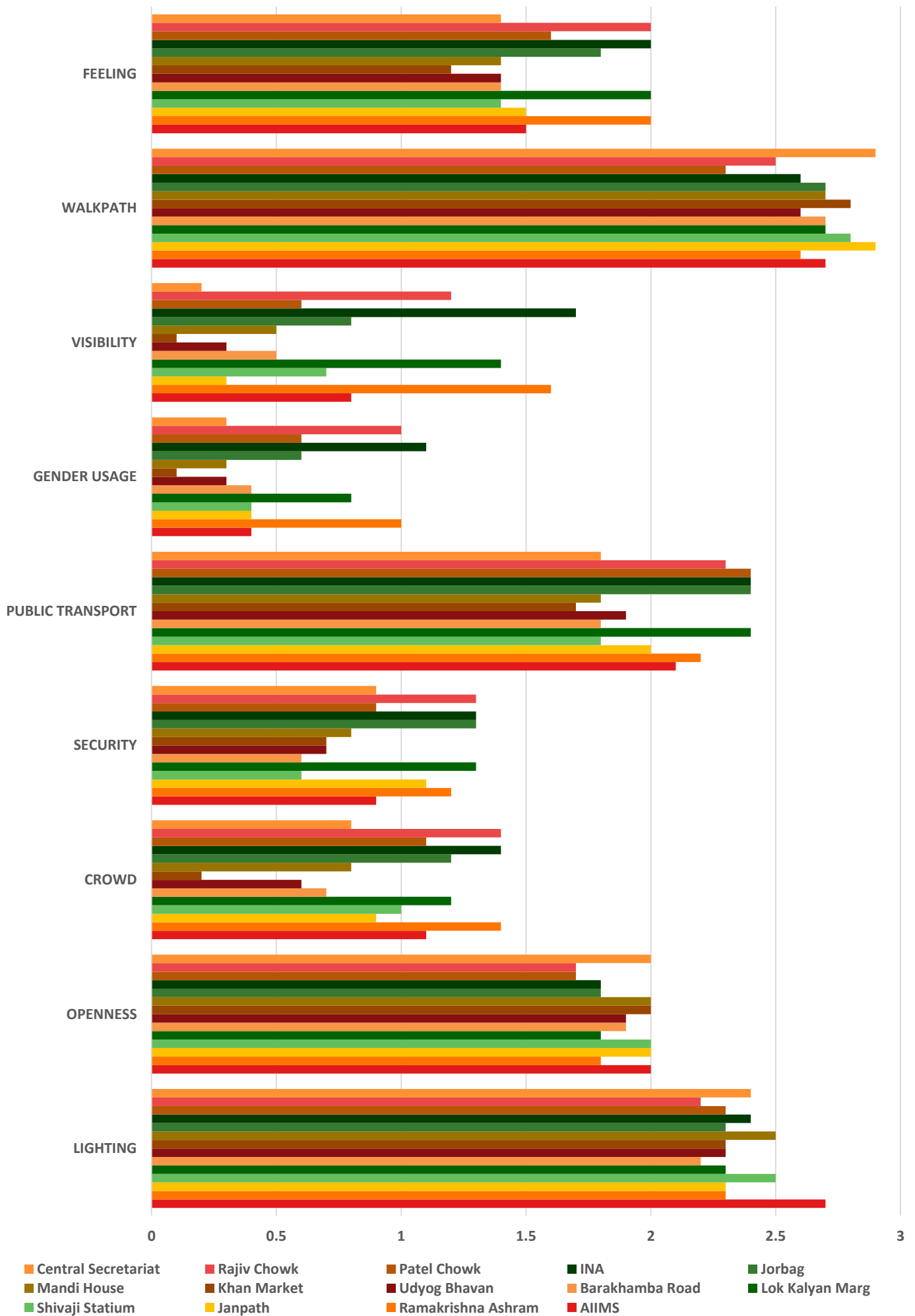


Map 11 showing Safety Score of 1 km area around each of the 14 metro stations under NDMC jurisdiction

Table 5 shows average parameter rating around 1 km radius of the metro stations. Gender usage at all stations drop dramatically after office hours. Other than Rajiv Chowk, INA and Ramakrishna Ashram all metro stations have low gender usage in and around stations. Walkpath around Janpath, Central Secretariat and Shivaji Stadium metro stations have been rated the best. Graph 3 shows the comparison of overall parameter rating for each of the metro station.

UID	STATION NAME	LIGHTING	OPENNESS	CROWD	SECURITY	PUBLIC TRANSPORT	GENDER USAGE	VISIBILITY	WALKPATH	FEELING	Safety Score
1	AIIMS	2.7	2.0	1.1	0.9	2.1	0.4	0.8	2.7	1.5	3.7
2	Ramakrishna Ashram	2.3	1.8	1.4	1.2	2.2	1.0	1.6	2.6	2.0	4.0
3	Janpath	2.3	2.0	0.9	1.1	2.0	0.4	0.3	2.9	1.5	3.6
4	Shivaji Statium	2.5	2.0	1.0	0.6	1.8	0.4	0.7	2.8	1.4	3.4
5	Lok Kalyan Marg	2.3	1.8	1.2	1.3	2.4	0.8	1.4	2.7	2.0	4.0
6	Barakhamba Road	2.2	1.9	0.7	0.6	1.8	0.4	0.5	2.7	1.4	3.3
7	Udyog Bhavan	2.3	1.9	0.6	0.7	1.9	0.3	0.3	2.6	1.4	3.3
8	Khan Market	2.3	2.0	0.2	0.7	1.7	0.1	0.1	2.8	1.2	3.0
9	Mandi House	2.5	2.0	0.8	0.8	1.8	0.3	0.5	2.7	1.4	3.5
10	Jorbag	2.3	1.8	1.2	1.3	2.4	0.6	0.8	2.7	1.8	4.0
11	INA	2.4	1.8	1.4	1.3	2.4	1.1	1.7	2.6	2.0	4.1
12	Patel Chowk	2.3	1.7	1.1	0.9	2.4	0.6	0.6	2.3	1.6	3.7
13	Rajiv Chowk	2.2	1.7	1.4	1.3	2.3	1.0	1.2	2.5	2.0	4.1
14	Central Secretariat	2.4	2.0	0.8	0.9	1.8	0.3	0.2	2.9	1.4	3.4

Table 5 showing average parameter ratings of audits under 1 km radius from respected metro station



Graph 3 showing the comparison of parameter ratings of audits within 1 km radius from metro station

Recommendations

Sr. No	Metro Station	Lighting	Public Transport
1	Ramakrishna Ashram	Street lights outside Valmiki Mandir are non-functional and needs to be repaired	
2	Janpath	Street light outside NDMC public toilet at Atul Grove Road is non-functional and needs to be repaired	Ashoka Road has no metro/bus transport available within 400 meters. Area remains deserted in night. No need to have designated auto stands, though we recommend frequent police patrolling on this road.
3	Shivaji Stadium	Lane joining Baba Kharak Singh Marg and Hanuman Marg needs to get pruned.	
4	Barakhamba Road	Additional streetlights required near pillar number 13 at Maharaja Ranjeet Singh Marg	
5	Udyog Bhavan	Trees on Motilal Nehru Marg needs to get pruned	
6	Khan Market	Street light covered by leaves near SBM toilet at Khan market and SBI ATM on Dr. Zakir Hussain Marg. Trees needs to get pruned	
7	Mandi House	Trees opposite to SBM Toilet on Safdar Hashmi Marg, Vakil lane needs to get pruned	Bengali Market remains crowded but has no metro/bus stop within 400m distance. It is recommended to have a designated auto stand.
8	Jorbagh Metro Station	Additional lights required outside east-side of Jorbagh Park	
9	Rajiv Chowk	Street light non-functional at Chelmsford Road, SBM Toilet near Pancchi Petha Shop in Outer circle needs to be repaired.	

Table 6 showing recommendation to improve safety at metro stations



Image 36 and 37 showing lane opposite to Valmiki Mandir where Crowd was rated 2 or 3 but the street lights were off. These areas needs additional street lights to be installed

5. Specific Location Audits

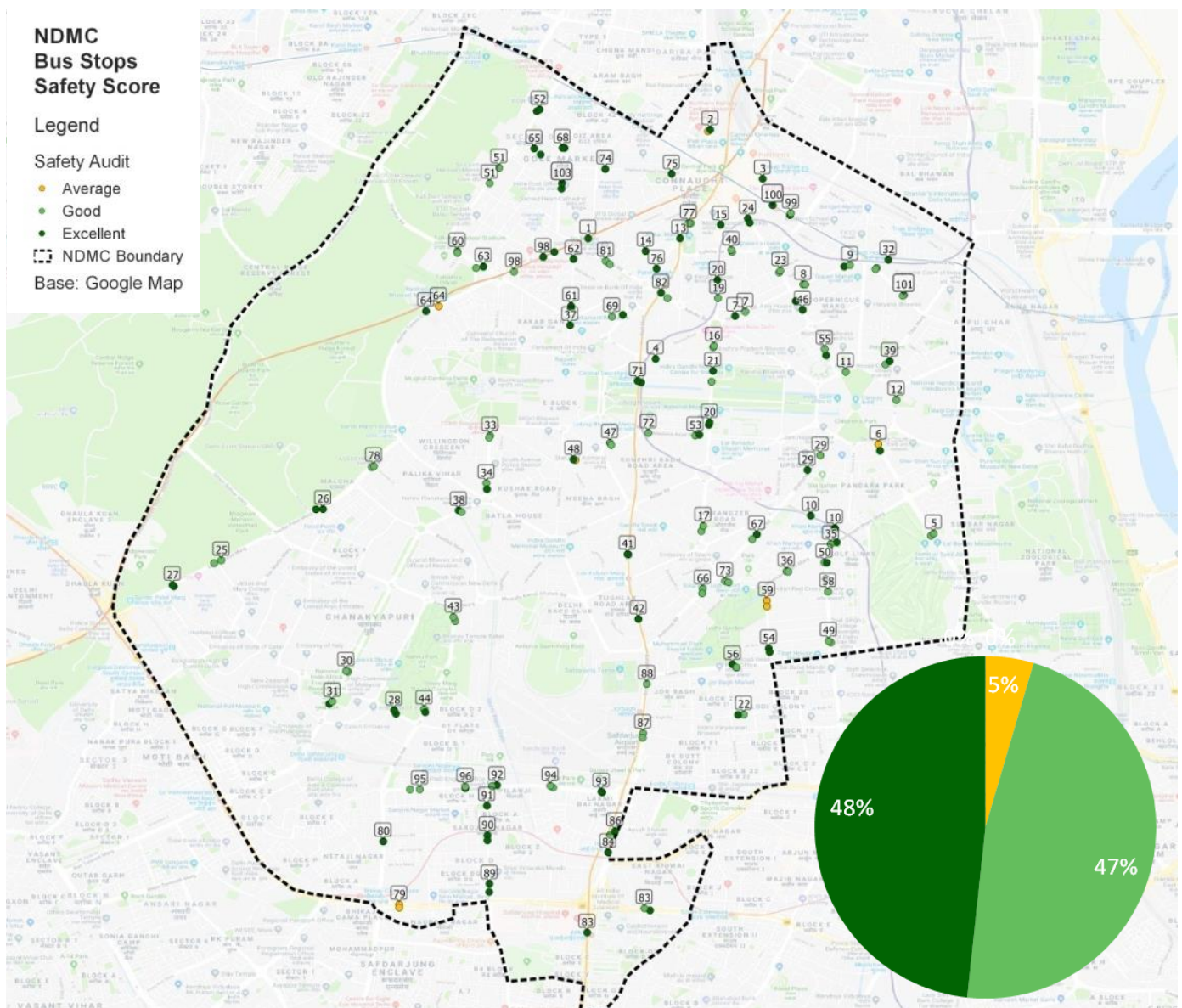
5.3. Bus Stops

NDMC area has 103 bus-stops which are under its jurisdiction. These bus stops have two advertisement panels which are also the source of light other than the streetlight along the road. Bus stops also have a shed and provision for 10 people to sit at once. People generally stand on the road in front of the bus stop while waiting for the bus.

95 percent of bus stops were found to be in Good or Excellent in terms of Safety Score whereas 5 percent bus stops scored Average. These are Max Muller Marg, Talkatora Stadium, M-Block Africa Avenue, Marina Hotel Chelmsford and Golf Club bus stops. These bus stops have issues of poor lighting and broken or obstructed footpath.



Image 38 showing well lit and regularly maintained walkpath of Palika Kendra bus stop



Map 12 Showing Safety Score of 103 bus stops in NDMC area

UID	NAME	LIGHTING	OPENNESS	CROWD	SECURITY	PUBLIC TRANSPORT	GENDER USAGE	VISIBILITY	WALKPATH	FEELING	SAFETY SCORE
1	St. Columba's school, Bhai Vir Singh Marg	3	2	1	0	3	0	1	3	2	4.2
2	Marina Hotel, Chelmsford Road	0	2	1	0	3	0	0	3	1	2.6
2	Marina Hotel, Chelmsford Road	2	2	2	0	3	0	1	3	2	4.2
3	Super Bazar, Connaught Circus	2	2	2	1	3	0	3	3	2	4.4
4	Krishi Bhawan, Dr. R P Road	2	2	2	1	3	0	0	3	2	4.2
5	Golf Club, Dr. Zakir Hussain Marg	3	2	0	0	3	0	0	3	1	3.5
5	Golf Club, Dr. Zakir Hussain Marg	3	2	0	0	3	0	0	3	1	3.5
6	Jaipur House, Dr. Zakir Hussain Marg	1	2	0	0	3	0	0	3	1	2.6
6	Jaipur House, Dr. Zakir Hussain Marg	2	2	1	0	3	0	1	3	1	4
7	Firoz Shah Road, Firoz Shah Road	3	2	1	2	3	0	0	3	2	4.3
7	Firoz Shah Road, Firoz Shah Road	3	2	0	0	3	0	0	3	1	3.5
8	KG Xing, Firoz Shah Road	2	2	1	1	3	0	0	3	1	3.5
8	KG Xing, Firoz Shah Road	3	2	0	0	3	0	0	3	1	3.5
9	Mandi House, Firoz Shah Road	3	2	2	0	3	0	0	3	2	4.2
9	Mandi House, Firoz Shah Road	3	2	0	0	3	0	0	3	1	3.5
10	Humayun Road, Humayun Road	3	2	2	0	3	0	1	3	2	4.3
10	Humayun Road, Humayun Road	3	2	2	1	3	1	1	3	2	4.4
11	Baroda House, India Gate Circle	3	2	0	0	3	0	0	3	1	3.5
12	National Stadium, India Gate Circle	3	2	0	0	3	0	0	3	1	3.5
13	Palika Kendra, Jai Singh Road	3	2	1	1	3	0	0	3	2	4.2
14	YMCA, Jai Singh Road	1	1	1	2	3	3	3	1	2	4.3
15	Indian Oil Bhawan, Janpath	3	2	2	1	3	3	0	3	2	4.4
16	Windsor Place, Janpath	3	2	0	0	3	0	0	3	1	3.5
16	Windsor Place, Janpath	3	2	0	0	3	0	0	3	1	3.5
17	Cia Ridges Hotel, Janpath	3	2	0	0	3	0	0	3	1	3.5
17	Cia Ridges Hotel, Janpath	3	2	0	0	3	0	0	3	1	3.5
18	National Museum, Janpath	3	2	1	0	3	0	0	3	1	4
19	Eastern Court, Janpath	3	2	0	0	3	0	0	3	1	3.5
20	Western Court, Janpath	3	2	1	1	3	0	0	3	1	4
20	Western Court, Janpath	3	2	1	0	3	0	0	3	1	4
21	National Archives, Janpath	3	2	1	0	3	0	0	3	1	4
21	National Archives, Janpath	3	2	0	0	3	0	0	3	1	3.5
22	Lodhi Colony, Jor Bagh Road	2	2	0	0	3	0	0	3	1	3
22	Lodhi Colony, Jor Bagh Road	3	2	1	0	3	0	0	3	1	4
23	Max Mueller Bhawan, KG Marg	3	2	0	0	3	0	0	3	1	3.5
23	Max Mueller Bhawan, KG Marg	3	2	0	0	3	0	0	3	1	3.5
24	Scindia House, KG Marg	3	2	1	1	3	0	1	3	2	4.3
24	Scindia House, KG Marg	2	2	3	1	3	3	0	3	2	4.4
25	Bapu Dham, Sardar Patel Marg	3	2	0	0	3	0	0	3	1	3.5
25	Bapu Dham, Sardar Patel Marg	3	2	0	0	3	0	0	3	1	3.5
26	Bharatiya Sadhu Samaj, SP Marg	3	2	1	0	3	0	0	3	1	4
26	Bharatiya Sadhu Samaj, SP Marg	3	2	1	1	3	0	0	3	2	4.2
27	Maurya Hotel, Sardar Patel Marg	3	2	1	0	3	0	0	3	1	4
27	Maurya Hotel, Sardar Patel Marg	3	2	1	0	3	0	0	3	1	4
28	Akbar Bhawan, Satya Marg	2	2	2	1	3	0	0	3	2	4.2
28	Akbar Bhawan, Satya Marg	2	2	2	1	3	0	0	3	2	4.2
29	UPSC, Shahjahan Road	3	2	1	0	3	0	0	3	1	4
29	UPSC, Shahjahan Road	3	2	0	0	3	0	0	3	1	3.5
30	Moti Bagh I, Shanti Path	3	2	0	0	3	0	0	3	1	3.5
30	Moti Bagh I, Shanti Path	3	2	0	0	3	0	0	3	1	3.5
31	Rail Museum, Shanti Path	2	2	2	0	3	0	0	3	1	4
31	Rail Museum, Shanti Path	2	2	0	0	3	0	0	3	1	3
32	Mandi House, Sikandra Road	3	2	0	1	3	0	0	3	1	4
33	South Avenue, South Avenue	3	2	0	0	3	0	0	3	1	3.5
33	South Avenue, South Avenue	3	2	0	0	3	0	0	3	1	3.5
34	Teen Murti, South Avenue	3	2	0	0	3	0	0	3	1	3.5
34	Teen Murti, South Avenue	3	2	0	1	3	0	0	3	1	4
35	Sujan Singh Park, SB Marg	3	2	0	1	3	0	0	3	1	4
35	Sujan Singh Park, SB Marg	3	2	0	0	3	0	0	3	1	3.5
36	Rabindra Nagar, SB Marg	3	2	0	0	3	0	0	3	1	3.5
36	Rabindra Nagar, SB Marg	3	2	0	0	3	0	0	3	1	3.5
37	Gurudwara Rakab Ganj, Talkatora Road	3	2	0	1	3	0	0	3	1	4
38	P S Chanakyapuri, Teen Murti Marg	3	2	0	1	3	0	0	3	1	4
38	P S Chanakyapuri, Teen Murti Marg	3	2	0	0	3	0	0	3	1	3.5
39	Patiala House, Tilak Marg	3	2	0	0	3	0	0	3	1	3.5
39	Patiala House, Tilak Marg	3	2	1	0	3	0	1	3	2	4.2
40	Tolstoy House, Tolstoy Marg	3	2	0	0	3	0	0	3	1	3.5
40	Tolstoy House, Tolstoy Marg	3	2	0	0	3	0	0	3	1	3.5
41	P S Tughlak Road, Tughlak Road	3	2	0	0	3	0	0	3	1	3.5
41	P S Tughlak Road, Tughlak Road	3	2	1	0	3	0	0	3	1	4
42	Tuglak Crescent, Tughlak Road	3	2	1	0	3	0	0	3	1	4
43	Ashoka Hotel, Vinay Marg	3	2	0	0	3	0	0	3	1	3.5
43	Ashoka Hotel, Vinay Marg	2	2	1	0	3	0	0	3	1	3.5
44	Palika Club, Vinay Marg	3	2	0	0	3	0	0	3	1	3.5
45	Vinay Marg, Vinay Marg	3	2	1	1	3	0	0	3	2	4.2
46	Bharatiya Vidya Bhawan, KG Marg	3	2	2	1	3	0	0	3	2	4.3

Table 7 showing parameter ratings and Safety Score of each bus stop

UID	NAME	LIGHTING	OPENNESS	CROWD	SECURITY	PUBLIC TRANSPORT	GENDER USAGE	VISIBILITY	WALKPATH	FEELING	SAFETY SCORE
46	Bharatiya Vidya Bhawan, KG Marg	3	2	1	0	3	0	1	3	2	4.2
47	G Block, K Kamraj Marg	2	2	0	1	3	0	0	3	1	3.5
47	G Block, K Kamraj Marg	3	2	0	0	3	0	0	3	1	3.5
48	Sena Bhawan, K Kamraj Marg	1	2	0	0	3	0	0	3	1	2.6
48	Sena Bhawan, K Kamraj Marg	1	2	2	0	3	3	0	3	2	4.3
49	Dyal Singh College, Maharshi Raman Marg	2	2	0	0	3	0	0	3	1	3
49	Dyal Singh College, Maharshi Raman Marg	2	2	0	0	3	0	0	3	1	3
50	Sujan Singh Park, Maharshi Raman Marg	2	2	1	0	3	0	0	3	1	3.5
50	Sujan Singh Park, Maharshi Raman Marg	3	2	2	0	3	2	0	3	2	4.3
51	Laxmi Narayan Mandir, Mandir Marg	3	2	0	0	3	0	0	3	1	3.5
51	Laxmi Narayan Mandir, Mandir Marg	3	2	0	0	3	0	0	3	1	3.5
52	P S Mandir Marg, Mandir Marg	3	2	0	2	3	0	0	3	2	4.2
52	P S Mandir Marg, Mandir Marg	3	2	1	0	3	0	0	3	1	4
53	Nirman Bhawan, Maulana Azad Marg	3	2	0	0	3	0	0	3	1	3.5
53	Nirman Bhawan, Maulana Azad Marg	3	2	1	0	3	0	0	3	1	4
54	Lodhi Road, Xing Max Mueller Marg	3	2	1	0	3	0	0	3	1	4
54	Lodhi Road, Xing Max Mueller Marg	3	2	1	1	3	0	0	3	2	4.2
55	Baroda House, KG Marg	3	2	1	0	3	0	0	3	1	4
55	Baroda House, KG Marg	2	2	0	0	3	0	0	3	1	3
56	Lodhi Garden, Lodhi Road	1	2	2	0	3	0	1	3	1	4
56	Lodhi Garden, Lodhi Road	1	2	2	0	3	0	1	3	1	4
57	Mausam Bhawan, Lodhi Road	3	2	0	0	3	0	0	3	1	3.5
58	Bharti Nagar, Maharshi Raman Marg	2	2	0	0	3	0	0	3	1	3
58	Bharti Nagar, Maharshi Raman Marg	2	2	0	0	3	0	0	3	1	3
59	Max Mueller Marg, Max Mueller Marg	1	2	0	0	3	0	0	3	1	2.6
59	Max Mueller Marg, Max Mueller Marg	1	2	0	0	3	0	0	3	1	2.6
60	Talkatora Stadium, Mother Teresa Crescent	3	2	0	0	3	0	0	3	1	3.5
60	Talkatora Stadium, Mother Teresa Crescent	3	2	0	0	3	0	0	3	1	3.5
61	Kendriya Terminal, Pandit Pant Marg	3	2	2	1	3	0	0	3	2	4.3
61	Kendriya Terminal, Pandit Pant Marg	3	2	1	0	3	0	1	3	2	4.2
62	NDPO, Pandit Pant Marg	2	2	2	0	3	0	2	3	2	4.3
63	R M L Hospital, Park Street	3	2	2	0	3	0	0	3	2	4.2
63	R M L Hospital, Park Street	3	2	0	0	3	0	0	3	1	3.5
64	Talkatora Stadium, Park Street	1	2	0	0	3	0	0	3	1	2.6
64	Talkatora Stadium, Park Street	3	2	1	0	3	0	0	3	1	4
65	Gole Market, Peshwa Road	2	2	2	0	3	0	0	3	1	4
65	Gole Market, Peshwa Road	2	2	2	0	3	0	0	3	1	4
66	Prithvi Raj Road, Prithvi Raj Road	3	2	0	0	3	0	0	3	1	3.5
66	Prithvi Raj Road, Prithvi Raj Road	3	2	0	0	3	0	0	3	1	3.5
67	J & K House, Prithvi Raj Road	3	2	0	1	3	0	0	3	1	4
67	J & K House, Prithvi Raj Road	3	2	0	0	3	0	0	3	1	3.5
68	Gole Market, R K Ashram Marg	2	2	2	0	3	3	0	3	2	4.3
68	Gole Market, R K Ashram Marg	2	2	2	0	3	0	1	3	2	4.2
69	Akashwani Bhawan, Kidwai Marg	2	2	2	1	3	0	0	3	2	4.2
69	Akashwani Bhawan, Kidwai Marg	3	2	0	0	3	0	0	3	1	3.5
70	Krishi Bhawan, Rafi Ahmed Kidwai Marg	3	2	0	1	3	0	0	3	1	4
71	Rail Bhawan, Rafi Ahmed Kidwai Marg	3	2	0	1	3	0	1	3	2	4.2
72	Udyog Bhawan, Rafi Ahmed Kidwai Marg	3	2	0	1	3	0	0	2	1	3.5
73	Prithvi Raj Crossing, Rajesh Pilot Marg	2	2	0	0	3	0	0	3	1	3
73	Prithvi Raj Crossing, Rajesh Pilot Marg	3	2	0	0	3	0	0	3	1	3.5
74	S B S Marg, S B S Marg	3	2	2	0	3	0	2	3	2	4.3
75	Shivaji Stadium, S B S Marg	3	2	3	1	3	3	3	2	3	4.8
76	PS Parliament Street, Sansad Marg	2	2	0	2	3	0	0	3	1	4
77	Palika Kendra, Sansad Marg	3	2	0	0	3	0	0	3	1	3
77	Palika Kendra, Sansad Marg	3	2	0	0	3	0	0	3	1	3
78	Palika Kutumb, Sardar Patel Marg	3	2	0	0	3	0	0	3	1	3.5
78	Palika Kutumb, Sardar Patel Marg	2	2	0	1	3	0	0	3	1	3.5
79	M Block, Africa Avenue	1	2	0	0	3	0	0	3	1	2.6
79	M Block, Africa Avenue	1	2	0	0	3	0	0	3	1	2.6
80	S.N Depot, Africa Avenue	3	2	1	1	3	0	0	3	2	4.2
81	Bangla Sahib, Ashoka Road	2	2	1	0	3	0	0	3	1	3.5
81	Bangla Sahib, Ashoka Road	3	2	0	0	3	0	0	3	1	3.5
82	Patel Chowk, Ashoka Road	3	2	0	1	3	0	0	3	1	4
82	Patel Chowk, Ashoka Road	3	2	0	0	3	0	0	3	1	3.5
83	AIIMS, Aurobindo Marg	3	2	3	0	3	2	1	3	2	4.4
83	AIIMS, Aurobindo Marg	3	2	2	0	3	0	3	3	2	4.4
83	AIIMS, Aurobindo Marg	3	2	0	0	3	0	0	3	1	3.5
84	Kidwai Nagar, Aurobindo Marg	2	2	2	0	3	0	1	3	2	4.2
85	East Kidwai Nagar, Aurobindo Marg	2	2	0	1	3	0	0	3	1	3.5
86	INA Colony, Aurobindo Marg	3	2	0	1	3	0	0	3	1	4
87	S J Airport, Aurobindo Marg	3	2	0	1	3	0	0	2	1	3.5
87	S J Airport, Aurobindo Marg	3	2	0	1	3	0	0	2	1	3.5
88	S J Madrasa, Aurobindo Marg	3	2	0	0	3	0	0	2	1	3
89	AB Block, B Avenue	3	2	0	0	3	0	1	3	1	4
89	AB Block, B Avenue	3	2	0	1	3	0	0	3	1	4

Table 7 showing parameter ratings and Safety Score of each bus stop

Table 7 showing parameter ratings and Safety Score of each bus stop.

UID	NAME	LIGHTING	OPENNESS	CROWD	SECURITY	PUBLIC TRANSPORT	GENDER USAGE	VISIBILITY	WALKPATH	FEELING	SAFETY SCORE
90	P S Sarojini Nagar, B Avenue	2	2	1	1	3	3	1	3	2	4.4
90	P S Sarojini Nagar, B Avenue	3	2	2	0	3	3	1	3	2	4.4
91	S N Market, B Avenue	3	2	2	0	3	1	1	3	2	4.3
92	Pilanji Village, B H S Marg	3	2	2	1	3	0	1	1	2	4.2
92	Pilanji Village, B H S Marg	3	2	1	1	3	0	0	1	1	3.5
93	INA Market, B H S Marg	3	2	0	1	3	0	0	3	1	4
93	INA Market, B H S Marg	3	2	0	1	3	0	0	3	1	4
94	Laxmi Bai Nagar, B H S Marg	3	2	0	0	3	0	0	3	1	3.5
94	Laxmi Bai Nagar, B H S Marg	3	2	0	0	3	0	0	3	1	3.5
95	I Block, B H S Marg	2	2	0	0	3	0	0	3	1	3
95	I Block, B H S Marg	3	2	0	0	3	0	0	3	1	3.5
96	S N Market, B H S Marg	3	2	1	0	3	0	0	3	1	4
96	S N Market, B H S Marg	3	2	0	0	3	0	0	3	1	3.5
97	NOPO, B K S Marg	3	2	1	0	3	0	1	3	2	4.2
98	R M L Hospital, B K S Marg	2	2	0	0	3	0	0	3	1	3
98	R M L Hospital, B K S Marg	3	2	1	0	3	0	0	3	1	4
99	Metro Station, Bara Khamba Road	3	2	0	1	3	0	1	3	2	4.2
99	Metro Station, Bara Khamba Road	3	2	0	0	3	0	0	3	1	3.5
100	Statesman House, Barakhamba Road	3	2	1	1	3	3	0	3	2	4.4
101	Aga khan Hall, Bhagwan Das Road	2	2	0	0	3	0	0	3	1	3
101	Aga khan Hall, Bhagwan Das Road	2	2	0	0	3	0	0	3	1	3
102	Mandi House, Bhagwan Das Road	3	2	0	0	3	0	0	3	1	3.5
102	Mandi House, Bhagwan Das Road	3	2	0	0	3	0	0	3	1	3.5
103	Gole Market, Bhai Vir Singh Marg	2	2	2	0	3	0	1	3	2	4.2
103	Gole Market, Bhai Vir Singh Marg	2	2	2	0	3	0	2	3	2	4.3



Image 39 is of Tolstoy Marg Bus stop, It is actively used by both the genders



Image 40 showing Golf Club Bus stop at Dr Zakir Hussain Marg. It is only lit by advertisement panels

Recommendations

Sr. No.	PARAMETER	BUS STOP	RECOMMENDATION
1	Lighting	<ul style="list-style-type: none"> Marina Hotel, Chelmsford Road Jaipur House, Dr. Zakir Hussain Marg YMCA, Jai Singh Road Sena Bhawan, K Kamraj Marg Lodhi Garden, Lodhi Road Talkatora Stadium, Park Street M Block, Africa Avenue Laxmi Narayan Mandir 	Installation of additional street lights and Pruning of trees required
2	Walk-path	<ul style="list-style-type: none"> YMCA, Jai Singh Road Pilanji Village, B H S Marg 	Built foot path on one side of the road

Table 8 showing recommendations to improve safety at bus stops in NDMC area



Image 41 and 42 are of Laxmi Narayan Mandir Bus stop remains dark . Street lights need to be repaired along with installation of new streetlights

5. Specific Location Audits

5.4. Schools

A total of 41 schools were audited to measure safety along the access routes of schools from the nearest bus stop. Schools are only active during day-time, hence audits were conducted during their active hours. This helped us to know how safe and convenient is for the children who walk to and from the school.

65 percent schools were rated high in terms of Safety Score. However, roads outside schools remains inactive after school hours. Additionally, the high boundary walls results in low visibility along the streets. The solid part of the boundary walls should be 1 m high and remaining height should be attained using metal grills, thus maintaining a visual contact between the pedestrians and the building complex.



Image 43 Schools which are on main access roads have better Safety Score than those which are in interiors/ ends at a Cul-de-sac

NDMC Schools Safety Score

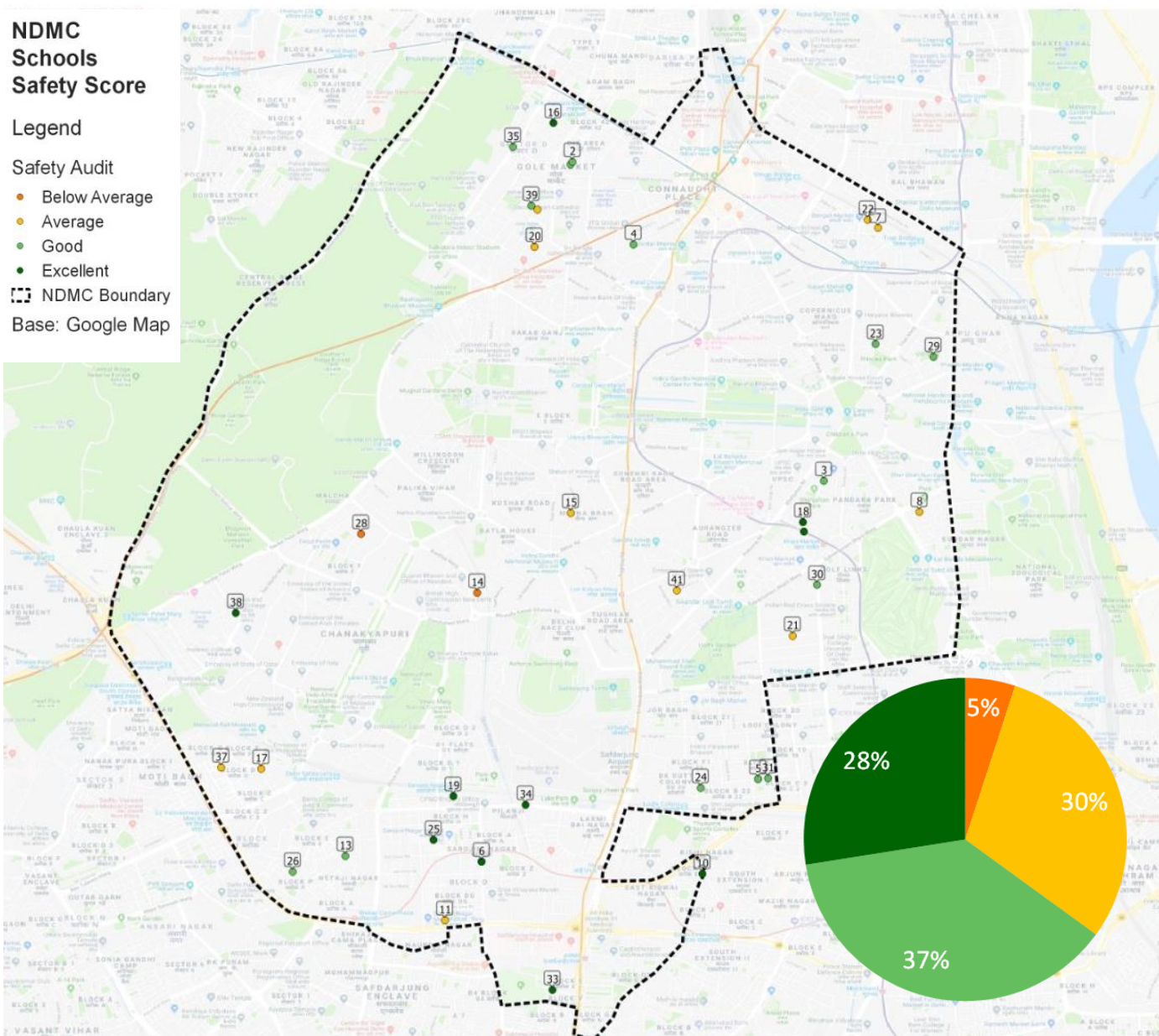
Legend

Safety Audit

- Below Average
- Average
- Good
- Excellent

NDMC Boundary

Base: Google Map



Map 13 showing Safety Score of schools in NDMC area

UID	NAME	OPENNESS	CROWD	SECURITY	PUBLIC TRANSPORT	GENDER USAGE	VISIBILITY	WALKPATH	FEELING	SAFETY SCORE
1	R. M. Arya Girls Primary Schools No. 1 Doctor Lane Gole Market.	2	0	0	2	0	1	3	1	3
2	R. M. Arya Girls Primary Schools No. 2 Doctor Lane Gole Market.	2	0	0	2	0	1	3	1	3
3	Nirmal Primary School Shahjahan Road.	2	1	0	2	0	1	3	1	3.5
4	N.P. Co-ed Day Boarding Middle Schools Hanuman Road	2	0	1	2	0	0	3	1	3.5
5	N.P. Primary School Lodhi Road	2	1	1	2	0	0	3	1	3.5
6	N.P. Primary School No. 1 B Avenue Sarojini Nagar	2	2	0	3	3	1	3	2	4.4
7	N.P. Primary School No. 3 Babar Road	2	0	1	1	0	0	2	1	2
8	N.P. Primary School Kaka Nagar	2	0	0	2	0	0	2	1	2
9	N.P. Primary School Lodhi Road	2	1	1	2	0	0	3	1	3.5
10	N.P. Primary School Model No. 1 Kidwai Nagar	2	1	2	3	3	2	2	2	4.4
11	N.P. Primary School DG Block Sarojini Nagar	2	2	0	1	0	0	2	1	2.6
12	N.P. Primary School No. 1 B Avenue Sarojini Nagar	2	2	0	3	3	1	3	2	4.4
13	N.P. Primary School No. 1 Netaji Nagar	2	2	1	1	0	0	2	1	3
14	N.P. Primary School Asoka Hotel Kautilya Marg	2	1	1	0	0	0	2	1	1.6
15	N.P. Primary School K. Kamraj Lane	2	0	1	1	0	0	2	1	2
16	N.P. Co-ed Primary School R. K. Ashram Marg	2	2	1	2	1	0	3	2	4.2
17	N.P. Primary School Moti Bagh- 1	2	0	1	1	0	0	3	1	2.6
18	NDMC RECOGNIZED SCHOOL, HUMAYUN ROAD	2	3	1	3	1	0	3	2	4.4
18	NDMC RECOGNIZED SCHOOL, HUMAYUN ROAD	2	2	1	2	2	0	3	2	4.3
19	NDMC RECOGNIZED SCHOOL, SAROJINI NAGAR	2	1	1	2	0	0	3	1	4
20	NDMC RECOGNIZED SCHOOL, KALI BARI	2	0	1	2	0	0	3	1	2.6
21	NDMC RECOGNIZED SCHOOL, LODHI ROAD	2	0	1	1	0	0	3	1	2
22	N.P. Co-ed Secondary School Babar Road	1	1	1	1	2	1	0	1	2
23	N.P. Co-ed Secondary School Sangli Mess	1	1	1	1	2	1	1	1	3
24	N.P. Co-ed Secondary School Aliganj	2	1	1	0	0	1	3	1	3.5
25	N.P. Co-ed Secondary School Babu Market Sarojini Nagar	2	1	1	3	2	1	2	2	4.3
26	N P Co Ed middle school Netaji Nagar	2	2	0	0	0	1	3	1	3
28	N.P. Co-ed Secondary School Kitchner Road	2	0	0	2	0	0	3	1	1.3
29	N.P. Co-ed Sr. Sec. School Tilak Marg	2	0	0	2	0	0	3	1	3
30	N.P. Co-ed Sr. Sec. School Lodhi Estate	2	0	0	3	0	0	3	1	3.5
31	N.P. Co-ed Sr. Sec. School Lodhi Road	2	0	0	3	0	0	3	1	3.5
33	N.P. Co-ed Sr. Sec. School Ansari Nagar West	2	2	1	1	3	2	2	2	4.4
34	N.P. Co-ed Sr. Sec. School Laxmi Bai Nagar	2	2	1	2	2	0	3	2	4.3
35	N.P. Boys Sr. Sec. School Mandir Marg	2	1	1	2	0	0	3	1	3.5
36	N.P. Co-ed Sr. Sec. School Havlock Square	2	0	1	2	0	0	3	1	2.6
37	N.P. Co-ed Sr. Sec. School Moti Bagh	2	0	1	1	0	0	2	1	2
38	N.P. Co-ed Sr. Sec. School Bapu Dham	2	2	1	1	1	0	3	2	4.2
39	N.P. Girls Sr. Sec. School Gole Market	2	1	1	1	0	1	3	1	3.5
40	N.P. Bengali Girls Sr. Sec. School Gole Market	2	0	1	1	0	0	3	1	2.6
41	N.P. Co-Ed Sr Sec School Aurangzeb Lane ND	2	0	1	1	0	0	3	1	2.6

Table 9 showing parameter ratings and Safety Score of the route to nearest bus stop from respective schools

Recommendations

Schools play ground is not used after school timings. These play grounds can be kept open for public gatherings, children and other social events. This will help create active spaces in and around schools in evenings, which are deserted after dark at present.

	Parameter	School Name	Recommendation
1	Walk-path	<ul style="list-style-type: none"> N.P. Co-ed Secondary School Babar Road N.P. Co-ed Secondary School Sangli Mess 	Build footpath on one side of the road Repair footpath outside the gate
2	Public Transport	<ul style="list-style-type: none"> N.P. Co-ed Secondary School Aliganj N.P. Primary School Asoka Hotel Kautilya Marg N.P. Co-ed Secondary School Netaji Nagar 	These schools are more than 1 km far from nearest bus stop. Making dedicated Auto-stands would ensure last mile connectivity of schools.

Table 10 showing recommendations to improve safety at route to nearest bus stop from schools

5. Specific Location Audits

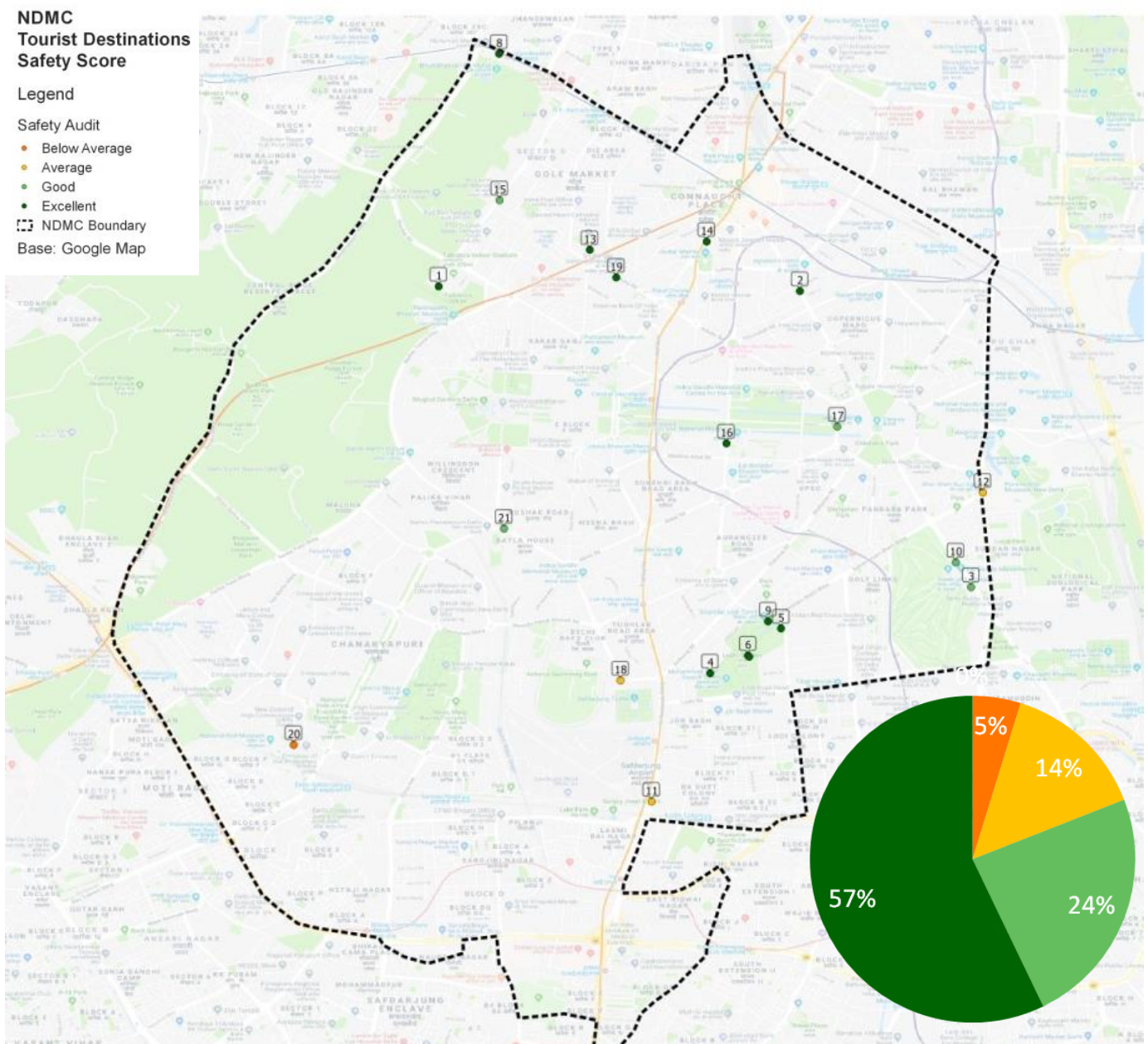
5.5. Tourist Destinations

NDMC areas have various monuments and public places which are of historical or religious importance. A total of 21 tourist destinations were audited. Monuments which are in close vicinity of market or metro station were found to have higher Safety Score than others. Najaf Khan Tomb, Masjid Khairul Manzil, Safdarjung Tomb and National Rail Museum were rated low as compared to other tourist destinations in terms of Safety Score.

Though Lighting parameter was rated good at all monuments, Feeling parameter was rated low as most of these places are gated and close after 6 PM. The monuments or tourist spots that are open to public till late like India Gate, Connaught Place etc. were rated high on overall Safety Score.



Image 44 showing Najaf Khan Tomb. It generally gets deserted soon after dark



Map 14 showing Safety Score of tourist destinations in NDMC area

UID	NAME	LIGHTING	OPENNESS	CROWD	SECURITY	PUBLIC TRANSPORT	GENDER USAGE	VISIBILITY	WALKABLE	FEELING	SAFETY SCORE
1	Talkatora Garden	1	1	1	3	1	1	1	3	3	4.3
2	Ugrasen ki Baoli	2	1	1	3	3	1	1	2	3	4.4
3	Bagichi Tomb	1	1	1	2	1	0	0	3	2	3.5
4	Muhammad Shah Sayyid Tomb	1	2	1	3	1	0	0	3	2	4.1
5	Athpula Bridge	1	2	1	2	2	1	0	3	2	4.1
6	Shish Gumbad	2	2	2	2	1	1	0	0	2	4
7	Bada Gumbad	2	2	2	2	1	1	0	0	2	4
8	Bhuli Bhatiyari Ka Mahal	2	2	2	1	3	2	2	2	2	4.4
9	Sikandar Lodi Tomb	2	2	2	2	1	1	0	3	2	4.2
10	Tomb of Syed Abid	1	1	0	1	3	0	1	2	2	3.5
11	Najaf Khan's Tomb	2	2	0	0	1	0	0	3	1	2
12	Masjid Khairul Manazil	2	3	0	0	2	0	0	2	1	2.6
13	Sacred Heart Cathedral	2	2	3	3	1	1	0	3	3	4.4
14	Jantar Mantar	2	2	3	2	3	3	2	2	3	4.7
15	Sri Laxmi Narayan Mandir	2	2	0	0	3	0	0	3	1	3
16	National Museum	2	2	1	1	3	0	1	3	2	4.2
17	India Gate	3	2	2	0	1	0	0	3	1	3.5
18	Safdarjung Tomb	1	1	0	3	1	0	0	0	2	2
19	Gurudwara Bangla Sahib	2	2	0	1	3	0	1	3	1	4
20	National Rail Museum	2	2	0	0	0	0	0	3	1	1.6
21	Teen Murti Bhavan	3	2	0	0	2	0	0	3	1	3

Table 11 showing parameter rating and Safety Score of tourist destinations

Recommendations

	PARAMETER	UID	RECOMMENDATION
1	Lighting	<ul style="list-style-type: none"> Tomb of Syed Abid Safdarjung Tomb 	Installation of new street lights and Pruning of trees required
2	Walk-path	<ul style="list-style-type: none"> Shish Gumbad Bada Gumbad Safdarjung Tomb 	Built footpath on one side of the road
3	Transport	<ul style="list-style-type: none"> National Rail Museum 	Make dedicated Auto-stands

Table 12 showing recommendations to improve safety at tourist destinations in NDMC area

6. Overall Recommendations

The following recommendations have been suggested to improve the overall Safety Score and parameter ratings in NDMC area.

Creating safe walking environments

Promoting “Eyes on streets” principle can enable more people especially women to use public spaces after dark. Hawkers and vendors add to one’s visibility and provide informal surveillance to the pedestrians. Creating hawker and vendor Zones as shown in Image 46 near bus stops and metro stations will help activate the public realm thereby making people feel safer. Public Convenience facilities along and street furniture should also be provided close to these zones.



Image 45 showing a walkpath with no hawkers



Image 46 showing a walkpath with provision of hawker zone

Source: *Safety, Freedom and respect for women in Delhi, Few Action Points by UTTIPEC, DDA*

Improving the Infrastructure at the bus stops

Well lit, transparent bus shelters instill a sense of safety among the commuters. Bus shelters should be designed such that the commuters can easily view their surroundings. Their line of sight should not be restricted by advertisements hoardings displayed on the bus shelters. Emergency or Panic Buttons and helpline numbers should be provided at the bus stops.



Image 47 showing a bus shelter with no lighting



Image 48 showing a bus shelter in Toronto

Source: *Women and Transport in Indian cities, Mar 2018, ITDP & Safetipin*



Image 49 showing streetlights with dual luminaire

Enhance illumination along the footpath

Pedestrian scale streetlights as shown in Image 49 should be installed along the walkpath of the identified streets (Refer Table no.1). This would ensure that both the vehicular carriageway as well as the walkpath are well lit and the pedestrians feel safe while walking.



Image 50 showing tactile paving at Mandi House metro station

Making universally accessible footpath

Footpath should be accessible and convenient to use for all. Tactile paving should be provided from the exit gates of the metro stations to the nearest bus stops to provide assistance to the visually challenged pedestrians. Such facilities are provided at Mandi House metro stations. These facilities should be extended at other metro stations and bus stops as well.



Image 51 showing bike sharing system at Patel Chowk metro station

Promoting bike sharing systems

Bike sharing systems should be promoted in NDMC areas. This can be developed as a safe, low cost and convenient mode of travel for short trips. Patel Chowk metro station already has a provision for bike sharing systems. Such facilities should be extended to other Metro stations and bus stops connecting major tourist spots and markets. Dedicated bike lanes should be created so that commuters can safely use the bike service.



Image 52 showing boundary walls around Mandi House metro station

Improve Visibility

High boundary walls act as a barrier and restrict visibility between the built environment and the pedestrians. Low height solid boundary walls upto 1m high with grills above it should be provided to increase transparency and enhance visibility. The boundary walls around Mandi House metro station are good examples that can be replicated in other areas in NDMC.



Image 53 showing signage obstructing the ramp near Khan market

Appropriate positioning of signage

Signage should be provided at the edges of the walkpath to ensure clear and smooth movement for the pedestrians including the visually impaired. Signage provided in the middle of the walkpath as seen in Image 53 obstruct the pedestrian movement thus forcing them to walk on the road.

Annex 1: Safety Audits

The rubric (as seen below) defines the rating for each of these parameters on a scale of 0-3. Except for Feeling all 8 parameters are objective. Feeling is the only subjective parameter. For rating feeling there is no rule. It can vary from individual to individual.

The Rubric

	0	1	2	3
1 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
2 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
3 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 this point
4 People	Deserted. No one in sight	Few people. Less than 10 people in sight	Some crowd. More than 10 people visible	Crowded. Many people within touching distance
5 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
6 Walk Path	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
7 Public Transport	Unavailable. No metro or bus stop, auto/ rickshaw within 10 minutes walk	Distant. Metro or bus stop auto/ rickshaw between 5 -10 mins walk	Nearby. Metro or bus stop, auto/rickshaw between 2 – 5 mins walk	Very Close. Metro or bus stop, auto/rickshaw available within 2 mins walk
8 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 all genders or more women and children
9 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

Annex 2: Station-wise Safety Audits

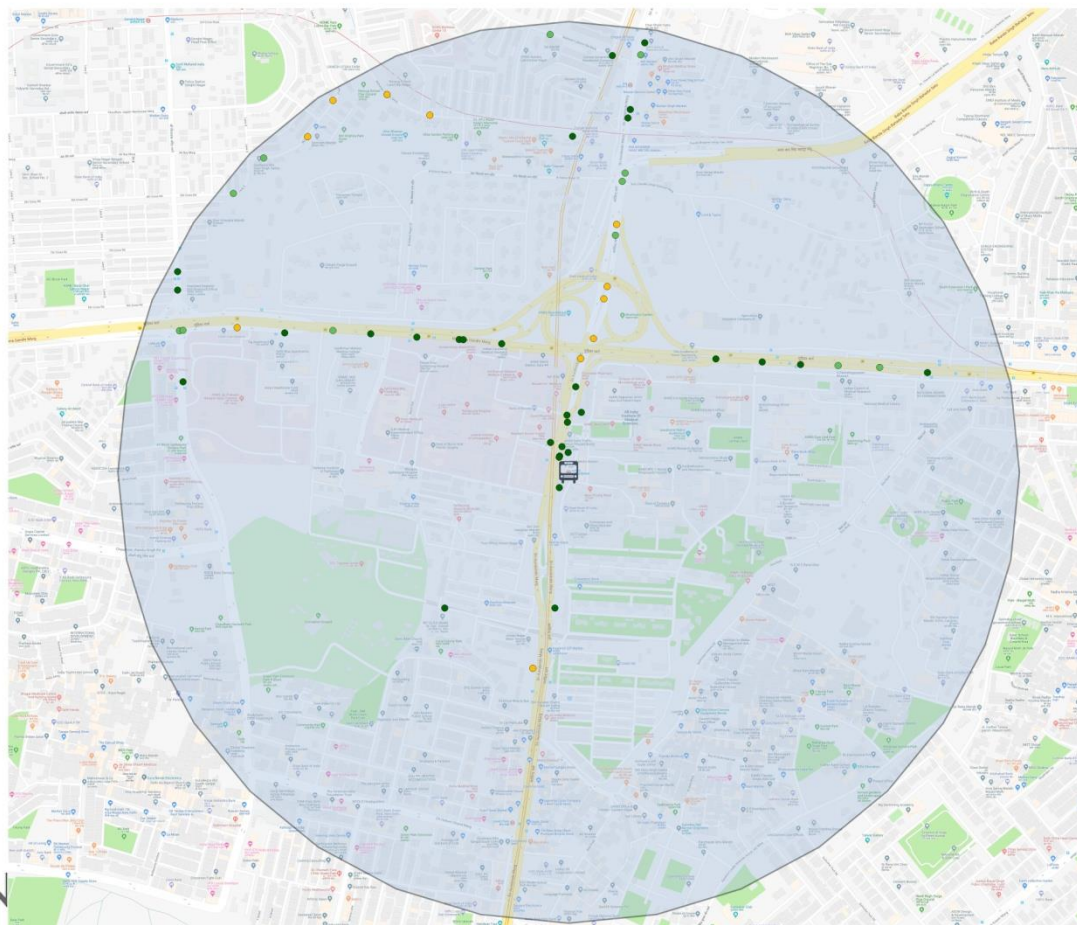
NDMC AIIMS Metro Station Safety Score

Legend

Safety Audits

- Average
- Good
- Excellent
- 1 KM Radius
- 🚶 Metro Stations

Base: Google Map



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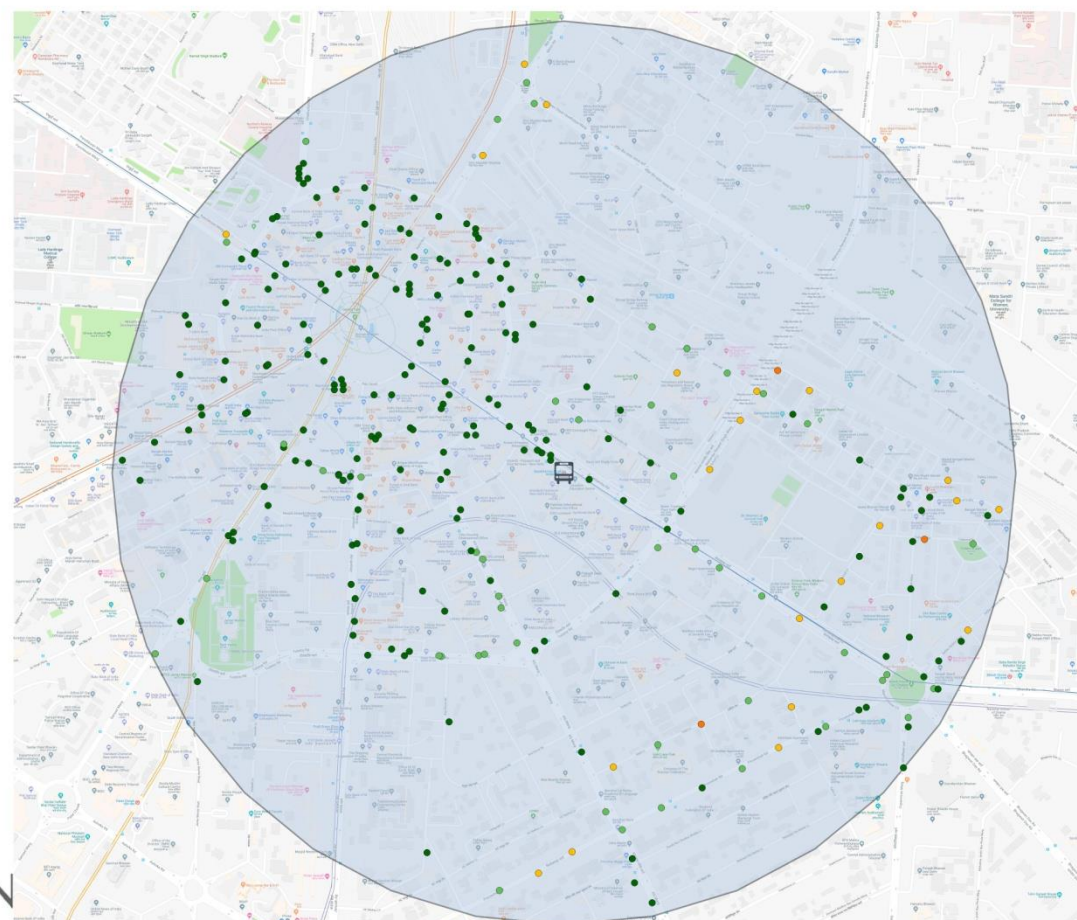
NDMC Barakhamba Metro Station Safety Score

Legend

Safety Audits

- Below Average
- Average
- Good
- Excellent
- 1 KM Radius
- 🚶 Metro Stations

Base: Google Map



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Supporting Safer Cities

NDMC Central Secretariat Metro Station Safety Score

Legend

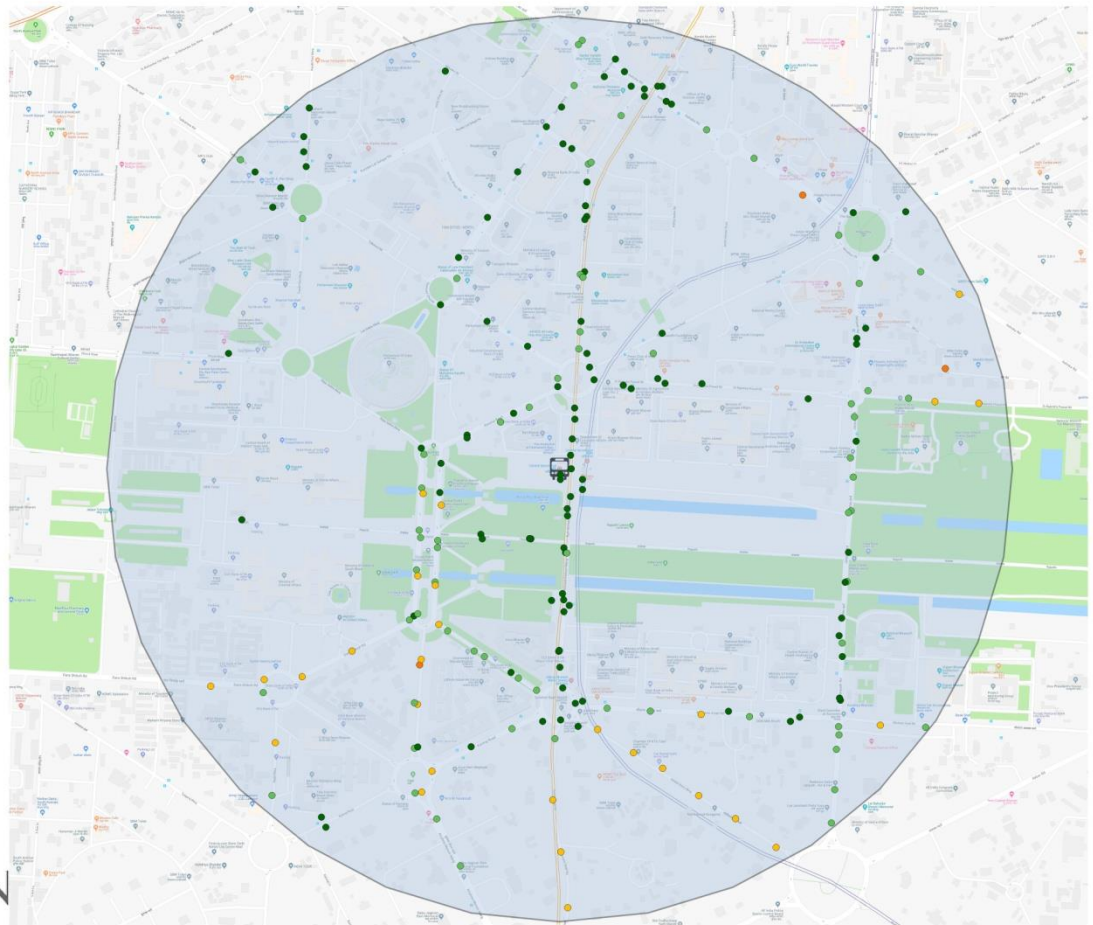
Safety Audits

- Below Average
- Average
- Good
- Excellent

1 KM Radius

Metro Stations

Base: Google Map



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NDMC INA Metro Station Safety Score

Legend

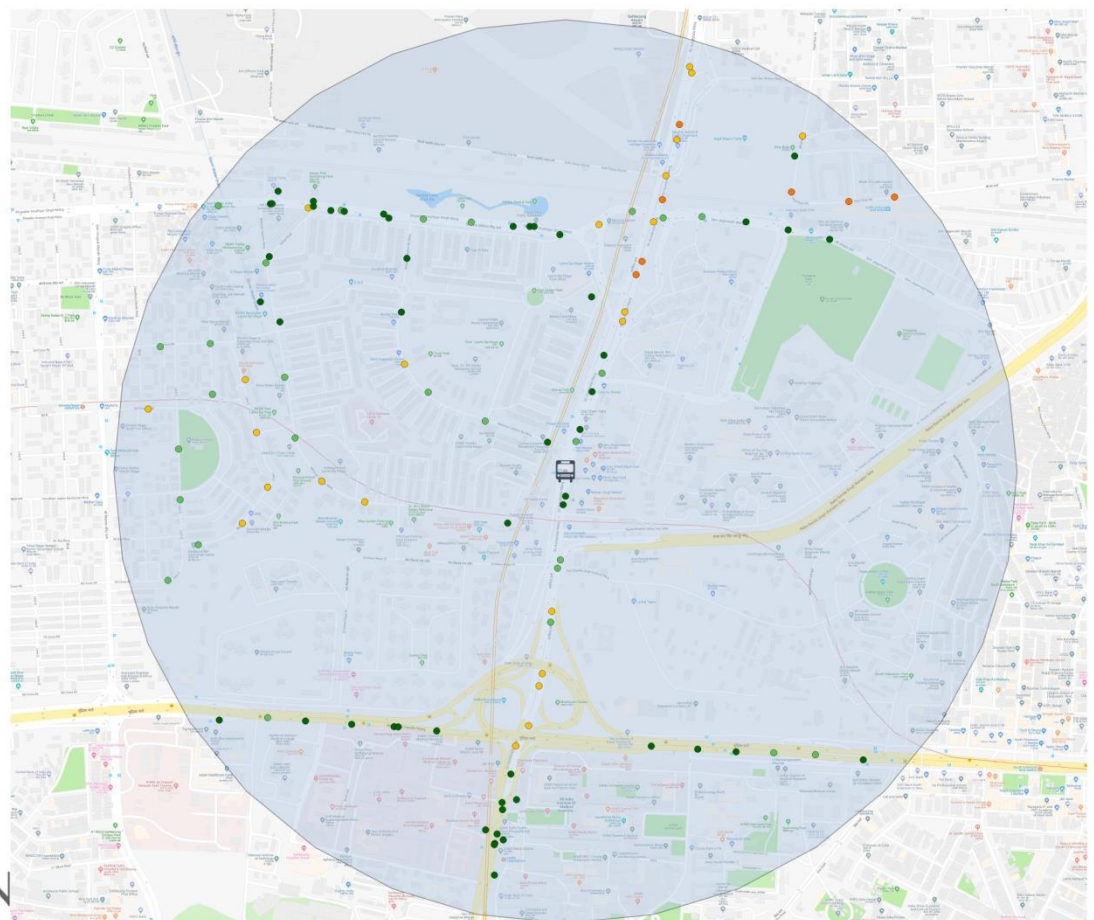
Safety Audits

- Below Average
- Average
- Good
- Excellent

1 KM Radius

Metro Stations

Base: Google Map



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NDMC Janpath Metro Station Safety Score

Legend

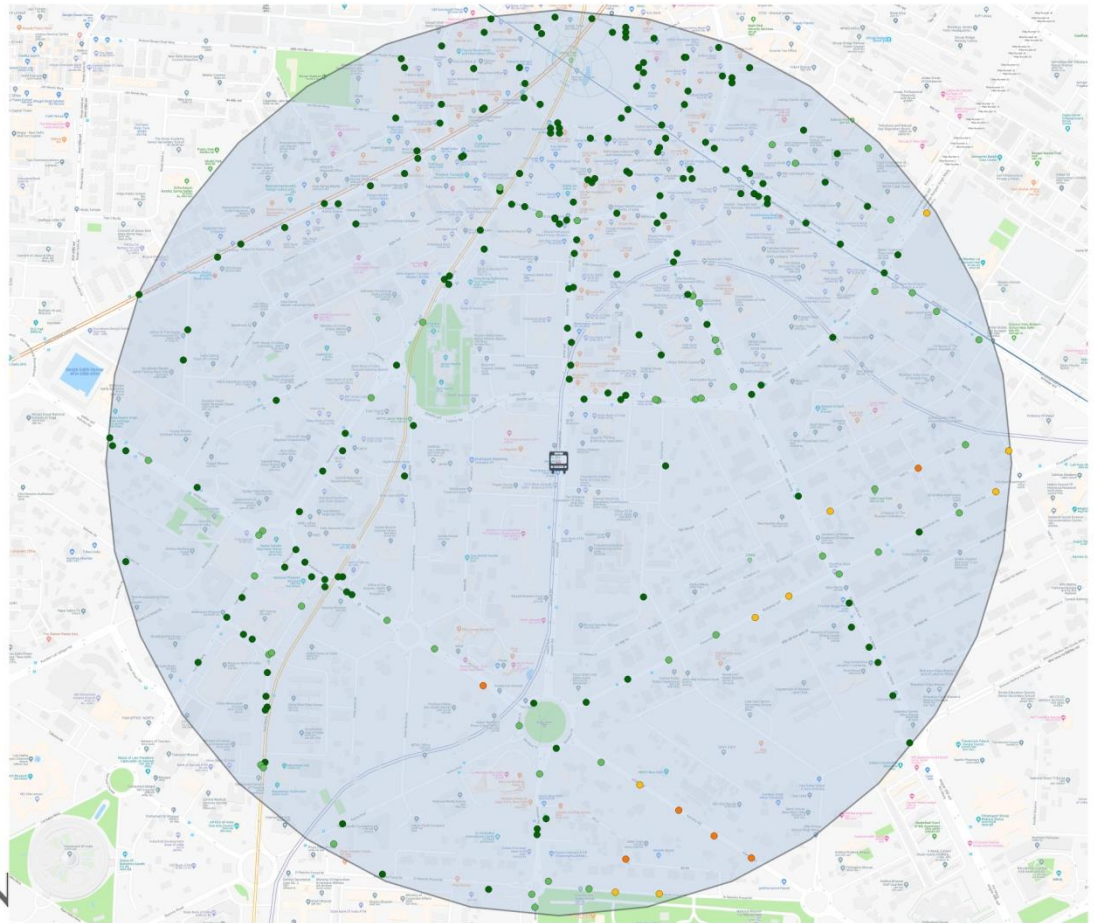
Safety Audits

- Below Average
- Average
- Good
- Excellent

1 KM Radius

Metro Stations

Base: Google Map



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NDMC Jorbagh Metro Station Safety Score

Legend

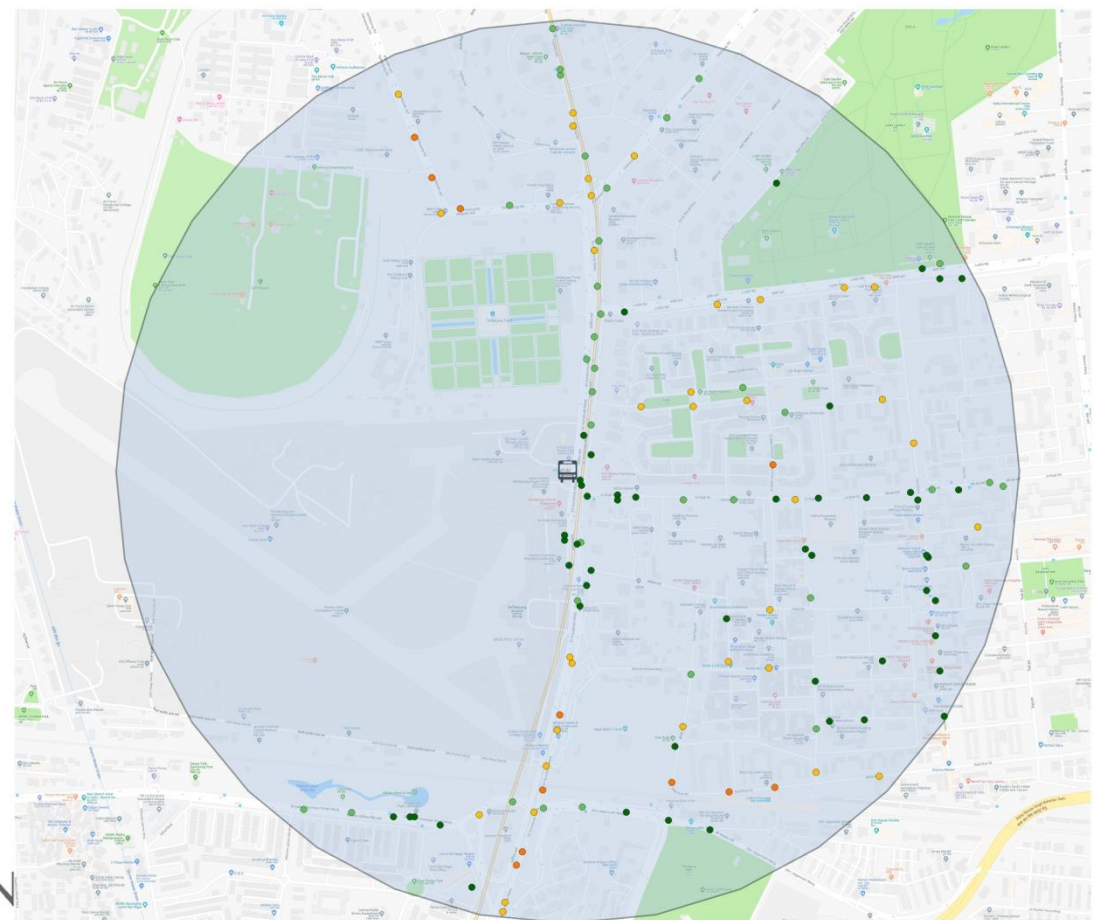
Safety Audits

- Below Average
- Average
- Good
- Excellent

1 KM Radius

Metro Stations

Base: Google Map



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NDMC Khan Market Metro Station Safety Score

Legend

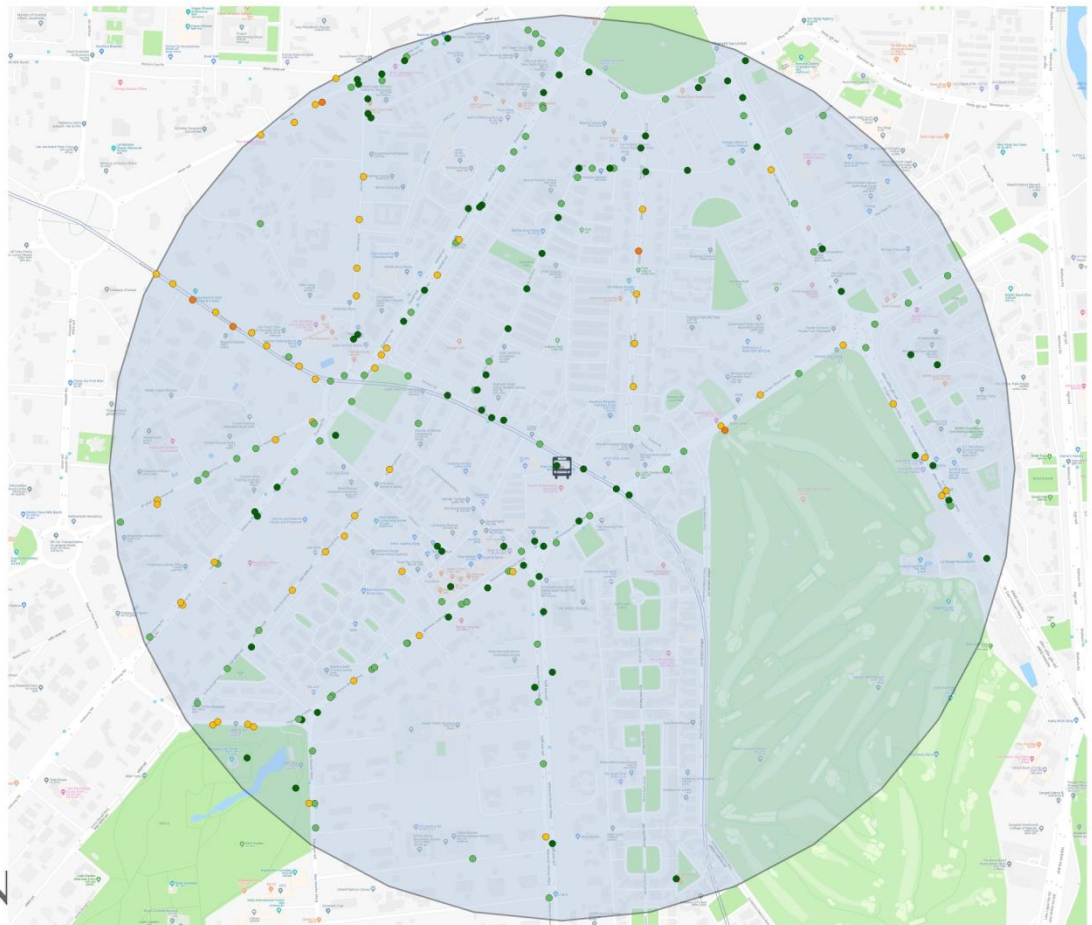
Safety Audits

- Below Average
- Average
- Good
- Excellent

1 KM Radius

Metro Stations

Base: Google Map



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NDMC Lok Kalyan Marg Metro Station Safety Score

Legend

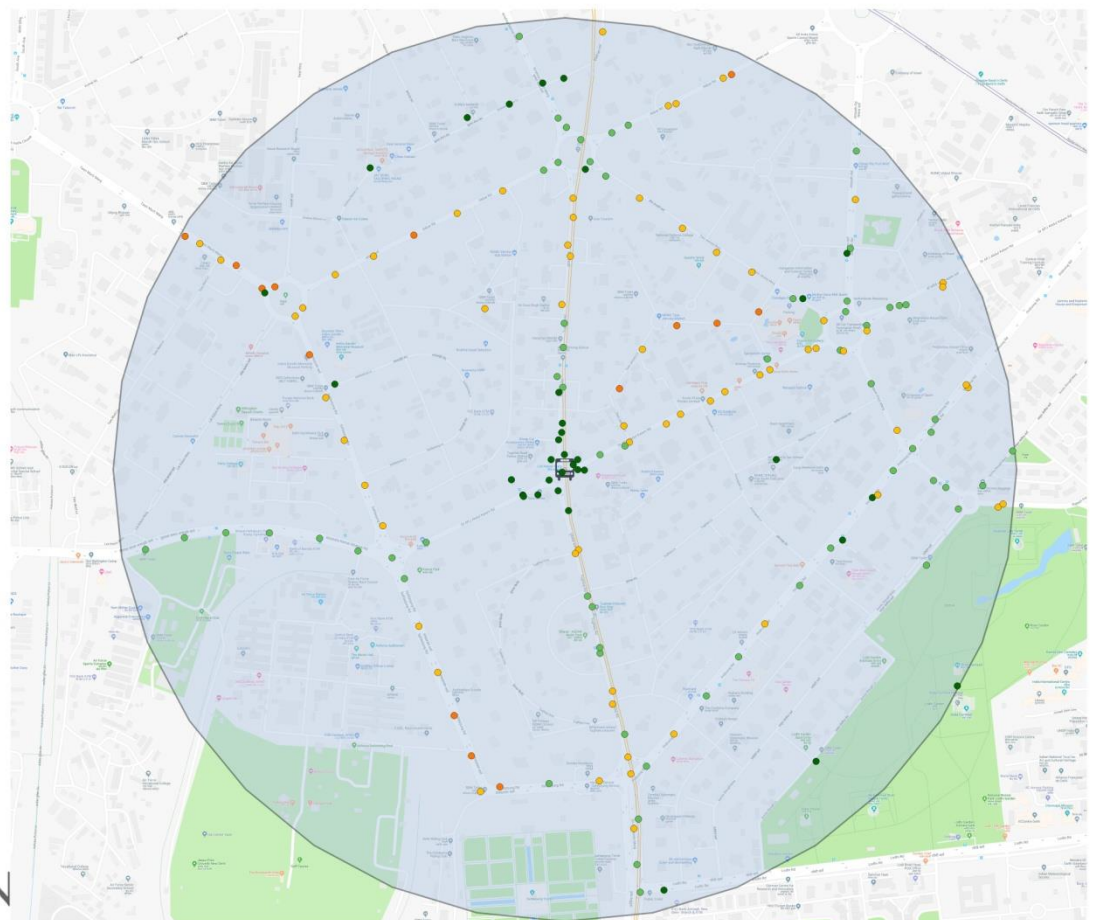
Safety Audits

- Below Average
- Average
- Good
- Excellent

1 KM Radius

Metro Stations

Base: Google Map



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NDMC Mandi House Metro Station Safety Score

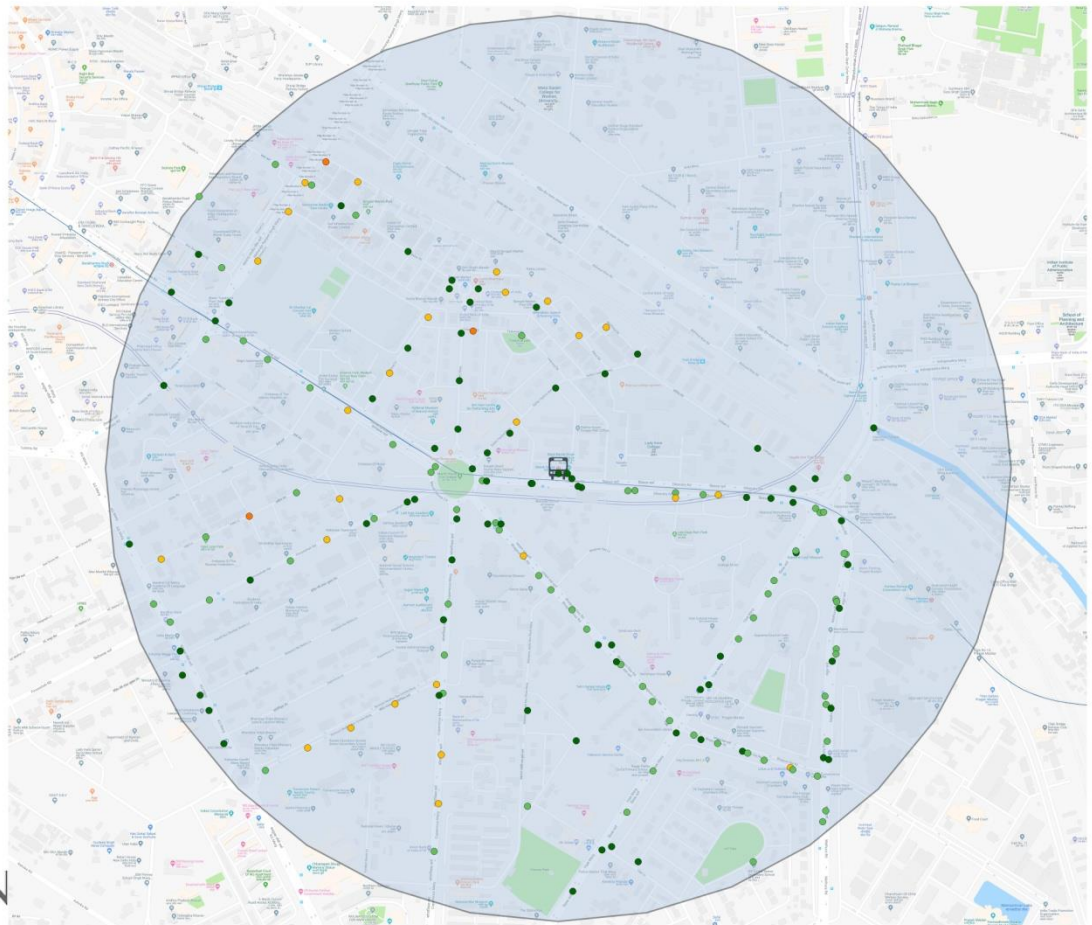
Legend

Safety Audits

- Below Average
- Average
- Good
- Excellent
- 1 KM Radius

Metro Stations

Base: Google Map



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NDMC Patel Chowk Metro Station Safety Score

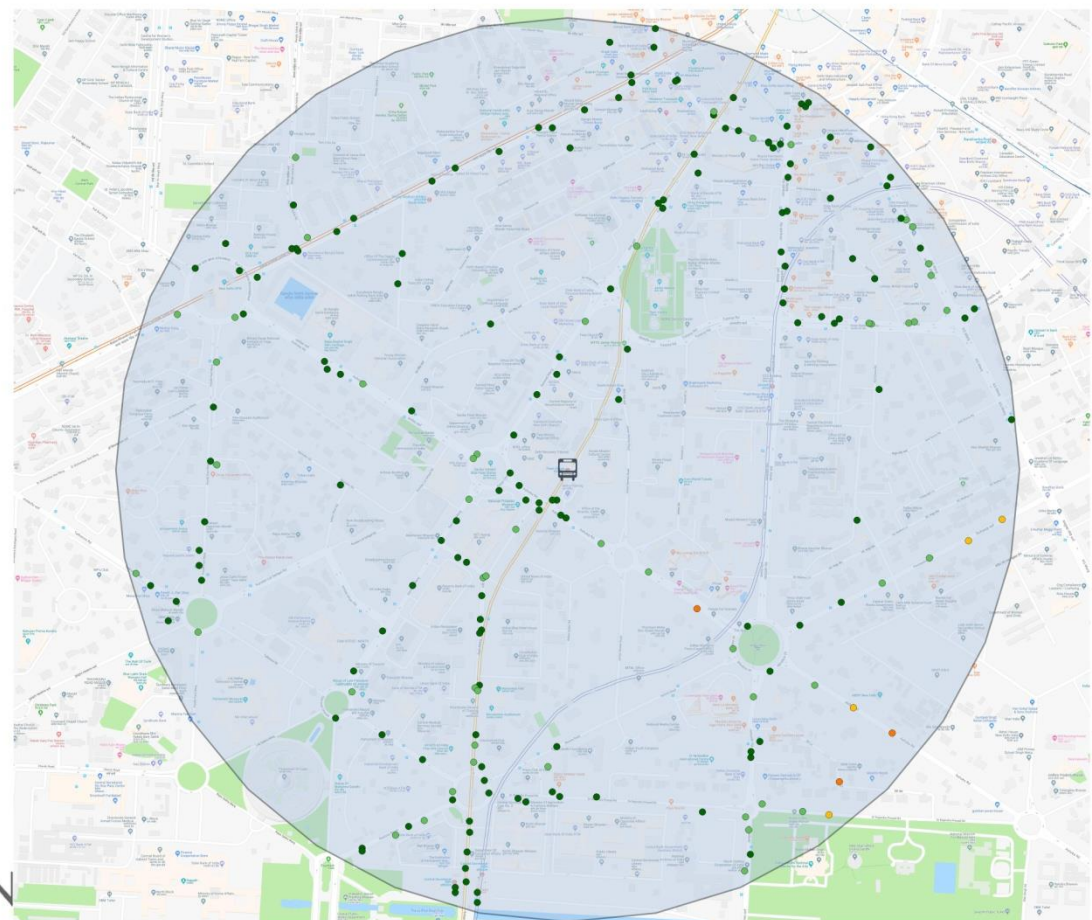
Legend

Safety Audits

- Below Average
- Average
- Good
- Excellent
- 1 KM Radius

Metro Stations

Base: Google Map



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NDMC Rajiv Chowk Metro Station Safety Score

Legend

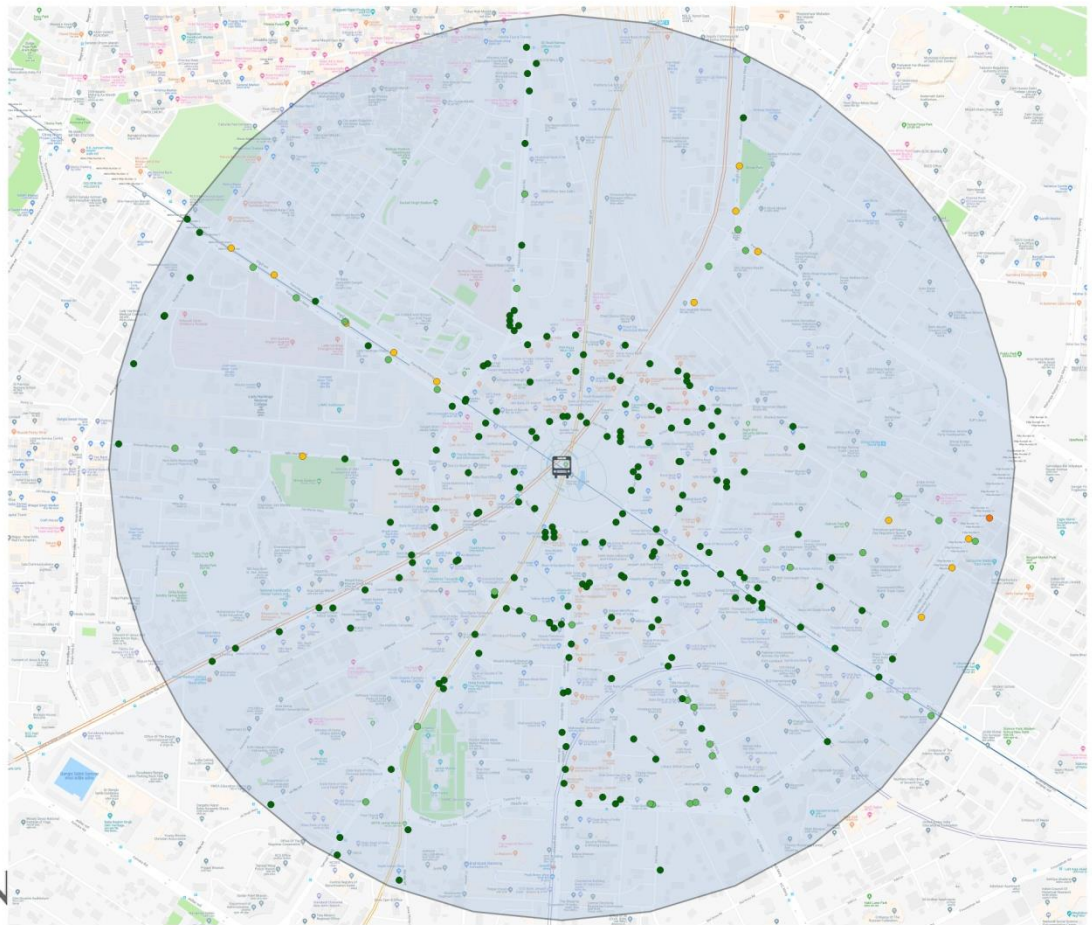
Safety Audits

- Below Average
- Average
- Good
- Excellent

1 KM Radius

Metro Stations

Base: Google Map



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Supporting Safer Cities

NDMC Ramakrishna Ashram Marg Metro Station Safety Score

Legend

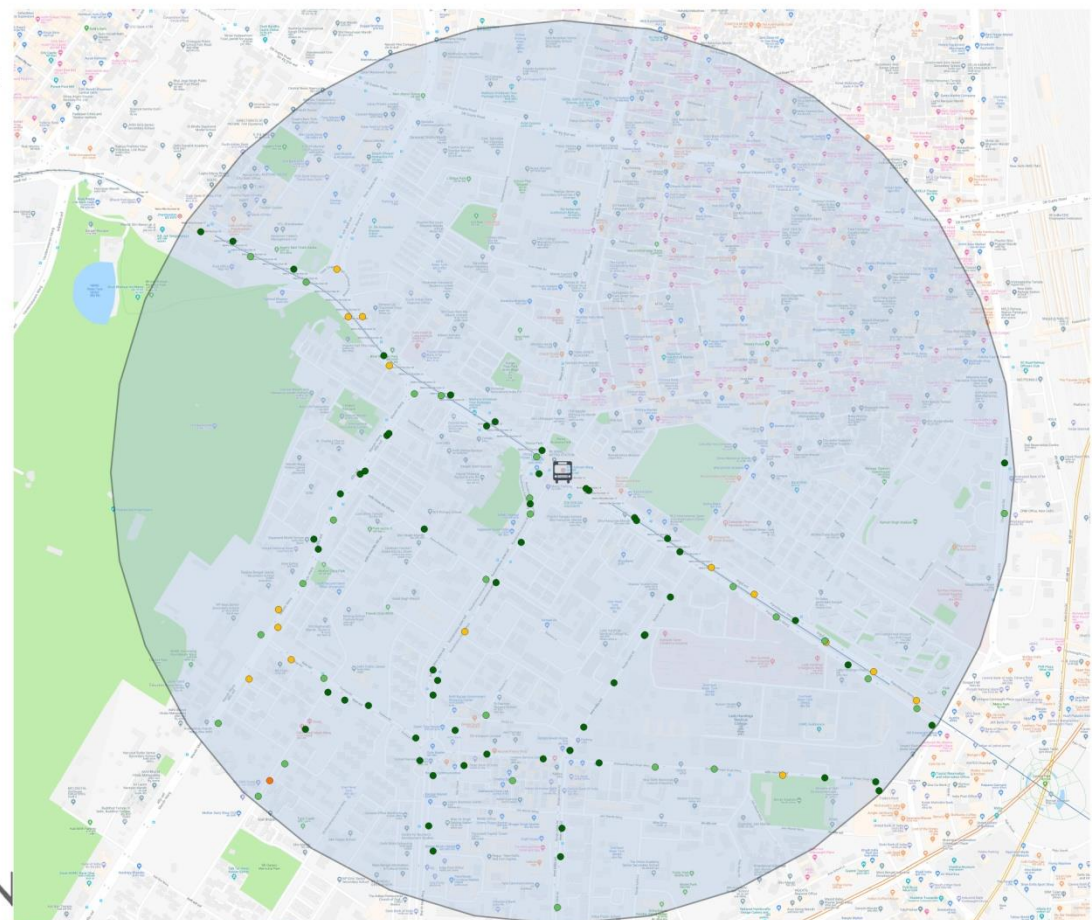
Safety Audits

- Below Average
- Average
- Good
- Excellent

1 KM Radius

Metro Stations

Base: Google Map



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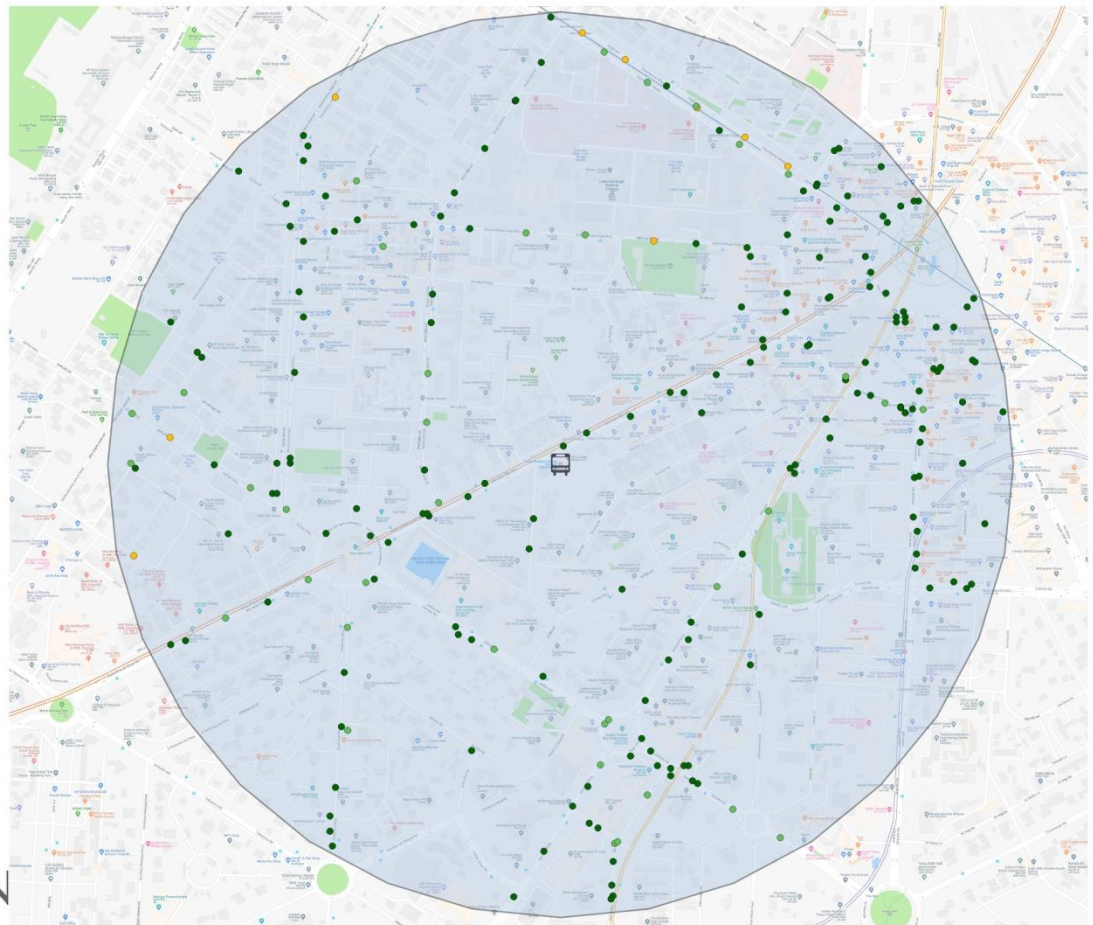
NDMC Shivaji Stadium Metro Station Safety Score

Legend

Safety Audits

- Average
- Good
- Excellent
- 1 KM Radius
- 🚶 Metro Stations

Base: Google Map



SAFETIP
Supporting Safer Cities

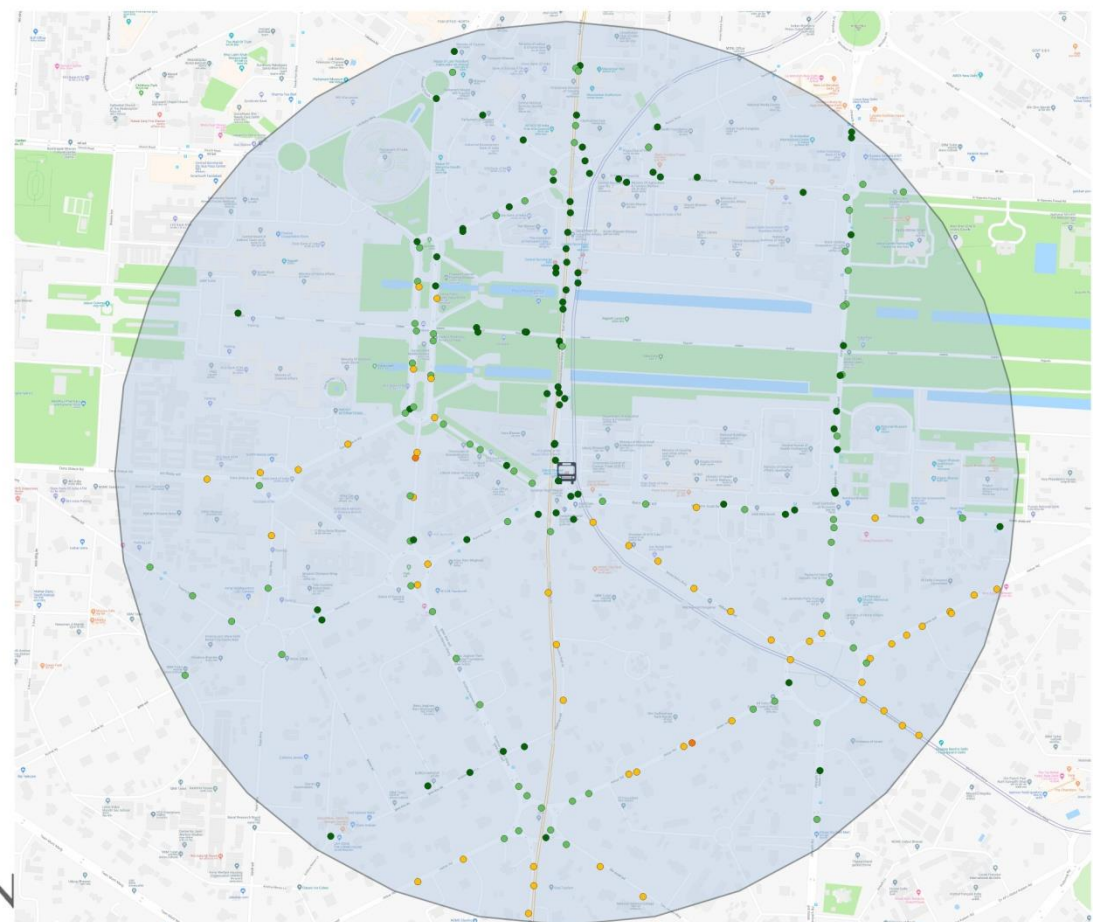
NDMC Udyog Bhawan Metro Station Safety Score

Legend

Safety Audits

- Below Average
- Average
- Good
- Excellent
- 1 KM Radius
- 🚶 Metro Stations

Base: Google Map



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