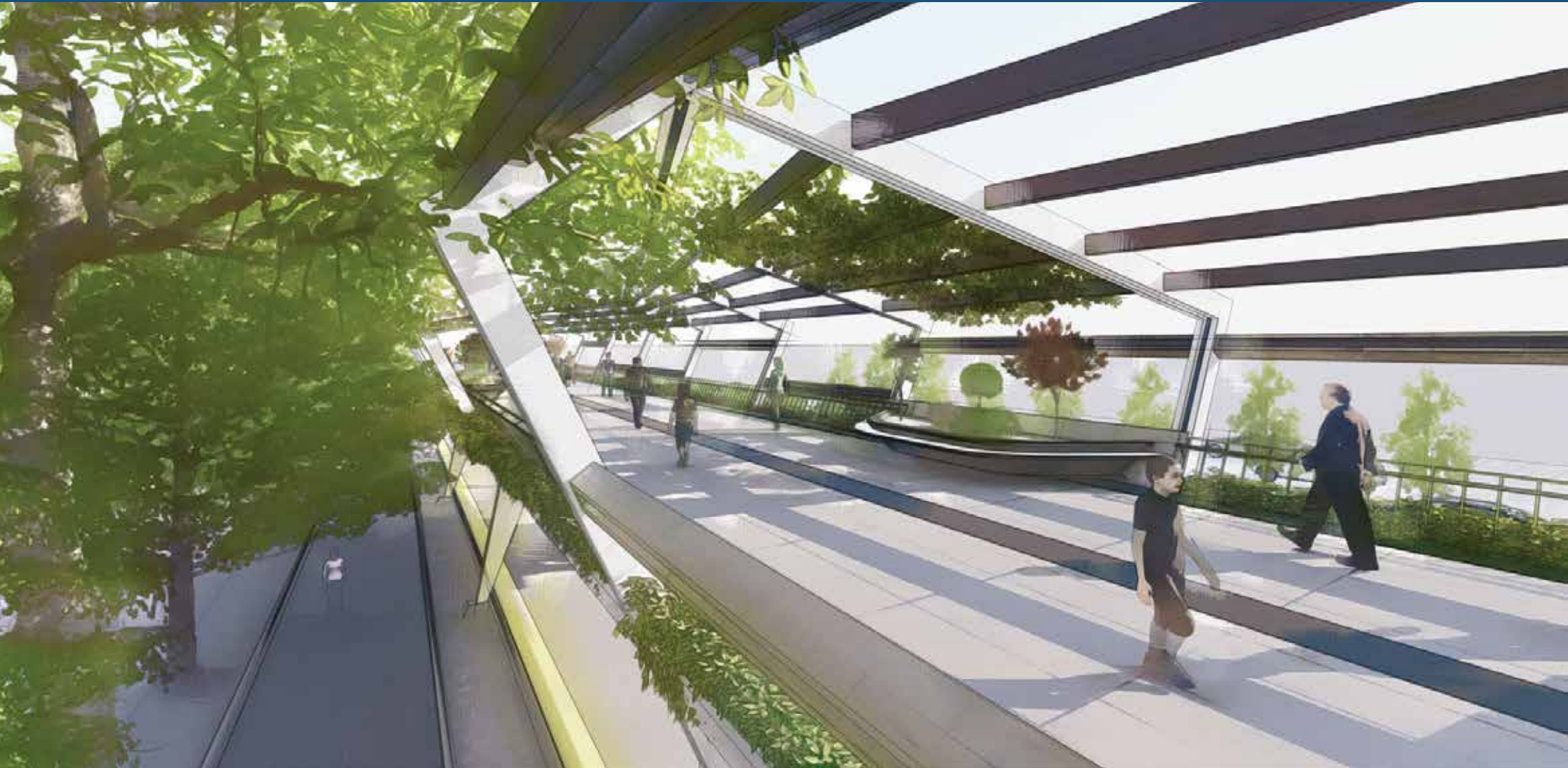




CITY LEVEL PROJECTS

DESIGN CONSIDERATIONS FOR A SKYWALK ALONG PRESS ENCLAVE MARG





सत्यमेव जयते

Delhi Urban Art Commission

The Delhi Urban Art Commission was set up by an Act of Parliament in 1973 to “advise the Government of India in the matter of preserving, developing and maintaining the aesthetic quality of urban and environmental design within Delhi and to provide advice and guidance to any local body in respect of any project of building operations or engineering operations or any development proposal which affects or is like to affect the skyline or the aesthetic quality of the surroundings or any public amenity provided therein”.



सत्यमेव जयते

Delhi Urban Art Commission

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Organisations / Others

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Geospatial Delhi Limited
Delhi Metro Rail Corporation
Delhi Urban Shelter Improvement Board
BSES Rajdhani Power Limited
BSES Yamuna Power Limited
RWA's and Area Councillors
Google Earth



सत्यमेव जयते

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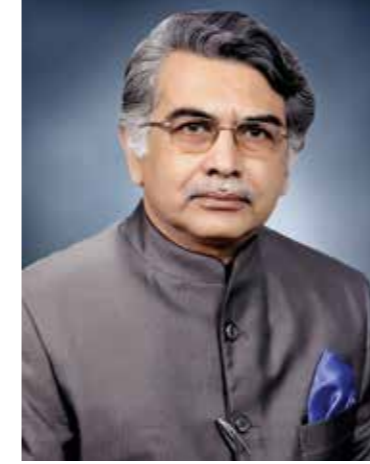
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Preface



The city of Delhi, capital of this vast land of diversities, is a city laden with layers of history, a place where civilizations have lived, prospered and perished over centuries. The modern city today, built over and around a rich tapestry of heritage, presents an opportunity at every turn, to allow for co-existence of the past, present and the future. In order to understand this multidimensional urban spectrum and attempt to plan the future, various city level studies have been initiated by the DUAC. I hope that these studies will help the planners of modern day Delhi to carefully articulate urban space, structure, form and environment and sensitively address future requirements.

December 2020

I convey my thanks to all the Consultants and Members of the Commission who have tirelessly worked on this research project to bring out this document. I also take this opportunity to place on record my sincere appreciation of the efforts of Secretary and other staff of DUAC for providing the necessary administrative support to make this happen.

I fondly hope that the authorities of the local, state and national government take these studies seriously and implement, in right earnest, the suggestions given herein.

Sd/-
Prof. Dr. P.S.N. Rao

Preface



Safe and seamless pedestrian mobility has become a major concern in Delhi. The possibilities for efficient schemes for uninterrupted, safe pedestrian connections for zones that have a high vehicular volume, combined with a high pedestrian traffic flow, varied high intensity developments in close proximity, and availability of space in the right of way was considered in this study.

The stretch of Press Enclave Marg between the Metro Station and Sub-Central Business District at Saket had been chosen for this study. There are two large hospitals, and the Hauz Rani urban village in the connecting space in between. Over time, spaces for pedestrians got subsumed in other requirements of utility services, service lanes, signage's, bus stops, parking and plating zones. It was evident that

continuous pedestrian movement at ground level was unsafe and discontinuous. It was felt that segregated and defined elevated pedestrian networks which navigate the multiple layers and land-uses such arterial roads, commercial areas, institutions, high density residential development, parks, neighborhoods etc. could be an innovative strategy.

The study is an attempt to identify dedicated pedestrian corridors in the form of Elevated walkways running parallel to the existing infrastructure which link high-density neighborhoods to transit junctions and demonstrate their integration with the existing built infrastructure.

December 2020

Samir Mathur
Commission Member, DUAC

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Summary

The study on Pedestrian Connectivity illustrates strategies to make the city 'accessible' to its people. Improved accessibility within the city results in the enhancement of safety, security and health.

As a resource amenity, 'Elevated Walkways' are connectors that traverse a variety of ownerships and environments, linking fragments of the city. These links recognize multiple values: Recreation, transportation, aesthetic, scenic, environmental and economic gain. Elevated Walkways provide a platform for improving neighbourhoods and city-wide needs. Improved accessibility influences standards of social justice and equity. It also results in an increase in the city's land value. They also provide a means to thread diverse city patterns together.

The city and its streets have been taken over by vehicles pushing aside the right of the people to walk. 42% of the total deaths that took place on city's roads in 2016 account for those of pedestrians. Delhi pedestrians constituted 600 of the total 1,415 fatal road accidents (DNA, January 2017).

This project aims to support efforts to make the city accessible, create potential for pedestrians to move without being compromised by vehicles in the road space. The study explores the city's layers to define alternate movement domains. It demonstrates how existing natural and manmade constructs can be organized together to create a dedicated pedestrian corridor.

The plan includes the utilization of the city's green lungs (city greens), linking forests and parks to the city and spatial corridors around precincts to allow movement of people and non-motorized vehicles. This would provide safe and convenient connections to parks, natural systems and recreational facilities, and links with residential areas, civic institutions and businesses.



Highline, New York, USA (claudiasaezfromm.com)



Seoullo 7017, Seoul Skygarden, South Korea (inhabitat.com)



01 INTRODUCTION

Delhi is characterized by its extensive and varied green cover. Historically they have formed a connective tissue between the multiple cities that constitute "Delhi" as well as the numerous historical monuments that are found throughout Delhi today.

1.1 Vision

To develop a holistic pedestrian mobility system which will encourage and enhance the pedestrian movement and connectivity. This system shall traverse through the ridge & forest areas, educational institutions, dense residential pockets, commercial and transport hubs and ultimately form corridors of greens, relaxing-points and walking trails.

1.2 Aim

To design a comprehensive Pedestrianization scheme along the Press Enclave Marg in South Delhi. It shall cater to the existing variety of landuses, businesses, residential and greens.



1-2: Seun City Walk, South Korea (architizer.com); 3: The Bicycle Snake, Copenhagen, Denmark (architizer.com); 4: The Goods Line, Sydney, Australia (kaowoyexing.com); 5-6: High Line, New York, USA (archfoundation.org, archdaily.com)

1.3 Objectives of the Study

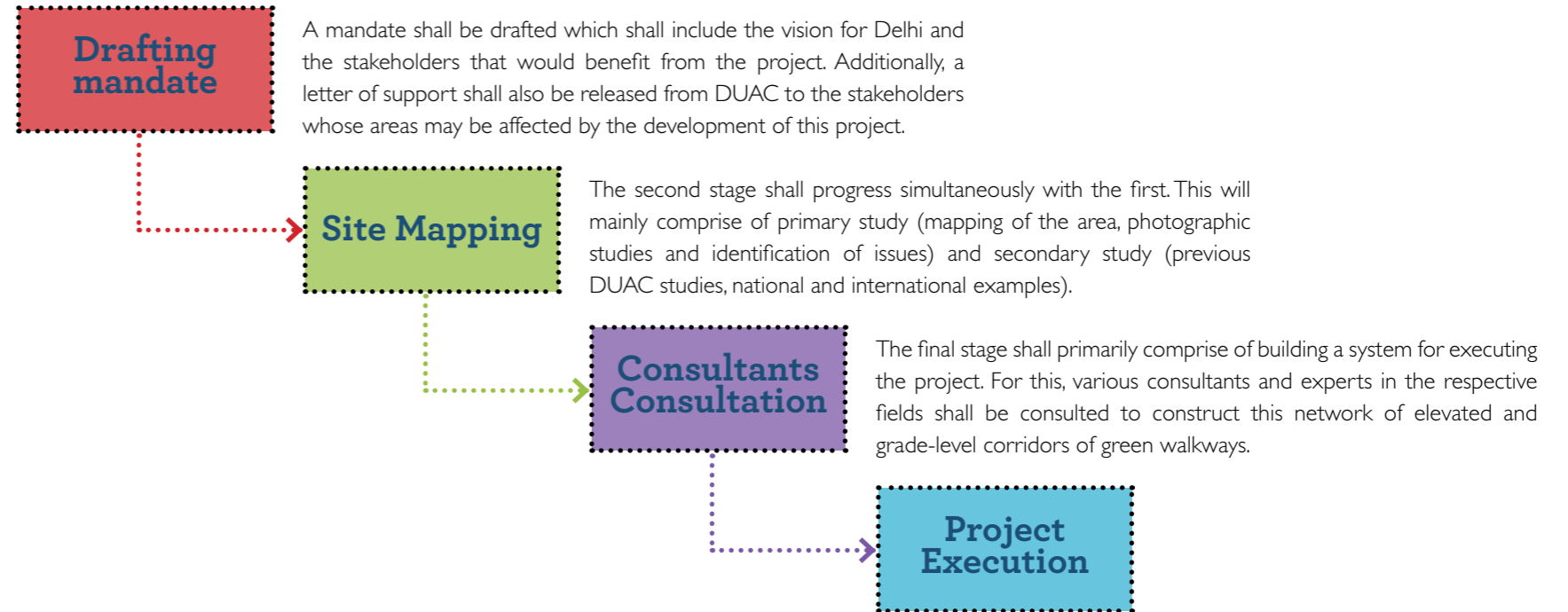
1. Prioritizing pedestrian comfort by making safe and comfortable zones for walking
2. Reduce pedestrian-vehicular conflicts at-grade
3. Establish last mile connectivity via exclusive pedestrian corridors
4. Reduce dependency on para-transits and non-motorized vehicles
5. Make pedestrian routes disable-friendly
6. Connect Urban Greens through a network of pedestrian corridors

1.3.1 Approach

1. Minimal built interventions.
2. Recognition of selective pedestrian circulation networks.
3. The network would be at both grade level and elevated, depending on the urban fabric of the representative area.
4. It would cater to the following types of areas: High-density Residential Pockets, Commercial Hubs, Institutional Centres and Transport Hubs.
5. Selective reorganization of existing pedestrian circulation networks.

1.4 Methodology

The study will comprise of 3 stages, which are as follows:

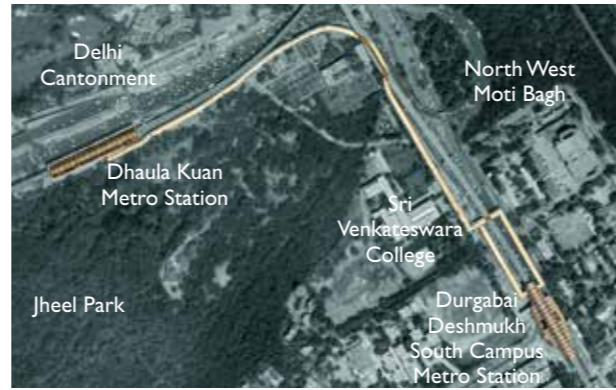


1.5 Scope & Limitations

1. Design recommendations shall be provided for the selected stretch only. This could be considered as a prototype/model for future pedestrianization projects in the city.
2. Based on the site specifications, the pedestrian corridor network shall be proposed at 3 levels:
 - Above Grade
 - At Grade
 - Below Grade
3. The design interventions shall be proposed conceptually as a scheme. This shall include the layout of the proposed corridor along with entry/exit points.
4. Volumetric and Traffic characteristics study will not be part of this project.
5. The data collected for site analysis is based on site observations and previously commissioned projects and studies.

1.6 Case Study 1.6.1 Dhaula Kuan Skywalk

1. The skywalk, is a massive over bridge for foot commuters, it connects Dhaula Kuan Metro Station on the airport line to Durgabai Deshmukh South Campus Metro Station, which is a major station on the Pink Line via 1.2km long skywalk.
2. It is equipped with travelators, CCTV cameras and even a partial roof for protection from bad weather.
3. The bridge also has public addressing systems and display panels, which informs commuters if any segment of the travelator is non-functional.
4. The 7.1m wide skywalk is equipped with 22 travelators , with a total length of 648 metres. These have been installed with a landing space of about 15 metres between each travelator:



1.6.2 ITO Skywalk

1. The ITO junction cross cater to one of the busiest mobile cross-junctions in the city. The intersections provide to around 25 significant offices and institutions in the city. This would also avoid the haphazard management of the people using the railway tracks to cross Bahadur Shah Zafar Marg.
2. The 5.0m wide skywalk consist of 20 passenger lifts, Wi-Fi, solar panels lighting and CCTV.
3. The constructed FOB at Hans Bhawan stands at the height of 58 meters along with constructed skywalk at the W cross junction which stretches at around 525 meters.
4. Skywalks also connects Pragati Maidan Metro Station from all sides of the road junction.

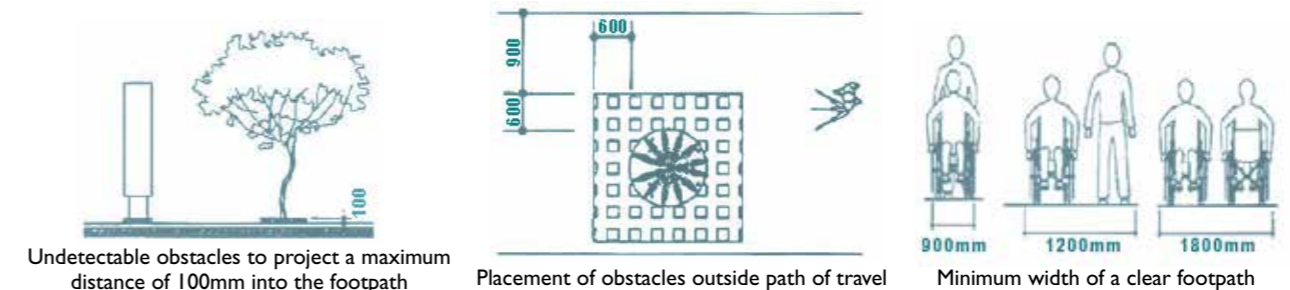
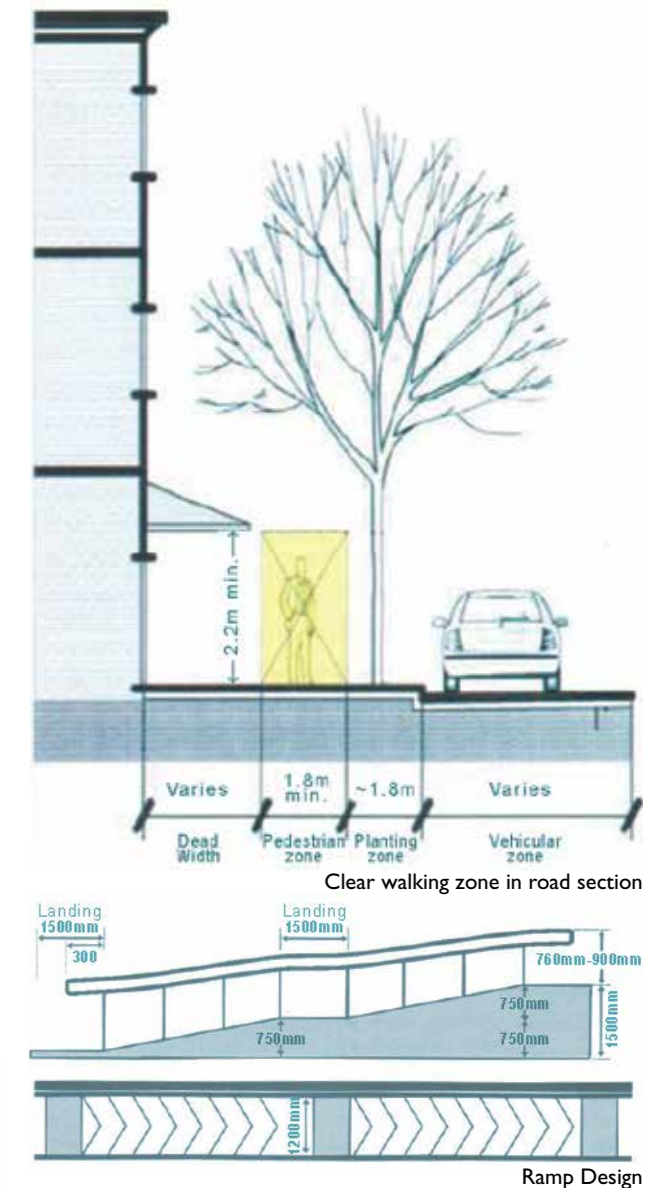


1.6.3 IRC Guidelines

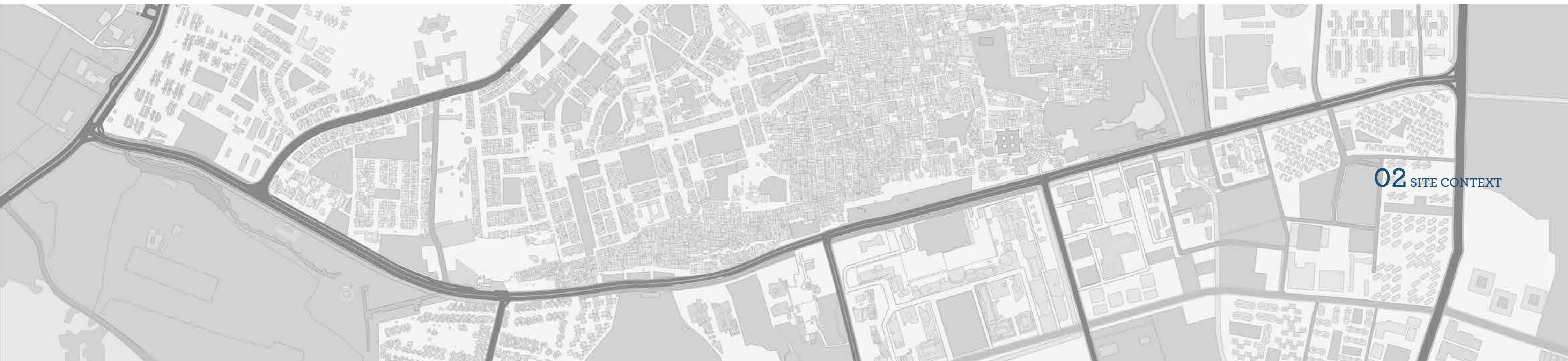
1. A clear height of 2.2m is required for the entire width of the footpath walking zone.
2. The minimum width of a clear unobstructed pathway should be 1.8m in roads of right of way of 10m and above. Otherwise, a width of 1.5m is regarded as a minimum acceptable width.
3. Firm, even paved surfaces are important to people using sticks or crutches or wheelchairs, or people walking with difficulty. The gap between paving slabs or any other vertical deviation between slabs shall not exceed 5mm.
4. It is important that, whichever tactile pavers are used for guiding or warning, they should be used consistently to avoid confusion.
5. A distance of 600mm is to be maintained from the edge of footpath/ boundary wall/ any obstruction to navigate person with vision impairment.
6. Level Change: A ramp or series of slopes should be integrated into the level change to facilitate wheelchair users or pram/ buggies and bicycles and a gradient less than 1:20 doesnot require handrails and resting places.
7. A ramp should be accompanied by a flight of easygoing steps. Slope of ramp is to be a maximum of 1:12

Required width of footpath as per adjacent landuse	
Minimum obstacle free walkway width and Residential/ Mixed Use Areas	1.80m
Commercial/ Mixed Use Areas	2.50m
Shopping frontages	3.50m - 4.50m
Bus Stops	3.00m
High Intensity Commercial Areas	4.00m

Required width of footpath as per adjacent landuse				
Level Difference	Min. Gradient of ramp	Ramp Width	Handrails on both sides	Comments
≥ 150mm ≤ 300mm	1:12	1200mm	Yes	
≥ 300mm ≤ 750mm	1:12	1500mm	Yes	Landing every 5 meters of ramp run
≥ 750mm ≤ 3000mm	1:15	1800mm	Yes	Landing every 9 meters of ramp run
≥ 3000mm	1:20	1800mm	Yes	Landing every 9 meters of ramp run



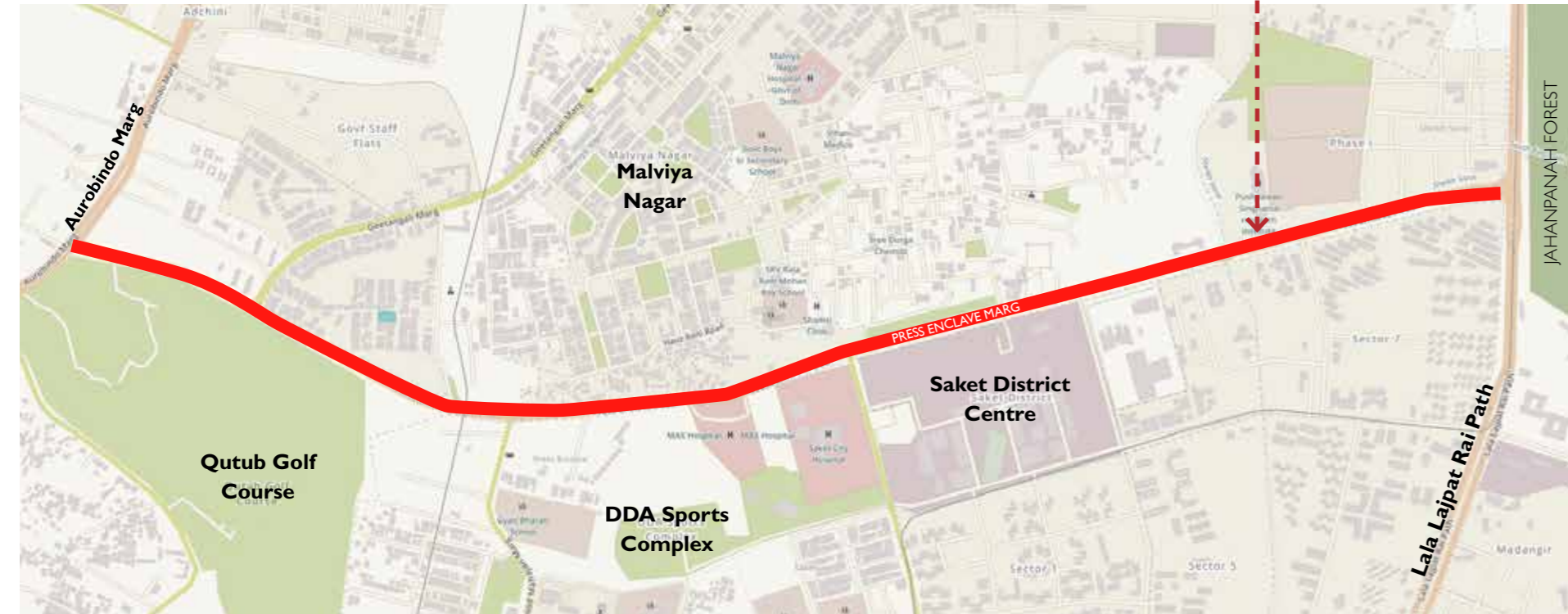
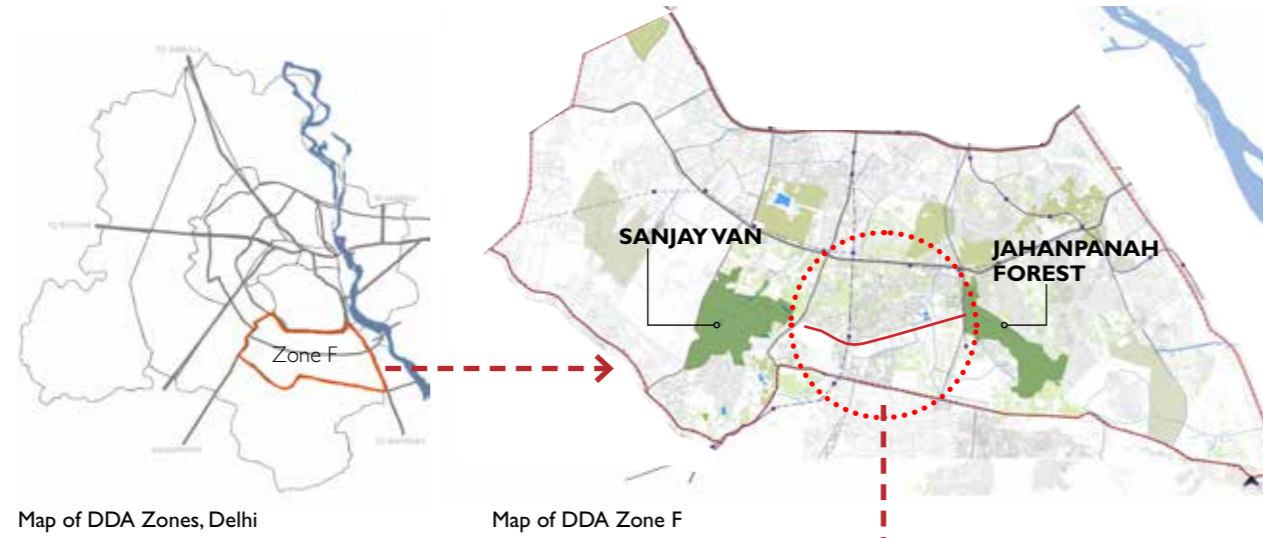
These guidelines will vary as per the volume of pedestrian traffic that commutes through the skywalk, depending upon the location.
Source: IRC 2012 (Guidelines For Pedestrian Facilities)



02 SITE CONTEXT

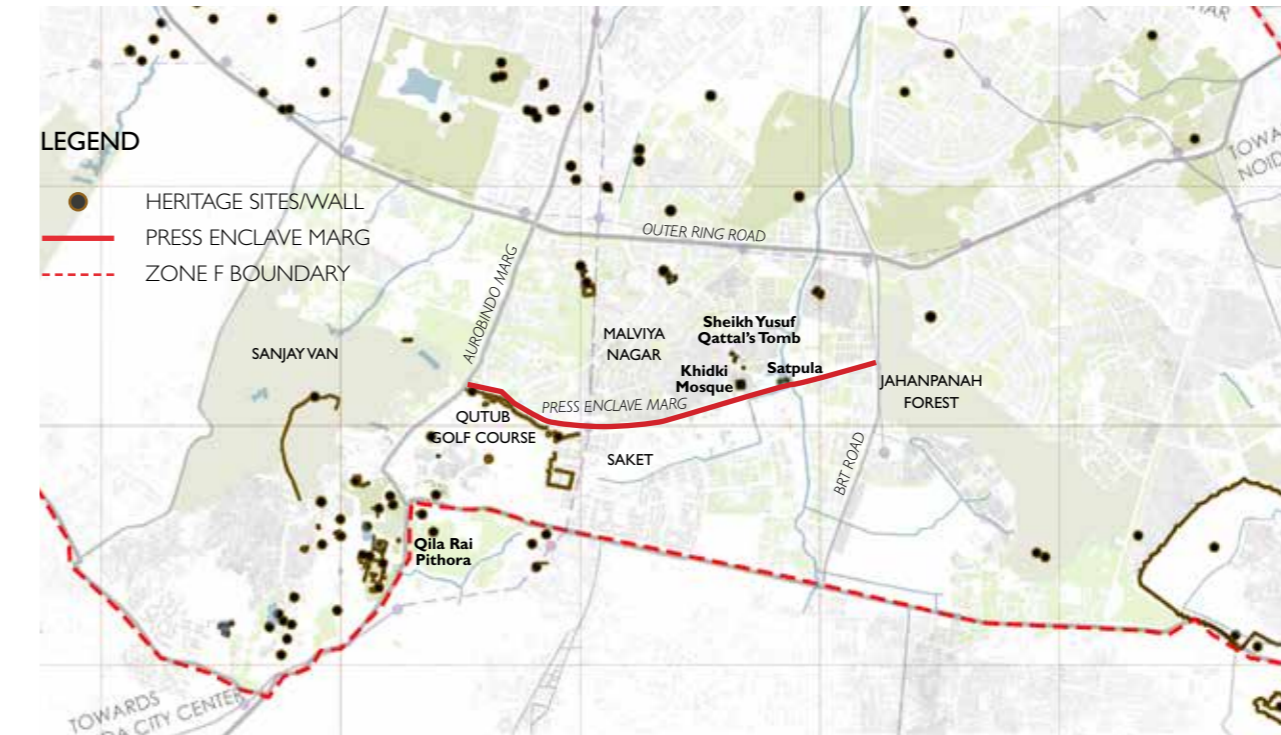
2.1 About the Site

- The Press Enclave Road is 3.8km stretch connecting Aurobindo Marg (west) to Lala Lajpat Rai Path (Lal Bahadur Shastri Marg) (east).
- It also connects 2 major city forests, namely, Sanjay Van (west) and Jahanpanah Forest (East).
- It lies in Zone F of the Master Plan of Delhi.
- It is one of the most congested stretches in the Capital. Besides catering to densely populated localities, it is also catering to transport, medical & commercial hubs. *Khirki, Saket, Malviya Nagar, Adchini, Pushp Vihar Sheikh Sarai, PVR Anupam Complex, Saket District Centre, Shaheed Bhagat Singh College, Max Super speciality Hospital, Pushpawati Singhania Research Institute, Saket City Hospital, Malviya Nagar Metro station.*



Site Plan of Press Enclave Road and the area around it. (Base Map Source: openstreetmap.org)

2.2 Historical Significance



Plan highlighting Press Enclave Road and the heritage sites located around it

Press Enclave Marg serves as the main access road for some of the major heritage sites of Delhi. These include:

- Qila Rai Pithora (*adjacent Qutub Golf Course*)
- Khirki Mosque (*Khirki village*)
- Satpula
- Sheikh Yusuf Qattal's Tomb (*Khirki village*)

Some other sites close to the area, include Begumpur Mosque, Lal Gumbad, Sarai Shahji Mahal, Bijay Mandal, etc.



Satpula (wikipedia.org)



Qila Rai Pithora Walls (commons.wikimedia.org)



Khirki Mosque courtyard (casino-zodiac.org)



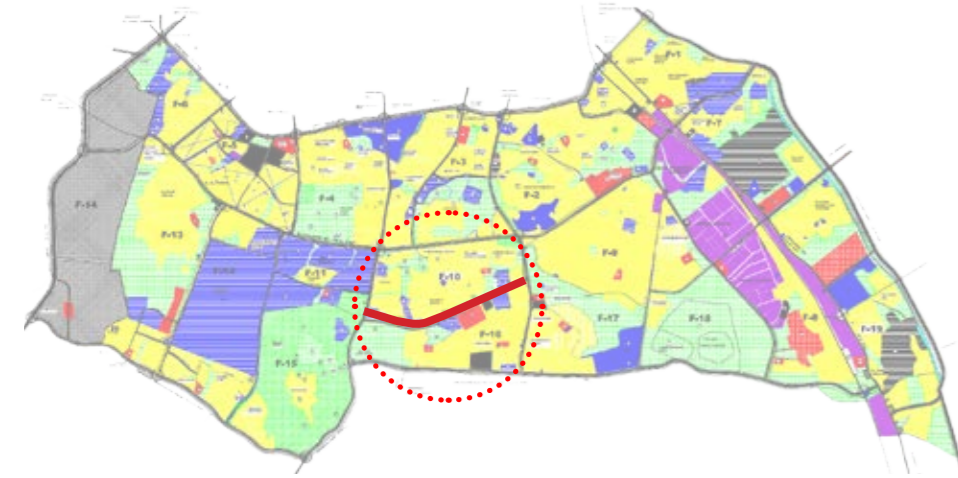
Inside Khirki Mosque (flickr.com)

2.3 Administrative Framework

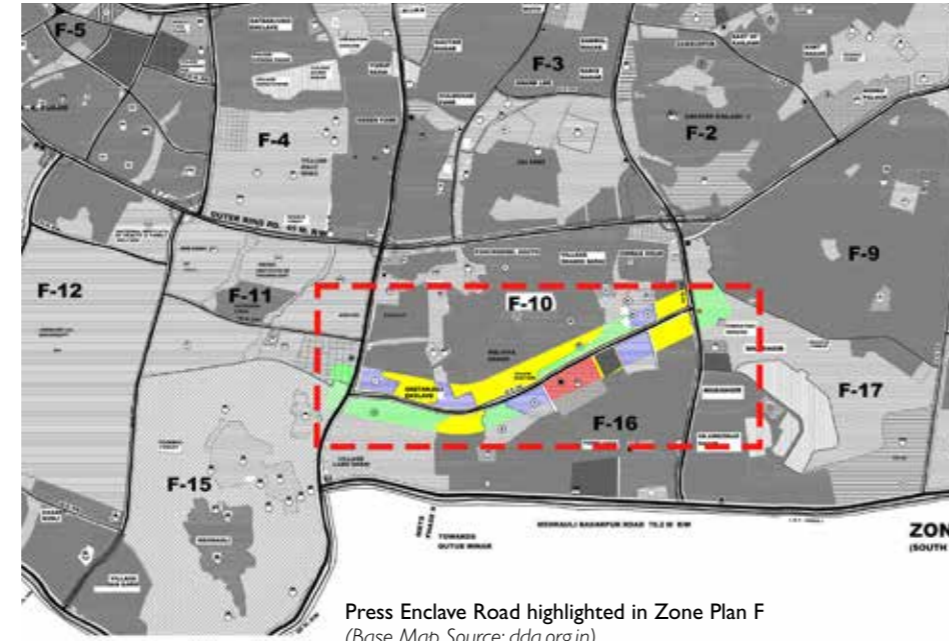
Zone F is divided into 19 sub-zones. Press Enclave Marg lies in between F-10 and F-16. The major green spaces are complemented and supplemented by a system of neighborhood open spaces, parks and playgrounds in the residential area. It is proposed to develop the unutilized green spaces along the road and adjoining to Institutional/Industrial/Commercial etc. by inviting participation of RWA's/NGO's etc.

This would provide linkages for development of a continuous system of green areas. This has been indicated in the Zonal Plan, which should be detailed out at the stage of preparation of detailed scheme.

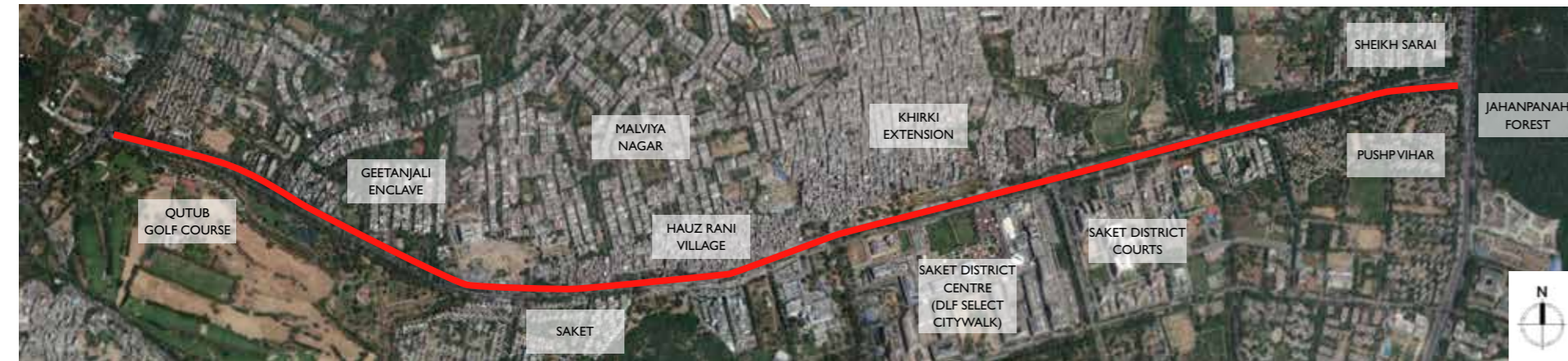
Area of F10 & F16: 929 Ha., 3.8Km long stretch
ROW of Press Enclave Marg (DDA): 45M, Population 2 lakhs



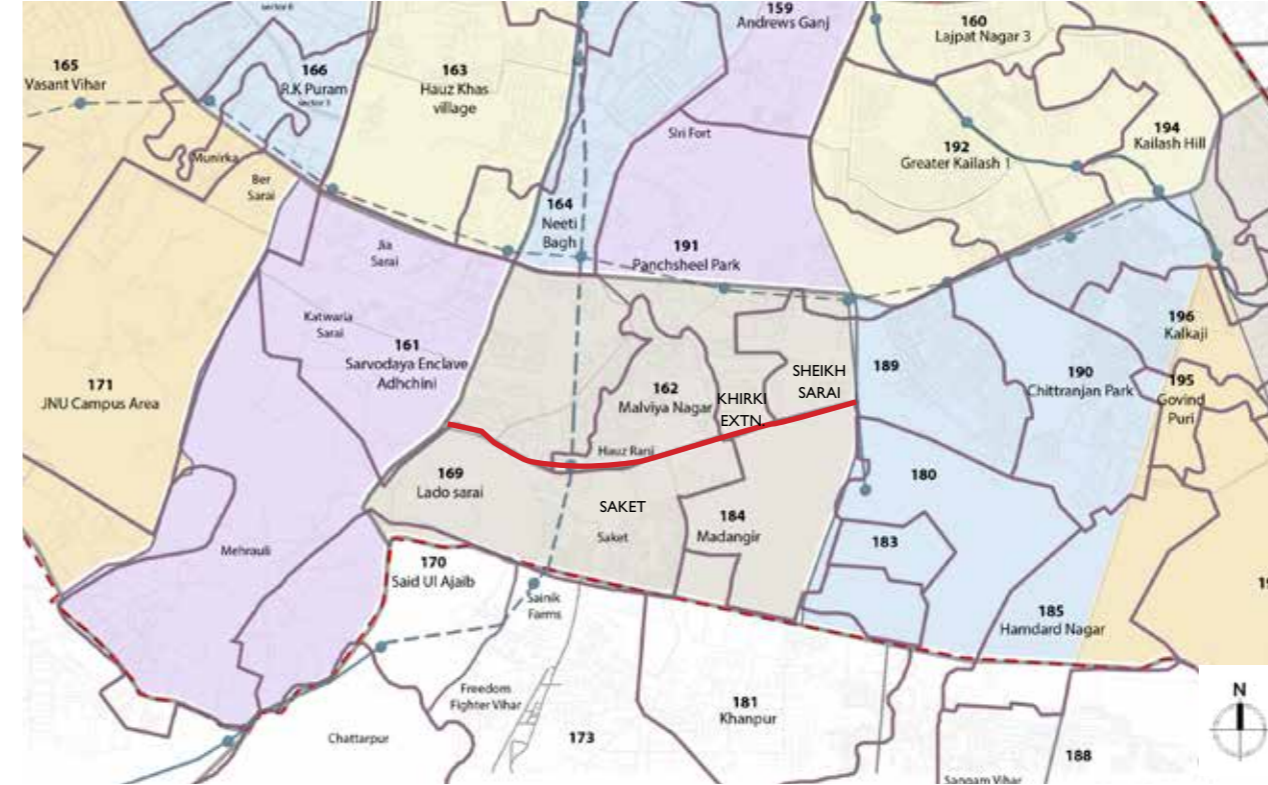
Zonal Plan of DDA Zone F (Base Map Source: dda.org.in)



Press Enclave Road highlighted in Zone Plan F (Base Map Source: dda.org.in)



Site Plan of Press Enclave Road and the area around it. (Base Map Source: Google Earth)



Plan highlighting Press Enclave Road and the different MCD wards it falls under and is adjacent to.

Press Enclave Marg is surrounded by the following MCD wards:

- Ward 161: Malviya Nagar
- Ward 162: Village Hauz Rani
- Ward 169: Lado Sarai
- Ward 184: Pushp Vihar
- Ward 180: Dakshin Puri Extension
- Ward 183: Madangir
- Ward 189: Greater Kailash II
- Ward 191: Shahpur Jat

Most of the above mentioned wards are dense residential areas with pockets of public buildings and commercial establishments.

The stretch is surrounded by city forests on 2 sides.



Sheikh Sarai DDA Housing (casino-zodiac.org)



Unauthorized colony Khirki Extension around Khirki Mosque



High-end Residential in Saket (yatra.com)

2.4 Connectivity

Press Enclave Marg is an important stretch in South Delhi as it connects areas that are significant at the city-level. Road connections include:

- Aurobindo Marg (to Gurgaon)
- Lal Bahadur Shastri Marg (BRT)
- Geetanjali Marg (to Malviya Nagar)
- Pramod Mahajan Marg (to PVR Anupam)
- Mandir Marg
- Shaheed Pankaj Juyal Marg. (to Saket District Court)

Malviya Nagar Metro station of the Yellow Line is situated on the junction of Press Enclave Marg and Pramod Mahajan Marg. Other major Metro stations around the site include:

- Saket (future interchange station)
- Hauz Khas (interchange station for Yellow line and Magenta line)
- IIT Delhi
- Chirag Dilli

DLF Select Citywalk is the main commercial space in this area which attracts large number of visitors from all over the city. Other commercial zones in the vicinity include:

- Anupam Complex (PVR Anupam)
- Malviya Nagar Central Market
- Adhchini
- Katwaria Sarai
- Saket District Courts

Major hospitals in this area are Max Super-Speciality Hospital, Saket City Hospital, Pushpawati Singhanian Research Institute, Orthonova Hospital, Sitaram Bhartia Institute of Science and Research, etc.

LEGEND

- 60M ROW
- 45M ROW (PRESS ENCLAVE MARG)
- 24M ROW

ROAD HIERARCHY & NETWORK



LEGEND

- PRESS ENCLAVE MARG
- MAGENTA LINE METRO
- YELLOW LINE METRO

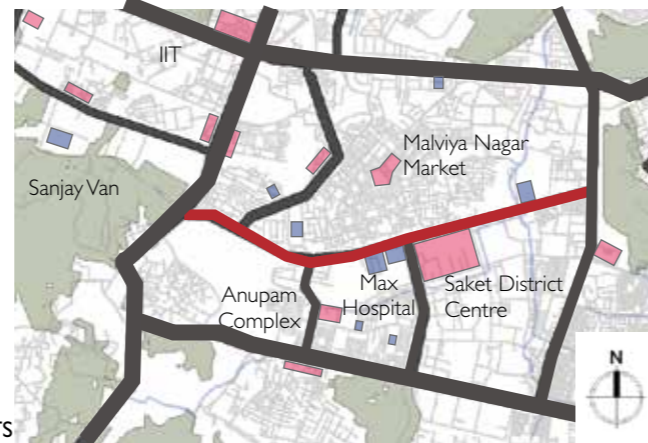
DELHI METRO NETWORK



LEGEND

- PRESS ENCLAVE MARG
- COMMERCIAL
- INSTITUTIONAL

COMMERCIAL & SOCIAL ESTABLISHMENTS



03 SITE ANALYSIS

3.1 Land-Use Study

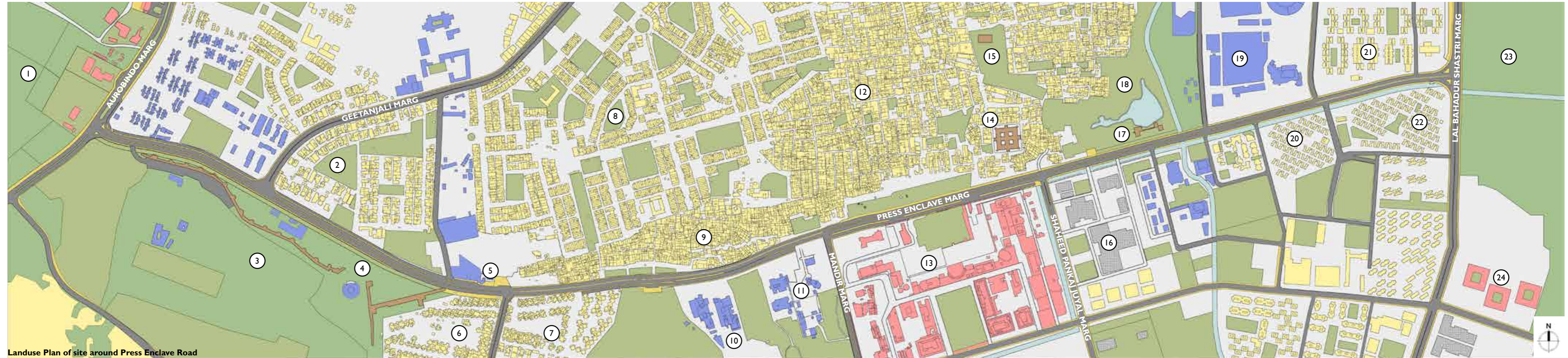
The area around Press Enclave Marg can be identified by its low density and green cover. It is mainly comprised of planned, well maintained posh residential localities. This also includes rehabilitation colonies and government housing areas. A significant feature of this area and of Zone F as a whole, is the urban heritage. The first four cities of Delhi namely, Lal Kot, Siri, Tughlakabad and Jahanpanah are located within 3 km radius from Press Enclave Marg. Most of the areas have been planned as envisaged in Master Plan for Delhi 1962.

- High income category residential locality: Geetanjali Enclave.
- Rehabilitation Colonies: Malviya Nagar
- Urban Villages: Hauz Rani, Khirki, Sheikh Sarai

- Unauthorized Colonies: Khirki Extension, Mohalla Johna Panach
- This site has the following places to cater with the work force: District Courts, District Centers at Saket, Government Offices next to Pushp Vihar
- There are a total of 3 district centers in Zone F, out of which 1 (Saket) is located in this site. It is also the latest and most popular of the three.
- Sports complex: Saket
- Health: Max Hospital, Saket City Hospital, Pushpawati Singhania Hospital
- Education: Shaheed Bhagat Singh College, College of Vocational Studies, Apeejay School, Andhra Education Society School, Gyan Bharati School.

LEGEND

- | | | |
|------------------------------------|-----------------------------------|---------------------------|
| 1. SANJAY VAN | 11. SAKET CITY HOSPITAL | 21. PHASE II SKEIKH SARAI |
| 2. GEETANJALI ENCLAVE | 12. KHIRKI EXTENSION | 22. SECTOR 7 PUSHPVIHAR |
| 3. QUTUB GOLF COURSE | 13. DLF SELECT CITYWALK | 23. JAHANPANAH FOREST |
| 4. QILA RAI PITHORA PARK | 14. KHIRKI MOSQUE | 24. PUSHPA BHAWAN |
| 5. MALVIYA NAGAR METRO STATION | 15. SHEIKH YUSUF QATTAL'S TOMB | |
| 6. DDA SFS FLATS (BLOCK C SAKET) | 16. SAKET DISTRICT COURT | RESIDENTIAL |
| 7. PRESS ENCLAVE & EKTA APARTMENTS | 17. SATPULA | COMMERCIAL |
| 8. MALVIYA NAGAR | 18. SATPULA LAKE | PUBLIC/SEMI-PUBLIC |
| 9. HAUZ RANI | 19. COLLEGE OF VOCATIONAL STUDIES | FORESTS |
| 10. MAX SUPER SPECIALITY HOSPITAL | 20. SECTOR 7 PUSHPVIHAR | PARKS |
| | | URBAN VILLAGE |
| | | GOVT. BUILDINGS |
| | | HERITAGE BUILDINGS |
| | | WATERBODIES |



Landuse Plan of site around Press Enclave Road

3.2 Street Characteristics

3.2.1 Carriageway & Footpath

The existing footpath is irregular and discontinuous at many places. At some places it has been totally encroached upon. Hence, the inadequate width does not allow pedestrians to use the footpath effectively.

At many places, the carriageway has been compromised too. This is mainly at the stretch from Malviya Nagar metro station to Mandir Marg.



Different types of footpath widths and design along Press Enclave Marg.

3.2.2 On-Street Parking

As the vehicles are parked haphazardly, pedestrians are forced to walk on the carriageway causing discomfort to both pedestrian and vehicular traffic and adding to the congestion. On-street parking, in front of Press Enclave Vihar, causes traffic bottle-neck as the effective number of lanes reduces on either side. Dedicated space should be created or earmarked for on-street parking.



On-street parking prevalent from Malviya Nagar Metro station to District Courts.

3.2.3 Medians & Pedestrian Refuges

The median is continuous along the road, except at junctions. However, the median is not consistent as it ranges from 0.90M wide in front of Hauz Rani village to 2.00M wide near Geetanjali Enclave and Pushp Vihar.

The haphazard nature and planning of the area in and around Press Enclave Marg has led to some issues such as trees in the middle of carriageways and footpaths, unnecessary junctions and traffic diversions due to improper delineation of medians.



Inconsistent medians and unplanned traffic islands / pedestrian refuges.

3.2.4 Landscaping

At present, a line of trees on either sides and at the median of Press Enclave Marg are the only landscaping interventions on this road. However, the whole 3.8km stretch boasts of opportunity areas (junctions, metro station, along fort wall, Satpula drain, etc.) where landscaping initiatives could be proposed. Moreover, with the proximity to 2 major city forests of Delhi (Sanjay Van & Jahanpanah Forest), this stretch could act as a major connecting link for a green corridor.



High potential for landscaping in medians, buffer areas and sidewalks.

3.2.5 Vending Spaces

The urban fabric of the area is such that hawking and vending is inevitable. This is mainly near commercial and transportation hubs like Malviya Nagar metro, Select Citywalk, Hauz Rani, etc. This variety in landuse coupled with popularity of these destinations attract various kinds of visitors and hawkers/vendors. Under these circumstances, providing dedicated spaces for hawking/vending shall be a viable solution. These spaces should be strategically placed and intricately designed for maximum utility and minimum obstruction/conflicts.



Hawkers and vendors in front of Hauz Rani, Select CityWalk and Sheikh Sarai Gurudwara, respectively.

3.3 Street Highlights

WHY IS IT CONGESTED?

The road is surrounded by densely populated areas such as Khirki village, Hauz Rani, Saket, Malviya Nagar and Pushp Vihar

Two big hospitals - Max Super-Speciality Hospital & Saket City Hospital, Saket district court complex, city's biggest malls - DLF & Select City Mall and two Metro stations - Malviya Nagar & Saket, are located in and around it.

LOCATION	DAILY FOOTFALL	STREETSCAPE ISSUES
Malviya Nagar Metro station	70,000	<ol style="list-style-type: none"> No space for pedestrian movement, hawkers/vendors. Effective carriage way reduces due to on-street activity like parking, hawking etc. Absence of organised hoardings, signage & street furniture. Infrastructure is below average conditions, i.e. lighting, electrical poles, etc.
Saket Metro station	50,000	
Select City Walk mall	80,000	
District court Saket	7,000 - 8,000	

3.4 Major Movement along Press Enclave Marg

With the opening of the magenta and pink lines of the Delhi Metro and the onset of DMRC Phase IV, Zone F will have four interchange stations at INA Market, Lajpat Nagar, Chirag Dilli and Kalkaji. All of these stations are at 2km radius from Press Enclave Marg, hence there will be a significant increase in traffic plying on Press Enclave Marg. In addition to existing movement systems which are already saturated, it is envisaged to consider alternate networks.



PNB Geetanjali Bus stop in front of Geetanjali Enclave



Malviya Nagar Metro junction in front of Saket A-Block bus stop



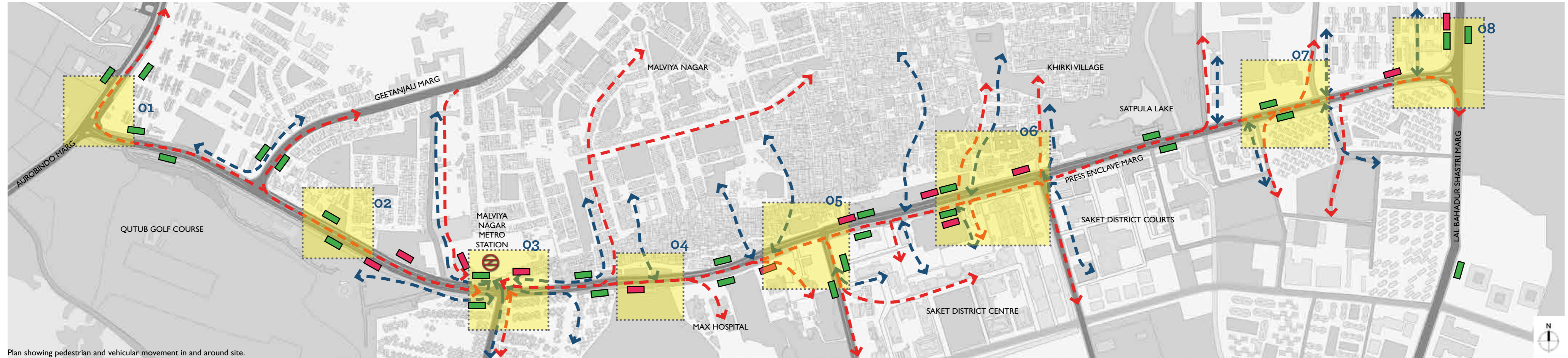
Carriageway narrowing down opposite Saket City Hospital



Cars parked on street in front of Khirki Extension

LEGEND

- PEDESTRIAN MOVEMENT
- VEHICULAR MOVEMENT
- BUS STOPS
- TAXI / AUTO-RICKSHAW STANDS
- CONGESTION AREAS



Plan showing pedestrian and vehicular movement in and around site.

3.5 Areas of Congestion/Intervention

3.5.1 Stretch 01

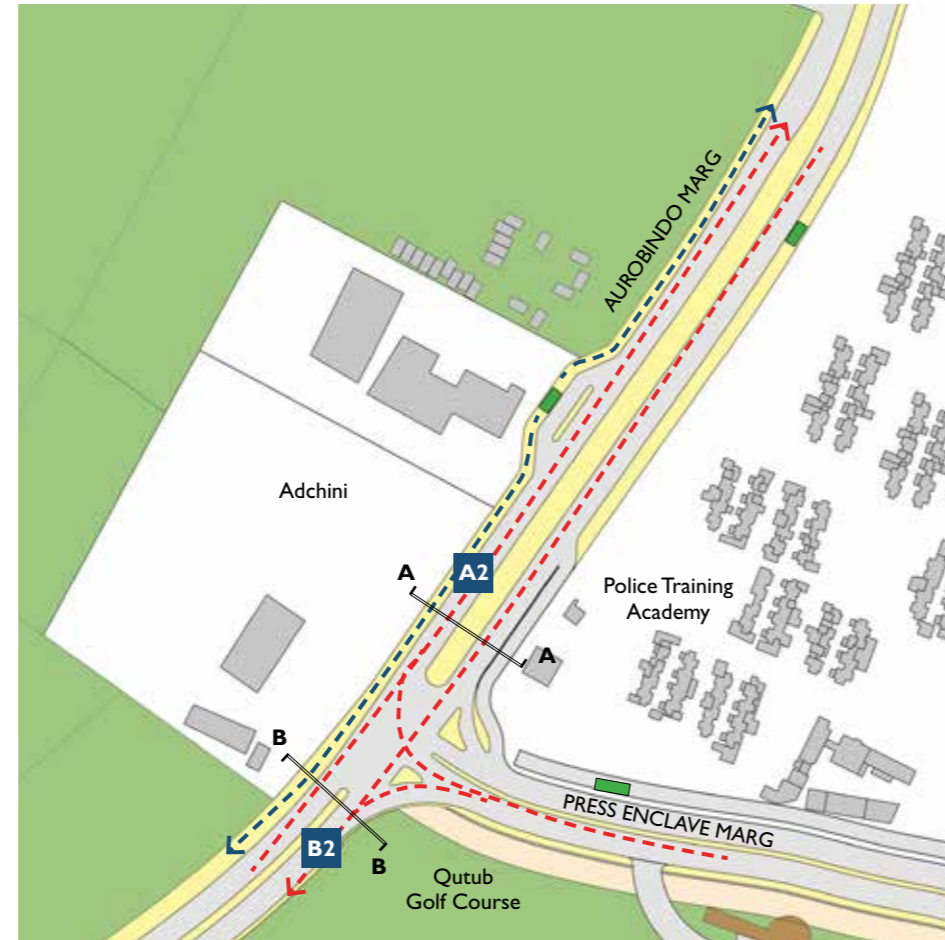
- Aurobindo Marg is an arterial road and should be 60M ROW, according to the Master Plan and Zonal Plan.
- Presently, it ranges between 40M - 45M ROW with an 11M wide median (before Press Enclave Marg junction) and 25M - 30M ROW with a 2.5M wide median (after Press Enclave Marg junction).
- Aurobindo Marg is a significant road as it connects Gurugram in Haryana to the whole of South Delhi and beyond. The road later continues as Anuvrat Marg and then Mehrauli-Gurgaon Road (M.G. Road) as part of NHI 48A.



A2
Intersection of Aurobindo Marg and Press Enclave Marg



B2
Aurobindo Marg slightly narrowing down after Press Enclave Marg junction

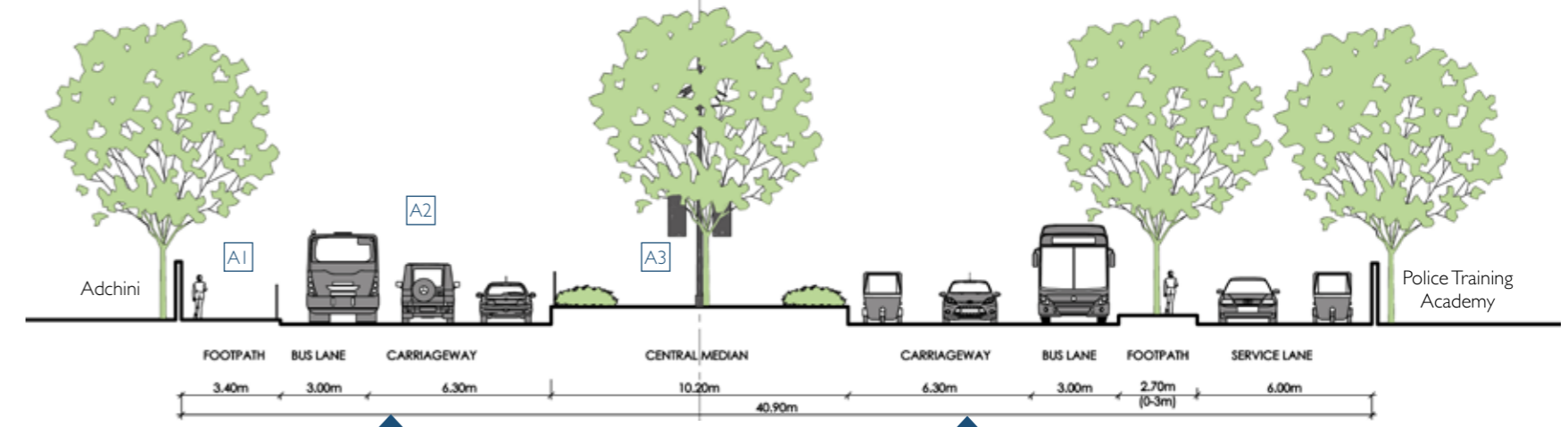


DETAILED PLAN

- - - - - → Pedestrian Route
 - - - - - → Vehicular Route
 Bus Stop



KEY PLAN



Section AA



A1
Wall along Aurobindo Marg (towards AIIMS)



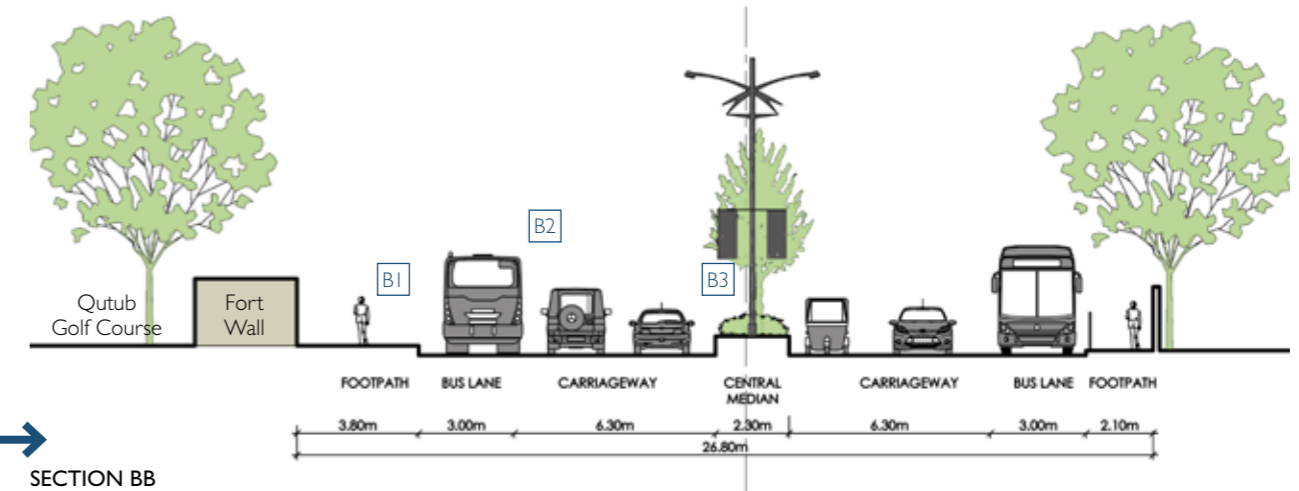
A3
Central Median at Aurobindo Marg (towards AIIMS)



B3
Central Median at Aurobindo Marg (towards Qutub Minar)



B1
Footpath adjacent Qila Rai Pithora Wall (towards Qutub Minar)



SECTION BB

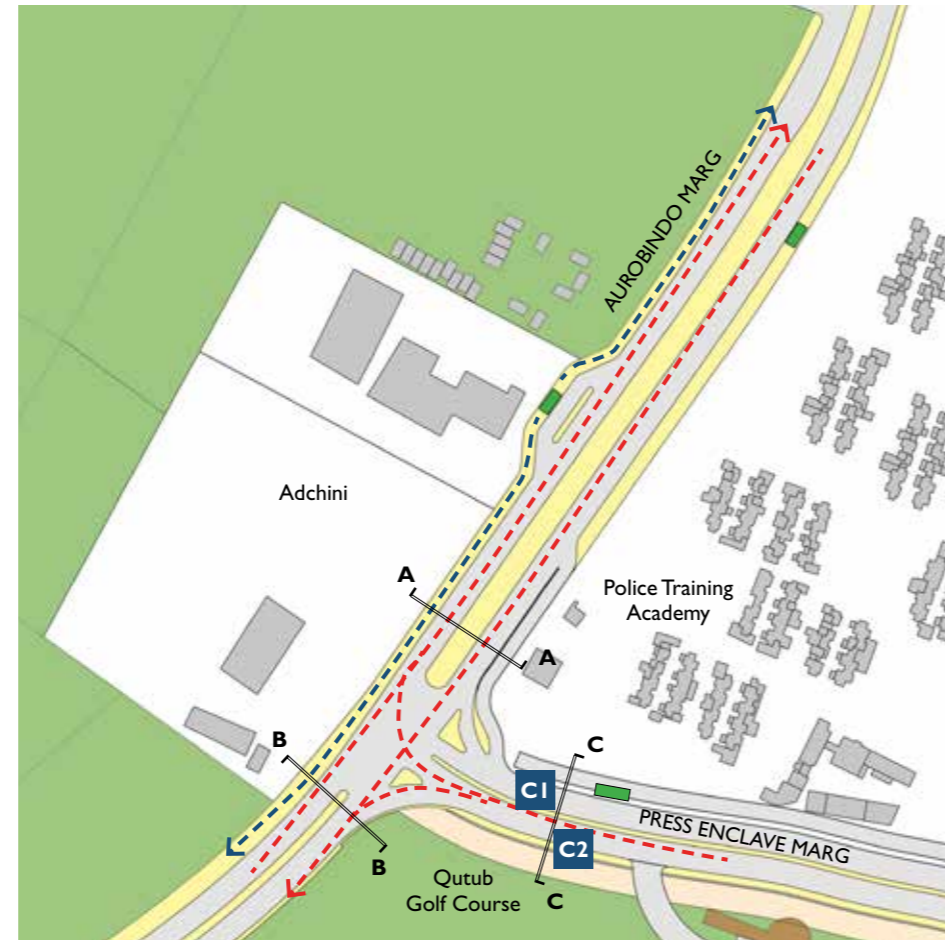
- The section CC depicts an area that caters to a relatively low-density population, surrounded by Qutub Golf Course in the south and the Police Training Academy & Geetanjali Enclave in the north.
- There is no encroachment in this stretch. Except for some taxis parked in the green belt in front of Qutub Golf course, rest of the stretch boasts continuous medians, a 3 lanes carriageway footpaths on each side and adequately wide service lane in the north.
- After Press Enclave Marg junction, Aurobindo Marg slopes up slightly, till Lado Sarai.



View of Police Academy from the median on Press Enclave Marg (towards Aurobindo Marg)



View of the Qutub Golf Course from the median on Press Enclave Marg (towards Pushp Vihar)

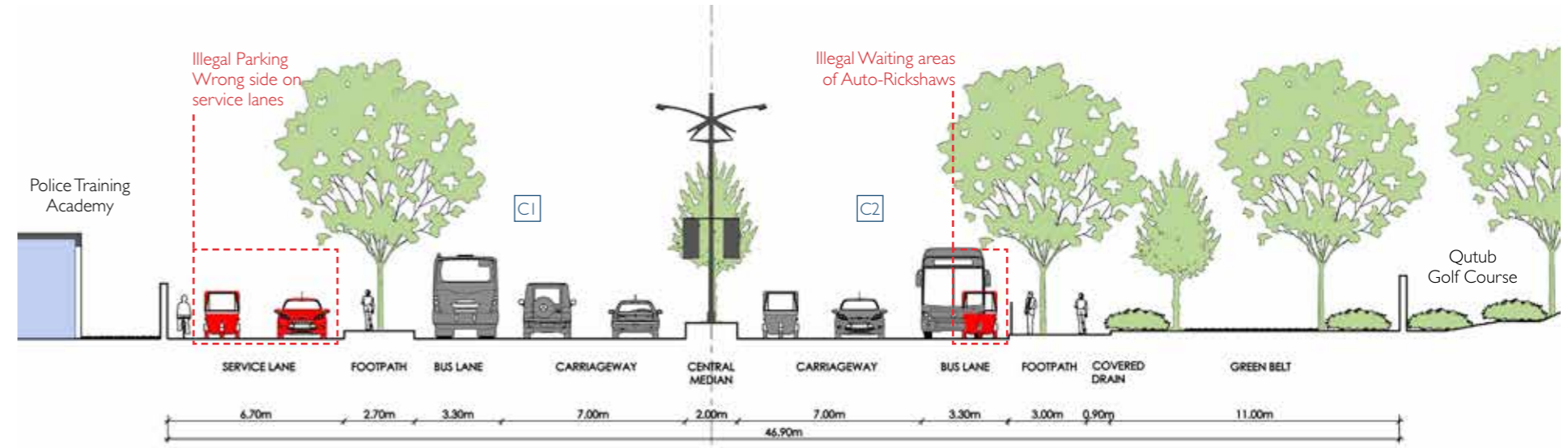


DETAILED PLAN

--- Pedestrian Route - - - Vehicular Route [Green Box] Bus Stop



KEY PLAN



Section CC

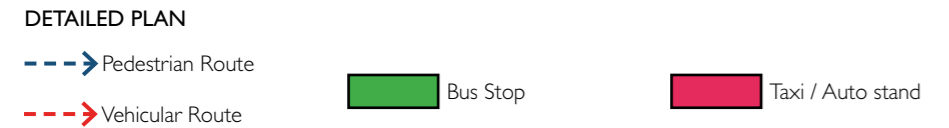
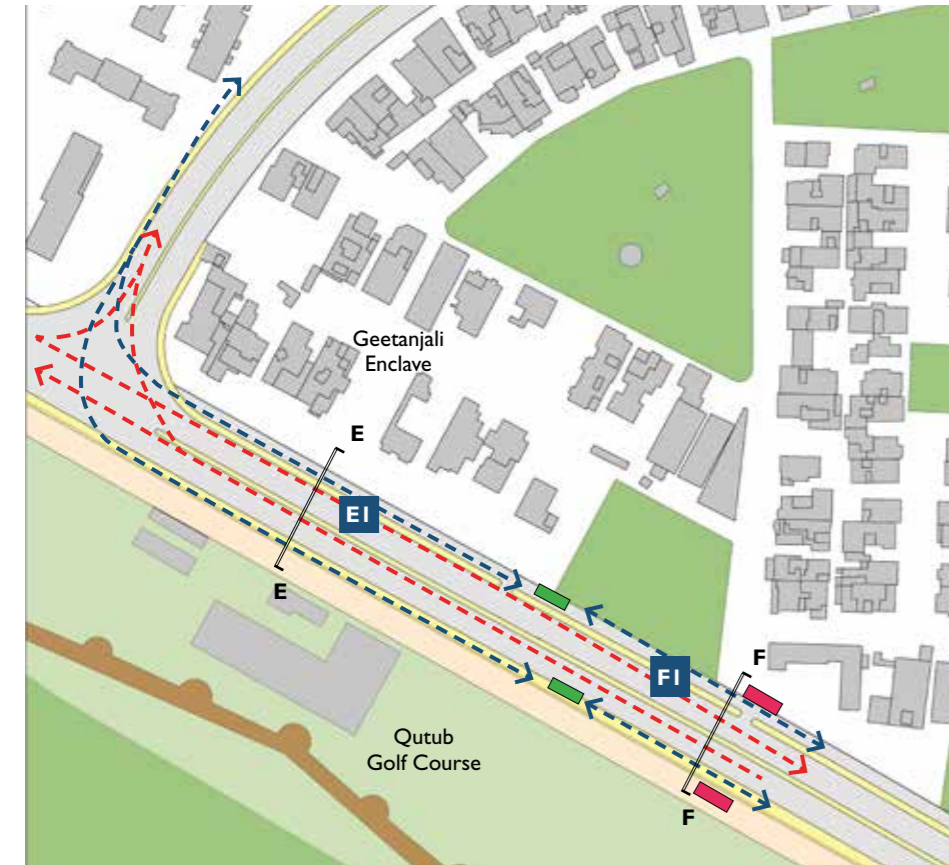


View of the Police Academy from the median on Press Enclave Marg (towards Pushp Vihar)



Press Enclave Marg leading to Aurobindo Marg (towards Aurobindo Marg)

3.5.2 Stretch 02



KEY PLAN

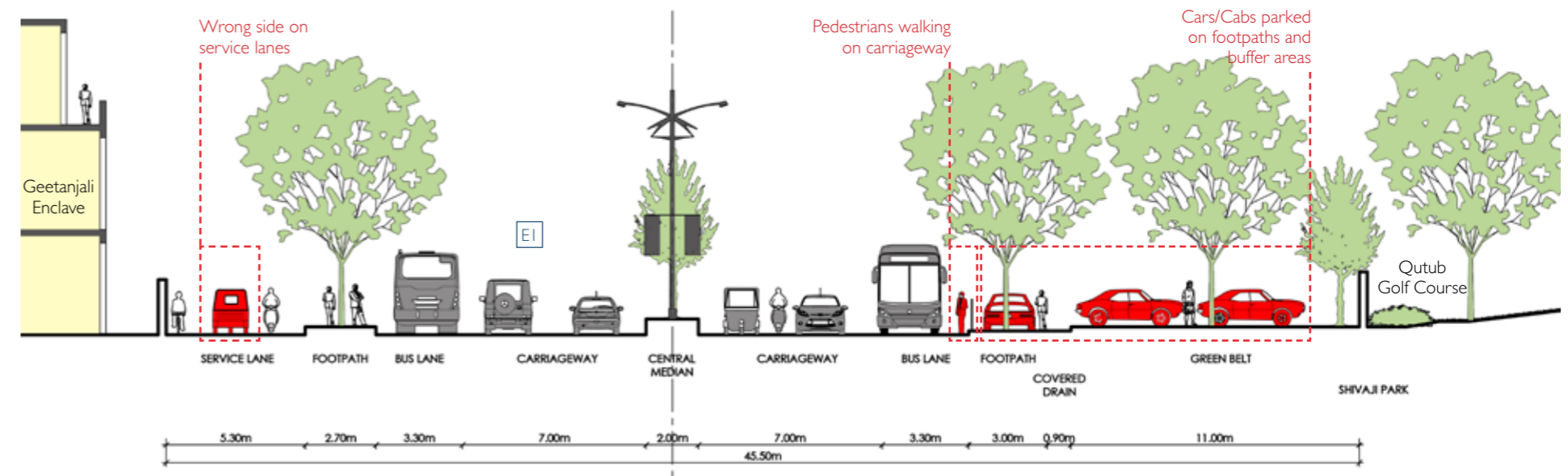


Beside Geetanjali Enclave

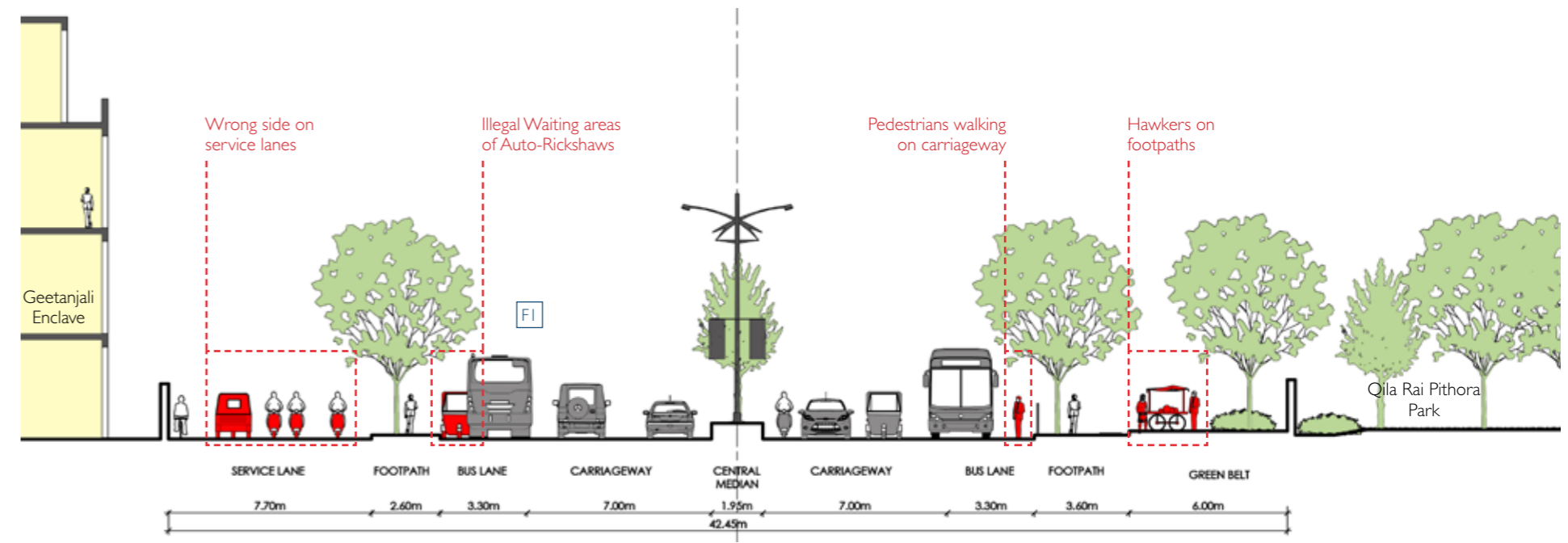
- The sections depict an area that cater to a relatively low-density population.
- It is surrounded by Qutub Golf Course in the south and Geetanjali Enclave in the north.
- There is no encroachment in this stretch. The stretch boasts continuous medians, 3 lanes on each side, wide footpaths on each side and a wide service lane on the northern side.
- Sections FF - GG, define the transition from a low-density population to a high-density population area.
- The footpath on the southern side narrows down to 2.00M at section FF due to the fort wall.



Road curving towards Malviya Nagar Metro station

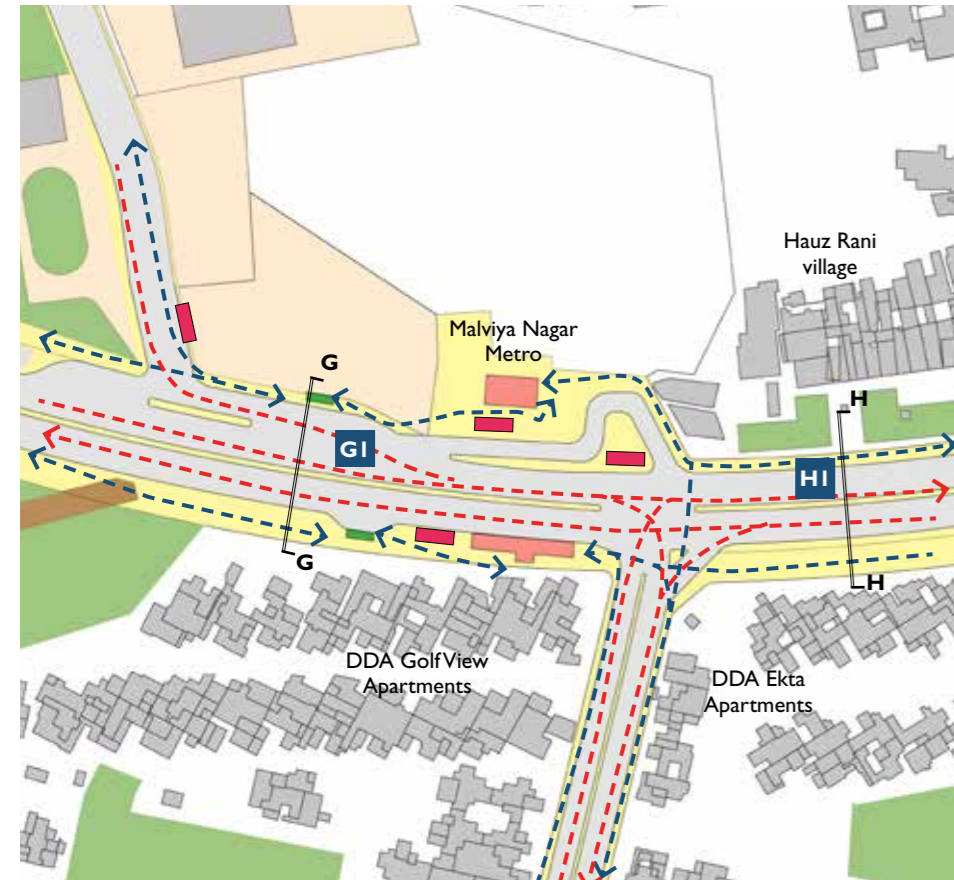


Section EE



Section FF

3.5.3 Stretch 03



KEY PLAN

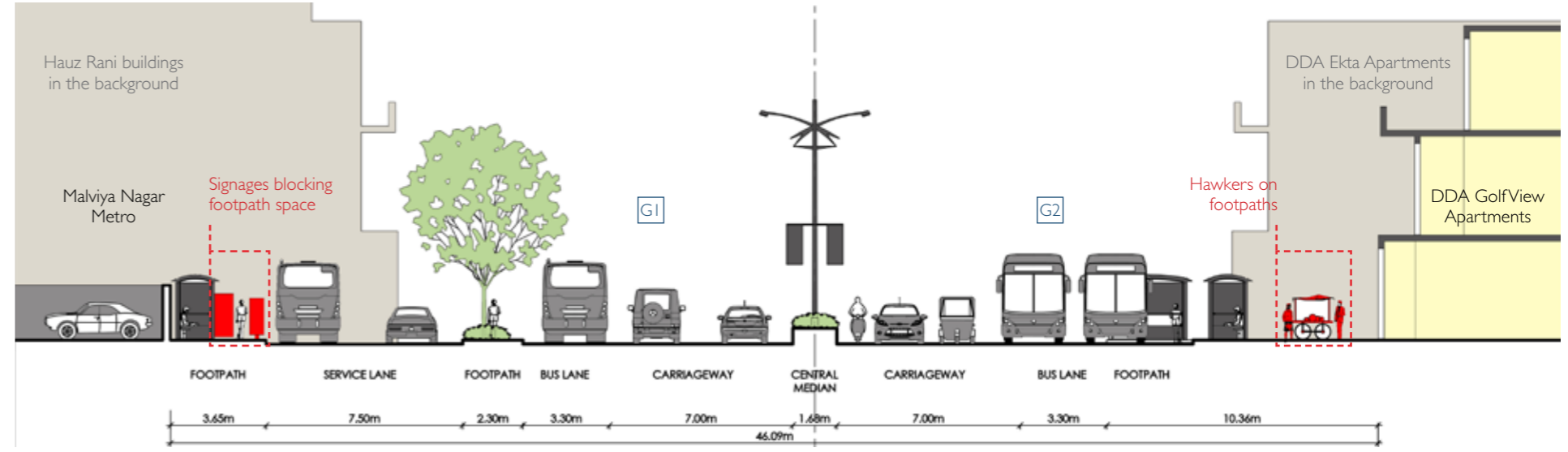


GI Slip lane entry for auto-rickshaws at Malviya Nagar Metro station

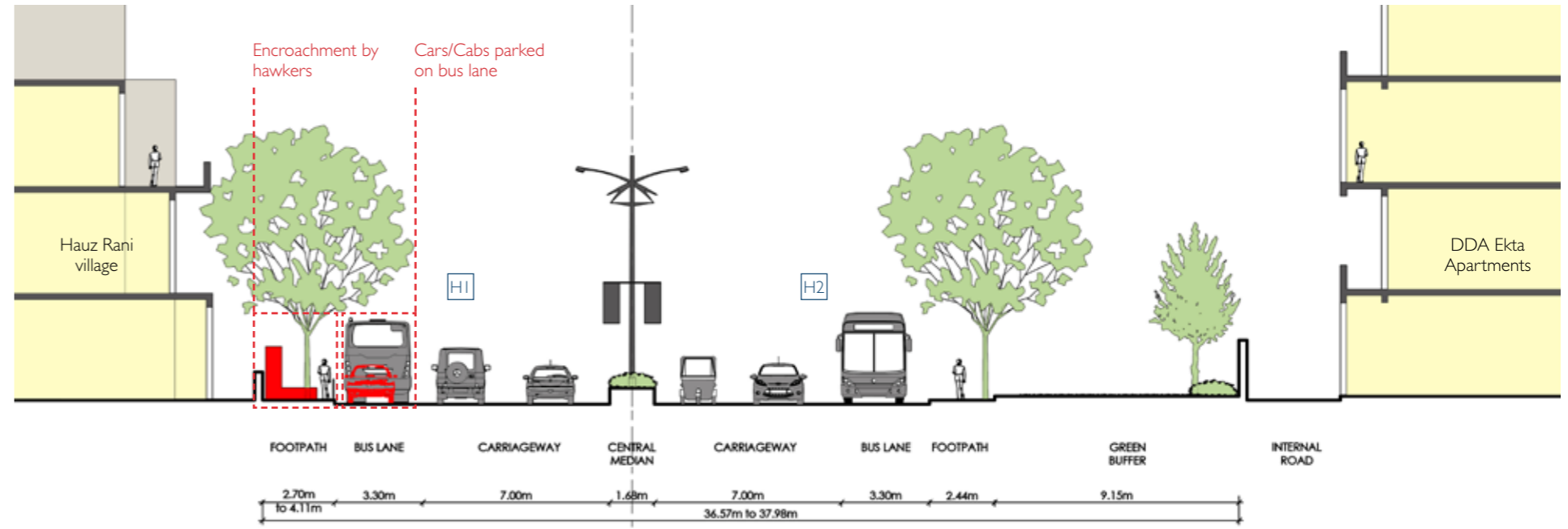
- From Aurobindo Marg to Section GG of Press Enclave Marg, the ROW remains constant at 45M. Section GG onwards the unauthorized colony of Hauz Rani starts affecting the ROW of Press Enclave Marg.
- Malviya Nagar metro station attracts heavy footfall which has led to a number of auto-rickshaw stands and pause-points in the area. It has also created pause-points for taxi services like Uber and Ola.
- This is the only stretch where all modes of transport come together at a junction.
- There is encroachment on both sides of the carriageway. Hawkers and vendors have encroached over the footpaths on Hauz Rani side & vehicles have encroached over the lane (bus lane) in front of Press Enclave Vihar.



HI The beginning of Hauz Rani village just after Malviya Nagar Metro



Section GG



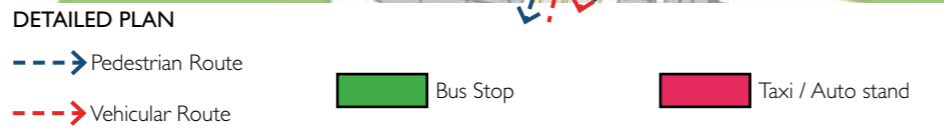
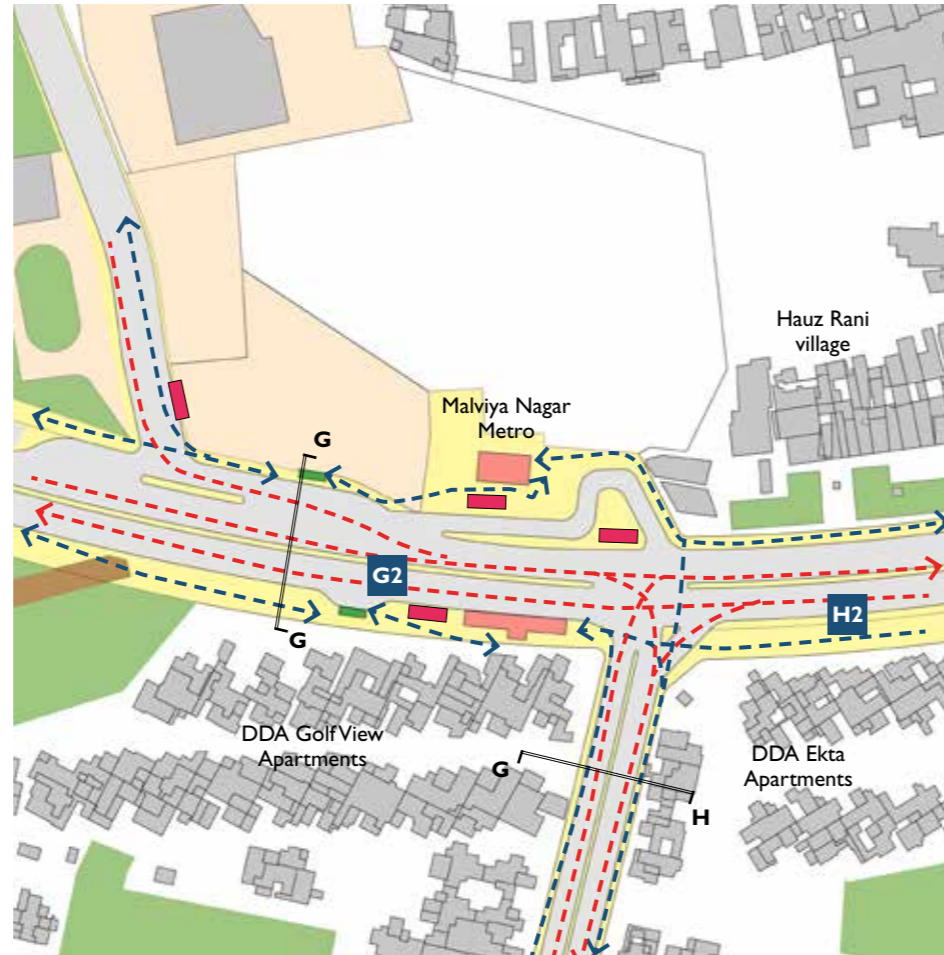
Section HH



G2
Auto-rickshaws waiting near Malviya Nagar metro exit



H2
Buses lined up at the narrow junction near Malviya Nagar Metro station.



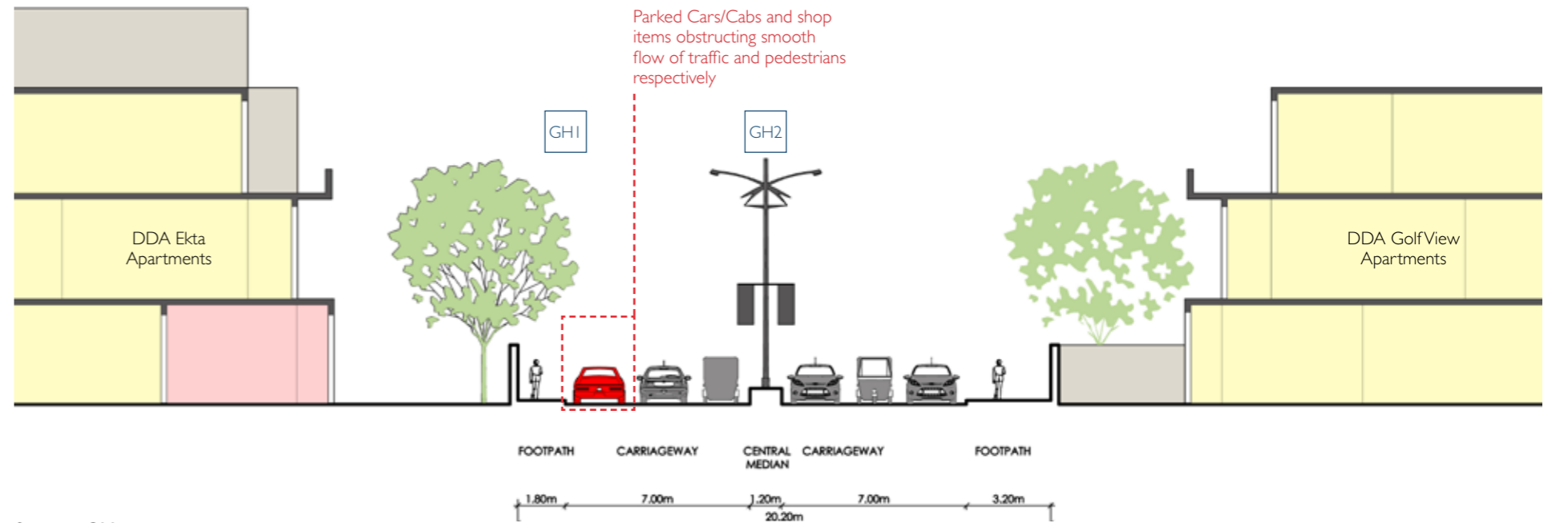
KEY PLAN



GHI
Sidewalks at Pramod Mahajan Marg (towards PVR Anupam)

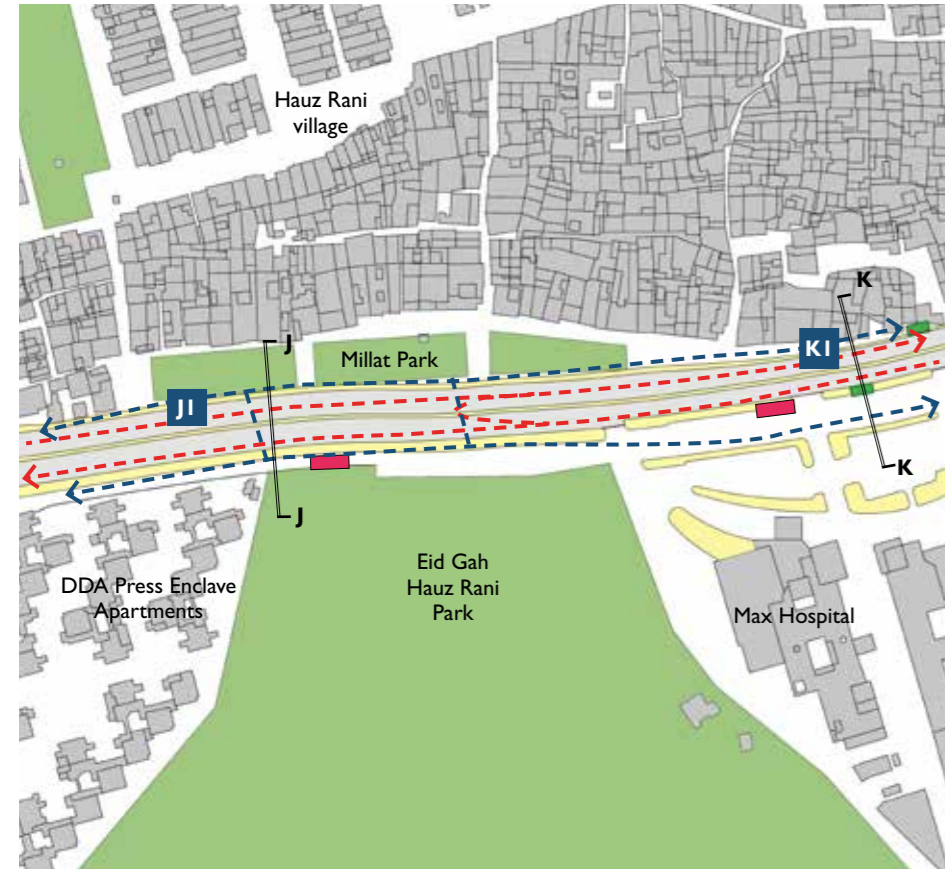


GH2
Median at Pramod Mahajan Marg (towards PVR Anupam)



Section GH

3.5.4 Stretch 04

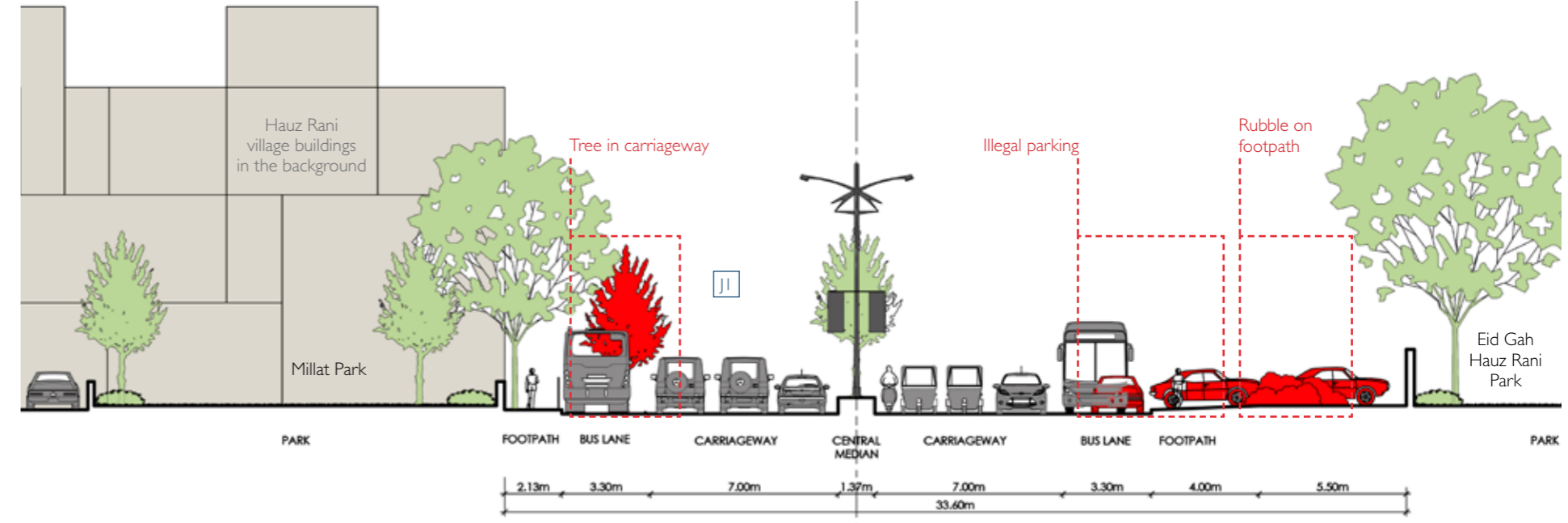


J I
 The stretch between parks, one on the Hauz Rani side and the other (DDA park) on the Saket side

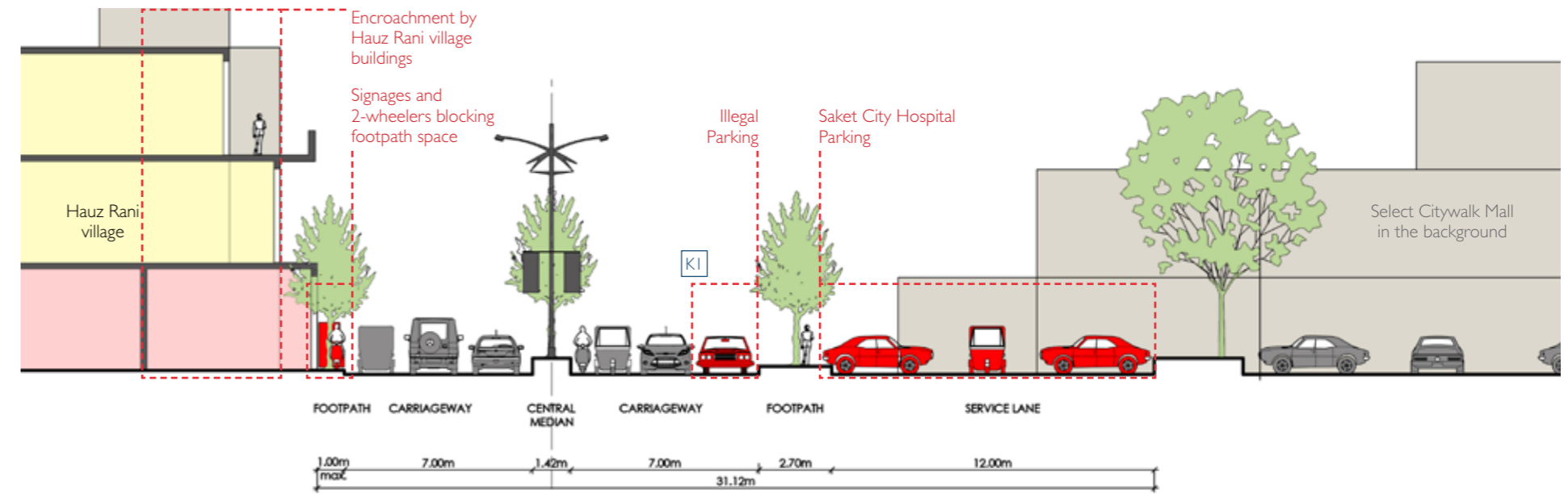
- The sections itself highlight how the unauthorized colony of Hauz Rani affects the ROW of Press Enclave Marg.
- The high density population of Hauz Rani, Malviya Nagar, the commercial popularity of Anupam complex and Saket & the presence of two well-known hospitals add to the pressure on the road.
- There is encroachment on both sides of the carriageway.
- The potential of the park adjacent to Press Enclave Vihar is not fully utilized.
- All 4 sections (HH to LL) can be categorized into one category because of their distinct urban fabric.



K I
 Dense habitation opposite Max Hospital and Saket City Hospital

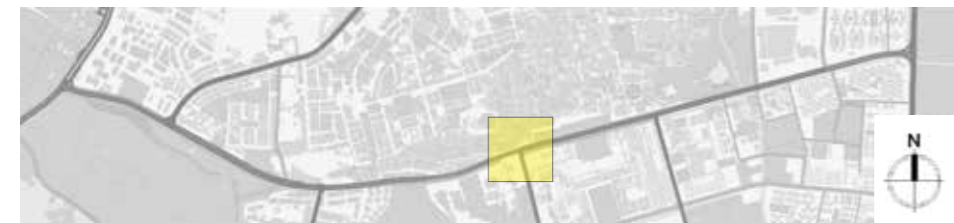
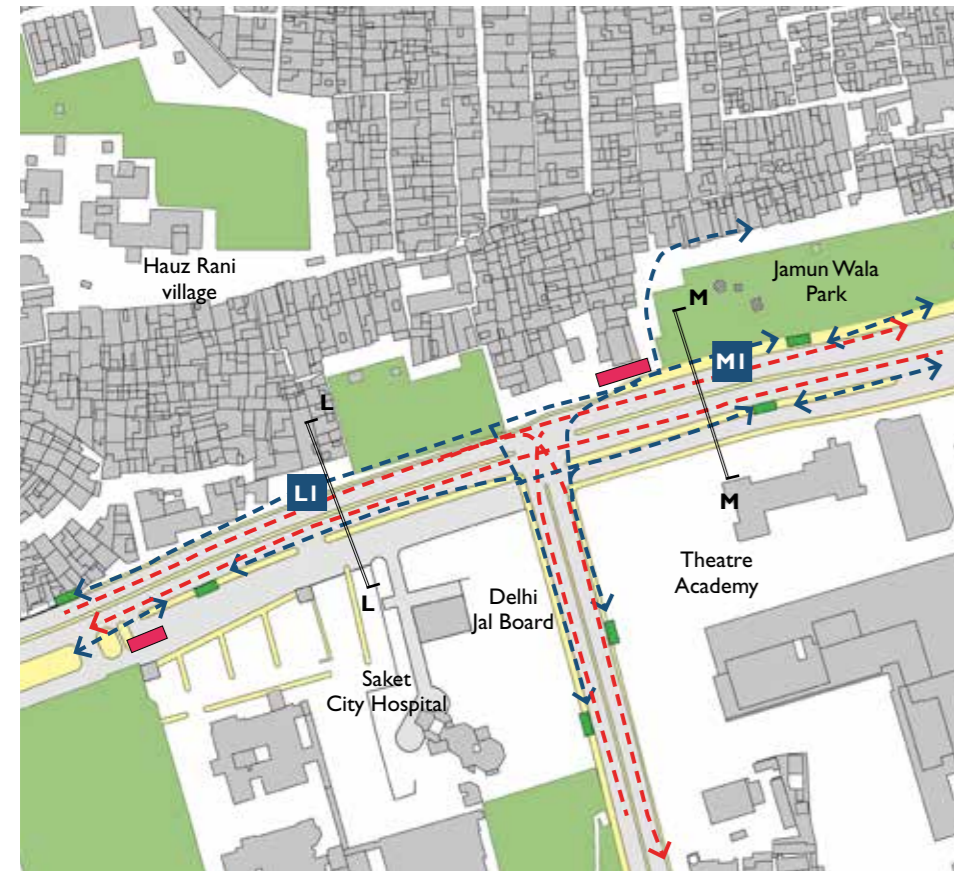


Section J I



Section K K

3.5.5 Stretch 05

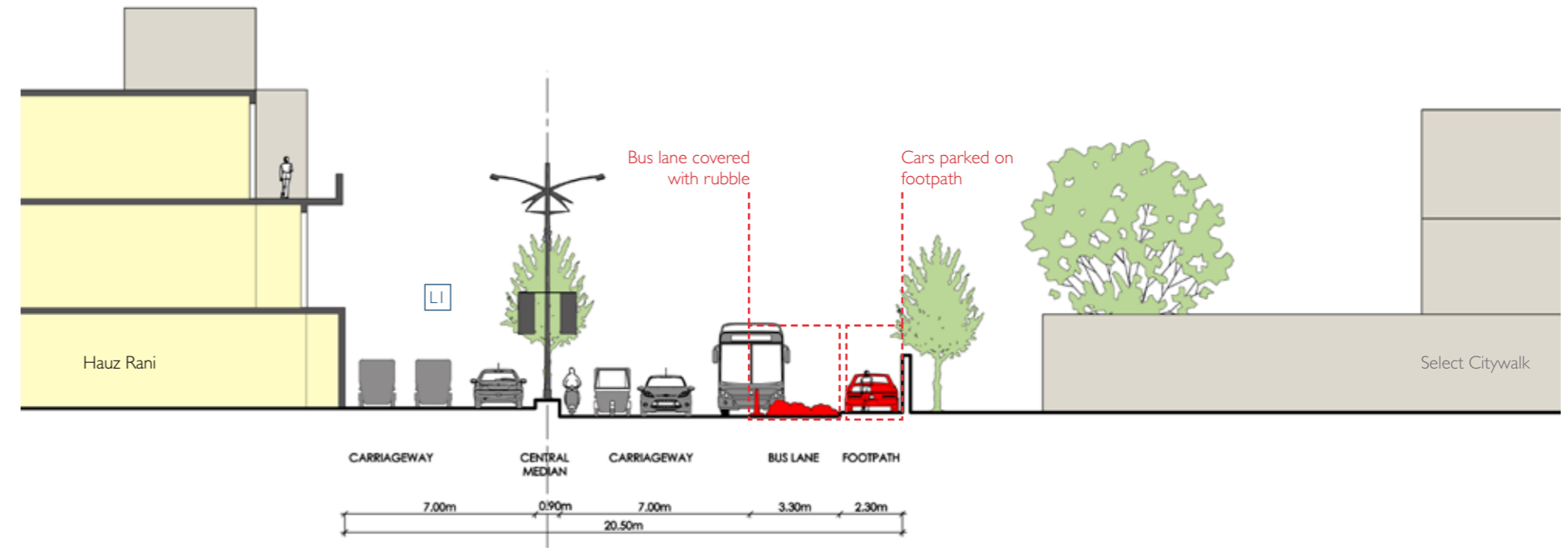


Road narrows down to 2 lanes on one side due to encroachment by the unauthorized construction

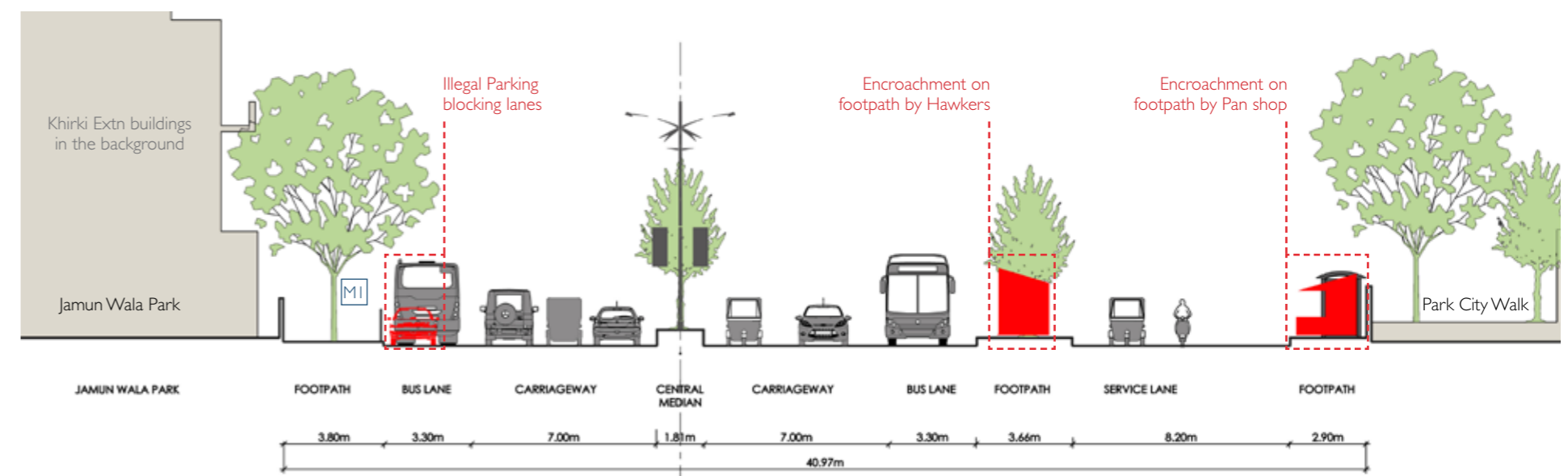
- For the 2 sections (KK & LL), the ROW reduces down to 21.00M, from 34.00M of the previous 2 sections. This is mainly due to the number of lanes going down from 3 to 2 on each side.
- There is encroachment on both sides of the street.
- The carriageway levels are different in some parts of the street.
- The service lane on the Select CityWalk side (refer stretch 06 detailed plan) is under-utilized and mostly closed for public vehicular passage. Such areas could be used to their full potential.



Low density stretch between Saket District Centre and Khirki village

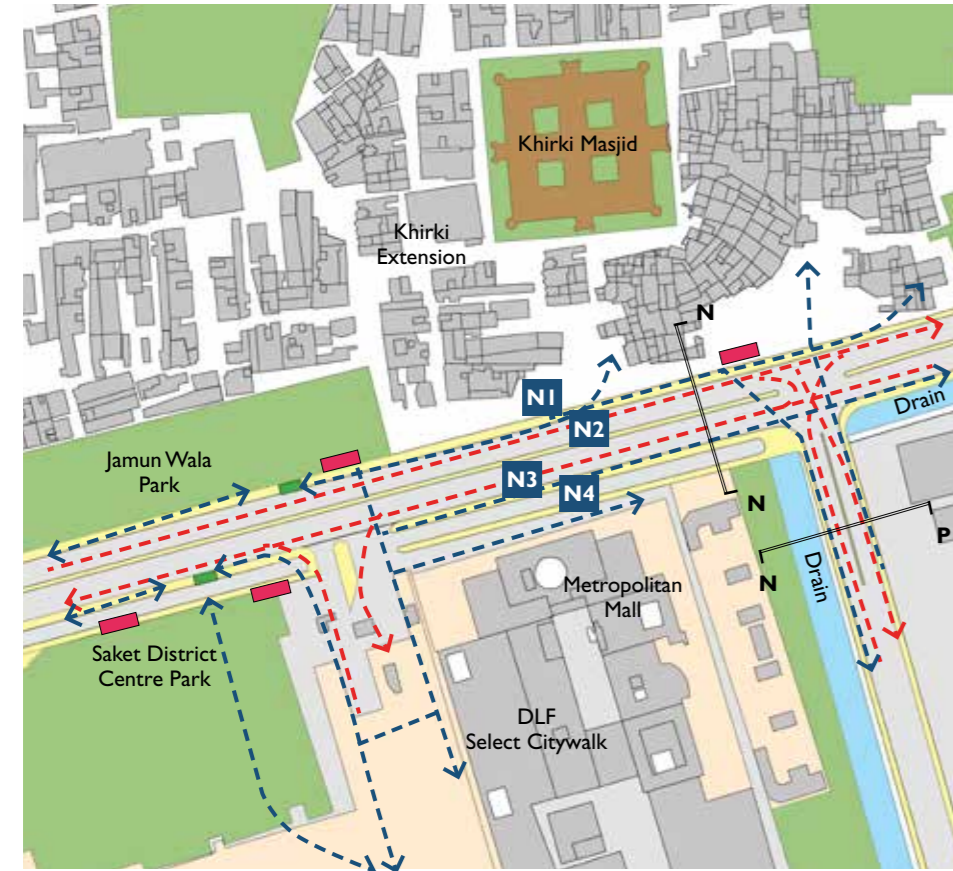


Section LL



Section MM

3.5.6 Stretch 06



DETAILED PLAN



KEY PLAN



Disorganized spaces in Khirki Extn.



Illegal parking adjacent to Khirki Extn.

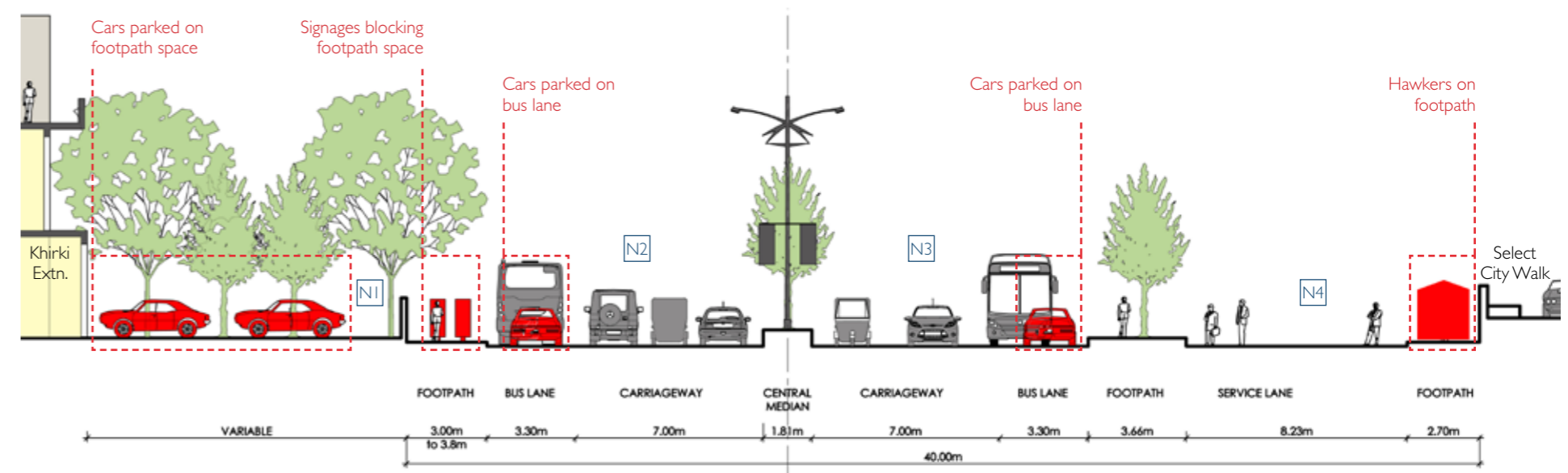
- Press Enclave Road widens to the stipulated ROW of 45M from section MM onward. Section NN onwards, the ROW 45M is maintained. Most of this is due to the protected heritage site of Satpula in the north side and the green areas adjacent to Satpula and Satpula drain.
- This stretch between section MM and NN is particularly interesting in nature as its urban fabric comprises of the famous Saket District Centre (DLF Place, Select Citywalk, Metropolitan Mall, Southern Park, The South Court) on one side and the densely populated Khirki Extension on the other.
- Despite these conflicting urban dynamics, this stretch of Press Enclave Marg maintains an ROW of 40.00M.
- Another additional feature in these sections is the drain that runs along the road till Lal Bahadur Shastri Marg.
- With a heritage site on one side and a residential site on the other, the characteristics of the stretches beyond this point are almost similar to the first set of stretches prior to Malviya Nagar Metro and Hauz Rani village. Unlike the first part of Press Enclave Marg, this part witnesses some encroachment by Juggi Jhopri clusters, especially in front of the Satpula Lake Park.



Cabs waiting near Select Citywalk



Unused Service Lane next to Select Citywalk



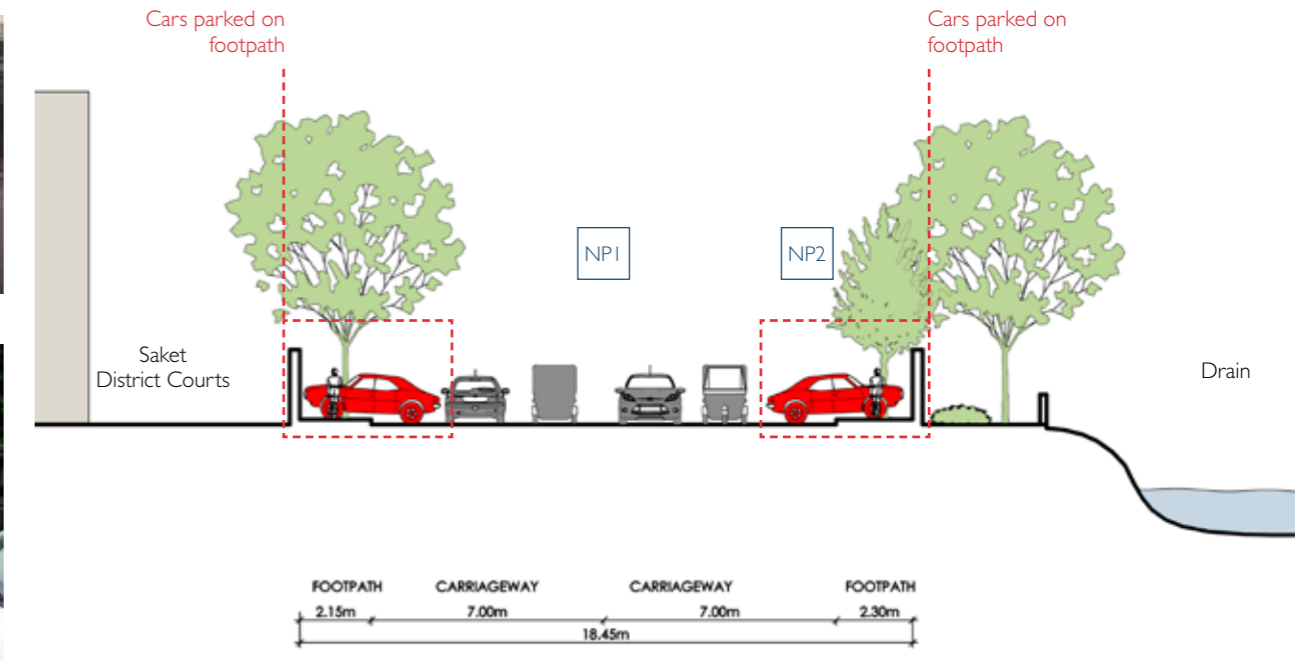
Section NN



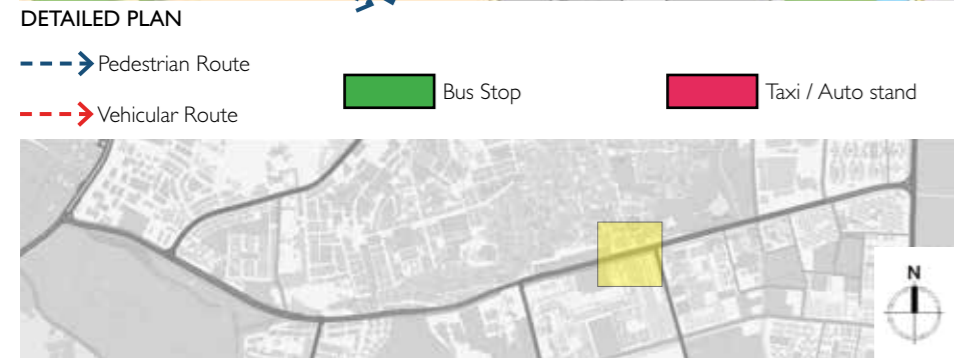
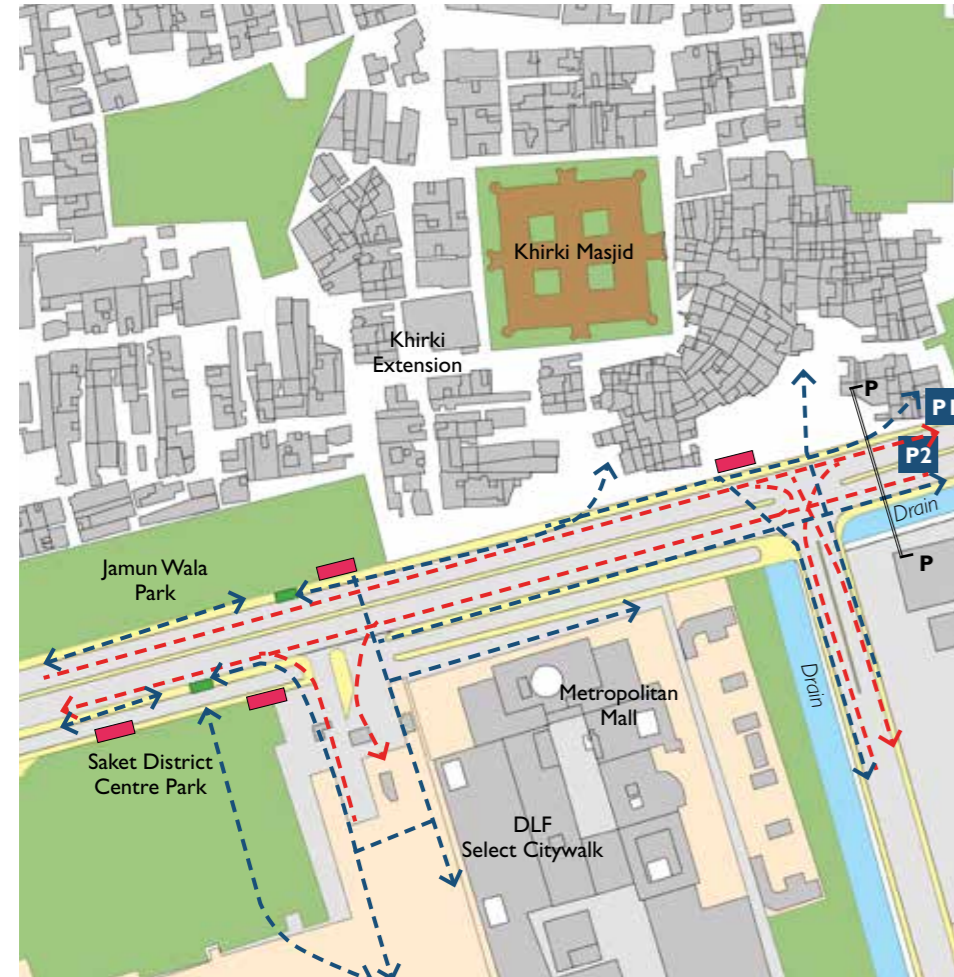
View of Shaheed Pankaj Juyal Marg from Khirki Extn.



Cars parked on footpath near Saket District courts



Section NP



Juggi Jhopri Clusters near Satpula Lake Park Entry.



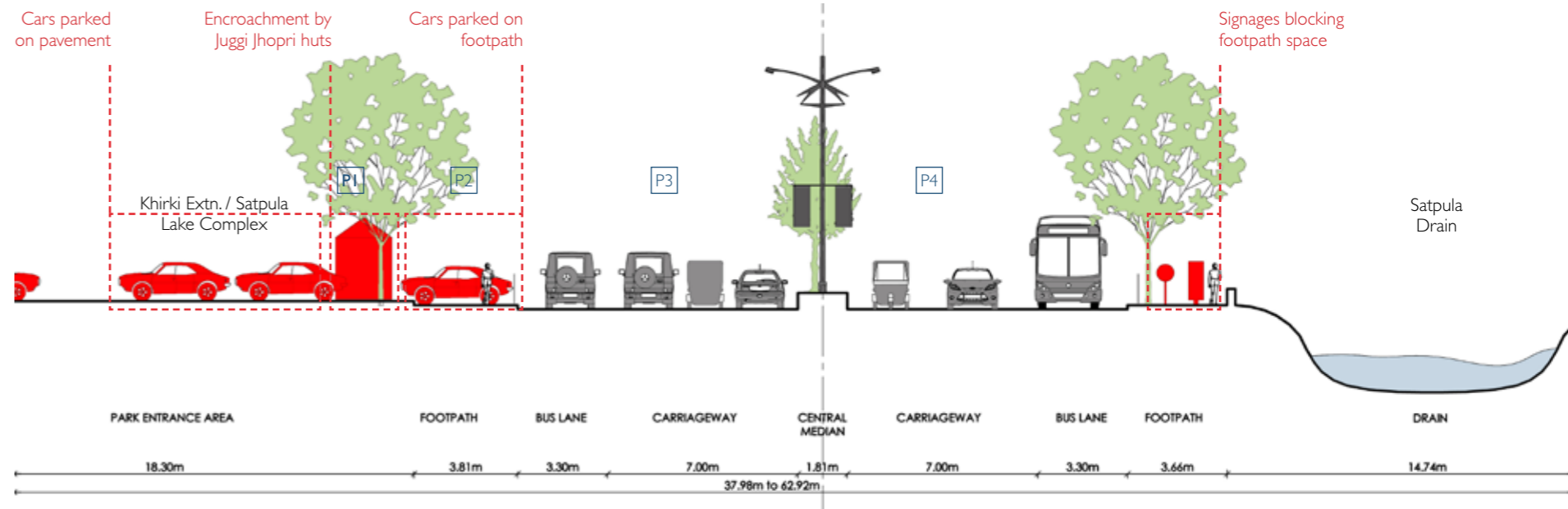
Wider sidewalks adjacent Satpula Lake Park.



Juggis along the boundary of Satpula Lake Park.

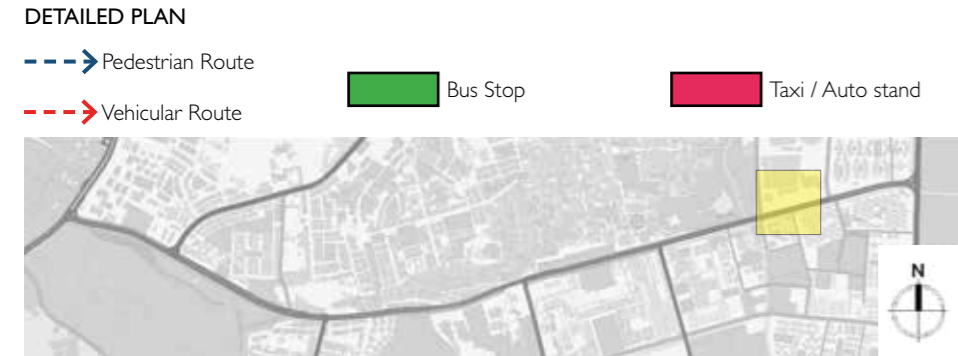
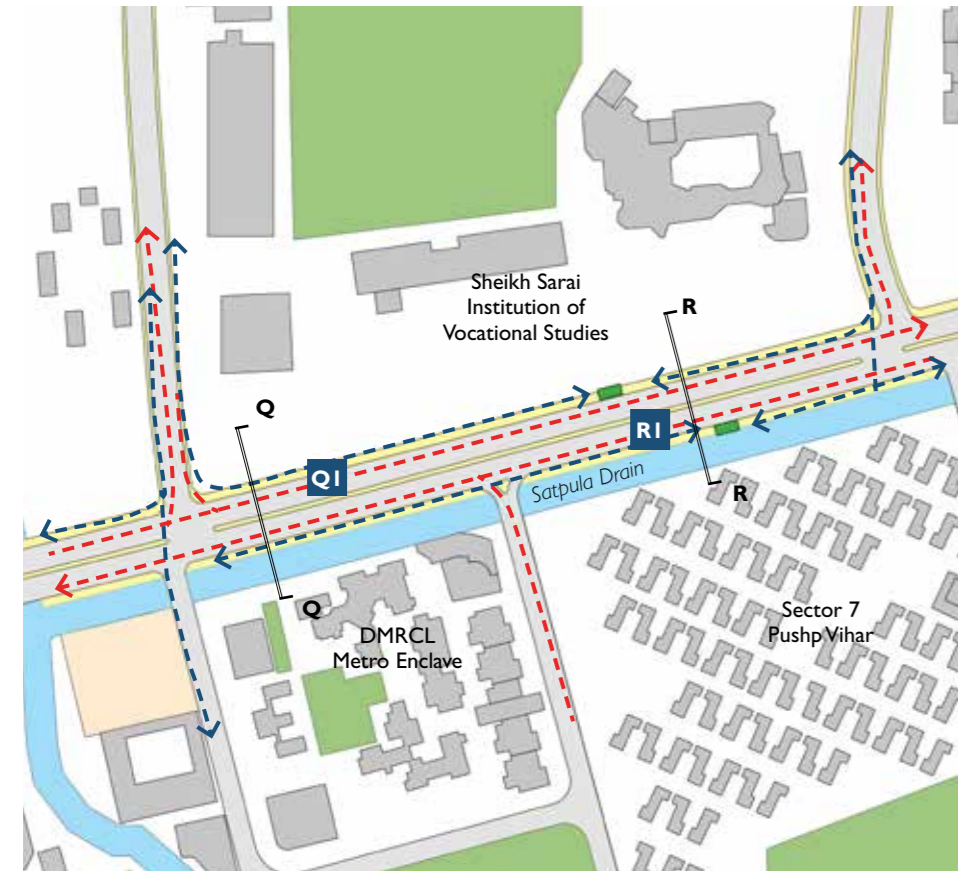


Satpula Drain along the carriageway of Press Enclave Marg (opposite Satpula Lake Park)



Section PP

3.5.7 Stretch 07



KEY PLAN

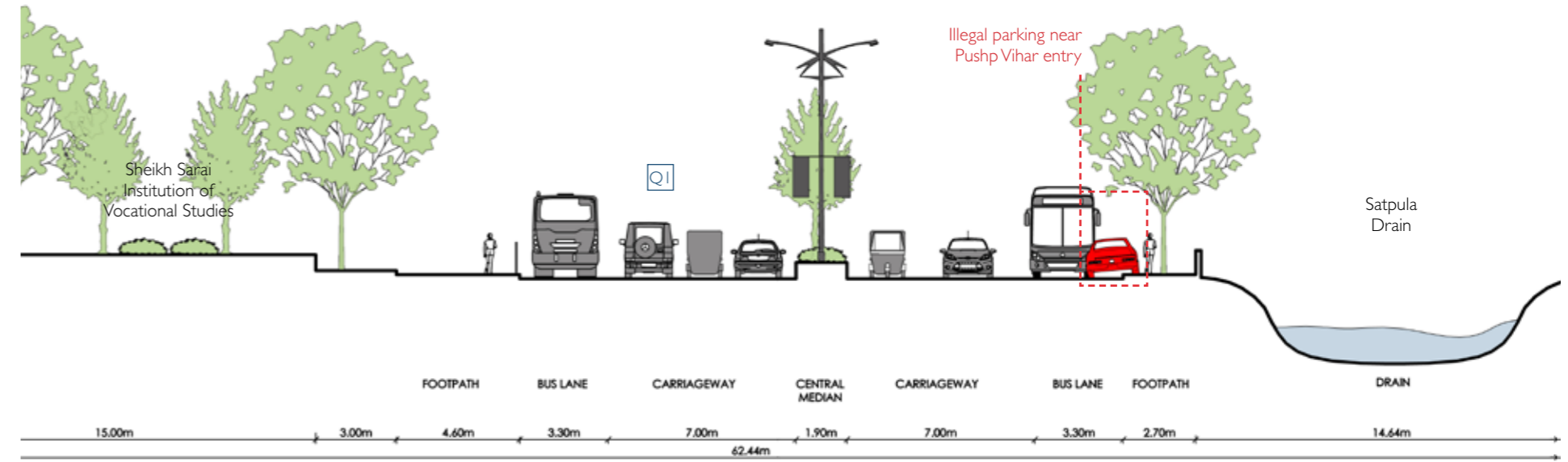


Dense foliage on both sides of the road.

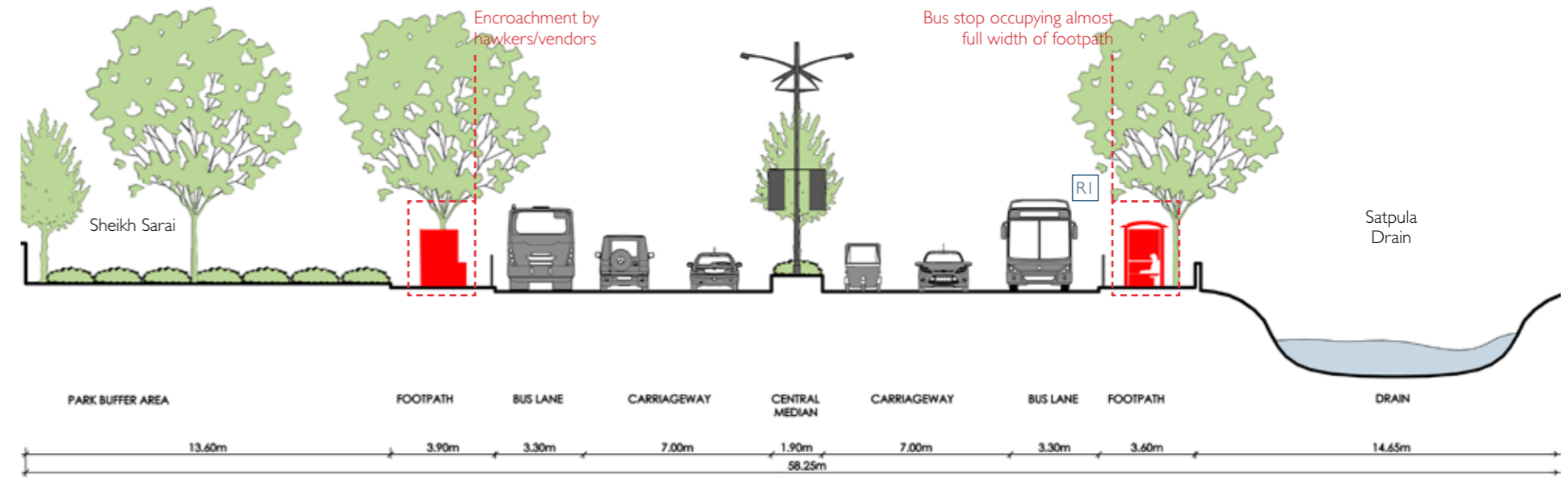
- Sections RR and SS maintain an ROW of 40.00 - 45.00M.
- Illegal parking and encroachment is relatively low throughout this stretch.
- The green buffer on the Sheikh Sarai side and the drain on the Pushp Vihar side are under utilized and, thus, could be considered for elevated walkways.
- Trees and shrubs along the road are not pruned and maintained properly. Proper maintenance would add to the aesthetic appeal of the whole stretch.
- Like the first part of Press Enclave Marg, this part is also well-shaded during the day and requires better lighting facility at night for safety & security reasons.



Bus stop covering almost the whole of Footpath width.

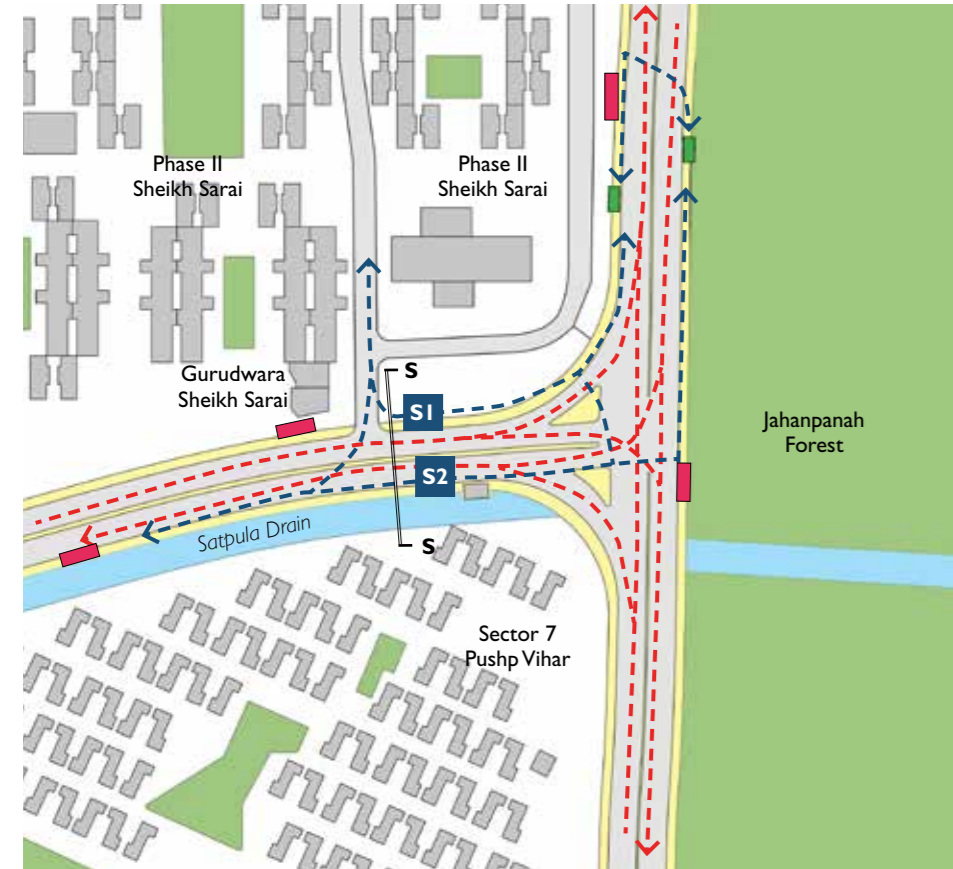


Section QQ



Section RR

3.5.8 Stretch 08



KEY PLAN

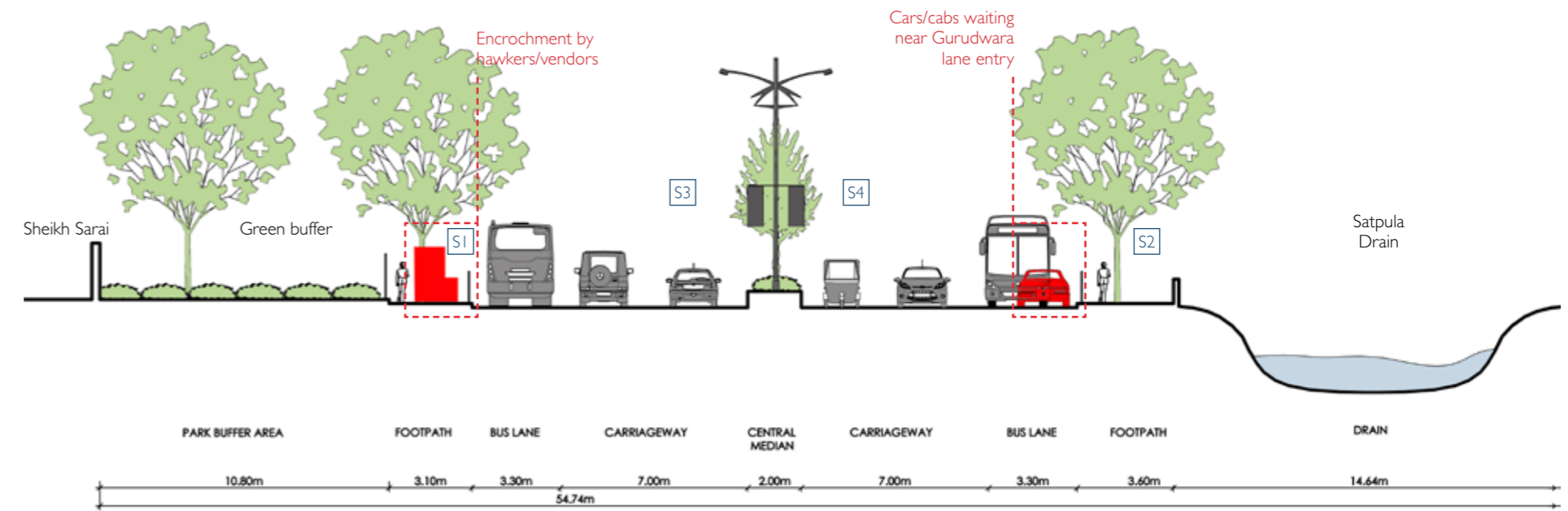


S1 Hawkers and vendors near Gurudwara entry lane.

- Section SS maintains an ROW of 40.00 - 45.00M.
- Illegal parking and encroachment is relatively low throughout this stretch, except for the small stretch in front of the road leading to the gurudwara. (As shown in S1)
- On the other side, the drain runs straight through Lal Bahadur Shastri Marg into Jahanpanah Forest.
- At the junction of the 2 main roads, a public convenience structure is present which obstructs the flow of pedestrians.



S2 Footpath spaces compromised either for bus stops, utility structures, landscaping, etc.



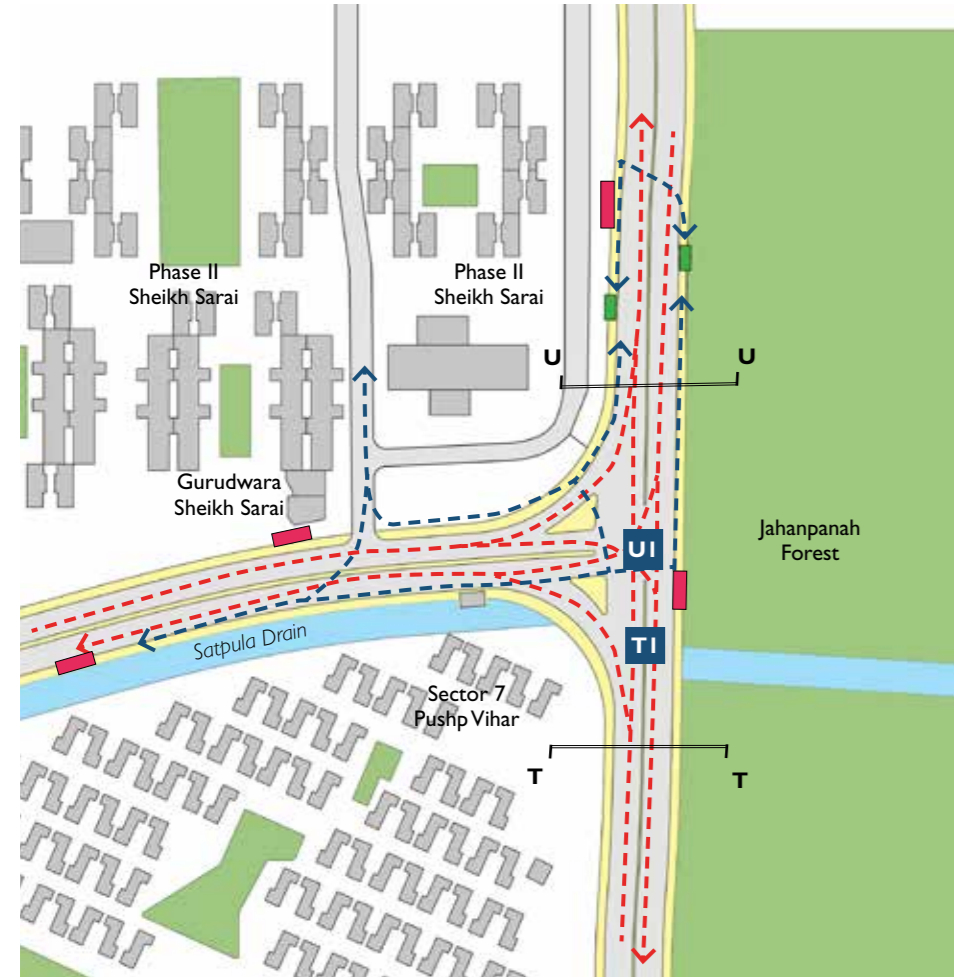
Section SS



S3 Press Enclave Road merging to Lal Bahadur Shastri Road



S4 Light poles at the median covered with disorganized ad panels.



KEY PLAN

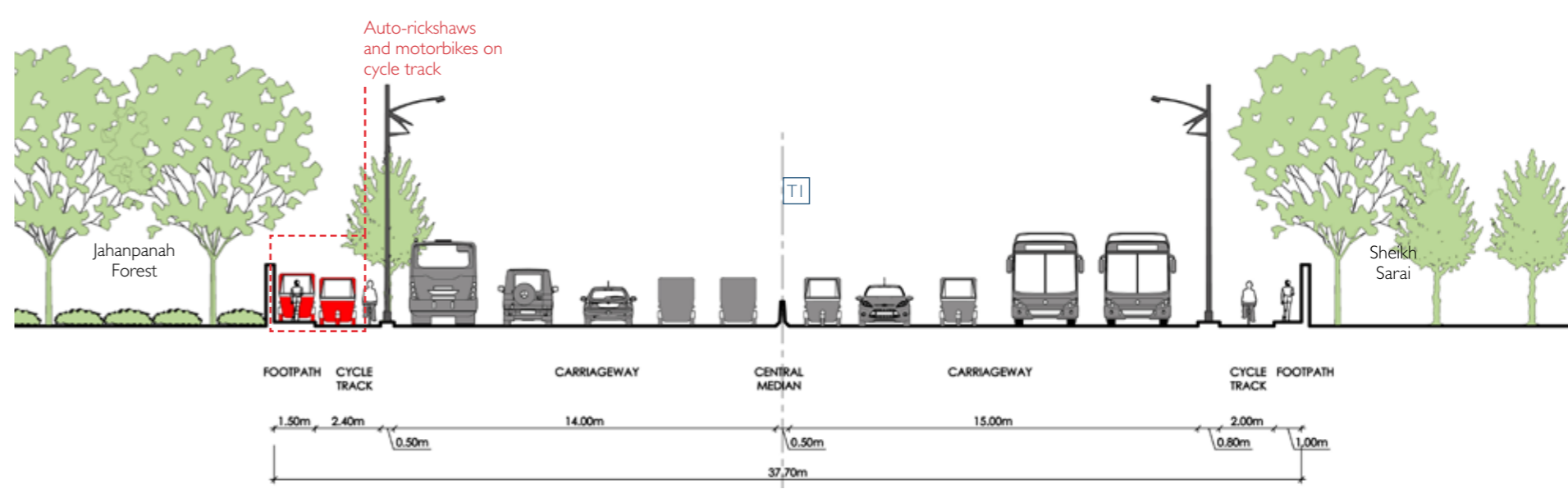


TI Lal Bahadur Shastri Marg looking towards Mehrauli-Badarpur Road

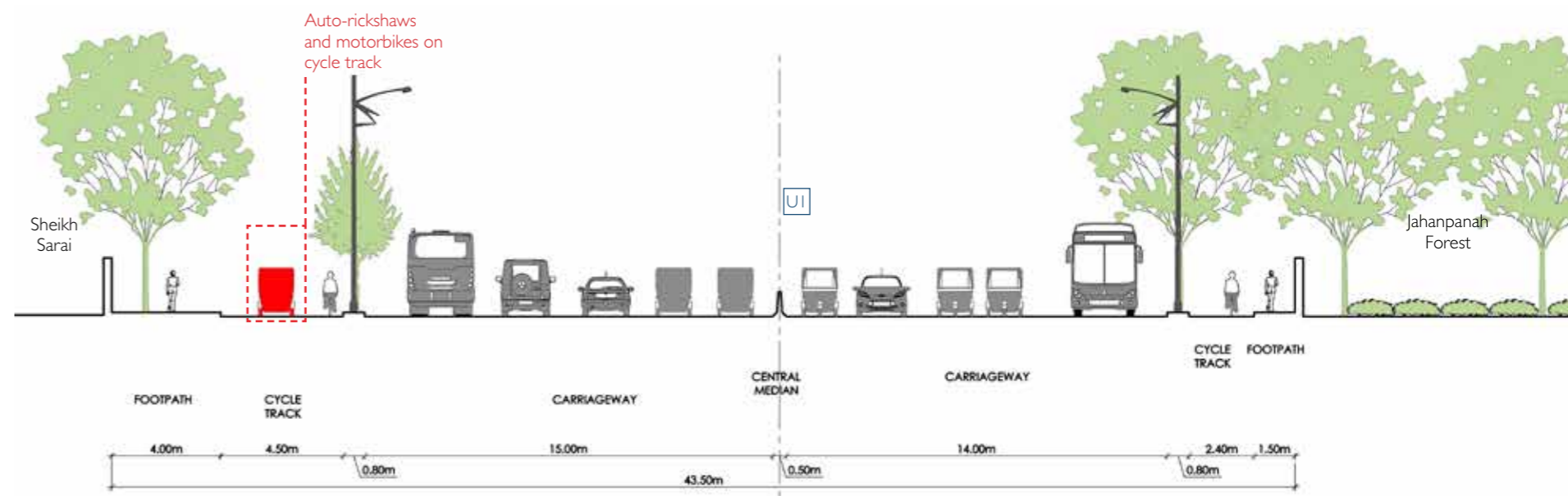
- Lal Bahadur Shastri Marg is an arterial road and is planned to be widened upto 60M ROW, according to the Master Plan and Zonal Plan.
- Presently, it ranges between 40M - 45M with a 0.5M wide median.
- Lal Bahadur Shastri Marg is a significant road as it connects major forests of Delhi, dense residential areas like Khanpur, Madangir, Greater Kailash and was also chosen as the road for BRT system trials.
- The road has existing cycle tracks, there is also a proposal for a Elevated Walkway on this road as well.



UI Lal Bahadur Shastri Marg looking towards Ring Road



Section TT



Section UU

3.6 Inferences

3.6.1 MPD-2021 ROWs

According to MPD 2021:

- Press Enclave Marg is termed as a Primary Collector road.
- The recommended ROW in existing urban area is 30 – 40 M. Minimum 45M is recommended for proposed urban extension.
- According to the Zonal Development Plan the prescribed ROW of Press Enclave Marg is 45M.
- In addition to this, a separate cycle track should be provided wherever possible.

Although, the ROW should be 45M, encroachment has reduced it to 18 – 20 M. At some places there's only one usable lane.



Representation of ideal ROW 45M for Press Enclave Marg

3.6.2 Issues of Walkability on Site

- Discontinuous pathways and absence of shaded paths along the road obstructs pedestrian movement.
- Roads not designed for designated surface parking. This results in unorganized traffic movement and unnecessary obstruction in moving traffic.
- Absence of amenities and facilities for pedestrians.

3.6.3 Potential Interventions

- Creating a pedestrian edge for Press Enclave Marg.
- Creating a pedestrian zone in front of the institutional/commercial areas.
- Developing Elevated Walkways along Press Enclave Marg catering to major footfall areas/zones.
- Improving connectivity of parking in DLF Select Citywalk with pedestrian connectivity around.
- Creating a pedestrian edge for Regional Parks and Forests.
- Introducing organized surface parking and shaded walkways (Elevated) wherever possible.
- Facilitating pedestrian amenities and identifying nodes to place those amenities.



04 DESIGN SCHEME

4.1 Proposed Elevated Walkway Scheme

4.1.1 Proposed Site Plan



Part 01: Elevated Walkway at the Median (Above tree line)



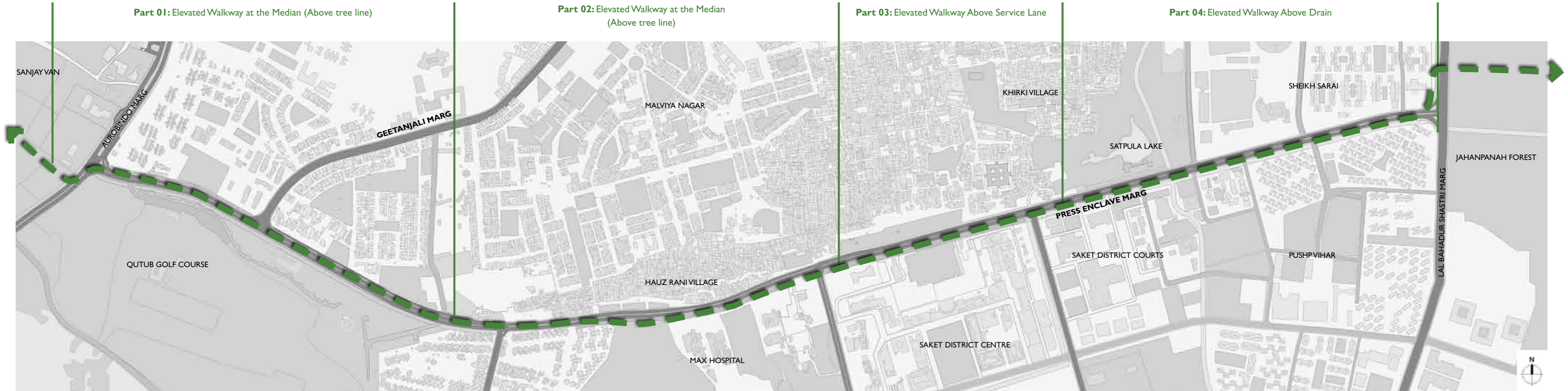
Part 02: Elevated Walkway at the Median (Above tree line)



Part 03: Elevated Walkway Above Service Lane



Part 04: Elevated Walkway Above Drain



4.1.2 Entry / Exit points: Influence Zone

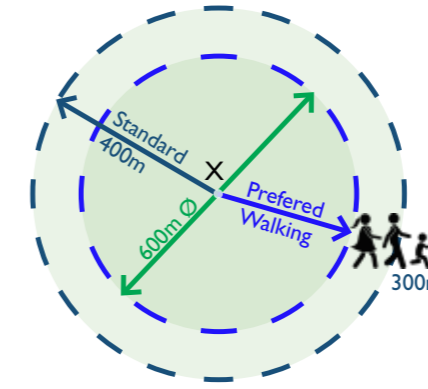
Entry/Exit Points of the 'Elevated Walkway' system have been provided considering the following parameters:

- Daily Footfall in the area.
- Vehicle-Pedestrian conflict points identified in previous chapter.
- Scope for Integration with other modes of transport.
- Major Social and Commercial Centres.

The 'Influence Zone' can be defined as a fixed area around an entry/exit point of the elevated walkway system and the people in that area it caters to. In the case of Press Enclave Marg, the proposed system will cater to the following areas:

Lado Sarai, Police Academy, Geetanjali Enclave, Shivalik Vihar, Malviya Nagar (till the market), Malviya Nagar metro, Qutub Golf Course, Qila Rai Pithora Park, Saket (till Anupam complex), Max Hospital, Saket City Hospital, Hauz Rani, parts of Khirki village, Saket District Centre, Saket District Courts, Satpula Monument, Khirki Mosque, Pushp Vihar (Sector 7), Sheikh Sarai (Ph-II), College of Vocational Studies, Pushpawati Eye Hospital.

As far as walkable distance is concerned, the most commonly cited standard is 400m. However, people walk further to faster services. Hence, the distance between each Entry/Exit point is 300 - 400m.



LEGEND

- ELEVATED WALKWAY
- JUNCTION
- PAUSE-POINT
- JUNCTION RANGE
- PAUSE-POINT RANGE



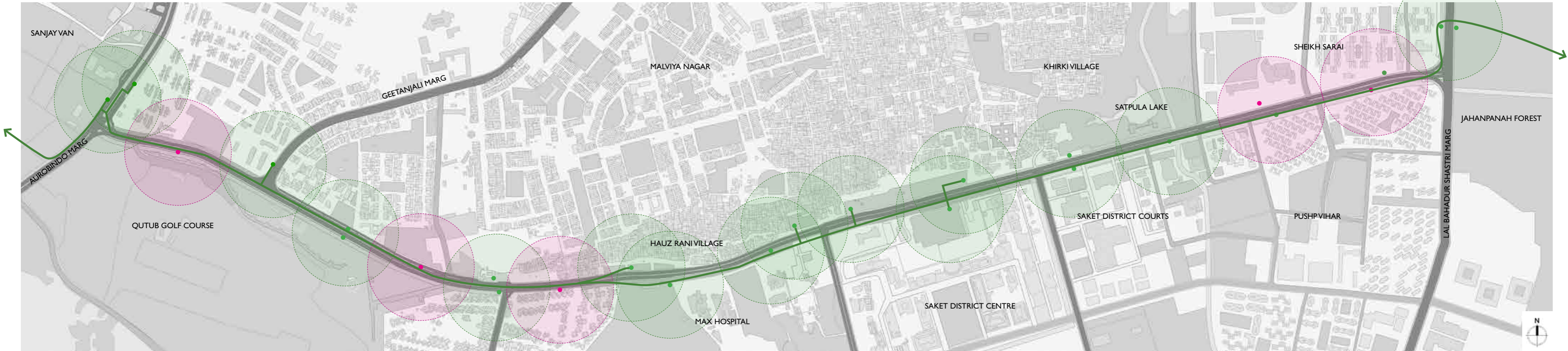
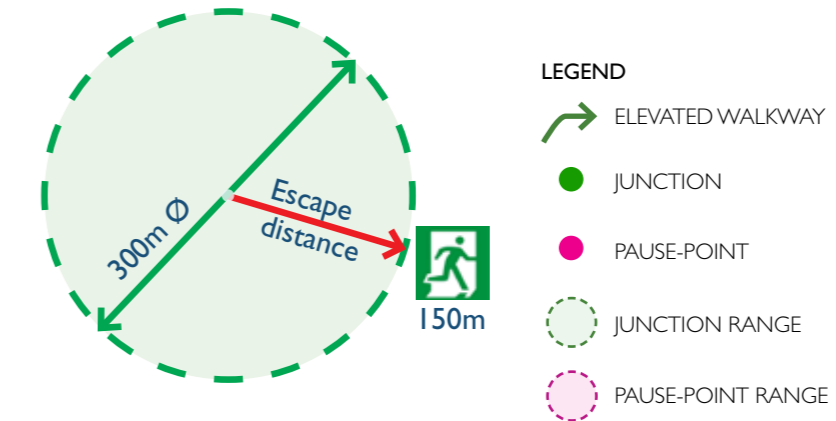
4.1.3 Entry / Exit points: Escape Distance

Entry/Exit Points of the 'Elevated Walkway' system has been provided considering the following parameters:

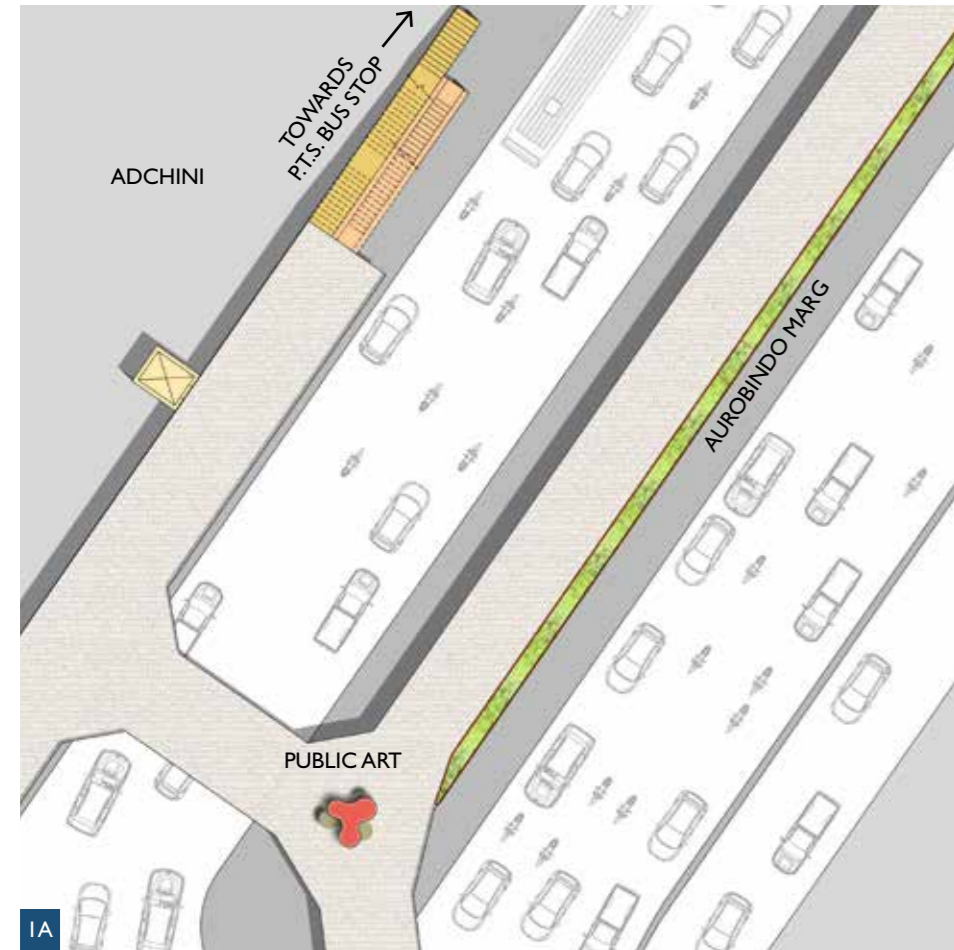
- Daily Footfall in the area.
- Vehicle-Pedestrian conflict points identified in previous chapter.
- Scope for Integration with other modes of transport.
- Major Social and Commercial Centres.

Escape Distance is the maximum distance a pedestrian shall traverse in case of an emergency. At any point on the elevated walkway, the maximum distance to the nearest entry/exit point shall not be more than 150m. Hence the the maximum distance between 2 entry/exit points shall not be more than 300m. The intersecting circles in the graphic shown below represent the fact that the planned entry/exit points are within 300m distance with each other.

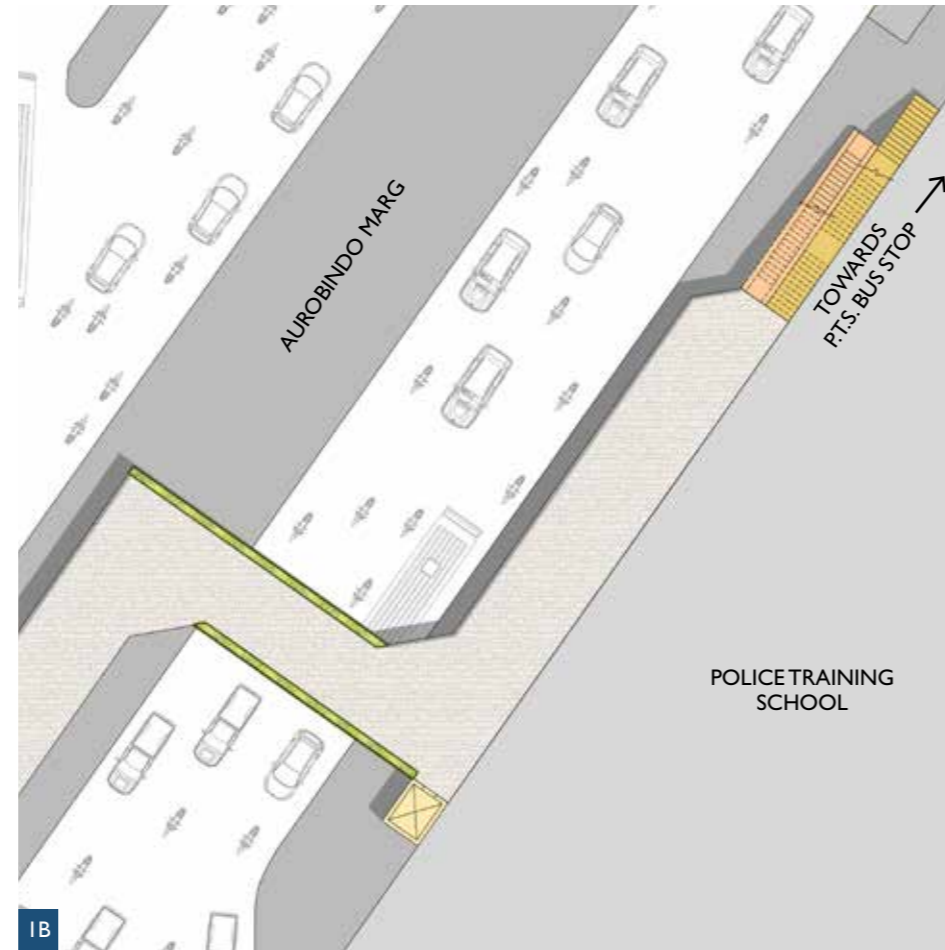
As far as escape distance is concerned, the most commonly cited standard is 300m. Hence, the distance between each Entry/Exit point has been planned at 300 - 400m distance.



IA. Aurobindo Marg



IB. Aurobindo Marg

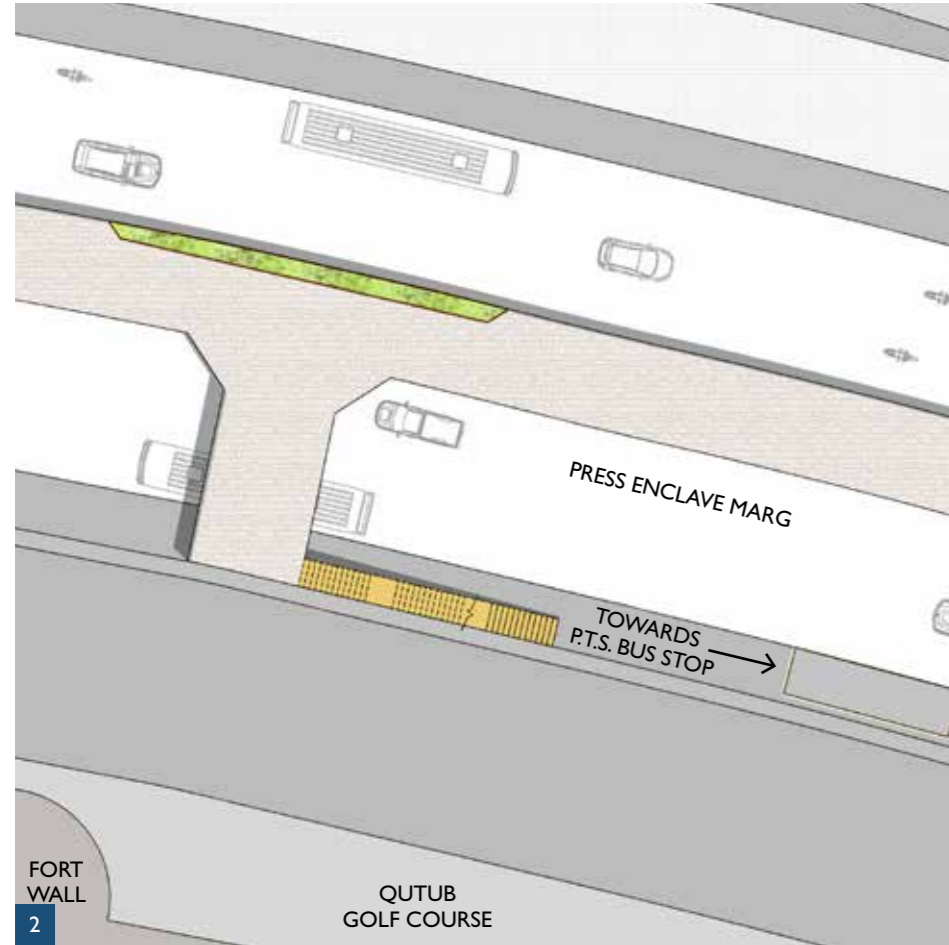


BEFORE

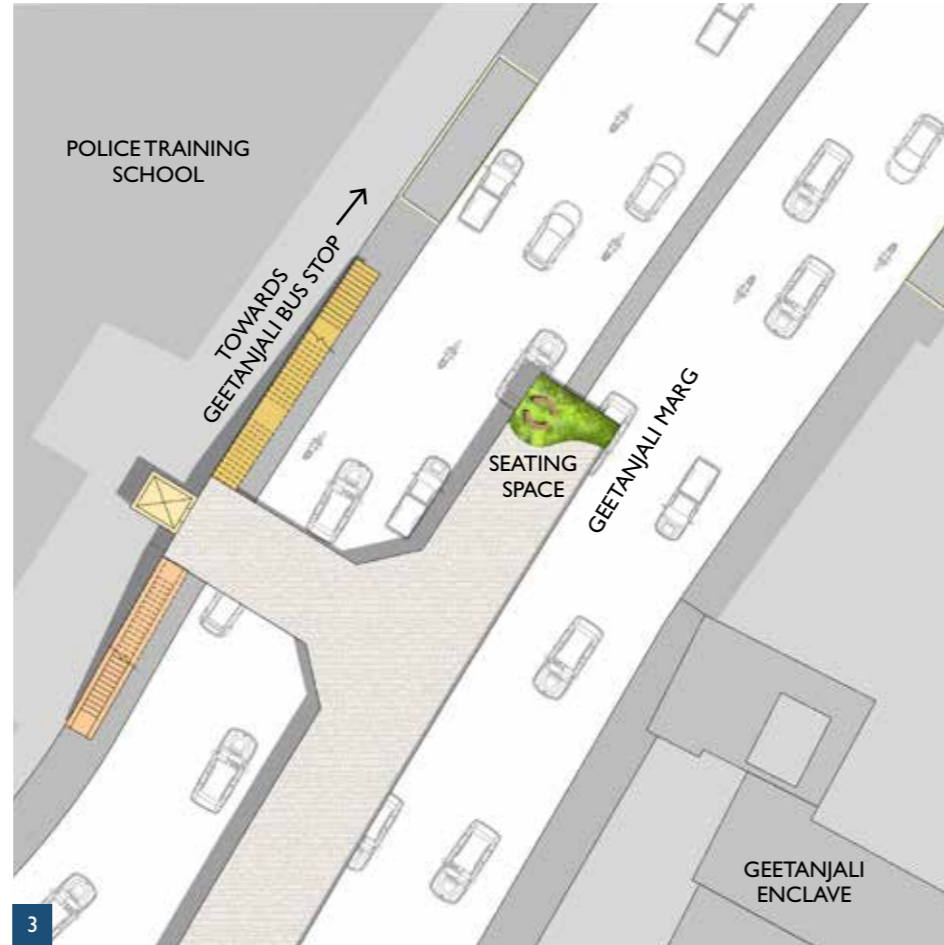
AFTER

IB. Aurobindo Marg

2. Police Training Academy



3. Geetanjali Marg



BEFORE



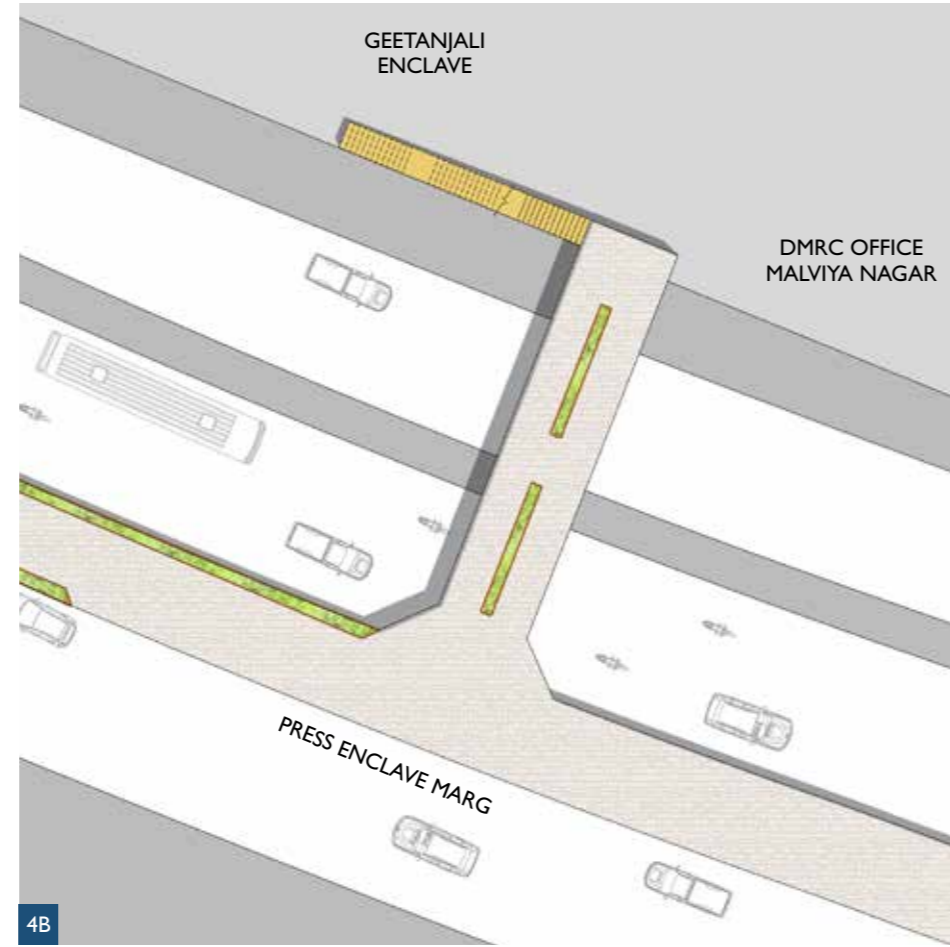
AFTER

Police Training Academy

4A. Geetanjali Enclave Bus stop



4B. Before Malviya Nagar Metro

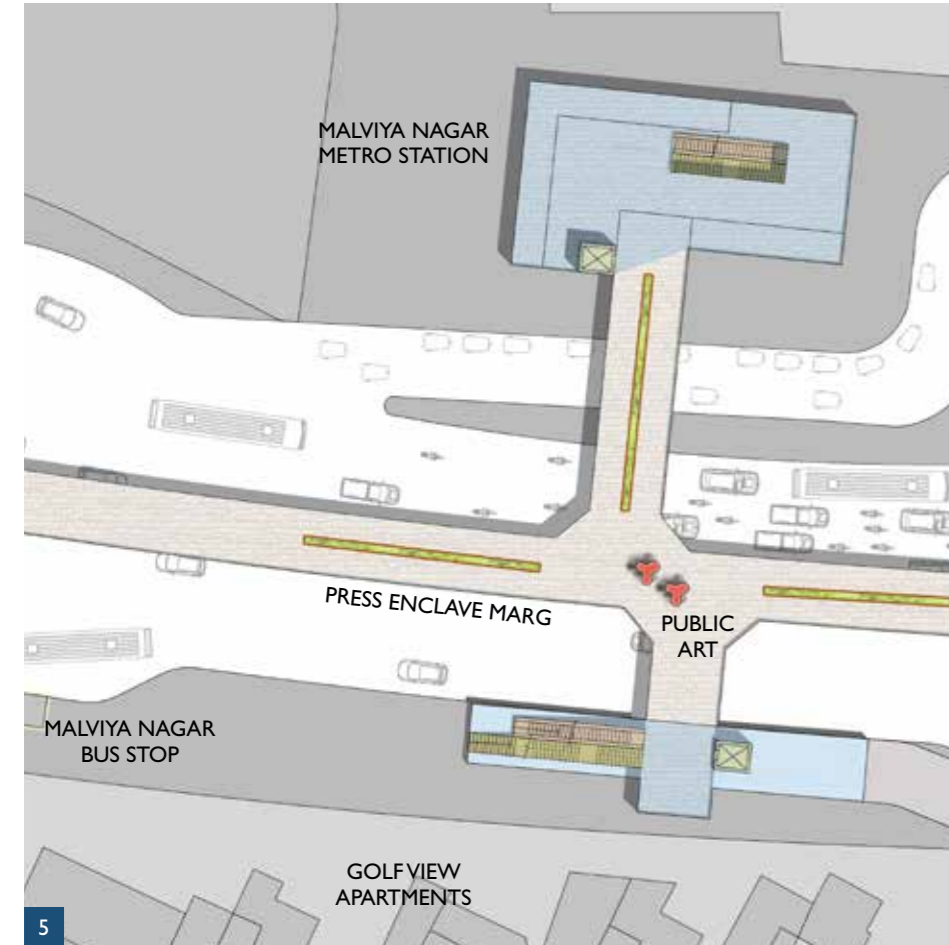


Geetanjali Enclave Bus stop

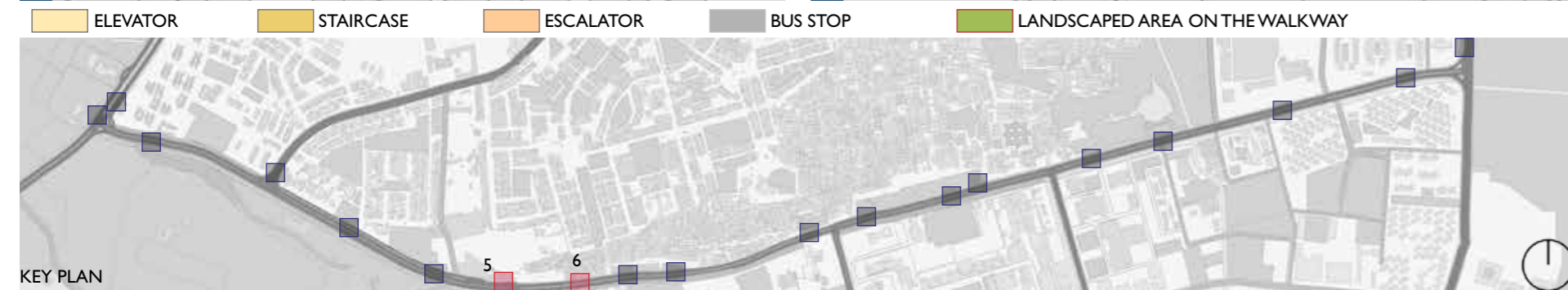
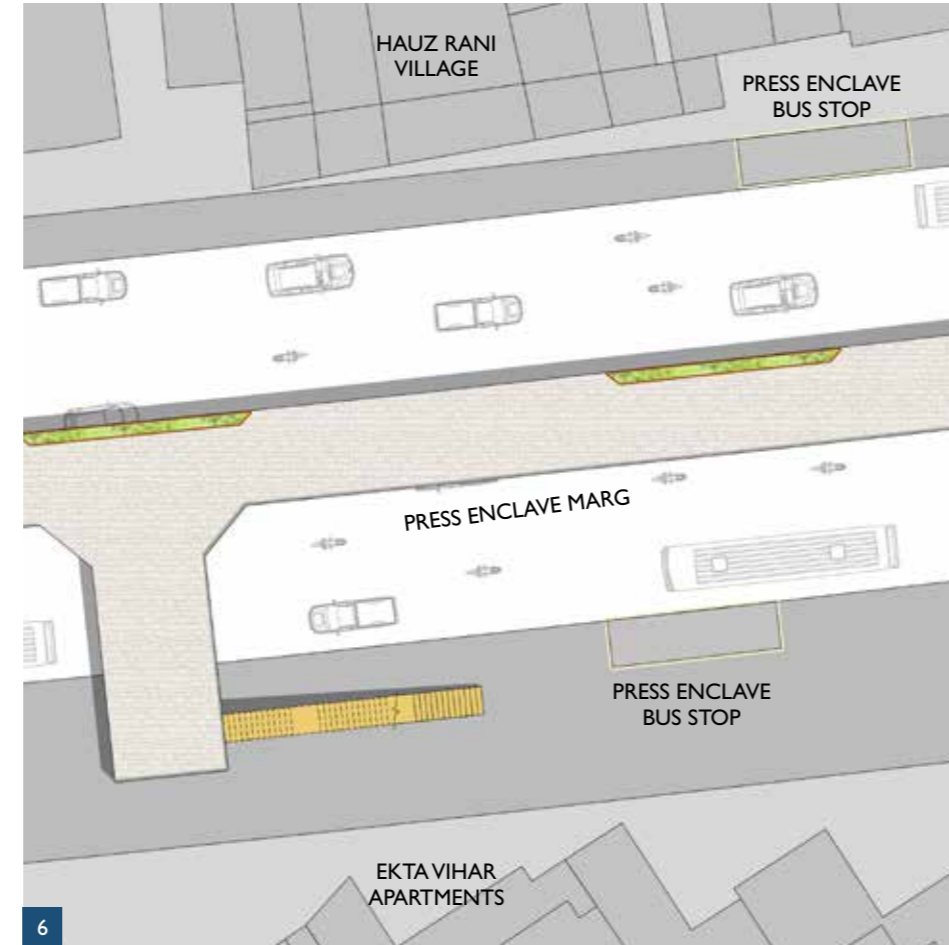
BEFORE

AFTER

5. Malviya Nagar Metro



6. Press Enclave Vihar

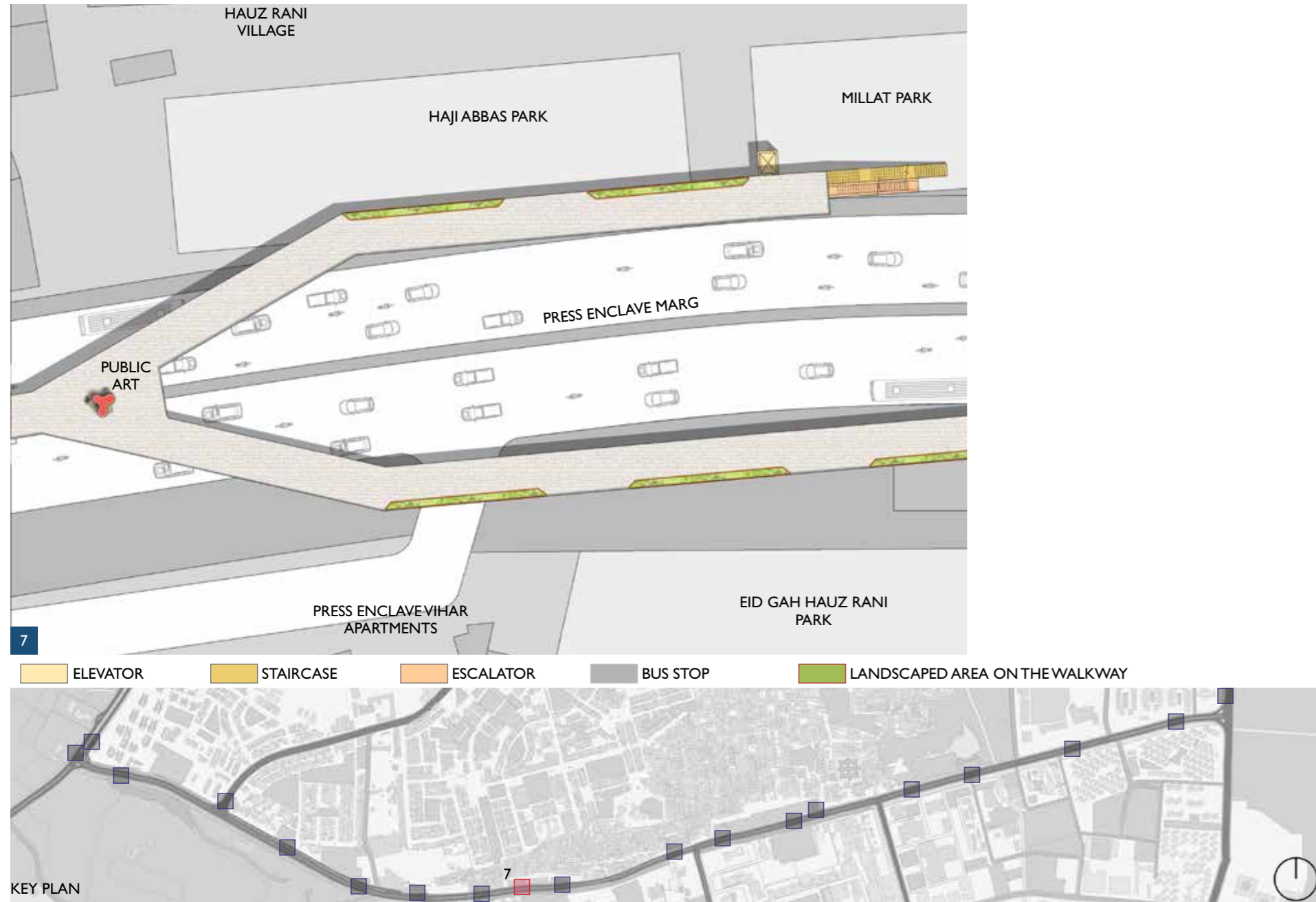


- ELEVATOR
- STAIRCASE
- ESCALATOR
- BUS STOP
- LANDSCAPED AREA ON THE WALKWAY



Malviya Nagar Metro

7. Hauz Rani Village

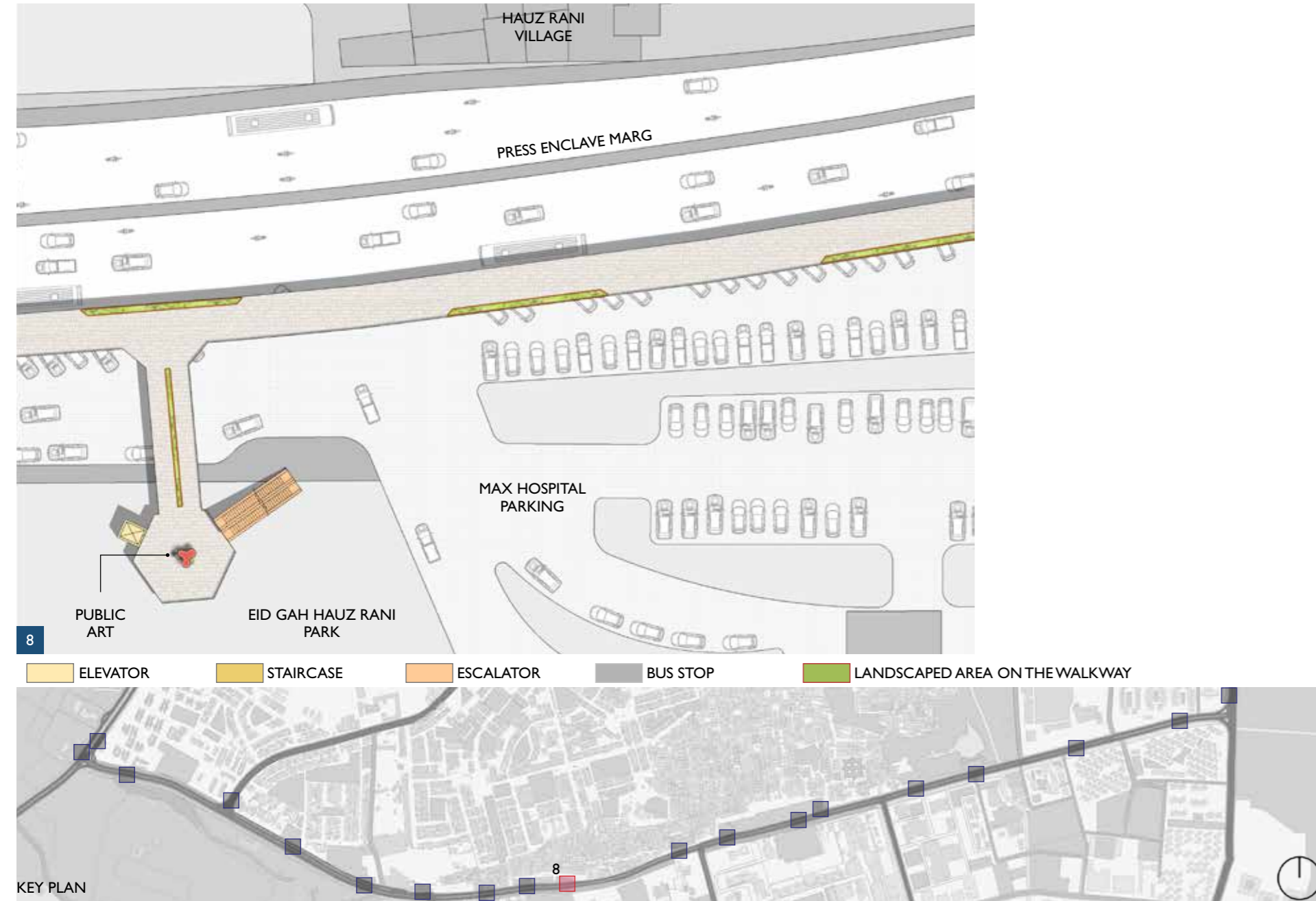


BEFORE



AFTER

8. Max Hospital

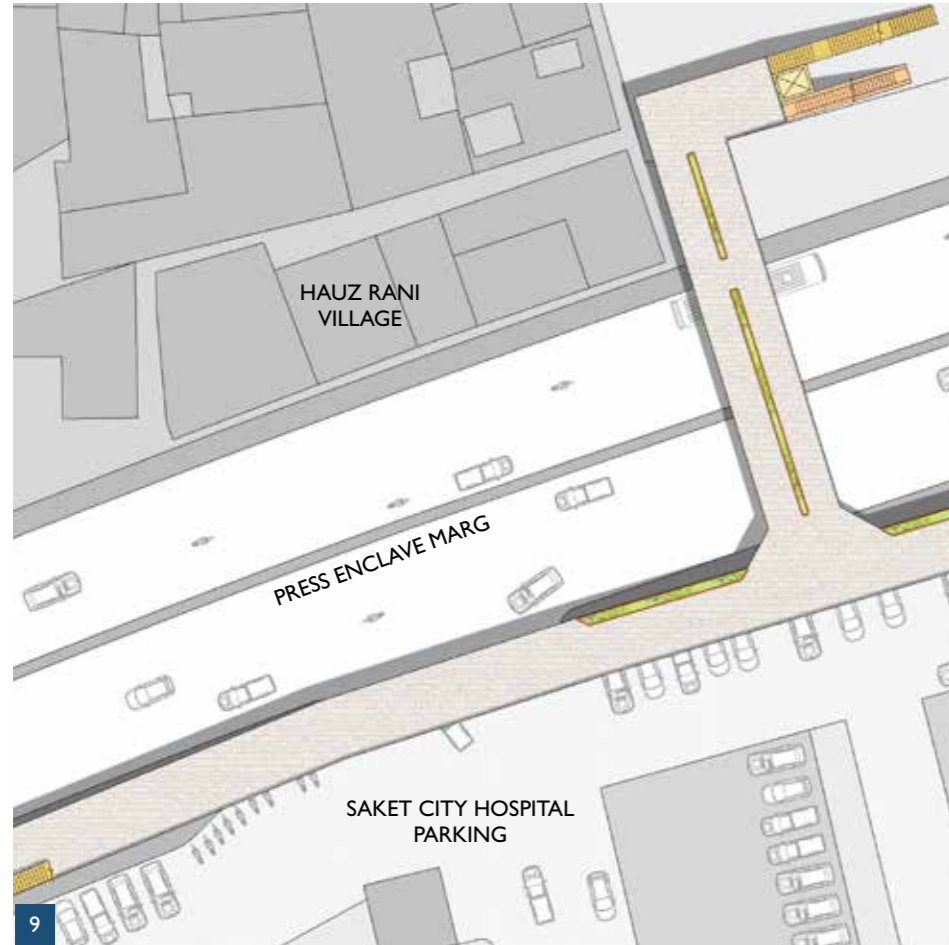


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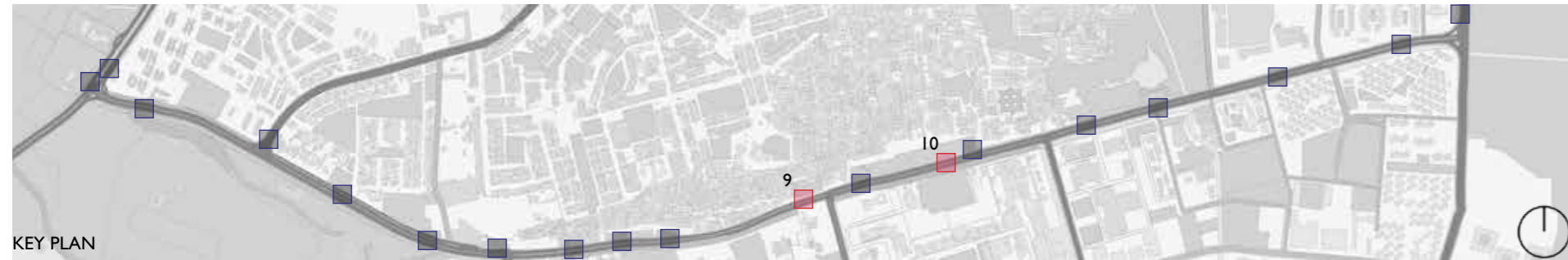


AFTER

9. Saket City Hospital

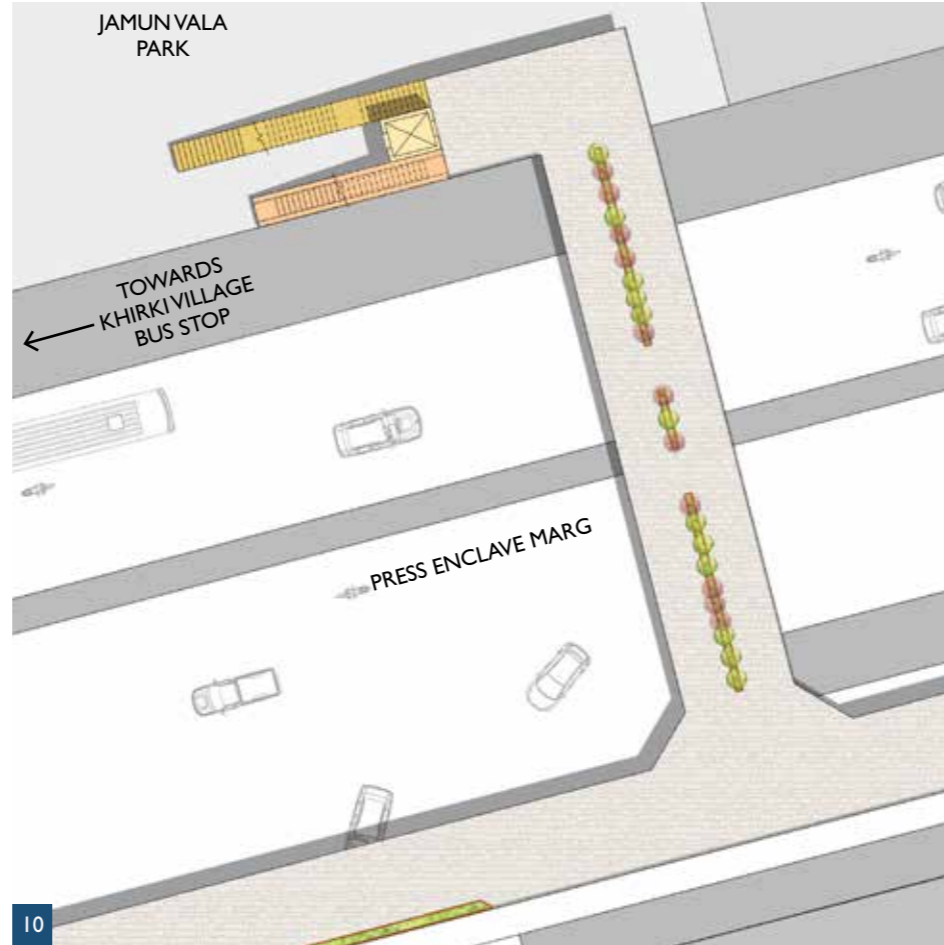


- ELEVATOR
- STAIRCASE
- ESCALATOR
- BUS STOP
- LANDSCAPED AREA ON THE WALKWAY



KEY PLAN

10. Jamun Vala Park 01



BEFORE



AFTER

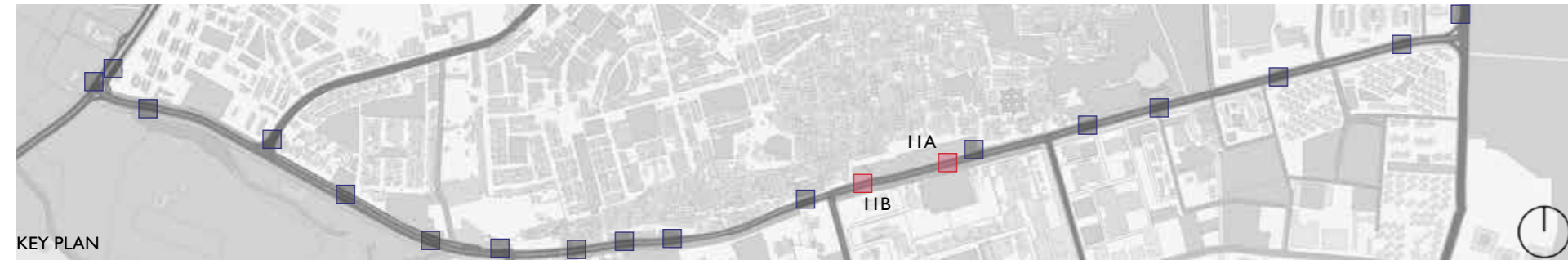
Saket City Hospital

I I A. Saket District Centre



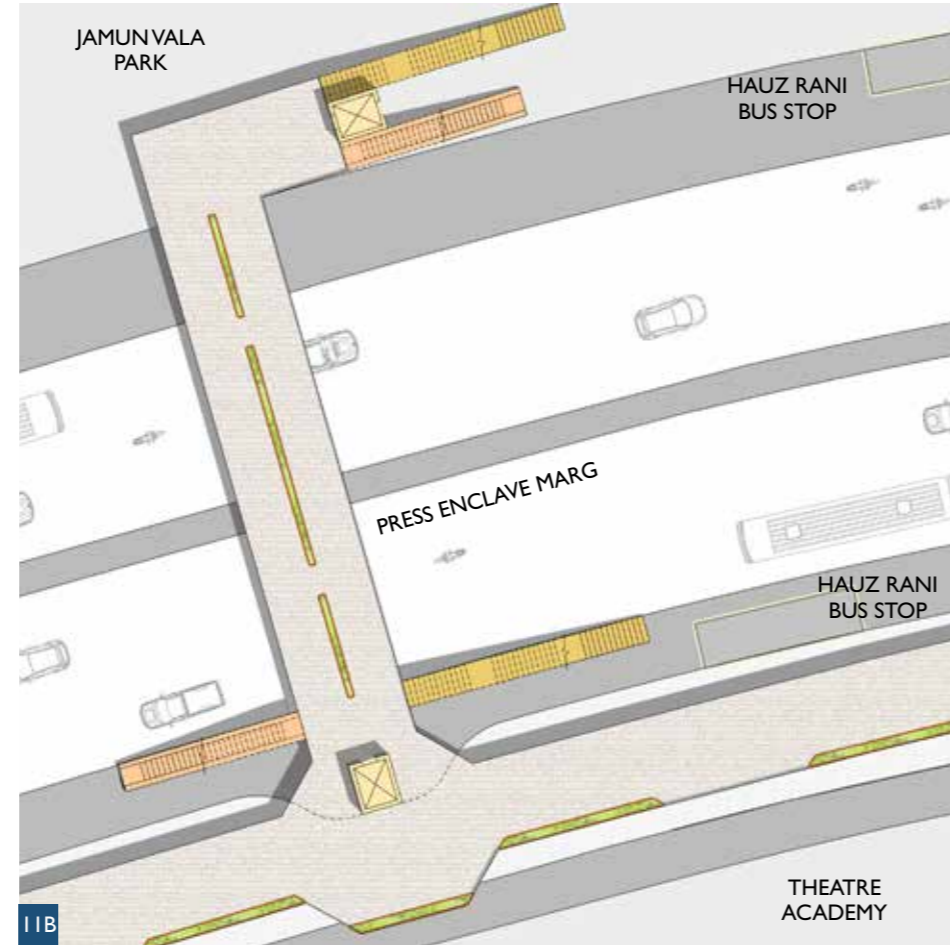
I I A

ELEVATOR
 STAIRCASE
 ESCALATOR
 BUS STOP
 LANDSCAPED AREA ON THE WALKWAY



KEY PLAN

I I B. Jamun Vala Park 02



I I B



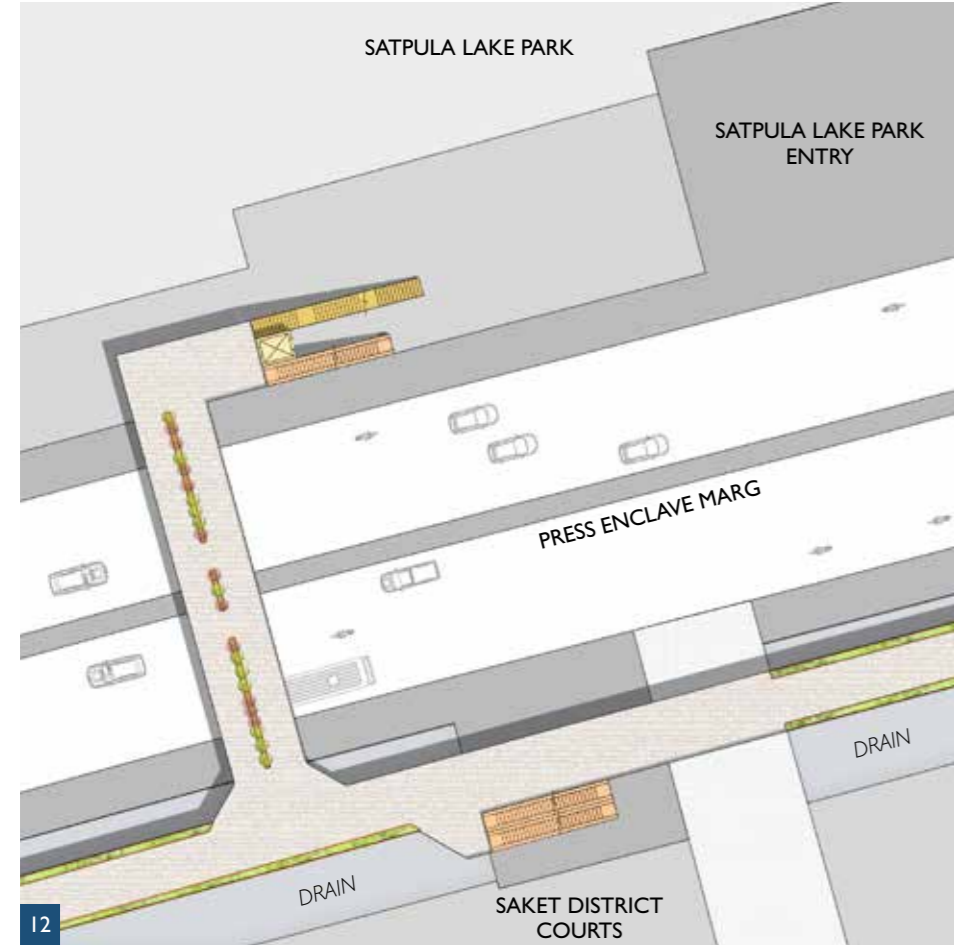
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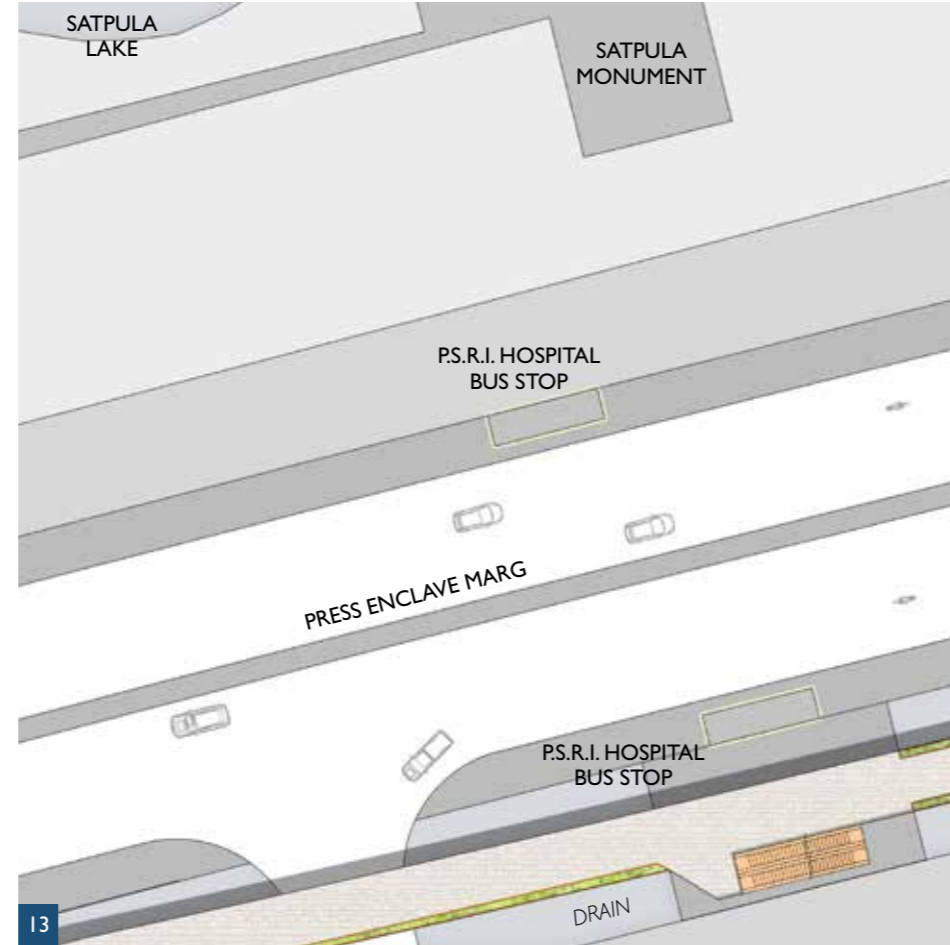
AFTER

Jamun Vala Park 02

12. Saket District Courts

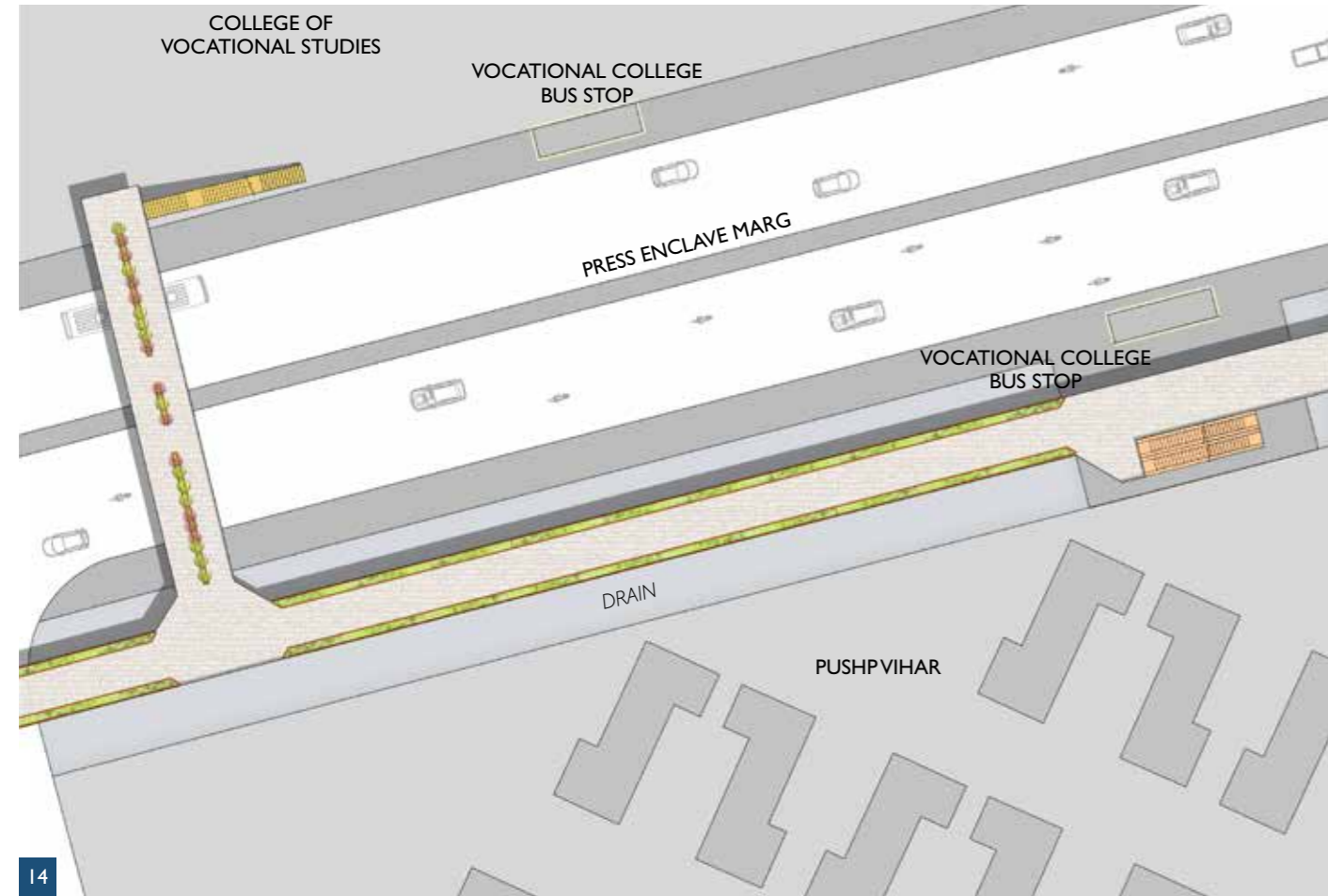


13. Satpula



Saket District Courts

14. Vocational College



14

- ELEVATOR
- STAIRCASE
- ESCALATOR
- BUS STOP
- LANDSCAPED AREA ON THE WALKWAY

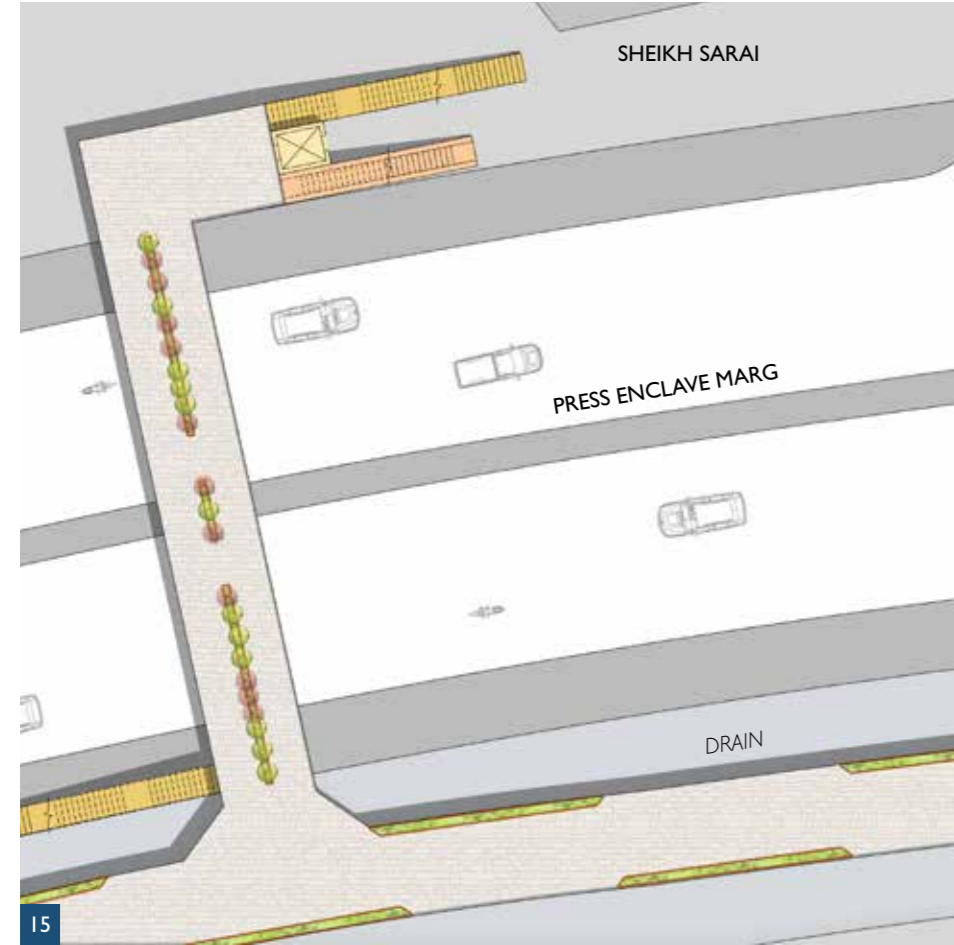


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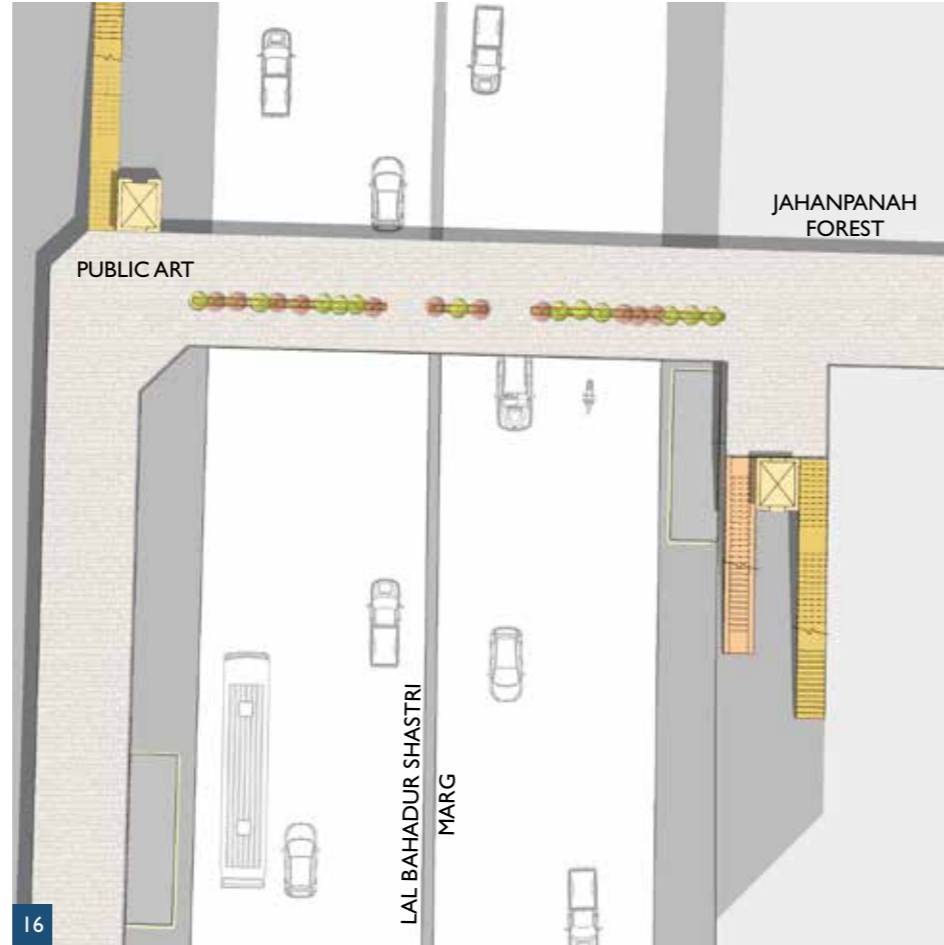


AFTER

15. Sheikh Sarai



16. Lal Bahadur Shastri Marg



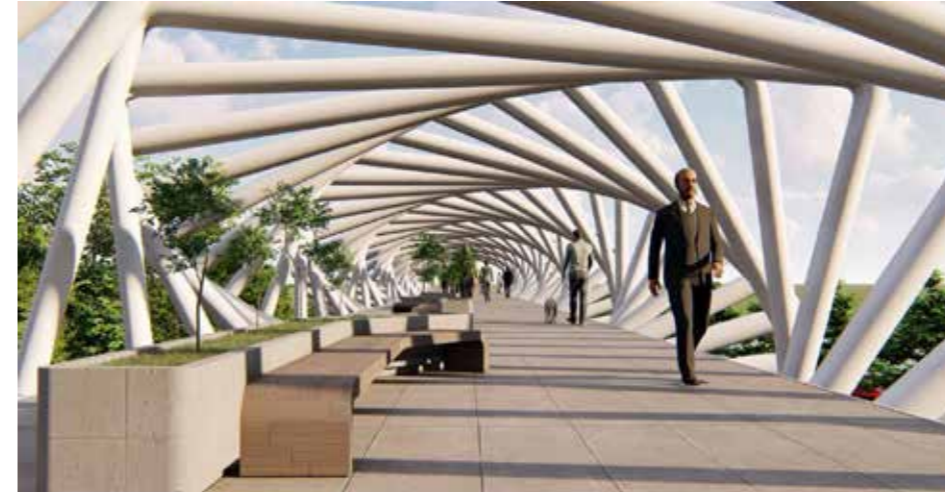
Sheikh Sarai

4.3 Walkway Design

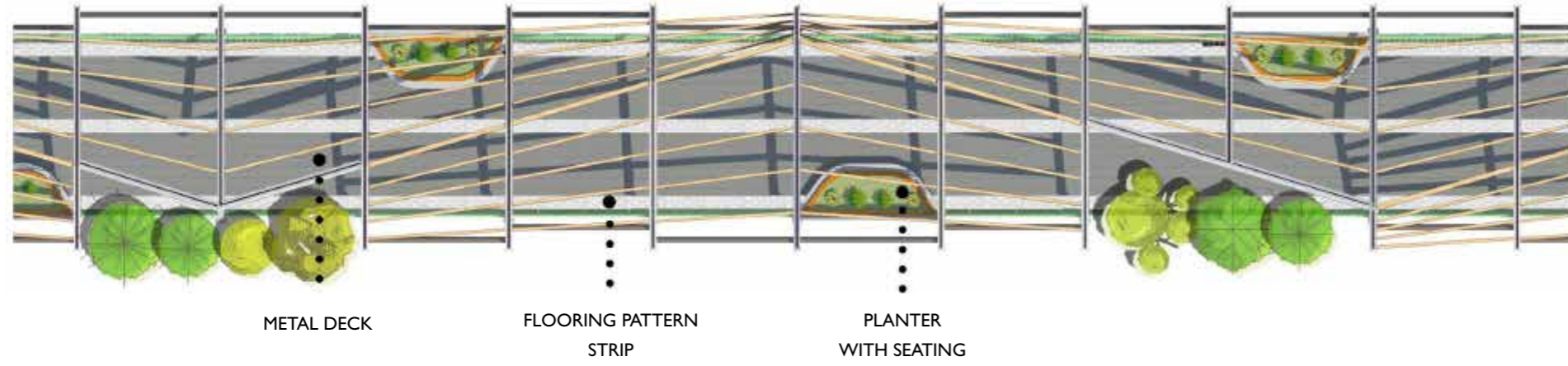
4.3.1 Structure Design (Option 01)



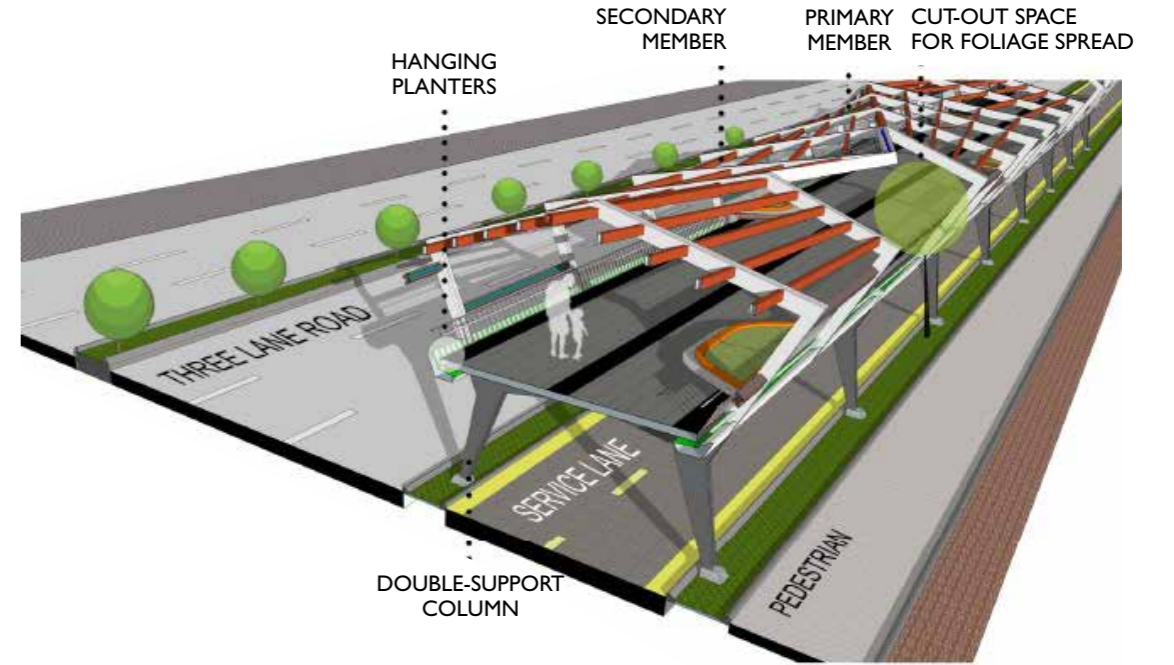
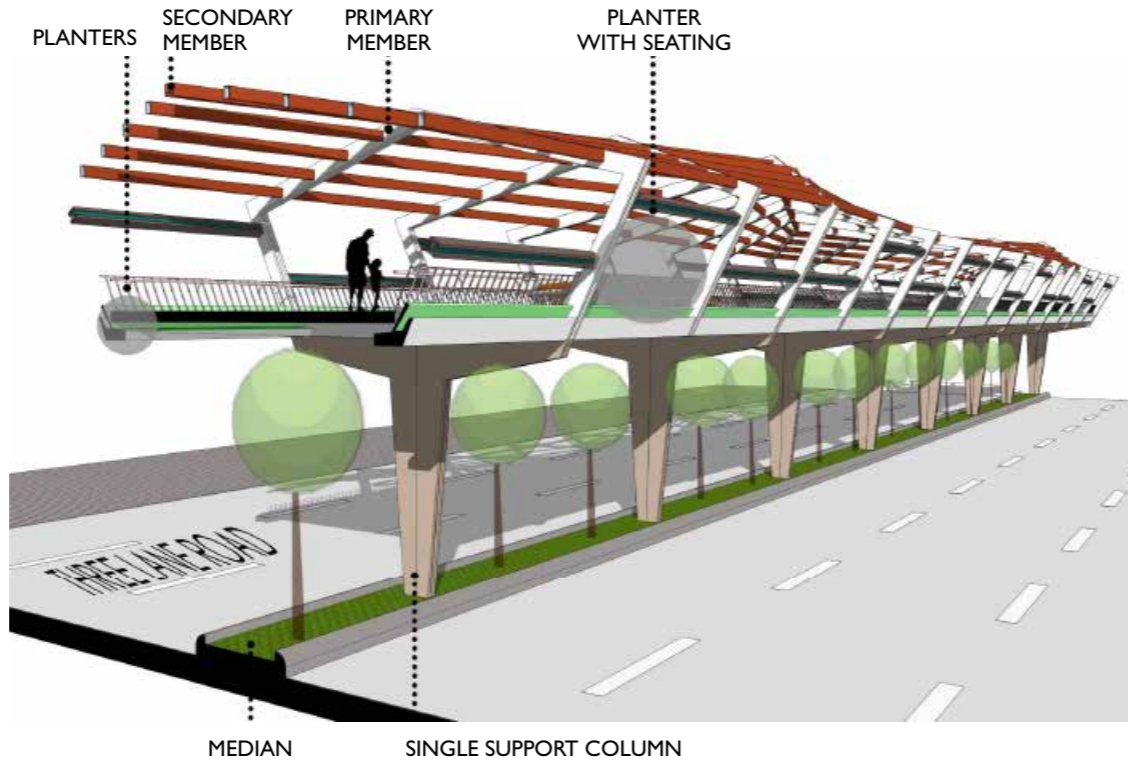
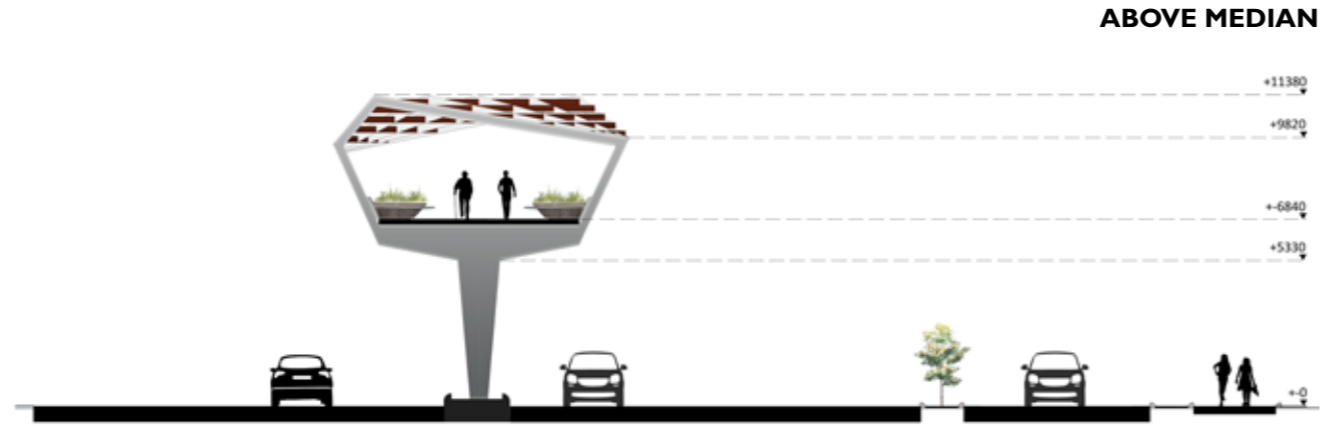
4.3.2 Structure Design (Option 02)



4.3.3 Elevated Walkway Details



4.3.4 Sectional Prototypes



4.4 Design Features

Sustainable Features



Solar power generators mounted on roof and south-facing panels will be able to generate more than 6360KW/Km/day (enough to supply to 2120 households daily).

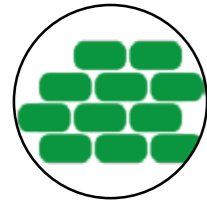
Source# World Energy Council - 2014 Data | 2nd August, 2018



Rainwater can be captured from elevated walkway roofs and diverted to an underground reservoir for future usage.



Low voltage, charging points in-built at different pause points can provide charging facilities for users on the go. The tapped solar energy from the elevated walkway roof can be used for the same, thus utilizing local resources.



Green wall can act as a buffer to isolate noise pollution from the traffic beneath. Also, it acts as an aesthetic element and helps in creating a cooler and clean microclimate.



Plantation of native species, to provide shade from extreme weather conditions. It adds to the aesthetics of the structure by interspersing it with greens at various places.

Smart Features



Provision of public Wi-fi throughout the elevated walkway stretch to enable uninterrupted digital connectivity to users



Interactive wayfinding kiosks, help users to navigate their route and explore local areas.



For universal accessibility, provision of escalator, elevator and staircases at regular intervals for equitable and intuitive use.



Vending kiosks and ATM facilities are proposed at all junctions for easy access. Eating joints and cafes to be provided at pause points and junctions. Outdoor sports activities like gym, table tennis, air hockey, etc., can also be provided as recreational facilities in collaboration with private sponsors.



Braille, tactile paving to be used to facilitate navigation, especially for differently-abled users.

Safety and Security Features



Panic alarm button to be installed at a regular interval of 50 m.



In case of emergency, 150 m should be the maximum distance a person has to traverse to exit the walkway.

Source# Inference from the case study of Skygarden, Seoul. Refer page no. 38



Emergency calling booths (SOS Box) to be installed at intervals of 100 m



Adequate lighting: Well lit areas enable safety and induce a sense of openness. They make the ambience inviting and lively.



Full stretch of walkway to be under CCTV camera surveillance.

Bibliography

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2. *Good news for Delhi mall-goers: Govt plans mega redesign for Saket road*, Faizan Haidar,, Hindustan Times, July 2017.
3. Malviya Nagar, Hauz Rani and Khirki Extension: Site Specific Design for Ward Number 161, 162, 189 and 191, Delhi Urban Art Commission (DUAC)
4. World Energy Council - 2014 Data, 2nd August 2018.
5. Page No. 38, Inference from the Case Study of Skygarden, Seoul.





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