CITY LEVEL PROJECTS

INTEGRATING THE METRO STATION WITH THE NEIGHBOURHOOD

Mandi House Metro Station

(An ISO 9001 : 2008 Certified Organisation)

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".

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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
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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.

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.

October, 2017

Sd/-
Prof. Dr. P.S.N. Rao
Chairman, DUAC

Contents

Summary

Mandi house area is popularly known as the cultural hub of Delhi. The presence of many significant cultural institutions and government offices along with the transit node gives an opportunity to strengthen and enhance the pedestrian system along with bicycle loops to connect different districts.

The site demonstrates how isolated cultural districts and surrounding developments can be part of a pedestrian and bicycle system with the provision of proper pedestrian spaces, open green spaces and abutting transport interchanges. Provision for pedestrian and biking lanes with appropriate widths, auxiliary amenities for pedestrian walks – the design proposal authenticates these essential urban spaces as anchors, making them vibrant, useful and attractive to people.

1. Introduction

Design Intent:

1. To create of an Art District by bringing together cultural facilities.
2. Enhance urban connectivity at the local and city level along with the local pedestrian network and traffic, at an urban scale; bicycle routes, autos, taxis, Metro, pedestrian connections.
3. Provide safe pedestrianization and ease of parking in the city's cultural district.

Methodology:

Site Surveys

Mapping and Site Analysis

Approach:

The study demonstrates three proposal with respect to the context and significance of the cultural district of the city, which are discussed briefly:

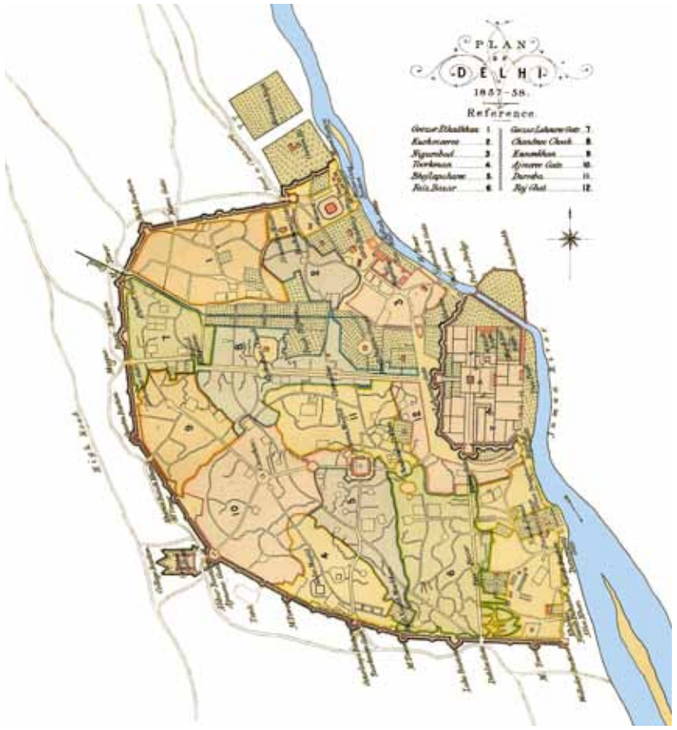
1. Proposal I – Minimum Intervention: Existing Infrastructure with enhanced efficiency.
2. Proposal II – Institutional consolidation and creation of soft boundaries
3. Proposal III – Exploring potentials: A consolidated art district

2.1 Early and Late Mughal Period

Early Mughal Period

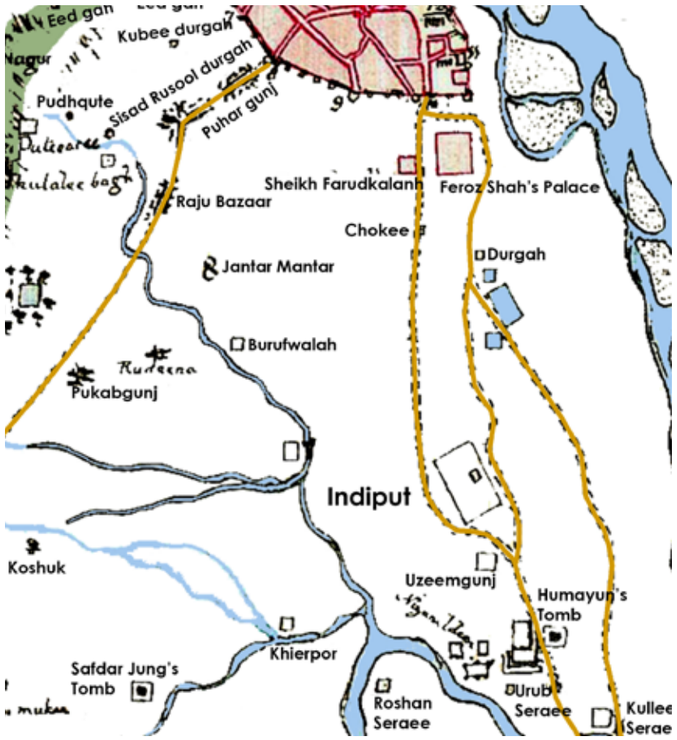
It is said that Shah Jahan shifted his capital from Agra to Delhi because of the extreme heat of the summer months which he felt was unfit for a monarch (Gupta, 1981). The Royal Palace was built between 1638 and 1648. The city walls, the Jama Masjid, and palaces for nobles and some public buildings were erected by members of the family of Emperor Shah Jahan. The Palace was inhabited for nearly five to six years after it was established.

The study area lies to the south of the walled city which was sparsely inhabited.



Late Mughal Period

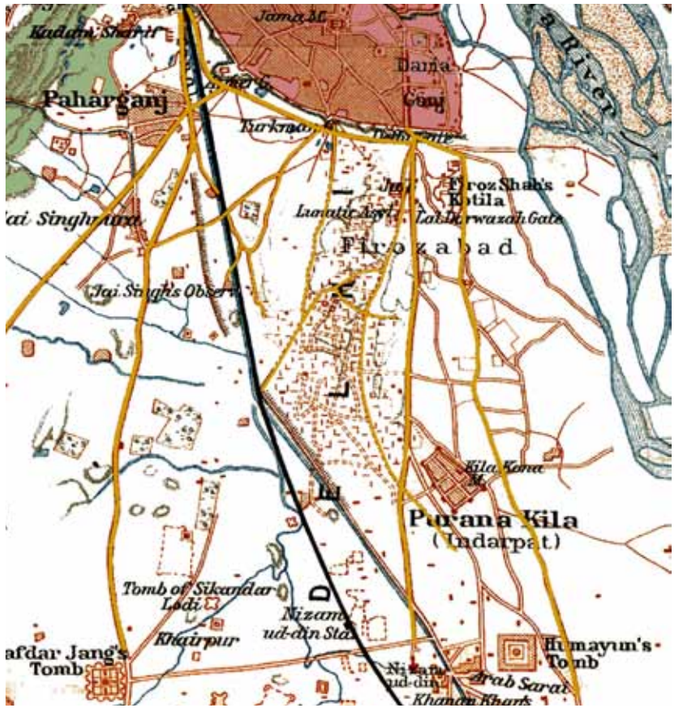
The city of Shahjahanabad was not limited to the area enclosed by the great wall. It was not the only hub of the urban complex, but extended to the north, south and west and along the opposite bank of the river to the east. According to Joseph Tieffenthaler, the suburbs extended eight miles beyond the Arab Gate to the south. (Blake 1991)



2.2 Early 19th Century, Delhi 1914

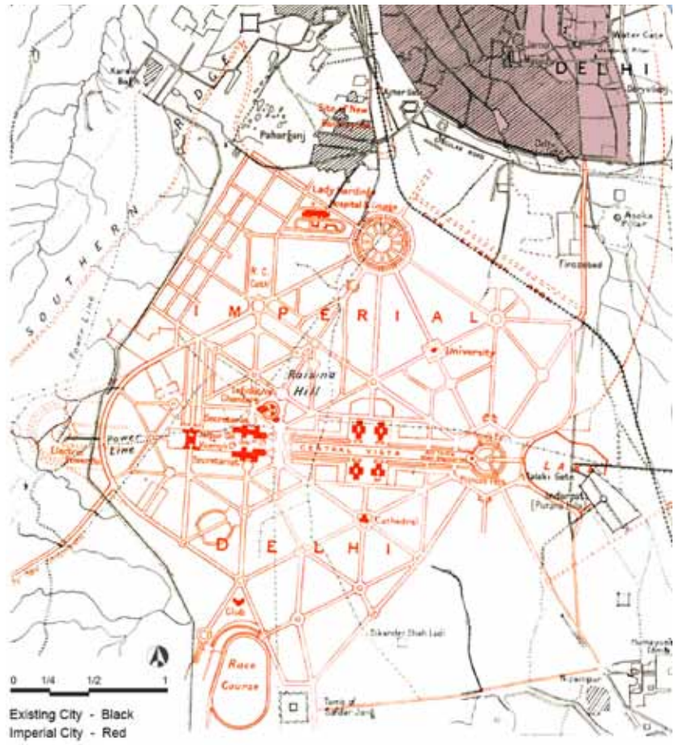
Early 19th Century

The area south of Shahjahanabad, near the village of Jaisinghpura, belonged to the Raja of Jaipur. It consisted of a few villages, some gardens and brick kilns. It had ruins of buildings from past eras, and was therefore called 'Khandraat Kalaan' (the great ruins)(Singh M., Mukherjee R., Kapoor P., .2009)



Delhi 1914

In 1911, the British Government decided to shift the capital of India from Calcutta to Delhi. Edwin Lutyens, Herbert Baker and others created the present New Delhi. The layout was structured on a geometric grid with the seat of power at the apex of the layout, two ceremonial avenues intersecting each other at the central point, with roads placed at thirty or sixty degree angles where they crossed each other, interspersed with roundabouts and open spaces. The important elements of the Viceregal Estate included a dramatic vista along the Imperial Avenue, or Kingsway. The North and South Blocks on the either side led down the gradient to the Great Place with the Council House on the left and on to the War Memorial (now India Gate). Along the hexagon lay the palaces of some of the maharajas of India. (Singh M., Mukherjee R., Kapoor P., .2009)

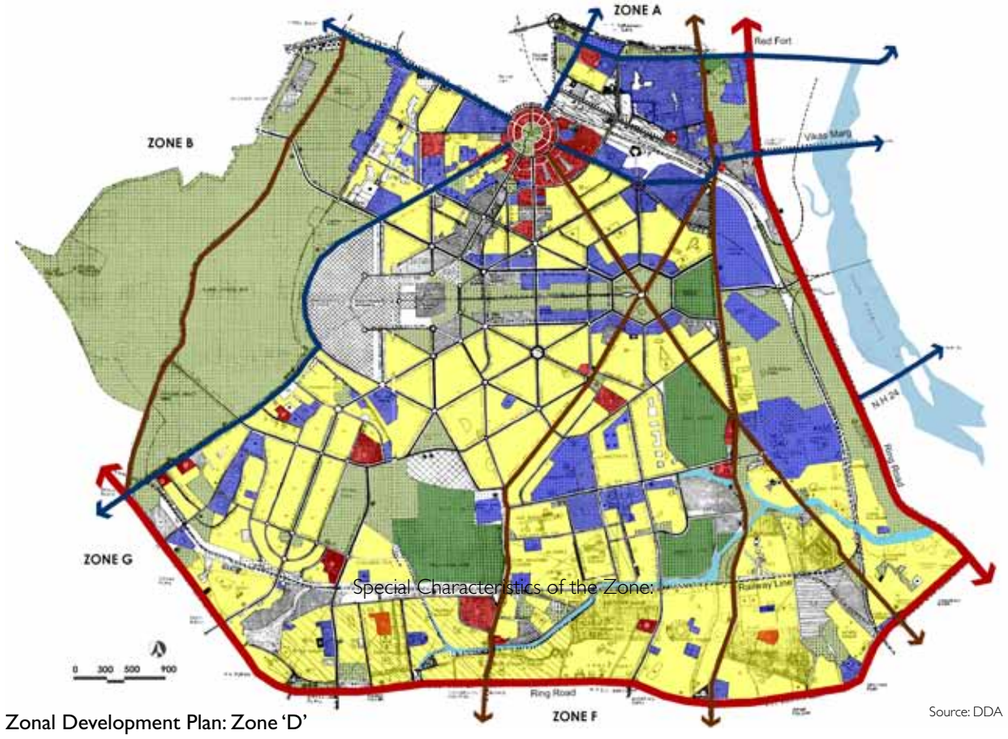


3.1 Zonal Plan D

Introduction

Zone 'D' mainly comprises Lutyens' Garden City and its extensions. This zone is situated between River Yamuna on one side and the ridge on the other. The zone innclude some important areas of Central Delhi.

New Delhi was planned by Sir Edwin Lutyens in a geometric pattern, based on a triangle, which had three major functions at its apex., viz. commercial, governmental and recreational: Connaught Place, the Government Complex (Viceroy's Palace and the Secretariat) and the India Gate are the respective centres of these major activities.



Zonal Development Plan: Zone 'D'

Source: DDA

Connaught Place
Source: https://walksonbarefoot.files.wordpress.com/2017/01/456578274.jpg?w=660

Lady Irwin College, Sikandra Road
Source: http://www.ladyirwin.edu.in/index.aspx

This zone consists of many large parks and recreational facilities which include the Delhi Flying Club, National Stadium, Delhi Polo Club, Race Course, Jawahar Lal Nehru Stadium, Pragati Maidan (Trade Fair Grounds), Central Vista, Zoological Gardens, etc.

Towards the north of Rajpath, Connaught Place, the metropolitan city centre (D-1) is the hub of the city. Major public and semi-public facilities near the Ramlila Grounds (D-2) and sociocultural institutions located near Mandi House (D-3), serve the entire city.

Prominent medical colleges and hospitals such as the Maulana Azad Medical College, Ram Manohar Lohia Hospital, etc., and important educational institutes like the School of Planning and Architecture, Mata Sundri College, Dayal Singh College, College of Jesus and Mary and Lady Irwin College are a part of this zone.

Parliament House, Supreme Court, Central Government Ministries, Delhi High Court, Central Government offices, DDA, Delhi Administration offices, etc. are also located in this zone.

Major residential areas, include plots with large bungalows, Foreign Missions, State Guest Houses, Government colonies, private colonies and rehabilitation colonies.

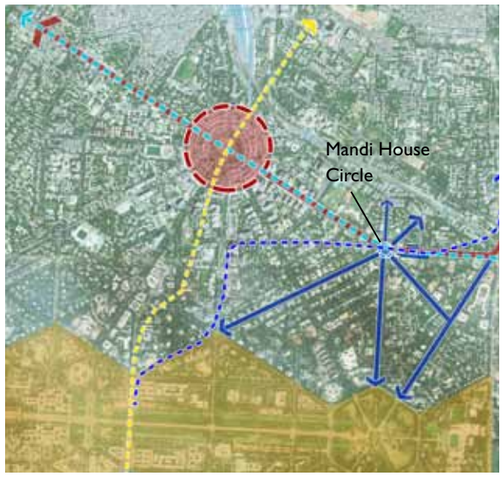
3.2 Ward Boundaries, Location and Connectivity

Ward Map of Delhi

Ward Boundaries

On 15th February, 1931, the new capital was officially inaugurated. In the year 1932, the New Delhi Municipal Committee became a 1st class municipality. It was entrusted with supervisory powers to look after all services and activities it was called upon to undertake. The study area falls under the New Delhi Municipal Council.

Source: https://www.ndmc.gov.in/ndmc/history.aspx



Google image of the site

Location

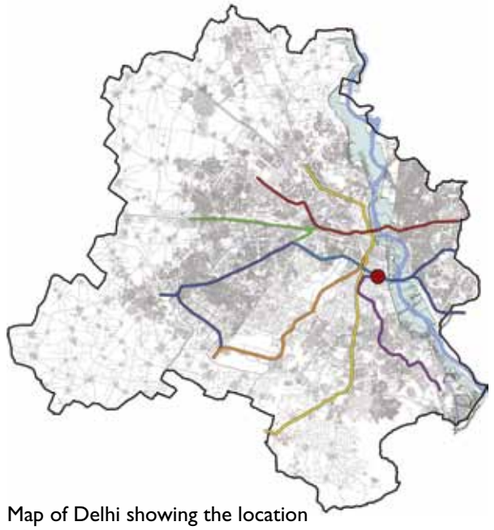
The Luytens Bungalow Zone forms a central part of the city with government accommodation. The area of study – Mandi House Metro station and its precincts – holds important cultural and art institutions along with government institutes as well as some residential components.

Map showing Metro and Road Netwok

Connectivity

Phase III extension of the Delhi Metro consists of Mandi House as an interchange station in order to reduce the pressure on Rajiv Chowk Station. This new corridor of 6.8 km connects the Central Secretariat to Kashmere Gate. Mandi House Circle is an intermediate node connecting the central business district, Connaught Place which connects with the western part of the city. It is well connected by bus routes to different parts of the city as well.

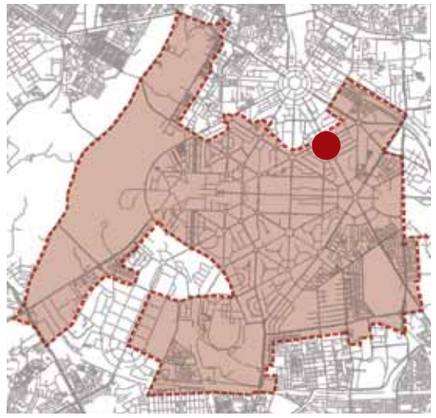
4.1 Site



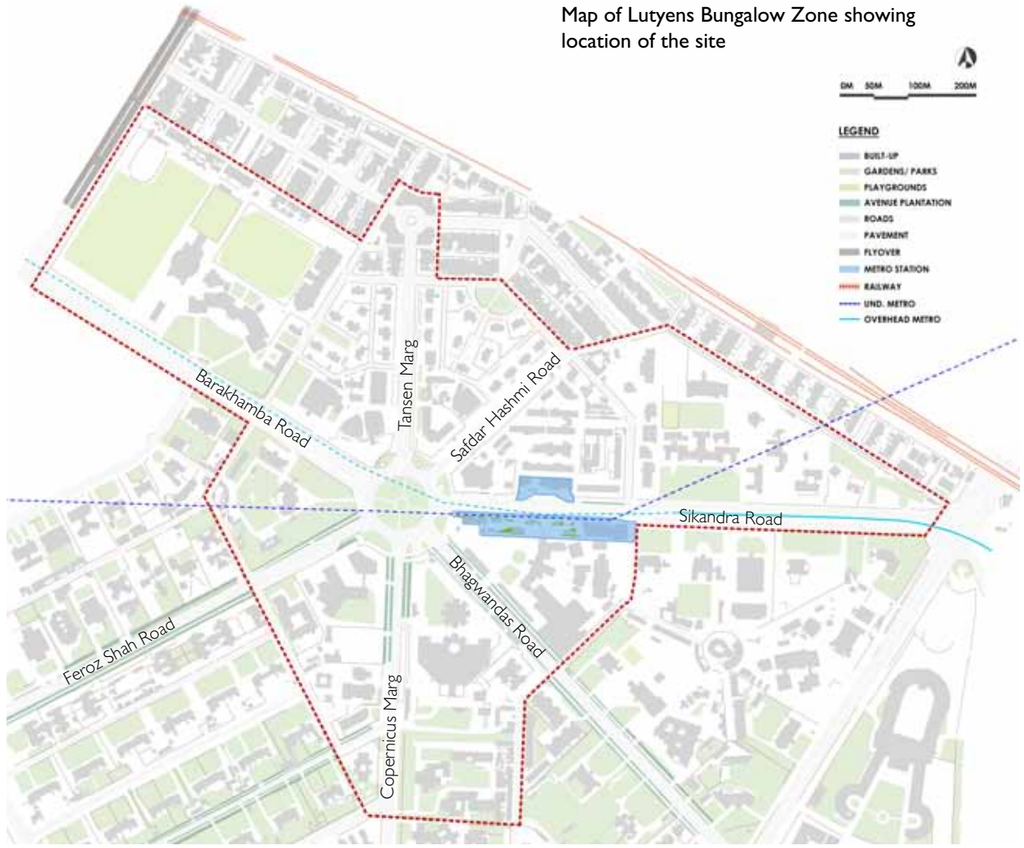
Map of Delhi showing the location of the site

Site Selection

The area chosen for this study falls under the Lutyens Bungalow Zone which has a historic significance with respect to the making of New Delhi. Major components include the transit node of Mandi House Metro station and cultural institutions around the Mandi House Circle. The significance of the area with respect to the history of the place, as well as its interface with the newer developments like the new Metro station and its integration with surroundings is the major thrust of the study.

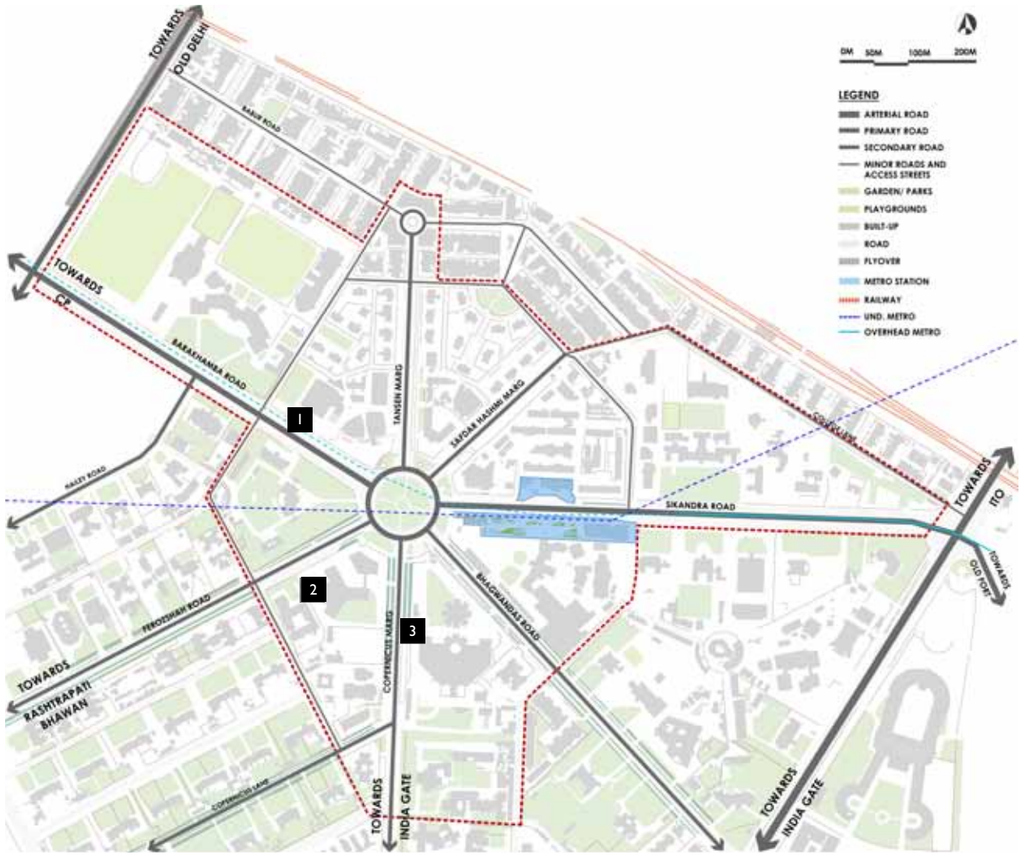


Map of Lutyens Bungalow Zone showing location of the site



Map of showing the extent of the site

4.2 Movement around the Site



Barakhamba Road,.

Copernicus Marg towards Mandi House Circle

Feroz Shah Road towards Rashtrapati Bhawan

The area is significant in terms of connectivity within the city – a major link connecting the eastern and western part of the city. The Mandi House Circle is a vital node connecting to Connaught Place. The new interchange Metro station has added to the footfall. Art and cultural institutes, government institutions, significant auditoriums and markets attract high traffic volumes and create traffic congestion along certain stretches of the study area.

4.2.1 Movement Issues


Para-transits outside Ravindra Bhawan, Feroz Shah Road


Cars parked in residential lanes near Copernicus Lane


Taxi stand next to the Little Theatre Group auditorium, Copernicus Lane

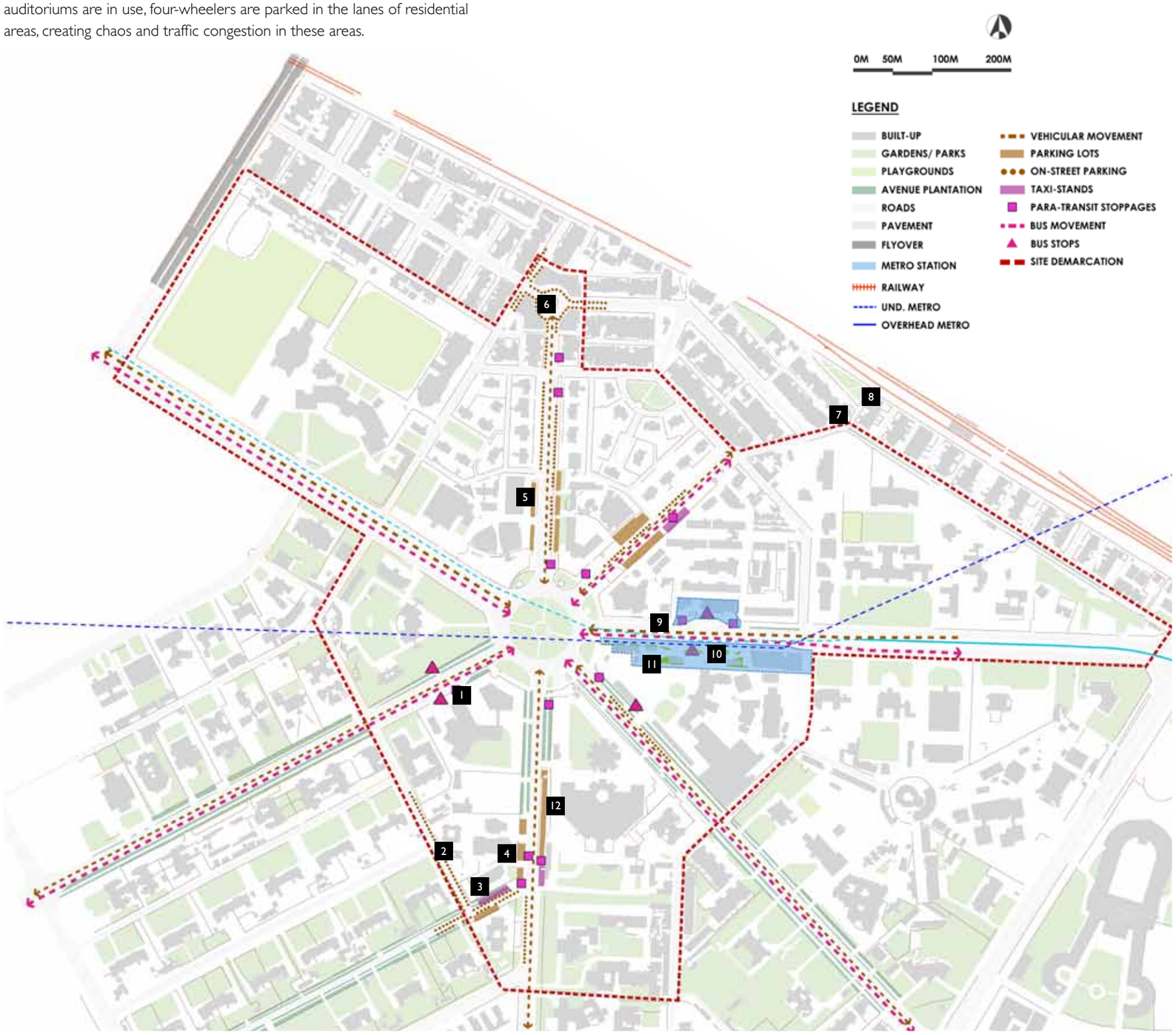

Parking in front of Kamani Auditorium, Copernicus Marg


Parking, FICCI, Tansen Marg


Parking along Bengali Market

The new Mandi House interchange Metro station, with its influx of people, has added facilities like para-transit modes to link further to different parts of the area. Due to many significant functions in the area, the volume of vehicles and parking becomes critical during peak hours. Para-transit modes like auto-rickshaws have dedicated stands on certain important roads like Copernicus Marg, which has auditoriums, to facilitate them. During the hours when auditoriums are in use, four-wheelers are parked in the lanes of residential areas, creating chaos and traffic congestion in these areas.

Though Kamani Auditorium and Doordarshan Bhawan have a few NDMC authorised parking facilities for two and four-wheelers, which are operated and managed by DIMTS Ltd., these are not sufficient for the parking requirements of the area. Tilak Bridge Railway Station, a part of Delhi Suburban Railway, is also located in a residential and commercial neighbourhood of the New Delhi district of Delhi. It lacks proper accessibility.




Access through Residential Lanes for Tilak Bridge railway station.


Pedestrian entrance to Tilak Bridge Railway Station


Para-transit transport outside the Mandi House Metro station


Bus stop and para-transit outside the Mandi House Metro station


Provision for bicycle sharing at Mandi House Metro station


Parking along Doordarshan Bhawan, Copernicus Marg

MAPPING AND SITE ANALYSIS

4.2.2 Pedestrian Movement

Key Plan

Pathway along a residential area, Safdar Hashmi Marg

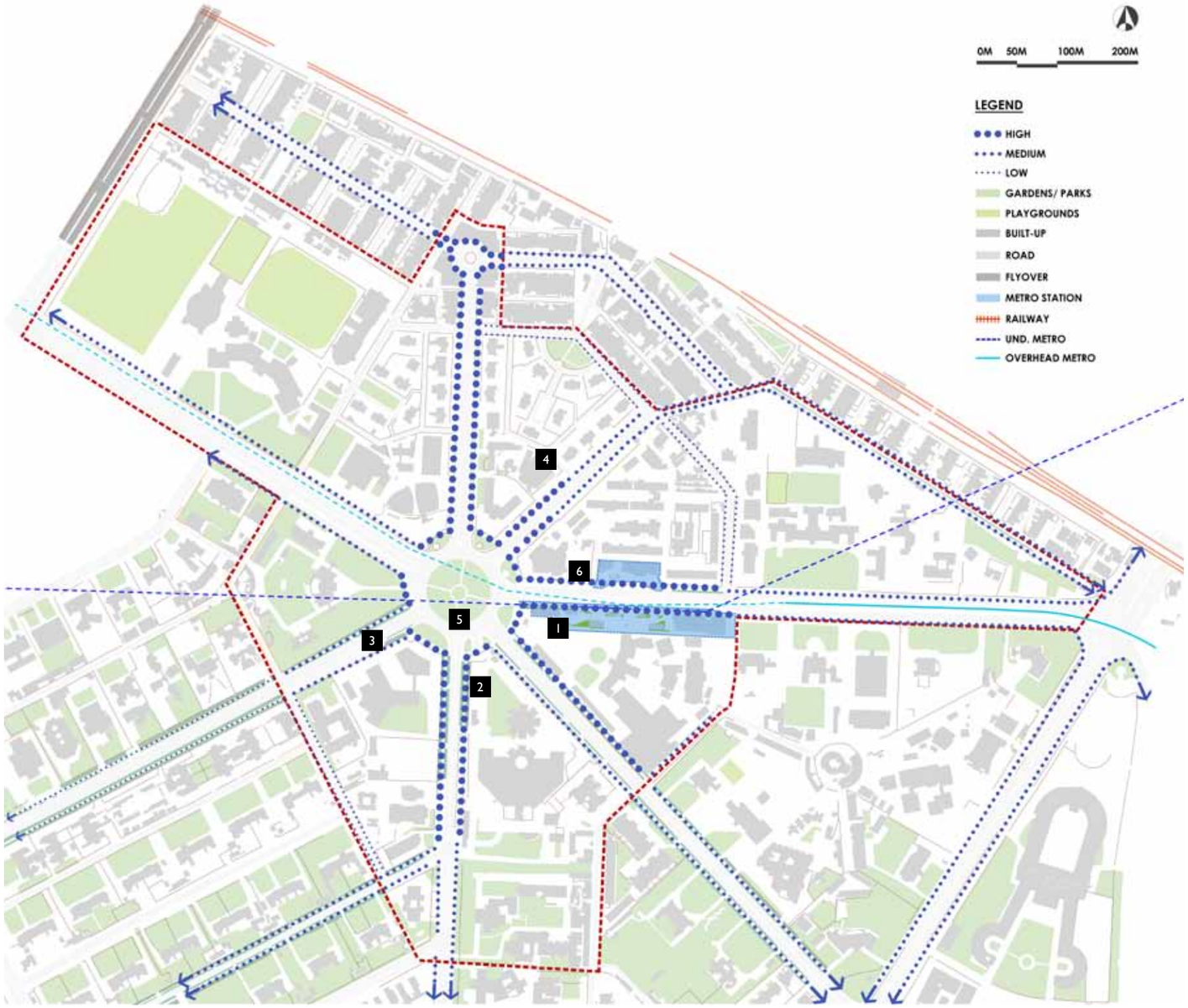
Pedestrians crossing along Mandi House Circle

Pathway along Metro Station, Sikandra Road

Pathway along Bhagwandas Road

Pathway along Copernicus Marg

Pathway along Feroz Shah Road



The volume of pedestrians is considerably high due to various educational institutions in the vicinity of Mandi House Metro station. Well-maintained pedestrian walkways exist along most stretches with facilities such as kiosks on certain stretches. The residential areas are well-equipped with pedestrian infrastructure .

MAPPING AND SITE ANALYSIS

4.2.3 Pedestrian Movement around Mandi House Circle

Mandi House Circle is an important connection point for people commuting to trans-Yamuna, the western part of the city and to the areas like Karol Bagh and further west..

The circle also connects significant cultural centres of the city and has an established pedestrian network with green pockets which form a recreational space for the people working in the area.

Greens in front of the Embassy of Nepal

Greens in front of Ravindra Bhawan

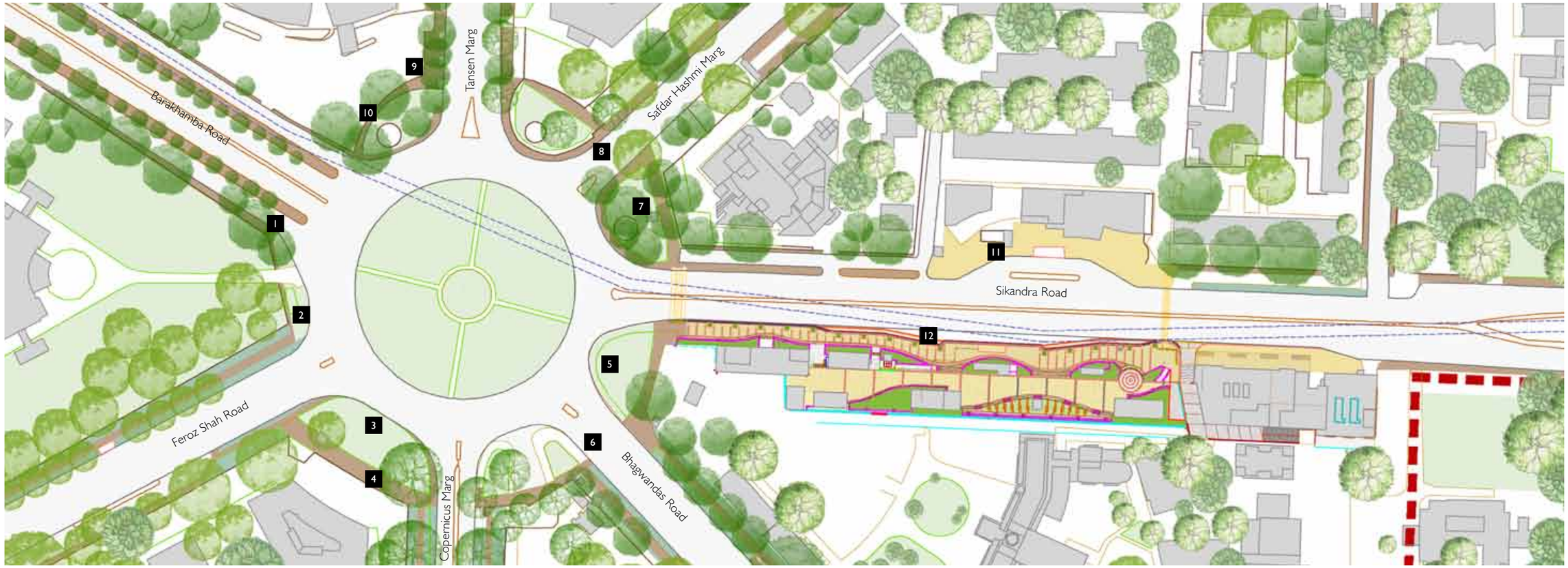
Greens in front of The National School of Drama

People use the open spaces along the roads and most predominantly the central open green space of the Mandi House circle. One of the prime concerns here is that, for using this green space, they have to cross the busy vehicular road which is risky for the user. One of the thrust area of design intervention is to ensure pedestrian safety and connectivity to different cultural districts. The green spaces have some defunct water fountains along with seating spaces for pedestrians along the way.

Greens in front of Himachal Bhawan with a defunct water fountain.

Pedestrian walkway and kiosks in front of The National Museum of Natural History

Mandi House Metro station with a bus stop and parking bay for intermediate para-transit



Pathway along the Embassy of Nepal

Pathway along Ravindra Bhawan

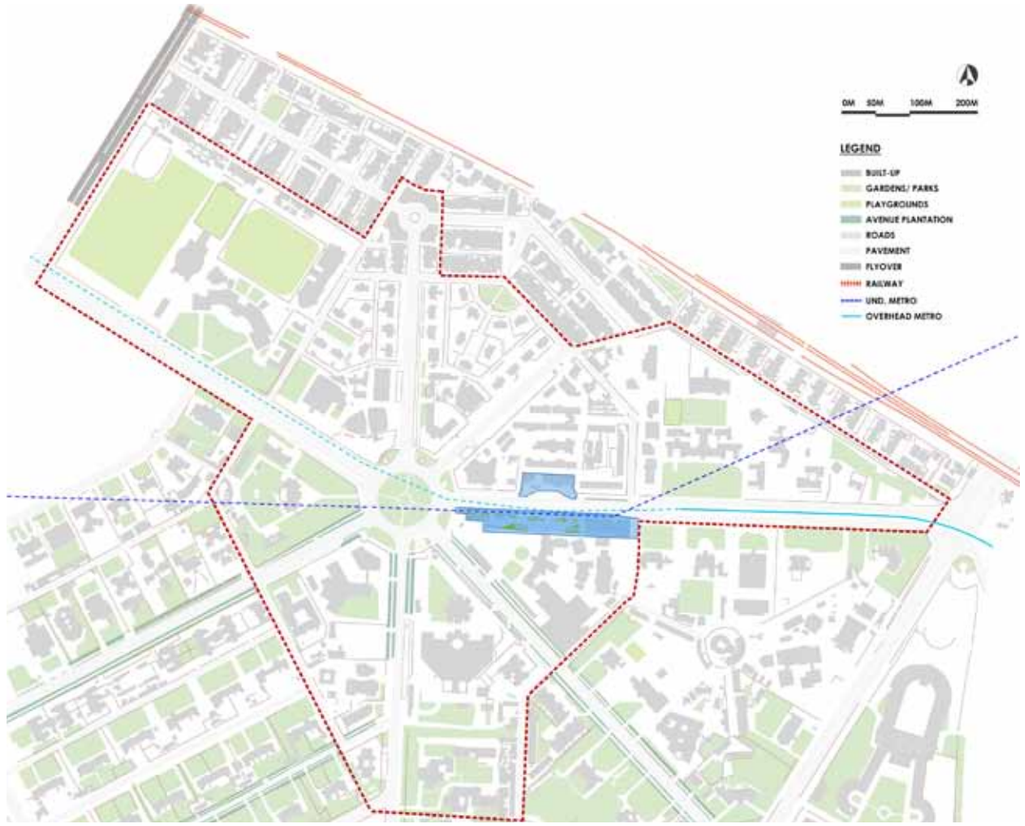
Pedestrian crossing, Copernicus Marg

Pathway along Sangeet Bharti

Pathway along the National Museum of Natural History

Pathway along Mandi House Metro station, Sikandara Road

4.3 Open Space System



Neighbourhood park

Wide green zones with pedestrian tracks

Green spaces along Sikandara Road

Green spaces along Feroz Shah Road

Residences, Lutyens Bungalow Zone

Source: https://www.wmf.org/project/lutyens-bungalow-zone

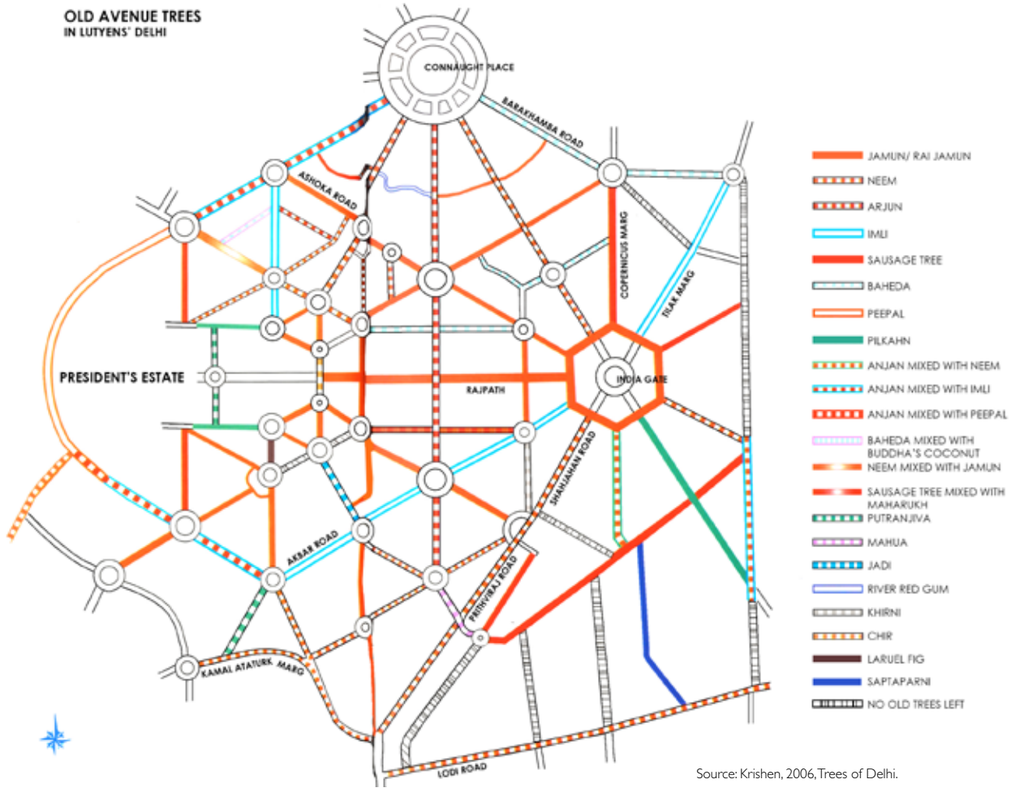
Residences, Lutyens Bungalow Zone

Source: https://badabingbadabambadaboom.wordpress.com/2012/04/27/my-life/

The erstwhile Maharajas were granted large plots in the study area to build their palaces in the new capital. The officer's bungalows were designed with small and compact quarters for gardeners and clerks. The size of the bungalows for different levels of gazetted officers were planned according to their official hierarchy. Senior civil servants lived in large houses that were set in spacious, walled-in gardens. (Singh M., Mukherjee R., Kapoor P., .2009)

Institutions are a large part of the study area which form a substantial portion of open spaces and contribute to the open green space system.

4.3.1 Tree Avenues



Source: Krishen, 2006, Trees of Delhi.

Behada Tree, Barakhamba Road

Barakhamba Road

Sausage Tree, Copernicus Marg

Copernicus Marg

Jamun/ Rai Jamun Tree, Feroz Shah Road

Feroz Shah Road

The new city was planned as a 'garden city', based on a geometric grid with avenues and axial vistas that terminate at hexagons.

The avenue trees chosen were based on the fact that the vistas were mostly flat and uninterrupted. These avenues highlighted significant architectural monuments such as Purana Qila, the Lodi Tombs and Safdarjung's Mausoleum. The size of the special trees selected determined the width of the avenues in which they were planted. The Town Planning Committee (1913) picked 13 types of avenue trees out of very large number that grew in Delhi. (Krishen, 2006)

4.3.2 Existing Vegetation

The green areas in the area of study are the result of British planning of the new capital with spacious plots and open spaces. Avenues and vistas were a distinct part of the planning process which remains a legacy of colonial rule. This peculiar character of the Lutyens Bungalow Zone differentiates it from the rest of Delhi and forms a green lung in central Delhi.

Aerial view of Lutyens Bungalow Zone

Source: http://www.thehindu.com

MAPPING AND SITE ANALYSIS

4.4 Development around the Site

The Lutyens Bungalow Zone has typical characteristics such as large plot sizes and a pleasant environment. In fact, the area is unique in its low density character in the heart of the city. The area is flanked by government institutions, government housing, educational institutions and is the cultural hub of the city, with many renowned art and literary institutes of the country.

The area is rich with heritage and has also accorded with the newer development like the Mass Rapid Transit System (MRTS), which has improved its connectivity to the rest of the city

Little Theatre Group, Copernicus Marg

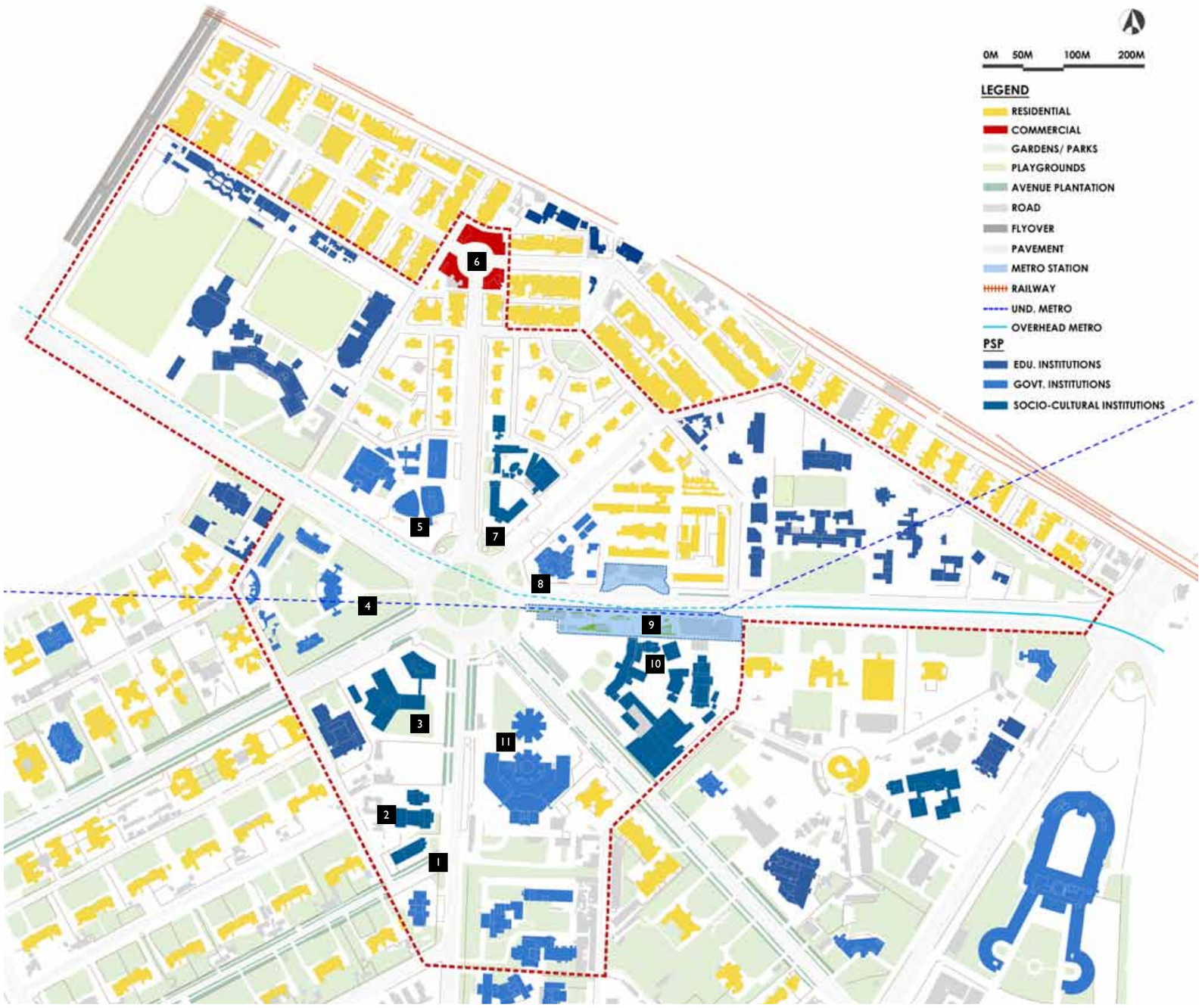
Kamani Theatre, Copernicus Marg

Ravindra Bhawan, Copernicus Marg

Embassy of Nepal, Barakhamba Road

National Museum for Natural History and FICCI Auditorium, Tansen Marg

Bengali Market, Tansen Marg



Sangeet Bharti, Tansen Marg

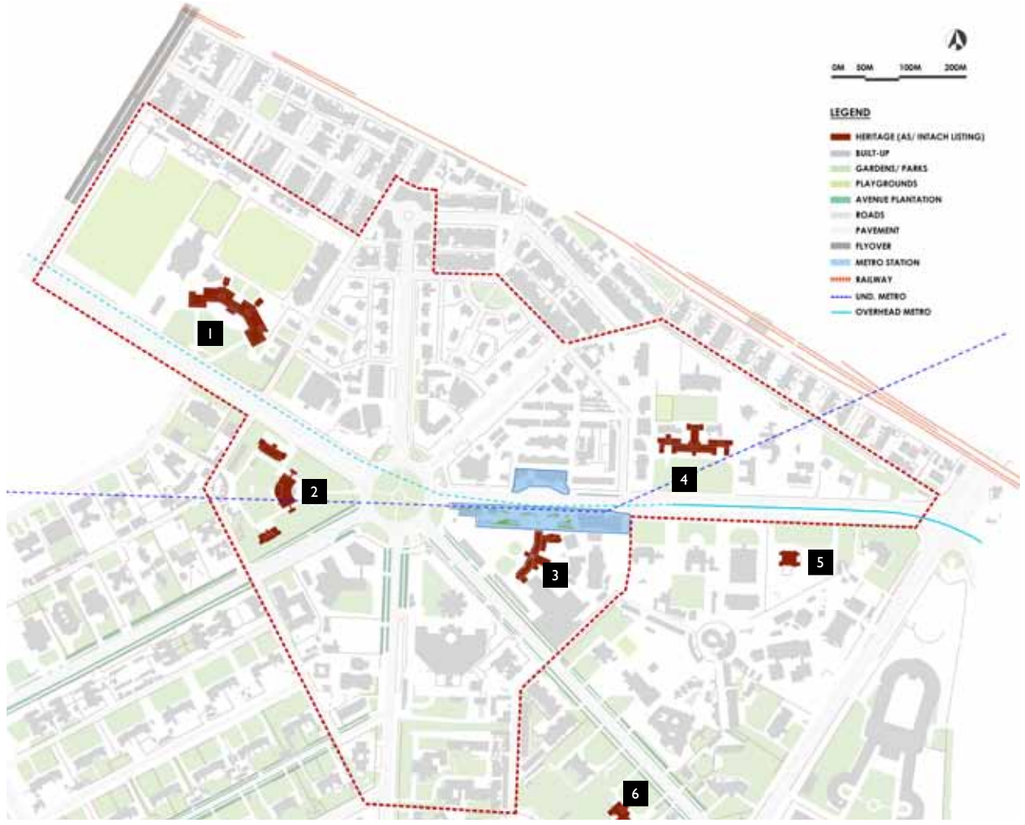
Himachal Bhawan, Sikandra Road

Mandi House Metro station, Sikandra Road

National School of Drama, Bhagwandas Road

Doordarshan Bhawan, Copernicus Marg

4.5 Heritage Monuments




Modern School, Barakhamba Road
Source: https://en.wikipedia.org/wiki/File:Modern_School,_Delhi.jpg


Lady Irwin College, Sikandra Road


Embassy of Nepal, Feroz Shah Road


Residence, Sikandra Road

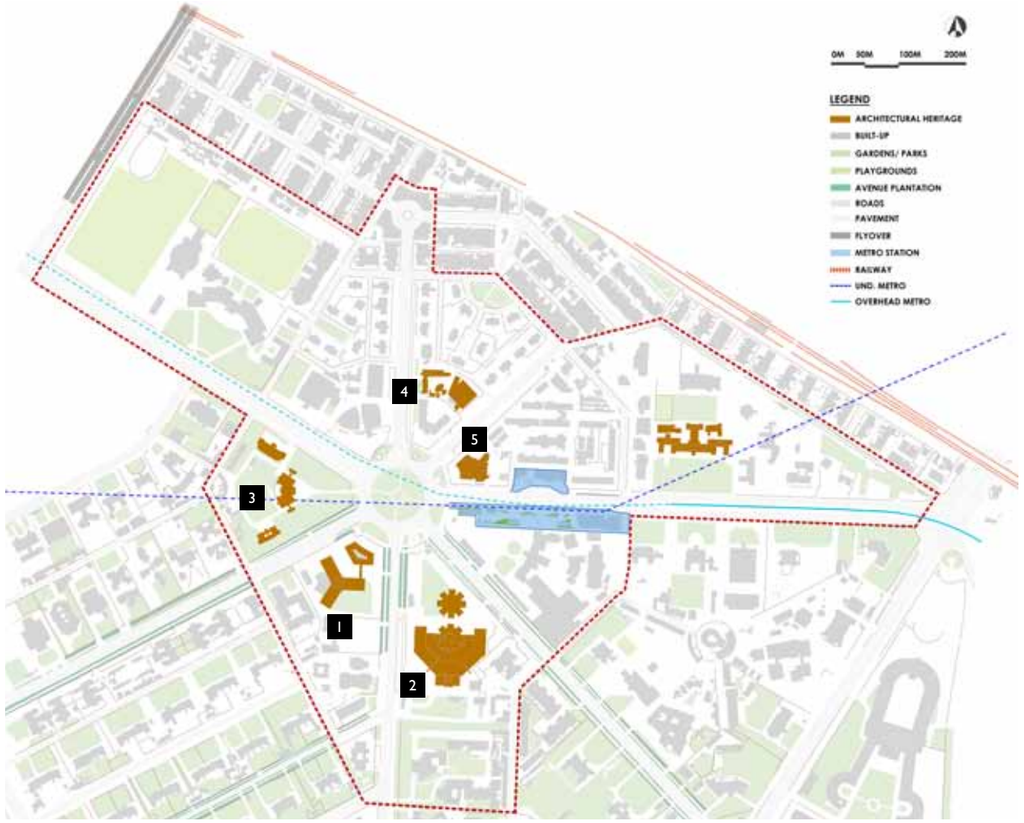

National School of Drama, Bhagwandas Road


Tehri Garhwal House, Bhagwandas Road

Heritage

The area is rich in architecture from the Colonial era. A few palatial residences were later converted for different uses. Residential palaces like Bahawalpur House, now the National School of Drama and Malerkotla House, now the Embassy of Nepal, are a few examples. Lady Irwin College is an example of Colonial Architecture.

4.6 Architectural Heritage




Ravindra Bhawan, Copernicus Marg


Embassy of Nepal, Feroz Shah Road


Doordarshan Bhawan, Copernicus Marg


Lady Irwin College, Sikandra Road


Triveni Kala Sangam, Tansen Marg

Legacy of Architecture

The area is enriched by the work of significant and renowned architects of the country from the British era to the present day. Different architectural styles from different eras can be seen here.

Lady Irwin College (1930)
Architect: Walter George.

Ravindra Bhawan (1957-63)
Architect: Habib Rahman

Shri Ram Centre (1966-1969)
Architect: Shivnath Prasad

Triveni Kala Sangam (1957-63)
Architect: Joseph Allen Stein

Doordarshan Bhawan (1957-63)
Architect: Raj Rewal

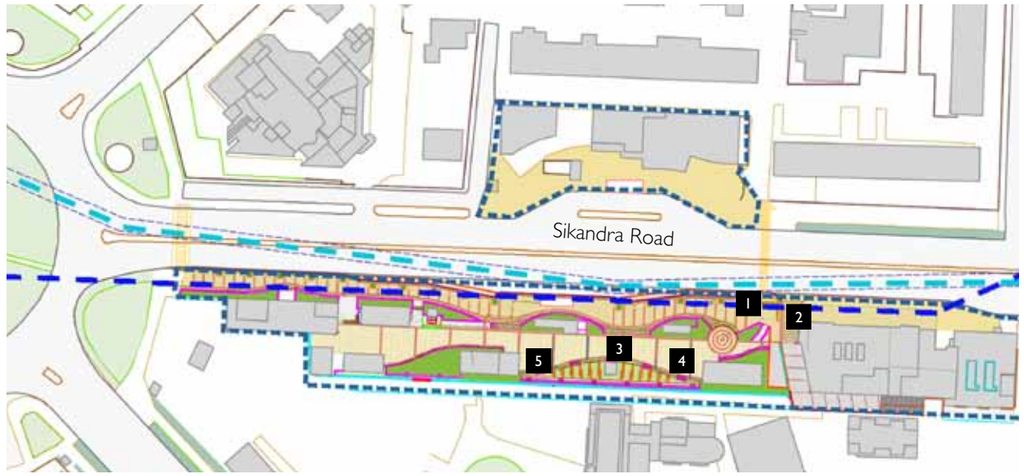
Himachal Bhawan(1982)
Architect: Satish Grover

4.7 Mandi House Metro Station

Key Plan

The Mandi House Metro Station is located on the Blue and Violet Lines of the Delhi Metro. It serves the cultural hub of Delhi – Mandi House area – which has the National School of Drama, Ravindra Bhawan, Sangeet Natak Akademi, Sahitya Akademi, Feroz Shah Kotla, Shri Ram Centre for Performing Arts and the Triveni Kala Sangam, besides Bengali Market and the nearby residential areas.

As part of Phase III of the extension of Delhi Metro, Mandi House has been expanded into an interchange station in order to reduce pressure on Rajiv Chowk station. The new line has integrated with the Badarpur corridor.



Site Plan: Mandi Metro Station

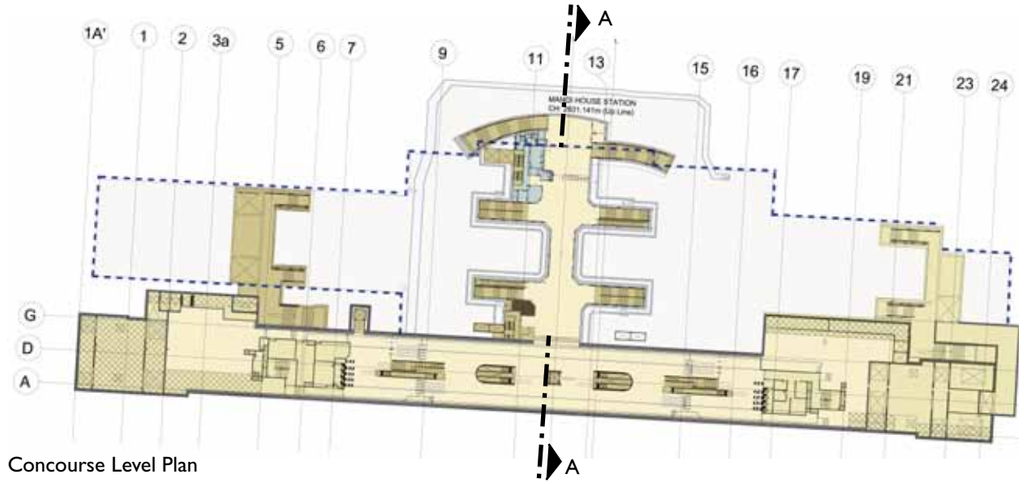
Mandi Metro Station, concourse level

Entrance plaza, Mandi House Metro station

Pedestrian Plaza in front of metro exit

Entrance plaza, Mandi House Metro station

Metro Entry/ Exit



Concourse Level Plan

Source: Delhi Metro Rail Corporation Ltd.

Section - AA

MAPPING AND SITE ANALYSIS

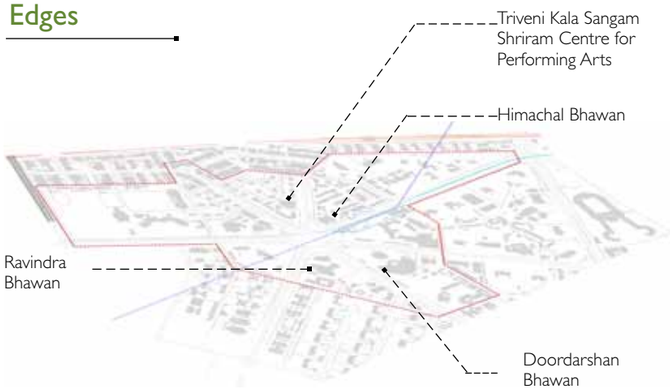
4.8 Urban Design Analysis

Paths


Pathway along Feroz Shah road


Pathway along Copernicus Marg

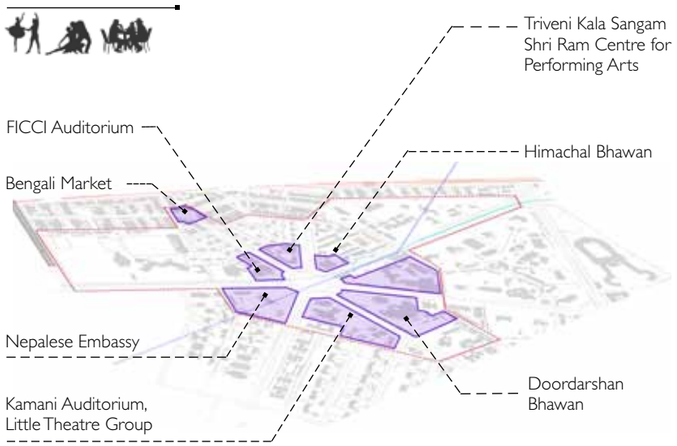
Edges




Doordarshan Bhawan


Ravindra Bhawan

Districts

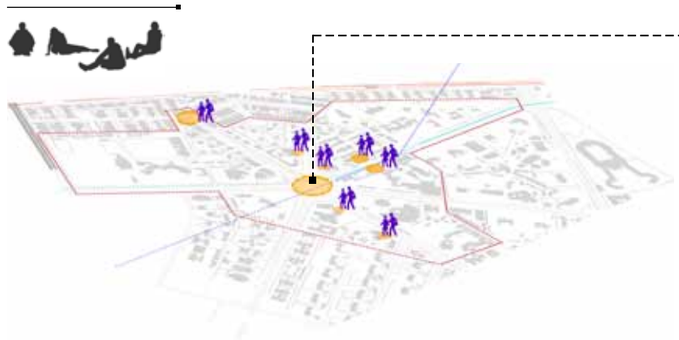



Triveni Kala Sangam


National School of Drama

4.8.1 Urban Node

Nodes




Mandi House Circle


Green spaces along FICCI auditorium

Landmarks


Triveni Kala Sangam

National School of Drama

Paths
Lutyens Bungalow Zone predominantly consists of wide avenues, pathways along roads with greenery around.

Edges
The edges in this area are not continuous due to the large plots designed as a part of its planning.

Districts
The art and cultural districts in the area form a significant zone for people visiting these places.

Nodes
Mandi House Circle forms an important junction, with transit interchanges and many districts in vicinity. It is a vital place locator for individuals to perceive nearby places.

Landmarks
Many institutions and auditoriums around the area, serve as landmarks to visitors. These landmarks help in orientation and make places easily identifiable.

4.8.2 Boundary Walls

Key Plan

Tansen Road

Wide avenues and large size plots are characteristics of the Lutyens Bungalow Zone. The boundary walls along the avenues form a significant character of the area. As the area mostly consists of government, non-government institutions, cultural institutions, markets along with a residential component – there is variety in the character of the boundary walls. This is an essential design component to address physical and visual barriers as a part of pedestrian infrastructure.

Bengali Market, Tansen Marg

No Physical Barrier

Boundary Wall, Govt. Housing, Tansen Marg

Semi-solid Boundary walls,
With Physical Barrier,
With Partial Visual Barrier

Boundary Wall, Govt. Housing, Tansen Marg

Solid Boundary Walls,
With Physical Barrier,
Visual Barrier

Boundary wall, Triveni Kala Sangam, Tansen Marg

Soft Boundary walls,
With Physical Barrier,
Partial Visual Barrier

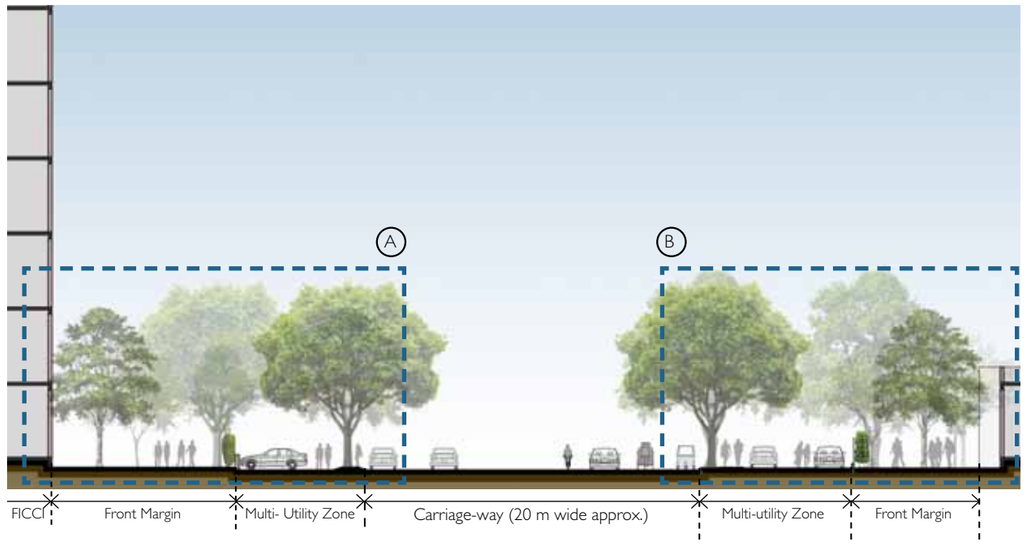
Boundary Wall, FICCI, Tansen Marg

Semi-solid Boundary Walls,
With Physical Barrier,
Partial Visual Barrier.

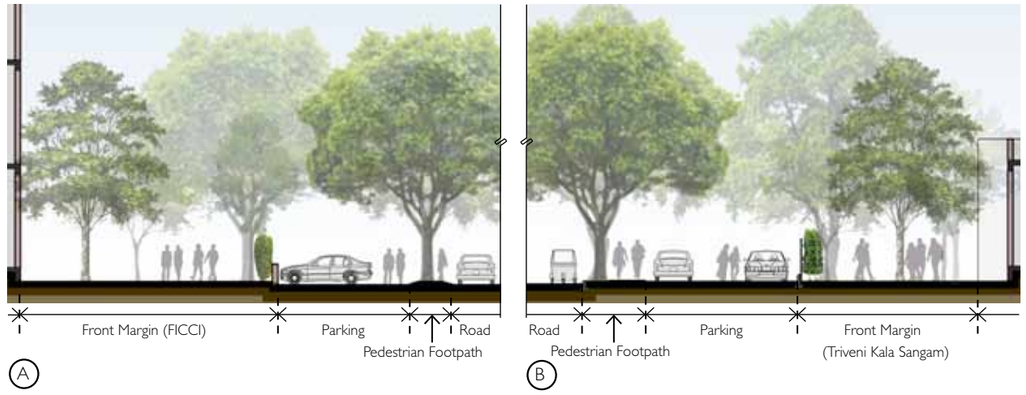
Boundary Wall, Sangeet Bharti, Tansen Marg

Semi-Solid Boundary Walls,
With Physical Barrier,
Partial Visual Barrier

Porous
Semi Porous
Non- Porous



Section - AA Tansen Marg



Section - BB

MAPPING AND SITE ANALYSIS

4.8.2 Boundary Walls

Key Plan

Safdar Hashmi Road

Wide roads with varied land uses have boundary walls depending upon the building typology. A variety of boundary wall are seen on Safdar Hashmi Marg, as a majority of these buildings are public in nature.

Boundary Wall, Shri Ram Centre for Performing Arts, Safdar Hashmi Marg

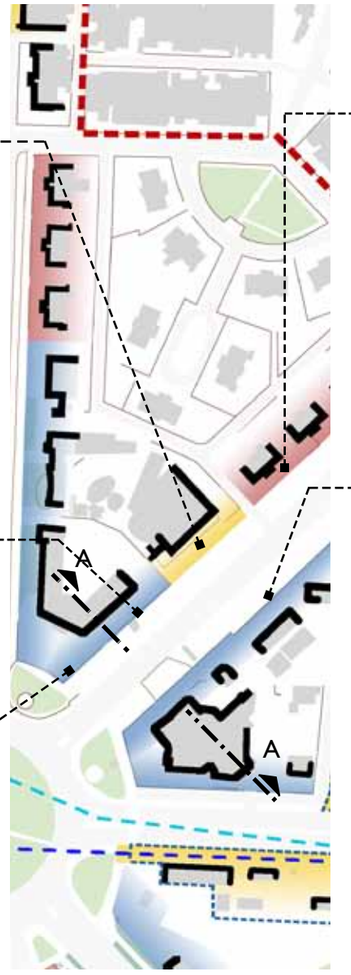
Semi-solid Boundary Walls,
With Physical Barrier,
Partial Visual Barrier.

Boundary Wall, Sangeet Bharti, Safdar Hashmi Marg

Solid Boundary Walls,
With Physical Barrier,
Visual Barrier

Boundary Wall, Sangeet Bharti, Safdar Hashmi Marg

Semi-solid Boundary Walls,
With Physical Barrier,
Partial Visual Barrier.



Boundary Wall, Govt. Housing, Safdar Hashmi Marg

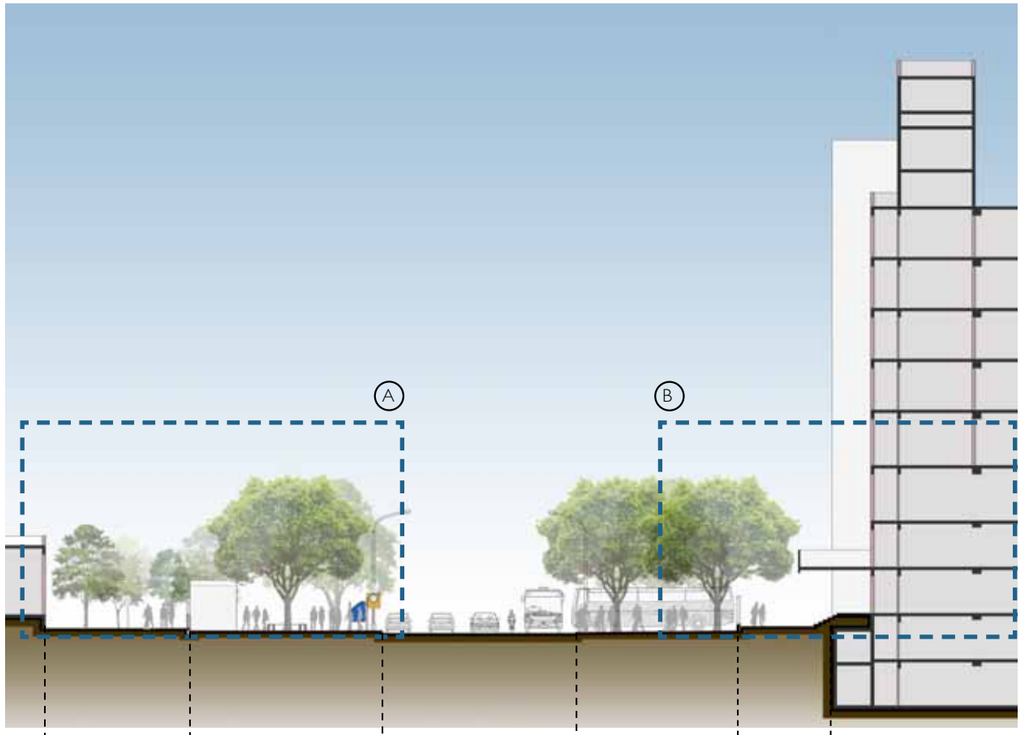
Solid Boundary walls,
With Physical Barrier,
With Visual Barrier

Boundary Wall, Himachal Bhawan, Safdar Hashmi Marg

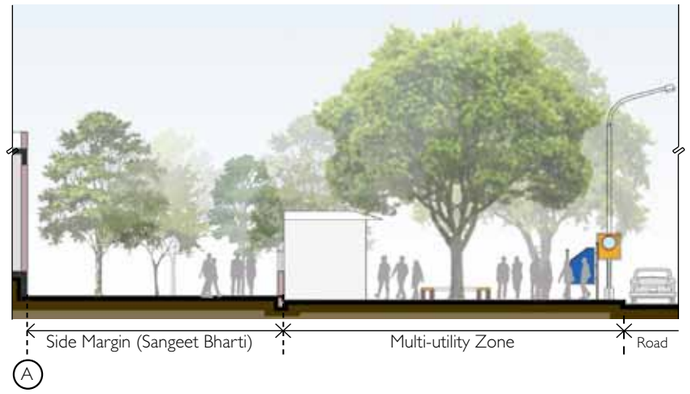
Solid Boundary Walls,
With Physical Barrier,
With Visual Barrier

Boundary Wall, adjacent to Himachal Bhawan, Safdar Hashmi Marg

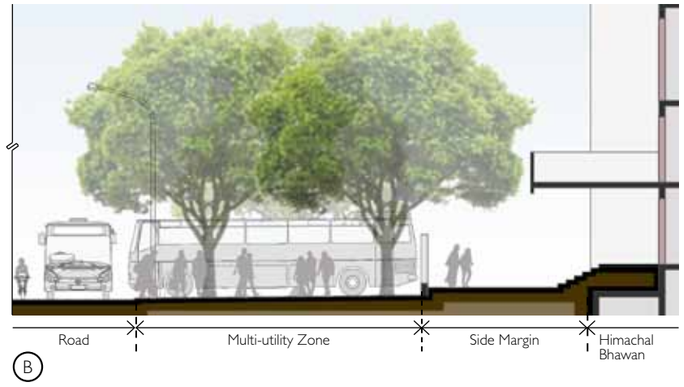
Solid Boundary walls,
With Physical Barrier,
Partial Visual Barrier



Section AA



A wide pedestrian pathway with seating along the pathway and ancillary facilities like eating kiosks along Sangeet Bharti makes the path attractive and usable.
Parking of two-wheelers hinders pedestrian movement.



Parked buses occupy the space along the wide pedestrian pathway outside Himachal Bhawan, which breaks pedestrian continuity.

4.8.2 Boundary Walls

Key Plan

Copernicus Marg

Some of the important cultural centres in this area are Ravindra Bhawan, Kamani Auditorium, Shri Ram Bhartiya Kala Kendra and Little Theatre Group. On the other side of the road is Doordarshan Bhawan, which has an exclusive entry to the complex.

Boundary Wall, Ravindra Bhawan, Copernicus Marg

Semi-solid Boundary Walls,
With Physical Barrier,
With Partial Visual Barrier

Boundary Wall, Doordarshan Bhawan, Mandi House Circle

Solid High Boundary Walls,
With Physical Barrier

Boundary Wall, Shri Ram Bhartiya Kala Kendra, Copernicus Marg

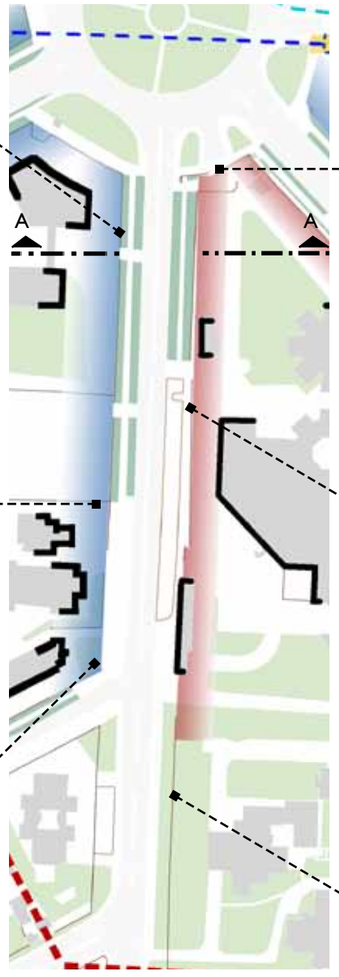
Soft Boundary Walls,
With Physical Barrier,
with Partial Visual Barrier

Boundary Wall, Doordarshan Bhawan, Copernicus Marg

Solid High Boundary walls,
With Physical Barrier,

Boundary Wall, Kamani Auditorium, Copernicus Marg

Semi-solid Boundary walls,
with Physical Barrier,
with Partial Visual Barrier



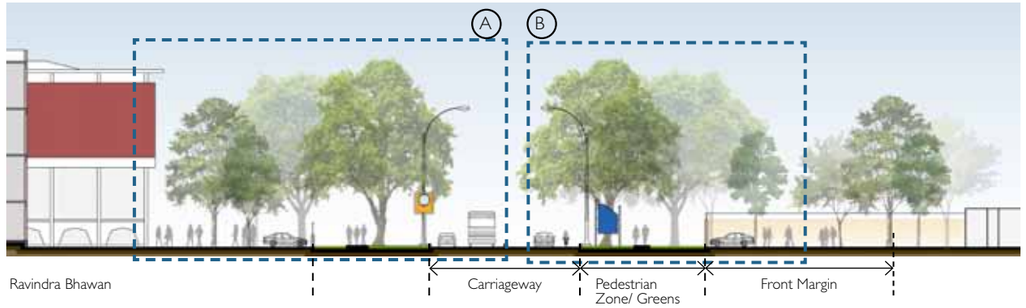
Porous

Semi-porous

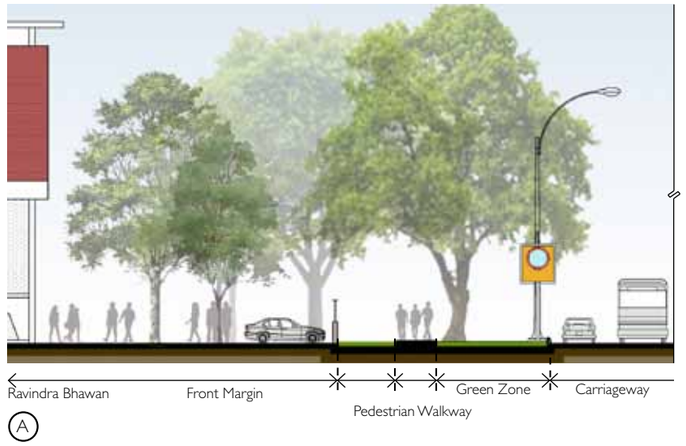
Non- porous

Boundary Wall, Maharashtra Sadan, Copernicus Marg

High Boundary Walls,
With Physical Barrier



Section - AA



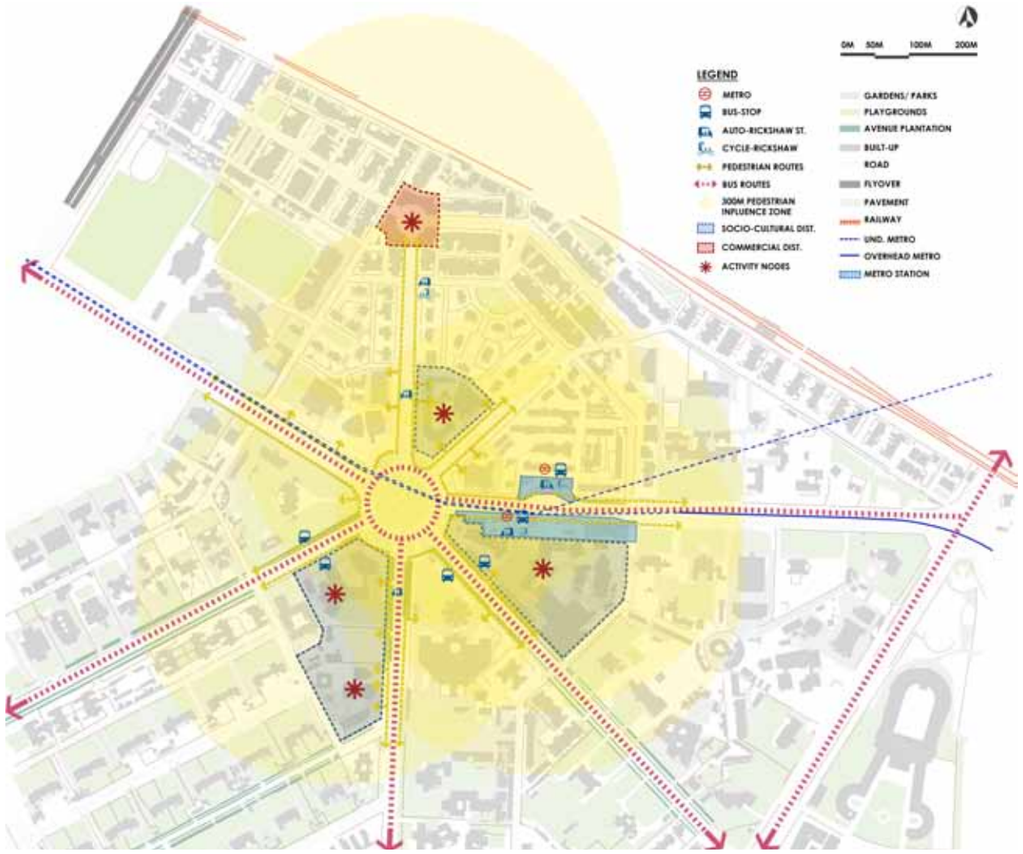
The boundary walls on the Ravindra Bhawan side are more porous in nature with semi-solid character.

The boundary walls here differ in character as per the building typology. Doordarshan Bhawan has very high boundary walls due to security reasons.

Ravindra Bhawan does not have any physical barrier.

Source: http://rabindrabhavandelhi.blogspot.in/

4.8.3 Activity Node: Sociocultural



Natonal School of Drama, Bhagwandas Road

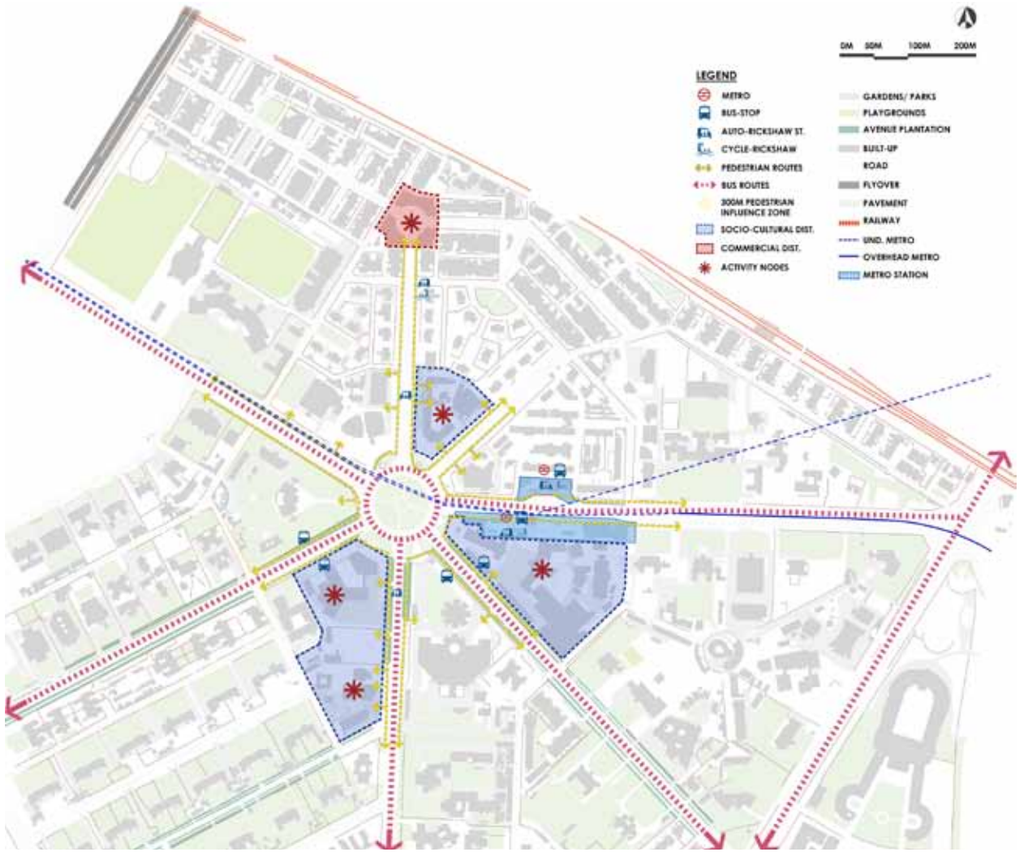
Triveni Kala Sangam, Tansen Marg

The cultural hub of the city is well-connected by all transport modes. Mandi House Metro station is significant in terms of people commuting to and from varied places. The area is well-connected by para-transit modes, bus stops and bus-shelters forming an essential element of the transport system.

Important sociocultural institutions such as Ravindra Bhawan, National School of Drama, Sangeet Bharti, Triveni Kala Sangam, Shri Ram Centre for Performing Arts, etc.,fall within walking radius of the Metro station.

The walking radius in the map above indicates the vicinity of institutions, offices, market places and residential areas. Mandi House Circle is a concentration of pedestrian activity, and is therefore a significant design element in which a central core of pedestrian related facilities, connects the concourse level of the Metro without conflicting with the thoroughfare.

4.8.4 Urban Districts/Node



Ravindra Bhawan, Copernicus Marg

Source: https://www.flickr.com/photos/sreenivasan/13215522474

Shriram Centre for Performing Arts, Safdar Hashmi Marg

The city's cultural hub are important urban nodes of the city which attract many visitors from all over the city. Each of the cultural districts are a hub of multi-disciplinary activities, but are disconnected by means of accesibility. Spaces where people walk, bicycle, drive, park, shop need essential design considerations for efficient use of space.

4.9 Cultural Hub

Key Plan

Mandi House Circle and its vicinity is renowned as the cultural hub of the city. The area has many art and cultural institutions as well as the city's important auditoriums. Some of the institutions were founded just after Independence and are still thriving with the same vigour with which they were started.

Triveni Kala Sangam

Triveni Kala Sangam

Triveni Kala Sangam is an important cultural and arts complex and education centre founded in 1950, by Sundari K. Shridharani, who was also its founding director. Triveni, as it is commonly known, contains four art galleries, a chamber theatre, an outdoor theatre, an open air sculpture gallery, besides this it runs its various art, music and dance classes.

Source: https://en.wikipedia.org/wiki/Triveni_Kala_Sangam

Sangeet Bharti

Sangeet Bharti

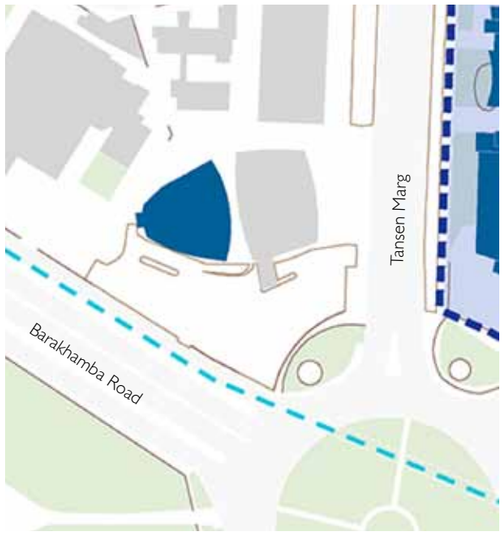
Sangeet Bharti is another significant institution which forms a part of the cultural hub. It is one of the oldest institutions which started in 1955. It promotes dance and music. Dance forms such as Kathak and Bharatnatyam form part of the courses offered by the institution.

Shri Ram Centre for Performing Arts

Shriram Centre for Performing Arts

Shri Ram Centre for Performing Arts was originally known as the Indian National Theatre in 1948. It promotes arts and culture as well as nurture talents in the field of performing arts and preserve Hindi theatre along with other forms of globally recognized performing arts. It includes a theatre for the performing arts, a theatre repertory company and an acting school.

Source: http://shriramcentre.org



FICCI Auditorium

FICCI KK Birla Auditorium:

FICCI KK BIRLA AUDITORUM has a capacity of 626 and boasts of a large open ground which can be used as a venue for exhibitions, lunches, dinners and team activities.

Source: http://ficciauditorium.com/

Bengali Market

Bengali Market

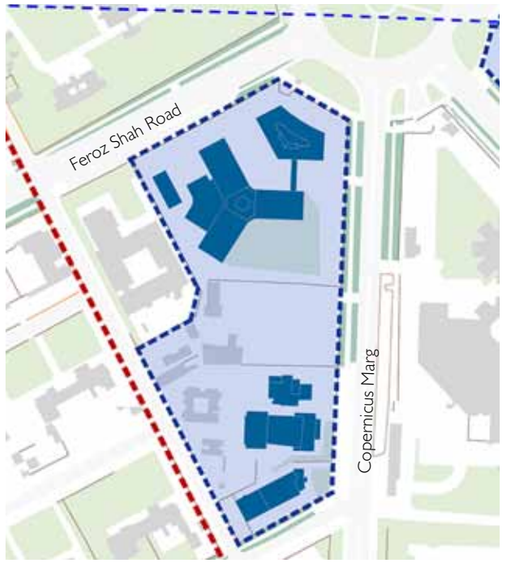
Bengali Market (its actual name is Mal Market) is among the oldest and most popular markets in New Delhi. A cultural hub, only a few kilometres away from Connaught Place, it was built by a Bengali, Mal Lohia, in 1930. It is a relatively small market, comprising several stores situated in a circular manner around a traffic roundabout. Today, it is famous for its North Indian street food, and shops selling sweetmeats, such as Nathu's Sweets (specializes in channa-bhature) and Bengali Sweet House.

Source: https://en.wikipedia.org/wiki/Bengali_Market

Key Plan

Ravindra Bhawan

Rabindra Bhawan Houses: Sangeet Kala Akademi, Sahitya Akademi, Lalit Kala Akademi



Lalit Kala Akademi

Lalit Kala Akademi, the National Academy of Art, was set up by the Government of India on 5 August, 1954, and was registered under the Societies Registration Act 1860, on 11 March, 1957. In pursuance of the objectives set out in the constitution, the organization functions through its General Council, Executive Board and other Committees. Lalit Kala Akademi is the Government's apex cultural body in the field of visual arts in India. It is an autonomous body, which is fully funded by the Ministry of Culture. The Akademi is an independent organization and functions at arm's length from the Government.

Sahitya Akademi

The Sahitya Akademi was formally inaugurated by the Government of India on 12 March 1954. The Government of India Resolution, which set forth the constitution of the Akademi, described it as a national organization to work actively for the development of Indian letters and to set high literary standards, to foster and coordinate literary activities in all the Indian languages and to promote through them the cultural unity of the country. Though set up by the Government, the Akademi functions as an autonomous organization. Sahitya Akademi, India's National Academy of Letters, is the central institution for literary dialogue, publication and promotion in the country and the only institution that undertakes literary activities in 24 Indian languages, including English.

Sangeet Natak Akademi

The Sangeet Natak Akademi, India's first national academy for music, dance and drama, was set up by the Republic of India, which was created on 31st of May 1952. It is the apex body of the performing arts in the country which preserves and promotes the vast intangible heritage of India's diverse culture, expressed in the form of music, dance and drama. The Akademi coordinates and collaborates with the governments and art academies of different States and Territories of the Union of India as also with major cultural institutions in the country.

Source: http://sahitya-akademi.gov.in/sahitya-akademi/aboutus/about.jsp

Shri Ram Bhartiya Kala Kendra

The Shri Ram Bharatiya Kala Kendra's beginnings can be traced to a small but exclusive sponsoring body called 'Jhankar' which was set up in 1947. The Kendra formally came into existence in 1952, since then it has grown and blossomed over the years, as one of the premier cultural institutions of India.

Ever since its inception, the preservation of the country's cultural heritage and the promotion of performing arts has been the active concern of the Kendra. The Kendra maintains a permanent dance-drama group.

Source: https://www.thekendra.com/

National School of Drama

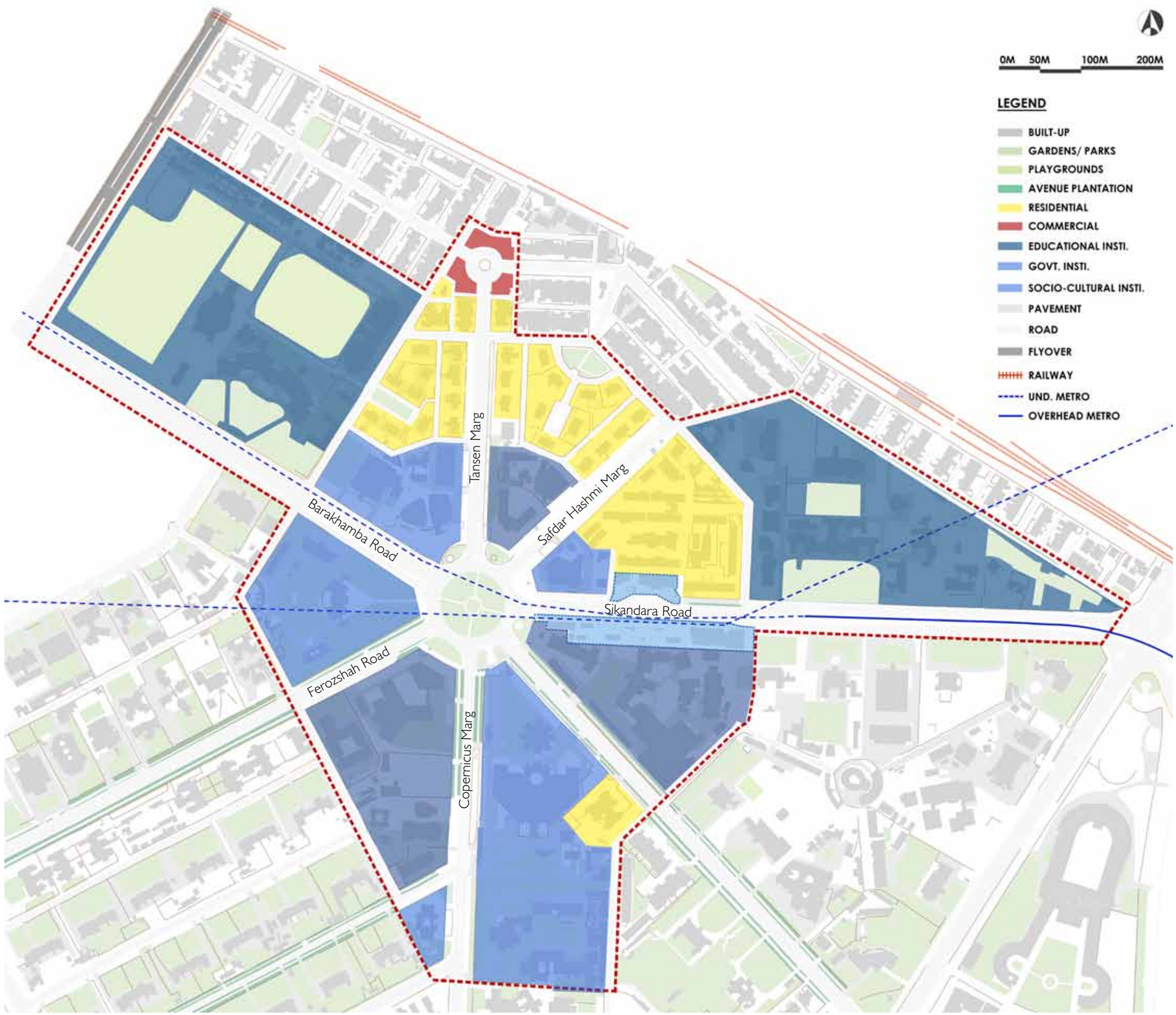
The National School of Drama is one of the foremost theatre training institutions in the world. It was set up by the Sangeet Natak Akademi as one of its constituent units in 1959. In 1975, it became an independent entity and was registered as an autonomous organization under the Societies Registration Act XXI of 1860, fully financed by the Ministry of Culture, Government of India. Training in the School is highly intensive and is based on a thorough, comprehensive, carefully planned syllabus which covers every aspect of theatre and in which theory is related to practice. As a part of their training, students are required to produce plays which are then performed before the public.

Source: http://nsd.gov.in/delhi/

Since most of the auditoriums are located in this area, parking is one of the prime concerns of the place. The following table shows the seating capacities of the auditoriums and the parking conditions:

S. No.	Auditoriums/ theatre	Seating Capacity	Parking
1.	Little Theatre Group	327 seats	On-road parking – Parking along Copernicus Lane and neighbouring streets neighbouring streets
2.	Kamani Auditorium	632 seats	
3.	Meghdoot Theatre Theatre 1 Theatre 2	327 150 100	
4.	National School of Drama Abhimanch Auditorium Sammuk Auditorium Bahumukh Auditorium	 350 96 75-100	On-road parking Parking along Bhagwandas Road and on neighbourhood streets
5.	Shri ram Centre for Performing Arts	556	Along Safdar Hashmi Marg
6.	FICCI	626	Surface parking in the premises

4.10 Conclusion



Conclusion

The area is mostly surrounded by sociocultural institutions, government offices, markets as well as residential areas. The cultural hub of the city attracts many people from distant parts of the city.
Transit nodes like the Mandi House Metro station, which also is an interchange station, connects this area with distant parts of the city. Many renowned auditoriums of the city are located in vicinity of the Metro station. The opportunity to connect different cultural districts with a safe pedestrian network is one of the essential design parameters.

Aims

To connect the isolated cultural districts, enhance pedestrian routes and develop bicycle routes. Programming the central core (open green space) with people-friendly activities and activities related to art and culture.

Objectives

- Pedestrian mobility with biking facility across all institutions and adjacent area without interfering with vehicular traffic.
- Softening edges of institutions, visual connectivity across radials to enhance pedestrian movement.
- Parking provisions for auditoriums with options of shared parking for surrounding developments.
- Proposed schemes to be energy sustainable with water conservation and tree conservation.

5.1 Proposal I

Site Plan

Proposal I

Minimum Intervention: Existing infrastructure with enhanced efficiency

- Use of surrounding roads for parking – Mechanised Parking
- On-grade pedestrian crossings with programmed signalization
- Enhanced pedestrianization

The design strategy focuses on the optimization of available parking in front of the institutions and making provisions for mechanised parking. This will improve the efficient width of the roads which are currently choked due to the on-street parking.

Parking Requirement

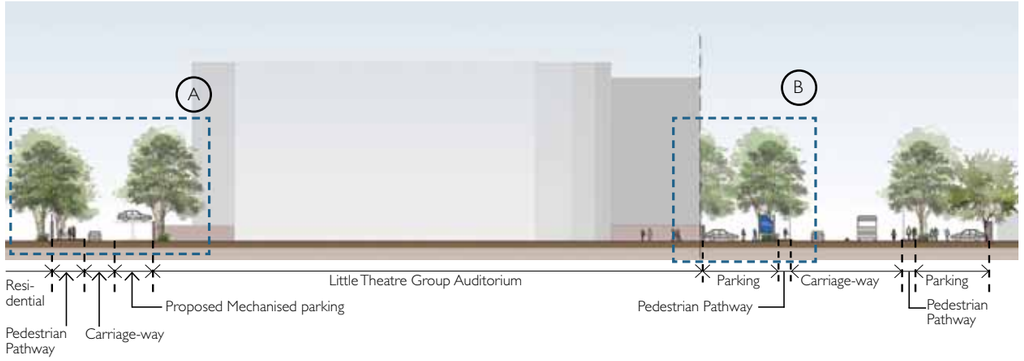
A In front of DOORDARSHAN BHAWAN
Surface Car Parking = 35 Nos.

B In front of KAMANI and LTG
Surface Car Parking = 19 Nos.

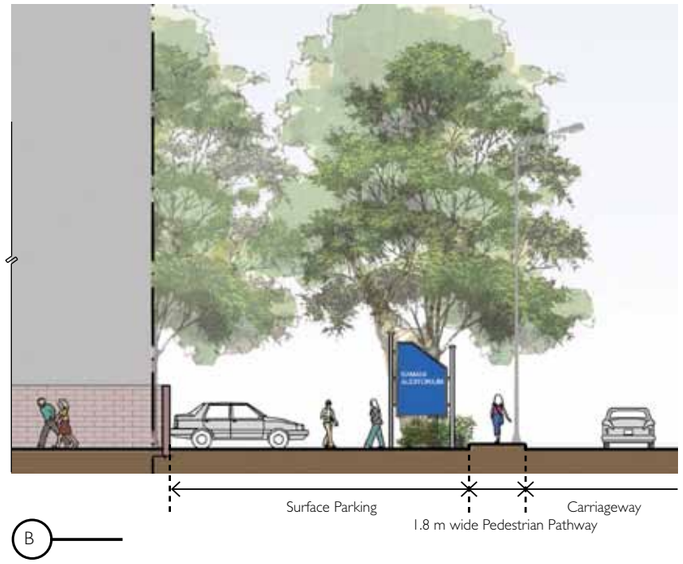
C Next to Central Administrative Tribunal = 22 Nos.

D Proposed Stack Car Parking (2 tier)
behind Kamani audi/ LTG
= 73 X2
= 146 Nos..

E Total car parking achieved = A+B+C+D= 222 Nos.



Section - AA



5.2 Proposal II

Site Plan

Proposal II

Precinct Plan: Institutional consolidation and creation of soft boundaries

- Surrounding surface parking including shared parking with all the institutions around.
- Soft boundaries for visual access
- Enhanced pedestrianization

One of the key issues here is to address the parking for the auditoriums which create congestion on the roads and abutting streets. In this proposal, parking (inside the premises) of the surrounding institutions like Doordarshan Bhawan, Ravindra Bhawan is used with the available surface parking, along these institutions. The strategy is also to open up the boundaries which are solid and visually obstruct pedestrian view.

Parking Requirement

A RAVINDRA BHAWAN:
Shared Parking : Total car parking space available : 445 Sq. m.
Car Parks = 16 Nos.

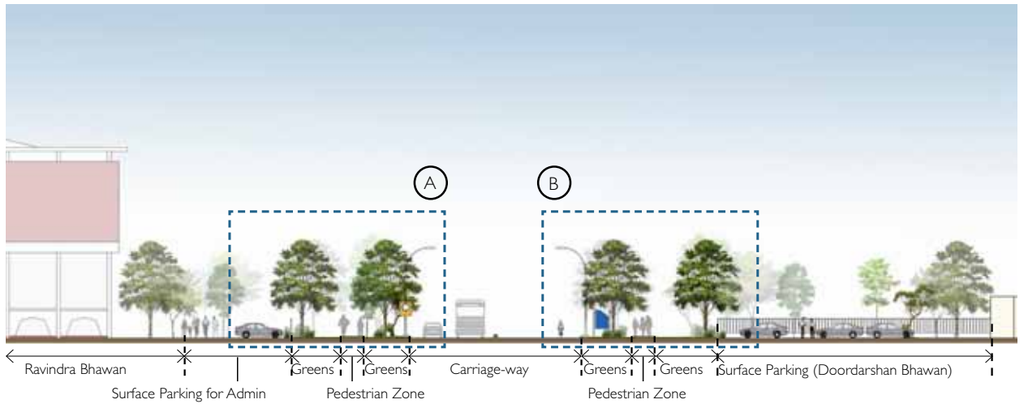
B DOORDARSHAN BHAWAN:
Surface Car Parking = 117 Nos.

C In front of DOORDARSHAN BHAWAN
Surface Car Parking = 35 Nos.

D In front of KAMANI and LTG
Surface Car Parking = 19 Nos.

E Surface Car Parking behind LTG and Kamani Auditorium
= 51 Nos.

Total car parking spaces
A+B+C+D+E = 260 Nos.



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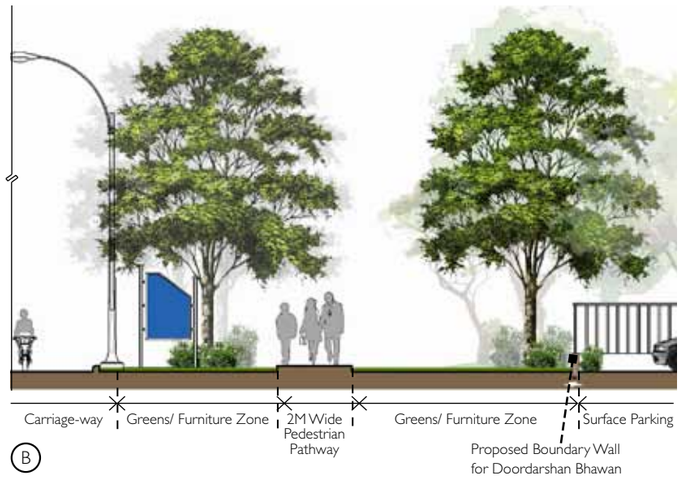


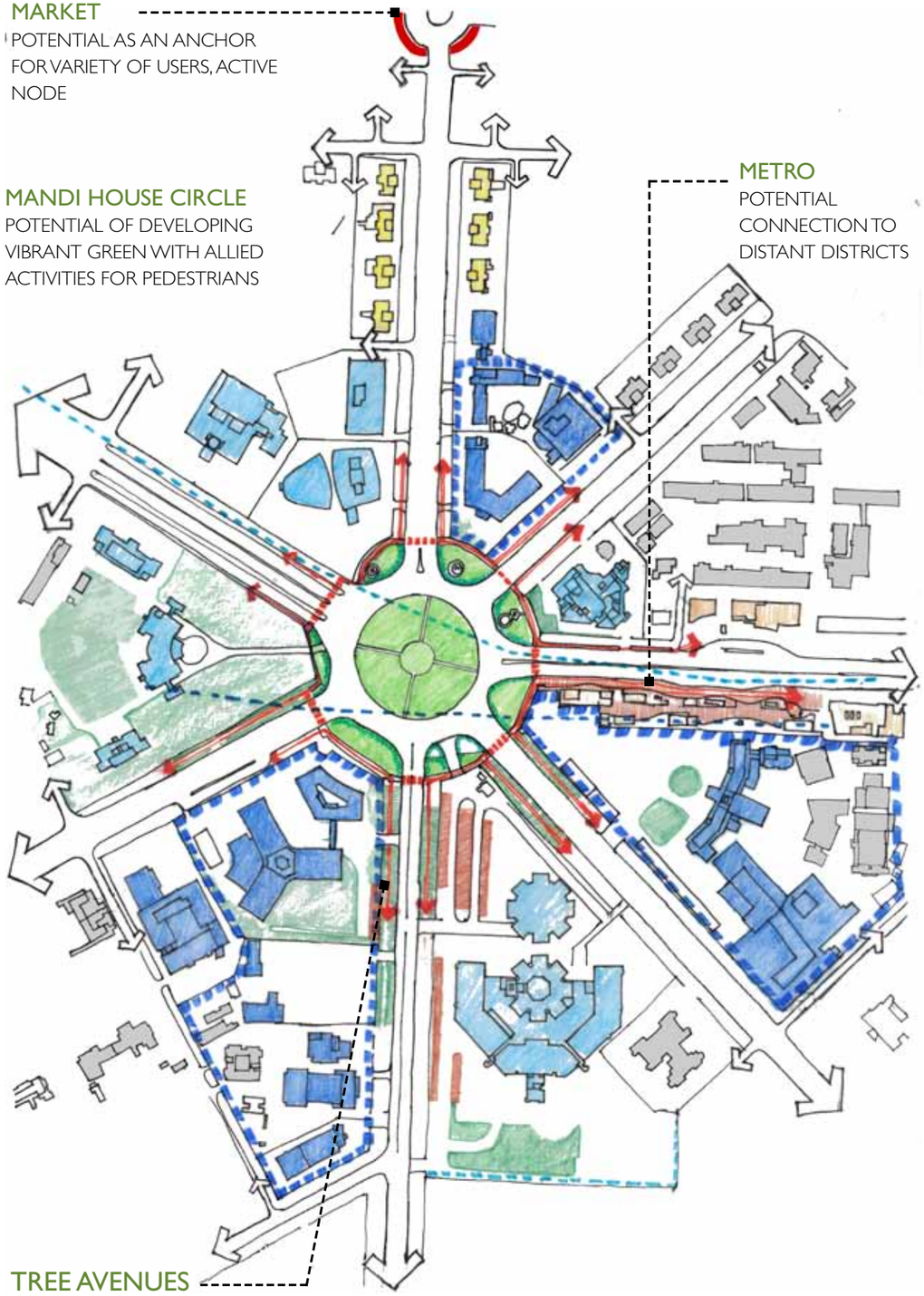
5.3 Proposal III

5.3.1 Schematic Plan: Potentials

MARKET
POTENTIAL AS AN ANCHOR FOR VARIETY OF USERS, ACTIVE NODE

MANDI HOUSE CIRCLE
POTENTIAL OF DEVELOPING VIBRANT GREEN WITH ALLIED ACTIVITIES FOR PEDESTRIANS

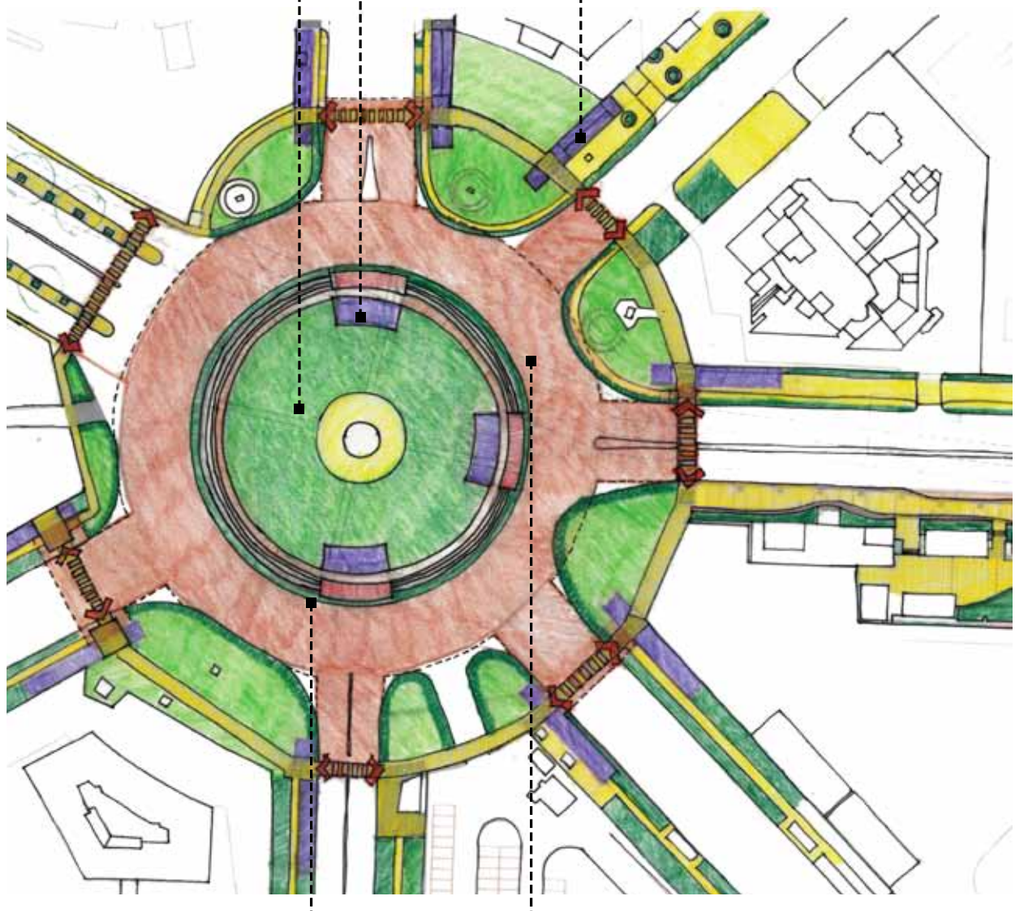
METRO
POTENTIAL CONNECTION TO DISTANT DISTRICTS



TREE AVENUES
ACT AS VIBRANT GREEN SPACE, ENHANCED WITH PEDESTRIAN AMENITIES

SUNKEN COURT
POTENTIAL AS RECREATIONAL SPACE, STAIRCASE TO ACCESS THE SEATING AREA ABOVE

LIFT/ RAMPS
ACCESS TO THE SEATING AREA AT UPPER LEVEL AND CONNECTING THE CONCOURSE LEVEL.



EARTH BERM
A GREEN BUFFER TO CURB SOUND FROM AUTO MOBILES

COMMERCIAL
POTENTIAL ANCHOR FOR PEDESTRIANS

DESIGN PROPOSAL

5.3.2 Design Strategy

Metro Entrance Plaza
Entrance Plaza with shade and waiting areas


Mandi House Metro station


Garden of Five Senses, New Delhi

Pedestrian Walkway
A walkway with resting and seating places


Khan Market Metro station exit.


Pedestrian walkway, Police Headquarters, New Delhi

Kiosks
Anchor pedestrian movement

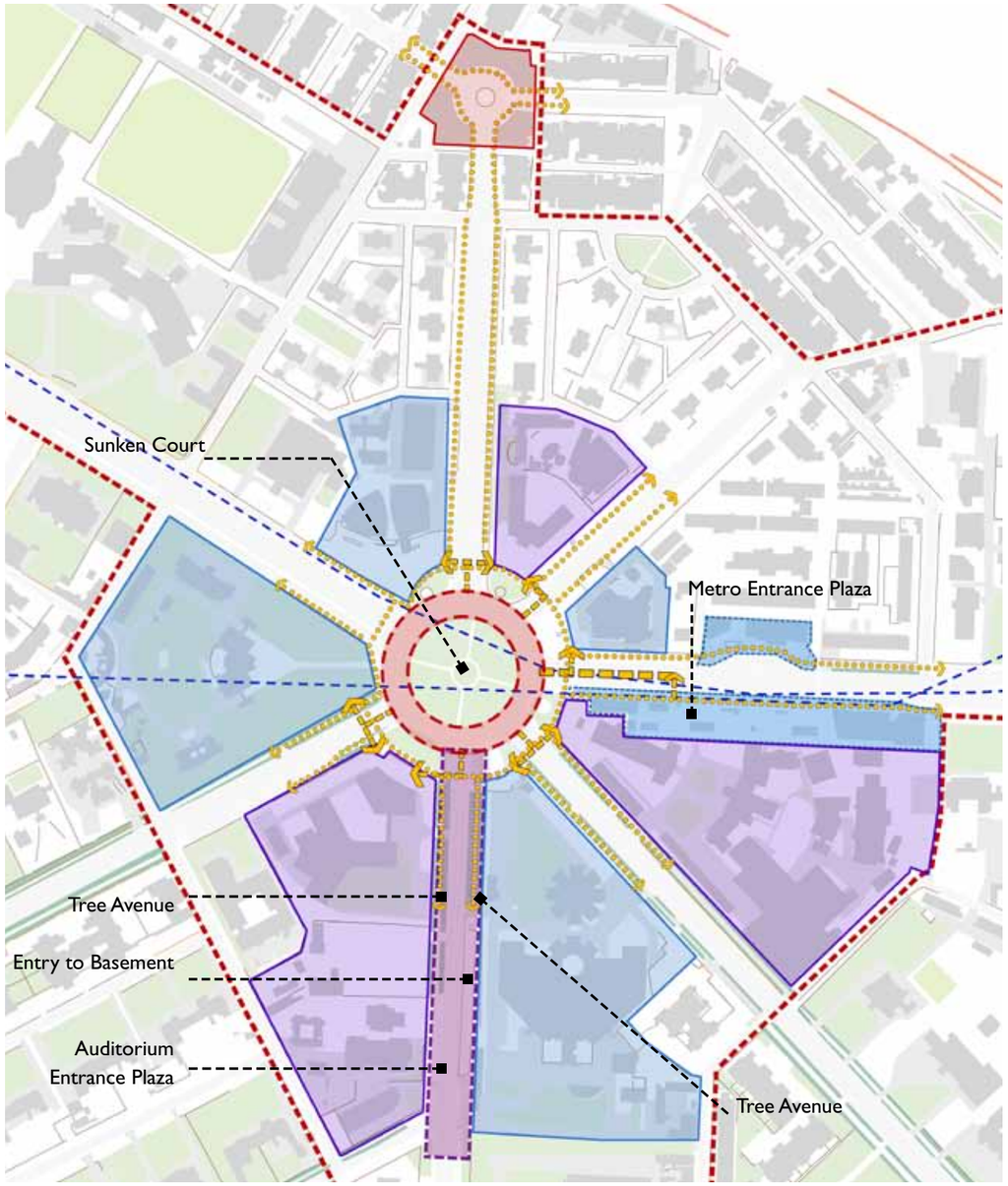
Exits
The lifts and ramp exits to be in correlation with the urban context


Kiosks along pedestrian pathway, ITO, New Delhi


Cheonho Station exit. 7, on the Seoul Subway Line 5 and Line 8

Tree Avenue
A physical and a visual connector to the plaza

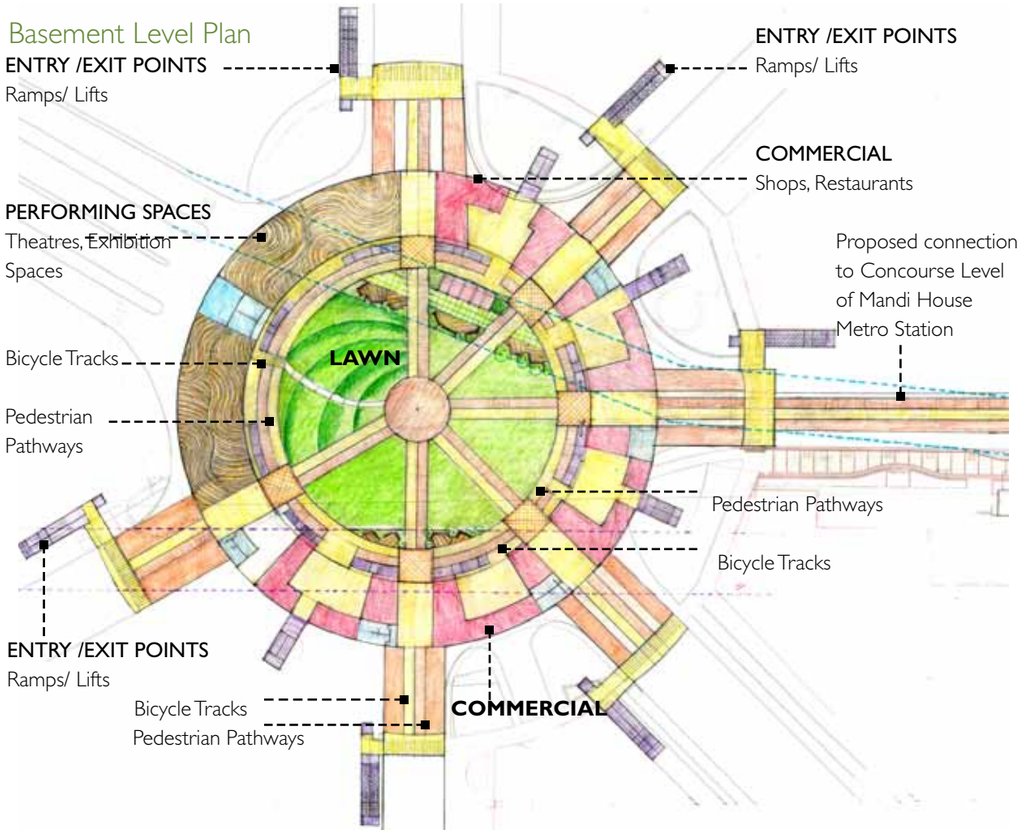

Pedestrian walkway, School of Planning and Architecture, New Delhi



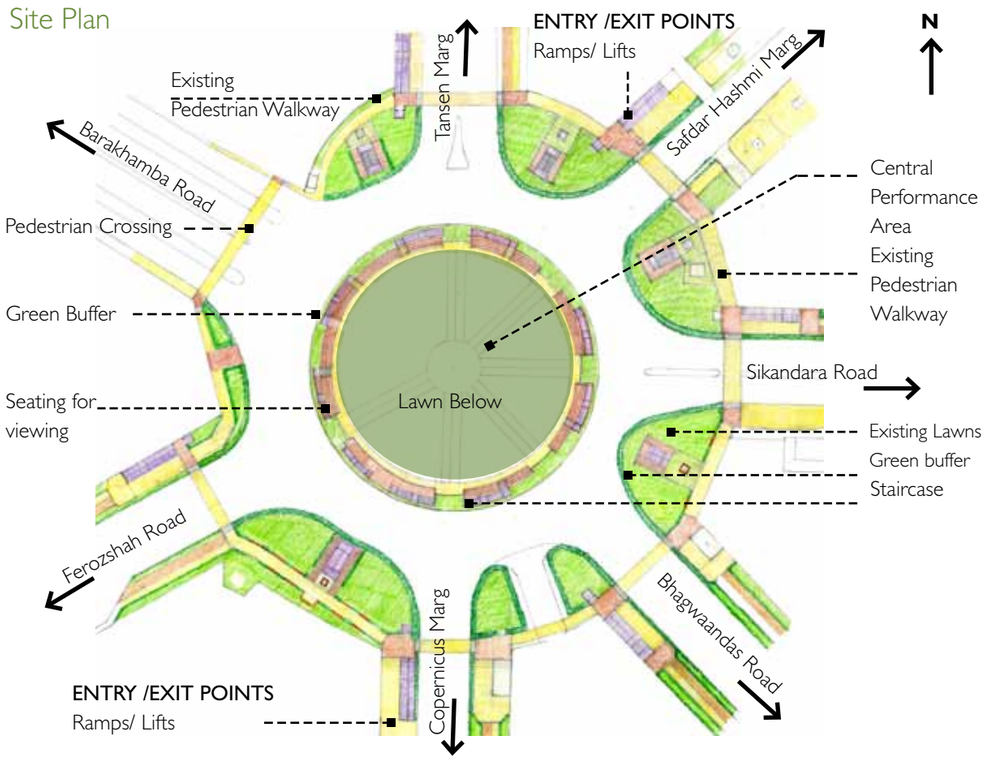
BUILT-UP
GARDENS/ PARKS
PLAYGROUND
SOCIOCULTURAL INSTI.
GOVERNMENT INSTI.
UNDER GROUND COMMERCIAL
BASEMENT PARKING
ROADS
PEDESTRIAN NET.
SITE DEMARCATION

5.3.3 Design Development

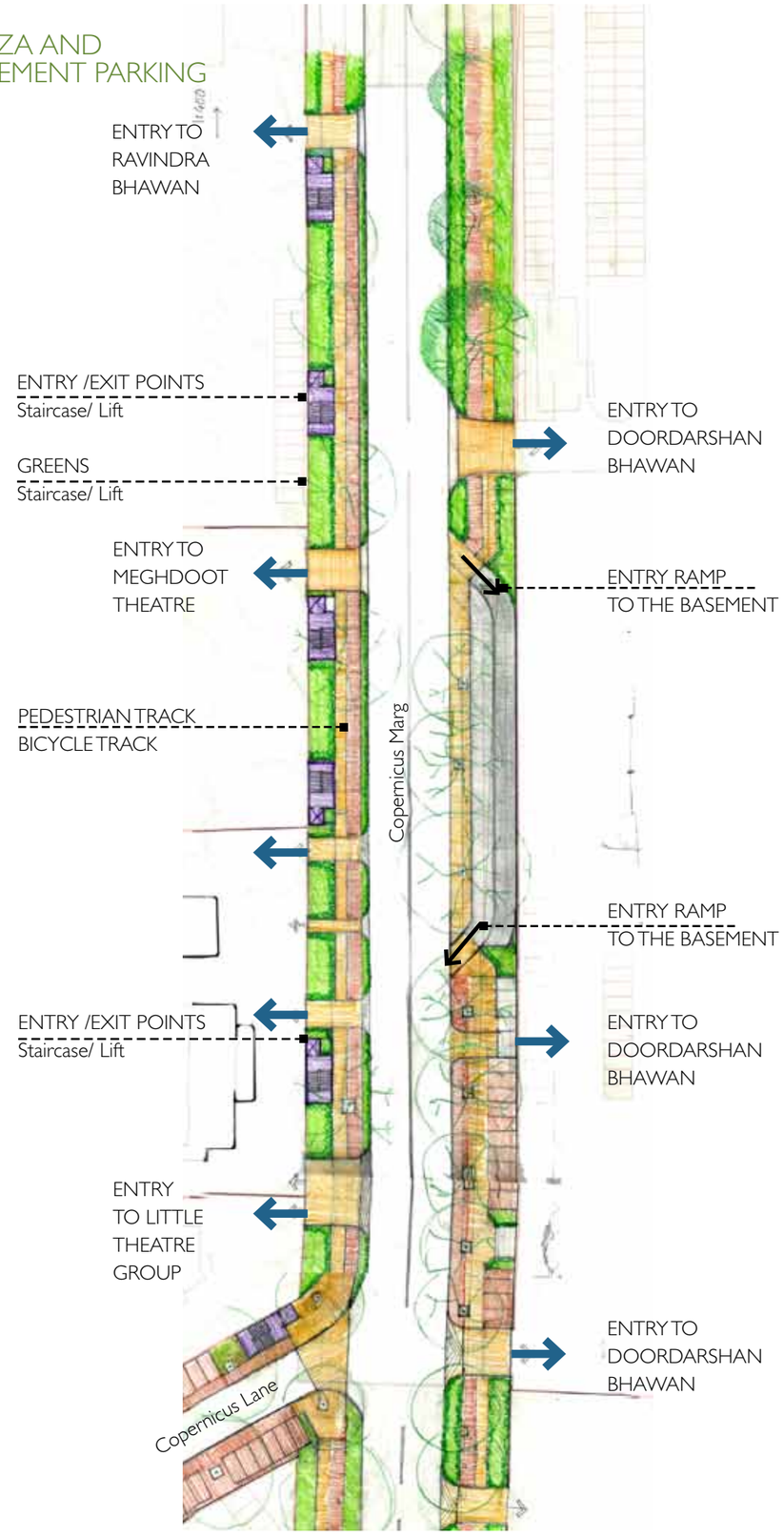
Basement Level Plan



Site Plan



PLAZA AND BASEMENT PARKING



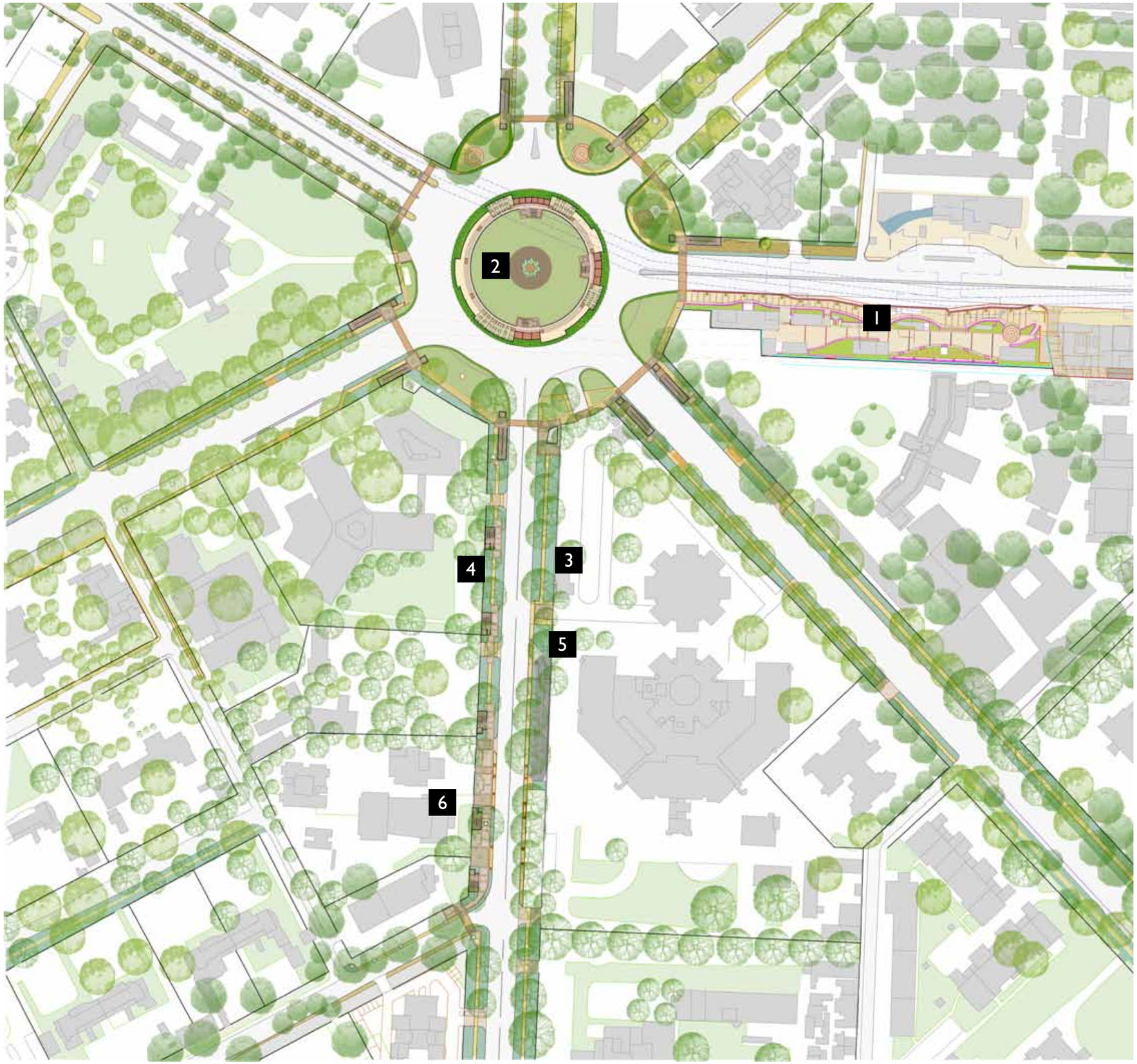
5.4 Proposal III: Site Proposal

Proposal III: Neighbourhood and Institutional Integration Plan

- Underground parking
- Plazas, precinct connectivity,
- Recreational facilities with amenities like restaurants and kiosks for pedestrian utility

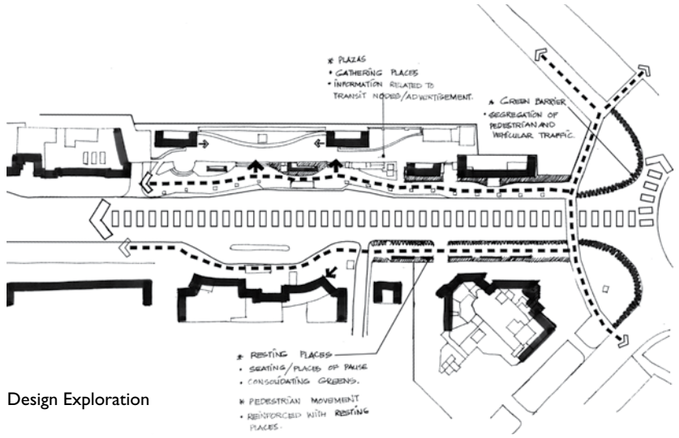
Site Plan

1. Metro Plaza
2. Sunken Court
3. Tree Avenue-I
4. Tree Avenue-II
5. Entry to Basement
6. Auditorium Entrance Plaza



DESIGN PROPOSAL

5.4.1 Metro Plaza



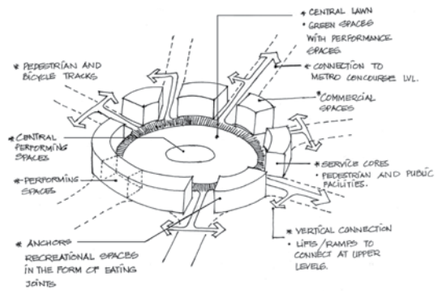
Design Exploration

Plazas and pedestrian walkways are planned to provide greater visibility, safety and convenient access to the stations. Apart from providing a continuous pedestrian movement, plazas also act as a space of congregation for people. These also provide opportunity for transit information, identification of a place, and locating the user. Well-paved surfaces, sufficient lighting and signage strengthen pedestrian plazas and corridors making them safe and usable.

View 1

Key Plan

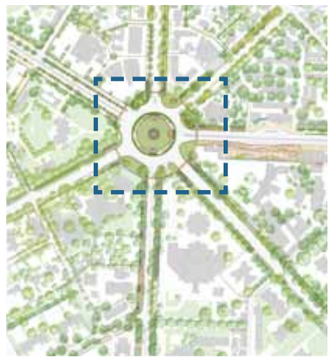
5.4.2 Sunken Court



Design Exploration

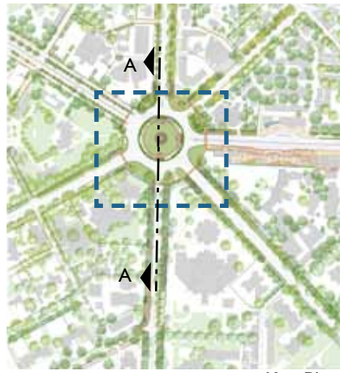
The Sunken Court and the recreational activities provided on the upper level give pedestrians the opportunity to use the open space without crossing the thoroughfare. It connects the concourse level of the Metro station and further connects the art district giving pedestrians unhindered movement. Provision of bicycles further strengthens the network. Recreational facilities and ancillary activities like kiosks and restaurants anchors pedestrian movement.

View 1



Key Plan

5.4.2 Sunken Court

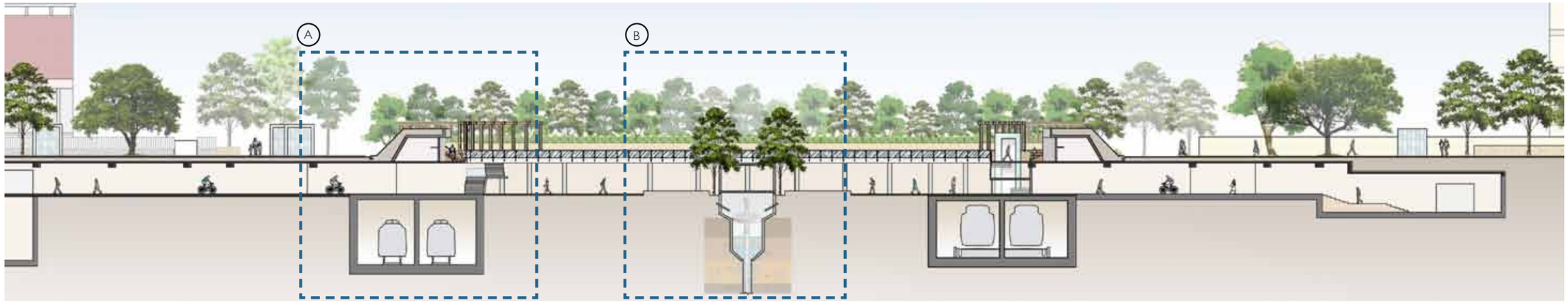


Key Plan

View of the Ramps and Bicycle booth

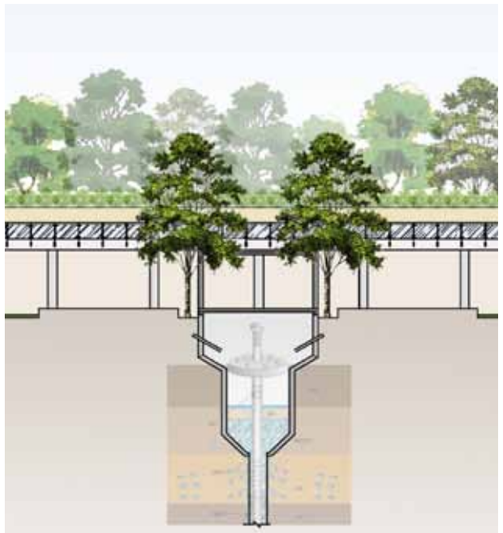
The concourse level of the metro is connected to the upper level by means of lifts and ramps to facilitate movement of differently abled, pedestrians and the bicycle users. The bicycle booth are provided to issue the bicycles for further connectivity to different places.

View of the Restaurants, Bicycle track and Pedestrian pathway at concourse level



Section - AA

(A) Earth Berm along circle, with shops below



(B) Proposed Rain Water Harvesting below central performing space

Commercial spaces are provided in the form of retail shops. Recreational facilities like restaurants are provided as an anchor to pedestrian movement. The central green space in the lawn has a performance stage with provision for seating at the upper level of the roundabout. The scheme also takes into consideration water conservation and harvesting methods to make it sustainable.

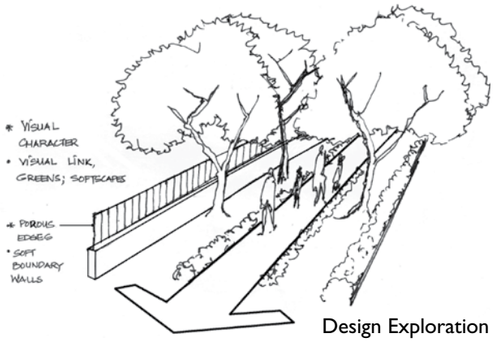
View of the Restaurants, bicycle track and pedestrian pathway at concourse level

The recreational spaces provided on the upper level are separated with green buffer in the form of earth berms. These provide a barrier against noise created by passing traffic.

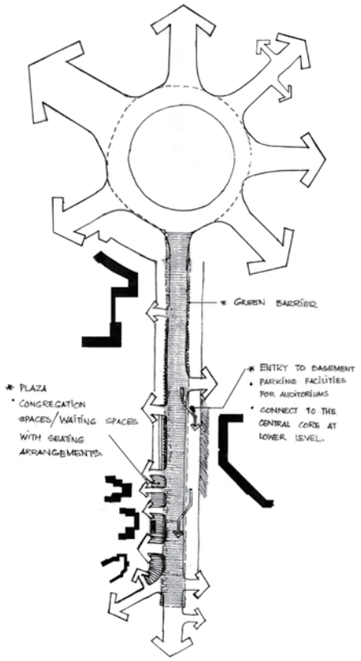
View from Seating area at upper level overlooking the central performing Space.

DESIGN PROPOSAL

5.4.3 Tree Avenues, Entry to Basement, Auditorium Entrance Plaza



Design Exploration



Tree Avenue -I and II,

The Sunken Court connects the tree avenues with ramps and lifts. These open onto each of the respective radials. The existing tree cover shades the pathway. The service cores which connect the basement below opens up into the green space further connecting the pedestrian network on the upper level.

Entry to Basement

The entry to the basement on the side of Doordarshan Bhawan gives unobstructed access to the parking provided just below Copernicus Marg.

Auditorium Entrance Plaza

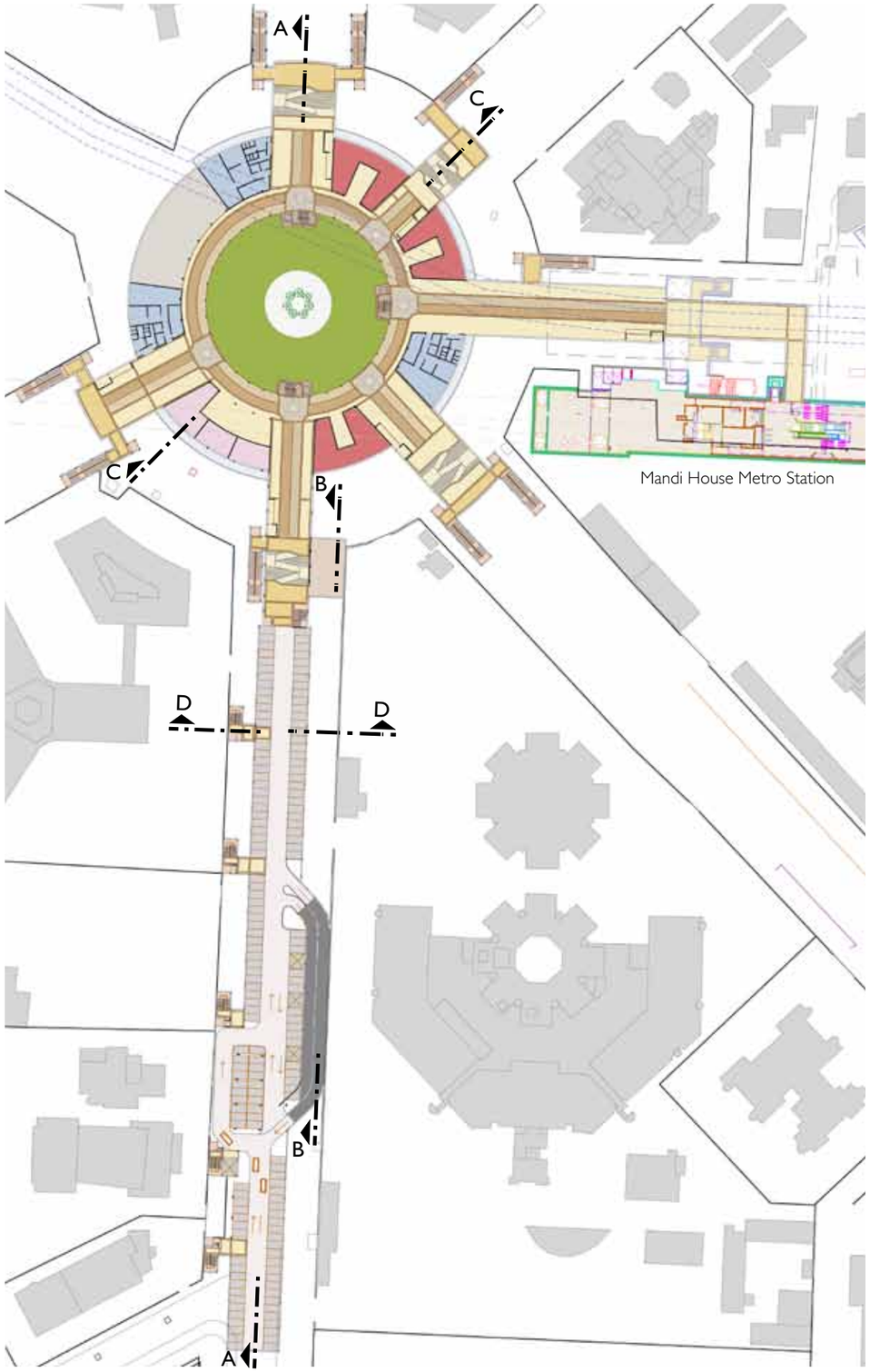
Kamani Auditorium, Little theatre Group, Shriram Bhartiya Kala Kendra, Meghdoot Theatre, Ravindra Bhawan form a large art and cultural district. Thus, this offers a potential to connect these hubs to a common entrance plaza which also connects to the basement via staircases and lifts.

Section - AA

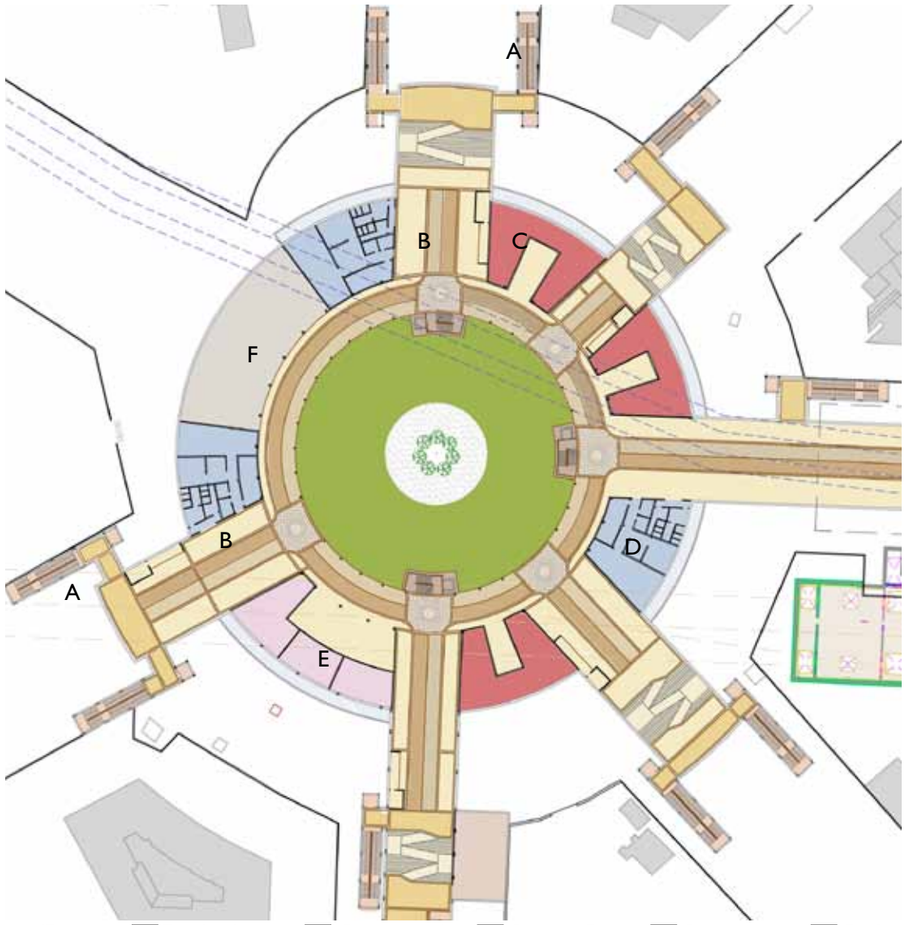
View showing entry to Proposed Basement in front of Doordarshan Bhawan.

View showing Proposed Entry/ Exit Lifts and ramps on Copernicus Marg

5.4.4 Basement I and II



Basement Level Plan



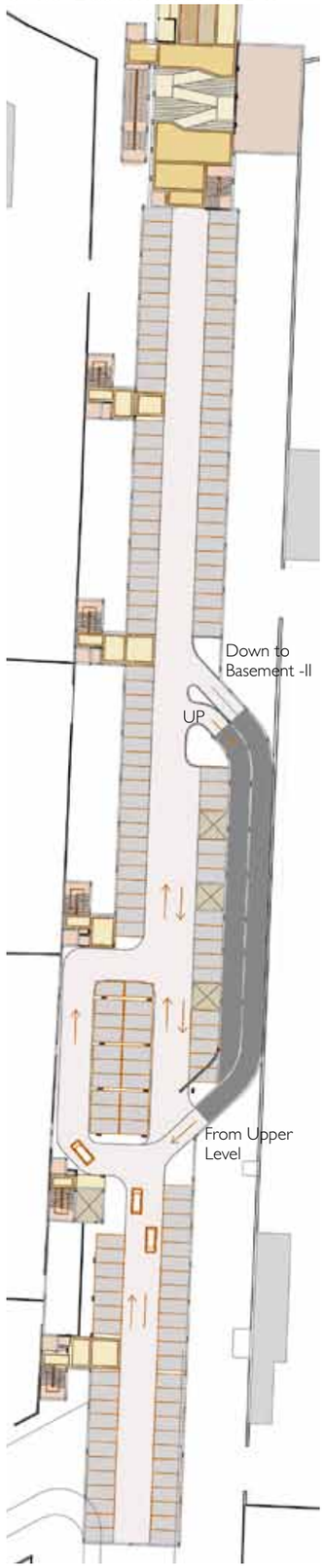
A Entry/Exit Ramps and Staircase
B Display Areas
C Commercial
D Service Core
E Restaurants
F Performing Spaces

Basement I and II

Basement I connects the concourse level to the art and cultural districts. The sunken court forms a vital green space at the lower level. The Metro potentially generates pedestrian traffic, therefore the extended concourse level is provided with wide pedestrian and bicycle tracks which connects different districts. To anchor this pedestrian movement, commercial and recreational spaces are provided. As many art and cultural institutes are in the vicinity, the performing spaces form part of the design proposal where pop-up practices could be performed. For effective working of the spaces below, service cores in alternate blocks strengthen the design. The proposed basement parking provided below Copernicus Marg connects Plazas above and the Sunken Court further. Two levels of basement parking accommodate parking for surrounding cultural institutes, and auditoriums.

DESIGN PROPOSAL

5.4.5 Basement I and II



Section - AA

Section - BB

Section - CC

Basement I and II

Basement I and Basement -II are provided with 2 tier, four wheeler parking. Each basement has 302 car parking spaces, making a total of 604 car parking spaces. The entry/ exit staircase and lifts are provided at regular intervals to facilitate easy movement and access to the auditoriums above. The study area is rich with green cover, mostly full grown trees, therefore tree conservation forms a significant aspect of design proposal.

View showing Stack Parking in the Basement

DESIGN PROPOSAL

5.4.6 Aerial View

DESIGN PROPOSAL

6.1 Physical Characteristics of Pedestrian

Source: Excerpts from Time Savers Standards Landscape Architecture.

Dimensional Criteria

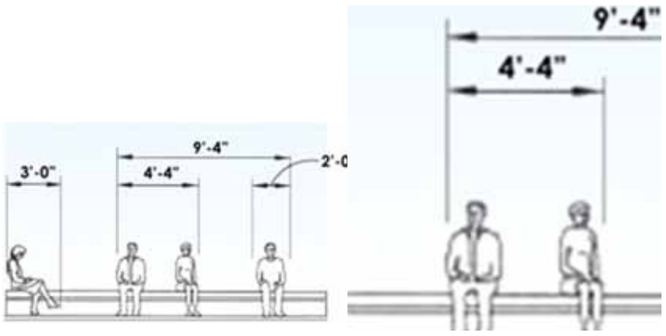
Human Dimensions and Activity

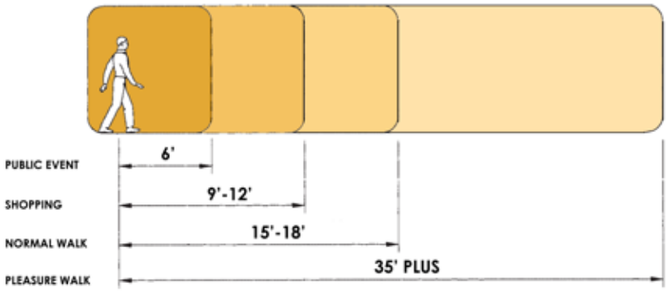
Spatial requirements differ in various regions and between different cultures as a function of accustomed densities of people, heritage and social and environmental values.

Forward Spatial Bubbles

Forward spatial bubbles refer to the extent of unobstructed forward vision held to be psychologically comfortable for the average pedestrian under various circumstances.

The spatial requirements for psychological comfort will differ across regions and cultures.





Movement Criteria

Walking Rates

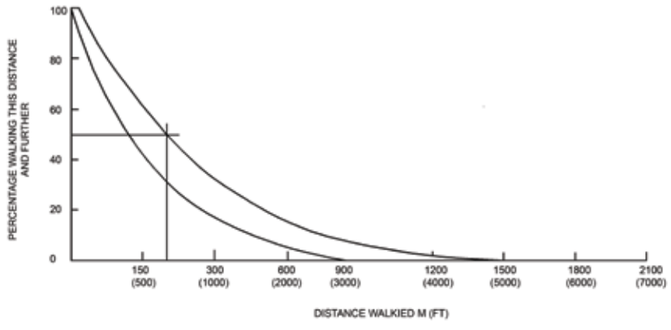
Table-1 shows average walking rates of adult pedestrians. The average walking pedestrian will decrease as pedestrian density on a walkway increases and/ or the clear space ahead of the pedestrian becomes less than approximately 4,500 mm (15 ft). Pedestrian walking rates are not significantly affected by grade changes of 6% or less, but intersections, stairways, escalators and turnstiles will slow down movement

Type	mm/min.	ft/min	km/hr.
Average adult	78000	260	4.3
Elderly (75yrs)	64500	215	4
Bunching	60000	200	3.7
stairways (going down)	45600	152	2.8
stairways (going up)	33900	113	2

Table-I

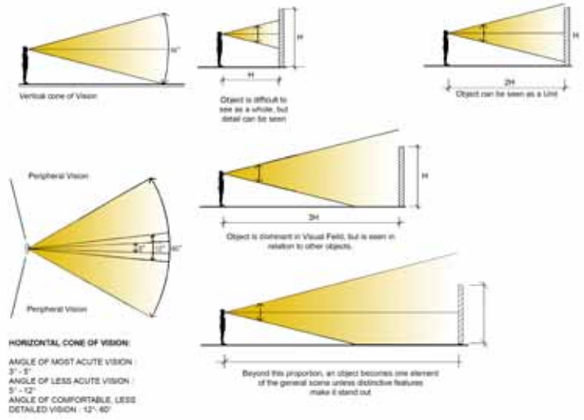
Acceptable Walking Distances

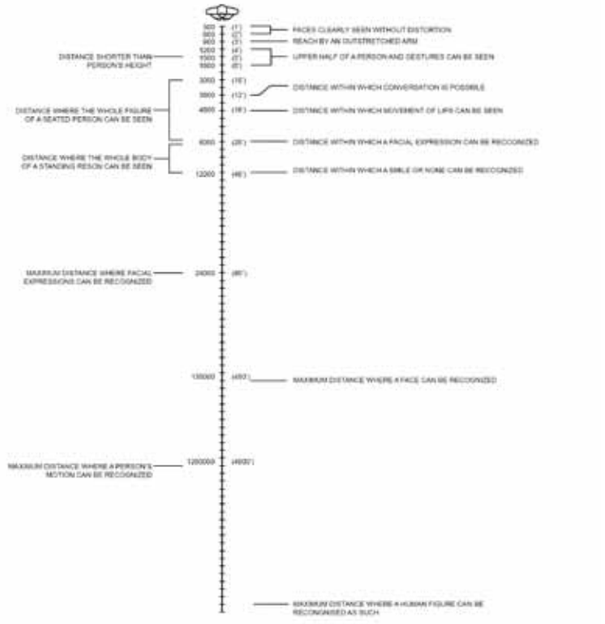
Average range of walking distances will vary depending on the purpose of the trip, cultural differences, climatic conditions, etc.



RANGE OF ACCEPTABLE WALKING DISTANCES (U.S. cities). *Most people are not willing to walk distances greater than about 220M (700 ft).*

EYE LEVEL FOR AN AVERAGE ADULT





INHERENT CAPABILITIES OF HUMAN VISION IN TERMS OF SOCIAL COMMUNICATION (not to scale)

Visual Criteria

Eye Levels and Cone of Vision

The eye-level of an average adult in a standing position as well as sitting position is illustrated on the left.

Pedestrians will focus most of their attention at eye level and below during normal perception of their surroundings.

The human cone of vision (i.e., the fixed eye) is approximately 30 degrees vertically and 60 degrees horizontally, with angles of acute vision somewhat less than this, as illustrated on the left.

Eye levels and cone of vision are especially important in terms of the placement and orientation of pedestrian signage.

Visual Perception

Sense of Spatial Enclosure:

An external enclosure is most comfortable when its vertical planes are one-half to one-third as high as the width of the space enclosed.

If the ratio falls below one-fourth, the space begins to lack a sense of enclosure.

Social Communication

For a variety of reasons, the scale and form of a space will influence pedestrian behaviour and the type of social communication that may occur within that space.

Physical distances that bring people into close proximity, or separate them, are important design considerations.

Settings are meant to be conducive to active social communication, or those meant to allow a certain degree of eye contact possible, and probable, within the scale and layout of the setting.

6.2 Spatial Standards

Pathway Width and Slope Criteria

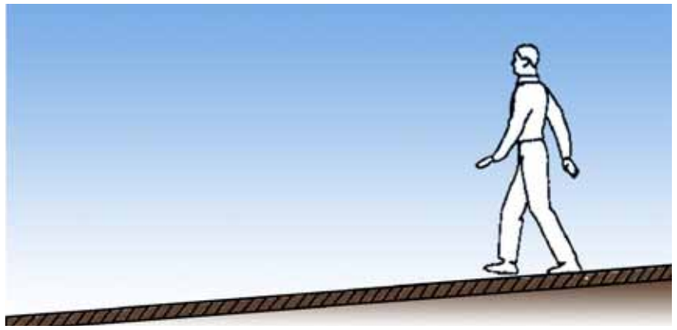
Widths of pedestrian pathways vary depending on the purpose and the existing or expected intensity of use. In general, a 600 mm (24 in) width for each pedestrian is necessary, which suggests a minimum pathway width of 1,200 mm (4 ft) for public walkways.

Pedestrians as a group usually do not use the entire width of most of the pathways.

The edge of the walkway adjacent to a curbed roadway, i.e. 750 mm (30 in.) from the street edge, is avoided by pedestrians, as is the edge of the building façade, i.e 450 to 750 mm (18 to 30 in.).

These edges are used only under conditions of high pedestrian density.

The presence of street furniture and features, such as fire hydrants, trees, parking meters, telephones, trash receptacles, fountains, sculpture and kiosks, also reduce the effective width of a pathway.



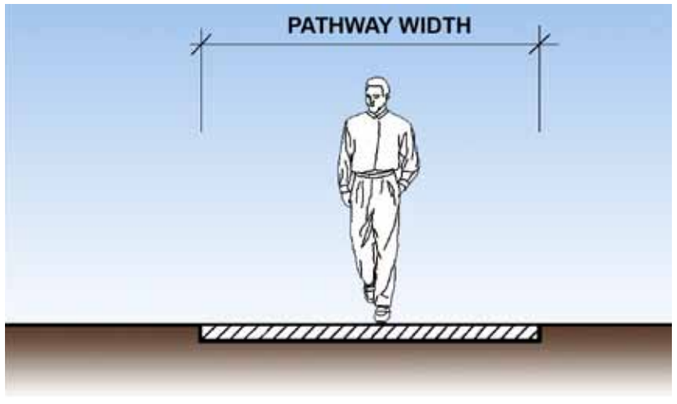
Longitudinal Slope

0% to 3% slopes Preferred
5% slopes Maximum
5% to 10% slopes Possible if Climatic Conditions permit
5% to 8% slopes are Considered ramps

Walkway

Longitudinal slope criteria are based on user abilities and design objectives, and cross-slope criteria are based on the need for positive drainage, depending on paving material.

Porous paving material thus won't require as much of a cross-slope for drainage as would non-porous paving material.



Cross Slope

1% cross-slope Minimum (Depending on material).
2% cross-slope Typical.
3% cross-slope Maximum

Stairways

Widths

- Minimum width for public stairways should be 1,500 mm (60 in.).
- Minimum width for private stairways should be 1,050 mm (42 in.)

Tread-Riser Ratios

Tread-riser ratios are always constant within any particular stairway or set of stairways, for ease of ascent or descent, and for safety reasons.

On rare occasion, riser heights in stairways will vary (e.g., stairways built obliquely into a slope), but these are hazardous and should be avoided whenever possible.

On very gentle slopes of 0.5 to 2.0 %, a stairway can be built to slope with the grade rather than remain level, in order to keep the bottom riser at a constant dimension.

The bottom of stairway grade (B.S) can be wrapped to maintain a constant along the edge of the bottom tread.

Tread widths also vary for aesthetic reasons, as in the case of terraced plazas, when these are used as informal gathering places rather than as purely utilitarian transitional spaces.

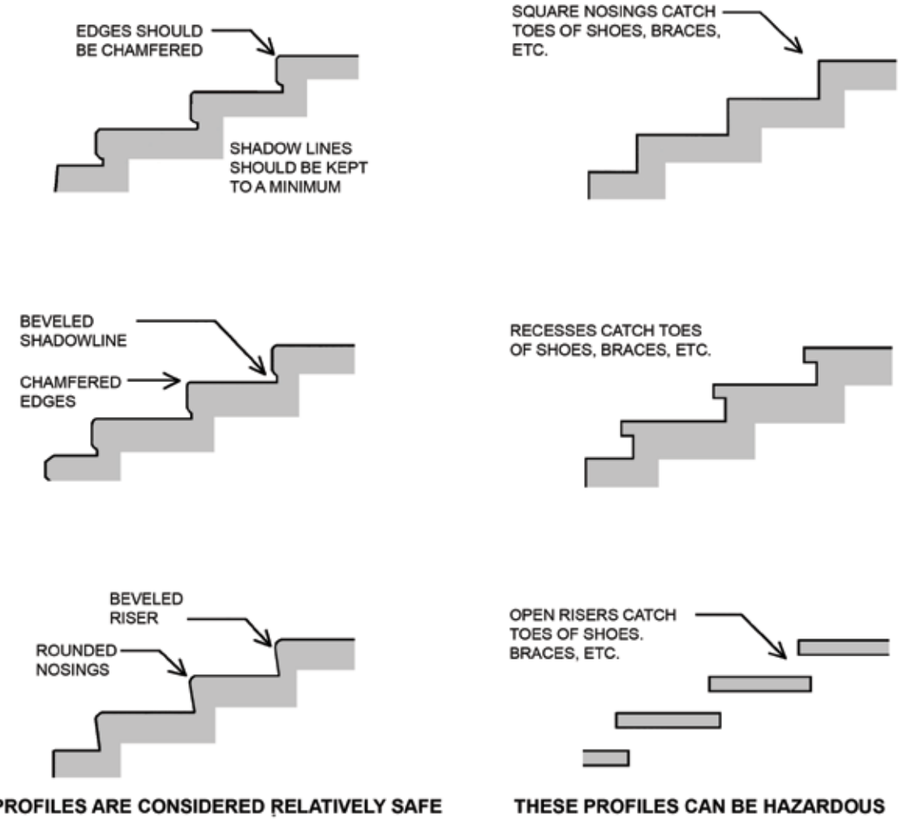
Additional Considerations

Outdoor stairways should be made easier to ascend than interior stairways. People tend to move at greater rates outdoors than they do indoors.

Single steps in walkways are dangerous and should never be specified. At least two steps, but preferably three, should be specified, and their presence should be announced conspicuously with railings, plantings or lighting.

Risers for outdoor stairways should be a minimum of 115 mm (4.5 in.) and a maximum of 150 mm (6 in.). A 175 (7 in.) riser may be considered for utilitarian purposes.

Tread should be pitched downgrade 2 % for drainage.



ANNEXURE

Height Between Landings

The height between landings is an important criteria for psychological reasons as well as for human endurance.

Abrupt changes in ground levels, even as little as 300 to 500 mm (1-11/2 ft), can decrease incentive to proceed.

Changes of 1,800 mm (6ft) or more are found to be strongly discouraging.

Thus, heights between stairway landings are best designed so that an adult of average height standing on one landing can see the ground plane of the next, higher one, ie 1,500 mm (5 ft) or less.

A minimum of two steps should be provided.

Three steps are preferred to ensure clear legibility of the grade change

Landings should be long enough to allow an easy cadence with a minimum of three strides on the landing.

A 1500 mm (5 ft) length landing is a typical Minimum.

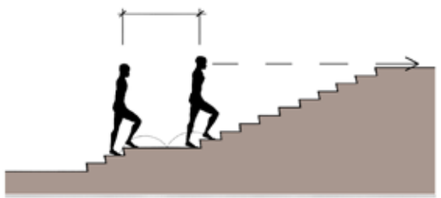
Longer landings are typically multiples of 1500 mm (5 ft) i.e. 1500 (5 ft), 3000 (10 ft), 4500 (15 ft) etc.

The Height between landings should be kept to a maximum of 1500 mm (5 ft) to allow a view of the next higher landing.

Height Greater than 1500 mm (5 ft) are psychologically less inviting.

Where this is not possible, a minimum of one (1) landing for every twenty (20) treads is recommended to minimize fatigue.

Note that the "Multiple of Five" rule for Stairway Landings Allows an alteration between left and right foot when stepping onto and then off a landing.



Stairway height and landing proportions. *Check state codes*

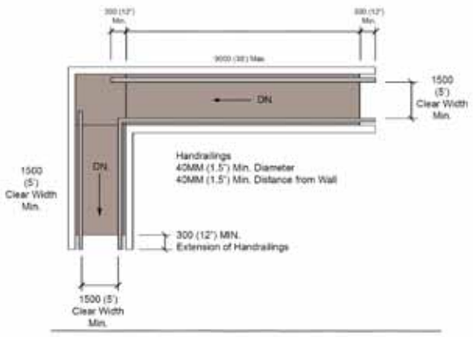
Ramps

Widths

Ramp widths are determined according to the type and intensity of use.

One-way travel requires a clear minimum width of 900 mm (3 ft), whereas two-way travel requires a clear minimum width of 1,500 mm (5 ft).

If turns occur at landings, adequate space for manoeuvring wheelchairs must be provided.



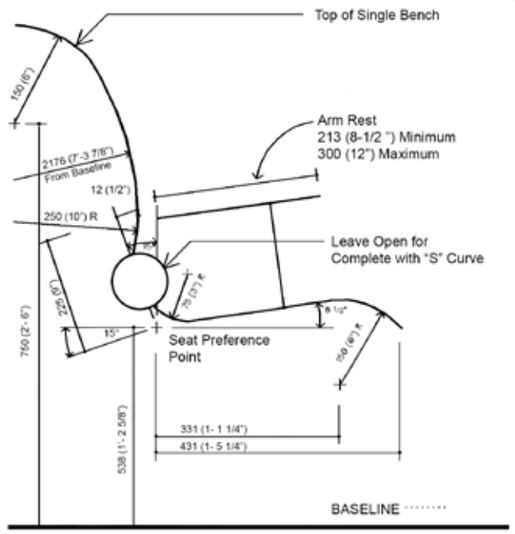
Dimensional criteria for two-way handicap ramp. *Minimum clear width for one-way travel is 900mm (36 in.). Check state codes where applicable.*

Slope Criteria

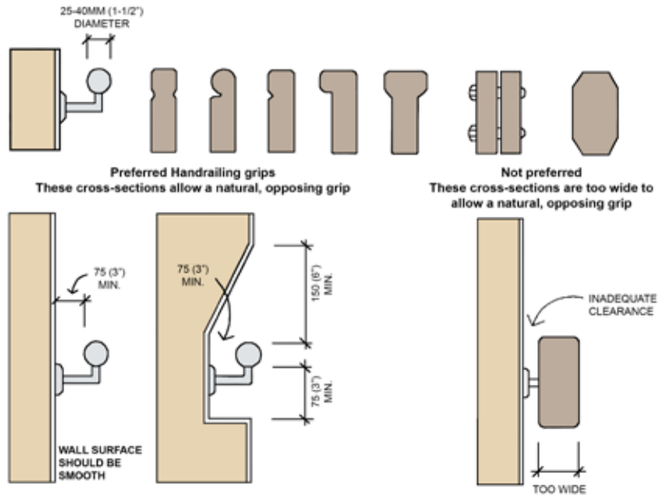
Ramp slopes must not be greater than 1:12 or 8.33%. Curb cuts are an exception: 1:8 or 12% being acceptable if the running distance is less than 900 (3 ft)

Distance between Landing:

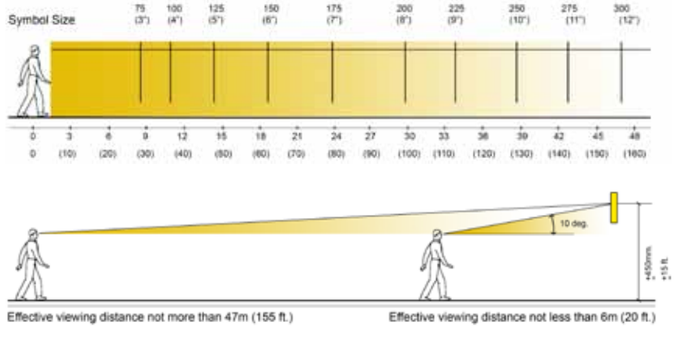
- Landings should be provided within every 9,000 mm (30 ft) or less of ramp length.



Preferred Height and Seating Angle for Outdoor Benches



Preferred Handrailing Profiles



Seating Criteria

Benches should be designed to ensure greatest comfort for the individual.

Seat walls are typically 400 to 450 mm (16 to 18 in) wide and between 400 to 450 mm (14 and 18 in), in height, with 400 mm (16 in) being most preferred.

Hand railings

Hand railings are important on all stairways and ramps, and should allow a secure and comfortable grip for maximum support.

Handrailing heights for outdoor stairways and ramps typically range from 750 to 850 mm (30 to 34 in).

The ends of the railings should extend beyond the top and bottom step by 300 to 450 mm (12 to 18 in.) and should be rounded off or turned under for safety reasons.

This detail is important for individuals with impaired vision.

Additional considerations

Hand railings on both sides of a stairway or ramp are important because some people have strength only on one side.

Extra wide stairways should have centre railings for greater convenience. Hand railings should not be 6,000 mm (20 ft) apart.

Railings should continue across intermediate landings.

Hand railings for children, at a height lower than that specified for adults, are sometimes advisable and are also useful on ramps for individuals who use wheelchairs.

Pedestrian Signage

Design and placement of signs for use by pedestrians involves consideration of visual field, scale of letters, proportions of letters and background.

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Zonal Development Plan, Zone (Division - 'D' New Delhi) approved, Excluding LBZ Area As Contained In This Ministry's Guidelines Dated 8.2.1988 And The Amendments Issued By Govt. Of India

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