# TRANSIT ORIENTED DEVELOPMENT MANUAL

## Delhi TOD Policy & Regulations Interpretation


This work is undertaken under the auspices of the MoU between Unified Traffic and Transportation Infrastructure (Planning & Engineering) Centre (UTTIPEC) and EMBARQ - The WRI Centre for Sustainable Transport (now WRI India) dated 14th October 2014.

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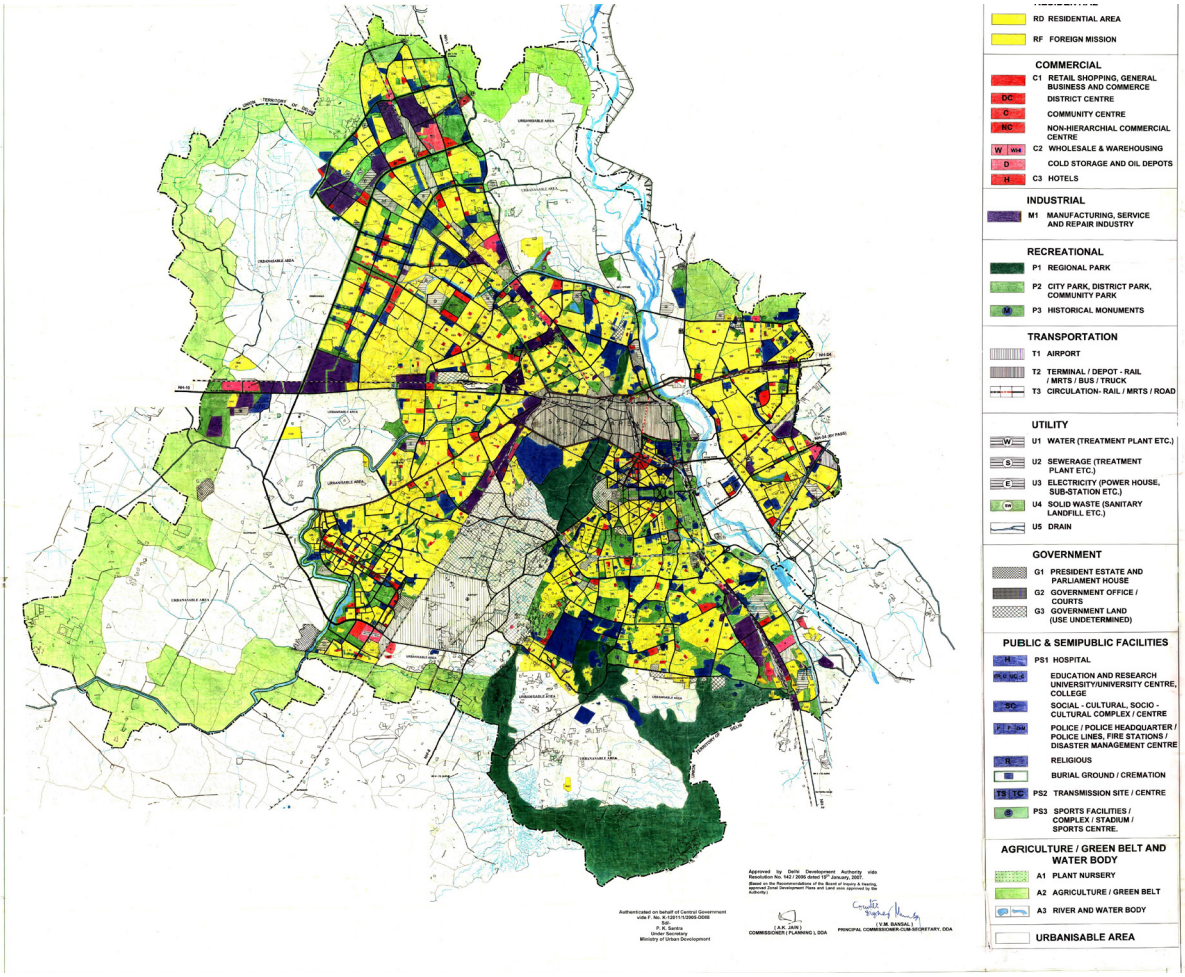



Master Plan for Delhi - 2021
Source: UTTIPEC, DDA

# WHY DO WE NEED THIS MANUAL?

## Transit Oriented Development Policy for Delhi

Delhi is at a defining moment in terms of preparing itself for the next few decades with the Master Plan 2021. With the MPD-2021 looking at innovative concepts to tackle urbanization, Transit Oriented Development (TOD) is very relevant. TOD is an urban design paradigm that has the potential for achieving urban competitiveness, environmental sustainability, and social equity. With more than 10 Indian cities opting for metro rail and about 7 opting for BRT, it is imperative that the involved stakeholders develop a clear understanding of the concept, its application and involved procedures.

TOD is the key for low-carbon and compact development with mixed land uses and allows for optimised development along a transit corridor to maximize the return on investments. It strategically increases densities and places high-rises along the transit corridors to accommodate a wide variety of uses. It is an ideal tool for governments to address inclusivity by citing minimum caps for housing for various segments. With the policy capturing the essential elements of mixed-use development, non-motorized transport and pedestrian priority, and encouraging a walk-to-work culture, Delhi in particular is looking at TOD as a solution to its mobility and air quality challenges by developing the areas around metro stations.

Recognising the urgent need for Delhi to be prepared to receive huge in-migrations by 2021, the TOD Policy was created and approved by the Ministry of Urban Development on July 14, 2015. The norms will combine design, density and diversity to facilitate more people to live, work and seek entertainment along a well-connected and efficient mass transit system.

## Purpose of the manual

This manual presents a concise means for the understanding of the various rules and regulations under the TOD Policy for Delhi. The use of illustrations and pictorial representations is to simplify the language of the policy since the implementation process involves several actors from varied technical and non-technical backgrounds. It is necessary that all stakeholders who are involved in the planning and coordination of implementation of projects under the TOD Policy have the same understanding even if it translates into multiple interpretations.  The Manual is not intended to be definitive but to capture the ‘essentials’ in the process to develop and implement a TOD project that fits within the existing Policy and agreed set of Principles, which can go a long way in creating an understanding of the important codes of TOD including guidelines, targets, means of delivery and framework for monitoring and evaluation.

## Documents referred

The manual uses the following notified documents and public notices on the TOD Policy for reference:
- Master Plan of Delhi 2021
- Gazette of India – Modifications in MPD 2021 as part of review exercise Dt. 14 – 7 - 2015
- Public Notice - Draft TOD Regulations Dt. 23 – 2 - 2016
- Public Notice -  Draft TOD Regulations. Dt. 24-4-2016
- Public Notice - Proposed MPD 2021 Modifications Dt. 24-4-2016

## Scope and limitations

The MPD-21 contains the provisions for the planning of the entire city and TOD is only a part of this. Care has been taken to shell out the key points that are relevant to a TOD project. For any clarifications regarding concepts not mentioned in this manual, the MPD-21 has to be referred. In case of any conflicting provisions between the redevelopment/other norms and TOD norms within the MPD-2021, the norms (and development code) of TOD shall prevail, for any site/scheme falling within TOD Zone.

# GLOSSARY

# Glossary

**“Competent Authority (CA)”;** the competent authority shall be appointed by the concerned local bodies under their respective acts for implementation of these regulations.

**“Authority”** or **“Delhi Development Authority”** means the Delhi Development Authority constituted under section 3 of the Delhi Development Act, 1957.

**“Developer Entity (DE)”** means an individual land owner, group of land owners, cooperative societies, / Government Agencies voluntarily agreeing to participate in a TOD scheme.

**Right of Way (RoW)**: The legal right established by the local government to pass along a specific route.

**External development charges (EDC)**: EDC is the charge paid by the applicant of a scheme to the concerned local body for the upgradation of infrastructure within the TOD scheme area.

**FAR Charges**: Charge imposed on landowners/ developers in order to capitalise on the widfall gain enjoyed by them on the provision of TOD infrastructure which leads to an appreciation in land prices in the vicinity of the projects.

**Ground coverage**: Ground coverage is defined as the ratio of the Building footprint (area) divided by the plot area.

**Setback**: Property setbacks are those boundaries established by the local government that outline the construction/ building footprint.

**Floor Area Ratio (FAR)**: FAR is the ratio of a building's total floor area (gross floor area) to the size of the plot of land upon which it is built. It also refers to the limits imposed on such a ratio.

**Intermediate Public Transport (IPT):** IPT are hired / shared modes of transport that may serve as feeders to trunk public transport systems or as another alternative to private transport use. IPT includes cycle-rickshaws, auto-rickshaws, e-rickshaws, taxis and any other vehicle type serving as a shared mode / feeder service that is also prescribed under the Motor Vehicle Act. Taxis play an important role in providing an integrated transport service which should also be available on road like all other metro cities for people who choose not to use a car and combine taxi with public transport for certain trips. Autorickshaws also play an essential role as a shared or hired mode of public transport which provide door-to-door connectivity for a variety of trips and provide an affordable alternative to private modes.

**Mass Rapid Transit System (MRTS):** MRTS may be defined as any public transit system having the capacity to carry more than 10,000 peak hour per direction trips (PHPDT). In all instances, the term MRTS includes Metro/ RRTS/ Railway.

# ABBREVIATIONS

# Abbreviations

AAI - Airports Authority of India
ASI - Archaeological Survey of India (ASI)
BRT - Bus Rapid Transit
CA - Competent Authority
CPWD - Central Public Works Department
CW - Carriageway
DCR - Development Control Regulations
DDA - Delhi Development Authority
DE - Developer Entity
DMRC - Delhi Metro Rail Corporation
DU - Dwelling Unit
ECS - Equivalent Car Space
EDC - External Development Charges
EIA - Environment Impact Assessment
ESS - Electric Substation
EWS - Economically Weaker Section
FAR - Floor Area Ration
GNCTD - Government of National Capital Territory of Delhi
HIE - Heat Island Effect
HOV - High Occupancy Vehicles
IPT - Intermediate Public Transport
IZP - Influence Zone Plan
LCV - Light Commercial Vehicle
LDRA - Low Density Residential Area
LoS - Level of Service
MPD - Master Plan of Delhi
MRTS - Mass Rapid Transit System
MUZ - Multi Utility Zone
NDMC - New Delhi Municipal Council
NMA - National Monuments Authority
NMT - Non Motorised Transport
NMV - Non Motorised Vehicle
PCU - Passenger Car Units
PHPDT - Peak Hour per Direction trips (PHPDT)
PMD - Parking Management Districts
PPH - persons per hectare
PPP - Public Private Partnership
PSP - Public and Semipublic
RoW - Right of Way
RRTS - Regional Rapid Transit System
sq.m - square meters
TDM - Travel Demand Management
TDR - Transfer of Development Rights
TIA - Transport Impact Assessment
TOD - Transit Oriented Development
TODIS - Transit Oriented Development Integrated Scheme
UTTIPEC - Unified Traffic And Transportation Infrastructure (Planning & Engineering) Centre
WRI - World Resources Institute
ZDP - Zonal Development Plan

# DEFINITIONS

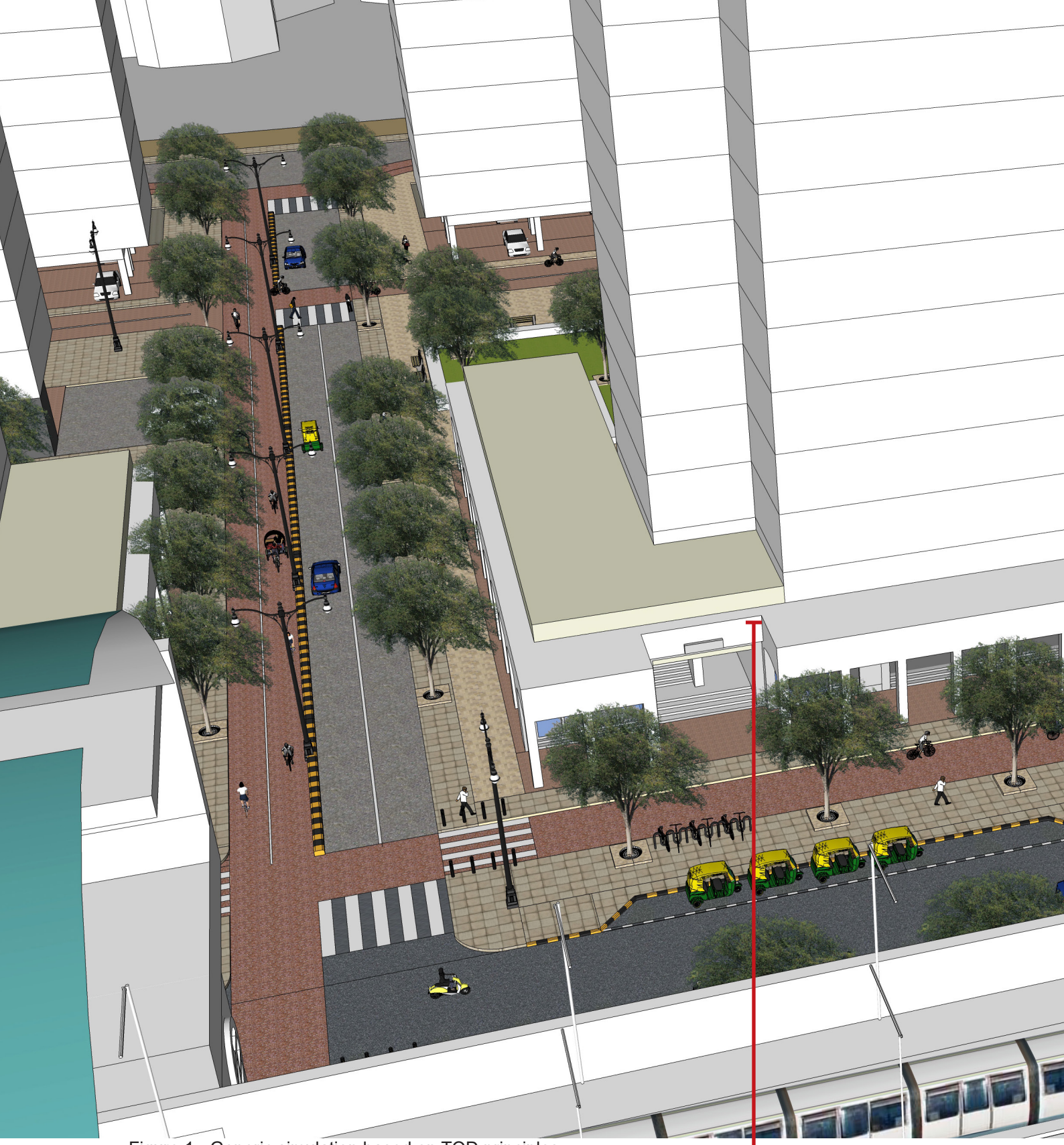
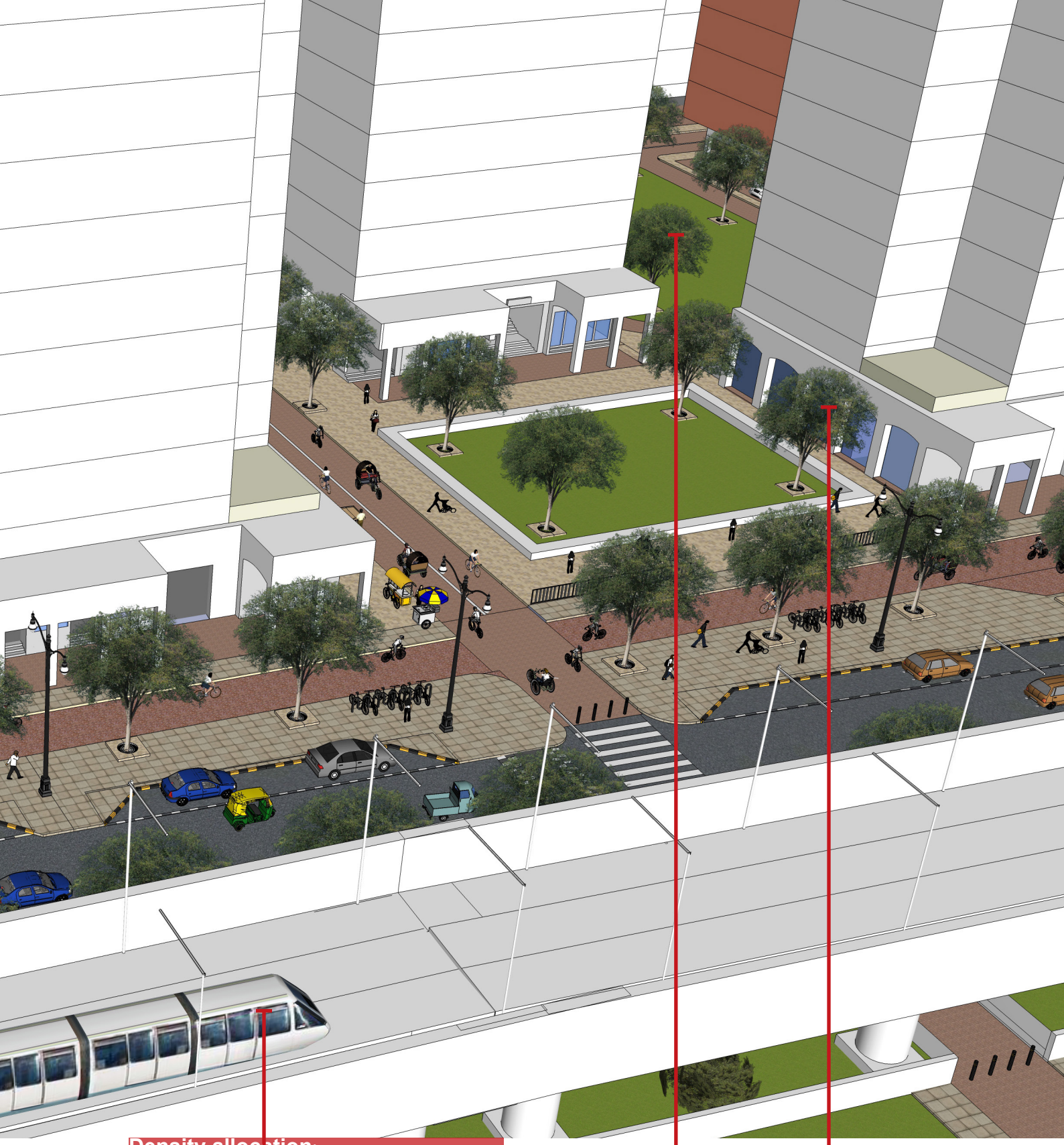


Figure 1 - Generic simulation based on TOD principles

**Transit Oriented Development** is essentially any development, macro or micro, that is focused around a transit node, and facilitates complete ease of access to the transit facility, thereby inducing people to prefer to walk and use public transportation over personal modes of transport. It results in the creation of compact, walkable and liveable communities with easy access to amenities and is centred around high quality mass transit stations (MPD 2021).

**Edges**:
The urban edge can be defined in terms of the visual boundary of a space. It is essentially a transition zone that facilitates exchange of information between territories. Within the TOD policy, the idea is to have permeable edges, thereby reducing the emphasis on the concept of setbacks.



**Density allocation**:
Unplanned increase in population and mismatch of infrastructure has led to slums in cities, traffic chaos, rise in pollution levels and the degradation of natural environment. When considering TOD infrastructure, density could be an important tool to increase the ridership of the public transport and thereby increase revenue. Dense structures along the transit routes is preferred in TOD for a compact development.

**Connected Greens**
The open spaces are interconnected to provide same commuting space for walking and cycling.

**Natural Surveillance**:
A design strategy that provides ample opportunity for users, engaged in normal activities to observe the space around them.

# CHAPTER 1 - TRANSIT ORIENTED DEVELOPMENT PRINCIPLES

# CHAPTER 1 - Transit Oriented Development Principles

The impacts of TOD through various land use mixes, street network characteristics and urban design parameters could be seen on ground through the following principles.

## A - PRINCIPLES

Principle 1: Pedestrian and Non-motorised Transport (NMT) Friendly Environment

- The policy Design for pedestrian safety, comfort and convenience
- Create street-level activity and vibrant urban spaces.
- Provide amenities and infrastructure for pedestrians, cyclists, NMT and public transport users.
- All streets and public spaces shall be universally accessible.

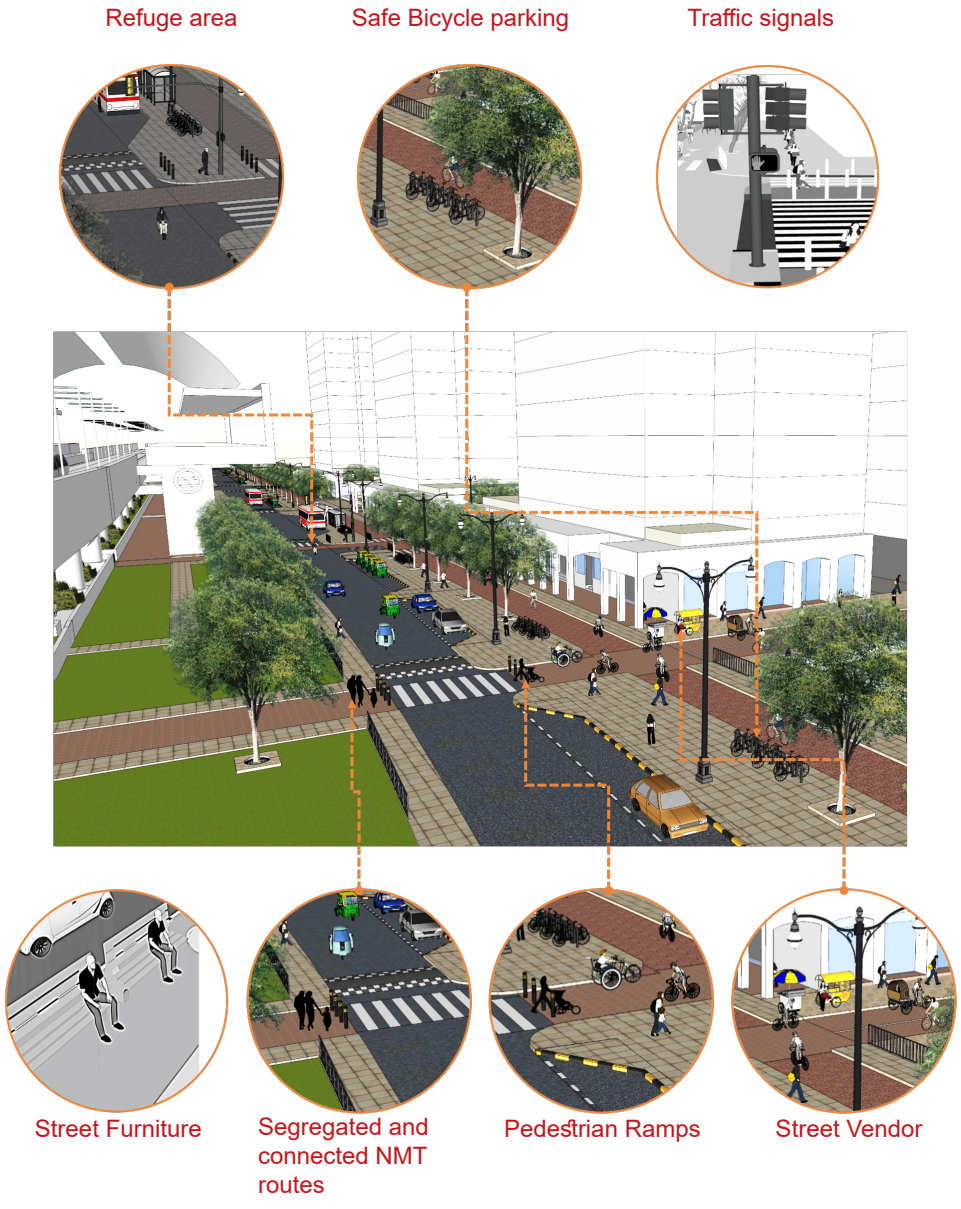
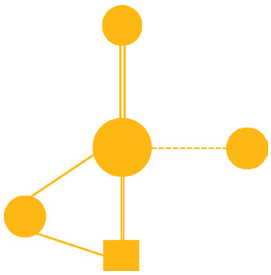



Figure 2 - Pedestrian and NMT Friendly Environment

Principle 2: Connectivity and Network Density



- Disperse high traffic volumes of traffic over a network of streets rather than concentrating traffic on few major streets and junctions.
- Provide the shortest direct route to pedestrians and non-motorized modes to station as well as between individual buildings/ complexes.
- Integration of infrastructure development and travel demand management (TDM) strategies e.g. bus lanes, station plazas, intersections improvements, etc.

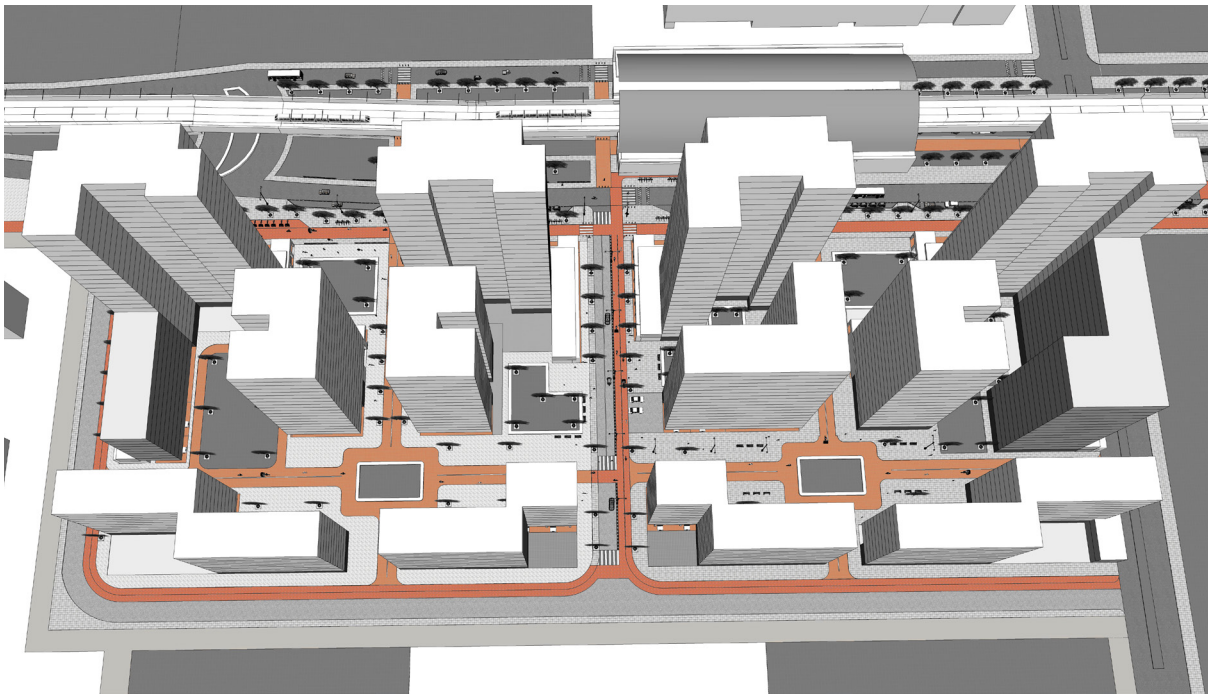


Figure 3 - Road Network Density

Principle 3: Multi-modal Interchange

- Minimize travel time and cost for majority of commuters. Provide multiple mode options for all sections of society with safety and affordability. Ensure reliable, frequent and affordable public transport systems/ networks across the city.
- Minimize the number and time required for mode transfers for maximum number of commuters.
- Prioritize pedestrians, public transport, Intermendiate Public Transport (IPT) and NMT modes over private modes in design and management of urban spaces.

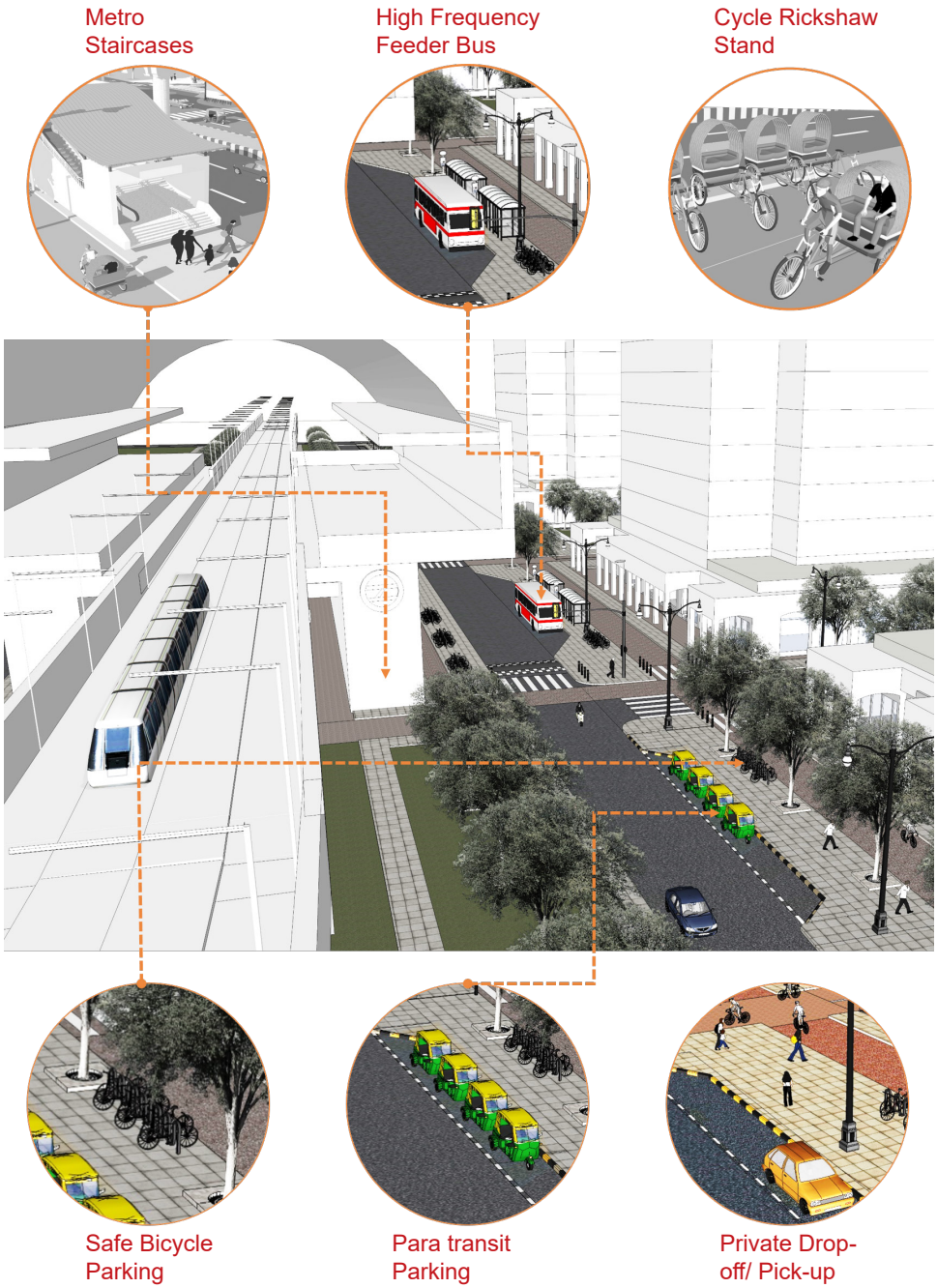



Figure 4 - Multi-modal Interchange

Principle 4: Inducing Modal Shift

- As far as possible, locate public transport stations, homes, jobs and civic facilities within easy access of each other, to incentivize walking and cycling/ NMT use especially for short distances.
- Dis-incentivize private motor vehicle use. Limit supply and appropriately price private parking spaces to discourage private vehicle use in TOD Zones.

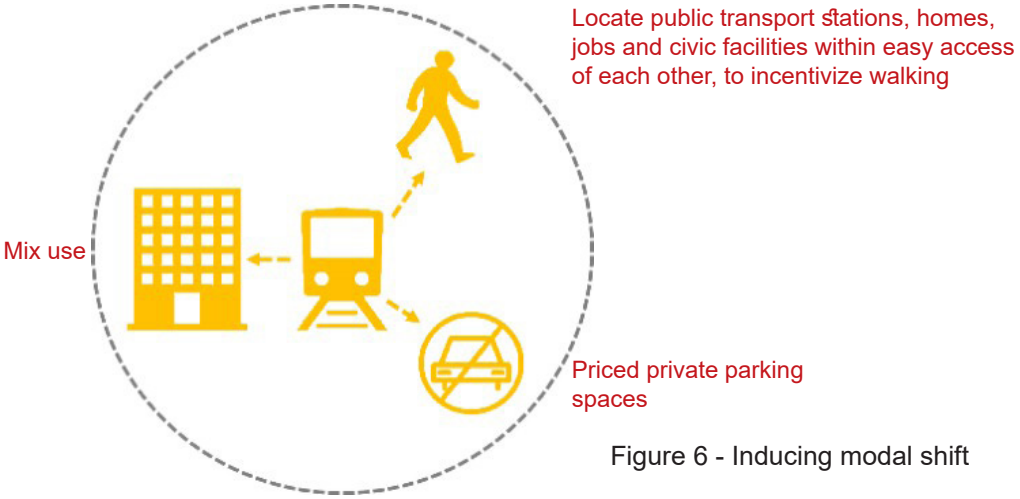


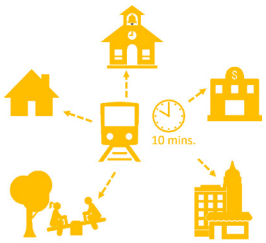

Figure 6 - Inducing modal shift

Principle 5: Placemaking and Ensuring Safety

- Create a safe, vibrant, comfortable urban “place”, by providing round-the-clock active streets and incidental spaces to relax. Introduce mixed land use and other informal street activities like vendors, etc. to promote round-the-clock activity and also promote informal surveillance.
- Minimize boundary walls and setbacks of compounds, and build to the edge of the street RoW. Street walls with transparency, built-to-edge buildings, minimum setbacks and non-opaque fences help provide natural surveillance of public spaces.

Figure 5 - Elements of Placemaking

Principle 6: High Density, Mixed Use, Mixed Income Development near Stations




• Maximize densities within TOD, in order to facilitate maximum number of people walking or cycling, or use NMT or feeder services easily to access public transit facility.
• In greenfield development, higher the density, lower the per kilometre infrastructure cost.
• Enable a balanced mix of jobs and housing along MRTS corridors coupled with caps on parking supply, higher housing affordability through design and technology options, and improved efficiency and equity in the resulting developments.

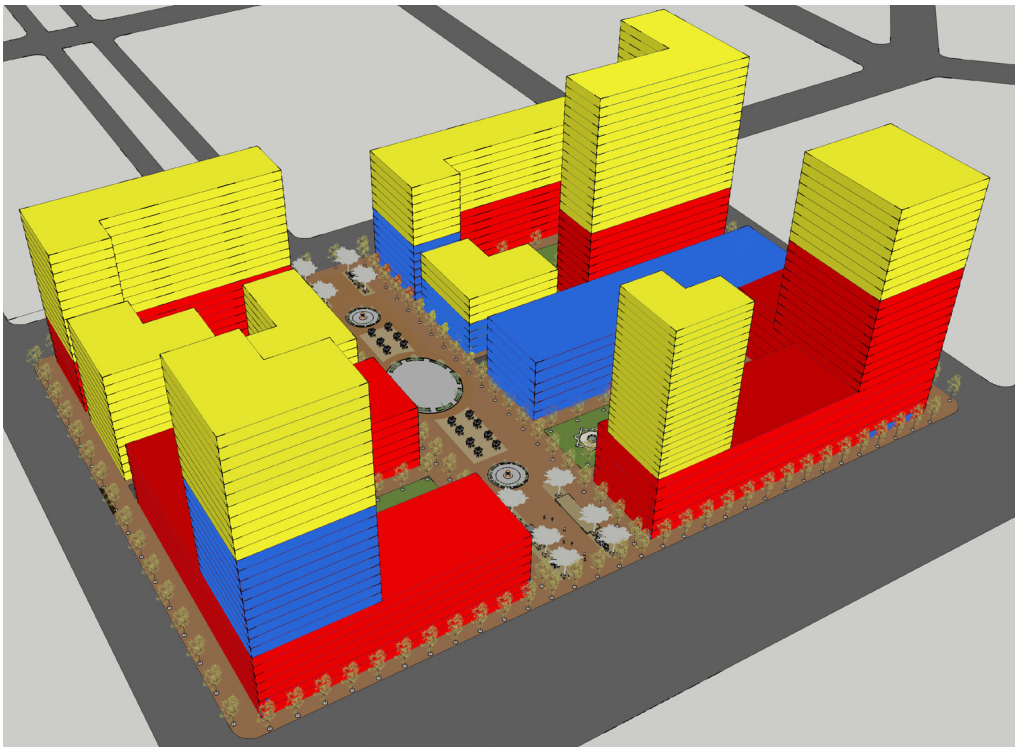


Figure 6 - High Density, Mixed Use development

Residential

Commercial/ retail

Public/ semi-public

## B - Influence Zone

Redevelopment strategy is categorised under 3 parts namely -
A). Influence Zone along MRTS Corridor
B). Re-densification of low-density areas
C). Redevelopment of Other Developed areas

This manual will elucidate redevelopment strategy under - Influence Zone along MRTS Corridor

Influence Zone along MRTS Corridor
The growth of Delhi has over the years has been on the ring and radial pattern with reliance on road based public transport. The development envisaged by the previous Plans was poly nodal with hierarchy of Commercial Centres located either on ring or radial roads. The proposed MRTS network will bring sizable urban area within walking distance from the proposed stations. This will have an impact on the existing structure of the city and consequently, its development. This changed scenario provides opportunities for city restructuring and optimum utilization of the land along the MRTS corridors. In this process, a sizable proportion of the additional population with requisite facilities and employment can be absorbed along these corridors.

Figure 7 - Influence Zone

# CHAPTER 2 - METHODOLOGY

# Chapter 2 - Methodology

**“Authority”** or **“Delhi Development Authority”** means the Delhi Development Authority constituted under section 3 of the Delhi Development Act, 1957.

**“Competent Authority (CA)”;** the competent authority shall be appointed by the concerned local bodies under their respective acts for implementation of these regulations.

**“Developer Entity (DE)”** means an individual land owner, group of land owners, cooperative societies, / Government Agencies voluntarily agreeing to participate in a TOD scheme.

This chapter illustrates the methodology to demostrate TOD scheme on ground. The roles and responsibilities of each stakeholder is explained in 4 steps namely; Pre-approval stage, preparation, implementation and certification. The chapter then sums up the entire method in **21 Steps.**

ROLES AND RESPONSIBILITIES


**STEP 1**
Pre-approval Stage

1 - To make available geo-spatial reference files to understand location

2 - To prepare the monitoring and enforcement guidelines including penalty charges etc.

3 - To constitute & notify Competent Authority

4 - To upload status of TOD schemes daily on centralized database

5 - To notify about submission formats for approval of TOD schemes & sanction of building plans

6 - To set up TOD Fund and ring fence the same for maintaining and upgrading the services within the TOD scheme area

To make available geo-spatial reference (kml) files containing the following information:

- Delineated TOD Zone on ZDP
- Road Network data of Delhi with ROW width information
- 'Exception' Areas where TOD is not applicable (as per MPD-2021)
- Areas where 'special regulations' are applicable.
- Agency responsible for layout plan approval/ building sanction.

## STEP 2
## Preparation

1 - To ensure TOD scheme follows the norms (and development code) of TOD before approval

2 - To adopt computerized single window clearance system for approval of TOD projects

3 - To lend assistance during preparation of IZP regarding electricity, water, sewer, roads, transportation, utilities, pollution, green areas etc. and disposal or reuse of debris etc.

## STEP 3
## Implementation


1 - To ensure that existing movement patterns through the site are kept functional during the course of construction/ completion of the project.

2 - To renew approvals based on review if construction not completed within stipulated time

3 - To use its discretion to reject any application considering the overall efficacy of TOD in a particular zone based on planning parameters and requirements

## STEP 4
## Certification


To ensure actual transfer/ transaction of saleable component under its share/ ownership to the prospective buyers only after the prescribed land and EWS housing component is handed over

To issue completion certificate only once public spaces, public roads, public parking, etc is handed over

To subject project to quality assurance checks

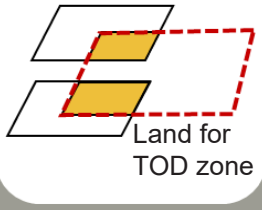
ROLES AND RESPONSIBILITIES

## Competent Authority

**STEP 1**
Pre-approval Stage

1 - To create a single window system to fast-track clearances and approval of plans.

2 - To fix EDC rates, parking rates etc. and establish mechanism of fund transfer




3 - To acquire any land required for effectuating effective TOD

4 - To constitute & notify about Grievance Redressal Committee and all its members


5 - To amend any terms and conditions of the scheme and TOD Policy s as may be necessary from time to time

External development charges (EDC) is a charge paid by the applicant to the Government of National Capital Territory of Delhi (GNCTD). The local body (DDA) maintains a separate account for the funds and allocates the required funds to the respective service providing agencies for upgrading infrastructure within the TOD scheme area. The competent authority is responsible for collecting the EDC from the developer entity in instalments. The developer entity should have paid all the outstanding EDC amounts before the completion certificate is issued.

## STEP 2
## Preparation

1 - To examine the submitted TOD scheme, and approve once all the aspects have been met.

2 - To refer for fast track approval if applicant is seeking building sanction as part of the application of layout plan/ TOD scheme approval


To specify the details of the land to be handed over to the local body (DDA) post completion. The approval is subject to payment of the 25% of EDC charges (this means EDC charges is collected in 4-6 instalments, at the time of approval of scheme, 25% of the charge is supposed to be paid)

To examine the submitted TOD scheme (post receipt of the complete application in the prescribed form) from the point of view of all relevant aspects including:

1. location and extent of the land;
2. conformity with the land use, TOD norms and development controls;
3. proposed layout plan of the area with respect to the Master Plan/ Zonal Plan;
4. proposed plan regarding infrastructure development works to be executed.

## STEP 3
## Implementation

1 - To recover penalty from the developer entity in case of delay

2 - To review renewal of approvals if extension is required

## STEP 4
## Certification

1 - To recover additional FAR charges and EDC from the DE in a staggered manner in 4-6 instalments, before the issue of completion certificate.

2 - To ensure that existing service lanes/ public roads/ public drains/ public parks, etc., to be retained and improved and used only as public area.

3 - To issue part completion certificate for premise/ building level plan within any approved phase of development, subject to obtaining the part / full completion certificate for infrastructure development works of that phase.

ROLES AND RESPONSIBILITIES

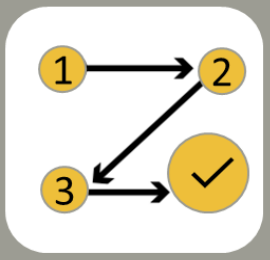
## Developer Entity (DE)

### STEP 1
Pre-approval Stage

1 - May self-evaluate land owned online to determine whether it is applicable for TOD

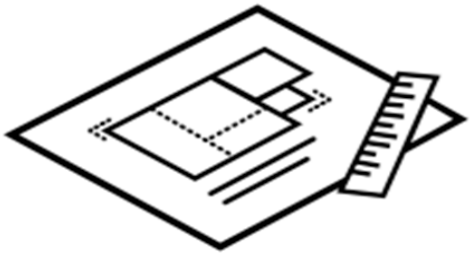
2 - To obtain Environmental Impact Assessment (EIA) clearance

3 - To pay EDC and additional FAR charges




4 - To apply for approval of TOD schemes to the competent authority in 3 stages

## Submissions Requirements

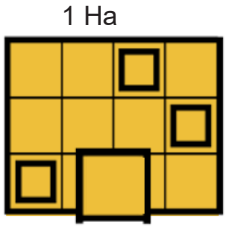


- Developer Entity shall submit an application in the prescribed format to the concerned local body for participation in TOD scheme either online or in hard copy along with the following self-attested documents:
  - At least 2 sets of the prescribed application form along with payment of the fee and certified copies of the documents as may be prescribed.
  - Scrutiny / processing fee of the prescribed fee based on the area of the scheme (on which FAR shall be availed) as prescribed by the local body;
  - Bank Guarantee from a Nationalise bank equivalent to 25% of the External Development Charges (EDC) as may be prescribed;
  - Undertaking to pay the first instalment equivalent to 20% of the EDC as may be prescribed before the approval of the Layout Plan/ TOD scheme;
  - At least two sets of drawings in the following submission format (along with digital files):
    - Dimensioned plan of the land/ scheme area under the proposed TOD scheme on a scale of 1:1000 showing the boundaries, dimensions, the locations of existing streets, existing buildings/ plots/ premises that shall be participating in the scheme, and relevant physical features, etc.
    - Base map with site surroundings/ context, main access roads (Including min. 18m mandatory road access), Metro station, bus stops, etc. on at least 1:1000 scale at A1-size or on any sized sheet showing the neighbouring context up to approx. 1km around the site.
    - Photo-documentation of site and surroundings, main access roads, nearby parks, etc.
    - Multi-modal Integration plan at 1:500 scale or larger (applicable only for MRTS station sites)
    - Conceptual TOD scheme at 1:1000 or larger, showing the following:
      - Public Open Spaces: location and design
      - Street network including for vehicular and pedestrian/ NMT movement, use of setbacks for providing connections to surrounding neighbourhoods and transit stops/stations, etc.
      - Location and type of Active Frontages
      - Distribution and planning of uses including locations of retail and commercial dominated buildings, various residential typologies (and mix, including EWS housing) and Social Infrastructure
      - Decentralized infrastructure and sustainable design strategies including energy efficiency/ demand reduction, zero-waste, water budgeting/ reduced water demand and balance supply-demand, zero-discharge plan, working landscapes plan, proposed services plan including infrastructure development works and explanatory note/ report indicating physical infrastructure development works to be executed in phases including arrangements and sites for disposal and treatment of storm and sewage water, rain water harvesting, solid waste management, water recycling, etc.
      - Traffic Impact Assessment and mitigation strategies
      - Seismic protection strategies as per location of TOD scheme on micro-zonation plan;
      - Phasing Plan along with infrastructure development works of each phase.
      - The documents shall be self-attested by Developer Entity who shall at all times remain liable for any false information, misrepresentation, or error of any nature whatsoever and in addition to being proceeded against in accordance with law, the application of Developer Entity shall be deemed to be void ab initio and shall automatically stand rejected and any action that has been taken pursuant to the such application shall stand automatically revoked.

## STEP 2
## Preparation

1 - To prepare plans for approval based on:

- street grid enhancing connectivity
- Provision for parking facilities
- focussing on prioritising pedestrians and ensuring universal accessibility,
- EWS housing unit provision
- provision of green/ recreational area, Setbacks and Frontage
- providing for solid waste management, rainwater harvesting, waste water recycling and storage of surface run-off




2 - To prepare a single contiguous scheme of minimum 1Ha based on criteria specified under MPD 2021 and TOD regulations document

## STEP 3
## Implementation


1 - To complete construction within 5 years for projects ≤10 Ha, or within 7 years for all larger projects counted from the date of its issuance of all approvals

2 - To make appropriate site arrangements to ensure that existing movement patterns through the site are addressed and kept functional even during the course of construction/ completion of the project.

## STEP 4
## Certification


1 - To submit additional FAR charges and balance EDC in 4-6 instalments in order to obtain completion certificate


2 - To retain 50% of DUs meant for EWS housing purpose and sell remaining 50% to DDA at base cost as per prevailing CPWD index rates (plus cost of EWS parking) which shall be enhanced as per CPWD escalation index at the time of actual handing over and can be developed at an alternate nearby site.

## 21 Step process for TOD

## STEP 2
## Preparation

**6** - Developer entity (DE) prepares TOD scheme based on the criteria specified in the MPD-2021 and the TOD regulations

**7** - DE submits scheme and other required documents in the prescribed format for approval of Competent Authority

**8** - Competent Authority reviews and processes submitted application under computerized single window clearance system m

**9** - Competent issues the approval of scheme to the DE

**10** - DE to pay CA, first instalment equivalent to 25% of the External Development Charges (EDC) as may be prescribed before the approval of the Layout Plan/ TOD scheme

**11** - Status of TOD schemes updated daily on centralized database

**12** - DE to complete construction within 5 years for projects ≤10 Ha, or within 7 years for all larger projects counted from the date of its issuance, failing which all approvals would need to be renewed

## STEP 3
## Implementation

**13** - Penalty is imposed on the developer entity in case of delay in completion of development; DE has to re-apply for approval.

**14** - In the event of non-completion of the project beyond the deadline, the validity of the sanctioned TOD integrated scheme / building plan shall be deemed cancelled, and re-approvals have to be taken by DE before any work is taken up.

**15** - The CA shall recover the additional FAR charges and balance EDC (excluding the first instalment equal to 20%* of EDC) from the DE in a staggered manner in 4-6 instalments, before the issue of completion certificate to the DE.

**16** -

A - Competent Authority issues completion and occupancy certificate.

B - Completion certificate can be issued for premise/ building level plan within any approved phase of development, subject to obtaining the part / full completion certificate for infrastructure development works of that phase.

## STEP 4
## Certification

**17** - DE can sell or transfer saleable component under its share/ownership to the prospective buyers only after the prescribed land (public spaces, public roads, public parking, etc ) and EWS housing component is handed over to the DDA/Delhi Govt.

**18** - The EWS housing component created by the DE shall be subject to quality assurance checks, as prescribed in this regard by Govt./DDA.

**19** - Monitoring mechanism for public spaces, public roads, public parking, etc. post completion and take appropriate penal action in case of violation of norms

**20** - Surplus funds received by local body by way of EDC charges, FAR charges, auction of advertisement rights and donations received for upgradation of the amenities shall be invested in high interest yielding government securities

**21** - Accrued interest, Public parking charges shall be used locally by Local body also be utilized for creation, upgradation and maintenance of public roads, especially footpaths, cycle tracks, public transport systems and all public amenities available/ to be provided within the public RoWs within TOD zone.

**TOD COMPLETE**

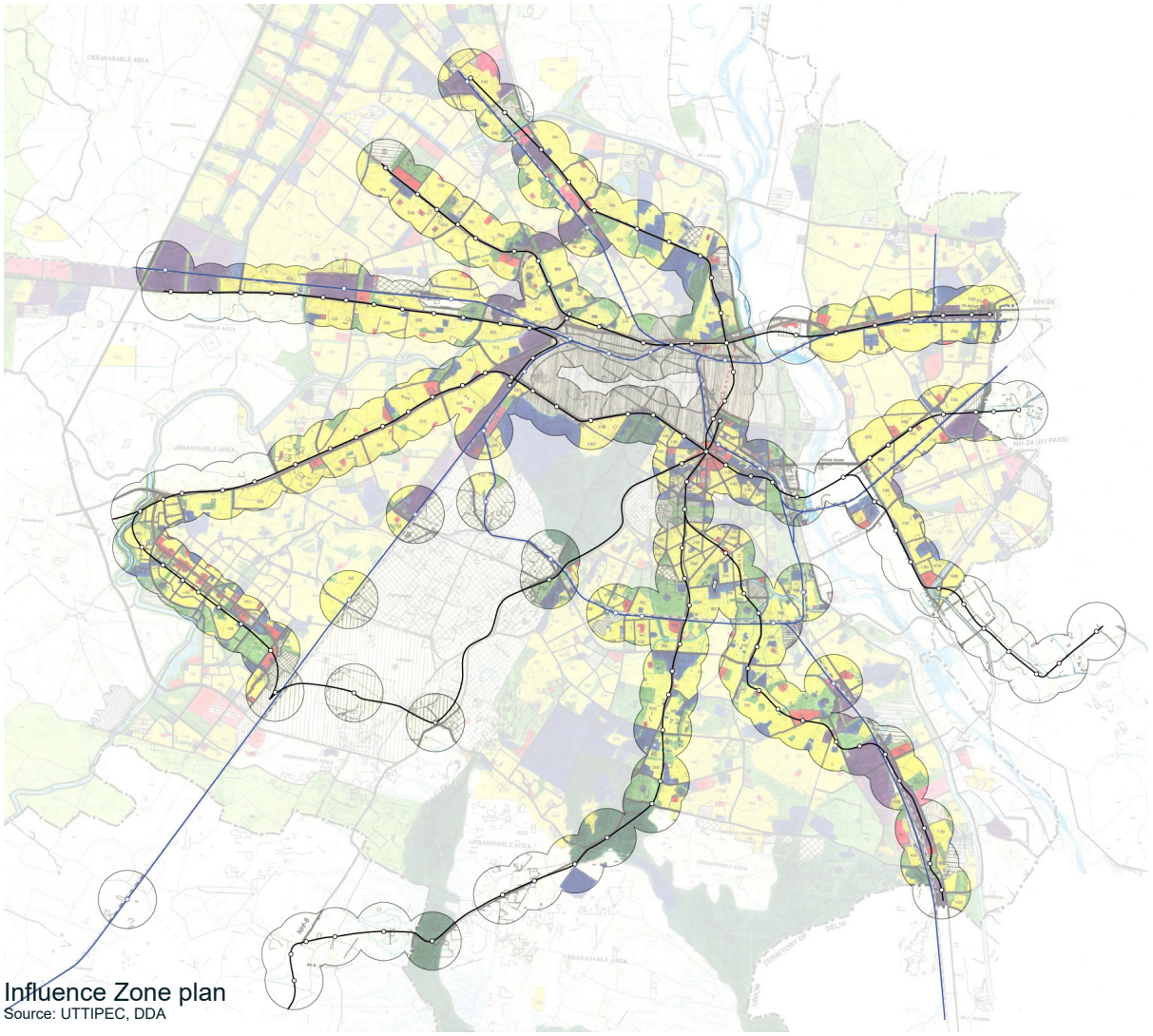
# CHAPTER 3 - GUIDELINES FOR TOD COMPONENTS

# Chapter 3 – Guidelines for TOD components

The Delhi Master Plan, 2021 has been amended to include the provisions of the TOD policy. At the core of the policy is the aim to promote high density development within 500 meter radius that translates into a walking environment around a metro station. Termed “influence zones”, these areas will see a growth in population with the increase in floor-area ratios (FAR), mixed use development that will produce housing units as well as increase concentration of jobs and encourage people to either walk or use public transit. The focus would be on creating interactive edges between buildings and streets with activity thereby ensuring safety, which is a high priority for the city of Delhi. By creating walkable environments, the policy aims to create an equitable space for movement of all. With one of the highest percent of land dedicated to road network amongst cities in the world, Delhi’s TOD policy will need to provide convenient world class infrastructure in order to shift people from their personal vehicles. To address this, the Policy uses deterrents to use of personal vehicle by introducing maximums on the provisions of parking spaces within the influence zone. In order to improve access to the influence zone, improved connectivity through arterial roads.

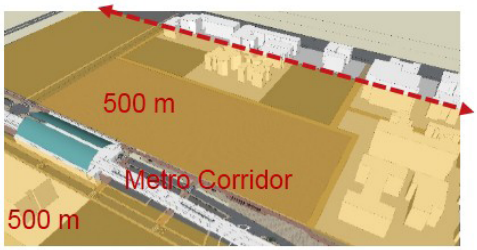
## 1 – INFLUENCE ZONE DEMARCATION

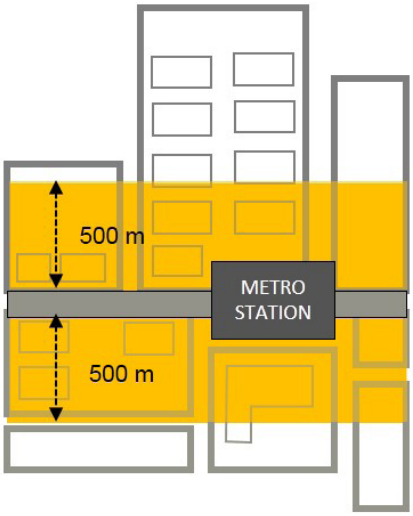
Influence Zone along MRTS corridor is developed as an intensive development zone with an opportunity to restructure the city and plan station areas better. The idea is to bring a sizable population into the MRTS Corridor while at the same time provide facilities and employment opportunities that would improve their quality of life. The concept of Transit Oriented Development shall be adopted for development within the Influence Zone, such that maximum number of people can live, work or find means of recreation within walking / cycling distance of the MRTS corridors / stations.



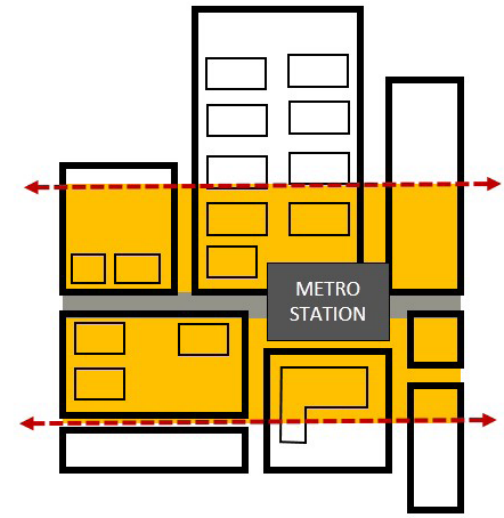
Influence Zone plan
Source: UTTIPEC, DDA

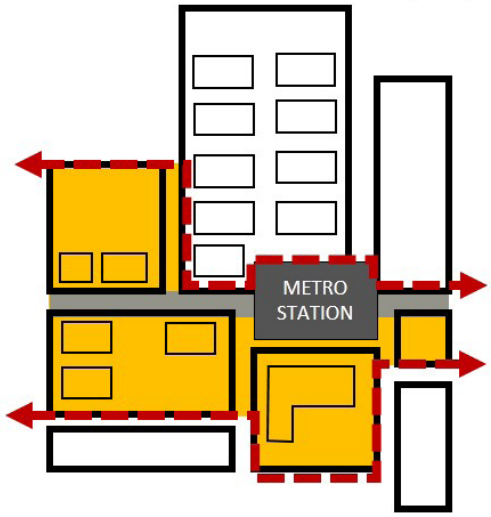
The scheme for Development / Redevelopment of Influence Zone shall be prepared on the basis of the following:



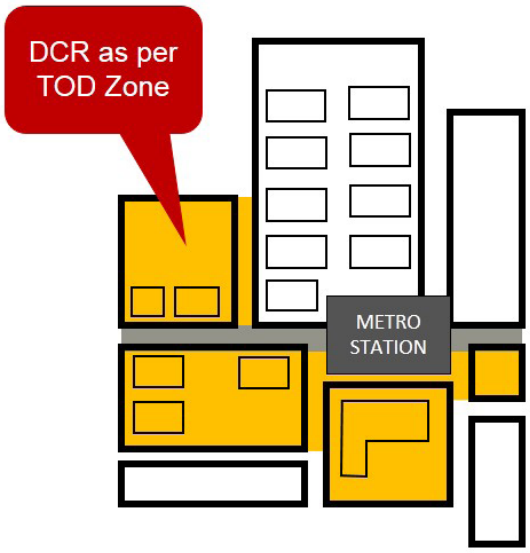




i) About 500 m. wide belt on both sides of centre line of the existing and planned/ approved MRTS Corridors is designated as Influence Zone which has been identified in the respective Zonal Development Plans, along with stations, except for the exclusions mentioned in para (vi) below. The same will be updated by DDA from time to time.

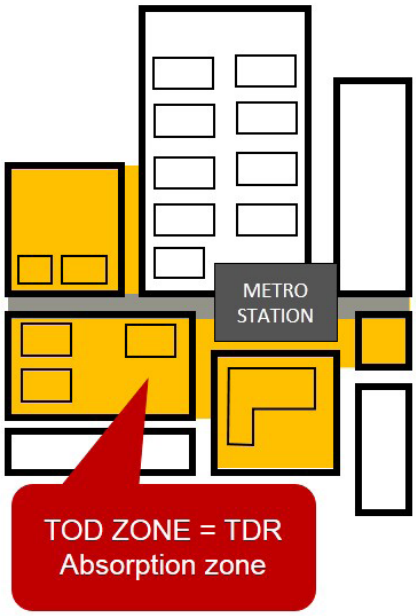


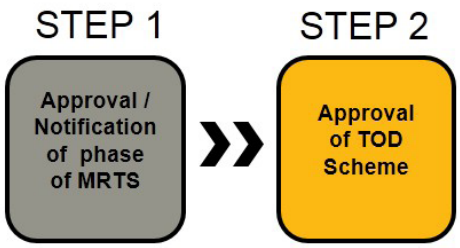

ii) Entire approved plan of a TOD integrated scheme will be included in the zone if more that 50% of the plan area falls inside the influence zone. The TOD integrated scheme to be submitted by DE will be of the area under his ownership/ entitlement and not of the adjoining area.




iii) Development Controls applicable will be as permissible under TOD Zone specified in Delhi Master Plan 2034.




iv) This TOD zone may be also used as TDR absorption zone and the TDR regulations for the same will be prepared by DDA.

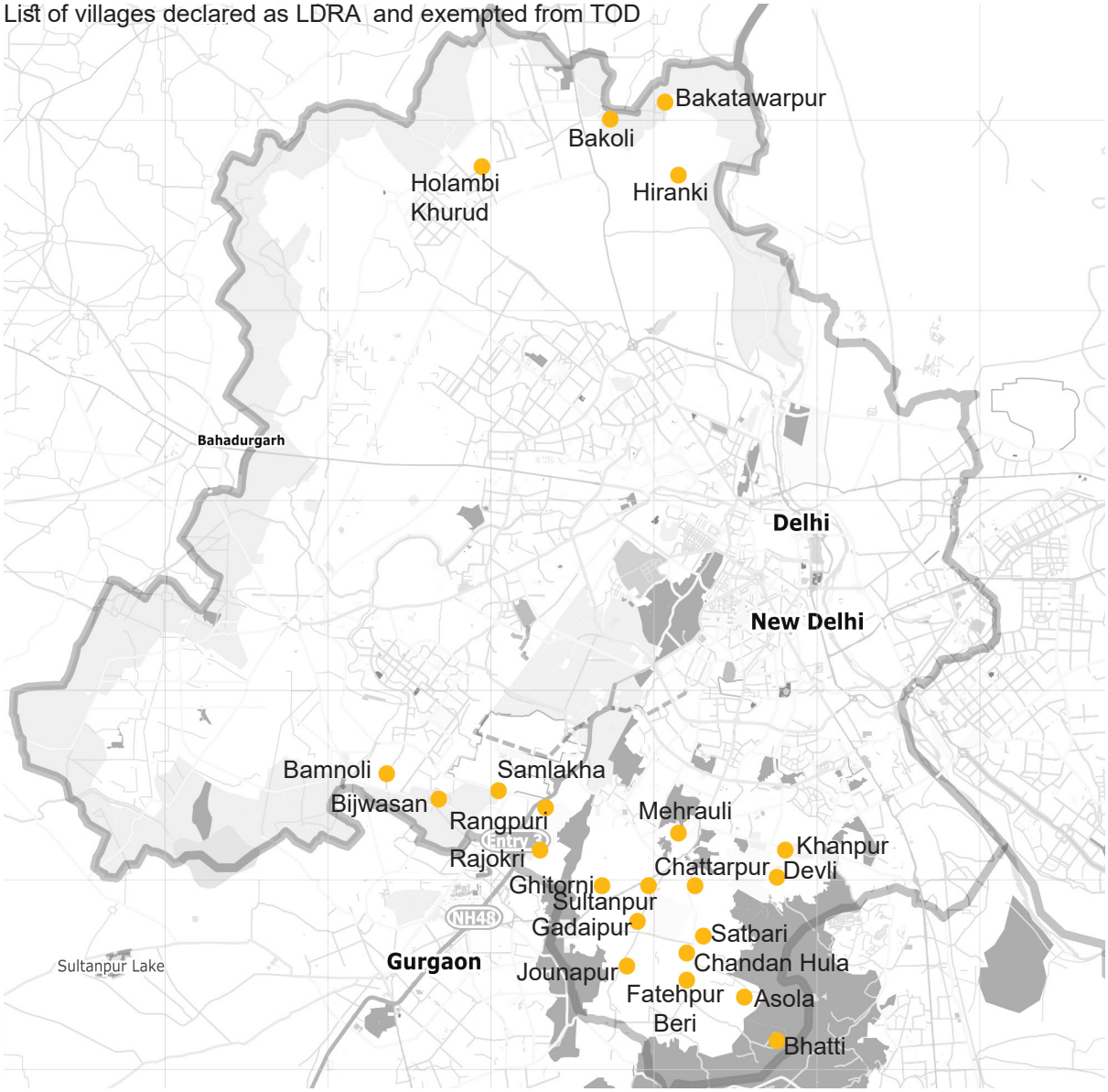



v) The approval of schemes will be granted after the approval / notification of the respective phase of MRTS


vi) Higher FAR and height can be availed through the preparation and approval of comprehensive TOD integrated scheme. Wherever height is restricted by any regulatory authorities like AAI, NMA; in order to enable the DE to utilize the permissible FAR, a relaxation in ground coverage and setbacks, without compromising the green public open space viz 20%, in such TOD integrated scheme shall be allowed subject to the clearance from Fire department as per Delhi Fire Services Act.

Areas exempted from applying TOD
- Lutyens' Bungalow Zone, ChanakyaPuri (as per layout plan of New Delhi Municipal Council,L&DO).
- Civil Lines Bungalow Area (as per layout plan of North Delhi Municipal Corporation,DDA).
- Monument Regulated Zone (As per ASI guidelines Development in Monument Regulated Zones shall be allowed under TOD Policy, subject to compliance of
NMA's restrictions, if any. If part of any scheme contains a Monument Regulated Zone, the benefit of the FAR can be taken within areas outside the regulatory boundaries within the scheme).
- Zone-O (as notified by DDA)
- *Low Density Residential Area (as notified by DDA).*

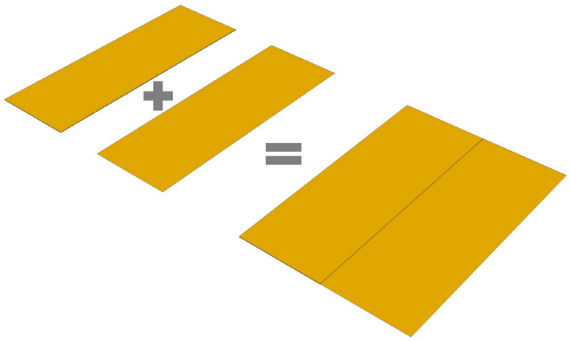
List of villages declared as LDRA and exempted from TOD




*Note:*
*i) Transit Oriented Development (TOD) policy would not be applicable to the influence zone of MRTS corridors lying within the villages falling in Low Density Residential Area.*
*ii) Low Density Residential area in 5 villages mentioned at Sr. No. 1 to 5 shall be subject to relevant stipulations imposed by the Authority arising from Supreme Courts orders.*
*iii) *Villages where low density residential development may be allowed in the areas other than those falling under Regional Park.*
*iv) Any approved Layout/ Scheme falling in the above villages shall be deemed to have been approved under clause 3(4) of Development Code of MPD-2021.*
*v) The term "Village" refers to "Revenue Village Boundary."*

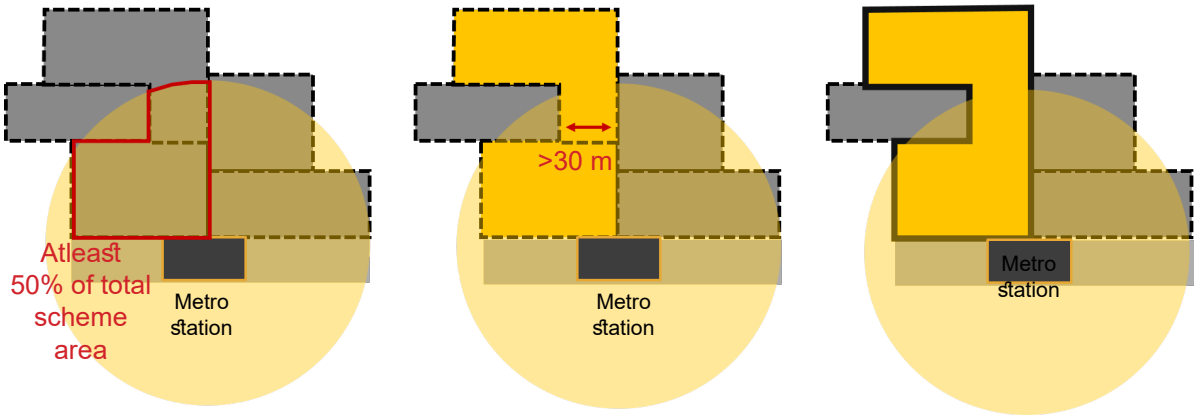
## 2 - AMALGAMATION

Amalgamation and reconstitution of the plots for planning purpose will be permitted in all redevelopment schemes, including TOD. In order to participate in TOD, individual/ group of owners may need to partner with other adjoining land owners/ property owners to form a Developer Entity (DE), and prepare a single contiguous scheme of minimum 1 Ha.

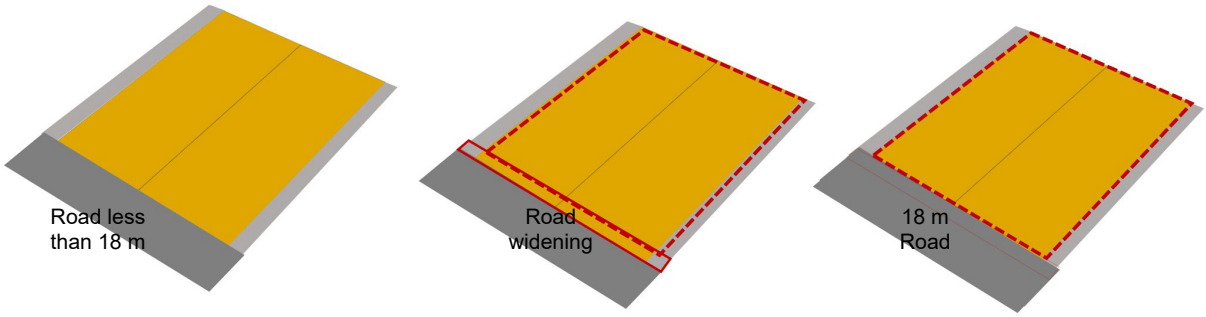


Local body will simultaneously modify the layout plan.

### Contiguous Scheme




"Contiguous scheme" means any TOD scheme which may comprise of two or more parcels of land touching along any side with a minimum overlap of 30 metres (100 ft.), to allow for continuity in circulation networks, green spaces, etc. subject to at least 50% of total scheme area, comprising of two or more parcels, falling within the influence zone as defined above.




In case of TOD schemes falling on Road RoW less than 18m, the local body shall consider the approval of the scheme if the DE/ group of DE's surrender the land for road widening with contiguous connectivity, such that road widening can take place from junction to junction at the same time. The widened RoW must meet the nearest existing Road RoW of 18 m width or above. In such cases, DE will have to surrender the land to the road owning agency after the approval of TOD integrated scheme and before the submission of building plans for sanction.

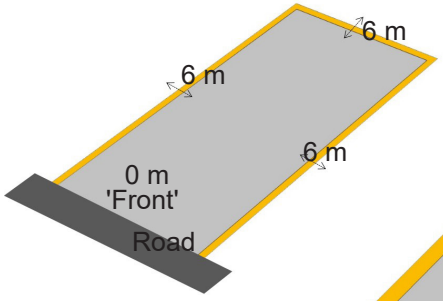
## 3 - EDGES

The urban edge can be defined in terms of the visual boundary of a space. It is essentially a transition zone that facilitates exchange of information between territories. Within the TOD policy, the idea is to have permeable edges, thereby reducing the emphasis on the concept of setbacks.

Minimum Setbacks for integrated TOD schemes

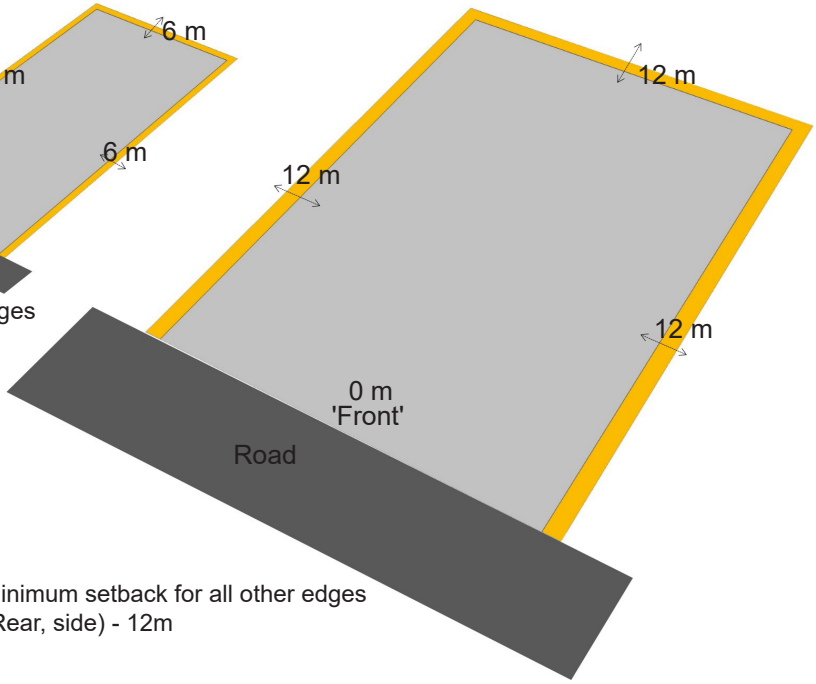
Setback to be handed back to local body as public roads- at least 20% of plot/ scheme area

Plot size >3,000 up to 10,000 sq m

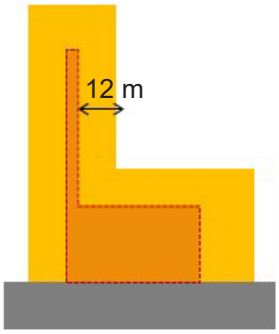



Minimum setback for all other edges
(Rear, side) - 6m

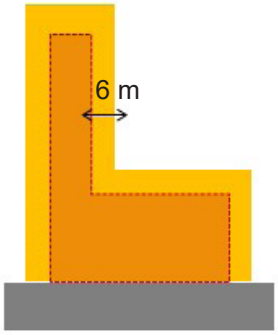
Plot size >10,000 sq m




Minimum setback for all other edges
(Rear, side) - 12m

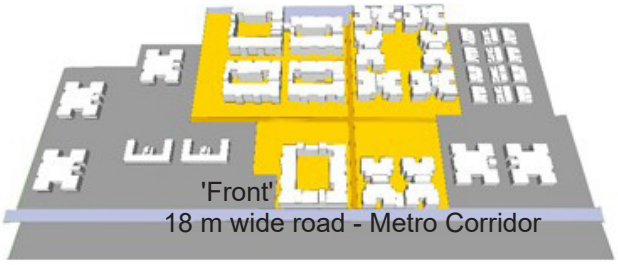
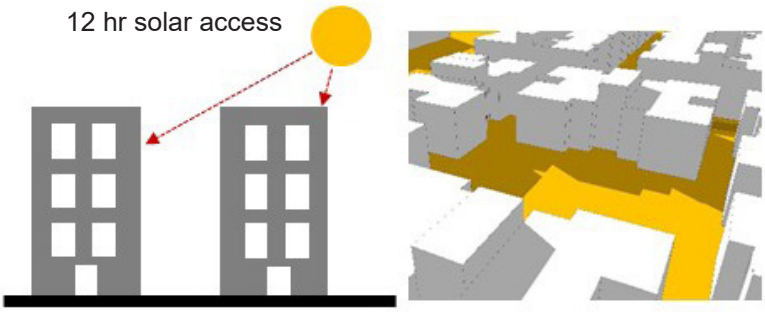



Setback – 12 m
But Ground coverage
less than 40% !!!




Reduce Setback to
accommodate Ground
coverage to 40%

i) In case the permissible coverage is not achieved with the above given setbacks, the setbacks of the preceding category may be allowed.

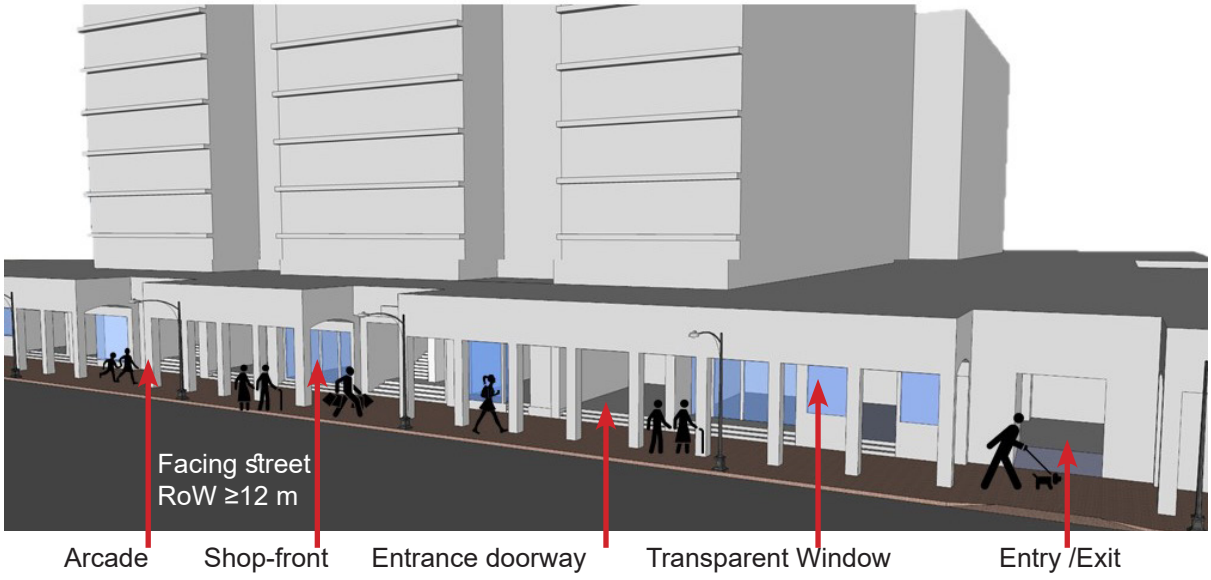
| | |
|---|---|
|  | ii) TOD schemes shall be located on existing roads having a minimum width of 18m RoW. In TOD schemes, any edge of plot facing an existing public ROW >18 m shall be considered as "front". |
|  | iii) The setbacks are subject to requirements of height and ventilation as per building byelaws. TOD schemes shall be planned as per above setback norms, while endeavouring to ensure that all dwelling units get a minimum 2-hour solar access in at least one habitable room on the shortest winter day, and have the option for natural ventilation. |
|  " SETBACK RELAXATION NOT ALLOWED IN TOD ZONE " | iv) The Technical Committee of DDA will not relax setbacks, ground coverage and height in special circumstances except in TOD integrated schemes. |
|  | v) ESS wherever required to be provided within the plot setbacks.<br><br>[ESS:Electric Substation] |

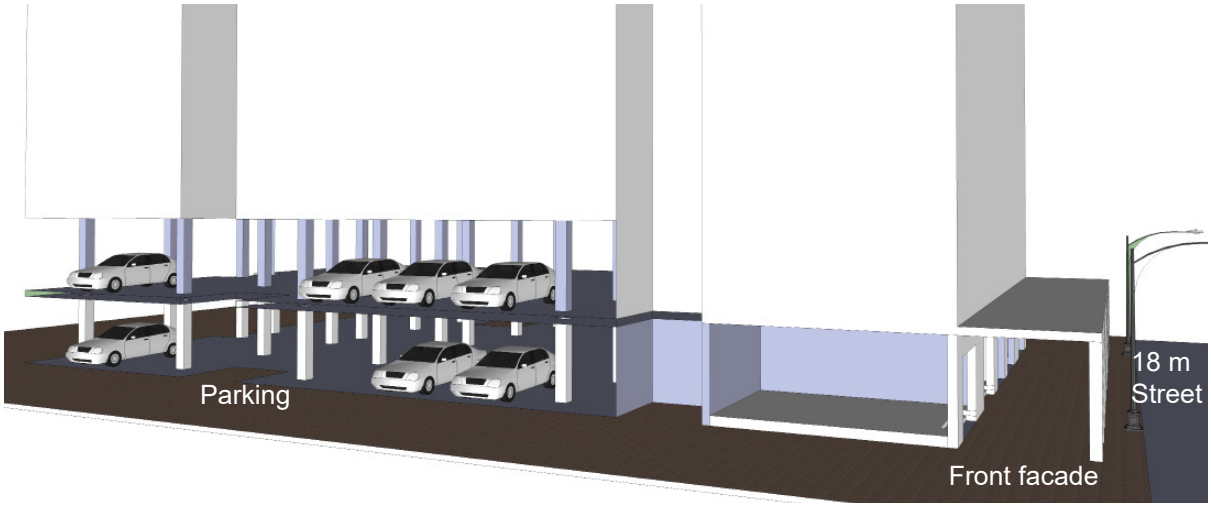
NOTE:

- *Access and all other provisions shall be made as per Delhi Fire Service Act.*
- *In the new layouts, underground pipelines for fire hydrants on the periphery, exclusively for firefighting services shall be provided. Necessary provisions for laying underground/ over ground firefighting measures, water lines, hydrants etc. shall be made by local body.*
- *In all TOD projects, boundary walls along any edge facing a public open space viz. pathway, road, park, etc. shall be prohibited. In case enclosure of sites is required, translucent fencing shall be used.*
- *In case a layout is sanctioned with more than the minimum prescribed setbacks, the same shall be followed in the sanction of the building plans.*

## Active Frontage

For TOD integrated schemes, the main building facade(s) shall face the public street(s) without setback and have an active frontage to facilitate visual surveillance of streets. ≥ 50% building frontage at built-to RoW line to have active frontage. There is no minimum active frontage requirement when RoW is ≤12 m.Active frontages include arcades, shop-fronts, entrance doorways, access points, entry / exits and transparent windows of active areas facing the main street. Commercial frontages shall have minimum 50% transparency (untinted) at ground floor level.

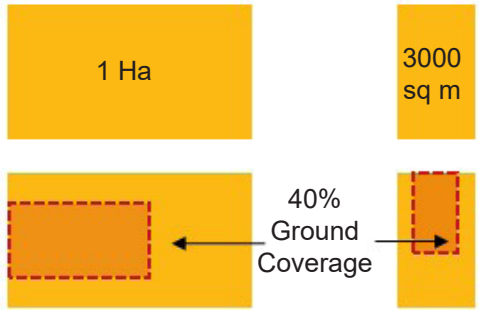
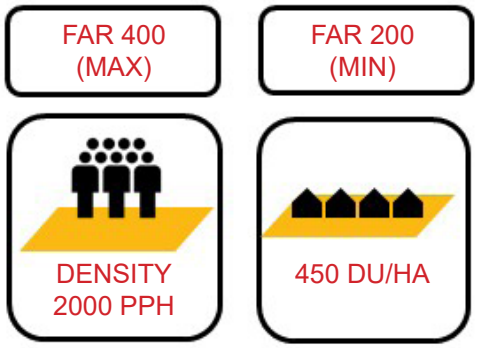
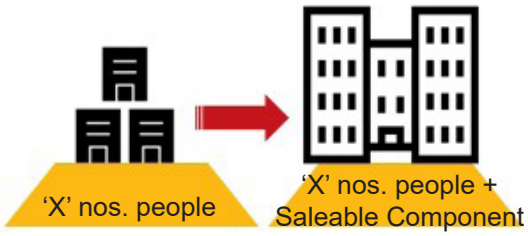


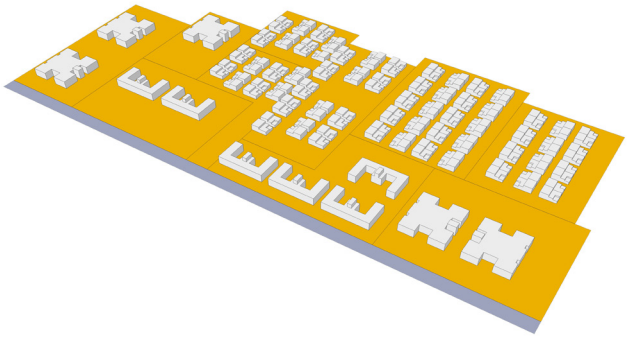

The ground floor of all parking structures / podiums or stilts must be lined with active frontage facing the main streets.

## 4 – FAR AND DENSITY

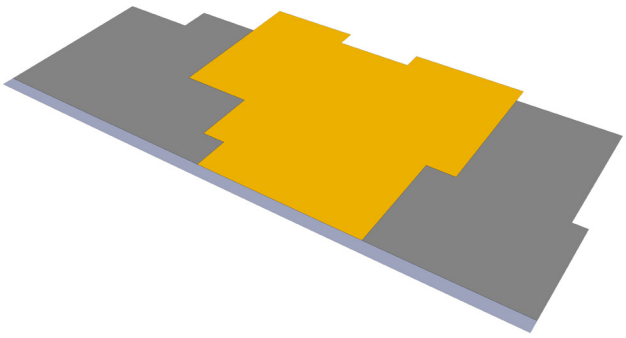
The floor area ratio (FAR) is representative of the total floor area of the building as a fraction of the total area of the plot the building is located on. It is used by government bodies in zoning regulations as an instrument to control the density of a place by imposing permissible FAR norms.

| | |
|---|---|
|  | a. TOD norms of FAR and density may be availed through the preparation and approval of comprehensive integrated scheme of minimum size 1 Ha, with maximum ground coverage of 40%. In case of MRTS/ Government Agencies, the minimum plot size for development shall be 3000 sq.m., but all other development norms apply as per this Chapter. |
|  | b. For any integrated scheme, a max. FAR of 400 and a maximum density of 2000 persons per hectare (PPH) i.e. approx. 450 du/ha is permissible. The entire amalgamated plot will be considered for calculating the FAR and density. FAR utilization shall not be less than 200. Mandatory EWS FAR of 15% over and above the maximum permissible FAR shall be applicable. |
|  | c. All residents residing in that scheme area shall have to be accommodated within the same scheme only, with no induced displacement of existing residential population. |

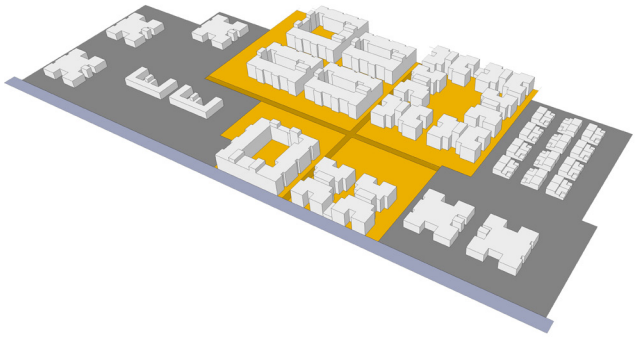
Case 1 - Applying TOD regulation on minimum 1 Ha. land.



Existing scenario: Area around metro station with various typologies.

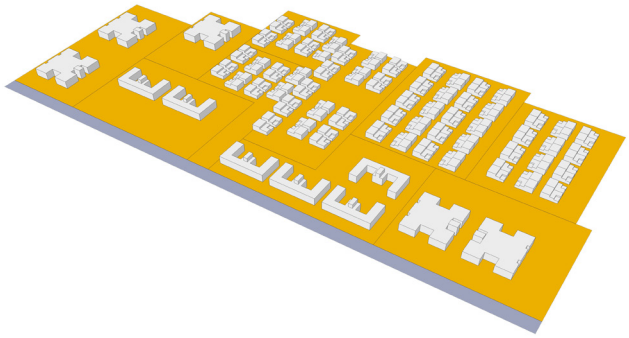


TOD zone of 1 Ha demarcated around metro station.

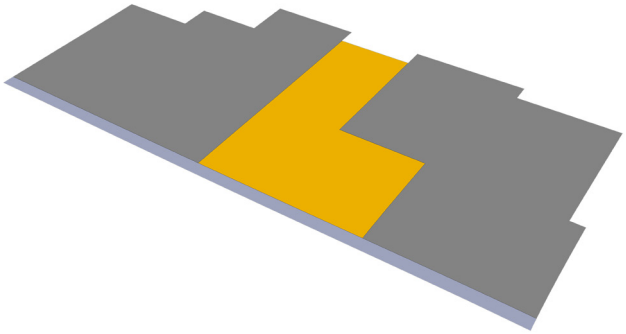


Integrated scheme with road network.

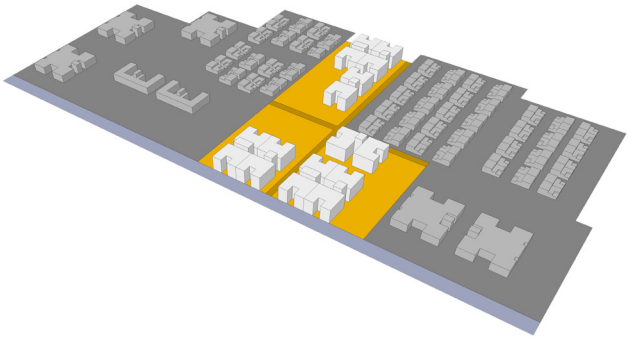
Case 2 - Applying TOD regulation on min. 3000 sq. m. land belonging to MRTS/ Government Agencies



Existing Scenario: Area around metro station with various typologies.



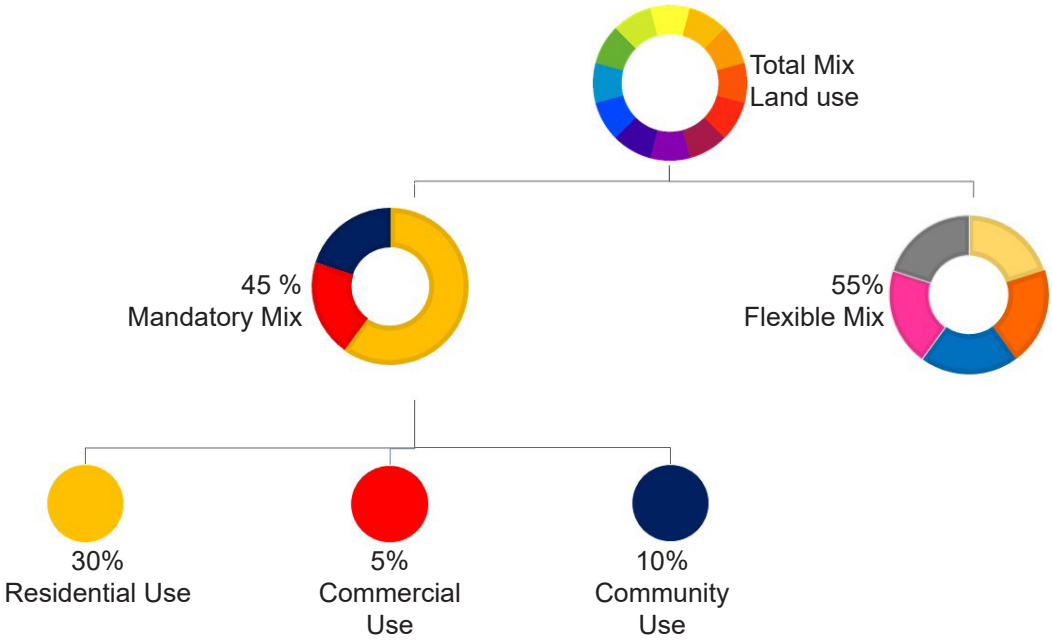
TOD zone of 3000 sq. m demarcated around metro station.



Integrated scheme with road network.

## 5- LANDUSE MIX

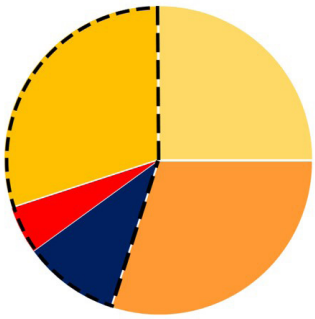
In all integrated schemes, a minimum of 30% of overall FAR shall be mandatory for Residential use, a minimum 5% of FAR for commercial use and minimum 10% of FAR for community facilities. At least 50% of the total FAR shall be as per ZDP use.




Indicative mix of uses within TOD Zone

i. Residential land use

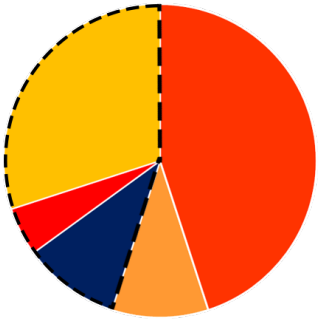
| 45 % Mandatory Mix | |
|---|---|
| Residential Use | 30% |
| Commercial Use | 5% |
| Community Use | 10% |



| 55 % Flexible Mix | |
|---|---|
| Residential Use | 25% |
| Others | 30% |

ii. Commercial land use

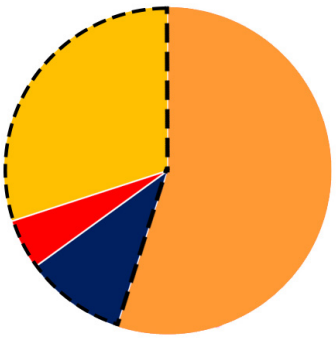
| 45 % Mandatory Mix | |
|---|---|
| Residential Use | 30% |
| Commercial Use | 5% |
| Community Use | 10% |



| 55 % Flexible Mix | |
|---|---|
| Commercial Use | 45% |
| Others | 10% |

iii. Mixed Use land use

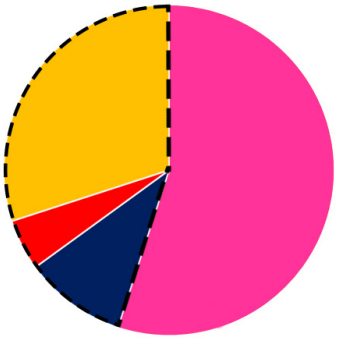
| 45 % Mandatory Mix | |
|---|---|
| Residential Use | 30% |
| Commercial Use | 5% |
| Community Use | 10% |



| 55 % Flexible Mix | |
|---|---|
| Others | 55% |

iv. Industrial land use

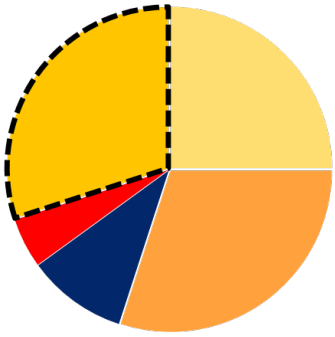
| 45 % Mandatory Mix | |
|---|---|
| Residential Use | 30% |
| Commercial Use | 5% |
| Community Use | 10% |



| 55 % Flexible Mix | |
|---|---|
| Industrial Use | 55% |

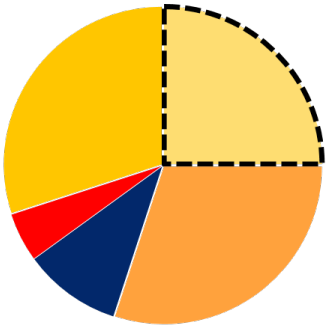
NOTES

a) The minimum component of 30% residential shall comprise of units not more than 93 sq.m. (1000 sq.ft.).

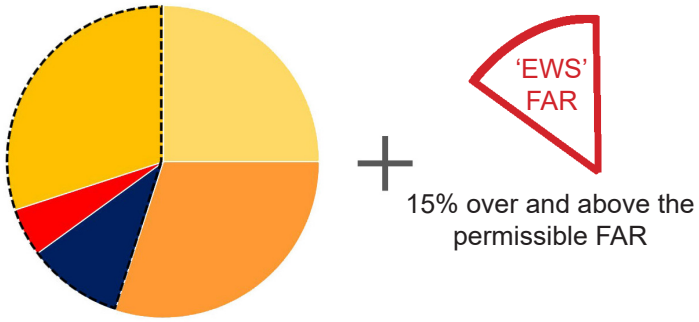


Unit Size ≤ 93 sq. m
(1000 sq.ft.)

b) Within the 55% flexible use, in case Residential use is provided, DE would have the option to provide homes of any/larger size, as per the demand.

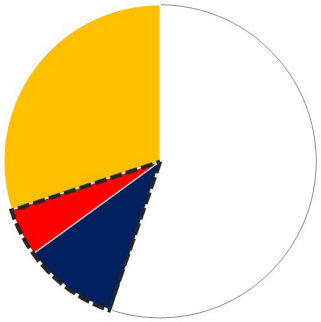


c) EWS FAR of 15% over and above the permissible FAR will be applicable.




d) Minimum requirements for 30% Residential and 5% Commercial will not be binding on transportation,Government and PSP land uses.

e) The mandatory facilities and commercial component shall include the requirements of the residential population in that land parcel.



The mandatory facilities and commercial component shall include the requirements of the residential population in that land parcel.

f) In case of transportation and public and semi-public facility plots, the development control norms shall be as per lease conditions.

g) In case of residential land use, activities prohibited are as follows:

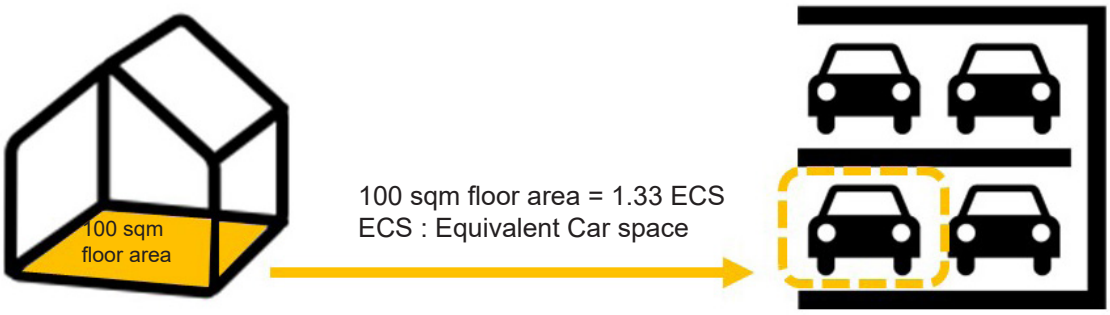
i. Retail shops of building materials [timber, timber products (excluding furniture), marble, iron and steel, (gravel, cement and sand], firewood, coal and any fire hazardous and other bulky materials.
ii. Repair shops / workshops of automobiles, tyre resoling and re-treading, and battery charging.
iii. Storage, go-down and warehousing.
iv. Junk shop (except paper and glass waste)
v. Liquor shop
vi. Printing, dyeing and varnishing
vii. Any other activity that may be notified from time to time by Government.

Also will not include:

i. Business of finished marble products where cutting and polishing activity of marble is not undertaken
ii. Retail shops of gravel, sand and cement shall be permissible in residential plots of atleast 50 sq.m., in notified mixed use streets in E, F and G category colonies, provided that the material is kept entirely within the plot premises.
iii. Repair shops and workshops in case of automobiles shall not be prohibited on plots abutting mixed use streets or commercial streets of right of way (ROW) of 30m or more.

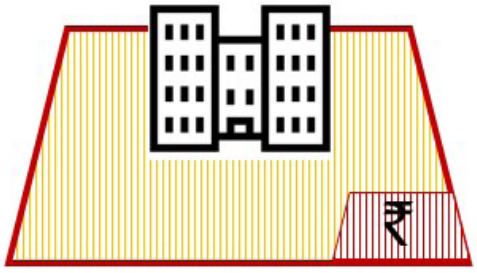
## 6 - PARKING STANDARDS

In TOD zones, the permissible ECS (Permissible Equivalent Car Spaces) per 100 sqm. of floor area is 1.33.




Equivalent Car Space (ECS) is the land required to park a car including the space occupied by the vehicle as well as the minimum space needed to move it into and out of the space.

Integrated Scheme

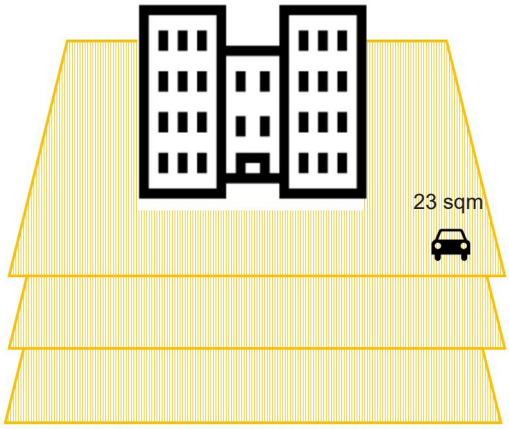



Area ≤ 2000 sq. m

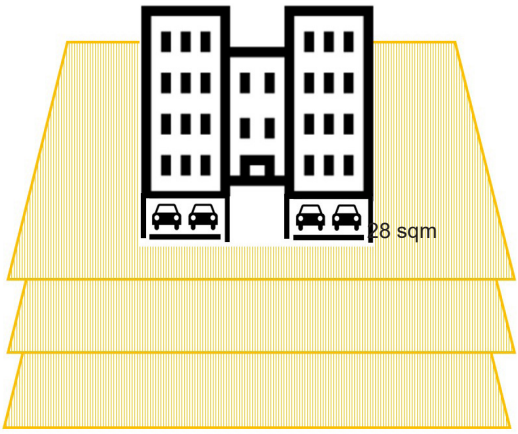
Additional parking may be created within integrated schemes only as paid, shared parking facilities accessible to general public at all times.

Planned commercial centres may be developed/ redeveloped as per integrated schemes, in which mixed use component may be introduced along with comprehensive Parking Management Districts (PMD) plans, feeder systems, public spaces, etc.

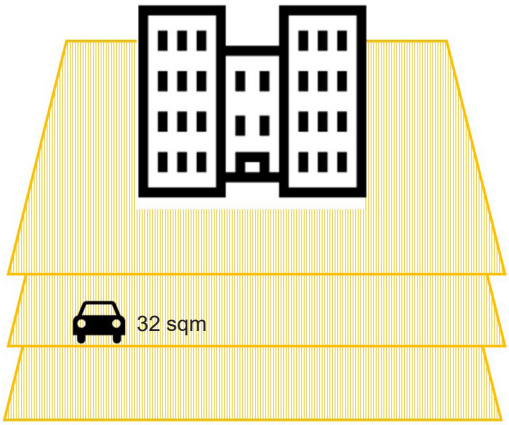
Space Standards for Parking



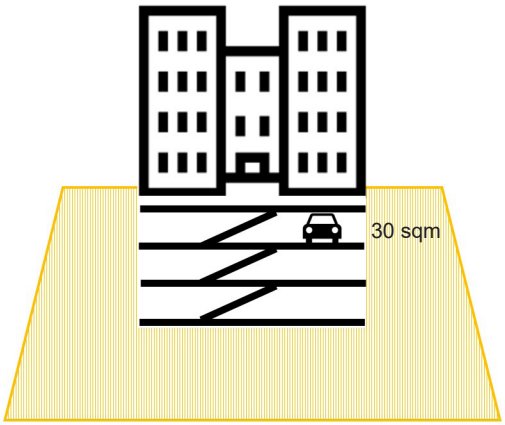

Open Parking



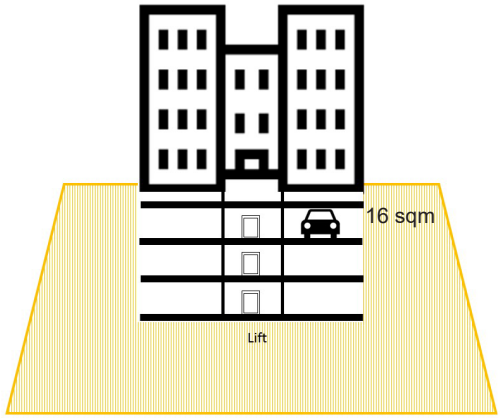

Ground floor covered parking




Basement Parking



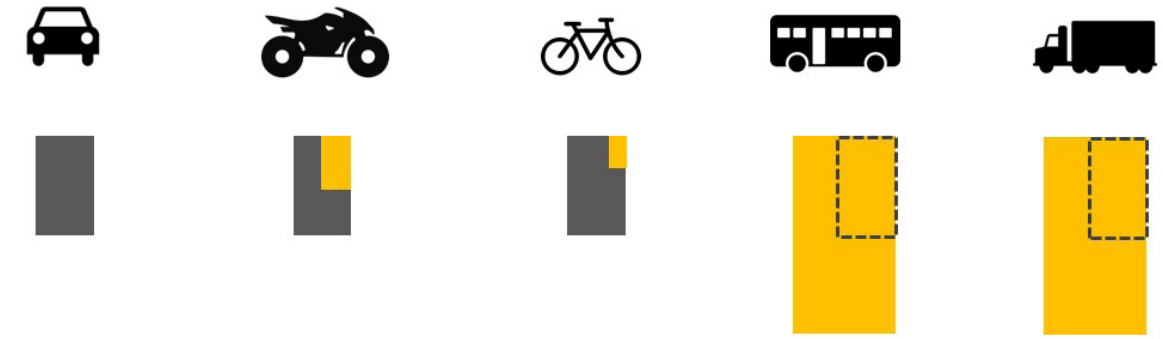

Multi-level with ramps




Automated multi-level with lifts

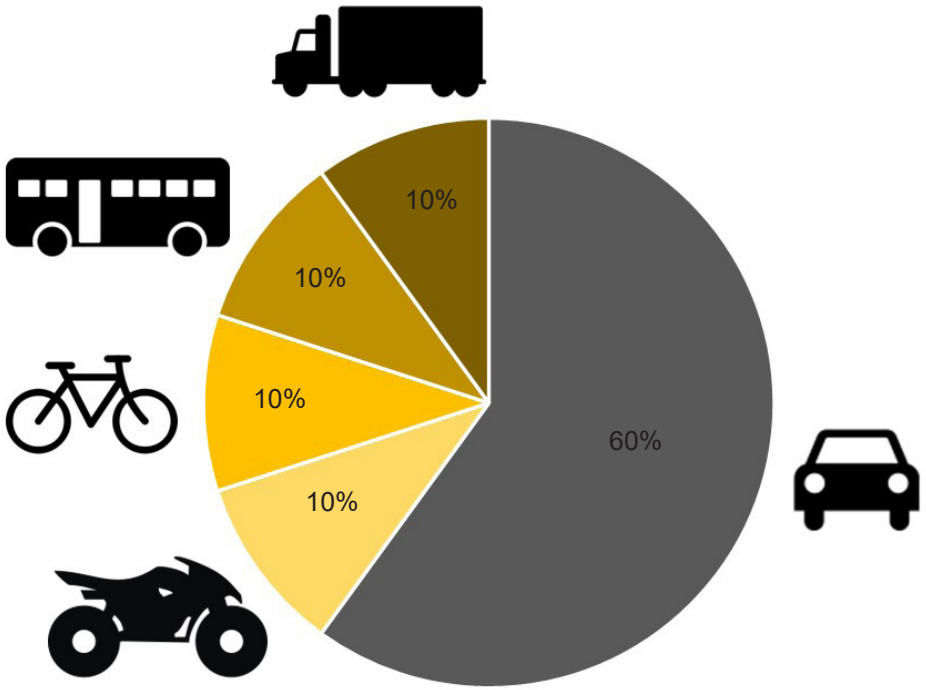
iii) In the use premises, parking on the above standards shall be provided within the plot.
iv) In case, where the building (except hotel) with sanctioned plan is existing/ under construction and where building plans stand sanctioned as per MPD-2001, the parking is to be provided for additional FAR availed, shall be as per the parking standards prescribed in MPD- 2021.
v) Parking is one of the utilities permitted in all use zones except in regional park / ridge, Recreational Open Space and parks as per the approved Zonal Plan/ layout plan.
vi) The standards given in Equivalent Car Space (ECS) shall include parking for all types of vehicles i.e. cars, scooters, cycles, light and heavy commercial vehicles, buses etc. Parking adequacy statement / study for large projects like Stadia, Shopping Malls, Multiplexes will be desirable. Mode-wise parking spaces are to be marked on drawings to be submitted for approval.

Parking space for different modes of travel in relation to ECS



| 1 ECS | 0.25 ECS | 0.1 ECS | 3.5 ECS | 3.5 ECS |
|---|---|---|---|---|
| 23 sq. m | 5.75 sq. m | 2.3 sq. m | 80.5 sq. m | 80.5 sq. m |

Distribution by mode per 1 ECS / 100 sq. m of built up area within TOD Zone

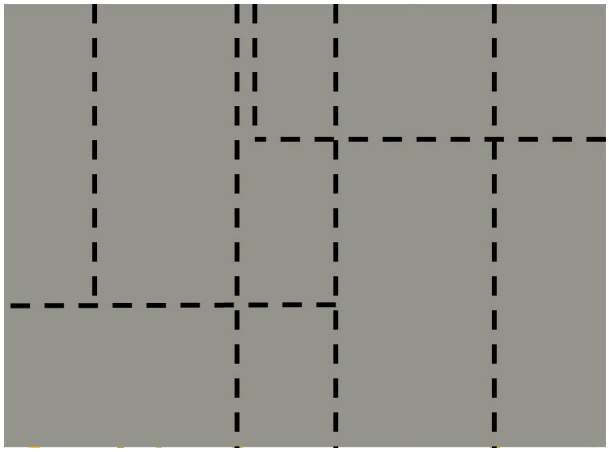



The above figures are indicative and may be customized on case to case basis. However minimum proportion of cycle parking in mandatory.

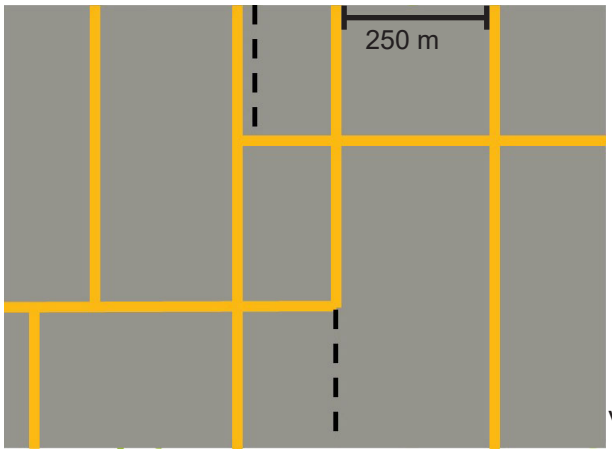
7 - ROADS

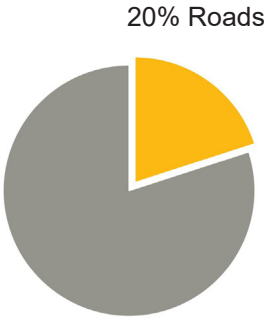
i. Of the area taken up for development as integrated scheme, at least 20% of land shall be used as ungated constructed roads/ circulation areas for common use. However FAR can be availed on the entire amalgamated land parcel.

ii. The roads will be designed, developed, maintained and kept encroachment free by the DE and will remain open for common use at all times. Efforts shall be made to provide appropriate property tax rebates to Developer entities for keeping the roads/ public spaces accessible for common use.

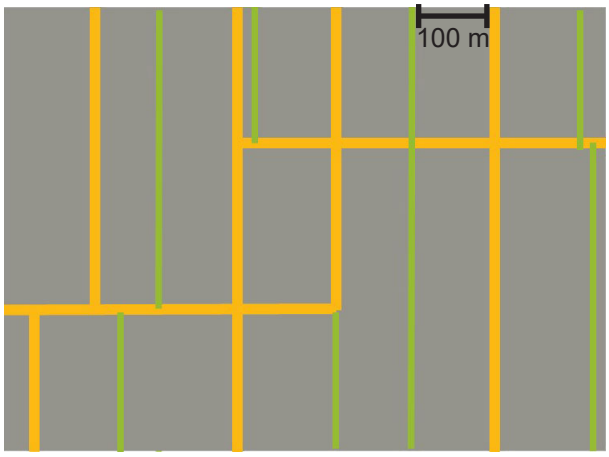


Plot demarcations




Vehicular streets at 250 c/c

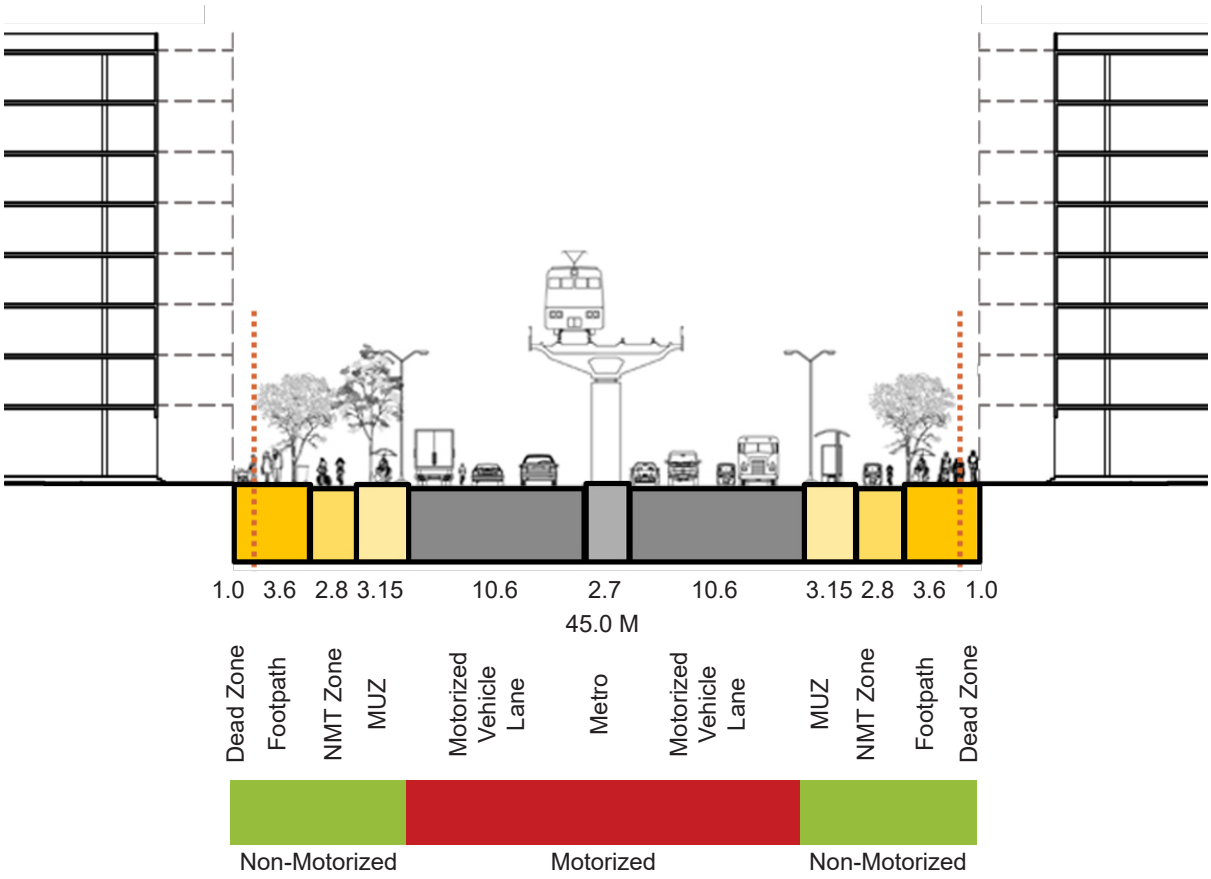



iii. Road Networks to be planned with a vehicular route network of approximately 250m c/c and pedestrian network of approximately 100m c/c. Additional thoroughfares should be provided as required.

Pedestrian streets at 100 c/c

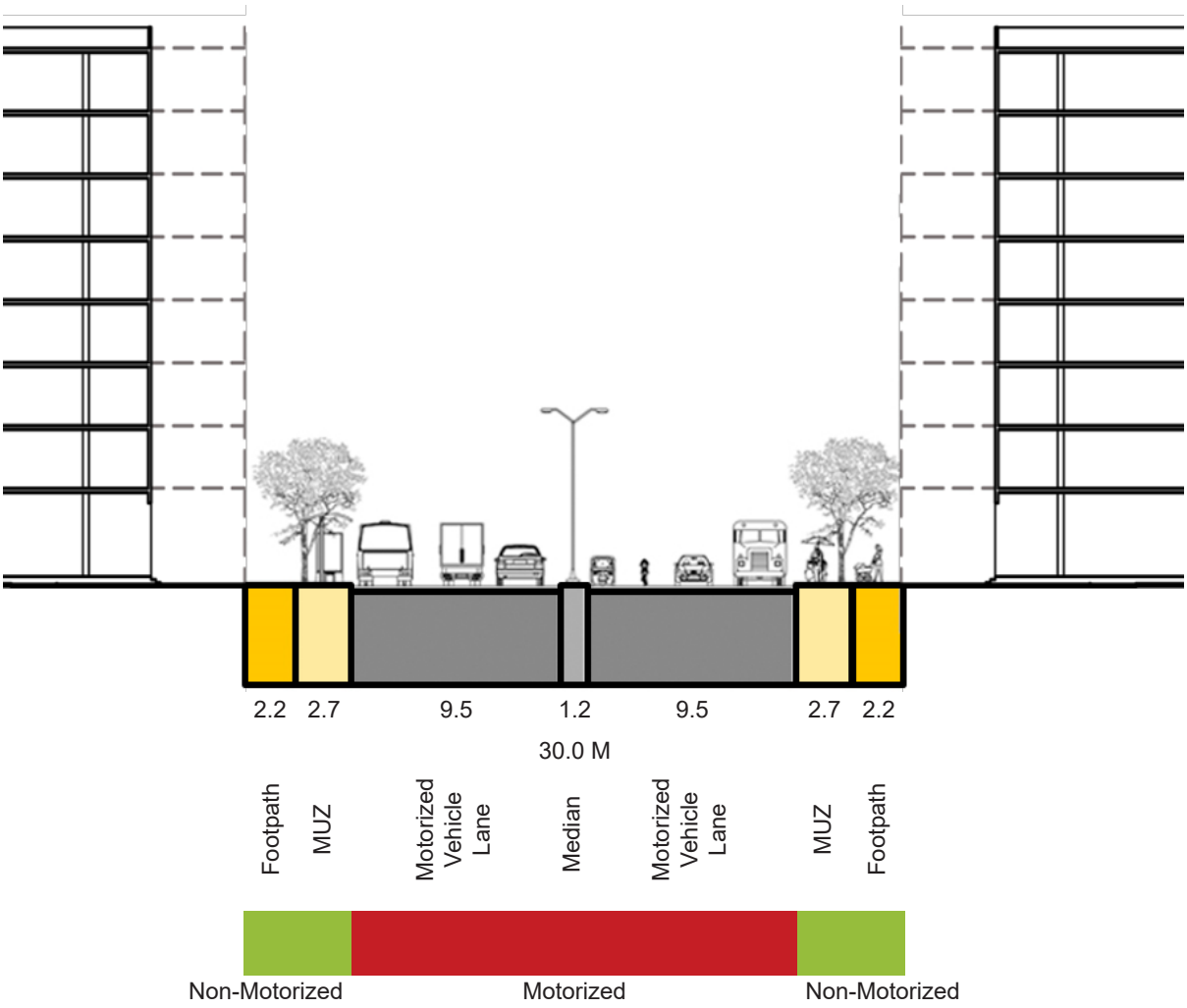
Based on ground conditions, the street grid (i.e. c/c spacing between ROWs) requirement within the TOD scheme area may be relaxed by maximum 10%. Only pedestrian/ NMT networks can be considered in the form of corridors which run though/ under buildings, as long as they are kept open for general public at all times.

Arterial Roads



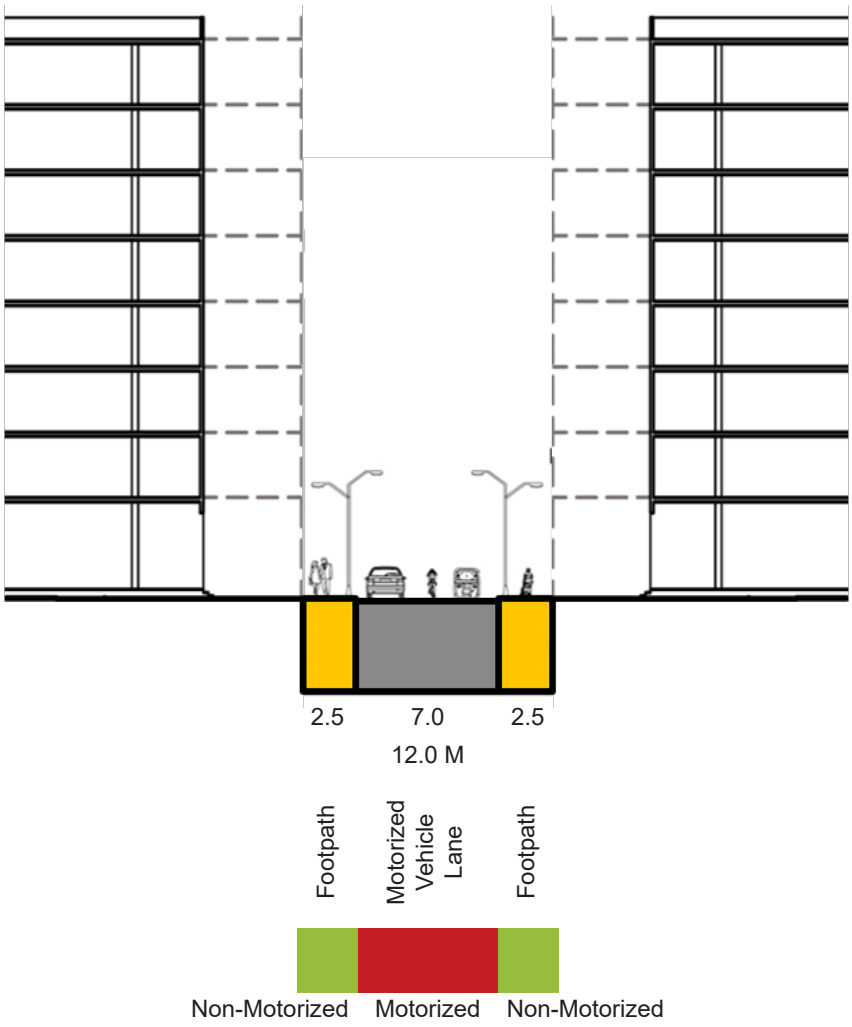

| RIGHT OF WAY | SUGGESTED SPEED LIMIT | SPEED CONTROL | BUSWAYS | MOTORIZED LANES | CYCLE/ NMV TRACKS | SERVICE LANES | MEDIANS AND JUNCTIONS |
|---|---|---|---|---|---|---|---|
| > 30 M | 40-50 km/hr | Enforcement and Traffic Calming required. | Segregated busways (3.5 M) per direction. | 2 to 3 motorized lanes (min. 3.3 m wide each) per direction, excluding busways. | Segregated cycle tracks required; min. 2.5 m wide for two-way movement. | Service lanes required. | Continuous median; all openings and intersections accompanied by signals and traffic calming. |

Collector Roads




| RIGHT OF WAY | SUGGESTED SPEED LIMIT | SPEED CONTROL | BUSWAYS | MOTORIZED LANES | CYCLE/ NMV TRACKS | SERVICE LANES | MEDIANS AND JUNCTIONS |
|---|---|---|---|---|---|---|---|
| >12 - 30 M | 20-30 km/hr | Enforcement and Traffic calming required. | Demarcated bus-lanes (3.3 M) per direction. | 1 to 2 motorized lanes (min. 3.1 m wide each) per direction, excluding buslanes. | Traffic calming essential where segregated cycle lanes (min. 2.5 m) are not provided. | No service lane required | Intermittent or no median; openings/ intersections accompanied by signals and traffic calming. |

Local Streets




| RIGHT OF WAY | SUGGESTED SPEED LIMIT | SPEED CONTROL | BUSWAYS | MOTORIZED LANES | CYCLE/ NMV TRACKS | SERVICE LANES | MEDIANS AND JUNCTIONS |
|---|---|---|---|---|---|---|---|
| 9 - 12 M | 10-20 km/hr | Enforcement and Traffic calming required. | No segregated bus lanes required. | No minimum lane width specification. | No special provision for cyclists. | No service lane required. | No medians; traffic calmed crossings, or mini roundabouts. |

## 8 - STREET DESIGN REGULATIONS

Based on the overall mobility, safety and environmental goals for the city, the following regulations must be followed for design, execution, management and maintenance of all roads:

a) To Promote Preferable Public Transport Use:

Streets should be Retrofit for equal or higher priority for Public Transit and Pedestrians.

Prohibit street parking or enforce high parking charges for private vehicles on public streets and spaces, in order to encourage use of other modes.


Provide transit-oriented mixed landuse patterns and redensify city within walking distance of MRTS stops, wherever permissible.

Provide dedicated lanes for high occupancy vehicles (HOVs) and carpool during peak hours.

b) For Safety of All Road Uses by Design

Multi-Utility Zone (MUZ) of minimum 1.8 m width should be provided on all Collector and Arterial Roads, to accommodate bus stops, street utilities, trees, street furniture, planting for storm water management; IPT/NMT stands, paid idle parking, etc. so that these don't encroach upon the carriageway or safe pedestrian movement spaces.

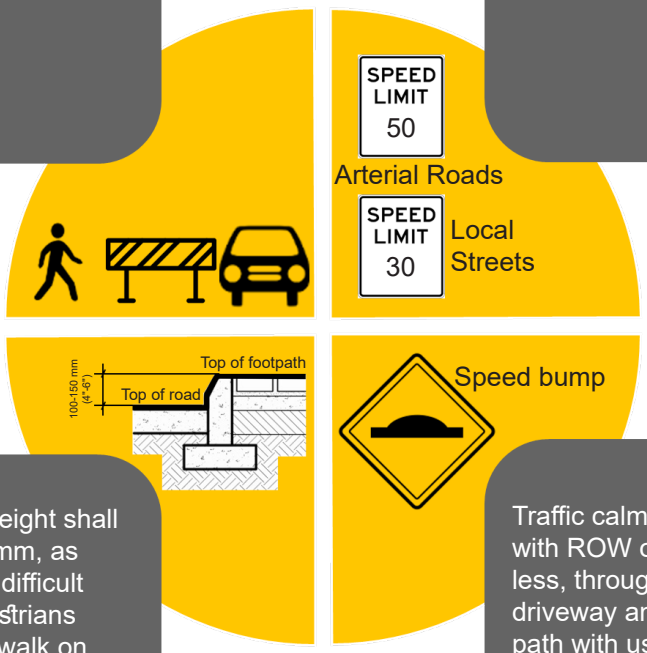
Corner radius of Kerb should not exceed 12 m, in order to control speeding of vehicles at blind turns and intersections, causing accidents. No slip roads or free left turns should be provided on Collector or Local Streets. In case slip roads or turning pockets are provided on Arterial roads, safe at-grade pedestrian crossings with traffic calming and signal should be provided.


Secure parking facilities and services for cyclists/ NMT should be provided on all Collector and Arterial Roads.

Provide Accessible Public Toilets at every 500-800 M distance – preferably located close to bus stops for easy access by pedestrians and public transport users.

Prohibit street parking or enforce high parking charges for private vehicles on public streets and spaces, in order to encourage use of other modes.

Limit speed by design on urban arterial roads and sub-arterial streets to 50 kmph and on collector and local streets to 30 kmph. Street design should be used as a means of limiting speed where possible aided by enforcement in the case of higher speed limit.



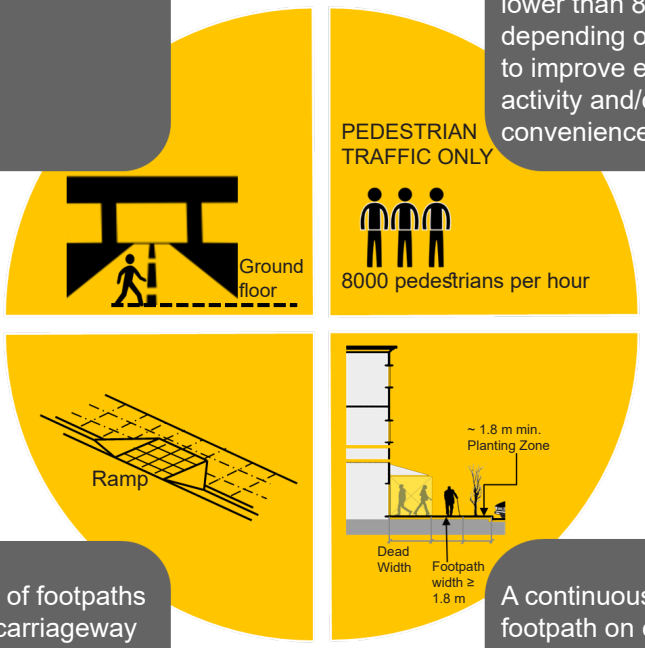

Maximum kerb height shall not exceed 150 mm, as higher kerbs are difficult to climb for pedestrians causing them to walk on carriageways. Higher kerbs are also dangerous for speeding vehicles during off-peak hours as they may cause overturning of vehicles, accidents, etc. Final road level should be fixed for all streets in the city. When repaving roads, previous layers must be scraped such that final road level remains the same. Footpath level should never be more than 150 mm above adjoining carriageway level.

Traffic calming of all streets with ROW of 12 m or less, through narrowing of driveway and meandering path with use of trees, islands and street furniture. Speed should be limited to 20 km/hr by design.

c) For Pedestrian Safety, Comfort and Convenience on All Streets

Pedestrians should remain at ground level with comfortable and safe access and minimum detours from the most direct path, unless there is no other alternative.

On streets with ROW of 18 m or less, if pedestrian traffic is greater than 8000 per hour in both directions together, the entire ROW should be notified for pedestrianisation. Streets may be considered for pedestrianisation even if pedestrian traffic is lower than 8000 per hour depending on the potential to improve economic activity and/or safety and convenience.

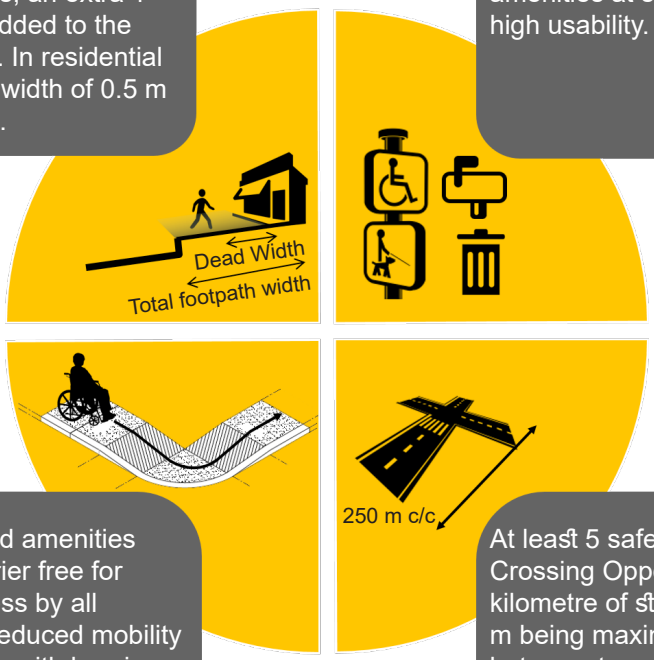



Elevation of footpaths over the carriageway at all times should be < 150 mm and adequate cross slope for storm water runoff. The elevation should be low enough for pedestrians to step onto and off of the footpath easily.

A continuous unobstructed footpath on each side of all streets with ROW wider than 12m. Minimum width of footpath should be 1.8 m (with clear height 2.4 m.) in addition to space for trees/greenery/vending spaces and surface utilities. Width of footpath shall be determined based on pedestrian volume and have to be wider than 1.8 m wherever required.

Frontage Zone or Dead Width: For sidewalks in shopping areas, an extra 1 m should be added to the footpath width. In residential areas, a dead width of 0.5 m may be added.

Provide Dustbins, post-boxes, signage and other public amenities at street corners for high usability.




All facilities and amenities should be barrier free for universal access by all persons with reduced mobility including those with hearing and visual impairments.

At least 5 safe Street-Level Crossing Opportunities per kilometre of street with 250 m being maximum spacing between two crossings. Depending on context, these crossings may be signalized and/or traffic calmed (through raising crosswalk over street level by 150 mm) to reduce vehicular speed.

1. Pedestrian refuge with a minimum width of 1 m at each street crossing location after crossing 7 m of one way motor vehicle carriageway or 10 m of two way motor vehicle carriageway at non signalized midblock crossings. Pedestrian refuge width may be expanded to 1.75 m where possible to accommodate a bicycle.
2. Grade separated structures (foot-overbridges and pedestrian-subways) should be avoided to prevent unnecessary detours to reach destinations.
3. Grade-separated pedestrian crossings are unavoidable due to presence of highways in peripheral zones of urban areas, then such crossings structures should be frequent. There must be at least 4 crossing opportunities per kilometre in areas with development at edges. Every crossing should be universally accessible.

Provide adequate low-mast Street Lighting for pedestrians and bicycles, in addition to any high-mast lighting provided for the carriageway. Approx. 20 lux level is suitable for non-shopping areas and footpaths and 25-30 lux-level is required for shopping areas, bus-stops, Metro station exits and any areas where pedestrians are expected to gather or wait. [Lux is SI unit to measure light levels]

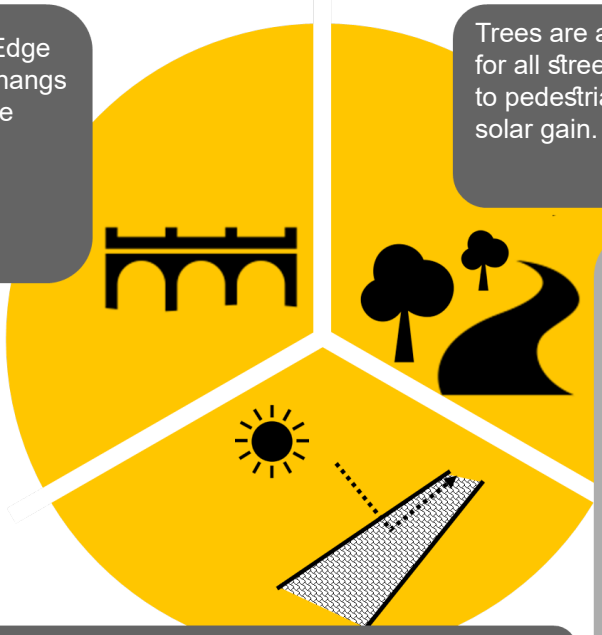
Natural Surveillance or "eyes on the street" should be enabled on all roads by removing setbacks and boundary walls and building to the edge of the street ROW, wherever permitted as per norms. This would allow people from inside to look out on to the pavement, thus discouraging harassment of women on footpaths, bus-stops and public spaces.

1. The main building facade should face the street, located on the property line without setback or with active use within set back and transparent edge that contribute to street safety. Commercial frontages should have facades with minimum 50% transparency (untinted) to facilitate visual surveillance of streets.
2. In case enclosure of sites is required, transparent fencing should be used above 300 mm height from ground level.
3. Vending spaces should be marked in addition and adjacent to the walking path, especially along high pedestrian volume areas to activate the street and make it safe. Space to be planned for utilities including drinking water kiosks and toilets so that the walking space is enhanced but not compromised.

d) For climatic comfort for all Road Users:

Built to Pavement Edge Buildings with overhangs and arcades provide good protection to pedestrians.

Trees are an essential component for all streets – to provide shade to pedestrians/cyclists and reduce solar gain.

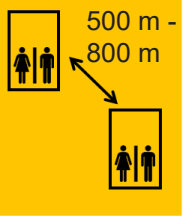


At least 125 trees per km for streets with ROW smaller than 12 m. At least 125 trees per km per footpath on streets with ROW greater than 12 m. Spacing of trees at no place should be greater than 12 m except at intersections.

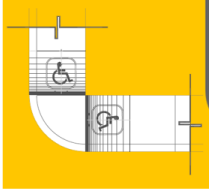
High albedo (diffuse reflectivity) materials should be used for paving to reduce urban heat island effect.

e) To ensure universal accessibility and amenities for all street users

Provide Accessible Public Toilets should be provided every 500-800 M distance, preferably located close to bus stops for easy access by pedestrians and public transport users.




All facilities and amenities should be barrier free for universal access by all persons with reduced mobility including those with hearing and visual impairments, as per Codes.



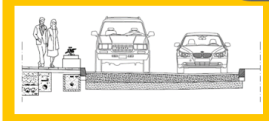
Provide at-grade crosswalks (and foot-over-bridges on highways or BRT corridors) at intervals of approx.70-250 M, aligning with location of transit stops, type of street / land use activities and neighbouring building entries and destinations.

Continuous barrier free pavement should be provided for ease of movement for elderly/ persons with disabilities. Pavement height of the footpath should be maintained at a constant level of 150 mm all along the ROW, for proper provision of table-tops / ramps, etc. at various locations such as entry to properties, crossings, etc.

f) To reduce Urban Heat Island Effect and Aid Natural Storm Water Management

Decrease Heat Island Effect (HIE) by increasing greenery, planting trees, using reflective paving, etc.

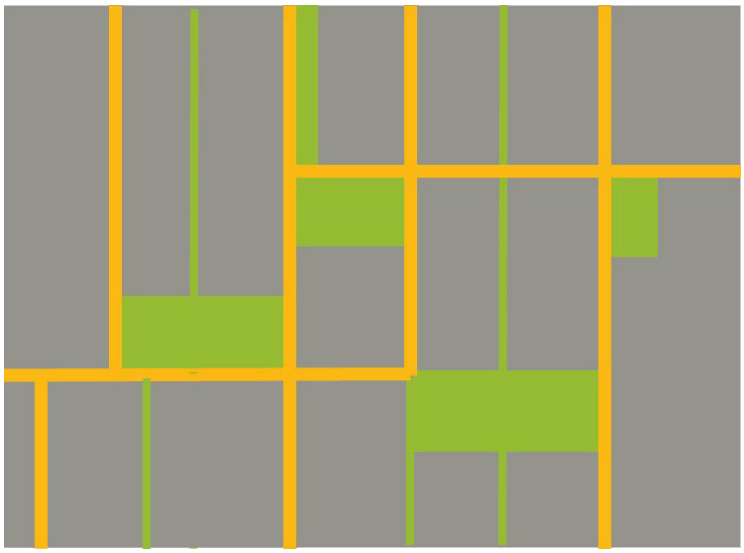
Decrease impervious surfaces through permeable paving, tree planting zones, etc. to increase ground water infiltration & prevent seasonal flooding.



Integrate natural stormwater filtration and absorption into street design through biofiltration beds, swales and detention ponds.

## 9 - GREEN PUBLIC SPACE

Urban green space, such as gardens, parks, forests, green roofs, water bodies, provides critical ecosystem services. Green space also promotes physical activity, psychological well-being, and the general public health of urban residents.

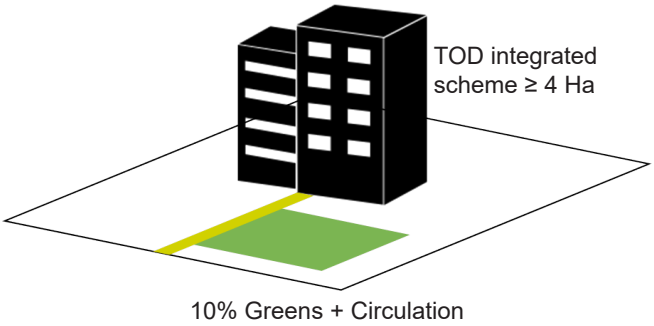


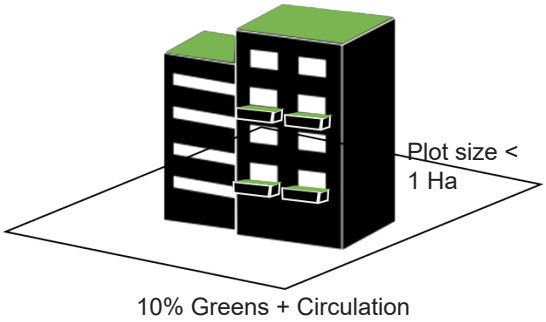
20% of the area of the amalgamated plot in TOD integrated scheme (TODIS) of 4 Ha and above, shall be designated as green Public Open Space which shall be designed, developed and maintained by the DE/agency and will remain ungated and open for general public at all times, failing which it will be taken over by Public agency.

The location and design guidelines for such spaces shall be tentatively indicated in the influence zone plans prepared by the Authority.

In addition to the above, at least 10% of plot area shall be in the form of Green/ Recreational area for the exclusive use that includes circulation and common areas.

In plots less than 1 Ha, this may be provided in the form of accommodation reservation i.e. as part of common terraces, rooftops, podiums, etc.




Areas indicated as Master plan level/ Zonal Level Recreational will remain unchanged.

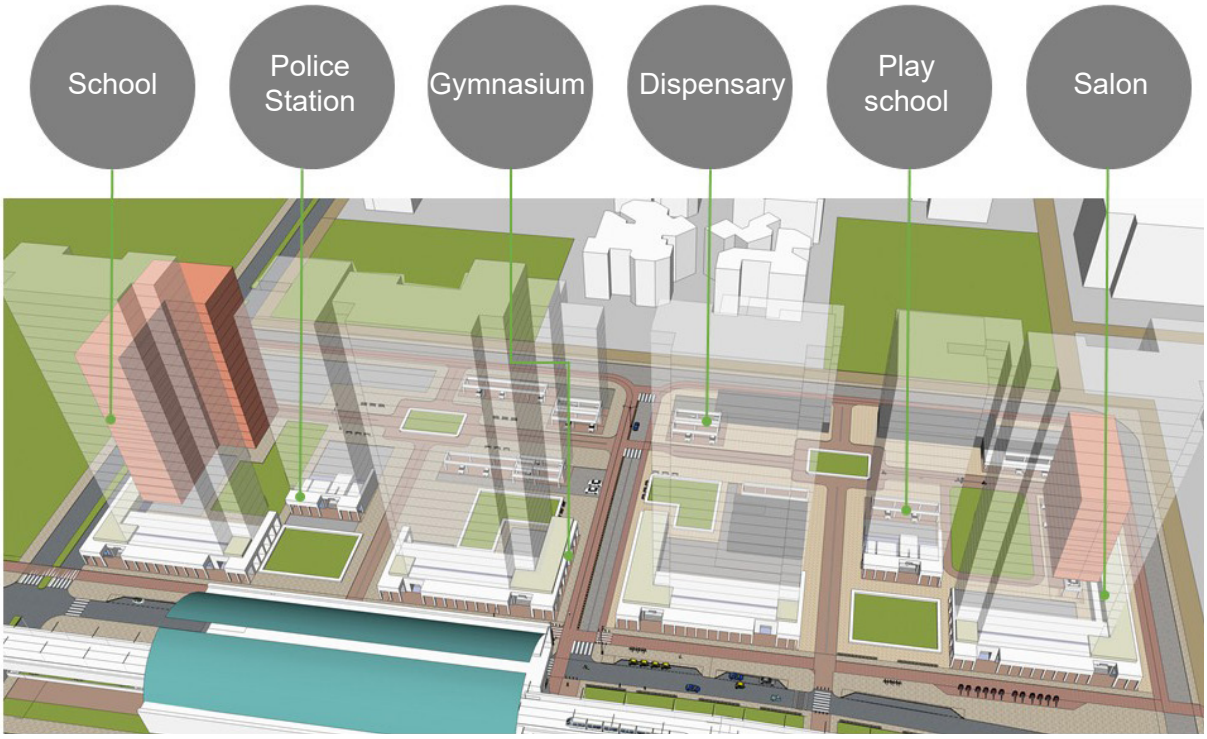
10 - SOCIAL INFRASTRUCTURE

Social infrastructure includes those assets that provide a service to the society. Growth of such infrastructure is crucial to the development of a country as it helps in increasing the quality of life and scoring high on human development indices.

i. Social Infrastructure may be allocated the required built-up area within planned re/ development schemes in the form of Accommodation Reservation, instead of individual plots.

ii. Open area requirement of the social infrastructure uses shall be accommodated/ integrated into the multi-use Public Open spaces provided in the area. For example, school playgrounds may be provided within the Neighbourhood Play Area.

iii. After approval of the integrated scheme and demarcation of civic/PSP sites and recreational open space, change of use shall not be permitted.



11 - GREEN BUILDINGS

i. The entire development has to be with minimum 3 star or gold rating as per approved rating agencies and appropriate rebate in the property tax may be applicable.

12 - PUBLIC PARTICIPATION

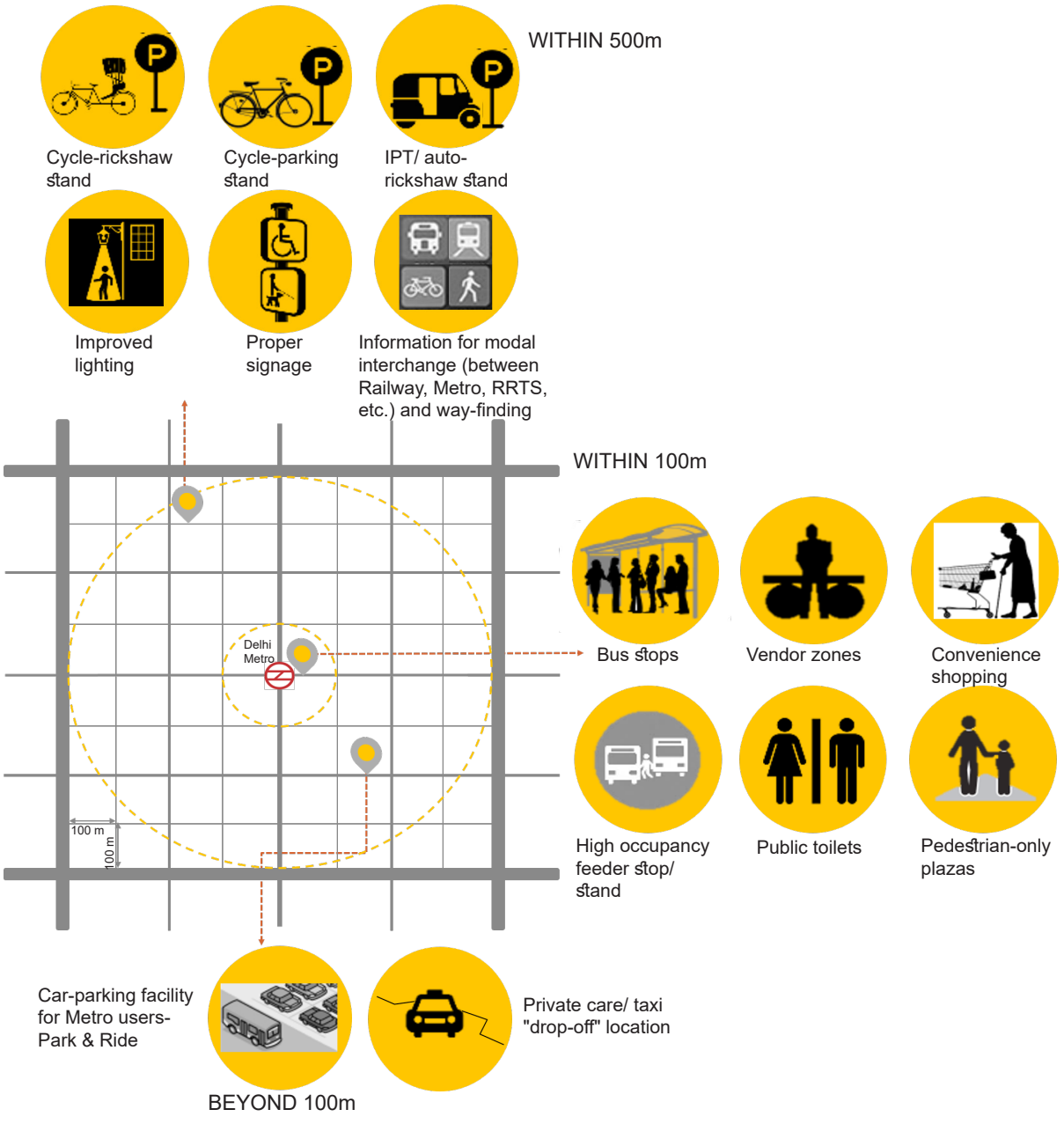
Stakeholders are the people on whom a particular project has a direct bearing- whether during execution or when functioning. Due to the scale of infrastructure projects, the stakeholders involved are many and diverse.

The detailed Regulations for operationalisation of the TOD policy including process and timeframe for participation shall be framed separately in a time bound manner. In order to make the Policy people friendly and transparent, the detailed Regulations shall be put up in Public domain for inviting views of the stakeholders giving 30 days time in the newspapers and website since it involves development through participation.

13 - DEVELOPMENT CONTROLS FOR METRO STATIONS AND RAILWAY STATIONS/ TERMINALS

a) Maximum cap for composite development i.e. Metro station + Property Development is 3.0 ha. For composite developments the use will be "all use zones" (mixed use zone) except in Recreational and Regional Park/ Ridge Use Zone, Lutyens' Bungalow Zone and Heritage Zones.

b) This enabling provision of property development would have the following broad development controls:
i. TOD norms as per Section 12.18 and 17.0 Development Code shall apply to all property development of metro/ railway stations, except for those corridors lying within Low Density Residential Area (LDRA) of Urban Extension.
ii. Within about 500 m of the metro station, pedestrians, public transport users, IPT and NMT modes need to be prioritized over private modes. The following guidelines for multi-modal integration may be followed:



iii. The development shall be undertaken in a composite manner and DMRC shall obtain approval of all the concerned local bodies/ agencies.

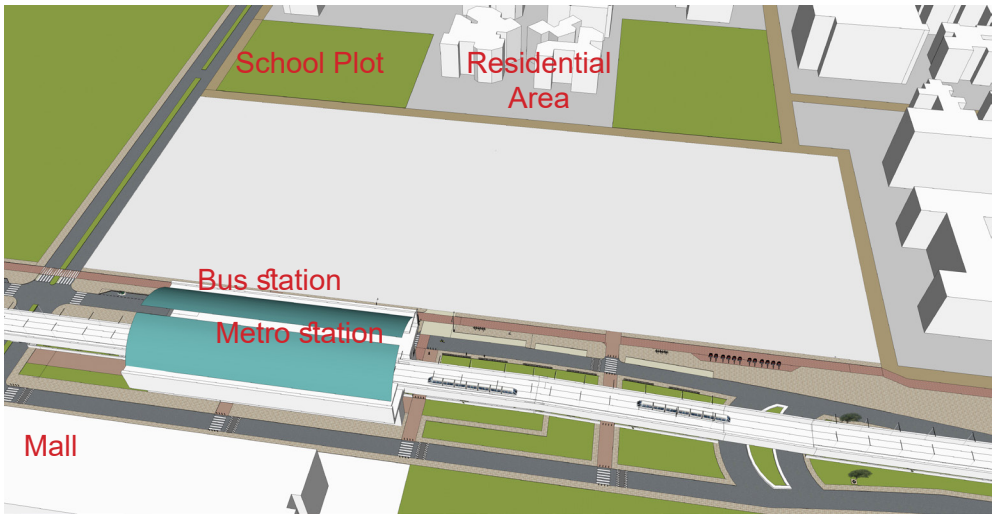
c). The following structures shall be treated as operational structures:
i. All Metro Stations and tracks supporting at grade, elevated and underground including entry structures, ancillary buildings to house DG sets, chilling plants and electric substation, supply exhaust and tunnel ventilation shafts etc.
ii. Depots and maintenance workshops.
iii. Traction sub-stations.
iv. Operational Control Centers.
v. Police Station.
vi. Recruitment and Training Centers for operational and maintenance staff.
vii. Housing for operational staff and Metro security personnel only.
viii. Rehabilitation work to be undertaken for the construction of Metro Project.
ix. Shops in Metro Stations to cater to the public amenities.
x. Structures above platform over the foot print of the Metro Stations.

14 - IMPACT ASSESSMENT
The concerned local body will prepare, wherever required, and approve layout plans for TOD Zones indicating the ROW's, public spaces, district level social infrastructure, etc.

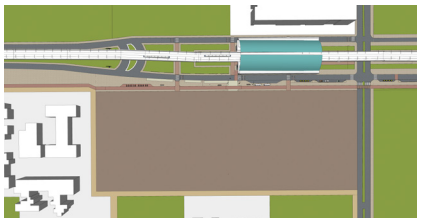
# GENERIC SIMULATION

The following simulation is demonstrated for residential use.

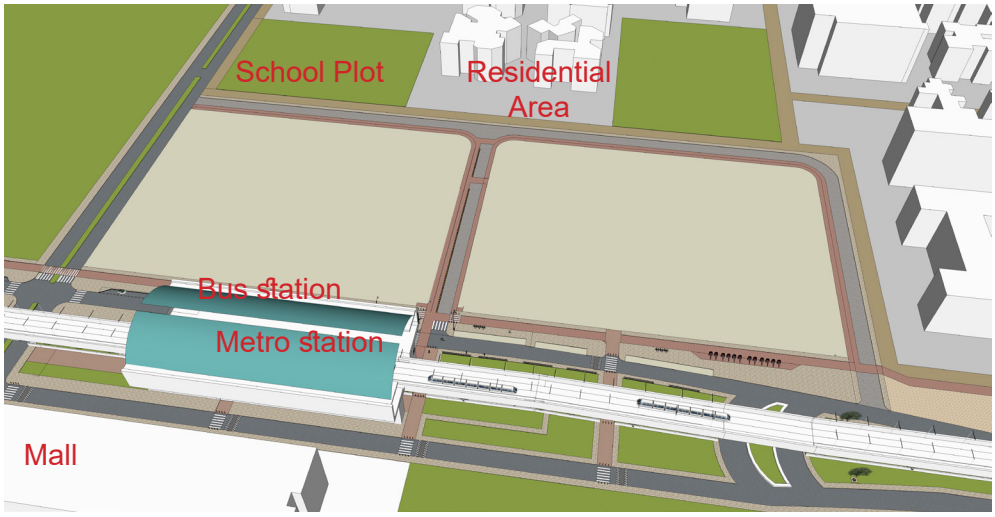
STAGE 1



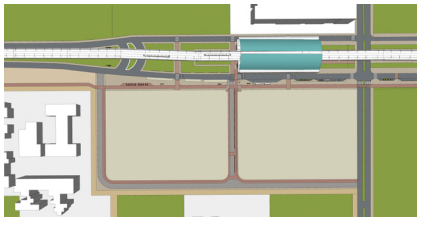

Demarcating area for TODIS. The area should be within 500m corridor. Marking adjoining uses.



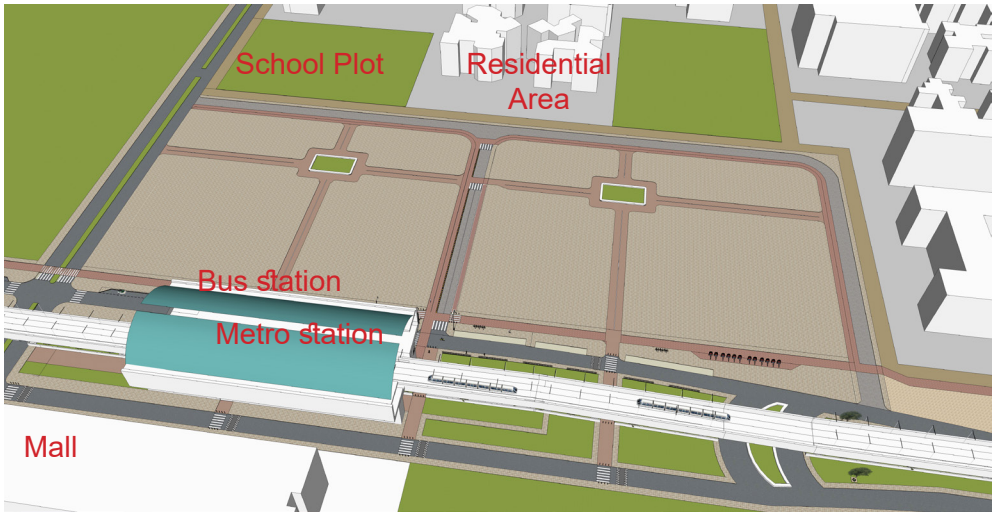
STAGE 2



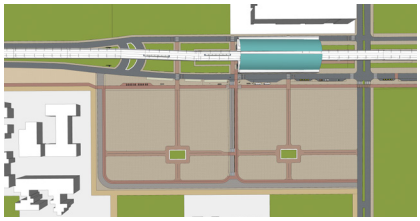

Structuring vehicular corridors at 250 c/c. Plotting desired paths connecting the active and future uses.



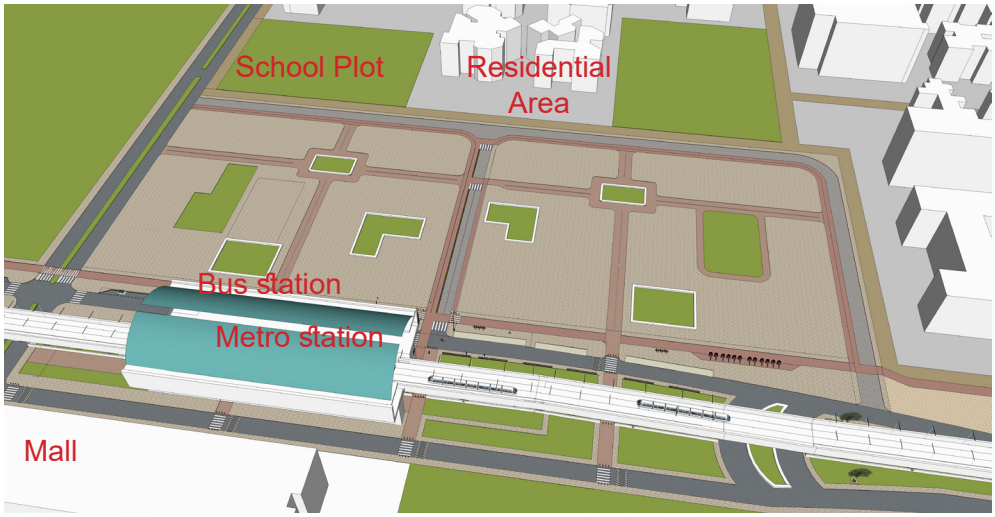
STAGE 3



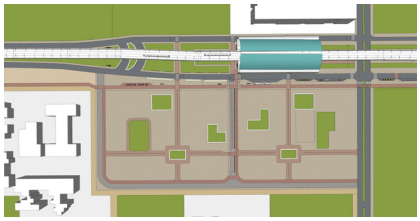

Structuring pedestrian corridors at 100 c/c by aligning them to desire paths.



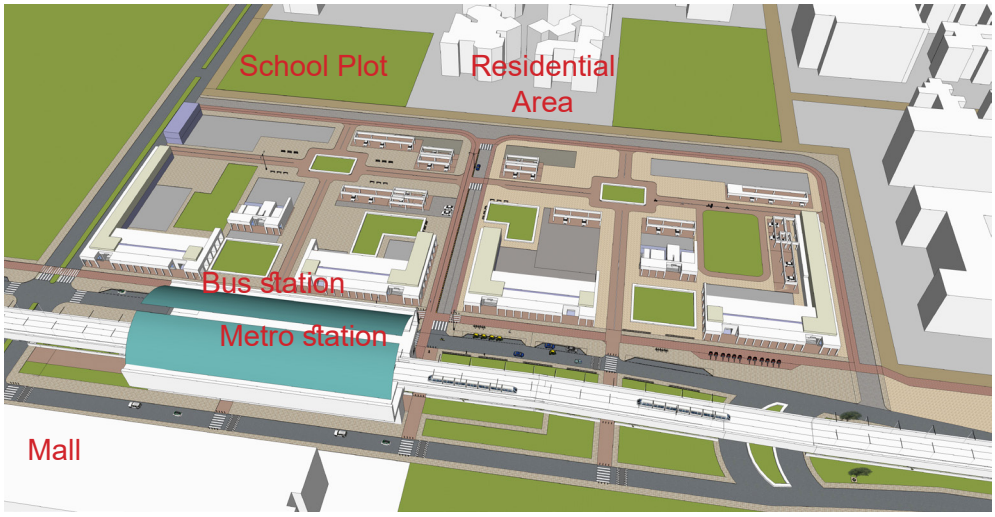
STAGE 4



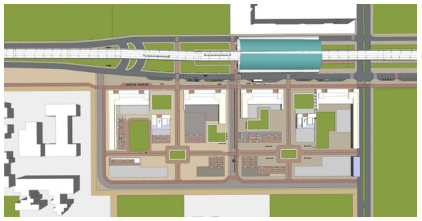

Shaping open spaces around vehicular and pedestrian corridors.



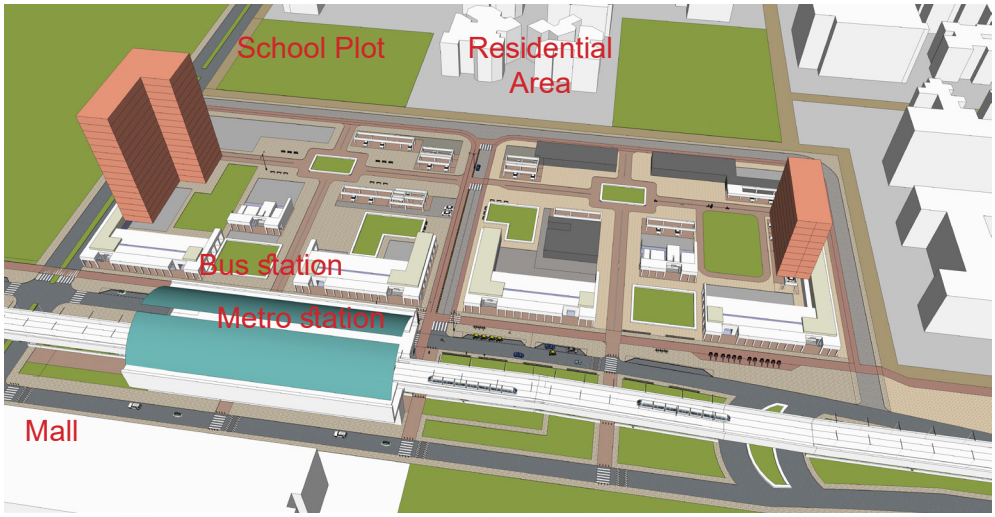
STAGE 5



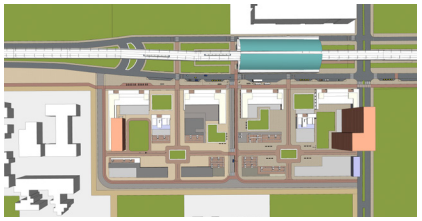

Assigning commercial edges / areas around public right of ways.



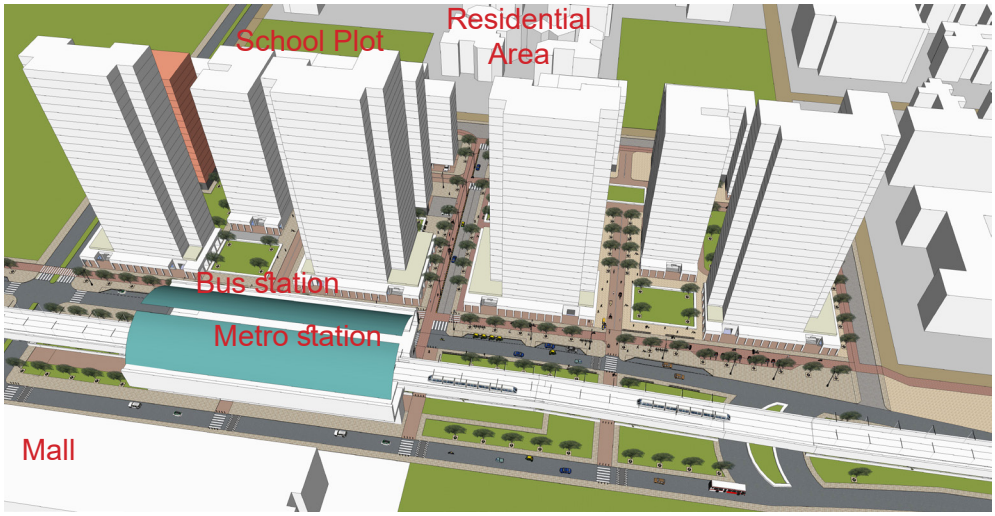
STAGE 6



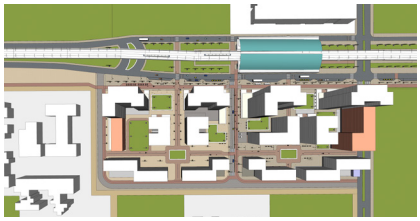

Allocating community uses around these public pathways.



STAGE 7




Final design. Arriving to the final proposal by assigning the rest of the uses complying to respective FAR and density numbers in the rest of the area.



## About the Authors

**Prerna V. Mehta**
**Manager, Sustainable cities**
**WRI India**

Prerna's work lies at the connection of urban planning and sustainable transport. She provides technical inputs in urban development & accessibility projects and helps form and sustain partnerships with government and non-governmental organizations involved in urban development with objective to ensure on ground change. She is based in Delhi and works on projects of Transit Oriented Development, scaling up of Raahgiri initiative in Delhi, Neighbourhood Improvement Plans, toolkits, informing policy and design approach of large developments for adopting sustainable planning approach.

She has over 11 years of experience in the fields of urban planning and architecture. Prior to WRI, Prerna worked for government, not-for-profit and private/corporate organizations with experience in research, academics and implementing planning & architecture projects. Her portfolio had projects such as Master Plans, Area & Integrated Development Plans, feasibility studies and construction projects.

Prerna has a Bachelor's degree in Architecture from Nagpur University, a Master's degree in Planning (Housing) from School of Planning & Architecture, New Delhi, India and a diploma in Principles and Practices of Real Estate from Indian Institute of Real Estate, India. Besides, she has undertaken several courses on managing cities.

**Neha Mungekar**
**Senior Project Associate, Sustainable cities**
**WRI India**

Neha's work lies in developing inclusive public spaces by building capacity in local stakeholders and institutions, improving pedestrian accessibility across stations, developing high quality walking environments within critical urban areas, and developing master plans and structure-plans for green field development using transit-oriented development. The key projects she has worked on include 'Decongesting historic core of Ahmedabad' and 'structuring Greenfield residential sector around open spaces at Naya Raipur'.

Neha has also demonstrated strategies around water integrated management in various projects, workshops and academic research. Prior to WRI, she was chosen to participate in various national and international workshops on disaster management and sustainable practices. She has over 6 years of experience working in the fields of architecture and urban design.

Neha holds a Bachelor's degree in Architecture from University of Mumbai and a Master's degree in Urban Design from CEPT University, Ahmedabad. Beyond work, Neha is an avid traveller and documentary photographer whose work has been published extensively.

**Merlyn Mathew**
**Research Consultant, Sustainable Cities**
**WRI India**

Merlyn has been a part of the 'Decongesting historic core of Ahmedabad' project, interpretation of TOD policy of Delhi and research around financing TOD infrastrucutre and drawing parallels between various policies in India that could impact TOD.

Prior to WRI, she has been involved in research around focused on public-private partnerships in the road sector in India, globalization and livelihood adaptation, housing policy aspirations of migrant labourers, and tracing the history and evolution of places and studying the contexts of migration of people.

She holds a Bachelor's degree in Architecture from National Institute of Technology, Trichy and a Master's degree in Urban Policy & Governance from Tata Institute of Social Sciences (TISS), Mumbai.