Transit Oriented Development
Policy . Norms . Guidelines

UTTIPEC
Delhi Development Authority, New Delhi
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GUIDELINES AND DEVELOPMENT CONTROL NORMS FOR MRTS* INFLUENCE ZONE FOR TRANSIT ORIENTED DEVELOPMENT

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*MRTS - Any Mass Rapid Transit System with ridership ≥ 30,000 PHPDT.
1. Re/development Strategy for Influence Zone along MRTS¹ and major Public Transport Stations

Growth of many Indian cities 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 sizeable proportion of population with requisite facilities and employment, which were to be accommodated in the future developments of the Urban Extensions of Delhi, would be accommodated in the proposed TOD zones. Subsequently, a lot of burden of future development on the current virgin lands of the Urban Extensions will be released which may then be preserved. In the wake of the above, a detailed feasibility study of the potential population holding capacities and Infrastructure requirements for the city of Delhi, based on re-distributed population densities proposed by the TOD Policy has to be undertaken. The result of the study should lay the basis for proposed gross densities of all the Influence Zone Plans.

NOTE: The policy for Transit Oriented Development has incorporated the necessary provisions from Delhi Master Plan-2021. Henceforth all TOD Zones of Delhi, will follow the policies and city-wide norms laid by the following Chapter on Transit oriented Development. In case of any conflict, the Policy on Transit oriented Development will overrule the conflicting provision of the Master Plan.

1.1. Influence Zone Demarcation

The Influence Zone along MRTS corridors shall be demarcated as per the following:

(i) A maximum up to 2000 m. wide belt on both sides of centre line of the MRTS/ Major Public Transport Corridor will be designated as Influence Zone. The entire influence zone shall be designated as “white zone”

White Zone is a landuse category that allows flexibility in mix of various possible uses, with the exception of polluting and potentially hazardous uses. The goal of the White Zone is to promote Low-Carbon High density sustainable developments in the city.

Norms for mixed use in White Zone shall apply as per Section 19.2.4B. The Influence Zone Plans will identify the hierarchies of Public Open Spaces and Road Networks within the designated White Zone as per the requirements of the area based on its holding capacity. The same will be notified along with the Influence Zone Plans.

Desirable mix of uses, locally non-permissible uses, capacity augmentation required for road networks, Road widths and public transport/ IPT as well as locally applicable parking caps shall be determined by the TIA for the Influence Zone Area as per Section 1.2.2. Intensity and type of mix would vary by distance from station, street hierarchy and network, and level of public transport and IPT service.

(ii) Development Controls applicable for the Influence Zone shall be as per section 1.3 below titled Norms for Transit Oriented Development (TOD).

(ii) The Influence Zone further consists of three sub zones – Intense Zone, Standard Zone, and Transition Zone (see Figure 1). Demarcation of zones, characteristics and norms are applicable as per Table 1 below. Development Control Norms as per Section 2.1 – 2.5 apply to all three sub-zones. Norms as per Section 2.6 ‘High Density Mixed Income Development’ shall not be applicable to the Transition Zone.

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¹ MRTS - Any Mass Rapid Transit System with ridership ≥ 30,000 PHPDT.
Table 1: Sub Zones of Influence Zones of MRTS/ Major Public Transport Stations

<table>
<thead>
<tr>
<th>Type of Zone</th>
<th>Intense Zone</th>
<th>Standard Zone</th>
<th>Transition Zone</th>
</tr>
</thead>
</table>
| **Demarcation of Zone based on Station Type** | • 300 M distance from centre of station.  
• 800m* or 10-min walking distance of Regional Interchange Station (i.e. two MRTS lines.) | • 800m* or 10-min walking distance of all MRTS Stations. | • 2000m** or 10-minute cycling distance influence zone of all MRTS Stations.  
• 300 M influence zone of BRT corridors.  
• Zones within Intense or Standard TOD Zones which are not permitted for redevelopment. |
| **Specific Characteristics** | • Pedestrian and NMT priority zone.  
• Parking Supply restrictions.  
• All Standard Zone characteristics. | • High density mixed-use development.  
• Equitable distribution of road space.  
• Dense street network. | • Equitable distribution of road space.  
• Dense street network. |
| **Norms application** | • All norms apply | • All norms apply | • Norms for “High Density Mixed Income Development” do not apply. Others apply. |

*Walking speed is considered approx. 5 km/hour.  **Cycling speed is considered approx. 12 km/hour.

(iii) Entire approved layout plan of a scheme will be included in the Influence Zone Plan if more than 70% of the plan area falls inside the Influence Zone.

(iv) The approval of schemes will be granted after approval of the respective phase of MRTS, and preparation and approval of an Influence Zone Plan for the respective MRTS station, as per section 1.2.

- Projects belonging to MRTS or any Public Transport Agency could be taken up on a priority basis by the concerned agency, provided all TOD Development Control norms are adhered to.
- All applicants may apply for minor variations from approved Influence Zone Plans, subject to adherence to TOD Development Control Norms and approval from Competent Authority.

(v) If Influence Zone layout plan for the station area does not exist, TOD plans for projects accommodating more than 10,000 residential population along approved MRTS corridors may be submitted for approval by the residents/ cooperative societies/ private developers provided all TOD Development Control norms are adhered to. Detailed layout and services plan prepared in consultation with the concerned authority must be submitted for final approval.

(vi) In the In the proposed Urban Extension areas the influence zone plans shall be prepared with the planning of proposed movement corridors at planning stages itself.

(vii) All properties public or private shall be able to avail the norms and benefits of TOD while complying with an approved Influence Zone Plan as per para 1.2.

(viii) The following areas shall have special regulations as per relevant policies/ Acts/ Regulations:-

- Environmental Protection Zones such as rivers, canals, wetlands, protected forests, coastal areas, etc. shall have development restrictions and regulations as per prevalent Acts or best practice guidelines.
- Flight funnel zones shall have height restrictions as per regulations of Airport Authority of India.
- Seismic Zones along fault lines shall have the required building restrictions.
- Restrictions and guidelines for Monument Regulated Zone shall apply.
- Lutyens Bungalow Zone, Civil Lines Bungalow Area, Chanakyapuri, DIZ Area and Matasundari Area shall also have special regulations.

NOTE: After preparation of Influence Zone Plans for Urban Extension areas, the TOD Zones shall accommodate substantially greater proportion of the population of planned areas of Zonal Plan. Based on the total holding capacity of the Influence Zone Plans, current Zonal Development Plans may have to be revised and notified as per provisions in Section 11A, of DDA Act. Subsequently, current Layout Plans and existing ward boundaries may have to be re-adjusted.
Figure 1: Example showing the 300m, 800m, 2000m catchments and actual pedshed of an MRTS Station

Figure 2: Map of three types of TOD Influence Zones on map of Delhi
1.2. Components of the Influence Zone Plan

The Influence Zone along MRTS corridors is envisaged as a mixed-use, well connected, intense development zone. The Plans for Influence Zones shall be approved by the Competent Authority for each influence zone area in a phased manner, customized to site characteristics and context. Any public or private development within the Influence Zone Plan areas must adhere to the overall framework and benchmarks provided by the Plan. The Influence Zone plan shall include the following components:

1.2.1. Urban Design Framework including:
   (i) Identified redevelopment, infill, restricted and no development areas as per various parameters.
   (ii) Deficiency analysis of the larger community within 2000m influence zone in terms of social and physical infrastructure that shall be provided as part of the plan.
   (iii) Create walkability Analysis or ‘Pedshed’ Map to inform the Street Network Plan indicating hierarchy and character.
   (iv) Sustainable landscape and open space strategy integrating storm water management, decentralized sewage treatment and functionally programmed areas for all age-groups as per requirement.
   (v) Proposed Net FAR, residential density and programmatic mix for each block including location of civic amenities and shared public facilities like parking, open space, etc.
   (vi) Location and numbers of short and long term parking spaces and/or shared parking facilities.

1.2.2. Traffic Impact Assessment – shall assess/test various parameters and provide design and mitigation strategies for the (a) Optimum Mix of Uses, (b) Network Density, (c) Urban Design characteristics and (d) Parking caps for the final plan, as per all the parameters below:
   (i) Travel Characteristics i.e. higher internal trip capture and minimized external trip generation.
   (ii) Induced Modal Shift in favour of public transport, IPT, cycling and walking modes with an approximate target of 80-20, especially for short trips.
   (iii) Local street network and junction improvements within 2 km radius through assessment of existing capacity and augmentation of network as required through new linkages, alternate routes, junction designs etc to sustain peak hour trips, with priority to public transport, pedestrians, cyclists / NMT.
   (iv) Parking as a demand management strategy to optimize demand and supply.
   (v) City level Network and directional movement patterns balanced out.

The TIA of the influence zone is the most important determinant of the following outcomes for the Influence Zone Plan Area:

A. Preferred Mix of Uses in various parts of the Plan; undesirable and locally non-permissible uses.
B. Maximum FAR and density that can be absorbed by the Plan area.
C. Area-wise Parking caps to be imposed.
D. Critical Network Improvements required.
E. Public Transport and IPT augmentation required.

1.2.3. Decentralized Infrastructure and Sustainability Plan including:
   (i) Water and Waste Water management strategy including recycling and re-use of waste water.
   (ii) Rain water harvesting strategy, to be integrated with the Landscape and Public Open Space Strategy
   (iii) Solid Waste Management Strategy
   (iv) Energy Strategy with demand reductions strategies and use of renewable sources as feasible
   (v) Integrated Infrastructure and Services Systems Plan indicating space requirements for all infrastructure
1.2.4. **Economic Viability and Implementation Model** would include:

(i) Determining a financially profitable mix of uses based on the current demand and supply and local context, coupled with the projected land values for the Influence zone, also including cost delivering of Social and Physical infrastructure.

(ii) Determining a financial model and delivery mechanism for affordable housing, public infrastructure and public transport facilities through mechanisms of cross subsidy, FAR-density bonuses or any other possible benefits feasible in the localized context. To include incentive

(iii) Strategy for revenue collection from the Influence zone based on value capture of land and monetizing of private benefits for cross-subsidy of public transport and local municipalities.

(iv) Determining appropriate mechanisms for land-pooling by individual plot holders to avail the benefits of Influence Zone policy, based on the specific local characteristics of the area.

(v) Determining the structure of the local maintenance body for Influence zone facilities (like decentralized infrastructure, shared parking, etc.) and the cost of operation of the body.

(vi) Strategy for implementing the Influence Zone Plan in a phased manner though specific socially focussed recommendations for government lands, as well as the principle of award and penalty for private bodies.
2. Development Control Norms of Influence Zone for Transit Oriented Development.

The Influence Zone of MRTS/ Major Public Transport corridors shall be planned, (re)developed or retrofitted based on the norms and principles of Transit Oriented Development (TOD).

Transit Oriented Development is essentially defined as any development, macro or micro, that is centred around a transit node, and facilitates complete ease of access to the transit facility to the maximum number of people, thereby inducing people to walk, cycle and use public transport as a priority over personalised modes of transport.

The primary goals of TOD are to:

a. Reduce/discourage personalised mode usage and induce use of public transport and non-motorised modes including walking through policy, design and enforcement measures.

b. Provide easy public transport access to the maximum number of people within walking distance – through intensification of land use thereby promoting and enhanced connectivity.

To achieve this, TOD offers alternatives in pleasant walking experiences, accessible and comfortable mass transport with easy, convenient and comfortable intermodal transfers for last mile connectivity through other low cost, comfortable, non-motorized transport options.

In addition, highest possible population densities are achieved with permeable layouts, multimodal network around transit stations and compact mixed-use development providing housing, employment, recreations and civic functions within walking distance catering to overall, lower levels of energy consumption contributing to a clean and healthy environment.

This **Synergy between Transport and Land Use**, overall, results in lower levels of energy consumption per person for the city for the transport sector, besides numerous city/local level benefits, as explained below.

a. **Mobility Options for all** - Change the paradigm of mobility by enabling a shift from use of private vehicles towards the use of public transport and alternative modes. Provide variety of choices for safe, affordable and efficient modes of public transport to all sections of society.

b. **Better Quality of Life for All** - Provide a variety of high-density, mixed-use, mixed-income housing, employment and recreation options within walking/cycling distance of each other and of MRTS stations - in order to induce a lifestyle change towards healthier living and better quality of life. Integrate varied income communities rather than segregating them, to reduce social stigma and dissent.

c. **Give Everyone a Home** - Increase the formal supply of housing stock and supporting commercial space which would bring down prices and increase options for different income groups in the city.

d. **Market Participates in Better City** - Open up development opportunity to the private sector to bring in investment into the city’s growth and revenue, and also help cross-subsidize social amenities, affordable housing and public transport, using a variety of possible development models. Low-income groups can be provided space and shared amenities in integrated mixed-income communities, thereby reducing further proliferation of gentrified slums and unauthorized colonies.

e. **Self-Sufficiency** - Create mixed-use high density development wherever missing, to make decentralized infrastructure provision and management techniques more feasible, thus making it more economical to recycle water/sewage locally to meet community needs.

f. **Cheaper Public Transport** - Value capture the increased land values near MRTS stations for long term cross-subsidy/non-farebox revenue for the provision, maintenance and possibly reduced ticket prices of public transportation.

g. **Reduce Environmental Degradation** – Compact planned growth minimizing virgin land urbanization and facilitating the preservation of wetlands, forests, canals, rivers and other environmental resources.

h. **Save Public Money** - City level reduced infrastructure costs (reduced additional length of roads, pipes, cables, tunnels, etc.) by accommodating the overall planned population within lesser net land area, in a more sustainable way.

i. **Multi-disciplinary Multi-Departmental Approach** - Provide a shift to a more holistic paradigm of planning where all sectors work together – mobility, planning policy, urban design, infrastructure and economics – to deliver integrated planned development.
To ensure the above principles and benefits, the following norms are applicable to the Influence Zone of all MRTS and Major Public Transport Stations:

Note: Norms at para 2.1 - 2.5 are applicable to all sub-zones of the Influence Zone (within 2000 m catchment of stations):

2.1. NORMS FOR PEDESTRIAN & BICYCLE/ CYCLE-RICKSHAW FRIENDLY ENVIRONMENT

Policy:

a. Design for pedestrian safety, comfort and convenience on all streets.
b. Create street-level activity and well-watched streets for pedestrian security and enjoyment.
c. Provide adequate amenities for pedestrians, cyclist, NMT and public transport users.
d. All streets, public spaces and buildings must be universally accessible.

Norms and Standards:
UTTIPEC Street Design Standards and IRC 103:2012 shall be adhered to.

2.2. NORMS FOR CONNECTIVITY AND NETWORK DENSITY:

Policy:

a) Disperse high traffic volumes over multiple human-scale streets rather than concentrating traffic on fewer major arterial streets. Create a fine network of streets that provides choice of routes for all modes, reducing distances between places as well as journey times.
b) Provide the shortest direct route to pedestrians and non-motorized modes to Station as well as between individual buildings/complexes.

Norms:

2A. Network Density criteria for MT, NMT and pedestrians.

2A.1. All new roads / streets must integrate with the existing network to augment connectivity. Cul-de-sacs shall not be permitted.

2A.2. The maximum distance between two vehicular streets in a network should be no greater than 250m (C/C) at any point. Therefore any block which is longer than 250m on any side, must provide a public thoroughfare for all modes, with additional public pedestrian thoroughfares, as required.

2A.3. The maximum distance between two pedestrian/ NMT only streets in a network should be no greater than 150m, (C/C) at any point. Any block which is longer than 150m on any side therefore, must provide a public thoroughfare for pedestrians.

2A.4. No vehicular Street R/W within TOD Influence Zones shall be more than 30m, unless already notified in the Masterplan.

2A.5. Signalized safe at-grade crossings to be provided for pedestrians and NMT at all junctions and mid-blocks aligned with the street grid network and/or desire lines of movement.

2A.6. Streets meant primarily for NMT movement as well as all streets of ROW 12m or below, should be limited to maximum Speed of 20km/hr by design.

2A.7. Traffic calming is mandatory for all streets with ROW of 12m or less through various measures like narrowing of driveway, meandering path with use of trees, islands, kerbs, street furniture, provision of sharp 90° turns, traffic-calmed surfaces, green buffers, etc.

2A.8. ‘NMT-only’ streets shall be of width 6m or less, designed to prevent motor-vehicle thoroughfares, and enabling only emergency vehicle access. (Emergency vehicles can use paved, soft surfaces or also over kerbs)
2A.9. For continuity of uses and floor-plates of buildings in adjacent blocks, connections may be provided over Public Right-of-Ways in the form of bridges, covered corridors, skywalks, etc. Clearance below any pedestrian bridge should be minimum 5.5 m to allow for movement of emergency vehicles (same as flyovers, etc.). Width of any bridge over R/Ws may not exceed 6m.

2A.10. In developed areas, incentives need to be provided for provision of the desired network density. Existing large blocks/properties where pedestrian/ NMT Networks are to be added, 10 FAR on full plot shall be given to the private owner who foregoes land to the public realm. The new street or connections added must conceptually adhere to the overall Station Influence Zone Plan. In existing area where a fine-grain of pedestrian networks already exists, the same should be preserved. Only to ensure fire access to buildings, widening of critical streets may be undertaken.

2.3. NORMS FOR MULTI-MODAL INTERCHANGE:

Policy/ Strategy:

a) 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 the time required for mode transfers for maximum commuters.

b) Prioritize pedestrians, public transport, IPT and NMT modes over private modes in the design, management, and spatial planning of public spaces.

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3A. Table 2: Guidelines and checklist for multimodal integration at MRTS stations

<table>
<thead>
<tr>
<th>Walking distance from Station Exit.</th>
<th>Facility/ Amenity and preferred Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 50 m</td>
<td>Bus Stops; Vendor Zones; Cycle-Rental Station.</td>
</tr>
<tr>
<td>Within 100 m</td>
<td>High occupancy Feeder Stop/ stand.</td>
</tr>
<tr>
<td>Within 150 m</td>
<td>Cycle-Rickshaw Stand; Cycle-Parking Stand; IPT/ auto-rickshaw stand.</td>
</tr>
<tr>
<td>Beyond 150 m</td>
<td>Private Car/ Taxi &quot;Drop-off&quot; location only (No parking); Public Toilets.</td>
</tr>
<tr>
<td>Within 300m</td>
<td>Improved Lighting</td>
</tr>
<tr>
<td></td>
<td>• Lighting of Bus stops, underside of elevated MRTS Stations and elevated walkways = 30 Lux.</td>
</tr>
<tr>
<td></td>
<td>• Lighting of commercial streets, busy public spaces and important street crossings = 20 Lux.</td>
</tr>
<tr>
<td></td>
<td>• Lighting of all other streets and public areas = 10 Lux.</td>
</tr>
<tr>
<td></td>
<td>• For footpaths, yellow light is recommended to allow visibility of tactile pavers.</td>
</tr>
<tr>
<td></td>
<td>Signage/Maps (of 800m Influence Zone) / Information for modal interchange and way-finding at all stations, bus stops, roads and important destinations.</td>
</tr>
<tr>
<td>Beyond 300 m</td>
<td>Validated Car Parking facility (park &amp; ride).</td>
</tr>
<tr>
<td>Within 500m</td>
<td>Interchange between any two Mass Rapid Transit Modes (e.g. Railway, Metro, RRTS, etc.)</td>
</tr>
</tbody>
</table>

3B. Table 3: Accessibility Standards for Public Transport Facilities from all homes/ work places.

<table>
<thead>
<tr>
<th>Hierarchy of Facilities</th>
<th>Accessibility Standard from each home/ work place.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRTS Station</td>
<td>Approx. 800 m or 10 min walk</td>
</tr>
<tr>
<td>MRTS feeder/ HOV feeder Stop</td>
<td>Approx. 400 m or 5 min walk</td>
</tr>
<tr>
<td>Bus Stop</td>
<td>Approx. 400 m or 5 min walk</td>
</tr>
<tr>
<td>IPT/ auto-rickshaw Stand</td>
<td>Approx. 250 m or 3 min walk</td>
</tr>
<tr>
<td>Cycle Rickshaw Stand</td>
<td>Approx. 250 m or 3 min walk</td>
</tr>
</tbody>
</table>
2.4. NORMS FOR INDUCING MODAL SHIFT:

Modal Shift Policy a):
Wherever 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.

Norms:

4A. Table 4: Accessibility Guidelines for Social Infrastructure and Open Space to ensure walkability.

<table>
<thead>
<tr>
<th>Hierarchy of Facilities</th>
<th>Facilities serving Population/ Unit (approx.) (MPD 2021)</th>
<th>Accessibility Standard* from each home (whichever is lesser).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster level</td>
<td>250</td>
<td>Approx. 100 m or 1 min walk</td>
</tr>
<tr>
<td>Housing Area level</td>
<td>5000</td>
<td>Approx. 250 m or 3 min walk</td>
</tr>
<tr>
<td>Neighbourhood level</td>
<td>10,000</td>
<td>Approx. 400 m or 5 min walk</td>
</tr>
<tr>
<td>Community level</td>
<td>1 lakh</td>
<td>Approx. 800 m or 10 min walk</td>
</tr>
<tr>
<td>District level</td>
<td>5 lakh</td>
<td>Approx. 2000 m or 10 min cycling</td>
</tr>
</tbody>
</table>

*The above criteria are applicable to all new/ redevelopment projects.

4B. Minimum Mixed-Use Criteria:

The entire influence zone shall be considered as “white zone”. As stated in 1.1 White Zone is a landuse category that allows flexibility in mix of various possible uses, with the exception of polluting and potentially hazardous uses. White Zone is to promote Low-Carbon High density sustainable developments in the city.

The following mixed-use norms shall be applicable, in order to provide equity, walkability, round-the-clock vibrancy, safety and minimized external trips from the development. Desirable mix of uses, locally non-permissible uses, capacity augmentation required for road networks, Road widths and public transport/ IPT as well as locally applicable parking caps shall be determined by the TIA for the Influence Zone Area as per Section 1.2.2. Intensity and type of mix would vary by distance from station, street hierarchy and network, and level of public transport and IPT service.

Norms:

4B.1. At least 30% residential and 20% Commercial & Institutional use (min. 5% commercial and min. 5% institutional use) of FAR is mandatory in every new/ redevelopment project within the Influence Zone.
   i. New/ Redevelopment projects with more than 1.5 FAR of Commercial use shall be permitted/ located only within the 300 m walking distance from the MRTS station (Intense TOD zone).

4B.2. Projects/ uses of size ≥20000 sq.m. of built-up area (ref: EIA requirements) requesting a variance from the approved influence zone plan, would require a Transportation Impact Assessment (TIA) and must comply with Mitigation Strategies required for the project.
   i. In case the project adheres to the approved Influence Zone Plan with an approved TIA, then individual project level TIA is not required. Only compliance report needs to be submitted to competent authority.
      ii. TIA for projects shall be submitted for approval to the Competent authority, as per requirements.

Modal Shift Policy b):

Dis-incentivize private motor vehicle use as a feeder and as a general mode of transport through design and enforcement measures. Limit supply and price private parking space appropriately to discourage private vehicle use in Influence Zone areas. Stringent implementation & enforcement is required, to ensure the success of modal-shift policies. A comprehensive Parking Policy and localized private parking strategies are the most effective tools for inducing a Shift to sustainable modes.

4C. Parking Policy and Norms for Travel Demand Management
The aim of parking policy in MRTS Influence Zones is to manage and control the parking supply and demand within the area, in order to:

- Reduce vehicular trips to/from, through, and within the area,
- Reclaim public land for more equitable uses, and
- Shift people to sustainable modes of transportation i.e. MRTS, buses, IPT, NMT and walking.

4C.1. Public Parking Norms for Provision of On-street and Off-street facilities:

(i) Limit and Area-wise Cap private motor vehicle parking in Influence zones. Caps shall be calculated by the process of a Traffic Impact Assessment (TIA) as per Section 1.2.2. The TIA may also redefine the maximum permissible ECS per use and the number of on/off-street public parking spaces that may be provided in the area.

(ii) Public parking supply as well as ECS requirements for motorized modes shall be restricted in Influence zones and will be based on location/distance from MRTS stations. Details of parking norms will be as per Table 5

(iii) Parking for IPT and NMT modes shall be prioritized at-grade and on-street, within 300m of the Station and also provided within 300m walking distance of every home within all Influence zones.

   iii.1. Mandatory component of parking for cycles, 2-wheelers and shuttle buses shall be part of ECS requirements for all private and public new/redevelopment projects as per Table 6

   iii.2. On all streets, parking for IPT and NMT shall be provided within the Multi utility zone of the R/W, based on local counts and activity pattern surveys on ground. Norms as per Section 19.2.3B shall apply.

   iii.3. In areas where provision of adequate IPT/NMT parking is not possible within R/W, setbacks of buildings may be acquired (with attractive incentives such as FAR etc.) to provide IPT/NMT parking.

   iii.4. Parking spaces for differently-abled to be provided as per IRC 103:2012.

(iv) Long-term and Short-term public parking for private vehicles:

   iv.1. Long term on-street parking for private modes is not permissible in the Intense Zone, in order to ease congestion. Instead, provide on-street space for other higher-priority public uses such as NMT lanes, cycle-rickshaw stands, IPT/TSR stands, widened sidewalks, hawker zones or multi-utility zones as per MRTS multimodal integration checklist (Table 2). Street Design Checklist for all Influence zones shall be followed for road space allocation.

   iv.2. Long term parking facilities shall be only at off-street locations, priced at least 10-50 times cheaper than on-street parking and both shall be managed by a single agency.

   iv.3. Each on-street parking space shall be marked physically on ground and notified on the web, before commissioning, so as to facilitate enforcement by authorities.

   iv.4. Temporary service parking may be provided on street at off-peak hours, and off-street during peak hours.

(v) Shared Public Parking Facilities:

   v.1. In New/Redevelopment Projects, all parking facilities shall be shared between uses with different peak hours of activity, so that they are efficiently used round the clock. Appropriate signage shall display it clearly to users as ‘public’. Shared Parking could be integrated into new mixed-use projects within the area. Parking spaces shall not exceed the parking cap allocated for the Influence Zone area.

   v.2. In existing areas, shared public parking facilities can be created as part of comprehensive Redevelopment schemes of local shopping/commercial areas/underutilized Govt. lands/sites, etc., but not under public parks or open spaces, as indicated by EPCA.

Table 5: Public Parking Policy for On-street and Off-street Facilities within Influence zones

<table>
<thead>
<tr>
<th>Intense Zone</th>
<th>Standard Zone &amp; Transition Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 300m walking zone (from the centre of the MRTS Station is to be designated as a Pedestrian/NMT priority zone and be designed for multi-modal interchange as per Table 2.</td>
<td>Shared Parking only Zone; All new projects providing parking facilities should have it open for use for general public at all hours.</td>
</tr>
<tr>
<td>No long term public parking is to be provided in this zone.</td>
<td>On-street parking for NMT and IPT to be provided on all streets near junctions, bus-stops and desire lines.</td>
</tr>
<tr>
<td>Short-term on-street parking within this zone, if provided, shall be exponentially priced (higher than rest of off-street parking facilities).</td>
<td>Short-term street parking to be priced (3-20 times) higher than off-street parking facilities.</td>
</tr>
</tbody>
</table>
the city), to ensure high turnover.

(vi) Parking provision at/ near MRTS Stations:

vi.1. Park-and-Ride Facilities for private modes may be provided only at Terminal MRTS Stations or major Multimodal Interchanges.

vi.2. If on-site parking facilities are provided within the 300 m Intense Zone, the same shall not be exempt from FAR consumption.

(vii) Bus Depots and Terminals. All Bus depots within Influence zones must function as Terminals as well, and be developed as multi-level bus-parking facilities as per Influence Zone planning norms. Underutilization of FAR below 300 shall not be permitted.

4C.2. On-site Private Parking Requirements based on Landuse, for new/ redevelopment projects:

(i) Parking requirements are outlined in Table 6 below and are to be based on distance from an MRTS station or stop, as per Table2.

<table>
<thead>
<tr>
<th>Intense Zone</th>
<th>Standard Zone</th>
<th>Transition Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No minimum ECS requirements applicable within this zone.</td>
<td>• Reduced ECS norms applicable as per Table 7 below.</td>
<td>• Parking facilities shall be provided as per city level parking policy specified in Section 12.</td>
</tr>
<tr>
<td>• If parking facility for private vehicles is provided (on-ground or as structured parking), it will be counted towards consumption of FAR and shall be unbundled and shared.</td>
<td>• Parking facilities shall be exempt from FAR.</td>
<td></td>
</tr>
<tr>
<td>• Parking spaces for differently-abled shall be provided per IRC 103:2012, which shall be exempt from FAR.</td>
<td>• Parking space for new projects shall be unbundled from saleable floor area, and may be also used as shared public parking facilities.</td>
<td></td>
</tr>
<tr>
<td>• Cycle parking shall be provided and shall be exempt from FAR.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(ii) Unbundled Parking: The entire parking required for the project shall be provided within the project site as an ‘unbundled’ facility and parking spaces shall be sold / leased / rented independent of the dwelling unit or saleable floor space, so that the same space may be used by different users at different times of day.

- Parking spaces may either be rented or leased, or sold separately. The purchaser of a parking space may in turn rent the space to a secondary shared user for hours and/or days when the primary user of the space is not occupying the space.
- Unbundled parking spaces within projects may also function as Shared Public Parking spaces as per para 4C.1(v).
- The development of parking spaces for any project shall not exceed the allotted Parking Cap established for the geographic Plan Area in which the Project is located.

4C.3. Parking Space Ratios for all New/ Redevelopment Projects

(i) The Intense and Standard TOD Zones are designated as ‘mixed use’ therefore parking space of 2.0 ECS per 100 sq.m. built up area shall be applicable within the premises of all projects. Lower parking standards may be adopted based on the requirements of the Influence Zone Plans prepared for the Station Areas.

(ii) ECS requirement shall include provision of parking spaces for all types of vehicles i.e. cars, scooters, cycles, light and heavy commercial vehicles, buses etc., as per the minimum ratios in Table 7.

(iii) All parking spaces for different modes must be designed as per their specific sizes and actual parking space requirements shown in Table 7 along with securing facilities, as required.

<table>
<thead>
<tr>
<th>Mode</th>
<th>% of Total ECS requirement by mode - per 100 sq.m. of Built Up Area</th>
<th>ECS Standard by mode</th>
<th>Area in Sq.m. (including circulation)**</th>
<th>Parking space dimensions (in metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cars/ Taxis</td>
<td>0.3</td>
<td>1</td>
<td>23.00</td>
<td>2.5 X 5</td>
</tr>
</tbody>
</table>
### 4C.4. Parking Design, Access and Street interface regulations

(i) **For all on-site (off-street) parking facilities:** Locate parking behind buildings, not directly facing the footpath of the main R/W. Access to parking will be from a street lower in the hierarchy amongst the streets demarcating the block / plot.

(ii) **At-grade parking:** No boundary wall shall be constructed around parking lots. If required, they may be fenced or cordoned off with low growing landscape, so that visual connection between parking lot and adjacent footpath is maintained. Only permeable materials to be used for surface parking.

(iii) **Structured/ Multilevel parking:** Ground floor of all parking structures must be lined with active uses (as defined in para 5B). Refer Fig 3.

![Figure 3: Structured parking with street level active uses](image)

### 2.5. NORMS FOR PLACEMAKING AND ENSURING SAFETY

**Policy:**

a) Create a safe, vibrant, comfortable urban “place”, by providing round-the-clock active streets and incidental places to relax. Introduce mixed land use and other informal street activities like vendors, etc. to promote round-the-clock activity and informal surveillance.

b) Create “eyes on the street” by removing boundary walls of compounds and building to the edge of the street R/W. Street walls with transparency, built-to-edge buildings, minimum setbacks and non-opaque fences help provide natural surveillance of public spaces.

**Norms:**

5A. **Street Edge Regulations.**

5A.1. **Boundary Walls:**

i. In all new, retrofitting and redevelopment projects, boundary walls are prohibited. In case enclosure of sites is required, transparent fencing shall be used above 300 mm high toe wall from ground level.

ii. In case any toe-walls around soft areas and green open spaces are provided, adequate inlets for rain water are required.

5A.2. **Setbacks:**

Buildings shall be built to the edge of the setback line, without fences/ boundary walls in order to define the street wall and provide a comfortable scale for pedestrians. Refer Table 8 for Maximum permissible setback norms.

i. In certain cases, the ground floor of the building could be set further back from the setback line but the first floor of the building must be along the setback line as a continuous façade,

<table>
<thead>
<tr>
<th>Use</th>
<th>Setback requirement for façade facing:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public R/W ≥ 9m</td>
</tr>
<tr>
<td>Commercial, Non-residential</td>
<td>Max. 0 m</td>
</tr>
</tbody>
</table>
5A.3. Minimum Frontage (built-to setback line) requirements.

### Table 9: Building Frontage/ Street Wall Requirement at Setback line

<table>
<thead>
<tr>
<th>Facing Street Right-of-Way</th>
<th>Minimum Percent of Building Frontage (Street Wall) at Setback Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>R/Ws above 24m</td>
<td>70%</td>
</tr>
<tr>
<td>R/Ws of 12 - 24m</td>
<td>60%</td>
</tr>
<tr>
<td>R/Ws of ≤ 9 m</td>
<td>No minimum frontage requirement</td>
</tr>
</tbody>
</table>

![Figure 4: % Building Frontage at Setback line = (A+C)/D x 100](image)

i. A maximum length of 20M of an ‘unwatched’ frontage (e.g. gaps in frontage, fences or building walls of properties where there are no access points, doors, or windows) is permitted at any one instance.

ii. Two stretches of unwatched or non-active frontage must be punctuated by an active frontage of minimum 6 m.

5B. Active Frontage (Mixed Use Edge Condition).

An active frontage is a street edge/ wall with mix of uses with different peak hours of activity stacked vertically, to provide surveillance.

The following norms shall apply for new, redevelopment or infill projects:

i. At least 50% of total street frontage length of any TOD project should have an active frontage.

ii. Commercial frontages at street level should have facades with minimum 50% transparency (un-tinted) and active uses looking onto the main streets, to facilitate surveillance. Additional recessed walking zones may be created at the edges of the plot boundaries (e.g. arcades, colonnades, etc.) while maintaining the transparency of the inner façade edge condition.

iii. Other non-residential and non-educational facades should have minimum 30 - 50% transparency at street level.

iv. Residential frontages should preferably have balconies/ verandas and active spaces facing the street.

5C. Minimum Ground Coverage.

5C.1. The minimum Ground Coverage requirement for all plots, within Influence zones is 50%. In developed areas, this norm would apply to redevelopment or infill development projects only.

5C.2. Open Space requirements as per Table 11 and Solar Access Regulations have to be met as per 6E.2.

5D. Vending Zones.

5D.1. Vending zones shall be provided at regular intervals (approx. 10 minute walk from every home/ workplace) to encourage walkability, increase street activity and provide safety. They should be prioritized near street intersections, bus stops, MRTS station entry/ exit points, public toilets, etc. and located within the Multi utility zone (MFZ) within the road Right-of-Way. Number of vendor spaces shall be provided based on the adjacent street-edge uses, as per Table 5.3 (Chapter 5).
Figure 5: Vendor zones to activate unwatched boundary wall edges in already developed areas

5E. Additional Amenities for ‘Placemaking’.
All parks, plazas, public spaces and streets within TOD influence zones must have all basic amenities, as follows:

Table 19.10: Amenities required for ‘Placemaking’

<table>
<thead>
<tr>
<th>Streets (within MFZ)</th>
<th>Plazas, Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Universal Access</strong></td>
<td>All public spaces to be barrier free and universally accessible.</td>
</tr>
<tr>
<td><strong>2. Climatic Comfort and shade:</strong></td>
<td></td>
</tr>
<tr>
<td>i. Trees</td>
<td>● At least 100 trees per km for streets with R/W smaller than 12m. At least 100 trees per km per footpath on streets with R/W greater than 12m. Spacing of trees at no place should be greater than 12m except at intersections.</td>
</tr>
<tr>
<td>ii. Overhangs/ arcades</td>
<td>● Street level arcades are desirable for commercial frontages.</td>
</tr>
<tr>
<td>iii. Artificial canopies</td>
<td>● Overhangs from building facades over public realm is desirable up to a max. 2 m, to shade the footpath, etc.</td>
</tr>
<tr>
<td>iv. Cool, light-coloured high albedo materials.</td>
<td>● Trees should be planted along movement paths as well as in groups to shade seating/waiting areas, plazas, children play areas, tot-lots, etc.</td>
</tr>
<tr>
<td><strong>3. Seating:</strong></td>
<td>● Trees should be installed for groups (at least 10 people) and preferably not in isolation, in order to provide a secure environment.</td>
</tr>
<tr>
<td>to be provided in well watched, busy areas, well shaded by trees or artificial canopies - to provide safe pause places and climatic protection.</td>
<td>Seating to be provided in Multi-Utility Zones and not on footpaths.</td>
</tr>
<tr>
<td><strong>4. Dustbins</strong></td>
<td>Source separated dustbins must be provided at each station exit, bus-stop, street intersection and entry/ exits to public spaces.</td>
</tr>
<tr>
<td><strong>5. Lighting</strong></td>
<td></td>
</tr>
<tr>
<td>i. Basic lighting for safety &amp; usability</td>
<td>● Lighting of Bus stops, Metro Station exits and elevated walkways = 30 Lux.</td>
</tr>
<tr>
<td>ii. Accent lighting to define spaces.</td>
<td>● Lighting of commercial streets, busy public spaces, plazas, parks and important street crossings = 20 Lux.</td>
</tr>
<tr>
<td></td>
<td>● Lighting of all other streets, walkways and public areas = 10 Lux.</td>
</tr>
<tr>
<td></td>
<td>● Distance between lamps should be such to allow a vertical height distribution overlap of 1.8 m, so that visual recognition is there.</td>
</tr>
<tr>
<td></td>
<td>● Coordination of tree plantation and lighting plan required to avoid undesirable foliage shadows and patches of dark zones along streets.</td>
</tr>
<tr>
<td></td>
<td>● Provide glare free ambient street lighting for pedestrians, using full cut off fixtures for pedestrian zones.</td>
</tr>
<tr>
<td></td>
<td>● Other lighting design standards as per Chapter 12 Street Design Standards.</td>
</tr>
<tr>
<td><strong>6. Public Toilets</strong></td>
<td>Public toilets to be provided within a radius of 500m at all entry and exits points parks/plazas, with minimum 1 WC for women.</td>
</tr>
<tr>
<td></td>
<td>Public toilets to be provided at every 500 - 800M along roads, and/or at every bus stop with minimum 1 WC for women.</td>
</tr>
</tbody>
</table>
| | In addition one accessible toilet should also be provided, to be marked as Multi-
use toilet to be used by senior citizens, families with young children and disabled persons.
- Urinating in public spaces should be fined appropriately and heavily.

<table>
<thead>
<tr>
<th>7. Good design</th>
<th>8. Good design</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Scale spaces for natural surveillance.</td>
<td>Help create a sense of enclosure and placemaking on streets by creating relaxation spaces.</td>
</tr>
<tr>
<td>ii. Minimize hard areas and maximize trees/planted areas.</td>
<td>Flowering or deciduous trees create a changing seasonal urban experience on streets.</td>
</tr>
<tr>
<td>iii. Plant or pave (as per requirement) all surfaces, to minimize dust/SPM pollution.</td>
<td>In new projects, depth of plaza/park (Community level and below) should not be greater than 30m in width, due to the visibility limit (15m) of the human eye.</td>
</tr>
<tr>
<td>iv. Use deciduous trees to shade all surfaces, but allow sunlight access to spaces in winter.</td>
<td>Park fences to use shrubs (50-70 cm high) in order to avoid interference in visibility and minimise territory division.</td>
</tr>
<tr>
<td></td>
<td>Dense tree area should be thinned out at eye level and below, for natural visibility.</td>
</tr>
</tbody>
</table>

2.6. NORMS FOR HIGH DENSITY, MIXED-INCOME DEVELOPMENT (applicable to Standard and Intense Zone only):

All properties public or private, within these zones shall be able to avail the following norms for TOD, with the exceptions noted in section 1.1. (ix).

Development Policy:

a) Maximize densities within TOD, in order to facilitate maximum number of people walking or cycling easily to public transit. Low urban densities tend to go together with a high level of reliance on private vehicles, with low use of sustainable modes. High density along with mixed-use and interconnected street networks makes average trip lengths shorter, thus promoting walkability and use of non-motorized modes of transport, and reducing per capita vehicular trips.

b) In urban extension areas, higher the density, lower the per capita infrastructure cost of new road lengths, pipe lengths and physical infrastructure.

c) Enable a balanced mix of jobs and housing along MRTS corridors coupled with caps on parking supply, higher housing affordability and improved efficiency and equity in the resulting developments.

6A. FAR and Density Thresholds:

Policy:

a) In order to facilitate most efficient use of land in TOD zones, maximize the population holding capacity of each TOD, to prevent low density development (sprawl) elsewhere.

b) Higher FAR would not automatically result in densification as provision of large unit-sizes would defeat the very purpose of densification. Therefore it is essential to couple the FAR threshold with a minimum density requirement. Maximum permissible FAR and densities in various TODs shall be based on the capacity of public transport modes, circulation network and the physical infrastructure thresholds of the area. These parameters shall be established as part of the Influence Zone Plan preparation of each Station Area.

c) For effective TOD, high density is more important than increased FAR. Current settlements within the city may already be existing at relatively high densities; therefore increased FAR could lead to gentrification of these neighbourhoods. Higher FAR would be an effective tool only for redevelopment of low density and/or dilapidated neighbourhoods existing along transit stations. FAR should not become a mechanism for gentrification of lower and middle income neighbourhoods, by replacing them with predominantly high-income high-priced car-dependent developments.

d) Underutilization of FAR/Density capacity as per Table 10 is not permissible for any new or redevelopment projects.

e) Development of empty sites within 800m influence zone must begin within 3 years of operationalization of MRTS Station.

f) Underutilized/empty sites owned by any government agency must be brought for redevelopment as per the TOD norms on priority.
g) Densification through redevelopment and infill within existing Urban Areas is to be prioritized over development in Urban Extension, to minimize acquisition of land for development in peripheral sub-urban/agricultural/environmentally sensitive lands. New growth in urban extension should be in the form of dense growth along MRTS corridors, to create a compact city.

h) New FAR allowances above current caps can be taxed or otherwise monetized to fund infrastructure while increased future property taxes could fund operation and maintenance of public transport systems.

i) A TOD Cess may be levied to fund public transport facilities and infrastructure management cost of the development. Revenue sharing as well as infrastructure maintenance models to be worked out based on Initial projects taken up.

Norms:

6A.1. The minimum standard for gross density permissible for any TOD project is 250 du/ha.

6A.2. Minimum percentage of mix-of uses and housing mix to be adhered to even if full permissible FAR is not consumed/availed of.

6A.3. Net FAR availed for any project of size 0.6 Ha (80x80 block) or above, is to be coupled with Density minimums as per the table below:

Table 11: Permissible FAR and Density*

<table>
<thead>
<tr>
<th>Gross FAR (site)</th>
<th>Minimum permissible density (with ±10% variation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Residential dominated project (Residential FAR ≥ 50%)</td>
</tr>
<tr>
<td>Below 100</td>
<td>Under-utilization of FAR (not permitted for redevelopment projects)</td>
</tr>
<tr>
<td>110 - 200</td>
<td>200 - 400 du/ha</td>
</tr>
<tr>
<td>210 - 300</td>
<td>400 - 600 du/ha</td>
</tr>
<tr>
<td>310 - 400</td>
<td>600 - 800 du/ha</td>
</tr>
</tbody>
</table>

NOTE: The maximum holding capacity of MRTS Influence Zones will be based on the holding capacities of the Zonal Plans in which the MRTS Influence Zone is located, specified in Table 3.1 of the Master Plan.

The Masterplan Policy does not prescribe any universal cap on the FAR. FAR shall be allocated on NET basis, after the preparation of Influence Zone Plan. The Net FAR would be governed by the TIA, Capacity of sustainable Infrastructure provisions and Economic Feasibilities conducted as part of the Influence Zone Plan.

6A.4. For ‘Redevelopment’ projects within the Intense or Standard TOD Influence zones, FAR-Density bonuses permitted only if:

a. Existing density is (less than/equal to) ≤250 du/ha.

b. If existing gross density is greater than 250 du/ha, FAR-density bonus may be availed only if the area is notified for redevelopment (e.g. slums, unauthorized colonies, special areas, etc.). Retrofitting for better access and physical infrastructure provision in these areas may also be required.

6B. Open Space and Social Infrastructure

6B.1. To ensure efficient and optimum use of land, social amenities shall no longer be given individual plots of land within the influence zone. They shall be allocated the required built-up area within planned redevelopment schemes as per Masterplan requirements (Refer planning norms mentioned in Chapter 13: Social Infrastructure).

i. Open area requirement of the social infrastructure facilities shall be accommodated within the Block/Cluster plan, or integrated into the multi-use Public Open spaces provided in the area. For example, school playgrounds may be provided within the Neighbourhood Play Area

ii. Open space requirements with different hours of use shall also be provided as shared spaces, with appropriate programming.
6B.2. Open Space requirements for Residential population may be provided on site, as per the following Table:

<table>
<thead>
<tr>
<th>Open Type</th>
<th>Space Type</th>
<th>Functional Requirements</th>
<th>Ha./unit</th>
<th>Pop./Unit (approx.)</th>
<th>sq.m./person</th>
<th>Location</th>
<th>Sq.m./person</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HOUSING CLUSTER (BLOCK) LEVEL:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tot Lot</td>
<td>Soft un-grassed play areas for toddlers/ small children. May be provided on rooftops of buildings.</td>
<td>0.0125</td>
<td>250</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing Area Park</td>
<td>Park programmed for all age groups, open-air food court, playground, rain water management and recharge, etc.</td>
<td>0.5</td>
<td>5000</td>
<td>1</td>
<td></td>
<td>Within Block/ Housing Cluster</td>
<td>2.5</td>
</tr>
</tbody>
</table>
| Housing Area Playground | • Includes sports facilities required for schools, educational institutions.  
                                • New play fields shall be preferably provided/developed in the vicinity of educational institutions and landscape areas.  
                                • To incentivize development of sports facilities and swimming pool (upto maximum 100 sq.m.) within the group housing areas, schools, clubs, etc. shall not be counted towards ground coverage and FAR. | 0.5      | 5000                 | 1            |              |                           |              |
| **NEIGHBOURHOOD LEVEL:** |            |                                                                                        |          |                     |              |                           |              |
| Neighbourhood Park | Park programmed for all age groups, open-air food court, playground, rain water management and recharge, etc. | 1.0      | 10,000               | 1            |              | In Public Realm, within 400m walk |              |
| Neighbourhood Play Area | Active Sports Facilities, Rain water management and recharge, etc. | 0.5      | 10,000               | 0.5          |              |                           |              |
| **COMMUNITY LEVEL:** |            |                                                                                        |          |                     |              |                           |              |
| Community Park | Park, Children Park, Open-air food court, Playground, Rain water management and recharge, etc. | 5.0      | 100,000              | 0.5          |              |                           |              |
| Community Sports Centre | Active Sports Facilities, Rain water management and recharge, etc. | 1.0      | 100,000              | 0.1          |              | In Public Realm, within 800m walk |              |
| Community multipurpose ground | Public meeting ground, Public address podium, Social functions, Soft drink and snack stalls, Rain water management and recharge, etc. Multipurpose Ground can be sub-divided suitably with minimum of 0.5 ha of plot area to accommodate number of functions at one time. | 2.0      | 100,000              | 0.2          |              |                           |              |
| **TOTAL** |            |                                                                                        |          |                     |              |                           | 4.8          |

6B.3. Other norms:

i. All open spaces shall be programmed for different income groups, age-groups and activity types, based on hierarchy and functional requirements.

ii. All public spaces and buildings shall be universally accessible.

iii. All public parks / multipurpose grounds shall have provisions for natural rain water management.

iv. Creation of opaque boundary walls and locking of open spaces is prohibited. In case toe-walls with fences are provided, frequently placed openings must be kept to allow rain water to flow into the open spaces.

v. Use of public open spaces for parking, unless designated for such use, shall be a punishable offense.
vi. No minimum parking requirements for sports facilities. Parking to be provided as per need within block/cluster/building plan. Parking in public spaces and roads, if provided, shall be priced.

6C. Minimum Housing Mix Criteria (by Unit Sizes)

Policy:
Ensure a minimum supply of affordable housing options for low and medium income population within walking/cycling distance of Stations, and in close proximity to sources of employment and recreation.

Norms:

6C.1. Minimum 15% of FAR for all TOD projects to be allocated to rental or for-sale housing with unit sizes no larger than 25sq.m. Of this, minimum 5% should be of one of the following types:
   i. Units with only kitchen and no attached toilets. Toilets to be provided as a shared facility on every floor, segregated for male and female. Standard to be used: 1 bathroom and 1 separate WC for every 5 persons (UK standard).
   ii. Units with shared kitchen and dining space as well as shared toilet facilities. Maximum 8 units to a shared kitchen and toilet/bathing facility. (Confirm standard)
   iii. Dormitories with shared toilets and kitchens. Standard to be used
   iv. Hostels
   v. Daily rental homes, which may be rented in shifts.

6C.2. In addition to above, a minimum 15% of FAR for all TOD projects should be of unit sizes 40sq.m or less.

6C.3. Through policy, architectural design and monitoring mechanisms, the affordable housing stock within TOD zones is to be preserved.

6C.4. Affordable Housing units required as part of each project may be either provided on-site, or on government lands earmarked for this use within each zone, as per the overall Influence Zone Plan.

6D. Non-Permissible Uses and Desirable Uses within the 300m Intense Zone (valid for all projects taken up after Notification of policy in the context of Delhi):

6D.1. Non-Permissible Uses for all new projects within Intense Zone:
   i. Car-sales showrooms
   ii. Banquet halls
   iii. Automobile-repair/services/vehicular servicing shops
   iv. LPG Godowns
   v. Electric Substation 220 KV (locational requirements and restrictions to be determined by EIA)
   vi. Bus Depot (permitted only if clubbed with terminal and in the form of mixed-use development site)
   vii. Cremation ground
   viii. Stand-alone Multi Level Parking without on-site mixed use.
   ix. Open ground parking lot (if provided shall be counted as FAR consumption)
   x. Any trade or activity involving any kind of obnoxious, hazardous, inflammable, non-compatible and polluting substance or process shall not be permitted.

6D.2. Essential Uses: All uses as per Table 2.

6D.3. Desirable/suggested Uses:
   i. Residential uses: Affordable/low-income housing, one and two-room apartments for sale and rent, dormitories, homes for the aged, serviced apartments for young professionals, Govt. housing for low-income employees, working women’s hostels, youth hostels, studio apartments, night shelters, etc.
   ii. Commercial and Civic uses: Daily-need stores like department stores, Cultural Institutions, health clubs, day-care facilities, clinics, entertainment facilities, dry-cleaners, coffee shops, small restaurants, budget-hotels, transit hotels, neighbourhood orientated retail (like clinics, cyber cafes, stationery shops, Banks, financial institutions, post offices, etc.), call centres, small institutes, training centres, health clubs, day-care facilities, clinics, entertainment facilities, dry-cleaners, etc.
   iii. Informal sector uses like vendors, etc.
6E. Physical Infrastructure and Resource Standards:

Policy: Decentralized infrastructure is mandatory in all Station Influence Zone Plans - to ensure long term sustainability and resource efficiency.

Norms and guidelines:

6E.1. Water:

<table>
<thead>
<tr>
<th>Policy/ Norms</th>
<th>Proposed Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainwater 1. Rainwater harvesting is mandatory, irrespective of project size. All projects must show compliance with an on-site or a connection to off-site harvesting facility. All rainwater (including from roads/public spaces) must be harvested for reuse or ground water recharge only after primary treatment. 2. In addition, for undeveloped sites, maintain pre-development rainwater run-off rates to ensure that development does not increase surface run-off rates creating potential (on-site or off-site) flooding hazard. Preserve natural drainage patterns and water systems.</td>
<td>• Pervious/ permeable paving. • Rainwater systems on roads/ public spaces including bioswales, detention/ retention facilities, etc.</td>
</tr>
<tr>
<td>Potable Water and Waste Water 3. If project size is below 5000 resident population, then TOD norms can be availed only if an Influence Zone Plan exists and Decentralized Systems for Infrastructure (Water Supply, Sewage) and Shared Parking facilities are implemented already for the Station influence zone. 4. For projects of 5000 resident population or more, on-site decentralized infrastructure systems e.g. local sewage treatment and recycling systems are mandatory, in order to meet the non-potable per capita demand (90 lpcd for domestic and 115 lpcd for non-domestic). 5. Potable per-capita requirement (135 lpcd for domestic and 20 lpcd for non-domestic) should be available from the Municipality or any other source other than ground water. 6. Dual piping is mandatory irrespective of project size, to facilitate black/ grey separation and recycled water use. 7. Groundwater extraction is punishable by Law. 8. Underground/ overhead tanks, sewerage-pumping systems etc. must be provided as per requirement.</td>
<td>• Use recycled water for non-potable uses like flushing, cooling, car-washing, irrigation, etc. • Use water-efficient fixtures like dual flush, low-flow fixtures, etc) in all bathrooms, kitchens and other wet areas. • Landscaping in all public areas should use native, drought resistant species. • Water balance systems for domestic and non-domestic uses should be designed and implemented in conjunction, to mutually offset per-capita potable and non-potable requirements.</td>
</tr>
</tbody>
</table>

6E.2. Energy

Following Norms are mandatory in all Greenfield, Infill and large Redevelopment projects, to reduce energy load of projects/buildings:

At Site level:

i. Large sites should be laid out such that habitable areas of residential buildings are oriented to face North-South (within 15°) direction.

ii. Shade from trees and building enclosures to be used to shade streets, plazas and all paved areas, to minimize Urban Heat Island (UHI) Effect.

iii. Electric sub-stations to be provided as per requirement.

At Building level, the following Solar Access Regulations need to be followed:

iv. All dwelling units should get minimum 2-hour solar access in at least one habitable area (living room, bedroom or private open space) on the shortest winter day of Dec 21 (Winter Solstice).
v. In all residential buildings i.e. each unit should face the exterior, in two opposite directions. No double-loaded corridor buildings are permissible in TODs. Openings shall be located suitably to allow for natural ventilation and daylighting of habitable rooms and access to open air for all rooms including toilets and kitchens.

vi. No building floor-plate depth it to be more than 15 m, except for towers (buildings taller than 8 stories). Tower dimensions may not exceed 30 m in any direction. If tower dimension is required to be more than 30m in any direction, width of tower is not to exceed 15m, in order to allow the daylighting and natural ventilation of spaces.

vii. No “row-type” building (refer Fig.7) will be permitted to go higher than 15 M. To utilize FAR, towers in conjunction with 15 M high “row-type” buildings (refer Fig.8) are recommended as a typology.

viii. On 6m and 9m R/Ws, buildings higher than 15 m height are not permitted. Solar Envelopes studies should be used to determine heights and step-backs on buildings facing narrow street R/Ws, to follow daylight norms.

ix. No building on the site is to block sunlight to the living rooms and private open spaces of another dwelling and/or an adjacent multi-dwelling development so that it is reduced to less than two hours between 9 am and 3 pm on the winter solstice (Dec 21).

x. Where windows are located on west or south-west facing facades, external shading must be integrated into the building design to protect windows in summer. Other energy saving measures such as new glass technology may be used, in addition to shade protection.

![Figure 6: Row Type Buildings not permitted to go higher than 15 M to ensure minimum 2-hour solar access in at least one habitable area on the shortest winter day.](image1)

![Figure 7: Towers with 15 M high ‘Row-Type Buildings’ are recommended as a typology.](image2)

6E.3. **Landscape**

Landscape and plant selections should be designed for:

i. At least 100 trees per km for streets with R/W smaller than 12m. At least 100 trees per km per footpath on streets with R/W greater than 12m. Spacing of trees at no place should be greater than 12m except at intersections.

ii. Drought resistant native species should be used to minimize water demand. Native deciduous trees are appropriate for Delhi to have dense foliage and shading in summer and sunlight penetration in winter.

iii. Appropriately locate trees to provide shading to buildings, streets and public spaces in summer.

6E.4. **Solid Waste**

i. Each TOD Station Influence Zone Plan must accommodate at least one decentralized recycling, buy/sale and reuse centre, doing all of the following:
   - Organic Waste – Primarily food waste from kitchens, parks/gardens and markets, can be purchased from residents, composted and sold at the centre.
   - Dry Recyclables – paper, card, metals, plastic etc; to be purchased from residents, sorted and sold to industries recycling such waste.
   - Hazardous Waste to be purchased from users and sent to city level hazardous waste facility.
   - Construction Waste and materials can be purchased and sold to recycling centres and/or municipalities.
   - Residual – remaining waste to be handed to municipality for landfill.

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2 Building with an external corridor located on one wall of the building such that it may be provided direct openings in two opposite directions, is called a “Single-loaded” building. A building with an internal corridor, providing access to units on both sides is called a “double-loaded” corridor building.
The Waste Management Centre should run on an economically feasible model.

ii. At Building level: All residential complexes to have segregated garbage chutes accessible at all floors.

6E.5. **Incentives for Additional Green Building Compliance.**

Additional Incentives are provided for adherence to Green Building Standards for individual projects as follows:

i. Faster clearances from authorities including fire department and the civic body.

ii. Government concessions for builders who opt for guidelines that are not mandatory include:

- Single window clearance for buildings
- Reduced government fee for processing clearances

iii. The applicant who shall construct Green Building on a plot of 5000 sq.m. and above for any use may be allowed an additional FAR of 10% of the permissible/ availed FAR (excluding additional 15% of prescribed FAR for services), free of cost, provided that the applicant fulfils the following conditions:

- The Building is completed and rated by Leadership in Energy and Environmental Design (LEED) as ‘Gold or Platinum’.
- The Building is recommended by the Bureau of Energy Efficiency Government of India for the provision of energy efficiency.
- The Building has been completed fulfilling the parking and landscaping norms of the prevailing regulations in TODs.
- The applicant has made sufficient provisions for using the additional FAR.
- The applicant has to submit a certificate of compliance of green building from Leadership in Energy and Environmental Design (LEED)/ Bureau Energy of Efficiency after every three years. In case he fails to submit this certificate the Authority, after giving him one month notice, may charge the compounding fees of the FAR given free of cost at the rate of 200% of the cost of purchasable FAR.