



भारतीय मानक ब्यूरो

(उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, भारत सरकार)

BUREAU OF INDIAN STANDARDS

(Ministry of Consumer Affairs, Food & Public Distribution, Govt. of India)

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व्यापक परिचालन मसौदा

हमारा संदर्भ : सीईडी 51/टी-52

28 अप्रैल 2025

तकनीकी समिति : योजना एवं हाउसिंग विषय समिति, सीईडी 51

प्राप्तकर्ता :

क) सिविल अभियांत्रिकी विभाग परिषद, सीईडीसी के सभी सदस्य

ख) सीईडी 51 के सभी सदस्य

ग) रुचि रखने वाले अन्य निकाय।

प्रिय महोदय, महोदया/

निम्नलिखित भारतीय मानक का मसौदा संलग्न है:

प्रलेखसंख्या	शीर्षक
सीईडी 51(27897)WC	पारगमन उन्मुख विकास (टीओडी) के लिए रुपरेखा — दिशानिर्देश का भारतीय मानक मसौदा आईसीए: 91.020; 13.020.20

कृपया इस मसौदे का अवलोकन करें और अपनी सम्मतियाँ यह बताते हुए भेजे कि यह मसौदा प्रकाशित हो तो इन पर अमल करने में आपको व्यवसाय अथवा कारोबार में क्या कठिनाइयाँ आ सकती हैं।

सम्मतियाँ भेजने की अंतिम तिथि: 28 मई 2025

सम्मति यदि कोई हो तो कृपया अधोहस्ताक्षरी को ई-मेल द्वारा ced51@bis.gov.in पर या उपरलिखित पते पर, संलग्न फॉर्मेट में भेजें। सम्मतियाँ बीआईएस ईगवर्नेस पोर्टल- www.manakonlin.in के माध्यम से ऑनलाइन भी भेजी जा सकती हैं।

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यह प्रलेख भारतीय मानक ब्यूरो की वेबसाइट www.bis.gov.in पर भी उपलब्ध है।

धन्यवाद।

भवदीय

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(द्वैपायन भद्र)

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सिविल अभियांत्रिकी विभाग
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संलग्न: उपरलिखित



भारतीय मानक ब्यूरो

(उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, भारत सरकार)

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WIDE CIRCULATION DRAFT

Our Reference: CED 51/T-52

28 April 2025

TECHNICAL COMMITTEE: PLANNING AND HOUSING SECTIONAL COMMITTEE, CED 51

ADDRESSED TO:

- All Members of Civil Engineering Division Council, CEDC
- All Members of CED 51
- All others interested.

Dear Sir/Madam,

Please find enclosed the following draft:

Doc No.	Title
CED 51(27897)WC	Draft Indian Standard Framework for Transit Oriented Development (TOD) — Guidelines ICS No. : 91.020; 13.020.20

Kindly examine the attached draft and forward your views stating any difficulties which you are likely to experience in your business or profession, if this is finally adopted as National Standard.

Last Date for comments: **28 May 2025**

Comments if any, may please be made in the enclosed format and emailed at ced51@bis.gov.in or sent at the above address. Additionally, comments may be sent online through the BIS e-governance portal, www.manakonline.in.

In case no comments are received or comments received are of editorial nature, kindly permit us to presume your approval for the above document as finalized. However, in case comments, technical in nature are received, then it may be finalized either in consultation with the Chairman, Sectional Committee or referred to the Sectional Committee for further necessary action if so desired by the Chairman, Sectional Committee.

The document is also hosted on BIS website www.bis.gov.in.

Thanking you,

Yours faithfully,

Sd/-

(Dwaipayan Bhadra)

Scientist 'E' & Head

Civil Engineering Department

Email: ced51@bis.gov.in

Encl: As above

FORMAT FOR SENDING COMMENTS ON BIS DOCUMENTS

(Please use A-4 size sheet of paper only and type within fields indicated. Comments on each clause/sub-clause/table/fig etc. be started on a fresh box. Information in column 3 should include reasons for the comments and suggestions for modified working of the clauses when the existing text is found not acceptable. Adherence to this format facilitates Secretariat's work) {Please e-mail your comments to ced51@bis.gov.in}

Doc. No.: CED 51(27897) WC

Title: Draft Indian Standard Framework for Transit Oriented Development (TOD) — Guidelines

ICS No.: 91.020; 13.020.20

LAST DATE OF COMMENTS: **28/05/2025**

NAME OF THE COMMENTATOR/ ORGANIZATION: _____

SI No.	Clause/ Para/ Table/ Figure No. commented	Type of Comment (General/ Technical/ Editorial)	Comments/ Modified Wordings	Justification of Proposed Change
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NOTE- Kindly insert more rows as necessary for each clause/table, etc

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DRAFT FOR COMMENTS ONLY

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Draft Indian Standard

FRAMEWORK FOR TRANSIT ORIENTED DEVELOPMENT (TOD) — GUIDELINES

FORWORD

(Formal Clauses to be added later)

Transit-Oriented Development (TOD) is a crucial urban planning strategy aimed at creating vibrant, sustainable, and efficient communities centered around high-quality public transit. With rapid urbanization and increasing demands for better mobility solutions, TOD plays a significant role in promoting walkability, reducing traffic congestion, and enhancing economic development.

This document serves as a comprehensive guide for policymakers, urban planners, and stakeholders involved in the implementation of TOD projects. It outlines the fundamental principles, best practices, and regulatory frameworks necessary to foster well-planned, transit-friendly urban environments.

By adhering to these guidelines, cities can effectively integrate land use and transportation planning, ensuring that transit stations become hubs of economic activity, social interaction, and environmental sustainability. The framework emphasizes the importance of mixed land-use developments, pedestrian-friendly infrastructure, and equitable access to public transit.

Transit oriented development (TOD), as a concept, integrates land uses and mass transportation such as bus rapid transit (BRT) and rail-based transit like metro-rail, monorail, light-rail, ring-rail, etc. The basic objective is to plan cities in a manner where people conveniently walk and use public transport for most of their trips and, thus, reduce dependence on private mode and provide benefits to the city which include reduction in congestion, delays and accidents on roads, reduction of pollution caused by automobiles; and improvement in liveability, mobility and convenience of the citizens. TOD makes city compact and increases its efficiency and functioning. The TOD is desirable as it,

- (a) reduces/discourages private vehicle dependency and induces public transport use through planning, designing, policy measures and enforcement; and
- (b) provides easy access to public transport, within walking distance, to a majority of people, through densification and enhanced connectivity.

Some of the planning and design principles applied to create TOD include creation of,

- a) pedestrian and non-motorized transport friendly environment;
- b) efficient public and para-transport system supporting the transit system;
- c) multi-modal interchange and street connectivity;

- d) mixed land uses and appropriate intensity of development; and
- e) well designed and integrated parking thus requiring reduced parking requirements in comparison to the norms given in this Part.

TOD concept may be suitable for all newly planned green field cities. However, it can also be applied to existing brown field cities where new expansion/development are taken up backed up with effective mass rapid transport system and new nodes. The Authorities may take up appropriate studies to evaluate suitability of TOD concept under relevant situations.

For the purpose of deciding whether a particular requirement of this Part of the Code is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this Part.

*Draft Indian Standard***FRAMEWORK FOR
TRANSIT ORIENTED DEVELOPMENT (TOD) — GUIDELINES****1 SCOPE**

1.1 This standard provides the framework for planning and design of areas earmarked for Transit Oriented Development (TOD). It covers the broader aspects of transit oriented development applicable at the national level.

1.2 These framework guidelines are prepared considering the role of Local Authority/Statutory Authority as limited to the delineation and notification of TOD areas along with control and monitoring of developments within TOD areas which will be carried out primarily by individual landowners, cooperative societies, developers, etc.

2 REFERENCE

The standards given below contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards.

<i>IS No.</i>	<i>Title</i>
IS 4963: 2025	Accessibility in built environment for older adults and persons with disabilities — requirements (<i>second revision</i>)
NBC: 2016	National building code of India 2016
SP 73: 2023	Standardized development and building regulations

3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply:

3.1 Development — ‘Development’ means development as defined in the Town Planning Acts, to be carried out in accordance with these framework guidelines within the area delineated and/or notified as TOD.

3.2 Floor Area Ratio (FAR) — The quotient obtained by dividing the total covered area on all floors by the area of the plot.

$$\text{FAR} = \frac{\text{Total covered area of all floors}}{\text{Plot Area}}$$

NOTE — Many times, the terms Floor Area Ratio (FAR) and Floor Space index (FSI) are used interchangeably, but in these regulations, FAR is used uniformly.

3.2 Transit — Transit means any rail based urban mass rapid public transportation system such as suburban railway, regional rail, metro rail, mono rail, high speed rail, etc. developed to carry large number of commuters within an urban area/areas.

3.4 Transit-oriented Development — Transit-oriented development (TOD) is a mixed-use residential and commercial area designed to maximize access to public transport, and often incorporates features to encourage transit ridership.

NOTE — A TOD neighbourhood typically has a centre with a transit station or stop, surrounded by relatively high-density development with progressively lower-density development spreading outward from the centre.

4 GENERAL PRINCIPLES

4.1 Promoting Use of Transit

The TOD shall encourage use of transit by promoting high intensity developments within walkable distance from transit stations. The Multi-Modal Integration, Mixed Use Development and Inclusive Housing shall ensure seamless movement, social vibrancy along with safety and security which will encourage people to use transit for their daily commute.

4.2 Reduction in Private Vehicle Ownership

The TOD shall discourage the private vehicle ownership by reducing the areas for private parking while promoting shared parking, prioritising pedestrian and public transit in street designs and prohibiting uses related to vehicles such as service centres, fuel stations, etc.

4.3 Generation of Additional Revenue towards Recovering Cost of Transit

Transit oriented development shall have higher FSI/FAR potential than rest of the area such that the local/statutory/metro Authority can generate additional revenue through allotment of this Higher FSI/FAR on payment of premium to partially recover the cost of construction of transit infrastructure.

5 ESTABLISHMENT OF TRANSIT INFLUENCE ZONE (TIZ)

5.1 Transit Influence Zone (TIZ)

The area within a walkable distance of 10 min to 15 min or 500 m to 800 m around a transit station or along transit corridor may be classified as the 'Transit Influence Zone (TIZ)' where Transit Oriented Development (TOD) is planned for implementation. However, the State/Local Governments may identify and notify areas to be covered under 'Transit Influence Zone (TIZ)', depending on the density of transit network, population of city, location of TIZ such as heritage precinct or core area or per-urban area etc. and other special considerations if any. Therefore, every transit station may not qualify for TOD. The following strategy may be adopted for establishment of TIZ for implementation of TOD:

5.1.1 Delineation of Transit Influence Zone (TIZ)

- a) As explained in para 5.1 above, the TIZ may be established around transit stations or along transit corridors within a walkable distance of 500 m to 800 m.

After conducting a preliminary study evaluating the existing land use, demography, transport and communication, physical infrastructure, land ownership pattern (private/public) etc. the boundary of TIZ within 500 m to 800 m may be identified, preferably up to clearly identifiable physical features such as exiting road, rail, river, stream, etc. In case such physical features are not available, the boundary of TIZ may be limited up to the boundary of land parcel as per revenue records. Further, the contiguous lands under single ownership predominantly (70 percent or more) falling within the TIZ may be considered entirely as part of TIZ.

- b) The final boundary of TIZ, where the TOD is planned for implementation, should be demarcated and notified through master plan/development plan for the city and the local area plans before implementation. In case the TOD is to be implemented in a phased manner, the influence area of the TOD can also be notified in phases. The principles for delineating the influence area should be clearly spelt out so that there is no speculation or confusion regarding the influence zone.

5.1.2 Classification of Transit Influence Zone (TIZ)

The TIZs may be further classified depending on their location, character and the predominant activity in the area as mentioned below:

- a) City/Suburban interchange hub;
- b) City centre/Core area;
- c) Business/Shopping/Commercial district;
- d) Heritage precinct;
- e) Suburban/outer area; and
- f) Urban expansion/Greenfield area.

The Local/Planning authority may develop appropriate regulations for each of the above categories of TOD.

5.1.3 Preparation of Structure Plan

The Structure Plan shall be prepared after evaluating type of TIZ as mentioned in para 5.1.2, demography, land-use, existing road network, environmental features, etc. for each TIZ. The structure plan shall indicate existing and proposed road network having grid size not more than 100 m × 100 m and average road width not less than 18 m. The Structure Plan shall earmark the existing public amenities, facilities such as parks, gardens, schools, markets, hospitals, etc. The structure plan shall also earmark the existing environmental features such as water bodies (nala, pond, lake river, etc.), and other environmental features (forests, mangroves, wetlands, etc.). The structure plan along with the boundary of TIZ shall be notified and incorporated in the master plan of the city.

6 ELIGIBILITY FOR DEVELOPMENT WITHIN TRANSIT INFLUENCE ZONE (TIZ)

In order to achieve high density planned developments in TIZ, a minimum plot size of 4 000 sqm may be considered as eligible for development under TOD. The individual land owners, societies, etc. of plots having area less than 4 000 sqm in TIZ can come

together with neighboring land owners, societies, etc. having contiguous land through a Joint Development Agreement (JDA) such that their combined plot area will be at least 4 000 sqm in order to be eligible for development under TOD.

7 LAND USE PLANNING

All kinds of land-use which may encourage the population density in a TIZ may be permitted except non-conforming uses as mentioned in para 7.1 below:

7.1 Non-Conforming Uses

The primary objective of TOD is to densify the areas under TIZ in order to encourage use of transit by the residents within TIZ and to provide seamless access to the activities within TIZ. Hence, the activities which may occupy large area per person may be considered as non-conforming uses in TIZ as mentioned below:

- a) Bungalow schemes/Low density housing;
- b) Warehouses/Godowns;
- c) Fuel stations;
- d) Independent showrooms/Service centres for automobile, furniture, building materials, etc;
- e) Any trade or activity involving any kind of obnoxious, hazardous, inflammable, non-compatible and polluting substance or process; and
- f) Any other use that may require large floor area per user and which requires frequent road based transport for supply and delivery of its goods or services.

7.2 Mixed Uses

The mixing of different uses may be encouraged particularly upto ground plus two storeys such that the TIZ has social vibrancy and has activities throughout the day which will improve the public safety perception. A blend of land-uses will also help in the optimization of physical infrastructure and resources, as all components like roads, parking, water, sewerage, etc., remain functional at all times of the day. The following mandatory land use mix strategy may be adopted in the TIZ at individual plot/development level:

<i>Use</i>	<i>Percent of Floor Area Ratio</i>
(1)	(2)
Residential including inclusive housing	25
Convenience Shopping/retail/commercial	5
Public Amenity (Public Open Space, Through pedestrian street, plaza, shared parking, etc.)	10
Mixed Use including commercial/retail, offices, institutional, residential, etc. as per market demand	60

(The mix may reflect what is desired for the specific type of TOD identified)

7.3 Public Amenity

As mentioned in para 7.2 above, minimum 10 percent of the plot area may be used for development of public amenities such as pedestrian streets, shared parking lots, parks/gardens, civic facilities, etc. All the public amenities provided shall be barrier free and universally accessible for public at the reasonable hours of the day. Following are some of the examples of public amenity:

7.3.1 Use of Mandatory Open Spaces Around Buildings

The mandatory front or side open spaces around buildings having direct access from a public street shall be encouraged to be used for providing thoroughfare pedestrian/non-motorized transport street network wherein opaque boundary walls shall not be permitted. In case enclosure of plot is proposed, transparent fencing shall be used above a max height of 300 mm 'Toe wall' as illustrated below. The necessary opening in boundary walls to allow thoroughfare shall be provided. The boundary walls shall not be permitted in front open space between buildings and public street.

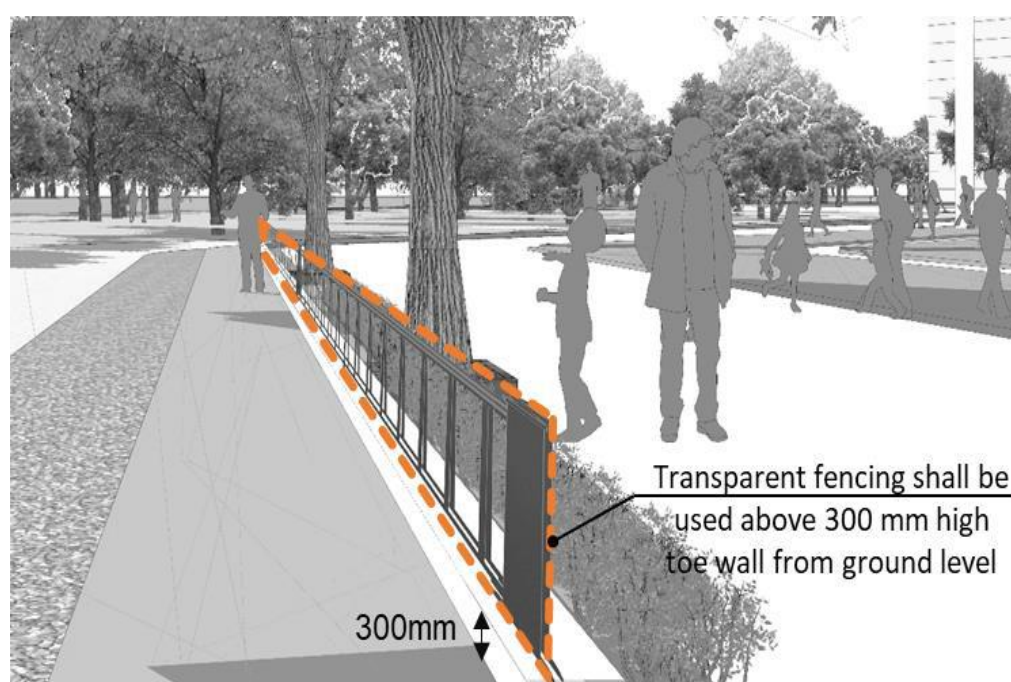


FIG. 1 INDICATIVE DIAGRAM OF OPEN SPACES AROUND BUILDINGS

7.3.2 Use of Mandatory Layout Open Space/Recreational Ground as Public Amenity

The mandatory Layout Open Space/Recreational Ground required as per the building regulations may be encouraged to be partially used as public amenity and the same shall be made accessible for general public at reasonable hours of the day. The

Recreation Ground/Garden within a private development which is to be used as public amenity shall have access from a nearest public street or through pedestrian street as mentioned in para 7.2 above.

7.3.3 Active Frontage

7.3.3.1 The Ground floor of the buildings adjoining the public amenity or public street shall have shop fronts, pedestrian entries to building with security cabins and at least 50 percent un-tinted transparent facades in order to create secure and vibrant environment for pedestrians. Also, the buildings shall be oriented to face the Public Amenity.

7.3.3.2 The front open space between the building and the public street may be developed as an additional space for sidewalk on public street having integrated footpath design. Part of this large sidewalks may be designed to accommodate street vendors as illustrated in the image below:



FIG. 2 INDICATIVE DIAGRAM OF ACTIVE FRONTAGE

7.3.4 Inclusive/Social housing

7.3.4.1 The cities should fix a minimum percentage (25 percent or higher) of allowed FSI/FAR for affordable housing (houses up to 60 sq.mt. built up area) in all developments/redevelopments in the TIZs.

7.3.4.2 Housing in the Transit Influence Zone should have a mix of all economic groups/ sections. The development control regulations should stipulate housing for Economically Weaker Sections (EWS) as well as LIG/MIG, or other types based on local definition, in the influence area in order to give an opportunity to the people who depend on public transport for daily commuting to live in walkable neighborhoods.

8 FLOOR AREA RATIO (FAR) / FLOOR SPACE INDEX (FSI)

8.1 The FAR/FSI for the TIZ may be determined by the State Governments after evaluating the necessary physical infrastructure in the city/area. However, the

FAR/FSI in TIZ shall be 2 times to 4 times more than the basic FAR/FSI permissible in rest of the area.

8.2 The additional FAR/FSI over and above the basic FAR/FSI permitted in the TIZ on private developments shall be chargeable at a reasonable premium paid to the Local/Planning Authority. The State/Local Governments can create a dedicated “TOD fund” which will be utilized for funding transit infrastructure projects and upgradation of physical infrastructure within TIZs. The rate of premium shall be fixed based on:

- a) the gains made on account of the developments/redevelopment in the TIZ; and
- b) the requirements for upgradation of physical infrastructure and to recover part of the capital cost incurred for development of the transit distributed over the entire TIZ and may further be linked to the annually published land rates by government.

9 PARKING REQUIREMENT

Parking Requirements for developments shall be as mentioned below:

- a) On-site private parking provision shall be maximum 50 percent of the total parking requirements computed as per other applicable regulations for Parking for the city. For example, If the minimum parking requirement according to building regulation works out to be A, then under TOD policy, the maximum Parking provision will be $0.5 \times A$ (that is, 50 percent of A);
- b) Ground, Stilt and Multi-Level Car Parking shall not be permissible unless the parking is provided as a public amenity (that is, shared parking lot);
- c) In addition to (a) above, a 10 percent total parking requirement as per (a) above shall be provided at ground level as visitor parking (not to be allotted to any occupant); and
- d) 50 percent of visitors parking at (c) above at ground level shall be earmarked for public utility vehicles, public transport vehicles, emergency use and for differently abled persons.

10 APPLICABILITY OF OTHER REQUIREMENTS

Apart from the requirement mentioned above in the standard, the existing Indian Standards for universal accessibility as given in IS 4963 and provisions of National Building Code 2016 along with SP: 73 Shall be applicable to the development of within the TIZ.
