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Need for a Context-Sensitive Approach to TOD in India

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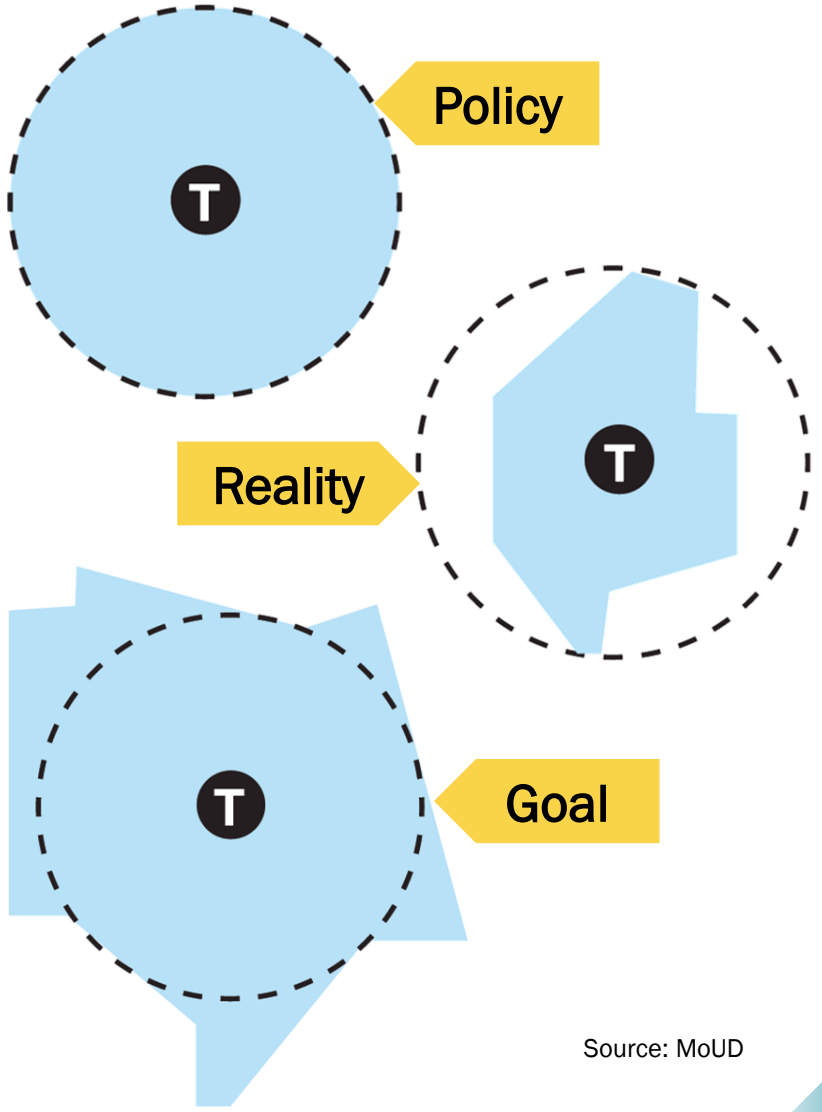
Introduction

- Cities often face issues related to **transportation, infrastructure, housing, and the environment** (Joshi et al., 2017; NIUA, 2016c)
- Lack of links to master plans; regulations dealing with land acquisition, building bye-laws & TDRs leading to fragmented development. (ADB, 2022; LARR Act, 2013; NITI Aayog, 2020; Paul et al., 2020; Ramulu et al., 2021)
- An integrated approach considering travel behavior, real estate markets, and infrastructure capacities is necessary to avoid adverse effects like gentrification (Chava et al., 2019; Padeiro et al., 2019)
- **One–Size–Fit–All** approach is not suitable and needs Context-Specific approaches



Source: MoUD

TOD Background

TOD emphasizes high density, diversity, accessibility, affordable housing, pedestrian-friendly neighborhoods, and increased public transport dependence (Ibraeva et al., 2020; NIUA 2016c; Jamme et al., 2019; MoUD 2017b; Calthorpe 1993).

Garden Cities | Linear Cities | Finger Plan | Compact City (Carlton 2009; Joshi et al., 2017; Parida et al., 2022).

Cervero 2004 – a tool to promote smart growth, economic development, catering housing market and lifestyle preferences

Carlton 2009 – community design theory addressing a variety of social issues and neighborhood as a self-sufficient entity

TOD literature thoroughly examines diverse aspects such as the built environment, travel behavior, mode choice, affordable housing, real estate, infrastructure, accessibility, and environment

The carrying capacity perspective of TOD has received limited attention

Methodology

Aim - to examine the potential of TOD as a sustainable planning strategy in the Indian urban context and explore its implications for fostering more livable and resilient cities.

Literature review to analyze TOD and its implementation in India

- Key words: Transit Oriented Development + Travel Behavior, Land Prices, Carrying Capacity, Gentrification, and TOD in India
- Peer reviewed journals + Policy Documents + Acts, Laws and Regulations + Master Plans + Various Government Reports (gazettes, bye-laws, guidelines)

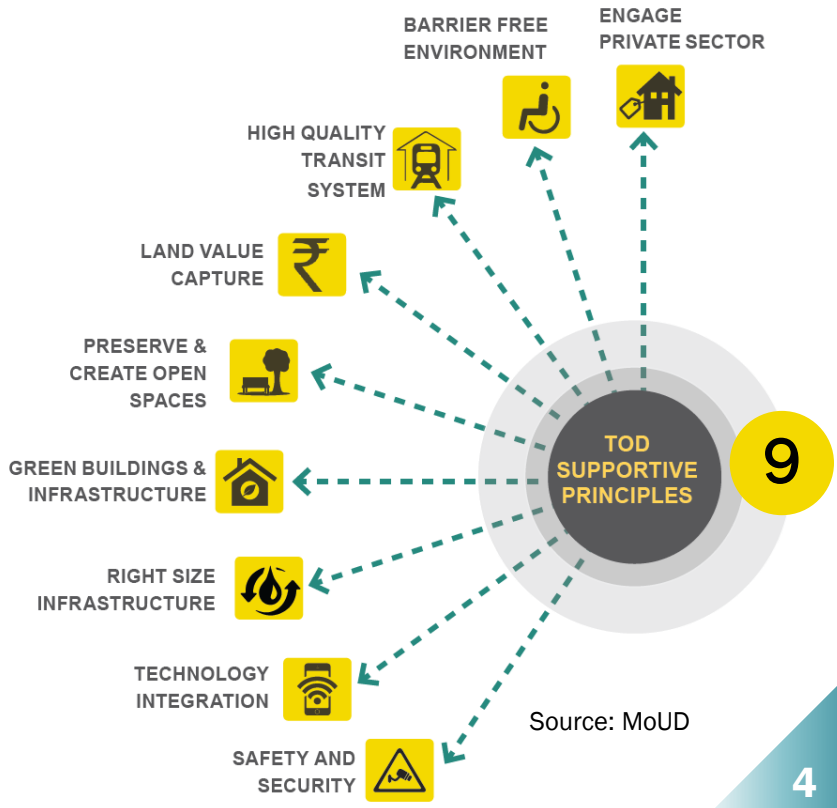
Need for a policy-driven, context-specific, micro-level planning approach for TOD implementation in India

National TOD and Metro Rail Policy

TOD zone is within walking distance of 500 - 800m from the transit station or along the corridor (in case of stations spacing 1km part)

Station Hub (200m) | Station Neighbourhood (400m) | Area of Influence (800m)

- Five-step planning process
- **Gaps remain** in the evaluation of the process and effective implementation
- Metro rail policy integrates TOD implementation with LVC mechanisms for financial sanction
- Comprehensive approach
- Responsibility relies on the State Govt.



Source: MoUD

Evaluation of TOD Policies

Delhi – 800m (station) | Pune – 500m (station) | Bangalore – 1000m (along corridors)

	Delhi	Pune	Bangalore
TOD Policy	FAR shall be 1.5 the plot area or 300, whichever is more. **Maximum FAR being 500 within TOD.**	**Maximum permissible FSI is 4**, abutting a road width of 30m and above (notified in bye-laws, 2018).	**FSI 5 and 4.25** as maximum for Intense and Standard TOD zones, respectively
Building Bye-Laws	Commonly allowable FAR is 200, with a maximum of 350 for plots below 32 sq.m and 90% coverage.	Maximum FSI 1.2, abutting a road width of at least 15m, with a premium of 0.2 FSI.	Maximum FSI of 2.25 for residential use, with an abutting road width of 15m and above.

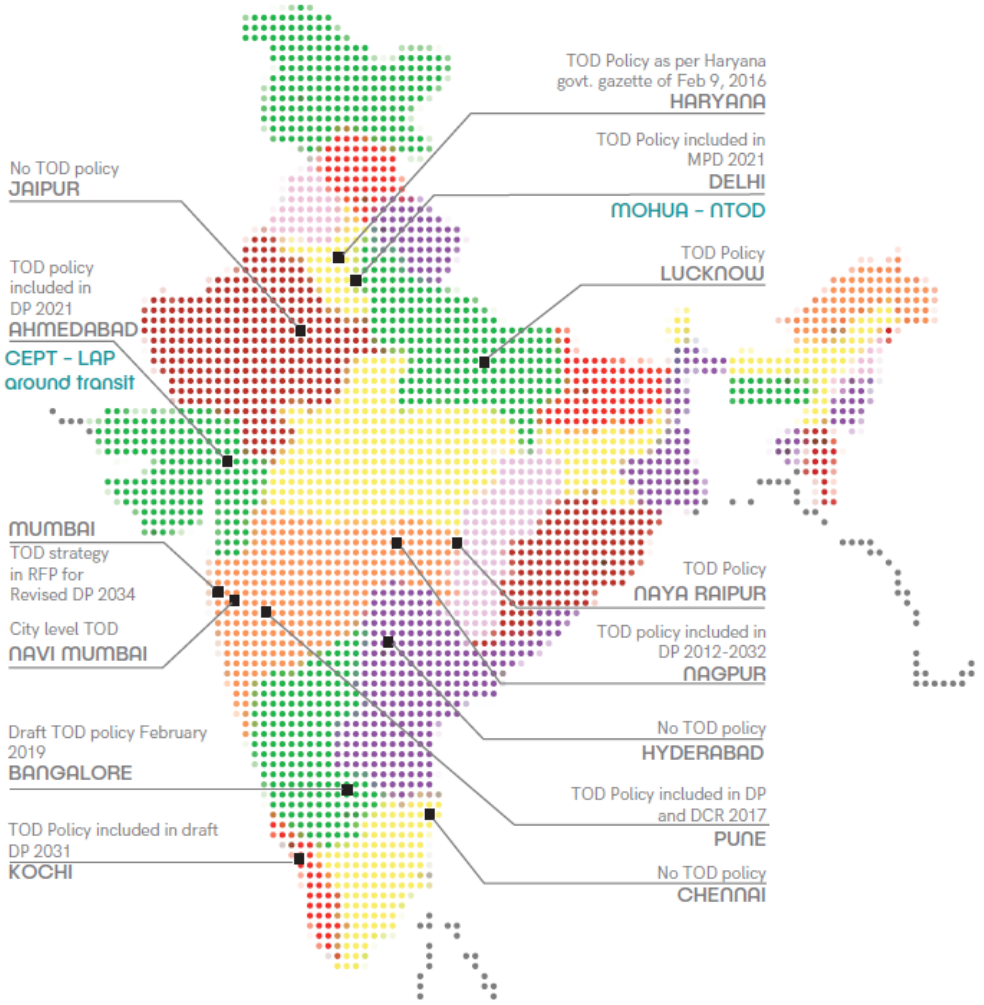
Adherence to the land use mix proposed in Master and Zonal Development Plans

Rules and Regulations guiding TOD

- *Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Act, 2013*, facilitates the land acquisition process for various purposes
- *The Real Estate (Regulation and Development) Act, 2016* regulates real estate activities, ensuring transparency in sales and purchases
- *Town Planning Scheme (TPS)* have been implemented in cities like Pune, Ahmedabad, and Surat (NIUA, 2016c, 2017; Ramulu et al., 2021)
- *Transfer of Development Rights (TDR)* (NITI Aayog, 2020) - land readjustment
- *Value capture mechanisms –* Land Value Tax, Betterment levy, Impact fee, Vacant Land Tax (VLT), Premiums FSI/ FAR, Tax Increment Financing, and Land Pooling System (MoUD, 2017; NITI Aayog, 2021)
- *Model Building Bye-Laws and URDPFI guidelines* regulate building height, set maximum FSI/FAR, and provide standards
- *City Mobility Plans (CMPs)* prioritize the creation of transportation networks

Challenges in TOD implementation

- Lack of well-structured framework
- Involvement of multiple stakeholders
- Inter-governmental coordination
- Master Plans prepared for 20 year period can not fully accommodate the rapidly changing development trends
- Inadequate provision of rules and regulations
- Complexities in land assembly and value capture mechanisms
- Insufficient financing
- Safeguarding from Gentrification becomes imperative to ensure last-mile connectivity, efficient parking along with development,



Source: NIUA

Discussion

Need for Capacity Studies

- Gap is measuring CC
- Increasing FAR without CC studies burden existing resources
- In turn, this exacerbates challenges of urban areas

Land Value Capture as a tool

- TOD is market-oriented
- Delhi – additional FAR, TDR & betterment levy
- Rail+Property Model (Hyderabad)
- Lack of data-driven and bottom-up approach

Local Area Planning (LAP)

- Smart city plans acknowledge TOD as a solution – area based development
- Analyses micro-level needs
- Bengaluru, Ahmedabad and Jaipur

Travel behavior + real estate dynamics
+ infrastructure carrying capacity => collective framework

Summary

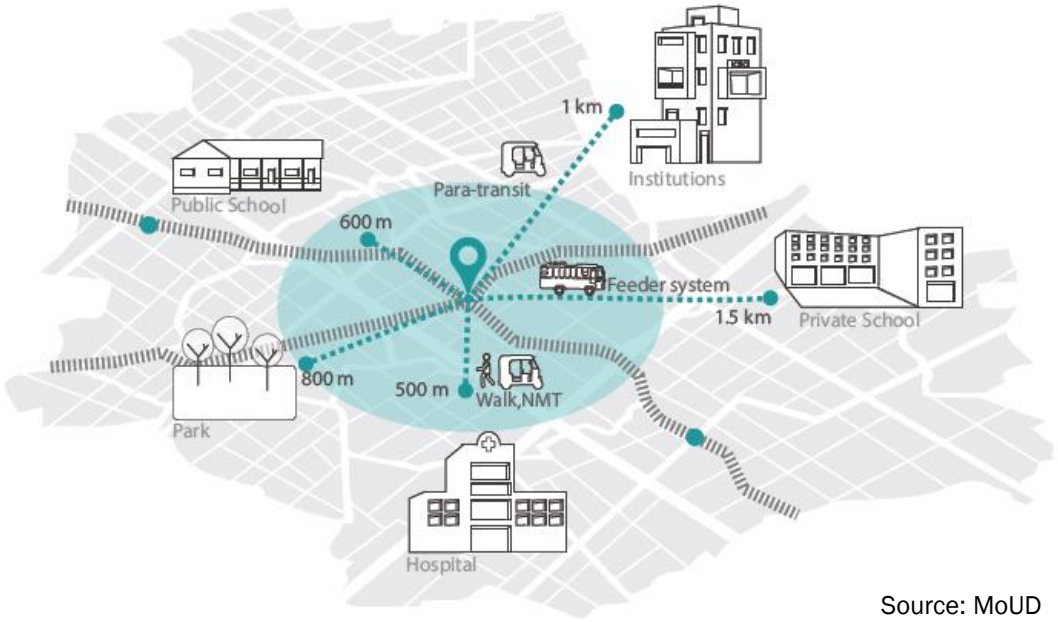
- The **government's current focus also centers on promoting TOD wherever appropriate**, leveraging micro-level planning as a tool (MoHUA, 2023).
- Micro-level planning for each station's influence area, leading to corridor development based on the city's overall structure
- Cause-and-effect relationships among various TOD components, thereby facilitating the estimation of **suitable development scenarios prior to implementation**

Need for a bottom-up approach involving multiple stakeholders and engaging residents in the planning process to implement TOD as a sustainable development strategy.

Relieves the burden on infrastructure, providing a valuable direction for real estate developers and assisting governments in designing appropriate land value capture mechanisms.

Conclusion and Future Scope

- Evolving policies face challenges like fragmented planning, multi-stakeholder involvement, city-specific differences, and land value capture
- Carrying capacity studies becomes crucial considering India's high density and mixed-use development, guiding the formulation of appropriate development strategies tailored to locational characteristics for TOD adoption
- Further studies could explore the relationship between logistics and last-mile connectivity within the TOD framework



Source: MoUD

TOD has the potential to transform urban development in India by adopting a well-integrated, policy-driven, context-specific approach that enhances mobility, improves access to urban services, and creates vibrant communities

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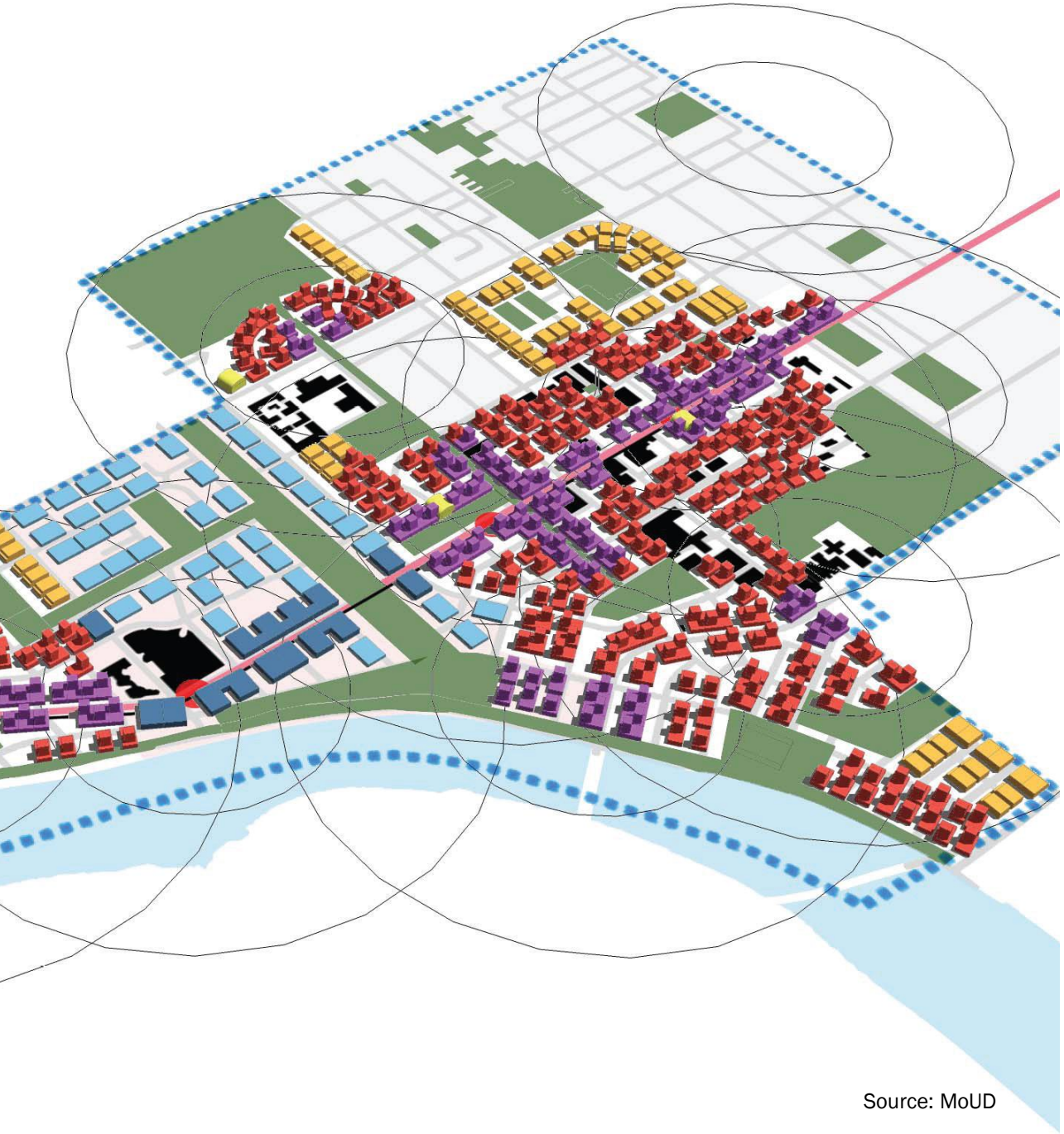

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Thank you

We would like to thank UMI team for this opportunity.

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