

TRANSIT ORIENTED DEVELOPMENT

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Abstract: As cities age and change, certain areas begin to physically decay and suffer from the flight of both its residents, as well as socioeconomic activities. The means by which these areas are regenerated remains an issue for many cities, who are unable to reconnect these places with opportunities needed to thrive. In response to this challenge, transit-oriented developments have become a more recent, sustainable form of urban growth that allow people to navigate a city's socioeconomic activities and opportunities through well-established modes of transportation. This has the potential to create cities in which people are able to have a 'live, work, play' lifestyle, supported by various modes of public transportation that also connects them to the broader urban context.

INTRODUCTION

TOD integrates land use and transport planning and aims to develop planned sustainable urban growth centers, having walkable and livable communes with high density mixed land-use. Citizens have access to open green and public spaces and at the same time transit facilities are efficiently utilized.

Transit Oriented Development is the exciting fast growing trend in creating vibrant, livable, sustainable communities. Also known as TOD, it's the creation of compact, walkable, pedestrian-oriented, mixed-use communities centered around high quality train systems. This makes it possible to live a lower-stress life without complete dependence on a car for mobility and survival.

Transit oriented development is regional planning, city revitalization, suburban renewal, and walkable neighborhoods combined. TOD is rapidly sweeping the nation with the creation of exciting people places in city after city. The public has embraced the concept across the nation as the most desirable places to live, work, and play. Real estate developers have quickly followed to meet the high demand for quality urban places served by rail systems.

Transit oriented development is also a major solution to the serious and growing problems of climate change and global energy security by creating dense, walkable communities that greatly reduce the need for driving and energy consumption. This type of living arrangement can reduce driving by up to 85%.

TYPOLOGY OF Transit Oriented Development-

- Regional centre
- Suburban centre
- Transit town centre
- Urban neighbourhood
- Transit neighbourhood
- Employment district
- Mixed use corridor

Aim - The vision of the tod is in three fold:

- **Enable Transformation:** to assist in transformation of cities from private vehicle dependent city to public transport oriented development.
- **Accessible Public Transport:** to promote the usage of public transport by making it accessible, encourage green mobility by encouraging people to walk and cycle and at the same time curb pollution and other negative impacts of motorization.
- **Compact Walkable Communities:** to create livable and affordable communities, which are compact and walkable.

Objectives-TOD integrates land use and transport planning to develop compact growth centres within the influence zone of 500-800 m on either side of the transit stations i.e. areas within walking distance, to achieve the following objectives.

- To promote the use of public transport by developing high density zones in the influence area, which would increase the share of transit and walk trips made by the residents/ workers to meet the daily needs and also result in reduction in pollution and congestion in the influence area.
- To provide all the basic needs of work/ job, shopping, public amenities, entertainment in the influence zone with mixed land-use development which would reduce the need for travel.
- To achieve reduction in the private vehicle ownership, traffic and associated parking demand.
- To ensure development of safe society with special attention to safety of women, children, senior citizen and differently abled by making necessary amendments to the building bye laws.
- To reduce carbon footprints by shifting towards environmentally friendly travel options for the line haul as well as for access and egress trips.

Focus of the study Mixed Use Development

- Mixed land use should be stipulated for development/ redevelopment in the TOD zone as it would reduce the need for travel by providing most of the activities such as shopping, entertainment and public amenities such as schools, parks, playgrounds, hospitals etc. within the walking distance of the residents. It would also improve the accessibility of the transit facilities and at the same time link origins and destinations, i.e. residences with work places or activity nodes. This would ensure better utilization of transit fleet by distributing loads in both directions, rather than creating unidirectional peak hour flows.
- A blend of land-uses 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 TOD benefits cannot be realized with the kind of developments that encourage the use of personalized vehicles. It is therefore imperative to restrict developments such as low-density housing, low-rise development, warehouses, petrol pumps/CNG stations, cremation ground and surface/Multilevel parking etc. in the influence area.
- The mix of uses to be proposed shall be decided as per the local conditions and the trends in real estate market, however, the minimum percentage of built up area for housing, commercial and other amenities should be fixed. The use of balance built up area may depend on the prevailing market conditions and demand of the city.

Principle of TOD

TOD focuses on compact mixed use development around transit corridor such as metro rail, BRTS etc. International examples have demonstrated that though transit system facilitates transit oriented development, improving accessibility and creating walkable communities is equally important. Based on the objectives of National Urban Transport Policy, this TOD policy defines 12 Guiding Principles and 9 Supportive tools, as shown in Figure 1 and 2, for realizing the objectives of TOD.



Figure 1: Principle of TOD

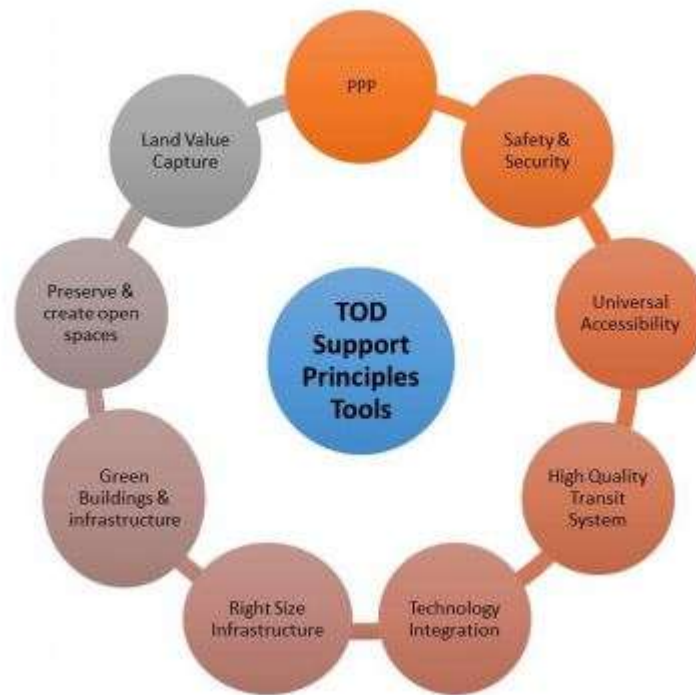


Figure 2 TOD Support Principles Tools

Methodology

TOD policy should be notified as part of the Master Plan/Development plan of the city. The policy document should clearly outline the importance of the high capacity transit networks in the city's development.

The vision of the Master Plan/ Development Plan should be resonated by all the stakeholders, especially those involved in infrastructure development and preparation of development plans. The building bye-laws and development control regulations would need to be amended to incorporate the changes required for implementing TOD.

The influence zone of the TOD should be clearly notified by the concerned authority

To ensure that the infrastructure created in the influence zone is provided in a planned manner, the ULBs and the concerned authorities/agencies should prepare a comprehensive plan integrating all the utilities, physical infrastructure and essential facilities such as roads, sewers, drainage, electric lines, green spaces, police post, fire post, electric sub-stations, etc. The plan would be useful to assess the carrying capacity of the existing infrastructure and the upgradation needed to meet the increased demand once TOD is implemented.

Conclusion

TOD, on wider board, needs the involvement of multiple agencies, both from the private as well as the public sector. It is important for all stakeholders to have a clear vision by which collective actions can be taken for successful implementation of TOD. It is therefore essential to create awareness about TOD as it would enhance the success of its implementation.

launch awareness program about the components of TOD, its benefits, incentives to be reaped by the land owners, developers, infrastructure agencies and other bodies, reduced per unit cost for creating and maintaining infrastructure etc. and provide improved quality of life.