

Implementation of Transit Oriented Development in Indian Cities

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Abstract—Transit-Oriented development (TOD) is a urban development method to maximizes the amount of residential business and leisure space within walking distance of public transport. TOD increases public transport ridership and reduce the use of private cars and also promoting sustainable urban growth. TOD helps cities to grow faster and also saving economy and nature and it is an answer for already developed cities problems. Many big cities throughout the world are developing TOD policy. In this paper, we are discussing how Indian cities can develop TOD policy and how much it can be successful. As Indian cities are growing faster it needs a sustainable development in transportation.

Introduction:

Transit-oriented development (TOD) is a urban development method to maximizes the amount of residential business and leisure space within walking distance of public transport. A typical TOD contains a rail or bus station at its centre, surrounded by high-density development, and progressively lower-density spreading outwards one-quarter to one-half mile.

The many benefits include a higher quality of life with better places to live, work, and play; greater mobility with ease of moving around; increased transit ridership and decreased driving and congestion; reduced car accidents and injuries; reduced household spending on transportation, resulting in more affordable housing; healthier lifestyle with more walking, and less stress; higher, more stable property values; increased foot traffic and customers for area businesses. There are macro benefit also-greatly reduced dependence on foreign oil; greatly reduced pollution and environmental destruction; reduced incentive to sprawl, increased incentive for compact development; less expensive than building roads and sprawl; and enhanced ability to maintain economic competitiveness.

10 major principles of transit oriented development are:1. Make It Better with a Vision, 2. Apply the Power of Partnerships, 3.Think Development When Thinking about Transit, 4. Get the Parking Right, 5. Build a Place, Not a Project,6. Make Retail Development Market Driven, Not Transit Driven, 7. Mix Uses, but Not Necessarily in the Same Place, 8. Make Buses a Great Idea, 9. Encourage Every Price Point to Live around Transit,10. Engage Corporate Attention.

Many cities throughout the world are developing TOD policy. Toronto, Portland, Montreal, San Francisco, and Vancouver are some important cities.

History of TOD:

The concept of transit-oriented development (TOD) Developed in the early 1990's by Peter Calthorpe, encourages the development of full and vibrant communities designed to be centred on transit facilities.

Transit Oriented Development Guidelines:

The Transit-Oriented Development Guidelines are organized into six general sections:

Land Use – The right kinds of land use, the combination of uses, and the intensity of activities have a direct relationship to the efficiency of transit.

Layout – Land use patterns and the layout of site development that reduces the need to travel great distances or follow circuitous routes to transit stations or stops will encourage more people to utilize transit as an alternative to car travel.

Built Form – The purpose of this particular set of guidelines is to encourage the creation of environments surrounding transit stations or stops that will be considered to be 'good places' and 'good neighbours' within the community of which they are a part.

Pedestrians & Cyclists – the experience of walking or cycling both convenient and positive in a way that will enhance the overall experience of getting to and from the transit stop or station.

Vehicles & Parking – Parking can occupy a significant proportion of a development's site area that could otherwise be devoted to building area or amenity space. Too much parking, particularly surface parking, can overwhelm people.

Streetscape & Environment – The quality and design of the spaces along public sidewalks and internal pedestrian walkways, particularly those that lead to and from transit stops or stations, is an important element in the overall transit experience.

TOD Strategy:

A TOD strategy within a Master Plan can be applied in one of three ways:

1. Overlay Zone

An overlay zone is a zoning tool that requires specific development and design regulations within the delineated area. The overlay zone is used to either protect the existing assets and character of the area or to envision an enhanced urban character within the delineated zone.

2. Special Land Uses

City master plans can create a provision for a special land-use category, applied within the MRTS influence zone. Special urban design codes are applicable within the TOD influence zone under the special land use category.

3. Local Area Plans

A detailed second-tier planning process is mandated within City Master Plans to create Local Area Plans (LAP) at neighbourhood level. Cities are delineating special topics or planning strategies to be prioritized in the LAP process, TOD is one of them.

TOD in India

Most Indian cities are already very dense; people tend to live as close to transit as far as possible. Most cities show a large percentage of users of public transit especially within the low income to economically weak sections.

Transit oriented development policy is used in two cities of India-Delhi and Ahmedabad. The Ahmedabad plan delineates a zone of 200m from the BRTS corridor on either side along the entire stretch of the system. This is an overlay zone, thereby mandating special regulations and norms applicable within the extents of zone. In the Delhi Master Plan, TOD zones are defined for 500m from each transit node. This presents a radial plan, with overlaps between adjacent TOD zones.

TOD in Mumbai

Mumbai is the capital of State of Maharashtra in India, and its economy is based on financial services, IT enabled services and media/entertainment. The city of Greater Mumbai is geographically divided into 3 main regions, Mumbai island city (25% of the population (Census, 2011), the Eastern Suburbs (30% of the population (Census, 2011) and the Western Suburbs (44% of the population (Census, 2011). The Mumbai Metropolitan Region as of today is spread over 4355 sq.km with 8 municipal corporations, including Greater Mumbai, Thane, Kalyan-Dombivali, Ulhasnagar, Mira-Bhayandar, Bhiwandi Nizampur, Navi Mumbai and Vasai-Virar, 13 municipal councils and 996 villages. The city has now turned poly-centric with new business centres in suburbs such as Bandra-Kurla (diamond bourses and government jobs), Lower Parel (finance, insurance, television and print media), Andheri-Kurla (hospitality, airport), SEEPZ (electronics manufacture and export, IT and BPO) Malad (film

production and media houses) and Goregoan (film production), coordinated under the strong railways network.

The sub-urban railway connectivity, developing Metro rails and mono rails is going to be strengthening TOD policies of Mumbai, Also Intermodal connections with feeder buses and rickshaws for last mile connectivity are integrated into the development and design of stations.

Remote city development is very less in Mumbai compared to other world cities. If the sub-urban railway system fails of Mumbai, transportation system damage entirely. The TOD policy has been formulated in the Development Plan of Mumbai, but the specific development control regulations (DCRs) are yet to be framed to address parking, urban form and inclusionary housing needs within the influence zones of these target stations. Going forward, pro-active interventions will only retain the high public transit share in the city and region.

Conclusion

Transit-Oriented Development may transform the future of Indian cities. Rapid urbanization accompanied by a host of challenges will help growth of the Indian economy. TOD is any macro or micro development focused around a transit node which results in improved ease of access to the transit facility. Globally, cities like Singapore and Hong Kong in Asia, Curitiba in Brazil, Stockholm in Sweden and Washington DC in the US have TOD as an integral element in their master planning, and integrated with their mass transport networks. India is implemented TOD on Ahmedabad and Delhi looking forward for Mumbai.

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