

Executive Summary

Draft Bengaluru Transit Oriented Development (TOD) Policy, January, 2019

1 Introduction

- 1.1 Bengaluru is the capital of Karnataka state and fifth largest city in India in terms of population. The city is the foremost IT hub of the country and has a GDP¹ of \$110 billion which is 4th largest after Mumbai, Delhi and Kolkata. The Bengaluru Metropolitan Region (BMR)² is spread over an area about 1294 sq.km houses 9.1 million people as per 2011 census and is expected to double and reach about 20.3 million by 2031. Bruhat Bengaluru Mahanagara Palike (BBMP) which is the core of Metropolitan area houses 8.4 million people over an area of 712.54 sq.km. The population density of BMR and BBMP is 70 pph and 118 pph respectively which can be considered as medium density and lower than the URDPFI guidelines for Megacities.
- 1.2 Due to inadequate public transport (current share is about 48%), private vehicles have been growing exponentially. The city has second highest number of registered vehicles in India i.e. 75.06 lakh after New Delhi. Rapid growth of private vehicles coupled with inadequate road network has resulted in lower travel speeds, longer commuting time, traffic congestion, road fatalities, vehicular pollution which in turn led to economic costs and had an adverse impact on the quality of life. In order to address the above issues, transit oriented development (TOD) is the way forward. In this direction, Government of Karnataka has ambitious plans of expanding Metro and suburban rail services in the city with huge investments. TOD will help mass transit to achieve its full potential and aid in sustainable mobility.
- 1.3 It has been observed that there are anomalies in the approach of revised Master Plan - 2031 which advocates TOD but fails to propose the landuse strategies. Bengaluru city needs to align its landuse and transport policies as per National Urban Transport Policy (2014), National TOD Policy (2017), Metro Policy (2017) and guide the developments along the mass transit corridors to achieve the sustainable mobility. Thus, TOD Policy will serve as guiding document to all agencies who are involved in planning and implementation of urban/transport projects.

2 TOD Zones

- 2.1 Transit Oriented Development (TOD) is defined as the development of concentrated nodes of moderate-to-high mixed landuse density within 5 to 10 minutes of walking distance from mass transit stations which are well integrated with pedestrian, bicycle, feeder and transit networks. Broadly, TOD zone can be divided into three sub-zones for the purpose of application of TOD norms where transit stations are located are about on kilometre interval.
 - a. Intense TOD Zone (500 m on either side of the transit corridor)
 - b. Standard TOD Zone (500 m to 1000 m on either side of the transit corridor)
 - c. Transition TOD Zone (1000 m to 2000 m on either side of the transit corridor)

¹ Business World, June, 2017

² Area under BDA for which Revised Master Plan-2031 (draft) has been prepared.

- 2.1.1 However, for Commuter Rail where the interstation distance varies from 1.5 km to 3 km, Intense and Standard TOD zone shall be 500 m and 1000 m radius from the Rail Stations.

3 Scope and Applicability

- 3.1 The policy is applicable for all the Local bodies, Departments, Agencies, Authorities, Parastatals and Companies that play a role in the planning, funding, implementation, management and monitoring of urban transport and landuse operating in Bengaluru Metropolitan Region (BMR).

4 Vision

- 4.1 Bengaluru will be a public transport oriented city that is compact, people friendly, environment friendly and support economic growth while offering a good quality of life.

5 Goals

- 5.1 The major goals of TOD policy include achievement of 70% share of public transport in motorised trips and 60% of the city population living within intense TOD zone. This may require about 600 km³ of mass transit corridors⁴. Adequate infrastructure shall be developed so as to achieve the gross density ranging from 250 to 400 pph⁵ along the mass transit corridors by 2031.

6 Components of TOD and Policy Guidelines for TOD

- 6.1 The major components of TOD framework (also known as 6Ds) are density, diversity, design, destination accessibility, distance to transit and demand management.

6.2 Density

- 6.2.1 TOD encourages higher population and employment densities along the mass transit corridors. The gross density of up to 2 times of the city population density shall be allowed in TOD Zone depending upon location, availability of infrastructure, landuse zoning and transit capacity. The gross density of 250 pph to 400 pph shall be achieved in TOD corridor by 2031 and accordingly, FSI in Intense TOD Zone and Standard TOD Zone shall be atleast 50% and 25% more than that of base FSI. Further, higher FSI more than the above shall be allowed in Intense TOD Zone subject to preparation and approval of Zonal Plan of the station influence area.

- 6.2.2 The additional FSI permissible over the base FSI shall be treated as premium FSI and shall be charged as a percentage of Guideline value. The revenue shall be deposited in TOD fund for augmentation of infrastructure in TOD Zone.

- 6.2.3 The minimum plot size for availing the higher FSI based on the above in TOD zone shall be 1000 sq.m and the minimum road width shall be 18 m. For other plot sizes and road widths, minimum of 20% higher than the existing FSI shall be allowed.

³ It is based benchmark of 0.03 km Mass transit per 1000 population.

⁴ Metro Rail/Commuter Rail/ BRTS designed for a minimum Peak Hour Peak Direction Traffic (PHPDT) of 10,000 or more is considered as Mass Transit

⁵ pph- persons per hectare

- 6.2.4 Encourage amalgamation and reconstitution of plots for utilization of higher FSI with incentives such as no charges for approval of plans etc. Relaxation in setbacks and coverage shall be allowed wherever appropriate.
- 6.2.5 Higher FSI shall be allowed for transit stations i.e. Metro, Commuter Rail etc., to allow composite development (station cum commercial development). Similarly, Bus Depots/Terminals and other Multi-modal hubs falling into TOD zone shall be given higher FSI. To optimise the space, multi-level bus parking shall be allowed.
- 6.2.6 Land banking shall be discouraged by levying vacant land tax⁶ on underutilized land and/or underutilized FSI. This will ensure that all vacant and public lands are developed.

6.3 Diversity

- 6.3.1 TOD zone shall be designated as mixed use zone. Transit stations shall be classified based on typologies and mix of landuse that optimises level of density shall be encouraged. The landuse such as mixed landuse, affordable housing, employment nodes and recreational facilities/malls shall be encouraged to support TOD. The landuse such as low density housing, free parking and surface/multi-level parking, petrol pumps/CNG stations, automobile garages, warehouses and cremation grounds that does not support TOD shall be discouraged.
- 6.3.2 The policies encouraging redevelopment shall be incorporated through development control regulations. Separate Redevelopment Cell shall be established within BBMP/BDA to focus on redevelopment projects. Land pooling shall be adopted for redevelopment /revitalisation of inner city.
- 6.3.3 Mixed landuse integrated development shall be promoted for large parcels of land (with combination of housing for various income strata, commercial development, road and other infrastructure). In such developments, minimum 30% shall be allocated for residential, 20% for commercial, public & semi-public use and remaining 50% as per existing zoning. The minimum plot size shall be 5000 sq.m and minimum road width shall be 18 m. An additional 25% FSI over and above permissible FSI in Intense and standard TOD zone shall be allowed. Charges for premium FSI shall be exempted for affordable housing projects. No charges for amalgamation of plots should be levied.
- 6.3.4 The mixed use development has to mandatorily incorporate affordable housing and open spaces/circulation areas. In order to promote affordable housing, out of the 30% of residential use, a minimum of 20% of the built up area shall be utilized for EWS (30-40 sqm) and LIG (40-60 sqm) housing. Further, if according to the Zonal Development Plan, the land-use to be developed is residential, out of the 50% of the remaining built up area, a minimum of 30% shall be reserved for EWS and LIG housing. Existing slums in TOD zones shall be upgraded or encouraged for in-situ rehabilitation. As an incentive for slum redevelopment, a TDR of 30 sqm per slum household shall be provided. Rental housing and offices, hostels shall be encouraged along the TOD zones.
- 6.3.5 Open spaces⁷ is critical to offset the impact of dense mixed use developments and improve environment and quality of life. Regulations may be framed to mandate the

⁶ Currently Vacant Land tax is in force in Mumbai, Chennai and Visakhapatnam. In case of plots where built-up area is less than 25%, then remaining land can be considered as vacant land and tax can be imposed.

⁷ Parks, play grounds, areas under landscaping and avenue tree plantations

developer to allocate 10% of the land abutting the road for development of parks which are accessible to general public for the plot sizes more than 2500 sq.m⁸.

6.4 Design

6.4.1 Good built environment will encourage walking and cycling and promote the use of public transport. As per NMSH⁹ parameters, streets shall be planned.

6.4.2 Green buildings shall be encouraged by incentives such as additional FSI of 10%, reduced processing fee and priority clearance from development authorities.

6.4.3 Proven and innovative sustainable building, energy, water, landscape and waste management practices shall be implemented.

6.4.4 BMLTA shall prepare and adopt street design guidelines and policy for pedestrians, NMT and parking to cater to the local context and ensure uniform implementation. This will help ready reference for various agencies involved planning, design and construction of various infrastructure elements within the city.

6.5 Destination Accessibility

6.5.1 In order to improve the destination accessibility, roads along the mass transit corridors and other public transport corridors shall have minimum ROW of 30 m and 25 m respectively. At least one road on each side of the station which acts as feeder road shall have a minimum ROW of 15m.

6.5.2 High frequency feeder services in terms of regular buses, mini buses, mini vans shall be provided by transit agencies depending upon the commuter demand.

6.5.3 Park and Ride facilities shall be developed within station area for all the transit stations. Larger park and ride facilities shall be developed at terminal stations as well as stations at outskirts where availability of land is not a major constraint. Concessional parking rates for bicycle parking shall be adopted to promote the use of bicycles as an access mode to transit. Integrated network of Public Bike Sharing Scheme (PBS) shall be implemented.

6.6 Distance to Transit

6.6.1 Direct walking paths to be provided to transit stations without any detour e.g. walking paths through parks, exclusive skywalks from major trip generators such as malls.

6.7 Demand Management

6.7.1 Demand management includes parking management, congestion pricing, hawker management, flexi office timings, shift-wise schools and measures to encourage work at home to reduce the travel.

6.7.2 There is a need to increase the supply of paid off-street parking facilities at strategic locations to contain the tendency of on-street parking. Shared parking shall be developed at depots, terminals and multi-modal hubs etc. Registration of new cars shall be allowed subject to proof of having the parking facility at residence or shared parking

⁸ Chennai DCRs has such provisions. It is known as Open Space Reserve (OSR) land.

⁹ Parameters for the National Mission on Sustainable Habitat (NMSH)- Report of the Sub-Committee on Urban Transport

facility of the community. In TOD zone parking of 1.33 ECS¹⁰ per 100 sq.m of development shall only be permitted. Shared and unbundled parking should be encouraged.

- 6.7.3 Regulation of hawkers is important to reduce the encroachments which obstruct the free flow of pedestrian and vehicular traffic through demarcation of hawker zones into red zone where hawkers are not permitted at all times, amber zone where hawkers are permitted during certain period of time and green zone where hawkers are permitted all the time. The civic body can issue to the licences with small fees to regulate the number of hawkers.

6.8 Augmentation of Infrastructure

- 6.8.1 Adequate provision of infrastructure is pre-requisite for transit oriented development. BMLTA in association with ULBs and other infrastructure agencies shall 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.

7 Institutional Framework

- 7.1 TOD is a complex urban development project involving multiple agencies and who carryout functions such as policy making, financing, development and management of various infrastructure facilities. The major agencies such as BDA, BBMP, BMTC, BMRCL, BWSSB, BESCO, Traffic Police and RTO shall be involved in TOD project. In addition to above, PWD, NHAI and BIAL may also be required in some cases.
- 7.2 Bangalore Metropolitan Land Transport Authority (BMLTA) was created in 2007 through GO, has limited powers to facilitate co-ordination, planning and implementation of urban transport programs and could not play the role of UMTA as envisaged. Therefore, BMLTA needs to be revived with adequate powers, funding and technical and managerial staff to discharge the functions of UMTA.
- 7.3 BMLTA shall review the funding of TOD projects and take steps for mobilization of funds and encouraging Public Private Participation (PPP) projects. It shall laydown principles of sharing the revenue collected from various sources and ensure that revenue is actually disbursed to all the agencies involved in TOD.
- 7.4 There is a need for capacity building in all the organizations in the area of urban planning, transport planning, economics, financing and PPP, real estate etc., to handle TOD projects. Financing, PPP and real estate market dynamics are critical for success of TOD projects and therefore BMLTA shall build capacity in these areas.

8 Financing of TOD Projects

- 8.1 The various sources for land value capture include charges for premium FSI, Development charges, one time betterment levy, transfer of development right (TDR), Cess on stamp duty and registration charges etc., Other potential sources of revenue include enhanced property taxes in TOD influence zone, Vacant land tax to discourage land banking etc., The revenue sources available for transit companies include property

¹⁰ ECS (Equivalent Car Space) of Car, 2-Wheeler, Cycle, Bus and Commercial vehicle is **1.0, 0.25, 0.1, 3.5 and 3.5** respectively.

development, lease from commercial space, advertisement, station branding, multipurpose smart cards for ticketing etc.

- 8.2 Air rights of transit station areas are not utilized much in India over the Metro stations. This need to be explored through various funding and development models with private sector.
- 8.3 Transit companies can also raise capital by floating tax free Bonds and loans from multi-lateral agencies like World Bank, ADB, JICA and EIB etc., Separate TOD fund shall be created for infrastructure up-gradation/maintenance, enhancement of viability of transit systems etc. in TOD Zone.

9 Implementation Strategy

- 9.1 BMLTA shall undertake planning, design, funding and oversee implementation of TOD projects. Actual implementation shall be carried out by respective infrastructure agencies such as BBMP, BMRCL, BMTCL, BMWSSB etc.
- 9.2 TOD Policies shall be incorporated in the Master Plan. Development Control regulations which are part of Master Plan shall be revised in line with philosophy of TOD. A separate chapter shall be incorporated on TOD in Master Plan describing overall objective, demarcation of TOD zones, Landuse and Transport strategy, provisions and incentives for promotion of TOD.
- 9.3 GIS mapping of developments shall be utilized to identify the violations of building regulations. This will bring in transparency and make available of rich source of useful information for monitoring real estate trends, forecast of revenue from value capture methods and helps in planning future strategies. Steep penalty shall be imposed for violations. In case where building violations have severe negative impact on the surroundings, buildings shall be demolished. Adequate staff shall be deployed for monitoring the building violations.
- 9.4 Funding is critical for implementation of TOD project. The broad resource plan shall be prepared clearly identifying various sources of revenues, rules for sharing of costs, benefits and risks among the stakeholders. This will ensure long term commitment of public agencies and private sector for implementation of TOD projects.

10 Communication and outreach

- 10.1 Communication and outreach programmes shall be primarily be carried by BMLTA in addition to local bodies and infrastructure agencies. Implementation of TOD projects can only be successful if the concepts of TOD and benefits are communicated to broader audience i.e. various stakeholders involved in landuse and transport planning, private developers and general public through workshops, consultations and market outreach programs through print, electronic and social media.
- 10.2 Atleast 0.5% of the annual budget of TOD shall be earmarked for communication and outreach programs.