



Improving Bengaluru's Livability Through Transit-Oriented Development



Multimodal integration for station area access through other modes of transport for seamless transfer of passengers for first- and last-mile connectivity in Bengaluru's Indira Nagar area.

Bengaluru, capital of the southern state of Karnataka, is India's fourth most populous and economically productive city. It is also the world's fourth largest technology cluster.

These competitive advantages apart, the city is infamously rated the world's most traffic-congested city¹. Unregulated sprawl, a deteriorating city core, and the absence of planned and timely provision of critical infrastructure, amenities, and public transport has resulted in congestion², housing shortage, and environmental degradation leading to reduced productivity, health issues, and most importantly poor quality of life.

To systematically address these challenges and to bring a strategic shift toward sustainable city growth and low carbon mobility in Bengaluru, the state government of Karnataka sought Asian Development Bank (ADB) assistance in 2020, to expand the city's metro rail network. The 56-kilometer (km) corridor will connect the city core with its international airport.

Once completed, the metro network will provide world-class public transport access to some of the largest information technology hubs and city downtown and will facilitate daily commute for millions of residents who are impacted due to congestion.

To maximize the socioeconomic and environmental benefits of this investment and improve the livability and competitiveness of Bangalore, ADB is also supporting the state government in developing transit-oriented development (TOD) and multimodal integration (MMI)-based schemes and related communication and capacity building activities.

ADB will support the state government to create an ecosystem for integrated compact urban development and mobility planning. This will catalyze strategic urban renewal, improve livability, enhance competitiveness and inclusiveness of the city, augment domestic resource mobilization, and manage growth sustainably.

"Bengaluru's unprecedented growth has left us surprised and faced with multiple challenges. It is however not too late, and we hope TOD and MMI will help course correct," says P. Ravi Kumar, former Chief Secretary of Karnataka.



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Reimagining Bengaluru's growth patterns through transit-oriented development

TOD, a globally recognized growth and planning strategy based on the principle of compact cities, aims to realign densities along mass transit lines, thereby creating higher density, mixed-use, mixed-income, resource-efficient walkable neighborhoods, with easy access to transit stations. It also promotes sustainable mobility choices such as walking, cycling, and public transport.

The TOD proposals for the transit corridor influence area and select TOD zones (defined by a radius of 1 km around the transit station) will demonstrate the application of TOD, establishing a template that could be replicated across the city and other parts of India.

At least 30 TOD zones along the 56-km corridor were examined based on distinctive development and socioeconomic characteristics and future potential to prepare a strategic planning framework and vision.

Among them, 6 zones that have been prioritized based on their "readiness" for TOD, and are being planned in detail to create vibrant, mixed-use walkable neighborhoods. Supported by regulatory tools, financial strategies, and implementation frameworks, these zones will help leverage land strategically to augment domestic resources, which can be used to attract private sector investment and meet city's long-term investment needs.

The collective impact of such zones along metro corridors will enhance livability and improve economic productivity of the entire city, and reduce its carbon footprint.

"TOD is not a magic bullet but an effective tool to leverage large investments in public transport to reimagine the city's urban form and enhance quality of life," says V. Manjula, Commissioner Directorate of Urban Land Transport.



One of the stakeholder workshops held 22 April 2022 as part of extensive outreach to all key stakeholders including citizen groups, elected representatives, opinion makers and government stakeholders to sensitize them to the principles of TOD and MMI, and to understand their needs and preferences.

Multimodal integration to maximize public transport usage

The ADB project also aims to ensure safe and seamless access to and from metro stations through complementary and sustainable modes such as walk, cycle, paratransit, and integration with other metro lines, buses, and the suburban rail. This would provide Mobility as a Service (MaaS) through operational, information, and ticketing integration.

This MMI strategy developed for the corridor will act as a template for a total mobility solution for the rest of the city as well reducing vehicular congestion and delivering clean, energy efficient and low-carbon mobility in Bengaluru.," says Anjum Parvez, Managing Director, Bangalore Metro Rail Corporation Ltd. (BMRCL).

Enhancing capacities and building consensus

To ensure that citizens are fully aware of the TOD and MMI initiatives, ADB supported BMRCL and the Directorate of Urban Land Transport (DULT) in organizing a series of focus group discussions and interactions with a diverse group of private and public stakeholders and in developing a comprehensive capacity building program for line agencies.

Visioning workshops were organized to sensitize citizen groups, elected representatives, opinion makers and government stakeholders to the principles of TOD and MMI, and understand their needs, priorities, and preferences.

"Mobility is a fundamental right...all sections of society must be served by mobility," Sowmya Reddy, Member of Legislative Assembly, reiterated in support of the project. Stressing the need for compact cities and TOD, P.C. Mohan, Member of Parliament added: "It is not possible to provide amenities and infrastructure if the city keeps growing horizontally."



Station area development remains a challenging task under TOD principles that are being applied with the help of Bengaluru Metro Rail Corporation at Vijayanagar station.

Creating the necessary enabling eco-system for efficient delivery

The project is unique in India for its comprehensive approach to operationalizing TOD and MMI through an effective enabling ecosystem.

In the past 2 and a half years, ADB has supported the state government in developing an integrated statutory and regulatory framework to resolve conflicts between current and proposed policies and plans, establish a proper institutional framework, and develop a strategy for better integrating bus and metro services. It has also implemented a capacity building program for line agencies staff to create conditions of ownership and commitment. Additionally, ADB facilitated a High-Level Convening for decision makers, opinion-makers and global experts to arrive at a collective vision for Bengaluru and work towards a commitment to make it a reality.

Going forward, ADB will support the state government in transforming the entire corridor into a role-model "blue and green corridor" by facilitating the operationalization of pilot TOD Zones. This will contribute to the state's vision of a healthy, accessible, inclusive Bengaluru that remains globally attractive and competitive and help Bengaluru to transform from from a "high potential" city to a "high performing" city.

The article was written by Saugata Dasgupta, Senior Project Management Specialist, and Ashish Ranjan, Project Analyst, South Asia Department, ADB

¹ The TomTom Traffic Index 2021 ranked Bengaluru No. 10 globally on traffic congestion, estimating about 110 hours lost per year for an average person

² A 2020 study by the Institute of Social and Economic Change (ISEC) concluded that on an average, a commuter in Bengaluru loses over \$ 700 per year directly due to cost of illness (i.e., cost of medication, loss of productivity and cost of preventive measures) ascribed to congestion.

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