



Urban Innovations and Best Practices

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Urban Development Policy of India (Part 2)

Corridor Densification by Floor Space Index-linked Land Use Control and Infrastructure Financing Mechanism

Cities in India have been the “engine of economic growth.” But realizing future economic growth hinges on whether or not Indian cities can be made more efficient, livable, inclusive, and competitive. To achieve this, it is essential to strengthen urban governance and management through greater decentralization and enhanced accountability, and establish appropriate delivery mechanisms and regulatory frameworks for various urban infrastructure and services. In the urban transport sector, continuing urbanization and surging economic growth have led to an inevitable rise in ownership and use of private motorized vehicles across cities, placing heavy pressures on the available transport infrastructure and on the institutions responsible for road construction and maintenance, traffic management, traffic safety, and providing public transport services. Congestion and over-stretched urban transport systems are making commuting increasingly more time-consuming and often unsafe and, as a result, negatively impacting the urban efficiency. Air pollution is increasing. Fuel wasted due to this inefficiency also results in more greenhouse gas (GHG) emission that contributes to global warming/climate change.

The Ministry of Urban Development (MOUD) has proposed a policy that puts forward a vision for urban development by focusing on the mobility of people rather than on the movement of vehicles in handling urban transport;¹ and catalyzing more orderly and efficient spatial development toward “compact city” through “densification” along public transport corridors—a fundamental departure from the current inefficient retrofitting approach of merely trying to catch up with uncontrolled urban sprawl. In the long run, people’s behaviors are expected to change toward more environmentally-sustainable lifestyles, such as shifting from heavy dependence on private vehicles to greater use of public transport services and walking/bicycling. Successful policy

implementation would have a significant impact on the overall sustainable economic development by establishing a robust and replicable model. The Bus Rapid Transit (BRT) and the land use control and infrastructure financing mechanism linked to Floor Space Index (FSI, also known as Floor Area Ratio or FAR)² are appropriate tools to implement this policy. A promising proposed scheme presented in this second part of the series will show how the introduction of FSI-linked land use control and infrastructure financing mechanism will answer the second direction of the MOUD’s policy (i.e., catalyzing “corridor densification”).

FSI-linked land use control schemes have already been implemented in India wherein the concept of Transfer of Development Rights (TDR) is used. However, these previous schemes are prone to geographically-random urban development and tend to be rather expansionary (in other words, slightly more orderly sprawling). MOUD’s policy of “corridor densification” is very different from these previous FSI-linked schemes.



Aerial View of a Future BRT Corridor

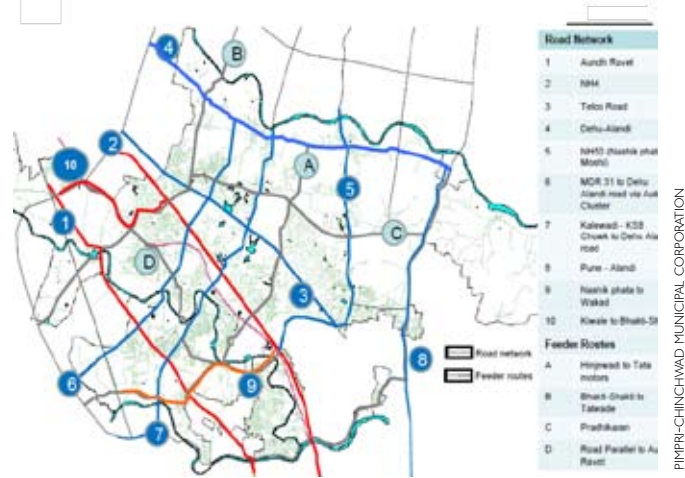
PIMPRI-CHINCHWAD MUNICIPAL CORPORATION

¹ The following statement eloquently explains what public transport systems are all about: “Traffic jams without public transport are relatively useless; so is public transport without traffic jams or some other form of automobile use restriction.” (Enrique Peñalosa, Former Mayor of Bogotá, Colombia and now President of Board, Institute for Transportation & Development Policy)

² FSI/FAR, which is the ratio of total building floor area to the area of its land parcel, is the principal means of zoning regulation for controlling the size of buildings in urban planning.



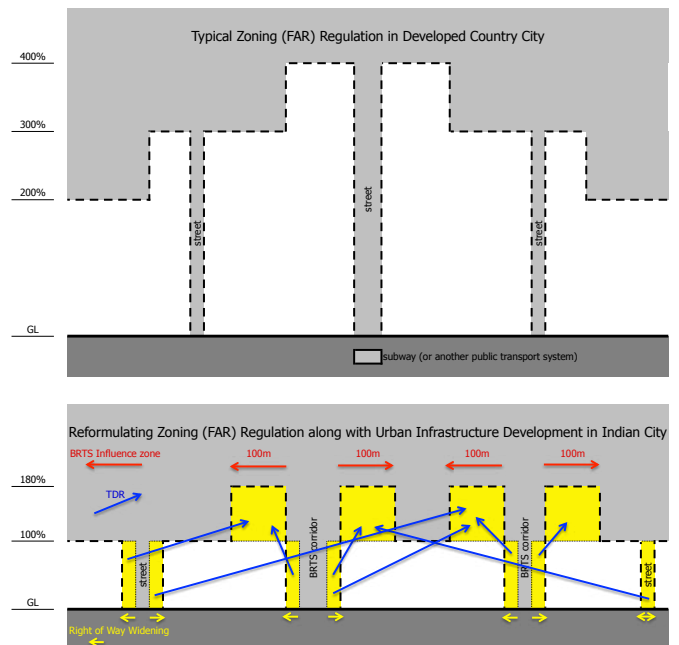
Location of Pimpri-Chinchwad Municipal Corporation



Proposed BRT Network

The Pimpri-Chinchwad Municipal Corporation (PCMC), which is closely following Ahmedabad's *Janmarg* in the development of properly-designed and functional BRT-based public transport system in India (refer to Part I of this series), intends to initiate practical application of MOUD's policy of "corridor densification." PCMC has set up an Urban Transport Fund (UTF) to fund the proposed BRT scheme. The UTF has been structured as a sustainable long-term urban transport infrastructure financing mechanism. On one hand, the UTF captures the incremental benefits arising from the planned, pre-empting development of the BRT corridors, primarily through increased land values and various revenues linked to induced vibrant economic activities. On the other hand, it plows the captured benefits right back into the development of the BRT corridors itself.³ Both the UTF and the BRT scheme will be managed by a special purpose vehicle (SPV) wholly owned by PCMC, named the PCMC Infrastructure Company Limited (PCIC).

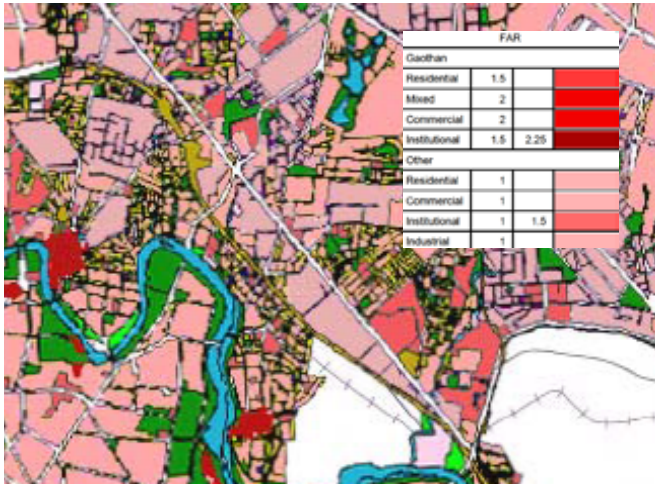
A hundred meters on both sides of each BRT corridor have been identified as the "BRT influence zone" and will significantly benefit from the BRT development. PCMC tops up the FSI by 80% from the current 1.00 to 1.80 within the "BRT influence zone" to allow it to be developed/redeveloped more intensively or "densify" (refer to the two schematic drawings titled "Typical Zoning [FAR] Regulation in Developed Country City" and "Reformulating Zoning [FAR] Regulation along with Urban Infrastructure Development in Indian City"). PCIC should carefully and continuously monitor the development activities within the "BRT influence zone" vis-à-vis the city's overall real estate market



Reformulating Zoning (FAR) Regulation along with Urban Infrastructure Development

conditions. Under the proposed financial model, lenders would primarily deal with PCIC and the UTF, which PCIC is expected to manage professionally in a financially sustainable manner, and take the risk of having only limited recourse to the PCMC budget in the

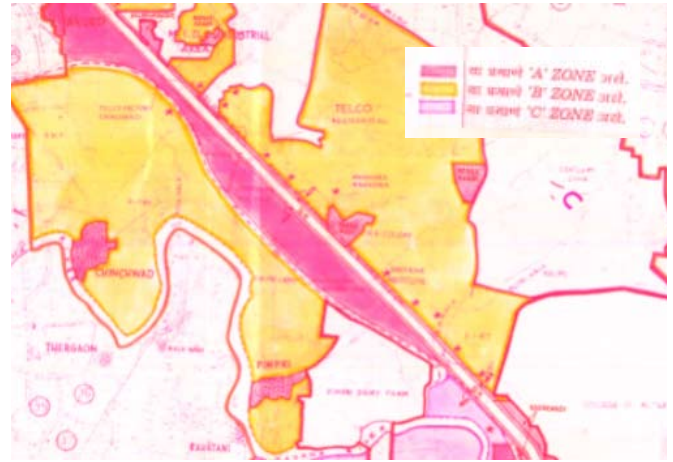
³ There are successful similar precedents of urban infrastructure financing elsewhere in the world. For example, Japan has private entrepreneur-initiated suburban railroad extensions and government-initiated "land readjustment" schemes during its early developing stage.



Regular Zoning at PCMC

event of being short on funds for repayment. This FSI-linked land use control and infrastructure financing mechanism would open up its applicability for a large number of growing medium-sized cities in India, which normally cannot afford to have a sovereign guarantee for their projects despite their significant development potentials.

It should be noted that the use of TDR is a long-established practice in the State of Maharashtra where PCMC is located and, therefore, its adoption is unlikely to face any serious difficulty. But since it is a very powerful tool, it is important to ensure transparency and proper mechanism for checks and balances to avoid corruption. Currently, the entire area of PCMC is divided into four zones with their respective land value ranges. This is an additional layer of zoning applied to the implementation of the TDR scheme. Premium charge for "loading" TDR within the BRTS influence zone is determined by the TDR's origin and destination with respect to these zones (refer to the two maps titled "Regular Zoning" and "Zoning for TDR Scheme"). It should be noted, too, that the proposed mechanism is market-based. PCMC must maintain a close but arm's-length relationship with relevant market "players," such as local real estate developers and interested corporate entities, so that PCMC can sensibly decide on the speed and phasing of the development of urban transport infrastructure. However, unlike previous FSI-linked schemes, PCMC deals with multiple real estate developers and corporate entities in the market rather than just one. Therefore, it is less likely to be affected by the whim and fortune of just one private party.



Zoning for TDR Scheme at PCMC



BRT buses will mostly run at grade level rather than going through underpass

Implementation of the MOUD's policy direction (i.e., catalyzing "corridor densification") by the introduction of the FSI-linked land use control and infrastructure financing mechanism looks promising when it is properly dovetailed with the simultaneous introduction of the BRT, which is presented in the first part of this series. If successful, the new development paradigm presented would firmly establish a sound, comprehensive model (in terms of technical, institutional, and financial aspects) that could be replicated widely. It is likely to have a significant pump-priming effect and far-reaching impact on similar medium-sized cities across India, and in other developing member countries in their pursuit of sustainable solution to the pervasive urban transport problem.