

A|C|E UPDATE

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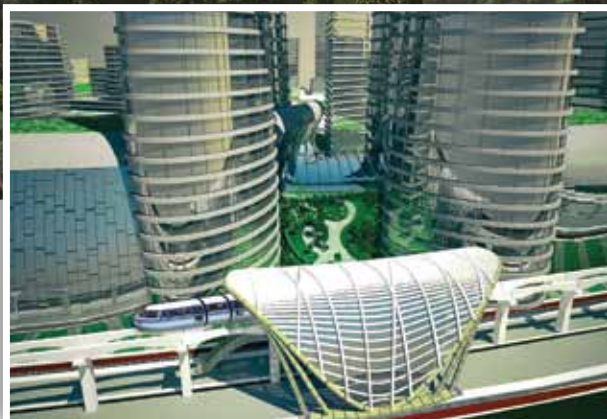
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Making of Smart Bhopal



Bhopal is the 14th largest and 3rd greenest city in India. The city was also ranked 3rd in best governance and administrative practices by a renowned not for profit organisation. It is also ranked as the 27th least polluted cities amongst 102 cities in Asia. So, inherently, Bhopal has potential for developed as smart city. Bhopal city has existing population of 23,71,061 persons (Census, 2011) in the municipal limit with area 450 sq km and literacy rate more than 85 per cent. Economy is driven primarily by cotton, electrical goods, jewellery and chemical industries. Over 1,200 MSMEs currently exist in Bhopal. Tourism is also a thriving industry with several tourist spots such as UNESCO heritage site, lakes etc open for tourists. Considering the vastness of area and population strength under diverse groups, making of 'Smart Bhopal' has been considered at 2 levels i.e. Pant city level and Area Based Development (ABD) level aiming at achieving all 24 features of Smart Cities of MoUD guidelines.

Making Smart Bhopal vision at "Transforming Bhopal, a city of lakes, tradition and heritage into a leading destination for smart,

connected and eco-friendly community focused on education, research, entrepreneurship and tourism."

For achieving the aim of smart city at city level, a pilot project approached was adopted called as ABD. ABD was developed in such a way that it can be replicable and scalable and will be equipped with all smart features.



In Bhopal, Shivaji Nagar was chosen for ABD through redevelopment. The site is near to Habibganj Railway Station and next to existing BRT corridor.

The proposed site for redevelopment is with approximately area of 350 acres. The site is in between existing business zones like South TT Nagar and New Market area. Being between two



Smart City plan for Bhopal, developed by REPL consortium, has been selected among top 20 in India. Urban Planning expert of REPL Prabhakar Kumar spoke on 'Making of Smart Bhopal' highlighting the master plan and its smart features.

major commercial nodes, the site has potential to create commercial arc by connect two nodes. Arc will act as catalyst for initial investment in real estate. Also, modern commercial zone would provide better economic and employment opportunities.

A sustainable model

Shivaji Nagar redevelopment project is designed to unlock the value of underutilised government land in the heart of the city. It will radically transform the area into an eco-friendly and financially sustainable model. It will incorporate all smart city features within a new urban landscape, ensuring relationship of people to place and buildings to space. It is strategically located between two primary transport axis (BRTS and proposed Metro) and being designed to provide a compact, walkable and

sustainable spatial morphology. This will lead to a domino effect in catalysing the future economic and social development of Bhopal.

Well connected

The ABD area is developed on Transit Oriented Development (TOD) principal. In the site there are 3 major transit nodes of LRT in southern side and 4 transit nodes of BRT in northern side. Taking advantages of transit nodes on both sides, main emphasis is given on to promote public transport, encourage walk to work and achieve healthy lifestyle. LRT stations are strategically located to cover site within 10 minutes walk. The whole development is inter-connected with multiple pedestrian or greens linkages at an interval of maximum 150 metres connecting all parcels to major plaza and green spaces. The linkages are designed to provide incidental open spaces or plazas which become nodes of activity.



The Master Plan

The master plan envisages creating various hubs or clusters to cater to various industries and sections of the society. The various hubs or clusters facilitate providing opportunity to develop new sectors of economy, by providing diverse set of functions or facilities while providing comfortable and sustainable lifestyle to residents and community. Six hubs or clusters have been proposed in the master plan such as digital innovation hub, knowledge-research hub, health hub, commerce hub, retail hub and entertainment zone with supporting residential clusters. These hubs have been placed with reference to public transit points like BRT or LRT, creating transit oriented theme based development, with supporting clusters catering to general public.

Vehicular free public spaces

The movement of vehicles has been restricted to the periphery of the site. A peripheral 4-lane service road is designed to give access to development on the edge of the site. Also, multi-storey car parks have been provided on the edge of site to achieve vehicle free site. There is no road on ground level, whole site developed with the concept of vehicular free public spaces. Parking has also been provided in Basement Level of each pocket, but providing such facility with high premium charges to dissuade car ownership but supplementing it by providing an alternative Public Transport System such as LRT or BRT.



Meeting water and sewage requirement

The proposed development is planned to be green, walkable and cycle friendly urban development. It intends to create a variety of open spaces. Primary design theme aims to create an eco-loop connecting major open spaces and water bodies of the city to the site as well as create a linkage between them. The smart city would be provided be 24/7 water supply. Water would be treated to best of international standards and supplied by the municipal corporation. Run-off water from the site would be drained with help of natural slope of the site and stored in water bodies on the site. All building would have rainwater harvesting system to improve ground water table. Sewage and wastewater from whole development would be transported through sewage pipe to central sewage treatment plant on the eastern periphery of the development. The processed water would be re-used for landscape irrigation and flushing water requirement. The development will have multiple public toilets integrated with retail facilities so that public areas are free of open defecation or urination. The development would also have a centralised STP for treating sewage. Common services tunnel for various services including electrical wiring which will provide easy access to integrated underground utility service (electrical, communications, hot and cold water, centralise cooling system, pneumatic refuse collection pipes, gas pipes, sewer lines).



Focus on energy efficiency & security

Bhopal Smart City would be a highly energy efficient urban zone. All street lights would be LED based with solar panels. Smart grids would be used to contain transmission and distribution losses. All buildings would have to meet Green Building Standards such as LEED, GRIHA, GREENMARK etc. Development would have fibre-optic connectivity to each household and office to provide super high-speed connectivity to every inhabitant as well as will have provision for public Wi-Fi system in all public plaza or areas. It would have combination of active and passive security features. Passive crime prevention techniques include AGUs (Activity Generating Uses) at ground floor level to keep it active for majority of time and under regular public surveillance.

To create jobs

Master plan would provide numerous employment opportunities to create an innovative economy providing prospects for employment to young generation. It aims to create multiple hubs and zones catering to various industries and research centres for future growth and employment. Bhopal's rich identity and culture will be exhibited and preserved with the cultural hub to provide access to diverse cultural opportunities. Cultural alley will provide pedestrian friendly public space with public art and performing areas, providing creative impetus to public. ■

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