

# A critical Analysis of Smart Cities

## Approaches in India

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### ABSTRACT

*The conceptualization of Smart City varies from city to city and country to country, depending on the level of development, willingness to change and reform, resources and aspirations of the city residents. A Smart City would have a different connotation in India than, Europe. Even in India, there is no one way of defining a Smart City. Urban planners ideally aim at developing the entire urban eco-system, which is represented by the four pillars of comprehensive development— institutional, physical, social and economic infrastructure. The methods such as Retrofitting, Redevelopment, Green field Development, Megaprojects, and Unique Projects, can be used under the proposal heading Area Based Development. The selected area for Area Based Development projects should be more than 500, 50 and 250 acres for Retrofitting, Redevelopment and Green field Development. Pan Development Proposal is for the whole of the city by involving smart solutions to improve the infrastructure in cities. This paper analysis the various approach towards smart cities in India.*

**Keyword:** - Smart City, Redevelopment and Retrofitting

### 1. WHAT IS SMART CITY?

The perception of what is a Smart City varies from person to person, Governments, Intellectuals, and Urban Planners and so on. Wikipedia states in its website that “A smart city is an urban development vision to integrate information and communication technology (ICT) and Internet of things (IoT) technology in a secure fashion to manage a city's assets” from technology context. Business Dictionary in its website states that “A developed urban area that creates sustainable economic development and high quality of life by excelling in multiple key areas: economy, mobility, environment, people, living and government. The UK Department for Business, Innovation and Skills (BIS) considers smart cities a process rather than a static outcome, in which increased citizen engagement, hard infrastructure, social capital and digital technologies make cities more liveable, resilient and better able to respond to challenges BIS (2013). The British Standards Institute (BSI) defines the term as “the effective integration of physical, digital and human systems in the built environment to deliver sustainable, prosperous and inclusive future for its citizens” BSI (2014). Smart City defined by Ministry of Urban Development states that “To provide for the aspirations and needs of the citizens, urban planners ideally aim at developing the entire urban eco-system, which is represented by the four pillars of comprehensive development — institutional, physical, social and economic infrastructure”(MOUD (2013). Therefore one can derive from Indian context is that “The General Idea of Smart City is to provide good Quality of Life to the citizens living in the city by improving infrastructure, Governance through Smart Solutions to attain Sustainable Development.

### 2. SMART CITY APPROACHES IN INDIA

Eight Smart City features given by Ministry of Urban Development, to prepare a smart City plan in India is as follows

1. Promoting mixed use
2. Housing and Inclusiveness

3. Creating Walk able localities
4. Preserving and developing open spaces
5. Promoting a variety of Transportation options
6. Making Governance citizen friendly and cost effective
7. Giving an identify to the society
8. Applying Smart solutions to infrastructure and services.

Apart from following the Smart City features, the proposals are to be arranged in Smart City Plan under the heading Area Based Development and Pan City Initiative. The methods such as Retrofitting, Redevelopment, Green field Development, Megaprojects, and Unique Projects, can be used under the proposal heading Area Based Development. The selected area for Area Based Development projects should be more than 500, 50 and 250 acres for Retrofitting, Redevelopment and Green field Development. Pan Development Proposal is for the whole of the city by involving smart solutions to improve the infrastructure in cities

### 3. SMART CITY PROPOSALS ADOPTED IN INDIAN CITIES

The total number of winning proposals through the competition challenge progress as of today by Ministry of Urban Development through round 1, fast track and round 2 is 63. The proposals that are planned for the strategy Area Based Development in different cities are listed below.

**a) Redevelopment** - Affordable Housing/Slum Redevelopment

**b) Retrofitting** – Smart Open Spaces Management, Interconnecting Open spaces, rejuvenation of parks and public plazas, Water front Development and Restoration, Rejuvenation of Waterways, Creek development, Beach beautification, Shore restoration, Retrofit of old industrial units, Central Business Districts and Markets, Heritage area Development involving conservation, rejuvenation and preservation, Development of intermodal hub, Improvement of Central, Railway Station Multimodal hub, Transit Oriented Development, Transit hub/Logistic hub, Facade improvement of Markets and Streets, Flood Management, Flood Monitoring System,

**c) Redevelopment** - Redeveloped of underutilized buildings, Development of LRT corridor, Development of Old city bus stands

**d) Mega projects** – Building New Stadium and International Conventional Centre

**e) Unique projects** - Incubation centres for entrepreneurs, new museum, Rental housing and GIS based property and land management system(1).

Under the Pan City category proposals, the projects that are taken up for implementation are Centralized command and control centre, Transit operations system, smart parking system, Common Card (payment and operations) , Area Based traffic control, Leak identification system, Preparation of city dash board with citizen services apps, Traffic mobile app, Smart metering(Water), CCTV surveillance, Emergency response system, Public Information System, GPS tracking and optimisation of routes of garbage trucks, Wifi-IT connectivity, Non Motorised Transport Infrastructure, LED street lighting, Mobile app based Solid Waste Management and Cleanliness monitoring, Automatic fare collection system, Variable message sign boards, Optical fibre based communication, Smart bulk metering at Waste Water Treatment Plants, Supervision of waste processing facility, Smart grid and energy management, Mini Sewage Treatment Plant, Rain water harvesting, Smart class rooms, Rainwater harvesting, GPS for geo fencing garbage bins, virtual hospital, Kiosks for urban services and grievances, Junction improvement, Para transit facility, providing bus terminals, cleaner fuels, Solar panels on roof bus top, Tourist mobile app, Bus bays, Cycle sharing, Parking management(pricing), Online system of water connections, Smart E-rickshaw with charging stations, GIS enabled revenue collection(land), Water level sensors, and Shopping app(2).

Few of the listed above Smart City proposals are taken up for each city under Area Based Development Strategy and Pan India Strategy. The idea of the Ministry of Urban Development, Government of India in the project Smart Cities is to not to convert the entire city into smart city, rather than to showcase here and there in bits and

pieces on how Smart City can be attempted as a whole. It will be an eye opener for every local body on how to improve the quality of life.

#### 4. CONCLUSION

The main problems faced by the cities in India are congestion, pollution and inadequate public infrastructure. Proper Urban Planning is the solution to solve the above problems. Using the Area Based Development Strategy, and Pan Strategy we may be able to temporarily solve some of the problems using the solutions adopted in smart cities. It will not completely solve all the problems in the identified smart cities. Therefore the approach to Smart Cities should be to prepare a plan for the entire city rather in bits and pieces to solve the problem. The plan so prepared should be classified as short term, medium term and long term and to be implemented in phases according to the priority

#### 5. REFERENCES

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