

Building SMART Cities the SMART way

BACKGROUND

Investment in our cities has sound Economic Imperative – More Jobs & Better Quality of Life

Urbanization is a global phenomenon. Experts predict the world's urban population will double by 2050. People migrate primarily in search of economic opportunities (except in case of war and natural calamities). Migration, whether it is inter-continental, inter-state or from rural to urban, it is always in search of employment and the desire for a better quality of life. Cities worldwide are the engines of economic growth, leading to large-scale employment opportunities and creation of national wealth. In China, top 35 cities provide 70% of employment and contribute 50% to the nation's GDP of USD 9.8 Trillion. The same is true for India. Our urban population, currently at 31%, contributes over 60% to India's GDP. Hence investing in Indian cities has sound economic rationale as it will lead to enhanced economic activity resulting in large scale employment generation, a much desired socioeconomic outcome in a young nation where majority of our youth is either unemployed or underemployed.

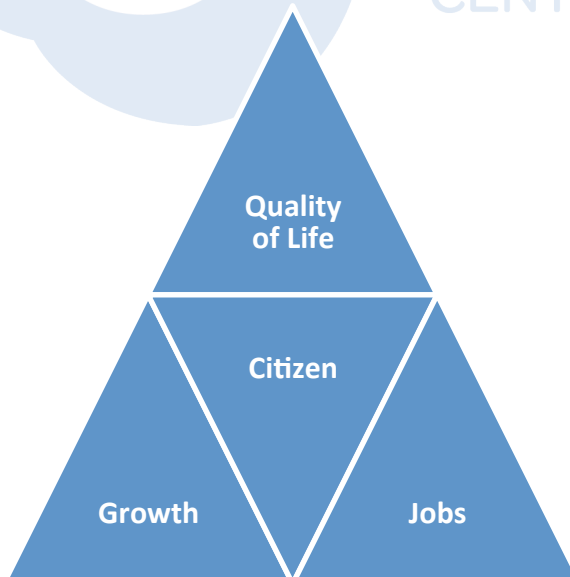
OBJECTIVE

SMART Cities are for CITIZENS – Investment driven Economic Growth leading to Employment Opportunities & Better Quality of Life

There is lot of confusion about what is meant by SMART City or more specifically The INDIAN SMART City. There is a misconception that SMART Cities are only about technology, big data analytics, high-tech gadgets, free Wi-Fi and CCTV Cameras. Merely having Wi-Fi routers hanging from tree tops, optic fiber cables dangling on electric poles and synchronized signals on potholed roads won't make our cities SMART. True, all of this and more of technology

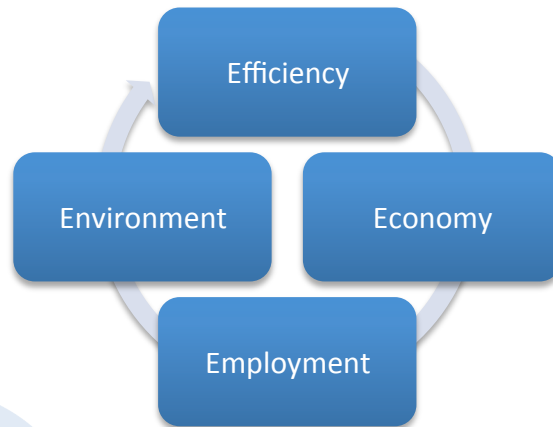
intervention is needed, but more importantly what is the expected outcome of these technology and process interventions. What is the ultimate objective of a SMART City ?

Whatever the name we decide to give our cities, SMART or otherwise, our objective should be clear and simple – *“investment in these cities should generate enhanced economic opportunities leading to employment generation resulting in better quality of life.”*



The 4 Es of SMART Cities - Efficiency, Economy, Employment and Environment

We need to look at the fundamental needs of our cities – “our cities need to be managed Efficiently to enhance Economic activity leading to Employment generation while protecting our Environment.”

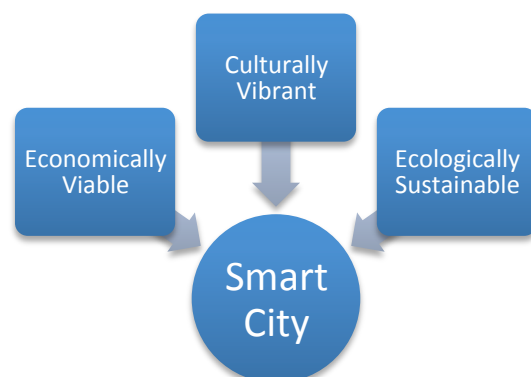


It is projected that urban India will account for nearly 75% of the national GDP in the next 15 years. There is accordingly a crying need for the cities to become EFFICIENT to handle this large-scale urbanization and finding new ways to plan and manage the socioeconomic complexity, improve efficiency of service delivery, be resilient to economic and natural calamities and improve quality of life of their denizens. Hence we have to ensure that the investment in SMART Cities and resultant economic and industrial activity leads to large-scale employment generation with a better quality of life for city dwellers and is achieved through sustainable means. And that is the SMART aspect of the SMART City agenda.

The Indian SMART City

Economically Viable, Ecologically Sustainable and Culturally Vibrant

So what is meant by Smart City in Indian context? What will an Indian SMART City look like and how will we achieve that? To answer these questions, we need to look at the fundamental objective and the expected outcome of our SMART City agenda – “enhanced economic activity leading to employment generation and better quality of life while protecting our environment & persevering our cultural ethos”

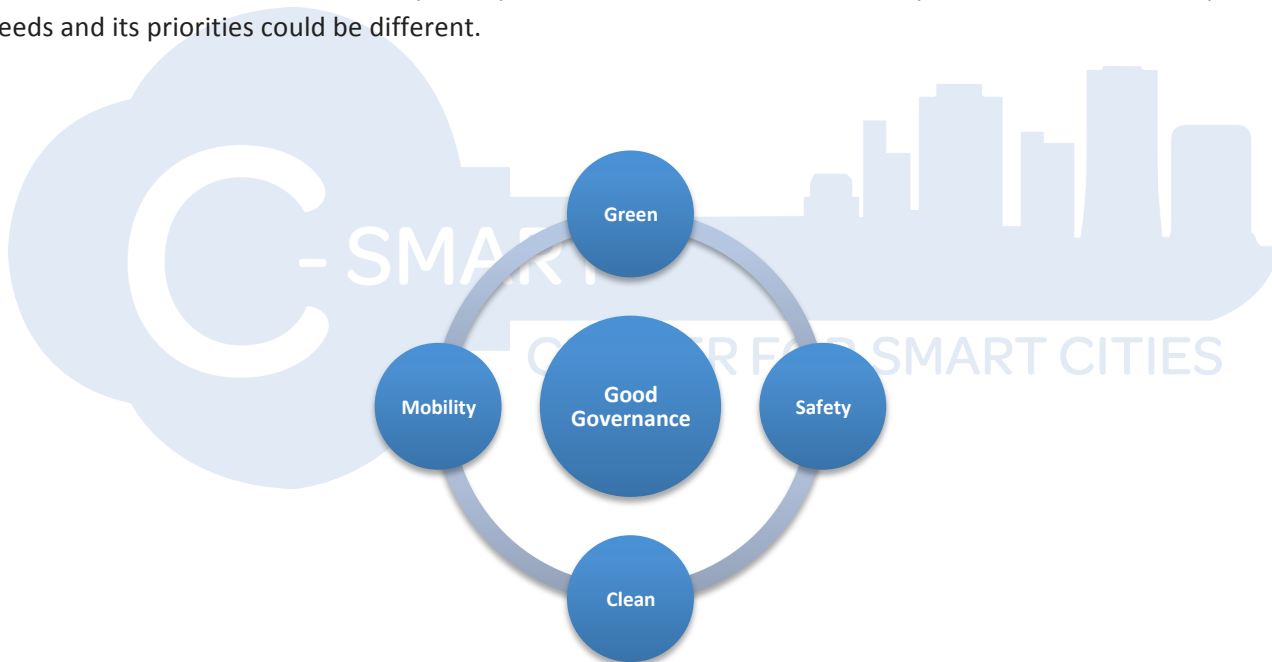


India being a late starter to planned urbanization through SMART Cities has the unique advantage of learning from others' mistakes. Many cities, in their quest for rapid economic development have not paid heed to cultural preservation and environmental sustainability. Indian cities pose a bigger challenge given their unique character, socioeconomic diversity and cultural heritage. We have to ensure that we enhance economic vitality of our cities without compromising on the cultural vibrancy, socioeconomic diversity and ecological sustainability. It is indeed a tough balance, but not impossible to achieve.

Indian Smart Cities are all about infrastructure & no one solution suits all

Given the abysmal state of infrastructure in our cities, our SMART City agenda needs to entirely driven by our infrastructure needs. Any city has four basic infrastructure needs – ***Mobility, Safety, Sanitation & Sustainability; complemented with citizen centric Good Governance.***

While these are the infrastructure pre-requisites of a SMART CITY, each city will have its own unique infrastructure needs and its priorities could be different.



The chronic traffic jams in Bangalore may require MOBILITY to become the high priority in it's quest to become a SMART City while a Varanasi may need focus on CLEAN, sanitation being the priority area for the holy city. Each city, given its unique circumstances and infrastructure challenges should be allowed to prioritize it's SMART CITY infrastructure focus areas while eventually all the above infrastructure pieces need to fall in place. The infrastructure options adopted by each city will also vary given the population mix, economic activity and geographic constraints of a city. A metro may be the ideal mode of commute for 8 Metros but BRTS may suit better for Tier 2 and Tier 3 cities. An incinerator may be the ideal waste management solution for land starved Mumbai but Lucknow may opt for recycling and composting.

SELECTION

Which Cities should be Chosen to become SMART Cities in the first set of 100....

While every city deserves to become efficient and provide better quality of life to its citizens, but if we have to choose the first set of 100, we need to go back to the basic purpose of SMART Cities – to create enhanced economic activity leading to employment generation and better quality of life. So we should obviously give high priority to the cities that are already economically significant but are unable to sustain their economic growth and quality of life for their citizens due to poor planning and inadequate infrastructure.

The 8 Metro cities with population of more than 50 Lakhs - Delhi (NCR), Mumbai, Bangalore, Chennai, Kolkata, Hyderabad, Pune and Ahmedabad are responsible for 70% of tax revenue and contribute 80% to the net job addition to India's organized labor market.

This will put these 8 metro cities in the high priority category to be considered for inclusion in the list of SMART Cities. Though the investment required to make these mega cities SMART will be huge, but these cities will be able to attract private sector investment due to enhanced economic activity and the ability of the city dwellers to pay user charges for better services. Every rupee invested in these cities will lead to a proportionate economic return due to increased productivity and economic efficiency gains. Hence investment in these cities makes good economic sense.

Second in the list should be 47 Tier 2 regional cities with a population of more than 10 lakhs, which have significant economic and industrial activity.

Cities such as Kanpur, Mangalore, Vizag, Indore, Ghaziabad, Asansol, Dhanbad, Gauhati, Jamshedpur, Ludhiana, Jaipur, Coimbatore, Kochi, Faridabad, Ranchi, Jabalpur, Bhopal, Surat, Vadodara, Nasik, Nagpur and so on. These cities are economically significant and have huge growth potential and if developed well, will also reduce the growth burden on 8 Metro cities.

Third in the list should be 20 tier 3 industrial and economically significant towns, which are dependent on single industry and can diversify to enhance economic activity.

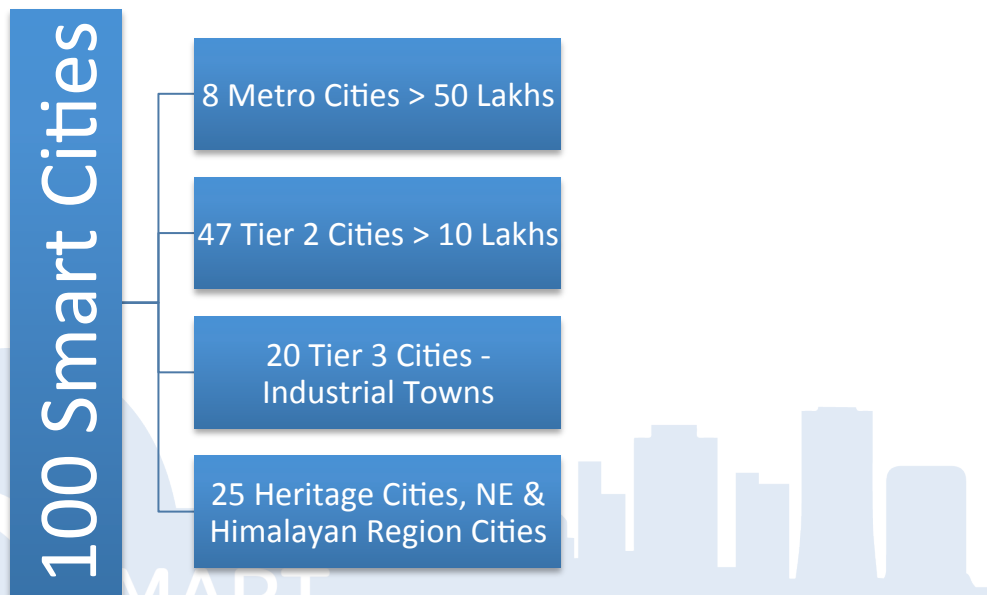
These towns need basic infrastructure and facilities to attract investment to grow and diversify their businesses. These are small cities with land availability for industry expansion and diversification. These include cities such as Moradabad, Saharanpur, Aligarh, Tirupur, Salem, Aurangabad, Bhagalpur, Nasik, Varanasi etc.

Finally we should list 25 cities which do not fall in the above 3 categories.

These will include centers of tourist attraction, heritage and pilgrimage towns. Capital cities in underdeveloped and remote Himalayan and North-Eastern states should follow a cluster and Network or Hub & Spoke approach and be developed keeping in mind potential economic opportunities for the region as a whole.

The list for the first 100 cities should be made on the above objective criteria and state governments should be taken on board to ensure coordination and timely execution. It is an ambitious target to develop 100 Smart Cities, given the abysmal state of infrastructure, non-existent city governance structures, we have to be realistic in our expectations.

We should prioritize and focus on low hanging fruits starting from 8 Metros which have the institutional capacity to plan, design, finance and execute better than other cities which would need education and hand holding from the center and respective state governments.



PLANNING & COORDINATION

State governments need to be persuaded to give more autonomy to selected SMART Cities in line with the 74th amendment

Given that the provisions of 74th amendment haven't been implemented by most state governments in letter and spirit, our city governments lack financial resources and are devoid of techno-managerial competence to plan and present their case to be included in the list of SMART Cities. Our cities lack urban planners, municipal administrators (most states do not have municipal cadre) and engineers to design and manage high-growth urbanization. Given that majority of our cities are governed by municipal commissioners who are not urban experts and most Indian cities do not have elected/empowered mayors, it is unfair and impractical to expect these cities to plan and present their case objectively and compete among themselves to be included in the list of SMART Cities.

Having chosen 100 cities based on this objective criteria and their economic potential, state governments should be taken on board to handhold and support selected cities through specialized project management units. Efforts should also be made to persuade state governments to accord financial autonomy so that these cities can equip themselves in managing their own affairs in line with the provisions of the 74th amendments. Central government could use inclusion in SMART Cities list and subsequent financial support as an incentive for state governments to give these cities more autonomy to help them develop techno-managerial competence, improve governance for better service delivery and get accredited to float municipal bonds to mobilize their own financial resources.

EXECUTION & MANAGEMENT

Vision, policy and planning is in place but how about execution & management?

SMART City as a concept is still new to most Indian practitioners and our approach to SMART Cities will need to be tailor made to suit our specific circumstances. While practitioners, based on their experiences in other European and Asian cities, are attempting to define our needs and possible solutions, our policy makers are struggling to find optimal approach best suited to our unique and specific challenges. It is a problem with no easy solutions. No wonder, we still do not have a policy document and an objective criteria to select these cities. Now that the vision has been articulated by the political leadership, bureaucracy will put together the policy framework but the true challenge lies in the planning, coordination with various stakeholders, execution and monitoring. This would require subject matter experts and practitioners with experience in public policy matters, working in mission mode along with central & state government bureaucracy, city administrators and other stakeholders.

Our infrastructure projects usually suffer from inordinate delays, cost over-runs and poor execution due to lack of planning, multitude of approvals and lack of coordination among various stakeholders. However when we empower competent practitioners, they are able to deliver world-class infrastructure in a timely manner. We can think of only 3 infrastructure success stories over the last 2 decades - National Highway (NHDP), where **Gen. Khanduri** (a Military Engineering Services veteran) had the confidence of political leadership and an enabling act (NHAI) or Delhi Metro where **Mr. Sreedharan** (Indian Railways Engineer) took-up the challenge to deliver a world class Metro Network and recently UID where **Mr. Nilekani** (another Engineer and IT professional) delivered a robust system which is unparalleled in scale and scope. Another success story was that of C-DoT driven by **Mr. Sam Pitroda in 1980s**.

To deliver on three ambitious initiatives of NDA Government, namely **SMART Cities, Digital India and Make in India**, which are inter-dependent and complementary with an end objective of higher economic growth leading to employment generation and better quality of life, GoI would need to focus on planning, coordination and execution by appointing and empowering committed practitioners who have the experience and passion to lead these initiatives as was in the case of C-DoT, NHDP, Delhi Metro and UID. This is how ambitious government initiatives get executed worldwide.

About the Author

RK Misra (www.rkmisra.in) is the founder director of Center for SMART Cities, a knowledge bank and repository of best practices in collaboration with leading global organizations. He is also founder of Indian Council for Public Private Partnership.

He was part of team at Tokyo University which developed world's First SMART City blueprint with SMART Transportation and Urban Management systems for Tokyo's SMART City initiative in early 1990s and have been deeply engaged in urban issues of Indian including contribution to JNNURM policy formulation and several other urban infrastructure initiatives and task forces in various states.

RK is a serial entrepreneur who founded global technology businesses in India and abroad before engaging in matters of public policy and governance on turning 40 in 2005. He is a BTech from IIT Kanpur and Masters from Tokyo University. He is a fellow of Harvard Kennedy School of Government and Aspen Institute USA.