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Abstract . 7 K L V S D S H U D L P V W R G L V F X V V W K H F K D O O H Q J H V R I W U D Q V I R U P L Q J
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context, this paper discusses the expectations and goals of the Smart City India Mission for the 100 Smart
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Vision, Project Plan and Metrics.

1 Introduction [1]

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creates sustainable economic development and
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multiple key areas; economy, mobility, environment,
people, living, and government. Recent interest in smart
cities is motivated by major challenges, including
climate change, economic restructuring, and the move
to online retail and entertainment, ageing populations,
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efficient use of physical infrastructure, support a strong
and healthy economic, social and cultural development
and engage effectively with citizens in governance and
decision making

1.1 Smart Cities in the Indian Context [2]

32% of the total population in India is urban and it
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projected that urban India will contribute nearly 75% of
the national GDP in the next 15 years.

India is at a point of transition where the pace of
urbanization will speed up. The relatively low base
presents an opportunity to plan the urbanization strategy
in the right direction by taking advantage of the latest
developments in technology especially in ICT
(Information and Communication Technology). It is in
this context that the Government of India has launched
the Smart City Mission in 2014 and has decided on
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country.

The Ministry of Urban Development, in its concept note,
has visualized that V P D U W F L W \ 3 Z L O O K D Y H
er High Quality of Life X U E D Q D U H D W K D W
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physical, social and institutional infrastructure (water,
sanitation, 24/7 electricity), clean air, quality education,
cost effective health care, security, entertainment, high
speed connectivity and efficient mobility; it must also
attract investments, experts and professionals.
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The 100 smart cities are to be developed in population
ranges of up to one million, one to four million and
four million.

The 100 smart cities mission intends to promote
adoption of smart solutions for efficient use of available
assets, resources and infrastructure with the objective of
enhancing the quality of urban life and providing
a clean and sustainable environment,

S P e c i a l e m p h a s i s w i l l b e g i v e n t o p a r t i c i p a t i o n o f
citizens in prioritizing and planning urban intervention

The India Smart City Mission has developed several
guidelines and components for developing Smart cities.

The major components are:

1. Area based Approach including retrofitting, redevelopment, and greenfield development initiatives
2. Citizen engagement for visioning to involve all sections of society who are affected by a decision in the decisionmaking process and come up with proposals that are citizen driven.
3. Financing proposals with revenue models attract Public Private Partnerships (PPPs) for infrastructure development and other projects by setting up Special

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Purpose Vehicles (SPVs) that would be responsible for the PPPs.

2 Current Urban Challenges in India[2]

India is facing many of the global urban challenges of large urban populations and overcrowding in the cities.

Some of these challenges are:

- Managing size and rapid growth
- Providing Urban Services
- Reducing Poverty
- Housing for all
- Making Cities Healthy
- Making Cities Environmentally Friendly
- Solving Traffic and Transportation Problems
- Supporting Social Development

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Economy- No strategy for attracting investment, no specific industrial or economic zones and identity developed for the city.

The long term dependence on Central and Local funds have made the cities complacent and they have not yet developed a working culture of developing strategies and policies at the local level for attracting investments. Therefore, they have not yet felt the need to develop a strong identity for the city that will help attract investments.

Environment- No vision for energy efficient buildings and systems, concept of green buildings introduced, no policies for renewable energy, no strong policies for sustainability, environmental preservation and resource management.

Several of the Smart Cities Mission strategies require the cities to strongly embrace environmental stewardship, resource conservation and environmental preservation. Until now, the cities have not been proactive in these areas. In order to be proactive in these areas, strong implementation environmental policies must be in place and the staff must be capable of implementing and enforcing these policies.

Government- Departments are scattered with no data sharing /collaborations, limited and scattered online access to citizens, citizens cannot make optimum use of city services

At present, the Government Departments are scattered and work in isolation. There is no data sharing and collaboration between the departments. This is because a lot of the data is still in paper form and have not been transferred to digital data. With digital data, data sharing and collaborations are relatively easy and services provided by the various departments are more effective. A work culture of a multi-disciplinary approach to finding solutions is not yet implemented.

Governance/Public Participation- Online services for services has not been adopted to its full capacity and citizens have never participated or have been involved in decision making for citizen centric solutions

E-services and citizen participation in decision making from conceptual stage is not yet implemented.

Living - Inadequate social infrastructure, parks and open spaces, health facilities and services are scattered and crime prevention is inadequate.

City services have not kept pace with the rapid population growth in the cities and therefore, social infrastructure and health services are inadequate for the population they serve.

Mobility - Existing transportation systems are inefficient and not cost effective

Transportation services have not kept pace with the rapid population growth in the cities and therefore they are inadequate for the population they serve.

People- Education systems not available for all levels of education, affordable housing and services for the poor are inadequate.

City services have not kept pace with the rapid population growth in the cities and therefore, social infrastructure and health services are inadequate for the population they serve.

The Smart City India Mission strategies and components have been developed to address and overcome the above drawbacks and help cities upgrade themselves.

2.2 Current Status of Smart Cities in India [3]

The 100 selected Smart Cities, with the help of consultants, have developed several proposals based on the Smart City requirements. However, the development of Smart Cities in India has been slow and the funding has not been fully utilized according to the timelines for utilizing the funds. Given the current scenario of the 3 7 U D G L W L R Q D O ' , C i t e s D r o f L f W L H V W capable of implementing the Smart cities proposals and components.

This current scenario is creating several roadblocks to achieving the goal of 100 Smart Cities by 2020.

Some of the road blocks are

- Inaction
- A lack of understanding
- A dearth of technical training & skill
- Non existent security framework for data.

The reason for this inaction is that the Local and State Government system has been used to a relationship of getting grants from the Central Government that did not

require strict accountability measures with respect to the
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Now, accounting systems must be improved and quality control measures must be included for accountability.

Now, suddenly the Local governments must come up with sustainable solutions and be accountable for them. This requires a change in mindset. Even if the mindset is changed, capacity building is the biggest hurdle. Training a large work force to upgrade their skills to be able to understand and implement the new components is a major task that cannot be accomplished in a short period of time.

In addition, the legacy of the old technologies complicates the ability to make valuable solutions. Sudden upgradation of old technologies is complicated and hinders progress.

Finance is another obstacle with the focus on the PPP model to fund smart cities. Most of the city staff are not trained to implement PPP financial models.

Many cities are also facing resistance in the execution of projects. Citizens have opposed user charges for services provided under the mission.

The citizens have not been made fully aware of the benefits of the projects with effective citizen participation resulting in opposition during various stages of the projects.

The Smart Cities Mission strategies and components can only be fully utilized to bring them much-needed value.

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The base line scenario must be used to develop well planned approaches to effectively utilize the Smart City strategies and components.

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3 Road Map [4]

For D μ7UDGLWLRQDO' Base Line scenario DQG WUDQVIRUP LWVHOI LQWR D progress must be made for the following:

1. Organization ± An established and efficient organization structure to lead to a smarter city. This could include organizational changes and/or restructuring to address and utilize the strategies and components.

This would require a major organization changes with the addition of new departments or the reorganization of old departments to handle the new requirements.

2. Technology ± Improvements to evolve the right way. This could include making investments in appropriate technologies and training staff to fully utilize the capabilities of the technologies

This would require major investments in appropriate and new technologies and elimination and phasing out of out-dated technologies to implement the new requirements and provide services efficiently.

3. Social aspect ± To make the population evolve the right way. This could include educating the citizens regarding capabilities of online services, educating the citizens about sustainability, waste segregation, conservation of resources and the benefits of citizen participation in Governance

A major program to fully involve citizens in Governance must be developed and implemented either entirely by the Government or with the help of NGOs.

4. Capacity Building ± To develop sustainable solutions and be accountable for them. This could include highly specialized training for staff for all aspects of Governance to make them understand and implement Global best practices locally.

This would require specialized training for all levels of staff to help them understand and implement the new components. This training will also require a major investment.

The Road Map must consist of the following four stages:

1. Assessment
\$ μ7UDGLWLRQDO' FLW\ FDQ DVVHVV UHVSHFW WR WKH NH\ DUHDV RI D Financing. This assessment will help the City assess their needs for improving their capabilities to effectively utilize the Smart City strategies

This would require creating an up to date inventory of existing infrastructure, services, population, housing services, green areas, resources etc. to understand what is lacking, what is working and what is redundant. This ZLOO HVVHQWLDOO\ EH D 3VQDS VKR and existing conditions in the City.

2. Vision

Although the selected Smart Cities have developed proposals according to the requirements of the Smart City Mission, the implementation of the proposals has EHHQ YHU\ VORZ 'HYHORSLQJ D μED timeline for accomplishing what can be achieved in next year, 5 years, 10 years will help.

2. Smart City Mission Statement & Guidelines
MOHUA, GOI (2015)
3. *Demystifying the current state of India's ambitious
Smart City Mission*digit.in (2019)
4. Smart cities- background paper
BIS, GOV.UK
(2013)