18TH NATIONAL CONFERENCE ON e-GOVERNANCE

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VENUE MAHATMA MANDIR, GANDHINAGAR, GUJARAT

New Paradigm of Citizen Services in Smart Cities

Section 1

Context and Urban Challenges

Understanding the need for Transformation – Global Context

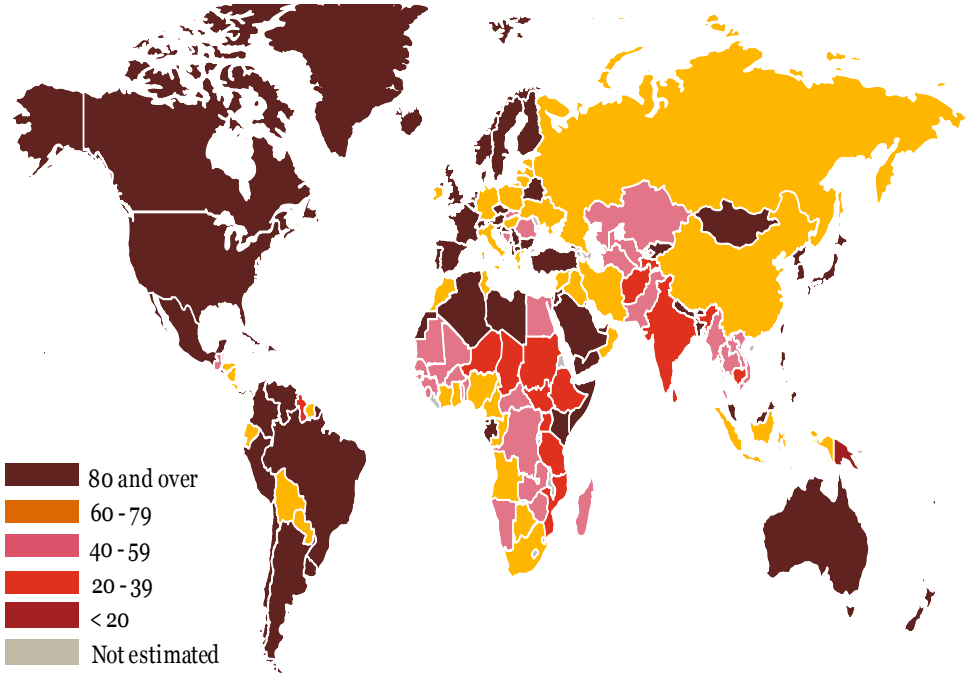
In the 1950s, less than 30% of the world's population lived in cities. Currently, that proportion has risen to 50% and, ***by 2030****, the UN projects that* ***some 4.9 billion people will be urban dwellers****.* ***By 2015****, the UN estimates that there will be* ***22 mega-cities*** *– those with population of 10 million or more – with* ***17 located in developing economies****.*

World urban population

The World urban population is expected to increase by 72% by 2050

Source: World Urbanization Prospects: 2011 Revision, Produced by the UN Department of Economic and Social Affairs

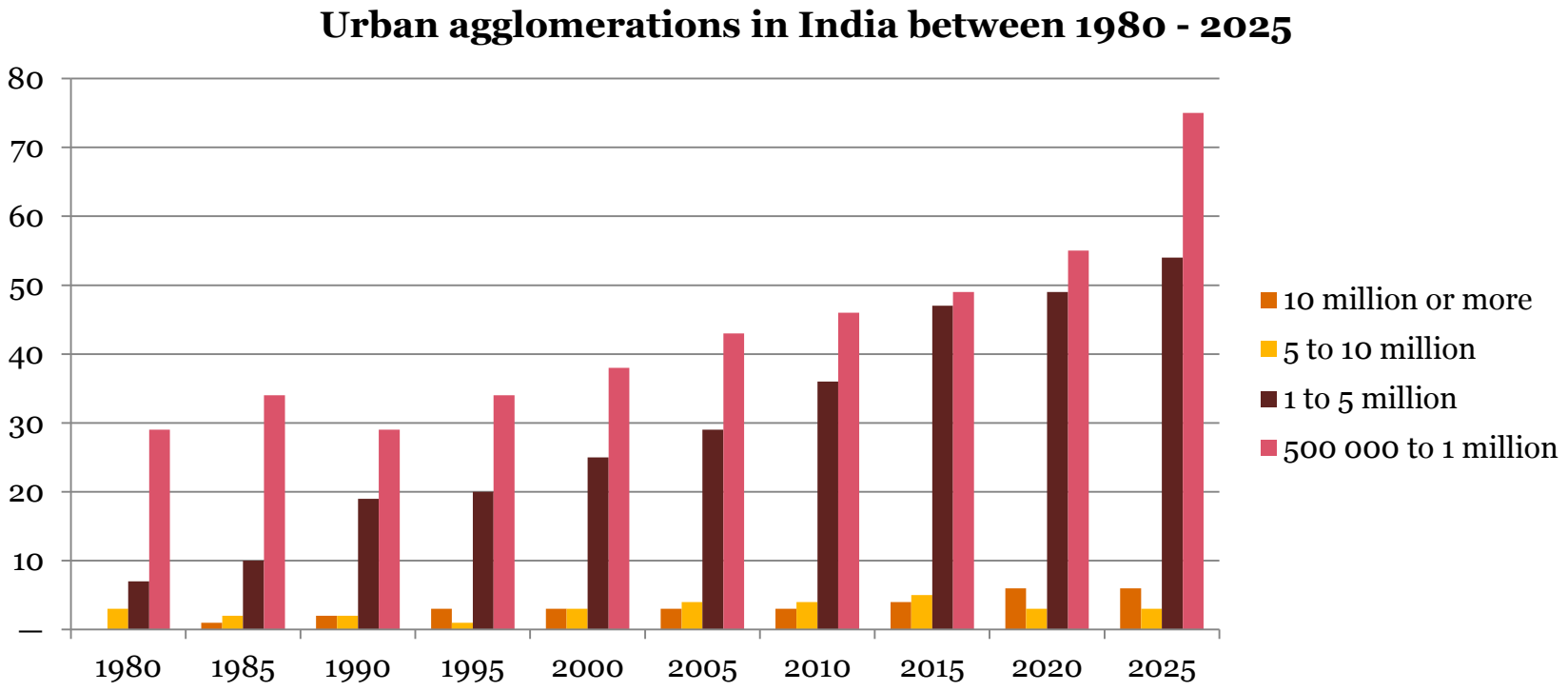
Percentage of population in urban areas, 2030



Source: UN Department of Economic and Social Affairs.

Understanding Indian Context

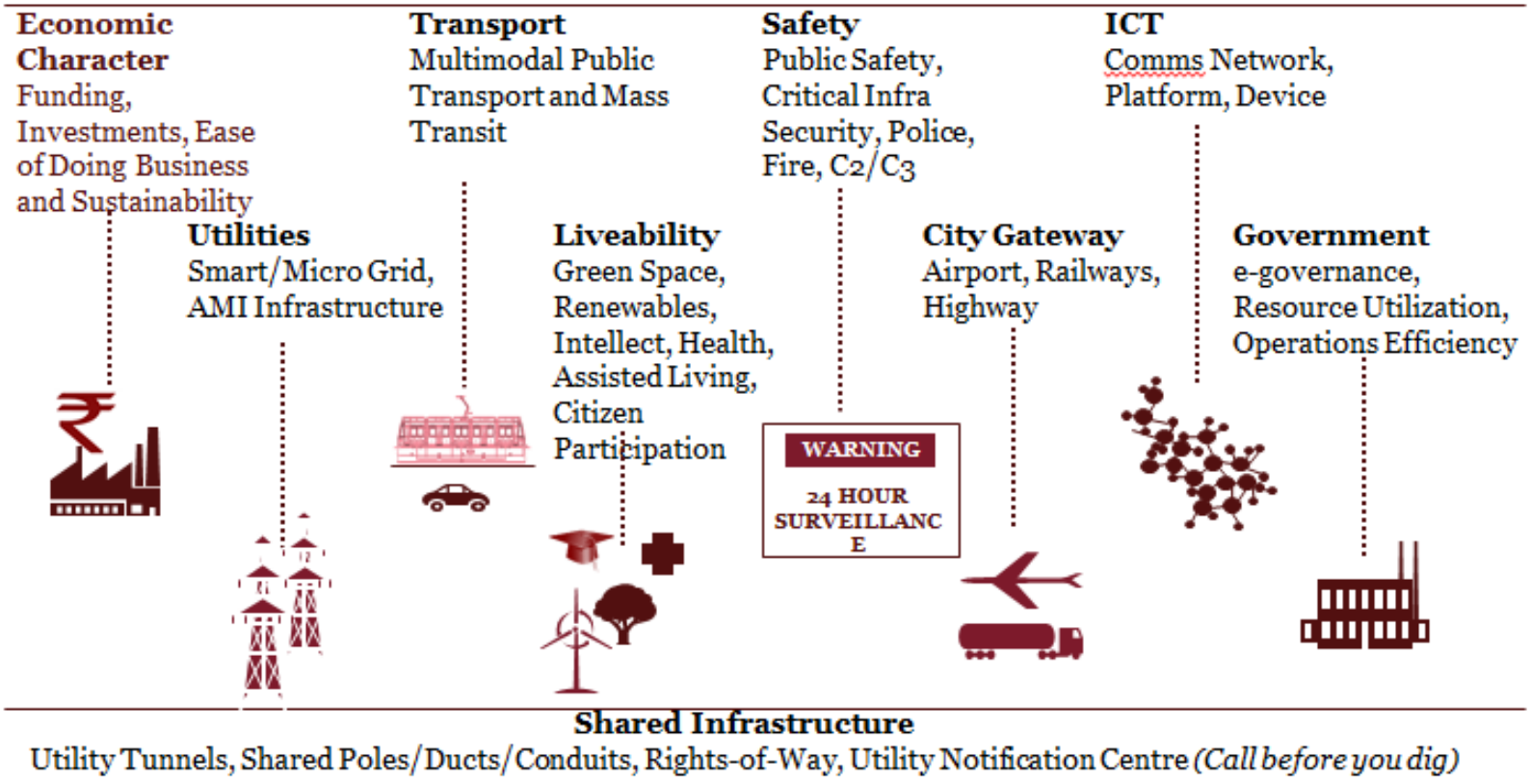
Urbanization in India is rapid and propels social and environmental challenges. Cities are characterized by strained infrastructure which manifests itself in terms of power cuts and water shortages, high cost of living, and unaffordable real estate resulting in urban sprawl and slums, high volume of traffic resulting in pollution and delays.



By 2025, India will be having 6 megacities housing population of 10 million or more, up from 3 such cities today. As per the estimates, India will be housing 63 cities with a population of 1 million or more, as against 43 such cities in 2011.

Smart Cities – Key Components

Smart cities is the current megatrend where a city's sectoral service delivery leverages technology and existing investments in ICT and urban infrastructure to enrich its resident's standards of living, provides positive investment climate for businesses, and equips governments to maximize resource utilization and provide transparency

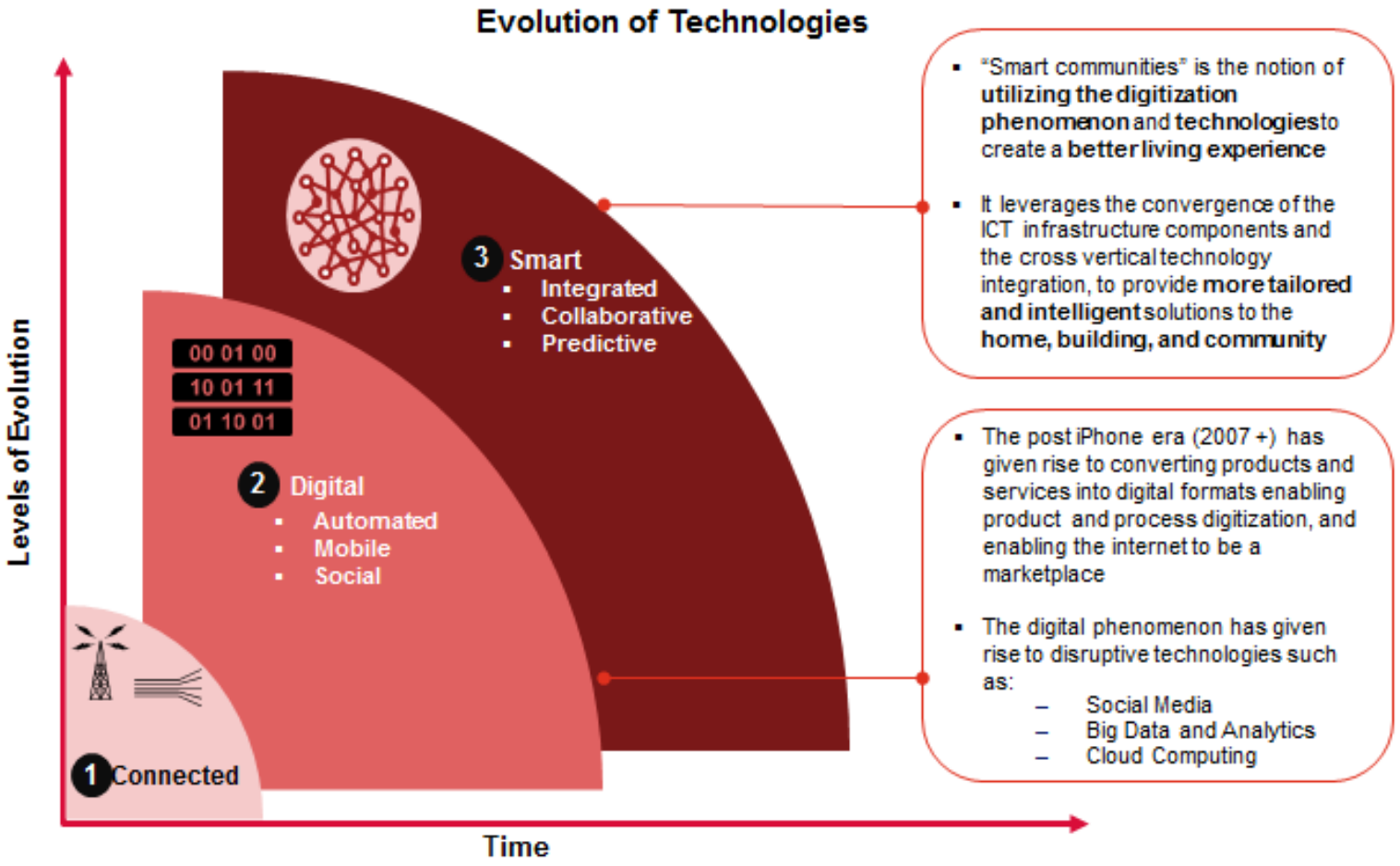


Shift in experience of citizen from a traditional city to a Smart City

The inclination to become a smart city is driven by the inspiration to surpass challenges posed by traditional cities.

Traditional City	Smart City
High power theft resulting in power shortages and intermittent blackouts; Env. unfriendly alternate solutions	Low theft, higher collections for the provider; adequate power supply, no black-outs; lower carbon emissions
Water shortages, timed water supply; revenue losses for the provider	Continuous and round the clock water supply; higher collections for the provider
High congestion, slow moving traffic, high pollution, hard to find parking	Better traffic flow, low pollution, citizen directed to free parking in high traffic areas
Lack of a unified city view – "always dug up" feeling; unnecessary spend	Unified city view – better planning of city works, lower cost to execute
Limited record of citizen health history resulting in inaccurate diagnosis; higher costs for operators and insurance providers	Lower instances of medical errors resulting from unavailability of prior information; higher efficiency in hospital operators
Difficult to access citizen services; Multiple hand-offs/ interactions, extensive deals, need the "middle-man"	Simplified and efficient government – citizen/ business interactions; lower cost to operate
Investors unable to get detailed information about the business environment in the city	Higher awareness and dedicated efforts for sustainability through IBMS

Cities must evolved utilization of ICT and digitization to reach a “Smart” stage



Section 2

Smart Cities design must be to ensure better citizen experience

Focus on Citizen Services

Quality of life, livability, and sustainability are three key pillars of designing smart city framework for effective citizen services. Below table illustrate how technology solutions are making cities smarter and helping in realizing the vision of providing fundamental citizen services in effective ways-

Public Safety	Transport	Utilities
• Live feeds from CCTV cameras and constant monitoring from command center to prevent untoward incidents	• Information to commuters on the move, Parking Management, Coordinated Red Lights & Optimized Signaling	• Smart metering and energy grids for energy management & optimization
• Camera feeds are integrated with a centralized emergency command control center and video analytics	• Adaptive Traffic Command & Control, Automatic Number Plate Recognition, Speed Detecting systems	• Technology and physical components to optimize the usage of natural resources, monitor consumption and prevent wastage
• Camera feeds are also integrated with a centralized emergency command control center and video analytics	• Intelligent transport systems, Cycle hire schemes, common travel card to make payments in all modes of transport	• Solutions for water resource management system • Advanced equipment to rationalize domestic energy consumption

Single Point of Convergence for Citizen Transaction & Information Dissemination

Various components of a smart city must work hand-in-hand to provide a holistic city-wide single unified view to citizens and end users. A single point of convergence for citizen transactions and information dissemination will enable the following –

- Registration of data with government only once
- Sharing & transmission of registered data between various authorities
- Creation of user account of all the citizens & businesses at the time of registration or their first interaction with any of the city govt. department
- User account provide details about all their current services and the status of any requests and applications
- Electronic workflows that will run as soon as request is registered till its final delivery
- Single smart cards , user account for multiple services etc

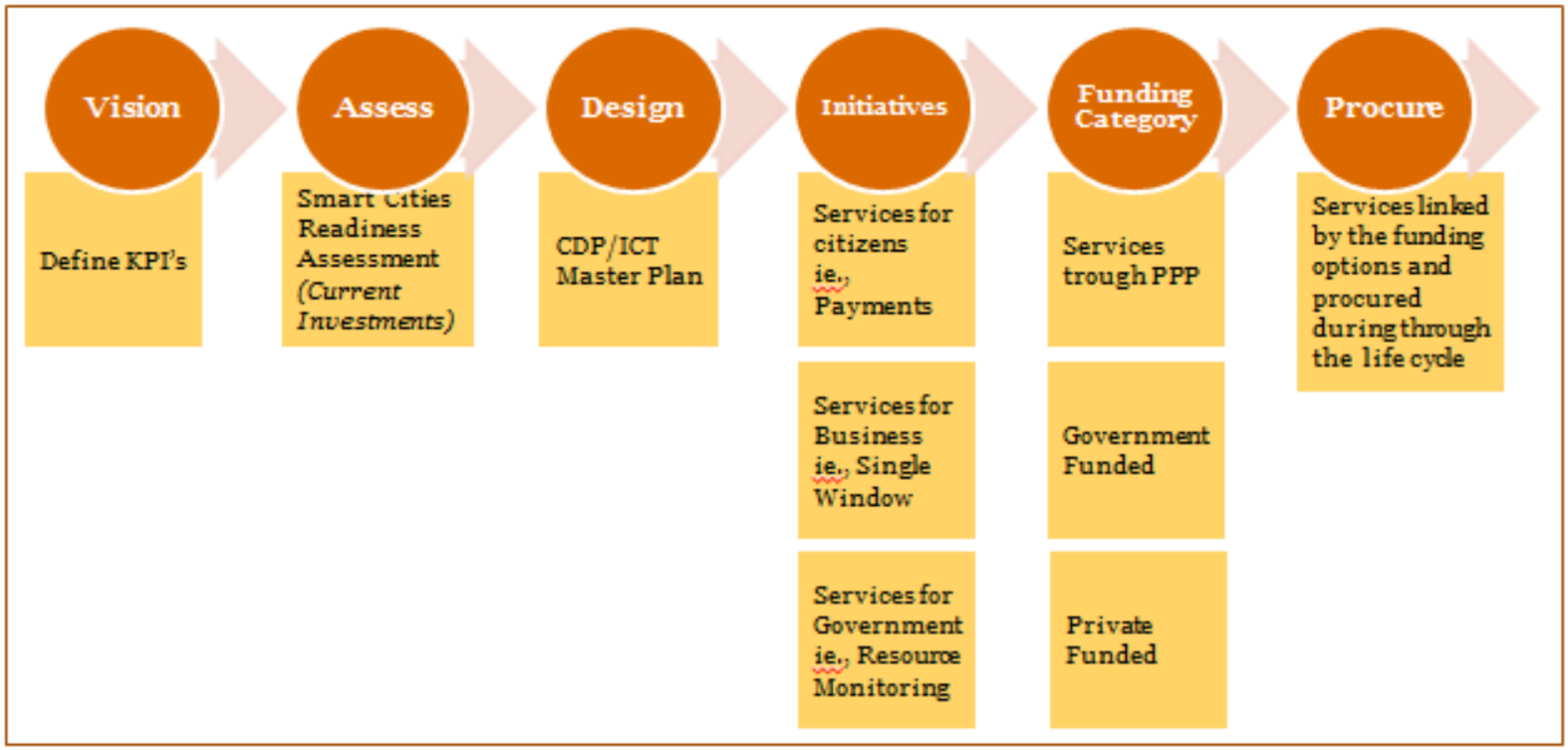
Connected Governance

- In order to build lasting relationships with citizens as well as seek their contribution towards overall growth of the nation, governments need to regularly engage with citizens and gauge their pulse prior to implementing key policies and regulations
- Mobile devices and smartphones have transformed the way people interact with one another and government
- Social media is emerging as a prominent platform for citizens and policy makers to reach out to one another
- Governments are relying on analytics to gauge sentiments of people and accelerate grievance redressal
- Connected governance is win-win for both citizens and governments

Section 3

Making it Happen

Smart City Roadmap

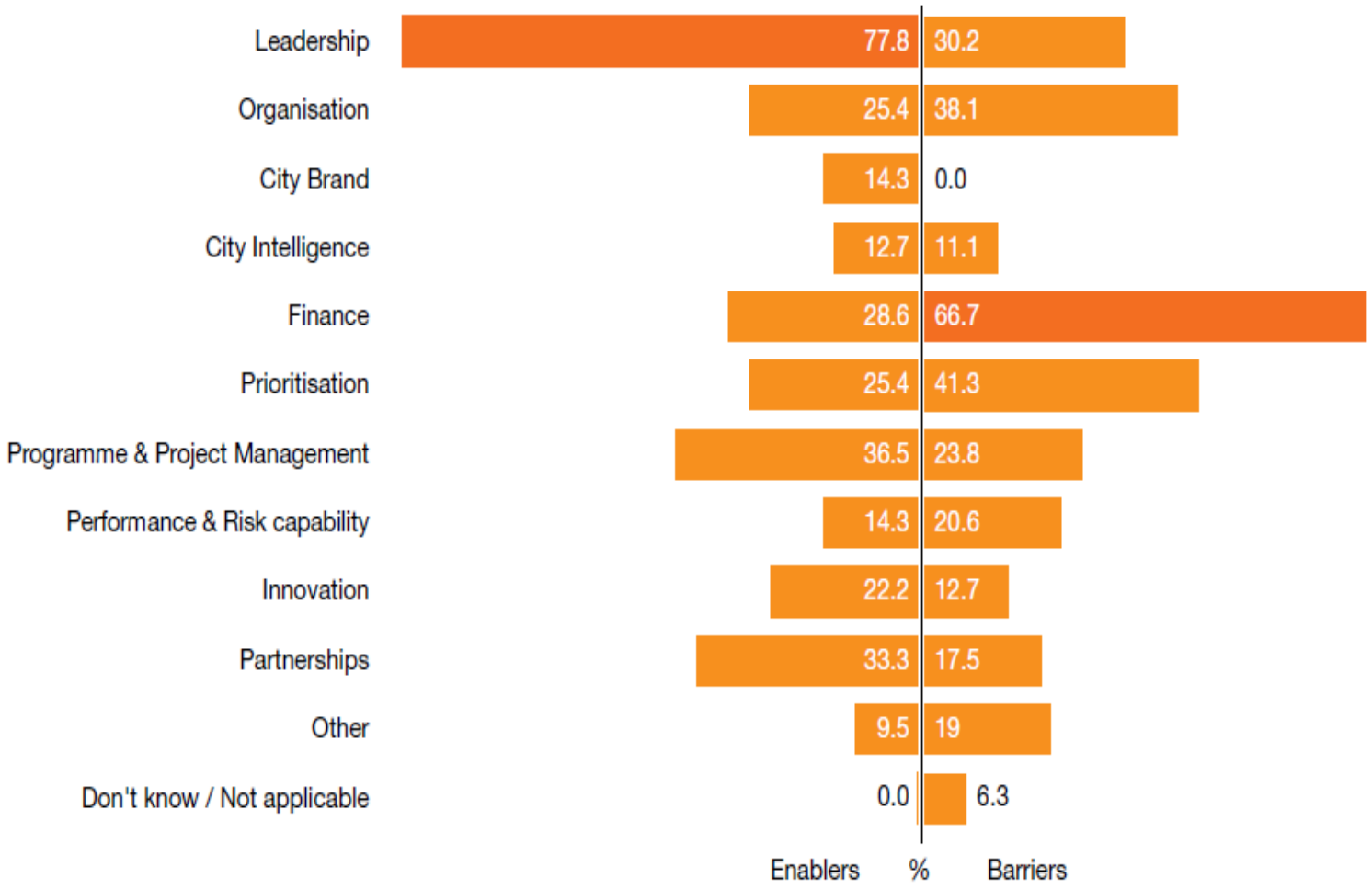


The roadmap will serve to:

- Identify existing services levels by sector, duplication of effort, service gaps, risks , dependencies and areas for future services that efficiently advance community objectives
- Look beyond basic service performance to evaluate impact on sustainability, financing, growth, and other factors

Key Enablers & Barriers

Key enablers and barriers in implementing smart cities



Findings are based on a PwC survey conducted in 64 cities comprising a total population of over 120 million people from around the world .

Approach to be adopted

City government and administrators need to develop an implementable strategy around ways to achieve the future development of a sustainable and competitive city that can address social, environmental and economic issues in a holistic manner

Based on our global expertise delivering smart city projects, we recommend an ecosystem of partners

Strategic Smart City Advisors
(Planning, Solutions, Regulatory, Financial, Operations)

Software
(Integration Platform, Applications, Analytics, Data etc.)

Hardware
(Products, Equipment, Device, Sensors etc.)

Foundational
(City/ICT Design, Trunk Infra, Feasibility Studies etc.)

University/Academic Partner
(Innovation/Capacity Building)

Industry Association
(Economic Activity, Industry-Government Interface)

Section 4

Global trends and initiatives taken up across the globe

Global Smart City Initiatives: A snapshot

In the following table we have mentioned some smart city initiatives that are being implemented by cities across the globe for better citizen services. This will help in relating and getting an idea to how the leading & progressive cities are moving ahead -

City	Country	Project
Addis Ababa	Ethiopia	Integrated Housing Development Programme
Cape Town	South Africa	Central City Improvement District
Curitiba	Brazil	Bus Rapid Transit System
Dubai	United Arab Emirates	Establishing a Global Hub
Manchester	England	Manchester's Digital Strategy
Melbourne	Australia	Integration of Central Business District Activity and Transport
Pittsburgh	United States of America	Emergence of New Economic Specialisations
Rio de Janeiro	Brazil	Pacifying Police Units
Rotterdam	The Netherlands	RDM Campus
Singapore	Singapore	Water Management: Turning Vulnerability into Opportunity
Mumbai	India	Transforming Lives and Livelihoods Through Technology

Conclusion

- *City administrators & Policy makers have a critical role to play in terms of articulating the overall strategy for development and transformation of Smart cities in India*
- *Policy makers have to draft conducive financial environment which is required to ensure sound risk return profiles and sustainable business models*
- *City leadership teams must take stock and ensure that the enablers are in place to help, rather than hinder, the implementation of their strategies.*

Thank you!

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