Considerations for Smart C

Building inclusive, resilient, and sustainable societies in Asia and t

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Justin Hyatt

Prerequisites for Smart Development

"We are reversing the smart city paradigm. Instead of starting from technology and extracting all the data we can before thinking about how to use it, we started aligning the tech agenda with the agenda of the city"

-   Francesca Bria, former chief technology officer of Barcelona

Key insight–Prerequisites

❖ Visionary leadership : A Smart City program will be greatly facilitated by the presence of visionary leadership . The world could use more leaders who are able to realize the potential they have of impacting their city for good, for years to come .

❖ Integrated planning : willingness and dedication of decision-makers as well as relevant departments is essential, backed up by appropriate budgetary conditions . Planning must start at the earliest possible date, and all involved departments need to have a robust inter-departmental communication system .

❖ High-quality internet and wireless networks, data collection systems, dependable renewable energy supply, advanced technologies and digital tools, skilled workforce, versatile staff, capable of collaboration in a diversified and international fields of development .

❖ Big data provides cities, research institutes, and economic players the opportunity to obtain valuable information and insights, Yet this requires wise stewardship, robust privacy laws, and legally enshrined transparency .

❖ Appropriate institutional development, human capacity and expertise, appropriate financial investment mechanism, and transparent and good governance are all fundamental for smart city development . Tools, training, and upskilling are the keys to success.

Smart City Technology Solutions

"Smart city solutions are the practical use of data and digital technologies to deliver infrastructure or services in the urban setting, all with the goal of improving outcomes that relate to livability, sustainability, and productivity."

-McKinsey Global Institute
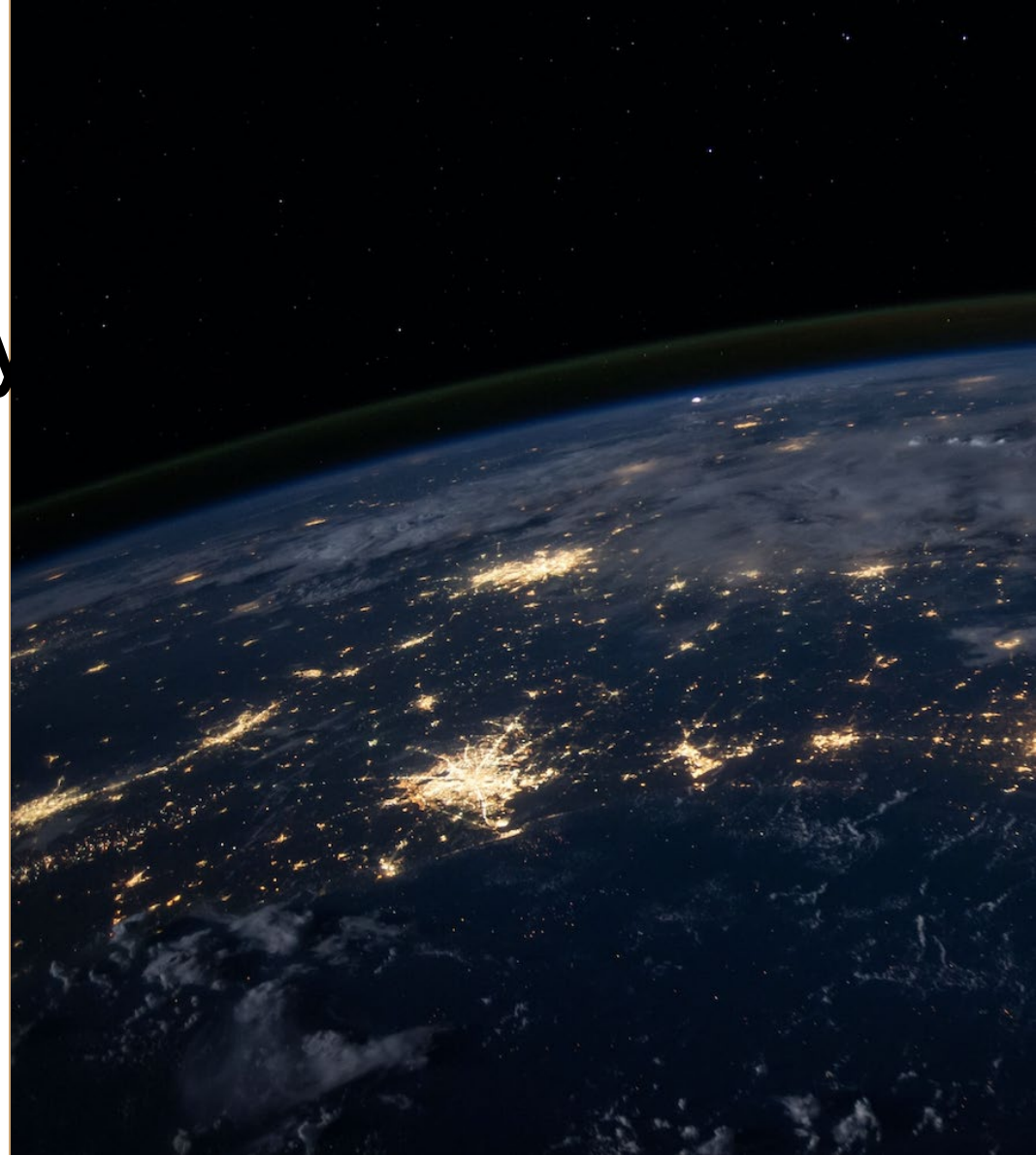
Key insights – Technology

❖ According to smart cities framework, smartness refers to the use of technology in a holistic manner, with a clear intentions and outcomes

❖ Capacity development on how to use, manage and run IoT-enabled infrastructure is needed to ensure the long-term sustainability of smart city projects . This is especially for government staff who will be responsible for running and maintaining this infrastructure .

❖ Big Data is changing the way cities function, and it is important that city governments understand in full detail the potential benefits and pitfalls of the use of big data . Especially to ensure future use and access to public data is safe, secure, and inclusive .

❖ Understanding how technology is embedded in the wider context of development is essential to the success of smart city projects . Success here depends on a combination of visionary leadership, competent management, and seasoned tech experts .

How does technology shape smart cities?

Sensors : Sensors are at the heart of Smart City infrastructure. Using sensors to monitor public infrastructures, such as bridges, roads, and buildings, increases awareness by generating relevant data, which further enables the efficient use of resources.

Big data: The effective analysis and utilization of big data is a key factor for success in the smart city domain. It is estimated that the amount of global data generated per year will grow at a rate of 40%.

Artificial Intelligence (AI):   Modern AI empowers city officials with accurate tools to measure different city processes, make data -informed decisions faster, and enact changes that improve quality of life.

Geospatial Technology and Digital Mapping: The rapid integration of geospatial technologies with urban infrastructure has been possible due to advances in supporting technologies like 3D modeling and LiDAR, mobile mapping technologies, and remote sensing technologies. Tools also include: photogrammetry, remote sensing, mapping, geographic information systems (GIS), geodesy, and others.

What are some smart tech solutions?

Smart Mobility Apps : This solution has resulted in the development of new forms of mobility services, such as, on-demand ride -sharing services, carpooling, car -hailing, bike rental, and bike sharing applications

Smart Waste Management: Through IoT technology smart waste management provides real time data on waste generation patterns and behavior. This empowers municipalities, cities, and waste collectors to optimize their waste collection operations.

Smart Grids: Smart grids are equipped with IoT technology to transmit energy more efficiently and allow providers and distributors better access to data on energy consumption. This empowers consumers to have more control over their individual energy decisions.

Smart Air Quality Monitoring System : Again, using IoT, a smart air quality monitoring solution is able to detect carbon dioxide levels, noxious gases, and pollutants, sending real -time data to a central management dashboard.

Institutional Setup an Governance

Better institutional setup and good governance substantially help the implementation of policies and planning for the smart city framework

Key insights—Governance

- ❖ Smart city institutions and regulatory frameworks are essential for smart cities. Better institutional setup and good governance substantially support the implementation of policies and planning.

- ❖ A comprehensive strategic plan is required for attracting investors. An innovative approach for funding and financing of smart city projects will help to attract revenue, generate new business models and develop new financing structures for investors.

- ❖ There are several types of funding structures that can be explored. These include Public-Private Partnerships (PPP) where a specific setup is called Revenue Sharing Financing. There are other models as well, including fees and charges, loans, equity financing, and more.

- ❖ Inclusive planning is very important for promoting transparent and efficient governance. This involves more public participation and citizens engagement. The time and effort that it takes to connect with citizens will be paid back in obtaining better functionality and well tested systems.

Recommendat

For Practitioners and Policymakers

Broader goals : Always embed a smart city project within the broader policy field. This might involve anchoring project goals to social or sustainability goals. It is then useful to call an approach by an integrated name. Thus a "smart and resilient city framework" or a "smart mobility project" can be used, or the aspiration can be set to be a "smart and inclusive city."

Communication: Local governments are often said to underperform when it comes to communication. Increasing the quality and frequency of communication with the public can reap large rewards. Make it a goal to help local governments prioritize communication,

Participation: Set up neighborhood planning centers, and make them places that are welcome to the public and inviting for a better understanding of local plans. Such centers can be equipped with augmented reality design tools, and multiple resources for citizens to familiarize themselves with upcoming plans and procedures

Climate and Environment: Couple vigorous environmental and climate goals with any Smart City framework or project. There are hundreds of options available for cities to do things better. Smart City managers can easily draw up a list of measures that can be implemented in the near term. Divesting from fossil fuels should always be a top priority. Dimming lighting in buildings or reducing the overuse of refrigeration in buildings could be easy wins.

Thank You

Justin Hyatt
Justin@carfreealliance.org

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