SUSTAINABLE CITIES, SMART CITIES

SUSTAINABLE & SMART CITIES - Technology that drives innovation to create sustainable and smart cities

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Smart cities

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What is a Smart City

"A smart city is an urban area that uses different types of electronic methods and sensors to collect data…. In return, that data is used to improve the operations across the city."

- Wikipedia

"A smart city uses information and communications technology to enhance its livability, workability and sustainability."

- Smart Cities Council

"A smart city employs a combination of data collection, processing, and disseminating technologies in conjunction with networking and computing technologies and data security and privacy measures encouraging application innovation to promote the overall quality of life for its citizens and covering dimensions that include utilities, health, transportation, entertainment and government services."

- Gharaibeh, Ammar, et al. 2017

Quality of Life

Citizens

Cost of Living

Environmental Sustainability
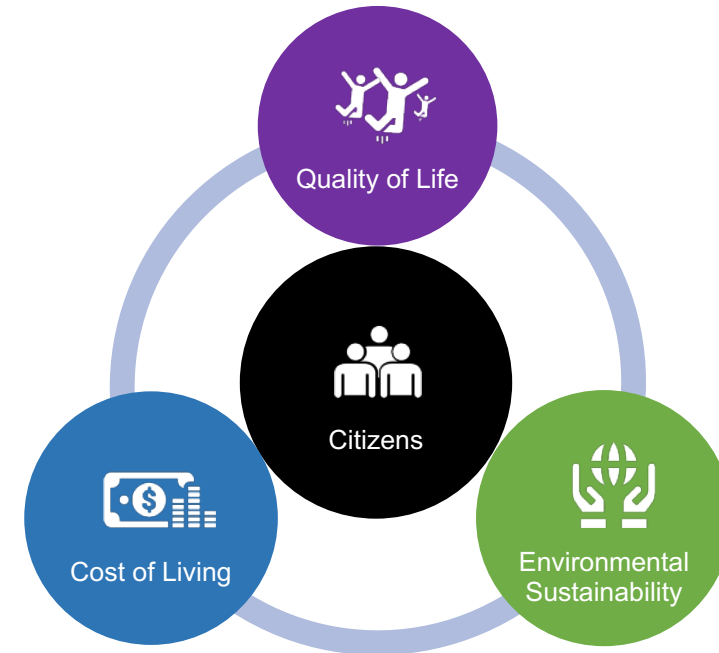
Fundamental Objectives of Smart Cities

- Reducing cost of living
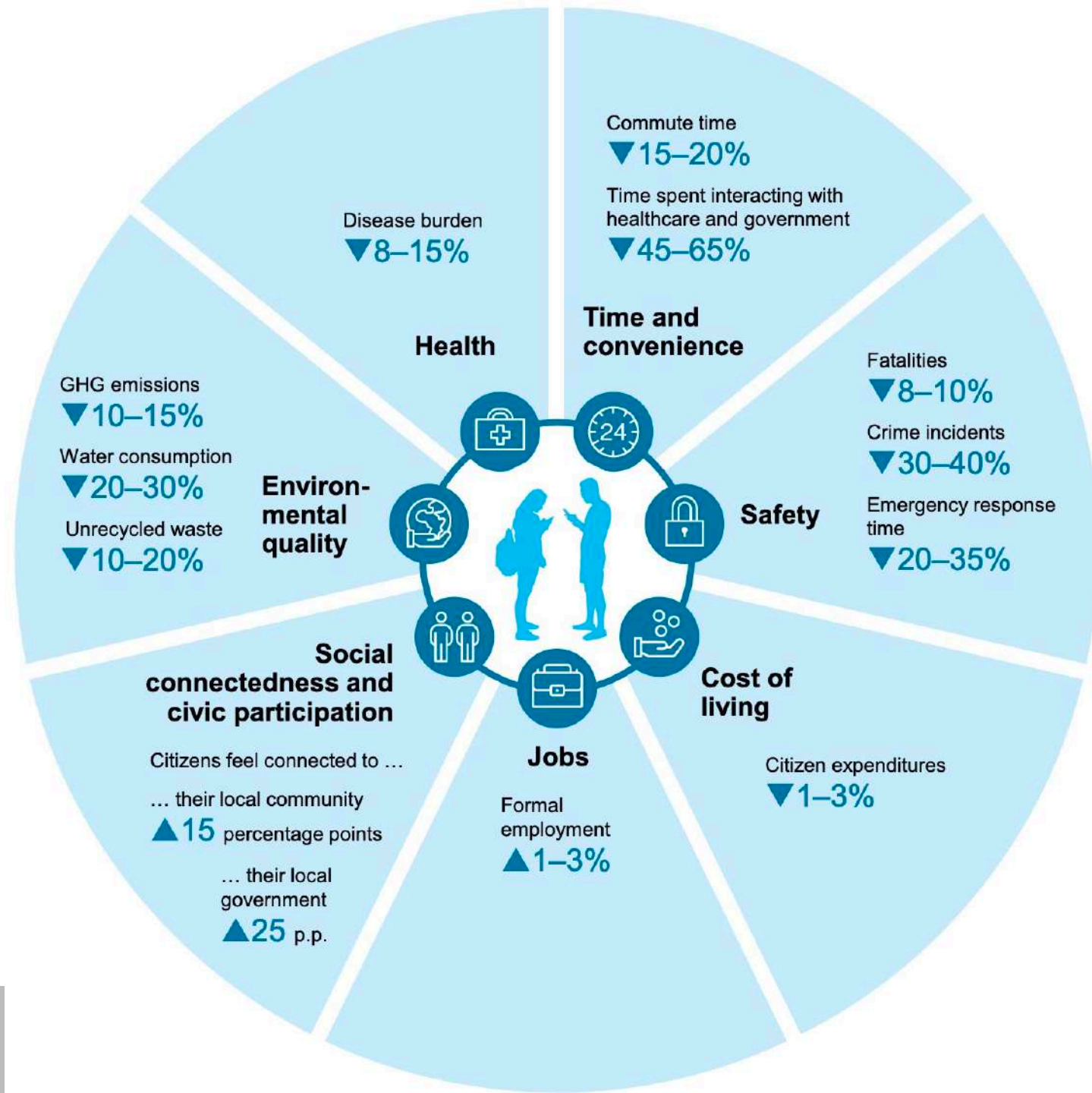- Improving quality of life
- Enhancing environmental sustainability

Smart cities add digital intelligence to the urban world and use it to solve public problems and achieve a higher quality of life.

Three layers of "smartness":

Adoption and usage, often leading to better decisions and behavior change

Smart **applications** and data analysis capabilities

The **tech base** includes networks of connected devices and sensors

Traditional infrastructure (physical and social)

(SOURCE: McKinsey Global Institute)

AI for quality of life

Smart city applications can improve some key quality-of-life indicators by 10 to 30 percent

Smart City Solutions

Smart-city technologies have substantial potential to improve the urban quality of life

Maximize the potentials: An integrated Platform for Smart City

- **Data Connection Interface:** providing interfaces to connect to different sectors of the urban system for data gathering

- **Data Management:** fusing data from multiple stakeholders in standardized formats so that the aggregated data can be accessible by any authorized components in the system

- **Holistic Data Analytics:** breaking vertical industry silos and having holistic views for optimizing overall operations

- **Unified Visualization:** presenting data from multiple sources in a unified display so that the users can get a sense of the big picture

- **Extensibility:** new components including data sources or analytics services could be easily added to the system

- **Cybersecurity:** incorporating cybersecurity pervasively across the system throughout its lifecycle to ensure data security

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