# A Tale of Smart Cities
by Ma. Nova R. Nguyen

Before the pandemic happened, many people living in Metro Manila had to spend hours in traveling from home to their office using public transportation. Meanwhile, others living in cities abroad where the transportation system is organized by digital technologies can travel smartly by checking the schedule of public transportation.
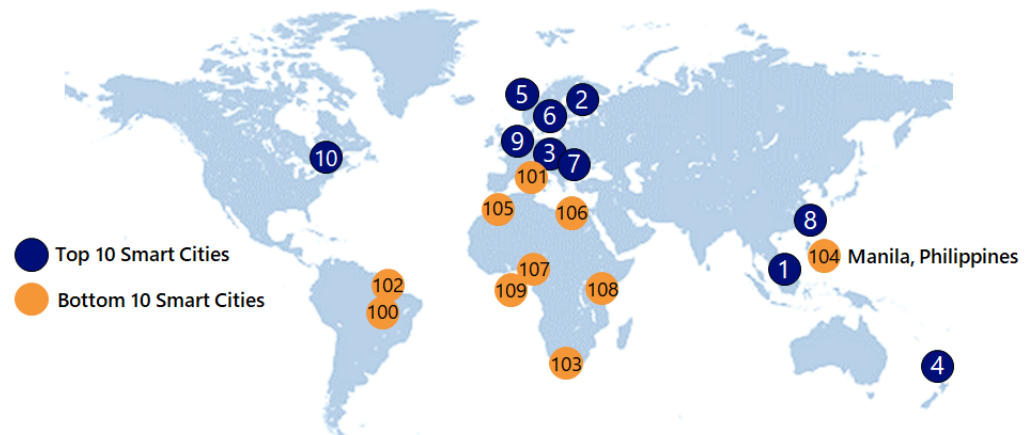
In smart cities, devices and objects can collect and send data to the cloud. The data are then analyzed and used to improve decision making of city leaders, citizens, and businesses.



Source of basic data: Smart City Index Report 2020

| Top 10 | | Bottom 10 | |
|---|---|---|---|
| 1. Singapore | 6. Copenhagen, Sweden | 100. Sao Paulo, Brazil | 105. Rabat, Morocco |
| 2. Helsinki, Finland | 7. Geneva, Switzerland | 101. Rome, Italy | 106. Cairo, Egypt |
| 3. Zurich, Switzerland | 8. Taipei, Taiwan | 102. Rio de Janeiro, Brazil | 107. Abuja, Nigeria |
| 4. Auckland, N. Zealand | 9. Amsterdam, Netherlands | 103. Cape Town, S. Africa | 108. Nairobi, Kenya |
| 5. Oslo, Norway | 10. New York, United States | 104. Manila, Philippines | 109. Lagos, Nigeria |

Fig. 1. Smart Cities Rankings by the Smart City Index Report 2020 developed by the Institute for Management Development and Singapore University for Technology and Design

Such is the case in Amsterdam's transportation where citizens get to plan because they have real-time data on travel schedules and the ability to conveniently reserve their rides ahead.

What is the definition of "Smart City"? There are many key words to describe a Smart City, but in general, Smart City uses information and communication technology (ICT) to improve the efficiency of city service delivery, enhance quality of life, and provide a better quality of government service and citizen welfare.

The Smart City Index Report 2020 [1] released by the Institute for Management Development (IMD) in collaboration with Singapore University for Technology and Design (SUTD) compared more than 100 cities around the world in terms of smart city development. For each city included in the report, 120 randomly-selected residents were asked to gauge the quality of infrastructure and technology available in their city. Five key areas were covered— Health & Safety, Mobility, Activities, Opportunities for work and school, and Governance. The smart city indices were computed based on the survey results.

Majority of the best 10 are cities in Europe including Amsterdam, followed by Asia, with Singapore topping the list. Cities at the bottom 10 are mostly located in Africa followed by South America. Manila ranked 104th out of the 109 cities (Fig. 1). Based on the survey of Manila residents, priority areas to address are road congestion, corruption, health services, air pollution, and unemployment.

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## Smart Services in Cities in the Philippines

Steps to develop smart services in the Philippines have started at the national and local government levels. To provide efficient government service, the government implemented the Philippine Identification System Act. The Philippine Identification System or PhilSys is the government's central identification platform to improve access to public service. It aims to enable presence-less, paperless, and cashless transactions.

At the local government level, initiatives by LGU in using app or other ICT solutions for government service and healthcare service are observed as shown in Figure 2. Those initiatives might be small steps to become a smart city, but LGU's prioritization and efforts to improve their public service to citizens are necessary to develop a smart city.

Education and healthcare could be some of the impacted sectors to improve its service when a smart city is developed. Currently due to the geological issues of the Philippines, healthcare and education services are not well distributed nationwide, but it could be improved with ICT connection and linkage among public sector and private service providers. Especially due to the pandemic, distance learning and remote health consultation are needed, and connecting people and service through ICT is much awaited.

| Smart Services | Use Cases | Key Features |
|---|---|---|
| **Smart Safety/Emergency** e.g. Public space monitoring, alerts | • Davao City, Davao: Intelligent Operation Center (IOC) | • Real-time monitoring with analytics centralized for police, fire, anti-terrorism task forces |
| **Smart Transportation** e.g. traffic & parking management | • Mandaue City, Cebu: pilot project uses integrated smart camera system with AI tech | • Apprehends traffic violators without contact with traffic enforcers |
| **Smart Government** e.g. Administrative procedures | • Makati City, Metro Manila: Makatizen Card and Makatizen App | • Makatizen Card can be used as ID of Makati citizens for government transactions |
| **Smart Economy** e.g. E-banking, online procurement | | • Makatizen App allows for online purchasing of essential food and non-food products |
| **Smart Health** e.g. telemedicine, record management | • Davao City, Davao: Davao Central 911 call center for pandemic | • Davao Central 911 allows patients to speak to on-call doctors for free over the phone |
| **Smart Education** e.g. AI-aided mobile apps, digital content | • Pasig City, Metro Manila: Distribution of tablets to public school students | • PH Edtech is nascent and initiatives are focused on distributing devices instead of using tech-aided digital content |

Source: Various news articles

Fig. 2. Initiatives of Selected Cities in the Philippines towards Developing Smart Services

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## Smart City Development: Where to Start

Because people, data, or goods are connected via ICT network to access services, robust ICT infrastructure is a fundamental element of a smart city. The government is improving the ICT of the country through the National Broadband Plan [2] which aims to raise the quality of internet services. The need to develop stable and reliable broadband networks nationwide has been highlighted since the onset of the pandemic. Needs in contactless transactions have accelerated the urge to make cities ICT connected for government service and private service.

Local government initiatives to integrate technology in urban planning are key to developing smart services. Some indicators of readiness to implement smart city projects in local government include availability of infrastructure that would enable reliable internet connection, technical know-how to operate the smart services, and having knowledge on the priority needs of the city. The technologies used must also be interoperable. This means that its interface can be read by other devices and will be suitable even with the arrival of more advanced technologies in the future.

It should be emphasized that making cities "smarter" through integration of technology is only a means to improve the services and the lives of the city's constituents. Hence, local government must first identify the priority issues in their city. For example, the Smart City Index 2020 showed that the dominant issues in Manila are road congestion, corruption, and health services. Smart city initiatives to improve Manila's traffic system, government services, and health services can therefore be prioritized.

In all, improvement of ICT infrastructure through national government initiatives and crafting of tailored plans by local government based on each city's major issues should be the first steps towards making cities smarter to improve the quality of life of city dwellers.

References:

(1)Smart City Index Report 2020. https://www.imd.org/smart-city-observatory/smart-city-index/
(2)National Broadband Plan. https://dict.gov.ph/national-broadband-plan/

## About the Contributor

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Nova has been working in NRI for over a year and has been involved in market research and other projects in educational technology, ICT, and electric mobility among others. She has recently earned a Master's degree in Economics from the University of the Philippines Los Baños.

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