


# Chapter 19

## AI and Transit-Oriented Development Strategy Towards Sustainable Cities for the Business Environment

**R. J. Reejo**

 <https://orcid.org/0000-0003-1320-7169>

*University College, Thiruvananthapuram, India*

**Resmi C. Panicker**

*Government College, Nedumangad, India*

### ABSTRACT

*Fast-growing cities and populations require technological adaptability for sustainable urban development. Technology can improve the physical environment and boost global commerce with inclusive and sustainable urban design concepts. In this chapter, the authors evaluate the potential of Artificial Intelligence (AI) technologies for sustainable urban designs to promote Transit-Oriented Development (TOD) and the global business environment. First, the study emphasizes the need for AI technologies in urban development. Section two discusses the primary AI tools used in urban design, and section three explains why transit-oriented development is recommended in urban planning. The study examined pertinent literature, empirical research, and credible data from Google Scholar and Science Direct. It shows that AI technologies enable sustainable urban development that promotes business, and TOD urban design promotes good living in New York, London, Copenhagen, Hong Kong, and Singapore.*

### 1. INTRODUCTION

According to the World's Population Prospects (2022), the global population is expanding at an alarming rate and passed the 8 billion in November of 2022, marking a significant milestone. It reports that by the year 2050, the world population would have increased by around 9.7 billion, and it is possible that the

DOI: 10.4018/979-8-3693-1902-4.ch019

population will reach its highest point of 10.4 billion in the middle of the 2080s. Research indicates that over 50 per cent of the worldwide population increase is projected to take place in the African continent (UN DESA, 2022). By 2050, the population of 61 countries, such as Bosnia, Bulgaria, Croatia, Hungary, Japan, Latvia, Lithuania, Romania, Serbia, and Ukraine, is projected to decrease by at least 10 percent (WHO, 2023). However, according to the World Population Prospects of 2022, it is predicted that global migration will be the sole stimulus for population expansion in wealthier nations (Bhardwaj and Sharma, 2022). This prediction was made based on current trends and projections. The increasing global population presents significant obstacles to achieving sustainable development. However, in order to improve the general standard of life, as well as work and commerce, it is necessary to make use of various technological advancements in spatial management. In business also, there occur various transformational challenges due to the dynamic structure of global business environment. According to Bharadwaj, et al. (2023a), Artificial Intelligence has performed a big part in boosting managerial outcomes, and it conducts decision-making in business very fast in today's increasingly digitalized environment. In addition, academics in the nations of China, Spain, Italy, the United States of America, and India have carried out exhaustive research on the application of machine intelligence in the tourism and travel industries in those countries. Covid-19 and post pandemic challenges has brought a lot of transformation in industries including hotel industry (Bhardwaj et al., 2023c; Sharma et al., 2022; Bhardwaj et al., 2023d) According to the findings of the study, the tourism industry is making considerable use of artificial intelligence to promote the sustainable growth of tourism activities (Reejo, 2023). This is especially true in the areas of healthcare tourism, tourism to rural areas, eco-tourism, which and heritage-related tourism. Hence, in the modern era, inclusion of artificial intelligence, big data analysis and machine learning in decision making have changed the way of doing business in all over the world (Bhardwaj et al, 2023 b). In this context, cities should be planned and technologically upgraded to enhance the global business environment. Therefore, it is argued that for urban development to be sustainable, technological adaptation is essential, particularly in cities with rapidly expanding populations. The physical environment can be improved and global commerce can be boosted using urban design principles that are inclusive and sustainable through the use of technology.

## **1.1 Background of the Study**

The global community is faced with the pressing challenge of making cities more environmentally friendly, sustainable, habitable, and adaptable to handle future population expansion. Additionally, finding ways to encourage global business while minimizing its environmental impact is a matter of great importance for all nations. Furthermore, the most recent repercussions of the Pandemic of the Covid-19 virus have highlighted the imperative for cities to be sustainable and inclusive, catering to the needs of all segments of society, particularly marginalized individuals, persons with disabilities, and the elderly. In order to tackle these inquiries, numerous policymakers endorse the utilization of technological advancement in planning cities and towns techniques. In addition to that, SDG 11 of the goals for sustainable development outlined by the United Nations focuses on the establishment of sustainable cities and communities through the implementation of intelligent urban planning. In several affluent nations, technical advancements have facilitated the realization of sustainable urban development, hence allowing for the establishment of efficient and eco-friendly residential and business zones. The studies demonstrate that the utilization of digitalization or Artificial Intelligence (AI) tools provides significant assistance to urban designers and urban planners in various ways throughout the contemporary era of

15 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/ai-and-transit-oriented-development-strategy-towards-sustainable-cities-for-the-business-environment/335427](http://www.igi-global.com/chapter/ai-and-transit-oriented-development-strategy-towards-sustainable-cities-for-the-business-environment/335427)

## Related Content

---

### Knowledge

(2023). *Youth Cultures, Responsive Education, and Learning* (pp. 17-33).

[www.irma-international.org/chapter/knowledge/330712](http://www.irma-international.org/chapter/knowledge/330712)

### Innovating Processes to Determine Quality alongside Increased Inclusivity in Higher Education

Nick Kelly, Rory Sieand Robert Schuwer (2016). *Open Learning and Formal Credentialing in Higher Education: Curriculum Models and Institutional Policies* (pp. 59-78).

[www.irma-international.org/chapter/innovating-processes-to-determine-quality-alongside-increased-inclusivity-in-higher-education/135640](http://www.irma-international.org/chapter/innovating-processes-to-determine-quality-alongside-increased-inclusivity-in-higher-education/135640)

### How Active Learning Can Make a Difference

Teresa Dieguez, Paula Loureiroand Isabel Ferreira (2020). *Handbook of Research on Enhancing Innovation in Higher Education Institutions* (pp. 523-544).

[www.irma-international.org/chapter/how-active-learning-can-make-a-difference/252576](http://www.irma-international.org/chapter/how-active-learning-can-make-a-difference/252576)

### Public Art, Digital Technology, and Building Teacher Capacity

Narelle Lemon (2017). *Educational Leadership and Administration: Concepts, Methodologies, Tools, and Applications* (pp. 2114-2143).

[www.irma-international.org/chapter/public-art-digital-technology-and-building-teacher-capacity/169100](http://www.irma-international.org/chapter/public-art-digital-technology-and-building-teacher-capacity/169100)

### Education, Gender, and Child-Rights: Salient Issues in SDGS Years in ADO-ODO/OTA Local Government Area of Ogun State, Nigeria

Taiwo O. Abioye, Kehinde Oyesomi, Esther Ajiboye, Segun Omidioraand Olusola Oyero (2021). *Research Anthology on Preparing School Administrators to Lead Quality Education Programs* (pp. 36-49).

[www.irma-international.org/chapter/education-gender-and-child-rights/260415](http://www.irma-international.org/chapter/education-gender-and-child-rights/260415)