Chapter 6
Safe Cities and Smart Government for Transparency, Equity, and Resilience

Francisco R. Trejo-Macotela
https://orcid.org/0000-0003-2133-3456
Universidad Politécnica de Pachuca, Mexico

ABSTRACT

This chapter critically explores the transformation of urban safety paradigms in response to accelerating urbanisation, complex systemic risks, and emerging technologies. It examines the integration of intelligent surveillance systems, predictive crime analytics, and advanced emergency management platforms, underpinned by artificial intelligence, the Internet of Things (IoT), and multisectoral data fusion. Emphasis is placed on the ethical and governance imperatives surrounding algorithmic transparency, digital equity, and cyber resilience. The analysis demonstrates that safe cities must move beyond reactive models towards anticipatory, inclusive frameworks that embed technological innovation within democratic, human-centred urban governance. The chapter concludes by identifying future challenges—including neuro-rights, post-quantum security, and digital exclusion—and advocates for a holistic, ethically grounded vision of urban resilience.

1. INTRODUCTION

The twenty-first century marks an era of profound and accelerated urban transformation, where unprecedented demographic expansion, escalating environmental

DOI: 10.4018/979-8-3373-5535-1.ch006

crises, and the proliferation of complex, multidimensional threats are redefining the paradigms of urban governance. In this evolving landscape, the imperative to design and maintain safe, resilient, and inclusive cities has transitioned from a policy aspiration to an existential necessity. The demographic forecast articulated by the United Nations (2019), which anticipates that nearly 70% of the global population will reside in urban areas by 2050, underscores the urgency of this transformation. This projected urban concentration entails not only a substantial increase in the density of inhabitants but also a magnified demand on essential public services, transportation systems, healthcare infrastructure, energy supply chains, and security mechanisms. Consequently, the challenges of urban safety are becoming increasingly entangled with issues of environmental sustainability, technological dependency, social equity, and institutional preparedness.

Urban safety, historically construed through the lens of crime prevention and physical protection, now encompasses a vastly more intricate matrix of vulnerabilities. These include, but are not limited to, the growing threat of cyberattacks on critical infrastructure (Oliha et al., 2024), the public health ramifications of environmental degradation, the structural fragility exposed by extreme weather events, and the sociopolitical instability precipitated by rapid and uneven urbanisation. Furthermore, events such as the COVID-19 pandemic have laid bare the fragility of conventional public health systems, revealing the inadequacy of existing frameworks in addressing transboundary crises (OECD, 2020; Allam & Jones, 2021). The confluence of these dynamics necessitates a radical rethinking of urban safety strategies—ones that are data-driven, technologically integrated, and rooted in a holistic understanding of systemic interdependencies.

In this context, the deployment of intelligent technologies ceases to be optional or experimental; it emerges as a core pillar of contemporary urban planning. The convergence of the Internet of Things (IoT), artificial intelligence (AI), big data analytics, and digital twin simulations represents a paradigm shift in the capacity of cities to perceive, analyse, and respond to emerging risks in real time (Lim et al., 2020). These tools enable predictive governance mechanisms that are no longer confined to post-incident reactions but are increasingly oriented towards preemptive and adaptive responses. Whether through early wildfire detection in peri-urban areas, AI-enabled crime pattern recognition, or dynamic environmental quality monitoring, technological integration is reshaping the operational and strategic contours of urban safety.

Yet, as this digital transformation accelerates, it also exposes new vulnerabilities, ethical dilemmas, and equity challenges. The need for comprehensive governance frameworks—anchored in principles of transparency, accountability, and inclusiveness—is more pressing than ever. Urban safety in the digital age is no longer merely a matter of defending physical spaces; it involves safeguarding human