
**Smart community infrastructures —
Data framework for infrastructure
governance based on digital
technology in smart cities**

*Infrastructures urbaines intelligentes — Cadre de données pour la
gouvernance des infrastructures fondée sur la technologie numérique
dans les villes intelligentes*





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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

With more than half of the world's population living in cities, the city is the place where resources and economic and social activities are concentrated. As a space carrier for human beings in economic, social, cultural, and political activities, the city has become a source of technological innovation, an engine of economic growth, a platform for cultural development, a centre for decision-making, and a node for external connections. In the context of globalization, the city has become increasingly important. However, poor management of the city causes states of confusion and disorder, e.g. traffic congestion, environmental pollution, shortage and waste of resources, which is incompatible with sustainable development and the UN Millennium Development Goals.

City infrastructures are the foundation of city operations and the goal of city management, including municipal infrastructures, information and communications technology (ICT) infrastructures (see ISO/TR 37150). Information and digital technologies, e.g. mobile Internet, Internet of Things, and systems integration, provide a fundamental basis for infrastructure management. Based on digital technologies and systems, the digital city management framework can be expanded by integrating information, ICT and public facilities and services. Meanwhile, the city management database can be constructed by adopting various data bases from existing city data sources, e.g. environmental monitoring, traffic monitoring, energy supply, and demographic statistics. The collection and integration of various factors of city management will improve the data standardization and promote collaboration across departments and businesses. This can improve the service capabilities of city infrastructures and contribute to improving processes and services that facilitate and support liveability within the city. The specific practices of infrastructure governance will depend on the characteristics and actual demands of the city and considering protection of data privacy, public participation, the sovereignty of data.

This document provides a unified data framework of city infrastructure governance, underpinned by management and applications, security and privacy principles. This document is a reference for stakeholders and provides a data framework and system structures, which help city governments, enterprises, organizations and individuals participate in city activities and infrastructure governance.

NOTE [Annex A](#) outlines useful case studies of data framework for digital governance of infrastructure in smart cities.

