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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45845.2-2025

**Framework for integration and operation of smart community
infrastructures - Part 2: Guidelines for development, operation
and maintenance**

智慧城市基础设施整合运营框架 第2部分：开发与运维指南

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 2 of GB/T 45845 "Smart City Infrastructure Integrated Operation Framework".

GB/T 45845 has published the following parts.

- Part 1: Guidelines for business collaboration management throughout the life cycle;
- Part 2: Development and Operation Guide.

This document is equivalent to ISO 37155-2:2021 "Smart city infrastructure integrated operations framework Part 2: Smart city infrastructure "Overall ideas and strategies for facility development, operation and maintenance".

The following minimal editorial changes have been made to this document.

---Edit the document name to "Smart City Infrastructure Integrated Operations Framework Part 2: Development and Operations Guide";

---Edited adjustments were made to the "Scope" (see Chapter 1), and the explanatory text was marked as "Note" to make it more clear in terms of language and format.

The format and other aspects are in line with the writing habits of Chinese standards and do not change the scope of application and technical essence of the adopted standards;

--- Deleted Notes 4 and 5 of Term 3.1;

--- Supplemented the list of documents in "References".

Introduction

As the level of urbanization continues to rise, urban density will continue to increase, making the urbanization process increasingly complex.

In this context, the concept of "smart city" has emerged and has become a key tool to solve urban challenges. It integrates different the core of smart city is to integrate infrastructure into a "system of systems".

Stakeholders, including users, and infrastructure within each smart city extend the lifecycle scope (see Figure 1).

A major advantage of the "system of systems" is that the specific performance of all infrastructure in their respective areas can be measured against their impact on the overall city.

Through this verification process, these overall goals can be adjusted and the contribution of each infrastructure can be obtained.

Therefore, by integrating and operating smart city infrastructure and verifying and updating it throughout its life cycle, the expected goals of smart cities are always achieved efficiently (see Figure 2).

Currently, the owners of various infrastructures focus on combining subsystems without ensuring that the types of infrastructures are to ensure the overall coordination of the technical requirements of smart city infrastructure, we first need to clarify the functions of each subsystem should be configured according to the needs of the smart city. Secondly, it is also necessary to fully consider the demands of various stakeholders and Life cycle construction and operation of infrastructure.

To address these issues, this document focuses on achieving a fully functional smart city infrastructure, based on GB/T 45844-2025.

The general framework and process for the development and operation of smart city infrastructure proposed by ISO/T R37152.2016, MOD focuses on three aspects.

Elements (see Figure 3).

---Element (A). Component specification allocation and confirmation of allocation procedures;

---Element (B). Internal/external exploration, planning and operational strategies for smart city infrastructure;

---Element (C). Sharing and interaction of information among relevant parties.

All stakeholders will benefit from applying this framework (see Chapter 5).

GB/T 45845 "Smart City Infrastructure Integrated Operation Framework" aims to provide a framework for smart city infrastructure business collaboration (including process and method), which is intended to consist of two parts.

--- Part 1: Full life cycle business collaboration management guide. The purpose is to provide a clear understanding of the development and operation of smart city infrastructure.

Implementation guidance for "Element (B). Internal/External Exploration, Planning and Operational Strategies for Smart City Infrastructure" within the framework and process.

--- Part 2: Development and Operation Guide. The purpose is to provide a common framework and process for the development and operation of smart city infrastructure the implementation guide for "Element (A). Component specification allocation and confirmation of allocation procedures" in the Smart City Infrastructure Appropriate measures should be adopted to ensure coordination.

Note: The infrastructure, stakeholders and life cycle stages shown in the figure are for illustrative purposes only and could include other infrastructure such as urban agriculture systems.

System, etc.

Figure 1 Characteristics of smart city infrastructure

Figure 2. Integration and operation process of the "system of systems" of smart city infrastructure

Figure 3. Framework diagram with three elements

Smart City Infrastructure Integrated Operation Framework Part 2: Development and Operations Guide

1 Scope

This document provides a framework (including processes and methods) for business collaboration in smart city infrastructure.

Note 1: The framework proposes synergies between infrastructures, between infrastructures and stakeholders, and between infrastructures and the external environment.

NOTE 2 This document aims to better identify and manage the coordination of smart city infrastructure.

This document applies to both new construction and renovation projects.

Note 1: New projects, i.e., the simultaneous planning and design of smart city infrastructure, are conducive to improving the overall operational efficiency of new major infrastructure projects and value.

Note 2: The transformation project is a further expansion on the basis of the first type. In view of the