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

GB/T 45845.1-2025

**Framework for integration and operation of smart community infrastructures -
Part 1: Guidelines for the management of interactions in smart community
infrastructures from relevant aspects throughout the life cycle**

**智慧城市基础设施整合运营框架 第1部分：全生命周期业务协同管理指南
(English Translation)**

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Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 Hierarchical division of smart city infrastructure	
4.1 System Layer	
4.2 Facility Layer	
4.3 Sub-infrastructure layer	
5 Benefits of Applying This Document	
5.1 Overview	
5.2 Overall Benefits	
5.3 Administrative Department	
5.4 Investors or Lenders	
5.5 Developers, urban infrastructure owners and urban infrastructure operators	
5.6 Urban infrastructure service providers	
5.7 Smart City Users	
6 Smart City Infrastructure Lifecycle Stages	
6.1 Overview	
6.2 Planning (Phase 1)	
6.3 Design (Phase 2)	
6.4 Construction and Evaluation (Phase 3)	
6.5 Operation and Maintenance (Phase 4)	
6.6 Renewal and Reconstruction (Phase 5)	
6.7 Deactivation (Phase 6)	
7 Smart City Infrastructure Business Collaboration	
7.1 Overview	
7.2 Business Collaboration Between Infrastructures	
7.3 Business collaboration between infrastructure and stakeholders	
7.4 Business synergy between infrastructure and external environment	
8 General process of business collaboration management	
8.1 Overview	

8.2 Process

8.3 Action steps in the design phase (step 2 in Figure 12)

8.4 Confirmation of measures and countermeasures

9 Business Collaboration Management Guide

9.1 Overview

9.2 Planning (Phase 1-1)

9.3 Concept Planning (Phase 2-1)

9.4 Detailed Planning (Phase 2-2)

9.5 Preliminary Design (Phase 2-3)

9.6 Bidding (Phase 2-4)

9.7 Construction Drawing Design (Phase 2-5)

9.8 Construction (Phase 3-1)

9.9 Item-by-item acceptance and overall acceptance (Phase 3-2)

9.10 Overall Assessment (Phase 3-3)

9.11 Operation and Maintenance (Phase 4)

9.12 Renewal and Reconstruction (Phase 5)

9.13 Deactivation (Phase 6)

Reference

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 1 of GB/T 45845 "Smart City Infrastructure Integrated Operation Framework". GB/T 45845 has been 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 37155-1:2020 "Smart city infrastructure integrated operation framework Part 1: Based on the whole life cycle Recommendations on opportunities and challenges faced when interacting with smart city infrastructure.

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

---Edit the document name to "Smart City Infrastructure Integrated Operation Framework

Part 1: Full Lifecycle Business Collaboration" Management Guidelines;

--- Deleted some contents in the introduction;

---Edited adjustments were made to the "Scope" (see Chapter 1), and the explanatory text was marked in the form of "Notes" to make it more clear in terms of language expression, 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, and the urbanization process will become increasingly complex.

The concept of "smart city" has emerged as a key tool to solve urban challenges. It integrates different forms of infrastructure in a reasonable and efficient way.

The core of smart city is to integrate infrastructure into a "system of systems". At the same time, smart city involves users and There are different stakeholders, and each smart city infrastructure covers the entire life cycle (see Figure 1).

Currently, the owners of various infrastructures focus on combining the various subsystems together, but fail to ensure the interconnection between the infrastructures.

To ensure the integrity of the technical specifications of smart city infrastructure, first of all, it is necessary to clarify the Secondly, it is also necessary to fully consider the demands of various stakeholders and the infrastructure life cycle construction and operation.

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 2).

---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" provides 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. Framework diagram with three elements

Smart City Infrastructure Integrated Operation Framework Part 1: Guidelines for Business Collaboration Management throughout the Lifecycle

1 Scope

This document provides guidance on full life cycle business collaboration and management within the overall operational framework of smart city infrastructure.

The hierarchical division of smart city infrastructure, the benefits of applying this document, the life cycle stages of smart city infrastructure, Information on infrastructure business collaboration, general processes for business collaboration management, business collaboration management guidelines, and other related information.

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 the full life cycle business collaboration and manage.

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.