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

GB/T 18578-2025

Replacing GB/T 18578-2008

**Specifications for designing urban geographic information
system**

城市地理信息系统设计规范

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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 replaces GB/T 18578-2008 "Urban Geographic Information System Design Specifications".

In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Deleted the terms "system design", "prototype method", "life cycle method", "module structure method", "cohesion", "coupling" and their definitions (see 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 of the.2008 edition);
- b) Added the terms "basic geographic information database", "thematic information database", "urban three-dimensional model" and their definitions (see 3.2, 3.3, 3.4);
- c) Added "General Principles" for urban geographic information system design (see Chapter 5);
- d) The "Design Principles" of Urban Geographic Information System has been modified (see Chapter 6, 4.2 of the.2008 edition);
- e) Deleted the content related to "implementation plan and personnel training" (see 6.2.6 of the.2008 edition);
- f) The content of "Overall Design" has been changed (see Chapter 8, Chapter 6 of the.2008 edition);
- g) "Database Design" was changed and made into a separate chapter (see Chapter 9, 6.2.5 of the.2008 edition);
- h) The content of "Detailed Design" has been changed (see Chapter 10, Chapter 7 of the.2008 edition);

1 Scope

GB/T 18578-2025 is the Chinese national standard on specifications for designing urban geographic information system, in the field of natural and applied sciences. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 30 May 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 September 2025. Classification: ICS 07.040, CCS A75. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the general principles, design principles, requirements analysis, overall design, database design and detailed design of urban geographic information

systems. Requirements for the plan. This document is applicable to the design of urban geographic information systems for different needs. The design of other geographic information systems can refer to this document. implement.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 13923 Classification and codes of basic geographic information elements

GB/T 14395 Rules for the coding of urban geographic elements Urban roads, road intersections, neighborhoods, and municipal engineering pipelines

GB/T 17798 Geospatial Data Exchange Format

GB/T 20258.1 Basic geographic information element data dictionary Part 1.1.500 1.1000 1.2000 scale

GB/T 22239 Information security technology Network security level protection basic requirements

GB/T 23705 Digital city geographic information public platform place name/address coding rules

GB/T 35776 Basic provisions for space-time infrastructure of smart cities

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Relying on computer software, hardware and network environment, various urban information can be input, stored, displayed and retrieved according to their spatial distribution and attributes. A technical system for search, comprehensive analysis, output, visual expression, release, update, application and service.

3.2 A data set that organizes, stores and manages basic urban geographic information data.

3.3 A collection of data organized, stored and managed according to data structures around specific city themes.

3.4 It can clearly reflect the three-dimensional space entities and the spaces between entities such as urban topography, buildings, transportation, water systems, vegetation, pipelines, and underground space facilities. An interconnected data model.