



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

GB/T 45312-2025

**Intelligent and connected vehicles - Operational design
condition for automated driving system**

智能网联汽车自动驾驶系统设计运行条件

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1 Scope

GB/T 45312-2025 defines the operational design condition of an automated driving system - the set of circumstances inside which the system is designed to work and outside which it must not claim to. Everything else about automated driving depends on it: a system cannot be tested, approved, insured or safely handed to a driver unless the boundary of its competence is written down in comparable terms, and a boundary described in prose rather than in a defined element set cannot be compared between one manufacturer and another. The standard sets the general requirements on how an ODC is declared and then the basic element set that composes it, covering the road elements, the environmental and meteorological elements, the traffic and participant elements, and the connectivity and operational elements, with an informative annex giving a worked ODC example. It applies to category M and N vehicles equipped with automated driving systems and took effect on 28 February 2025.

This document specifies the general requirements and basic element set for the design and operation conditions of the automated driving system. This document is applicable to categories M and N vehicles equipped with automated driving systems; other types of vehicles or vehicles equipped with other levels of driving automation systems shall refer to it.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB 5768.2 Road traffic signs and markings - Part

3 Terms and definitions

The terms and definitions defined in GB/T 40429-2021, as well as the following terms and definitions, apply to this document.

3.1 Automated driving system; ADS A system composed of hardware and software that implements automated driving functions.

Note. This term refers to the level 3 and above automated driving systems specified in GB/T V2V. Vehicle to Vehicle

5 General requirements

5.1 ODC shall be designed based on the ODC basic element set and requirements in this document. New ODC elements can be added or new element requirements can be added to the ODC basic element set. When adding new ODC elements or element requirements, they shall not conflict with the ODC basic element set in this document, meanwhile ensure that the newly added ODC elements are reasonably placed in the structure of the ODC basic element hierarchy specified in Chapter

6. See Appendix A for an example of ODC writing.

Note 1: ODC selects some ODC basic elements and different levels of detail in this document according to requirements. Note