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**Service specifications for operation and maintenance of urban
tunnel**

城市隧道运维服务规范

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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: Please note that some of the contents of this document may involve patents: The issuing organization of this document does not assume the responsibility for identifying patents: This document was proposed and coordinated by the National Technical Committee for Standardization of Urban Public Facilities Services (SAC/TC537): This document was drafted by: Donglai Smart Transportation Technology (Shenzhen) Co., Ltd., Shenzhen Utop Technology Co., Ltd., Xiamen Leading the Future Technology Co., Ltd., Beijing Institute of Standardization, Chongqing Jiaotong University, Shanghai Urban Construction Urban Operations (Group) Co., Ltd., China Railway Engineering Equipment Group Co., Ltd., Shenzhen Urban Public Security Technology Research Institute Co., Ltd., Beijing Municipal Engineering Design and Research Institute Co., Ltd., Chongqing Transportation Research and Design Institute Co., Ltd., Shanghai Academy of Building Sciences Co., Ltd., China Railway Sixth Survey and Design Institute Group Co., Ltd., Shanghai Municipal Engineering Design and Research Institute (Group) Co., Ltd., Chongqing Chengtong Road and Bridge Management Co., Ltd., Zhejiang Erjian Construction Group Co., Ltd., Inner Mongolia Xianhong Technology Co., Ltd., Zhongdao Jiye Maintenance Technology Co., Ltd., East China Jiaotong University, Fuzhou City Planning and Design Research Institute Group Co., Ltd., Shenzhen Yuetong Construction Engineering Co., Ltd., Wuhan Yangtze River Tunnel Construction Co., Ltd., CCCC First Navigation Engineering China Railway Survey and Design Institute Co., Ltd., China Railway Sixth Bureau Group Co., Ltd., China Railway 11th Bureau Group Co., Ltd., China Railway 15th Bureau Group Co., Ltd., China Railway 19th Bureau Group Co., Ltd., China Railway

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With the acceleration of industrialization, urbanization and modernization, various urban Urban tunnels and underground structures are increasing rapidly in cities across my country: Urban tunnels are a complex system that integrates multiple disciplines: The project has the characteristics of large project investment, complex technology, multiple operating facilities and wide coverage: There are a lot of people and a lot of vehicles passing through every day, and there may even be congestion during rush hour, which poses a hidden danger to the safety of urban tunnels: Once an accident occurs and causes traffic jam, the impact on urban traffic will be "thrombotic", which may cause heavy casualties and disasters: In particular, traffic congestion in large cities has seriously restricted our The rapid growth of China's urban economy: Whether urban tunnels are safe to operate is a matter of great concern to people's property and social stability: The operation and maintenance services of urban tunnels are of vital importance: This document helps operation and maintenance service providers build smart, safe, efficient and green The urban tunnel operation and maintenance service model solves the current problems of low systematization, single management method and lack of information sharing in urban tunnel operation and maintenance services: To ensure the safety and performance of urban tunnels, extend the service life of urban tunnels, and improve the quality and level of operation and maintenance services of urban tunnels: the goal of: Urban tunnel operation and maintenance service specifications

1 Scope

GB/T 43991-2024 is the Chinese service specification for operating and maintaining urban

road tunnels. China has built urban tunnels at a rate that has left many cities with a maintenance liability they had no established practice for, and a tunnel is unforgiving: its ventilation, lighting, drainage, fire detection and suppression, traffic control and structural monitoring all have to work together, and a failure in any of them produces an incident in a confined space with no lateral escape. The standard sets the general requirements, efficient operation, safety and reliability, green and low carbon operation, continuous improvement and digital operation and maintenance, and then the service content itself: the daily operation and traffic management, the inspection regime for the structure and for each mechanical and electrical system, the maintenance and repair, the monitoring and the condition assessment, the emergency preparedness and response, and the records and the evaluation of the service. For a city authority or a contractor holding an operation and maintenance contract, this is the specification the service is measured against. It takes effect on 1 November 2024.

This document specifies the overall requirements, service content, service requirements, service guarantees, inspection and testing, evaluation and Improve: This document applies to operation and maintenance services provided by operation and maintenance service providers for newly built, rebuilt, and expanded urban tunnels: The operation and maintenance services of other tunnels can be used for reference:

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 19580 Criteria for Performance Excellence Evaluation

GB/T 29639 Guidelines for the preparation of emergency plans for production safety accidents in production and operation units JTG/T D70/2-01-2014 Highway Tunnel Lighting Design Specifications JTGH12-2015 Technical Specifications for Highway Tunnel Maintenance

3 Terms and definitions

The following terms and definitions apply to this document: 3:

1 Urban Tunnel A tunnel within the city that is equipped with certain technical conditions and facilities for vehicles and pedestrians to pass through: 3:

2 Routine inspection Inspect the appearance and working condition of the civil structures and electromechanical equipment of urban tunnels within a short period of time (generally less than 1 week): Check the activities: 3:

3 Regular inspections Check the technical performance of the civil structures and electromechanical equipment of urban tunnels at a certain time period (monthly, quarterly, annually) Activity: 3:

4 The process of managing and maintaining urban tunnels:

Note: Operation and maintenance services include inspection, repair and maintenance of tunnel structure, equipment, lighting, ventilation, drainage and other aspects: The traffic flow, vehicle volume, weather and other external factors in the tunnel are monitored and managed to ensure the safety and smooth flow of the tunnel: 3:

5 An internal or external service organization that provides operation and maintenance services: