



SYSTEMS REFERENCE DELIVERABLE

City needs analysis framework



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

City needs analysis framework

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The language used for the development of this Systems Reference Deliverable is English.

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INTRODUCTION

In the evolving landscape of urban development, the integration of smart technologies into city infrastructure and governance has emerged as a pivotal strategy for addressing complex urban challenges. This document represents a significant milestone in this journey, offering a comprehensive framework to systematically identify and articulate the different needs of cities in different stages. This document enriches the existing foundational principles, which introduced a concept of city needs analysis framework (CNAF), by incorporating additional critical aspects essential for a thorough analysis of city needs. Moreover, this document elucidates methodologies for utilizing this framework to conduct a nuanced analysis of city requirements, thereby facilitating a uniform basis for research and standard development.

The significance of this document extends beyond its immediate utility in analyzing city needs. It serves as an invaluable resource for standards development organizations (SDOs), aiding in the identification, description, and development of smart solutions tailored to the unique requirements of cities. By providing a common language and conceptual framework, this document plays a crucial role in harmonizing standards across different SDOs and Technical Committees. Such alignment is essential for ensuring that the diverse standards relevant to smart cities are coherent, interoperable, and collectively contribute to the overarching goal of sustainable urban development.

Furthermore, this document is strategically aligned with the sustainable development goals (SDGs), underscoring the importance of sustainable practices in the context of smart urban planning and development. By fostering a holistic approach to city needs analysis, the document encourages the integration of sustainability considerations into the core of smart city initiatives. This alignment not only enhances the relevance of this document in the current global sustainability discourse but also amplifies its potential impact on shaping the future of urban living.

In essence, this document stands as a cornerstone document for all stakeholders involved in the conception, planning, and implementation of smart city projects. The target users for this document include the following stakeholders who have interest in city needs for smart cities:

- a) smart city planners and service providers, who can learn about city needs for smart cities needs and how to implement the plans;
- b) government agencies and heads, who can use city needs for smart cities and implement in future works;
- c) citizens who want to have a better understanding of city needs for smart cities;
- d) city needs for smart cities operators who need to understand the requirements;
- e) regulators who are responsible for developing and managing city needs for smart cities and related regulations.

By offering a structured approach to identifying and addressing city needs, this document paves the way for more coherent, efficient, and sustainable urban development practices. As cities continue to evolve and face new challenges, the principles and methodologies outlined in this document will undoubtedly play a pivotal role in guiding their transformation into smarter, more resilient, and sustainable communities.

1 Scope

This document provides a framework that can be used to help identify and describe the most important city needs in a systematic way to support clarity in smart city related standards and consistency between different standards. It builds on the descriptive framework for cities and communities contained in ISO 37105 by adding additional important aspects to be considered when analysing city needs. In addition, this document also describes how the framework can be used to analyse city needs and to provide a consistent basis for research.

This document will help standards development organisations (SDOs) in their work of identifying and describing smart solutions to city needs. It also provides a useful tool to help align standards from different SDOs and Technical Committees by giving them a common language to describe the aspects of the city for which their standards have relevance.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Terms and definitions

3.1.1

city needs

demands on physical and human resources caused by urban development and growth

Note 1 to entry: Because city needs are often interrelated, understanding them involves bringing together insights from many city data platforms.

3.1.2

city needs analysis framework

cross-disciplinary framework that supports a holistic approach to analyzing and tackling city needs

3.2 Abbreviated terms

AI	artificial intelligence
CNAF	city needs analysis framework
GIS	geographic information system
ICT	information and communication technology
IoT	internet of things
SDG	sustainable development goals
SUP	smart urban planning