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Sustainable mobility and transportation — Digital governance — Indicators

Mobilité et transports durables — Gouvernance numérique — Indicateurs

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Foreword

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This document was prepared by Technical Committee ISO/TC 268, *Sustainable cities and communities*, Subcommittee SC 2, *Sustainable mobility and transportation*.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document aims at providing a framework to produce relevant indicators supporting any sustainable mobility project.

It supports mobility stakeholders and especially transport authorities in the emergence, the realization and the management of contributive solutions to the objectives of sustainability depicted in ISO 37101.

This document is part of a set of standards including ISO 16481, which aims to build a vision about the functional and environmental needs on systems composing the mobility system, and a forthcoming document intended to deal with mobility data framework.

This document provides guidance to develop indicators that are:

— consistent with the steps specified in ISO 16481 and ISO 37101;

— differentiated according to status, objective, impact and means;

— adaptable to sustainable mobility plans and their specific needs;

— measuring performance of mobility services.

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Sustainable mobility and transportation — Digital governance — Indicators

1 Scope

This document defines and establishes methodologies for developing a set of indicators to steer and measure the performance of sustainable mobility offers.

This document applies to the digital governance part of the mobility system of a city engaged in sustainability. It aims at achieving sustainability goals of the local community.

This document targets urban mobility and its connections with intercity and other long-distance transport solutions. It applies to mobility of people and goods.

This document follows the principles set out in ISO 37101 and ISO 16481. This document is applicable to any city, municipality or local authority that undertakes to measure its performance in a comparable and verifiable manner, irrespective of size and location. It aims at helping mobility policy planners to measure the performance of the mobility systems.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 16481:2025, *Sustainable mobility and transportation — Digital governance — Strategic needs regarding ISO 37101 purposes of sustainability*

3 Terms and definitions

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:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 Terms related to organizations

3.1.1
city
urban *community* (3.1.2) falling under a specific administrative boundary

Note 1 to entry: A city is sometimes referred to as a municipality or a local government.

Note 2 to entry: Cities can help to alleviate increasing pressure on the environment and natural resources caused by global urbanization through the development of holistic and integrated *policies* (3.1.6).

[SOURCE: ISO 37120:2018, 3.1, modified — Notes 1 and 2 to entry have been added.]

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3.1.2
community
group of people with an arrangement of responsibilities, activities and relationships

Note 1 to entry: In many, but not all, contexts, a community has defined geographical boundaries.

Note 2 to entry: A *city* (3.1.1) is a type of community.

[SOURCE: ISO/TS 37151:2024, 3.1, modified — Notes 1 to entry "In the context of this document" has been replaced with "In many, but not all, contexts".]

3.1.3
interested party
stakeholder
person or *organization* (3.1.4) that can affect, be affected by, or perceive itself to be affected by a decision or activity

[SOURCE: ISO 37100:2016, 3.2.5]

3.1.4
organization
person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.2.6)

Note 1 to entry: The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

Note 2 to entry: In this document, the concept of organization refers to an entity/institution inside the *community* (3.1.2) that is tasked with implementing the *management system* (3.2.2), e.g. the local government. The community identifies an organization that it entrusts with the implementation of this document.

[SOURCE: ISO 37100:2016, 3.2.3]

3.1.5
top management
person or group of people who directs and controls an *organization* (3.1.4) at the highest level

Note 1 to entry: Top management has the power to delegate authority and to provide resources within the organization.

[SOURCE: ISO 37100:2016, 3.3.2]

3.1.6
policy
intentions and direction of an *organization* (3.1.4), as formally expressed by its *top management* (3.1.5)

[SOURCE: ISO 37100:2016, 3.3.9]

3.1.7
resilience
adaptive capacity of an *organization* (3.1.4) in a complex and changing *environment*

Note 1 to entry: The Intergovernmental Panel on Climate Change (IPCC) defines resilience as “the ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions”.

Note 2 to entry: Resilience is the ability of an organization to resist being affected by an event or the ability to return to an acceptable level of *performance* (3.2.7) in an acceptable period of time after being affected by an event.

Note 3 to entry: Resilience is the capability of a system to maintain its functions and structure in the face of internal and external change and to degrade gracefully when this is necessary.

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3.2 Terms related to project management

3.2.1
indicator
quantitative, qualitative or descriptive measure

[SOURCE: ISO 15392:2019, 3.18]

3.2.2
management system
set of interrelated or interacting elements of an *organization* (3.1.4) to establish *policies* (3.1.6) and *objectives* (3.2.6) and *processes* (3.2.8) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The system elements include the organization's structure, roles and responsibilities, planning and operation.

Note 3 to entry: The scope of a management system may include the whole organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

[SOURCE: ISO 37100:2016, 3.3.1]

3.2.3
measurement
process (3.2.8) to determine a value

[SOURCE: ISO 37100:2016, 3.4.7]

3.2.4
metric
defined *measurement* (3.2.3) method and measurement scale

[SOURCE: ISO/TR 37150:2014, 3.5, modified]

3.2.5
monitoring
continuous or repeated checking, supervising, critically observing, measuring or determining the status of a system to identify variance from an expected performance level or baseline, intended to control the system

[SOURCE: ISO/TS 23565:2021, 3.12]

3.2.6
objective
result to be achieved

Note 1 to entry: An objective can be strategic, tactical, or operational.

Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels [such as strategic, organization-wide, project, product and *process* (3.2.8)].

Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended outcome, a purpose, an operational criterion, as an objective of *sustainable development* (3.4.2) in *communities* (3.1.2), or by the use of other words with similar meaning (e.g. aim, goal, or target).

Note 4 to entry: In the context of *management systems* (3.2.2) for sustainable development in communities, objectives for sustainable development in communities are set by the *organization* (3.1.4), consistent with the *policy* (3.1.6) for sustainable development in communities, to achieve specific results.

[SOURCE: ISO 37100:2016, 3.3.7]

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3.2.7
performance
measurable result

Note 1 to entry: Performance can relate either to quantitative or qualitative findings.

Note 2 to entry: Performance can relate to the management of activities, *processes* (3.2.8), products (including strategies, programmes, projects, plans and services), systems or *organizations* (3.1.4).

[SOURCE: ISO 37100:2016, 3.4.10]

3.2.8
process
set of interrelated or interacting activities which transforms inputs into outputs

[SOURCE: ISO 37100:2016, 3.3.10]

3.2.9
requirement
need or expectation that is stated, generally implied or obligatory

Note 1 to entry: "Generally implied" means that it is custom or common practice for the *organization* (3.1.4) and *interested parties* (3.1.3) that the need or expectation under consideration is implied.

[SOURCE: ISO 37100:2016, 3.4.11]

3.2.10
risk
effect of uncertainty on *objectives* (3.2.6)

Note 1 to entry: An effect is a deviation from the expected — positive or negative.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

Note 3 to entry: Risk is often characterized by reference to potential "events" (as defined in ISO Guide 73:2009, 3.5.1.3) and "consequence" (as defined in ISO Guide 73:2009, 3.6.1.3), or a combination of these.

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated "likelihood" (as defined in ISO Guide 73:2009, 3.6.1.1) of occurrence.

[SOURCE: ISO 37100:2016, 3.4.12]

3.3 Terms related to the mobility system

3.3.1
governance of mobility
manages, implements and/or monitors policies, requirements, legislation or guidelines of mobility. It manages the implementation, the execution and the control of mobility policies.

3.3.2
digital governance
defines the computerized systems that implement in the daily real time operations the mobility strategies serving the sustainability of the territory and its sustainable mobility

3.3.3
supervision
monitoring and control system of a transport mean

EXAMPLE Metro line, bus line, main road.

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3.3.4
data management
functions that provide access to data, performs or monitors the storage of data, and controls input-output operations all within a data processing system

Note 1 to entry: It consists of giving meaning to data, valorising it, transforming raw material into a refined raw material, ready to be exploited. The data management activity designates all the methods, tools, concepts and processes that allow us to master the three "V's": volume, variety and velocity, in order to create a unique reference system.

[SOURCE: ISO/IEC 20944-1:2013, 3.6.6.2, modified — Note 1 to entry has been added.]

3.3.5
cluster of requirements
abstraction level of a set of requirements that have the same purpose

3.3.6
MaaS
Mobility as a Service
digital platform providing capacity to plan, book and pay for various transportation means

Note 1 to entry: This service manages the appropriate booking, ticketing and reservation, and guidance that best fit with the requirements and criteria of travellers.

Note 2 to entry: According to the level of service offered and subscribed, advanced MaaS also assists the travellers during their trip, proving assistance in case of unplanned events.

3.3.7
transport authority
public or publicly owned organisation with legal responsibility to plan, deploy, operate and regulate public transport services in a specified geographic area

Note 1 to entry: It is also named Organising Authority for Mobility (OAM) in some countries.

3.4 General definitions

3.4.1
life cycle
consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal

Note 1 to entry: The life cycle stages include acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment and final disposal.

[SOURCE: ISO 14001:2015, 3.3.3]

3.4.2
sustainable development
development that meets the environmental, social and economic needs of the present without compromising the ability of future generations to meet their own needs

Note 1 to entry: Derived from the Brundtland Report.

Note 2 to entry: The Aalborg Charter provides further information on *sustainable development* (3.4.2) in *communities* (3.1.2).

[SOURCE: ISO Guide 82:2019, modified — Note 2 to entry has been added.]

3.4.3
vulnerable person
person with difficulties to move, protect themselves and handle emergencies

EXAMPLE People living with disabilities, children, pregnant women, the elderly.

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