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Sustainable development of communities — Indicators for city services and quality of life

Développement durable des collectivités — Indicateurs pour les services urbains et la qualité de vie

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 268, Sustainable development in communities.

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Introduction

Cities need indicators to measure their performance. Existing indicators are often not standardized, consistent, or comparable over time or across cities.

As part of a new series of International Standards being developed for a holistic and integrated approach to sustainable development and resilience, this set of standardized indicators provides a uniform approach to what is measured, and how that measurement is to be undertaken. As a list, it does not provide a value judgement, or threshold or a target numerical value for the indicators.

Conformance with this standard does not confer a status in this regard. A city which conforms to this standard in regards to measurement of indicators for city services and quality of life may only claim compliance to that effect.

These indicators can be used to track and monitor progress on city performance. In order to achieve sustainable development, the whole city system needs to be taken into consideration. Planning for future needs must take into consideration current use and efficiency of resources in order to better plan for tomorrow.

The indicators and associated test methods in this International Standard have been developed in order to help cities:

- a) measure performance management of city services and quality of life over time;
- b) learn from one another by allowing comparison across a wide range of performance measures; and,
- c) share best practices.

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NOTE It is acknowledged that cities may not have direct influence or control over factors governing some of these indicators, but the reporting is important for meaningful comparison and provides a general indication of service delivery and quality of life within a city. 37120:2014 https://standards.iteh.ai/catalog/standards/sist/bac67a3b-2a41-415b-810f-

The indicators in this International Standard have been selected to make reporting as simple and inexpensive as possible, and therefore reflect an initial platform for reporting. Further development of indicators to support sustainable development and resilience in cities is on-going in TC268.

The indicators are structured around themes. Recognizing the differences in resources and capabilities of cities worldwide, the overall set of indicators for city performance has been divided into "core" indicators (those implementing this International Standard shall follow) and "supporting" indicators, (those implementing this International Standard should follow). Both core and supporting indicators are listed in <u>Annex A</u>, <u>Table A.1</u>. In addition, profile indicators, which provide basic statistics and background information to help cities determine which cities are of interest for comparisons, are included in <u>Annex B</u>, <u>Table B.1</u>, as a reference.

In this International Standard, the following verbal forms are used:

- "shall" indicates a requirement;
- "should" indicates a recommendation;
- "may" indicates a permission;
- "can" indicates a possibility or a capability.

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Sustainable development of communities — Indicators for city services and quality of life

1 Scope

This International Standard defines and establishes methodologies for a set of indicators to steer and measure the performance of city services and quality of life. It follows the principles set out and can be used in conjunction with ISO 37101:—, *Sustainable development in communities* — *Management systems* — *General principles and requirements,* when published, and other strategic frameworks.

This International Standard is applicable to any city, municipality or local government that undertakes to measure its performance in a comparable and verifiable manner, irrespective of size and location.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 37101:—, Sustainable development and resilience of communities — Management systems — General principles and requirements

ISO 1996-2:—, Acoustics Description, measurement and assessment of environmental noise — Part 2: Determination of environmental noise levels

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3 Terms and definitions 2ab72dbaded7/iso-37120-2014

For the purposes of this document, the terms and definitions given in ISO 37101, and the following apply.

3.1

city

urban community falling under a specific administrative boundary, commonly referred to as a city, municipality or local government

3.2

indicator

a quantitative, qualitative or descriptive measure

[SOURCE: ISO 15392:2008, 3.14]

Note 1 to entry: Indicators in this standard are divided into:

- a) core indicators: indicators that are required to demonstrate performance in the delivery of city services and quality of life.
- b) supporting indicators: indicators that are recommended to demonstrate performance in the delivery of city services and quality of life.
- c) profile indicators: indicators that provide basic statistics and background information to help cities determine which cities are of interest for peer comparisons. Profile indicators are used as an informative reference.

3.3

full-time enrolment

enrolment in school for every full school day in a week over the entire school year

3.4

natural disaster

a natural event such as a flood, earthquake, or hurricane that causes great damage or loss of life

3.5

part-time enrolment

enrolment in school for at least every half-day in a week over the entire school year or equivalent on a weekly basis

EXAMPLE A student is counted as enrolled part-time if he/she is enrolled in school for every half-day in a week, but is not counted as enrolled if he/she is only enrolled for 0,25 of a day.

3.6

primary education

elementary school

education that is considered to be the first stage of 'basic education'

Note 1 to entry: Primary education typically covers six years of full-time schooling with the legal age of entrance normally being not younger than 5 years or older than 7 years. Primary education typically lasts until age 10 to 12. Primary education refers to children ages 5-12 years or 1st grade through 5th or 6th grade as defined by local education systems.

[SOURCE: UNESCO Institute for Statistics, UOE data collection on education systems, 10.1]

3.7

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secondary education

education that is considered to be the second stage of basic education and marks the end of compulsory education where it exists $\frac{1}{1000} \frac{1}{1000} \frac$

Note 1 to entry: Students usually enter between age 10 and 13 (age 12 being the most common). Secondary education usually ends 12 or 13 years after the beginning of primary education (or around age 18); however, systems can range between ending 11 to 14 years after beginning school (or around age 17 to 20). Secondary education also refers to 6th grade (or 7th grade) to 12th grade as defined by local education systems.

3.8

tertiary education

education provided by universities and other higher education institutions following secondary education

3.9

hazardous waste

waste that is potentially harmful to human beings, property or the environment

[SOURCE: ISO 18113-1:2009, 3.22]

3.10

solid waste

non-soluble, discarded solid materials, including sewage sludge, municipal garbage, industrial wastes, agricultural refuse, demolition wastes and mining residues

3.11

vascular plants (tracheophytes)

plants that can internally transport water and food

4 City indicators

This International Standard is designed to assist cities in steering and assessing the performance management of city services and all service provisions as well as quality of life. It considers sustainability as its general principle and resilience as a guiding concept in the development of cities. All indicators shall be compiled on an annual basis.

Those implementing this International Standard shall report on all core indicators listed in <u>Clauses 5</u> to 21 of this International Standard.

The core indicators described in this International Standard are considered essential for steering and assessing the performance management of city services and quality of life.

In order to promote best practice, cities should also report on the supporting indicators given in <u>Clauses</u> 5 to 21 of this International Standard.

The core and supporting indicators are classified into themes according to the different sectors and services provided by a city. The classification structure is used solely to denote the services and area of application of each type of indicator when reported on by a city. This classification has no hierarchical significance and is organized alphabetically according to themes.

Indicators under each theme, where possible, were selected and paired on the basis of input and outcome indicators for further contextual analysis.

When interpreting the results of a particular service area, it is important to review the results of multiple types of indicators across themes; to focus on a single indicator can lead to a distorted or incomplete conclusion. Elements of aspiration must also be taken into consideration in the analysis.

Users may also consider the following aspects which shall be clearly stated in the report and justified: indicators can be aggregated to larger administrative areas (ex. region, metropolitan areas etc.); since some indicators are indirectly linked to sustainability, there is a need to consider the resource efficiency of a city; indicators can be grouped together for analysis when taking of into consideration holistic characteristics of a city; and, this set of indicators may be complemented by other indicator sets in order to have a more comprehensive holistic approach to analysis on sustainability.

Furthermore, it is also important to acknowledge potential antagonistic effects of the outcome of particular indicators, either positive or negative, when analysing results. For example, an increase in air connectivity and the number of automobiles per capita will potentially result in increased levels of PM10 and greenhouse gas emissions.

For data interpretation purposes cities shall take into consideration contextual analysis when interpreting results. The local institutional environment may affect the capacity to apply indicators. In some cases, services may be delivered by the private sector or the community itself.

<u>Table B.1</u> lists a series of profile indicators for reference purposes.

5 Economy

5.1 City's unemployment rate (core indicator)

5.1.1 General

Those implementing this International Standard shall report on this indicator in accordance with the following requirements.

NOTE The unemployment rate is considered one of the single, most informative labour market indicators reflecting the general performance of the labour market and the health of the economy as a whole. It is used to measure a city's unutilized labour supply and track business cycles. When economic growth is strong, unemployment rates tend to be low and when the economy is stagnating or in recession, unemployment rates tend to be higher.

5.1.2 Core indicator requirements

A city's unemployment rate shall be calculated as the number of working-age city residents who during the survey reference period were not in paid employment or self-employment, but available for work, and seeking work (numerator) divided by the total labour force (denominator). The result shall be multiplied by 100 and expressed as a percentage.

Unemployment shall refer to individuals without work, actively seeking work in a recent past period (past four weeks), and currently available for work. Persons who did not look for work but have a future labour market stake (arrangements for a future job start) are counted as unemployed (International Labour Organization). Discouraged workers or hidden unemployed shall refer to persons who are not actively seeking work because they believe the prospects of finding it are extremely poor or they have restricted labour mobility, face discrimination, and/or structural, social, and cultural barriers – are not counted as unemployed or as part of the labour force. Not actively seeking work shall refer to people who have not taken active steps to seek work (i.e. job searches, interviews, informational meetings etc.) during a specified recent period (usually the past four weeks).

Labour Force shall refer to the sum of the total persons employed and unemployed who are legally eligible to work.

5.2 Assessed value of commercial and industrial properties as a percentage of total assessed value of all properties (core indicator)

5.2.1 General

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Those implementing this International Standard shall report on this indicator in accordance with the following requirements. (standards.iteh.ai)

NOTE Assessed value of commercial and industrial properties as a percentage of total assessed value of all properties provides an understanding of the mix of assessed values of properties as well as the stability of the assessed base. A downward trend in the proportion of commercial and industrial assessed values could indicate an eroding economic base. Over reliance on residential assessed values can impact affordability.

5.2.2 Core indicator requirements

The assessed value of commercial and industrial properties as a percentage of total assessed value of all properties shall be expressed as the total assessed value of commercial and industrial properties (numerator) divided by the total assessed value of all properties (denominator). The result shall then be multiplied by 100 and expressed as a percentage.

Commercial and industrial properties shall refer to those which have been designated by the city for commercial and industrial use.

NOTE Property assessment methods may vary from one jurisdiction or country to another, including the market-oriented method, the profit-oriented method and the cost-oriented method.

5.3 Percentage of city population living in poverty (core indicator)

5.3.1 General

Those implementing this International Standard shall report on this indicator in accordance with the following requirements.

NOTE The percentage of the city's population living in poverty is an indicator of social equity and reflects levels of economic and social marginality and/or inclusiveness in a city. Eradication of poverty is an essential component of the Millennium Development Goals.[22]

5.3.2 Core indicator requirements

The percentage of city population living in poverty shall be calculated as the number of people living below the poverty threshold (numerator) divided by the total current population of the city (denominator). The result shall then be multiplied by 100 and expressed as a percentage.

The total number of persons in the city living below the poverty threshold shall first be determined by multiplying the number of city households living at or below the poverty threshold by the current average number of persons per household for that city.

NOTE The poverty threshold for each country is recorded by the World Bank, which can be viewed through its website at: www.worldbank.org (search for PovertyNet) or directly on the PovertyNet website at: www.povertynet.org[34] where, the poverty threshold for households is specified as persons unable to adequately provide themselves over a 12 month period with water, food, shelter, and other basic needs for a healthy life.

5.3.3 Data interpretation

Applying current average persons per household figure to all households can lower distinctions between household size in poor and more affluent households.

5.4 Percentage of persons in full-time employment (supporting indicator)

5.4.1 General

Those implementing this International Standard should report on this indicator in accordance with the following requirements.

NOTE The percentage of the city population in full-time employment is an indicator of the economic health of the city and the success of city economic policy.

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5.4.2 Supporting indicator requirements ndards/sist/bac67a3b-2a41-415b-810f-2ab72dbaded7/iso-37120-2014

The percentage of persons in full-time employment shall be calculated as the number of persons in full-time employment (numerator) divided by the total city population (denominator). The result shall then be multiplied by 100 and expressed as a percentage.

The number of persons residing in the city in full-time employment shall include those that are self-employed and shall only include the residents that work a minimum of 35 hours a week in one job and who are of legal working age.

NOTE 1 City population has been used as the denominator for this indicator instead of workforce given that population will be known for most cities. This indicator is dependent on the government agency charged with the responsibility of collecting relevant employment and population data and the precise nature of the available data.

NOTE 2 Employment is a formal labour market concept which is often complicated in developing countries with a large informal sector of the city economy.

NOTE 3 The Social Responsibility core subjects on Human Rights and Labour Practices from ISO 26000 can be considered, and are particularly useful in regards to child labour.

NOTE 4 The International Labour Organization (ILO) Fundamental Principles and Rights at Work (FPRW) include the elimination of child labour alongside the right to freedom of association and collective bargaining, elimination of forced labour, and the elimination of discrimination in employment or occupation. These fundamental principles and rights at work are mutually interdependent. Violation of one category of rights at work often has an adverse impact on the respect and realization of the others. Vice versa, recognition, promotion and implementation of one category of rights can have a beneficial impact on the respect and realization of the others.

Over the years the international community has developed a framework of international standards which seek to protect children from child labour, in particular the two important ILO Conventions on the subject and more generally the UN Convention on the Rights of the Child.[45] Whilst some progress

is being made in reducing child labour, in too many cases the rights contained in these international standards are still not fully applied in practice and enforced. Users of this standard are encouraged to keep these principles in mind.

5.5 Youth unemployment rate (supporting indicator)

5.5.1 General

Those implementing this International Standard should report on this indicator in accordance with the following requirements.

NOTE The unemployment rate is probably the best-known and most used labour market performance indicator. Youth Unemployment Rate is key indicator for quantifying and analyzing the current labour market trends and challenges of young people. Young men and women today face increasing uncertainty in their hopes of undergoing a satisfactory transition in the labour market, and this uncertainty and disillusionment can, in turn, have damaging effects on individuals, communities, economies and society at large. Unemployed or underemployed youth are less able to contribute effectively to community and national development and have fewer opportunities to exercise their rights as citizens. They have less to spend as consumers, less to invest as savers and often have no "voice" to bring about change in their lives and communities. Widespread youth unemployment and underemployment also prevents companies and countries from innovating and developing competitive advantages based on human capital investment, thus undermining future prospects. Knowing the costs of non-action, many governments around the world do prioritize the issue of youth employment and attempt to develop pro-active policies and programmes.

5.5.2 Supporting indicator requirements NDARD PREVIEW

Youth unemployment rate shall be calculated as the total number of unemployed youth (numerator) divided by the youth labour force (denominator). The result shall be multiplied by 100 and expressed as a percentage.

Unemployed youth shall refer to individuals above the legal working age and under 24 years of age who are without work, actively seeking work in a recent past period (past four weeks), and currently available for work. Youth who did not look for work but have a future labour market stake (arrangements for a future job start) are counted as unemployed (International Labour Organization). Discouraged workers or hidden unemployed shall not be counted as unemployed or as part of the labour force. Not actively seeking work shall refer to people who have not taken active steps to seek work (i.e. job searches, interviews, informational meetings etc.) during a specified recent period (usually the past four weeks).

Youth labour force shall refer to all persons above the legal working age and under 24 years of age, who are either employed or unemployed over a specified reference period.

NOTE Countries vary somewhat in their operational definitions of youth, in particular, the lower age limit for young people is usually determined by the minimum age for leaving school, where this exists.

5.6 Number of businesses per 100 000 population (supporting indicator)

5.6.1 General

Those implementing this International Standard should report on this indicator in accordance with the following requirements.

NOTE The number of businesses per 100 000 can inform a city's level of economic activity and economic performance. It provides one indication of the overall business climate in a jurisdiction, and attitudes towards entrepreneurship. Strong entrepreneurial activity is closely associated with a dynamic and growing economy. The number of businesses is also used to inform competitiveness of a city. The number of businesses reflects both the number of new businesses created and the survival of existing businesses.

5.6.2 Supporting indicator requirements

The number of businesses per $100\ 000$ population shall be calculated as the total number of businesses in a city (numerator) divided by one $100\ 000^{th}$ of the city's total population (denominator). The result shall be expressed as the number of businesses per $100\ 000$ population.

Businesses shall refer to companies or enterprises. The enterprise is the smallest combination of legal unit, that is, an organizational unit producing goods or services. Business can either be categorized as simple (one operating entity) or complex (multiple operating entities).

5.7 Number of new patents per 100 000 population per year (supporting indicator)

5.7.1 General

Those implementing this International Standard should report on this indicator in accordance with the following requirements.

NOTE The number of patents issued to resident persons or corporations of a city is an indicator of commercial and technological innovation.

5.7.2 Supporting indicator requirements

The number of new patents per 100 000 population per year shall be calculated as the total number of new patents issued to resident persons and corporations of the city (numerator) divided by one 100 $000^{\rm th}$ of the city's total population (denominator). The result shall be expressed as the number of patents registered per 100 000 population.

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5.7.3 Data sources

As patents are generally issued by the national government cities will be reliant on another level of government to provide this information on an annual city-by-city basis.

Data should be obtained from Government Patent Offices, who maintain records of all patents registered to persons and corporations across jurisdiction.

6 Education

6.1 Percentage of female school-aged population enrolled in schools (core indicator)

6.1.1 General

Those implementing this International Standard shall report on this indicator in accordance with the following requirements.

NOTE Education is one of the most important aspects of human development. This indicator addresses the issue of educational opportunity, by indicating how widespread formal education is in the city among school-aged population. Reporting on the differential enrolment by gender is consistent with the Millennium Development Goals, [21] Goal 3: Promote Gender Equality and Empower Women.

6.1.2 Core indicator requirements

The percentage of female school-aged population enrolled in schools shall be calculated as the number of female school- aged population enrolled at primary and secondary levels in public and private schools (numerator) divided by the total number of female school-aged population (denominator). The result shall then be multiplied by 100 and expressed as a percentage.

The definitions of primary and secondary school detailed in Clauses 3.5 and 3.6 shall apply.