








CIVITAS indicators

Perceived public transport security by gender (SOC_SC_PS1)

DOMAIN

				
Transport	Environment	Energy	Society	Economy

TOPIC

Security

IMPACT

Perceived public transport security

Increasing the perception that public transport is secure

SOC_SC

Category

Key indicator	Supplementary indicator	State indicator
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CONTEXT AND RELEVANCE

Perceived public transport security refers to how safe citizens feel when using public transport services, both while waiting at stops or stations and while travelling onboard. Perceptions account for a wide range of factors, including stop design, maintenance, the presence and visibility of staff, lighting and cleanliness of facilities, crowding levels, availability of surveillance systems (e.g., CCTV), and the behaviour of other passengers. It also reflects the emotional response of individuals to the transport environment, i.e., whether they experience it as safe and comfortable, or as threatening and distressing, and to past experiences and media coverage of incidents. Furthermore, perceptions of security can vary by gender, as women and gender-diverse individuals can experience higher exposure to harassment or threatening situations, influencing mobility choices.

High confidence in the security of public transport increases willingness to use it, reducing reliance on private vehicles and contributing to more inclusive, sustainable urban mobility.

This indicator provides a measure of how secure citizens feel when using public transport in the pilot area by gender, according to their own perception. **It is a relevant indicator when the policy action is aimed at increasing the perceived security of public transport use. A successful action is reflected in a HIGHER value of the indicator.**

DESCRIPTION

This indicator is a vector of **dimensionless scores**, each representing the average perceived level of public transport security for a specific gender, as reported by a sample of individuals in the pilot area.

METHOD OF CALCULATION AND INPUTS

The indicator is calculated as the average score by gender assigned by a sample of citizens who provided responses to a question asking how secure they feel making trips on public transport in the pilot area. **The indicator should be calculated exogenously** based on the specified inputs and its value should be coded in the supporting tool.

Method

Calculation of the indicator based on responses collected by means of a sample survey

Significance: **0.50**



INPUTS

The following information is needed to compute the indicator:

- **Responses of a sample of individuals to questions i) regarding their perceived public transport security in the pilot area, and ii) regarding their gender.**

A suggested formulation of the questions is provided in the Guidelines for surveys which are part of the MUSE Evaluation Framework.

The experiment would be reflected in terms of a different responses to the same question.

METHOD OF CALCULATION

The requirement for computing the indicator is collecting the responses from a sample survey (which can be organised to collect more information than the one needed for this indicator). Assuming that the formulation of the questions suggested in the Guidelines for surveys is used, the indicator should be computed **exogenously** according to the following steps:

- **Calculation of the share of individuals assigning a certain score to the public transport security by gender** (see equation below)
- **Calculation of the perceived public transport security indicator by gender** (see equation below).

EQUATIONS

The share of individuals of a certain gender assigning a certain score to the public transport security should be computed as:

$${}^lPTSecSh_g = \frac{\sum_i ({}^sPTSec_{i,g} \text{ where } s = l)}{I_g}$$

Where:

${}^sPTSec_{i,g}$ = Score of public transport security s assigned by individual i of gender g .

I_g = Total number of responses collected for gender g

g = Gender category

l = Score level (numerical score 1–10).

For example, in a sample of 600 individuals, if 250 of these were men and 134 of them assigned a public transport security score of 6, $\sum_i {}^sPTSec_{i,g} \text{ where } s = 6$ would be 134 and the share of men assigning this score would be $134 / 250 = 54\%$

The public transport security indicator is represented as a vector, with each value corresponding to a specific gender. It should be calculated as follows:

$$AvPercPTSec_g = \sum_l ({}^lPTSecSh_g * {}^lPTSecScore)$$

Where:

lPTSecScore = Public transport security score l .

In the example above, the public transport security score l is 6.

ALTERNATIVE INDICATORS

This indicator refers to the perceived security rather than to security as such. As regard of this impact, there are no alternative indicators in the MUSE framework.

Alternative indicators refer to the measurement of objective levels of public transport security. They are **SOC_SC_SC1** and **SOC_SC_SC2**. The difference between one or the other lies mainly in the type and source of data used for computation. SOC_SC_SC1 assesses transport-related security by measuring the share of residents in the pilot area who have experienced sexual harassment on public transport or at stops and stations. Data are collected through a sample survey. SOC_SC_SC2, on the other hand, tracks the number of crime incidents occurring on board public transport and at stops or stations, based on police records. Since it relies on official data, SOC_SC_SC2 is the most significant and generally easier to compute, as data collection only consists of retrieving police statistics. However, SOC_SC_SC1 may be preferable when the aim is to specifically assess the prevalence of sexual harassment and to capture unreported incidents which are missing from official records.