



CIVITAS indicators

Urban logistics platforms (TRA_FR_FC1)

DOMAIN

 <p>Transport</p>	 <p>Environment</p>	 <p>Energy</p>	 <p>Society</p>	 <p>Economy</p>
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TOPIC

Freight

IMPACT

Efficiency of urban freight distribution

Increasing the number of urban logistics platforms

TRA_FR

Category

Key indicator	Supplementary indicator	State indicator
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CONTEXT AND RELEVANCE

Motorised freight transport is widely used to deliver goods in urban areas, but it contributes significantly to energy consumption, emissions, noise, and space occupancy. These externalities are exacerbated by inefficiencies in the distribution systems, such as sub-optimal routing and the presence of multiple operators with overlapping delivery areas. These weaknesses may be addressed by fostering the adoption of advanced operations management practices and co-operation across logistics providers.

This indicator provides a measure of the availability of urban logistics platforms in the experiment area. **It is a relevant indicator when the policy action aims to increase the efficiency of urban freight distribution. A successful action is reflected in a HIGHER value of the indicator.**

DESCRIPTION

The indicator is the ratio between the **number of urban logistics platform in the experiment area** and the number of inhabitants. **An urban logistics platform is a digital and/or physical system designed to optimize the movement of goods within urban areas.** These platforms are aimed at improving the efficiency of urban logistics by **integrating various modes of freight transportation, tracking systems, and data sources.** For example, it may consist of an urban transshipment centre, where freight directed to one area of the city is consolidated in a single van, reducing the distance driven by cargo vehicles in the urban area.

The unit of measurement of the indicator is **urban logistics platforms per inhabitant**.

METHOD OF CALCULATION AND INPUTS

The indicator should be computed exogenously, by applying the method described and then coded in the supporting tool.

Method 1

Estimation of the index based on direct observation

Significance: **0.15**



The following information is needed to compute the indicator:

- The number of urban logistics platforms in the experiment area
- The number of inhabitants in the experiment area.

The experiment would result in a modification of the number of urban logistics platforms.

METHOD OF CALCULATION

The indicator should be computed **exogenously** according to the following steps:

- Retrieval of the number of urban logistics platform in the experiment area.** If in the 'before' scenario no platforms exist, this value equals zero.
- Retrieval of the number of inhabitants within the experiment area.** This value can be obtained from census data.

- **Estimation of the index** by computing the ratio between the number of logistics platforms retrieved in the first step and the number of inhabitants obtained in the second step.

EQUATIONS

The equation computing the index (last step of the method of calculation) is the following:

$$EffFreight = \frac{UrbLogisticsPltf}{Pop}$$

Where:

UrbLogisticsPltf = Number of urban logistics platforms in the experiment area

Pop = Population in the experiment area

ALTERNATIVE INDICATORS

This indicator measures the presence of urban logistics platforms in the experiment area. Other indicators assessing the provision of facilities and conditions promoting efficiency in urban freight distribution are **TRA_FR_FC2** and **TRA_FR_FC3**. TRA_FR_FC2 quantifies the proportion of logistics operators applying advanced management systems, while TRA_FR_FC3 assesses the number of operators participating to optimization schemes. For all alternatives, data collection and computation are equally simple. The choice among the three indicators depends on the scope of the experiment being evaluated.

To assess efficiency of urban freight transport as the average **load factor** of delivery vehicles, the framework provides indicators **TRA_FR_EFB** (B2B deliveries) and **TRA_FR_EFC** (B2C deliveries).