CIVITAS
Sustainable and smart mobility for all
2030

CIVITAS indicators

Share of polluting vehicles entering regulated areas (ENV_PL_FC)

DOMAIN

Transport	**Environment**	Energy	Society	Economy

TOPIC	**Pollution**	
IMPACT	**Composition of active car fleet** *Decreasing the share of polluting vehicles entering regulated areas*	**ENV_PL**

Category

Key indicator	**Supplementary indicator**	State indicator

CONTEXT AND RELEVANCE

Transport activity is a key source of urban pollution, affecting air quality, public health, and climate change. The presence of high-emission vehicles in cities contributes significantly to greenhouse gas emissions and harmful pollutants. Restricting access to polluting vehicles in urban areas can help mitigate these effects, leading to cleaner air, improved public health, and a reduced environmental footprint.

This indicator is an estimation of the share of polluting vehicles entering a regulated area. **It is a relevant indicator when the policy action is aimed at reducing the impact of urban mobility and transport on air pollution. A successful action is reflected in a LOWER value of the indicator.**

DESCRIPTION

The indicator is the share of polluting vehicles entered a regulated urban area.

The definition of *polluting vehicle* is to be set in accordance with relevant regulation in the experiment area. For example, if a city aims to avoid that vehicles marked with emission standard level lower than Euro 4 enter its urban core, it sets up regulation to ban or restrict access of such vehicles to the designated area. In this example, the definition of polluting vehicle would include all vehicles with emission standard lower than Euro 4.

The indicator is **dimensionless**.

METHOD OF CALCULATION AND INPUTS

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

Method	
Calculation of the share of polluting vehicles using information from vehicle registration plates detection systems	Significance: **0.50** 

The following information is needed to compute the indicator:

a) **The total number of vehicles** entering the regulated area
b) **The number of polluting vehicles** entering the regulated area

The experiment would result in a modification of the share of polluting vehicles entering the regulated area.

METHOD OF CALCULATION

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

- **Retrieval of the total number of vehicles** entering the regulated area and **retrieval of the number of polluting vehicles** entering the regulated area. These values are to be obtained from vehicle registration plates detection systems installed at the entry

points to the regulated area. It is recommended to extract values referring to a measurement period of 12 weeks or more, to limit the impacts of weather effects, traffic variability across weekdays and weekends, special events and other anomalies.

- **Estimation of the indicator** (see the following equation).

EQUATIONS

The value of the indicator should be computed as:

$$\boldsymbol{PlVehSh} = \frac{\boldsymbol{PlVeh}}{\boldsymbol{TotVeh}}$$

Where:

$PlVeh$ = Number of polluting vehicles entering the regulated area

$TotVeh$= Total number of vehicles entering the regulated area