CIVITAS indicators

Perceived car dependency index (TRA_CC_PCD)

DOMAIN

Transport	Environment	Energy	Society	Economy

TOPIC	**Car Centricity**	
IMPACT	**Perceived car dependency** *Increasing awareness and willingness to use non-car transport modes*	**TRA_CC**

Category

Key indicator	**Supplementary indicator**	State indicator

CONTEXT AND RELEVANCE

Perceived car dependency refers to the extent to which individuals feel they must rely on private cars for their daily transportation needs, regardless of the actual availability of alternatives. Even in areas with public transport, shared mobility options, or other alternatives, individuals may still perceive car use as necessary due to factors such as convenience, reliability concerns, or personal habits. High perceived car dependency can contribute to continued car use, reinforcing issues like air and noise pollution, sedentarism, and inefficient urban space allocation for roads and parking. Addressing perceived car dependency may require not only improving transport alternatives but also shifting public attitudes through, for example, awareness campaigns, behavioral incentives, and urban design that enhances the visibility and accessibility of non-car modes.

This indicator provides a measure of the perception of car dependency in the pilot area. **It is a relevant indicator when the policy action is aimed at reducing the perception of car dependency. A successful action is reflected in a <u>LOWER</u> value of the indicator.**

DESCRIPTION

The indicator is a score representing the perceived car dependency in the pilot area as reported by a sample of individuals. The score ranges from 1 to 10, with 10 reflecting maximum perceived car dependency. The indicator is **dimensionless**.

METHOD OF CALCULATION AND INPUTS

This indicator relies on a **survey** asking a sample of individuals for their perception of dependency on driving for trips in the experiment area. Organising a sample survey requires some resources and implies some complexities, but the survey can be used to collect more information than the one needed for this indicator. See the dedicated "Guidelines for surveys" for methodological indications.

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

Method 1		
Computing a perceived car dependency score from responses collected by means of a sample survey	Significance: **0.75**	███░
INPUTS		
The following information is needed to compute the indicator: a) **Responses of a sample of individuals to a question regarding the perceived dependency on driving for trips in the pilot area.** A suggested formulation of a question regarding perceived car dependency is provided in the Guidelines for surveys which are part of the MUSE Evaluation Framework.		
METHOD OF CALCULATION		

Assuming that the formulation of the question suggested in the Guidelines for surveys is used, the indicator is to be computed **exogenously** by calculating the average of the perceived car dependency scores reported by respondents (see equation below).

The suggested formulation according to the Guidelines for surveys is:

Question: *Considering a scale from 1 (no dependent at all) to 10 (completely dependent), how would you rate your level of dependency on the private car for urban mobility?*

Available responses: integers from 1 to 10, including endpoints.

EQUATIONS

The equation computing the index is the following:

$$PerCarDepIndex = \frac{\sum_{i=1}^{R} PerDep_i}{R}$$

Where:

$PerDep_i$ = Survey respondent i's perceived car dependency score

R = Number of respondents in the sample

ALTERNATIVE INDICATORS

This indicator measures perceived car dependency in the pilot area based on survey responses. It is relatively simple to implement, particularly if a sample survey in the pilot area is already planned for other indicators. In this case, adding a question on perceived road congestion would be nearly effortless.

It should be noted that this indicator is based on qualitative and subjective evaluations, rather than on objective measurements. As such, the indicator is well suited to evaluate whether individuals in the pilot area recognize and may be willing to using alternative, non-car modes. This depends, at least in part, on social norms, established routines and awareness measures. Meanwhile, indicators **TRA_CC_CD1** and **TRA_CC_CD2** may be used to assess objective car dependency, that is, the reliance on driving due to objectively limited or unviable transport alternatives.