



ERDF and Cohesion Fund result indicators in the field of transport post 2020

Indicator RCR56 : Road Passenger-hours

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Andreea Raducu, JASPERS – European Investment Bank

Key Details of the Indicator

○ Indicator RCR56

Time savings due to improved road infrastructure



○ Overview of the indicator

- Measures the total number of passenger-hours saved on roads newly built, reconstructed, upgraded or modernised due to ERDF or CF financial support
- Provides a measurement of the users benefits in terms of hours saved on the improved road infrastructure over the period of one year after the physical completion of the investment
- Takes into account all passengers (including also the driver) in the vehicles travelling on the road

Scalable to programme level (sum over all road interventions)

Data Required for RCR56

- **Traffic volumes**

Annual Average Daily Traffic (AADT) describes the average daily traffic flow on a defined section of road

- **Lengths of Sections**

- **Vehicle Occupancy Rates**

Data necessary to convert from Road Vehicle-Km to Road Passenger-Km

- **Average speeds**

Data Sources - 1

Data source	Description	Relevance to the indicator
Field surveys	<p>Short-period count data for traffic volumes:</p> <ul style="list-style-type: none">• Manual counts (Personnel)• Installed Technology (Temporary Counters) <p>Journey time estimation:</p> <ul style="list-style-type: none">• Journey time surveys• Spot speed surveys	Main source of data for AADT and alternative to journey time estimation.
Installed Technology	Permanent Counters	Assistance in converting short period field surveys into longer duration estimates of transport activity.



Data Sources - 2

Data source	Description	Relevance to the indicator
Published Datasets	Published datasets describing current and past conditions on the road network	These datasets can provide long-term traffic count information to assist in the calculation of AADT, and can also sometimes support in the definition of vehicle occupancy rates.
Other Online Tools	Journey time estimation	Online sources (e.g. Google maps) may provide reasonably accurate estimate of journey times

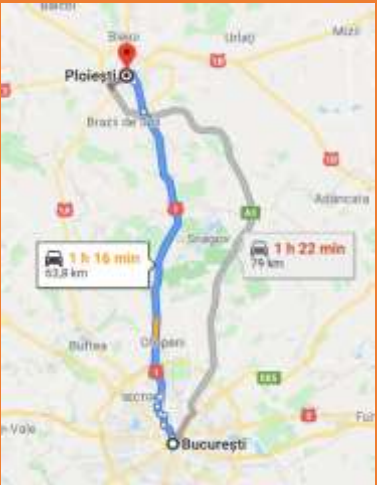
Data Sources - 3

Data source	Description	Relevance to the indicator
Operator Data	N/A	Road networks are open systems and hence operator information is of no relevance.
Other sources	<p>Feasibility Study (FS) prepared as part of the project application for financing from EU funds)</p> <p>Road asset management database</p>	<p>A FS can provide information of the length of the project sections, and it may sometimes contain estimates of vehicle occupancy rates.</p> <p>This source can provide information on lengths of sections for count measurement in km.</p>

Journey times estimation - 1

Method	Pros	Cons
Journey time surveys 	<ul style="list-style-type: none"> Well understood methodology, which road authorities would likely be able to deploy. Relatively cheap to undertake. Reasonably accurate. 	<ul style="list-style-type: none"> Relatively labour intensive. Estimate is only valid for the periods surveyed (generally within working hours); some assumptions may have to be taken re: speeds/journey times outside of working hours.
Spot speed surveys 	<ul style="list-style-type: none"> Equipment may be readily available to road authorities. Road authorities likely to be able to undertake such surveys (or be able to contract this service out). Extremely accurate at survey location. Relatively cheap to undertake. 	<ul style="list-style-type: none"> Relatively labour intensive. Survey period normally limited to daylight hours. Need to ensure that the location in question reflects the average speed on the section of road in question. Some costs to buy/hire required equipment.

Journey times estimation - 1

Method	Pros	Cons
<p data-bbox="333 339 657 382">Online GIS tools</p> 	<ul data-bbox="759 344 1447 811" style="list-style-type: none">• Normally the cheapest way to estimate speeds on a given road.• Capable of producing estimates at all times of the day.• Safest methodology as it does not require any travel/risk to staff.	<ul data-bbox="1485 344 2262 929" style="list-style-type: none">• Accuracy may depend on country and location in question (with better estimates where a lot of mobile phone data is available).• Estimates represent a 'black box' and it is impossible to determine how estimates have been calculated and whether methodology has been changed since last time source was used.

Calculating the Indicator

$$[\text{Passenger-hours}] = (\text{distance}_{\text{baseline}} / \text{average speed}_{\text{baseline}} - \text{distance}_{\text{achieved}} / \text{average speed}_{\text{achieved}}) \times \text{occupancy} \times \text{average AADT}_{\text{achieved}} * 365$$

<i>Where Passenger-hours:</i>	<i>The value of the Indicator</i>
<i>AADT_{achieved}</i>	<i>The Average Annual Daily Traffic for the scheme in the opening year</i>
<i>Baseline values</i>	<i>Values in the year prior to construction</i>
<i>Achieved values</i>	<i>Values in the opening year</i>
<i>Distance_{baseline}</i>	<i>Distance between start and end points in the baseline case (the quickest route between project start and end points)</i>
<i>Distance_{achieved}</i>	<i>Distance between the project start and end points</i>

Main Considerations

○ **Counting Method**

- Manual or Automatic Counts, depending on the period, labour costs and number of projects
- It might be possible to include project sections as part of annual programmes of traffic counting carried out by some road authorities

○ **Journey time**

Online GIS tools or Journey time surveys, depending on the reliability of data, period, costs and number of projects

○ **Generation of AADT**

- The AADT concept is familiar to road authorities, as it generally forms the basis for road design and planning
- Practitioners should be very familiar with the methodologies

○ **Forecast (Target) Values**

Based on assumptions of future use of the road, and can use values from the feasibility study or other project documentation.

Indicator RCR55 - Annual users of newly built, reconstructed, upgraded or modernised roads (road passenger-km/year)

Questions to the audience:

Q1: From the project fiche provided (and PPT presentation) do you have a clear understanding of the concept of Indicator RCR55?

GREEN = Full understanding + recommendations

ORANGE= Partial understanding, some clarifications needed

RED = Limited understanding, clarifications needed [Please list any clarifications needed]

Q2: In your country, which data collection method would be most likely to be used?

Ans.1: Manual counters

Ans.2: Temporary counters

Ans.3: Permanent counters

Ans.4: Other (please specify)

Indicator RCR56 - Time savings due to improved road infrastructure (road passenger-hours/year)

Questions to the audience:

Q1: From the presentation, do you have a clear understanding of the concept of Indicator RCR56?

GREEN = Full understanding + recommendations

ORANGE= Partial understanding, some clarifications needed

RED = Limited understanding, clarifications needed [Please list any clarifications needed]

Q2: In your country, which data collection method would be most likely to be used?

Ans.1: Journey time surveys

Ans.2: Spot speed surveys

Ans.3: Online GIS surveys

Ans.4: Other (please specify)