

Methodology

AVERAGE TOLL INDICATOR (€/KM) BY COUNTRY IN EUROPE



upply

INTRODUCTION

The Upply toll indicator measures the average price of road tolls for heavy goods vehicles, in euros per kilometre (€/km), across 20 European countries.

Toll systems in Europe are highly heterogeneous — distance-based tolls, motorway concessions, vignettes, weight-distance charges — which makes any direct comparison difficult. The indicator reduces this diversity to a single, comparable value per country, tracked over time.



In short:

one indicator per country, in €/km, to compare toll levels and track how they change.



SOMMAIRE

1. What does the indicator measure?	3
2. How is the value per country defined?	4
2.1 Choosing the routes	4
2.2 Weighting the routes	4
2.3 Computing the national value	5
3. What are the toll systems in Europe?	6
4. How is the history reconstructed?	8
4.1 Two methods depending on the system	8
4.1 Handling special cases	8
5. What sources and what validation?	9
5.1 Sources	9
5.2 Validation	9
5.3 Simple cases: uniform national rate	9
5.4 Complex cases: documented decisions	10
6. What are the limits and precautions of use?	11

#1

WHAT DOES THE INDICATOR MEASURE?

SUMMARY

/1 WHAT DOES THE INDICATOR MEASURE?

For each country, the indicator comes in two complementary forms: a base-100 index (reference date: 1 January 2017 by default) that shows the change over time, and a value in €/km that gives the order of magnitude of the cost.

This value is aggregated at national level: it does not represent the toll of a specific route, but the average level observed on the country's representative axes, weighted by the importance of those axes rather than by their length (see §2).

All values are computed for a single reference vehicle: a 40 t, 4-axle, EURO VI heavy goods vehicle. This choice is essential to comparability, because European tolls vary by weight, number of axles and emission class.

The indicator covers domestic (intra-country) routes.

/2 HOW IS THE VALUE PER COUNTRY DEFINED?

/3 WHAT ARE THE TOLL SYSTEMS IN EUROPE?

/4 TWO METHODS DEPENDING ON THE SYSTEM

/5 WHAT SOURCES AND WHAT VALIDATION?

/6 WHAT ARE THE LIMITS AND PRECAUTIONS OF USE?

#2

HOW IS THE VALUE PER COUNTRY DEFINED?

SUMMARY

/1 WHAT DOES THE INDICATOR MEASURE?

/2 HOW IS THE VALUE PER COUNTRY DEFINED?

- 2.1 Choosing the routes
- 2.2 Weighting the routes
- 2.3 Computing the national value

/3 WHAT ARE THE TOLL SYSTEMS IN EUROPE?

/4 TWO METHODS DEPENDING ON THE SYSTEM

/5 WHAT SOURCES AND WHAT VALIDATION?

/6 WHAT ARE THE LIMITS AND PRECAUTIONS OF USE?

This is the core of the Upply methodology: for each country, we define a reference €/km value from a set of routes representative of national freight. This value plays two roles: it gives the current toll level per country, and it is the anchor point from which the index evolves over time (earlier history is reconstructed — see §4).

The approach follows three steps: choose the routes, weight them, then aggregate them into a national value.

2.1 CHOOSING THE ROUTES

The routes are **origin–destination (OD) pairs** between cities representative of each market, selected according to four ranked criteria:

1. **TEN-T corridor:** the priority filter, as these corridors carry the bulk of European freight.
2. **Geographic coverage:** covering the country's different regions so routes cross representative parts of the network.
3. **Logistics weight:** priority to cities with a port, cargo airport, industrial zone or distribution hub.
4. **Population:** a minimum threshold (~200,000 inhabitants).

The number of cities depends on the size of the country (from 4 to 10). All possible routes between them are generated, with no distance filter — which would structurally penalise small, dense countries (Netherlands, Belgium). Representativeness is ensured through weighting rather than upstream filtering. In total: **142 cities and 435 OD pairs** across the 20 countries.

2.2 WEIGHTING THE ROUTES

All routes are kept, but each is weighted according to the **TEN-T status** of its two cities:

Status of the two cities	Weight	Type of axis
Both on a TEN-T corridor	1.00	Structural axis
Only one on a TEN-T corridor	0.67	Semi-structural axis
Neither on a TEN-T corridor	0.33	Secondary axis

This public reference makes the weighting objective and easy to maintain: a structural axis carries three times the weight of a secondary one. Other approaches (Eurostat freight volumes, national traffic counts, client data) were considered; TEN-T status was chosen for its objectivity and its consistent coverage of the 20 countries.

#2

SUMMARY

/1
WHAT DOES THE
INDICATOR MEASURE?

/2
HOW IS THE VALUE PER
COUNTRY DEFINED?

- 2.1 Choosing the routes
 - 2.2 Weighting the routes
 - 2.3 Computing the national value
-

/3
WHAT ARE THE TOLL
SYSTEMS IN EUROPE?

/4
TWO METHODS
DEPENDING ON THE
SYSTEM

/5
WHAT SOURCES AND
WHAT VALIDATION?

/6
WHAT ARE THE LIMITS
AND PRECAUTIONS OF
USE?

2.3 COMPUTING THE NATIONAL VALUE

The toll cost of each route is provided by PTV (see §5). Each route is computed in both directions and then averaged, because bridges, tunnels and concessions are sometimes priced differently by direction; time-of-day variations are neutralised and amounts are converted into euros at the daily exchange rate.

The country value is the **average of the €/km of its routes, weighted by their TEN-T importance**, not by their length: each axis counts according to its strategic weight, not its distance.

#3

WHAT ARE THE TOLL SYSTEMS IN EUROPE?

SUMMARY

/1
WHAT DOES THE
INDICATOR MEASURE?

/2
HOW IS THE VALUE PER
COUNTRY DEFINED?

/3
WHAT ARE THE TOLL
SYSTEMS IN EUROPE?

/4
TWO METHODS
DEPENDING ON THE
SYSTEM

/5
WHAT SOURCES AND
WHAT VALIDATION?

/6
WHAT ARE THE LIMITS
AND PRECAUTIONS OF
USE?

There is no single European toll system, but several, which charge in different ways. Knowing them helps in reading the index: the same €/km is not built the same way everywhere. We distinguish five broad families.

> National distance-based toll (MAUT)

A single national rate schedule, charged per kilometre actually driven. The €/km value is directly readable and comparable. (*Germany, Austria, Czechia, Slovakia, Hungary, Bulgaria, Slovenia, Switzerland, Netherlands*)

> Mixed distance-based toll

Several rate schedules coexist within a country, by region or by network. The national value combines them. (*Belgium, Poland, Denmark*)

> Concessions and toll barriers

The network is operated by concessionaires that each set their own rates. The national value is an average of local situations. (*France, Italy, Spain, Portugal, Greece, Croatia, Ireland*)

> Point tolls or no toll

No per-kilometre road toll: either the network is free (*Finland*), or only a few isolated structures are tolled (bridges, tunnels, crossings — *United Kingdom*). The €/km is therefore nil or negligible.

> Vignette

A time-based flat fee, or no road toll at all. The cost does not depend on distance: the €/km is nil or marginal. (*Romania, Sweden*)

These categories are not fixed: some countries switch from one system to another. Denmark (2025) and the Netherlands (2026) have introduced a distance-based toll where a vignette or simple structure tolls previously applied, and Romania is set to do the same (a distance-based toll planned for October 2026 at the earliest, replacing the vignette). These breaks leave a visible mark in the history (see §4).

#3

SUMMARY

/1
WHAT DOES THE
INDICATOR MEASURE?

/2
HOW IS THE VALUE PER
COUNTRY DEFINED?

/3
WHAT ARE THE TOLL
SYSTEMS IN EUROPE?

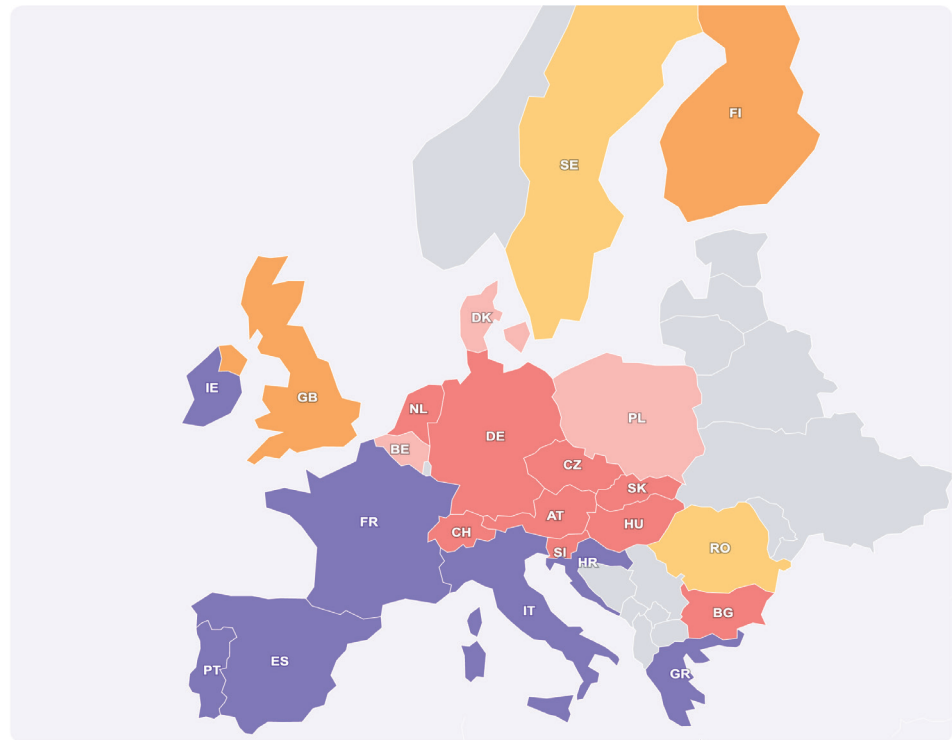
/4
TWO METHODS
DEPENDING ON THE
SYSTEM

/5
WHAT SOURCES AND
WHAT VALIDATION?

/6
WHAT ARE THE LIMITS
AND PRECAUTIONS OF
USE?

Heavy-duty vehicle toll systems in Europe

Base vehicle: 40 metric tons • 4-axle • EURO VI



- National distance-based toll (MAUT)
- Concessions and toll barriers
- Vignette
- Mixed distance-based toll
- Point tolls or no toll
- Out of scope

#4

HOW IS THE HISTORY RECONSTRUCTED?

SUMMARY

/1
WHAT DOES THE
INDICATOR MEASURE?

/2
HOW IS THE VALUE PER
COUNTRY DEFINED?

/3
WHAT ARE THE TOLL
SYSTEMS IN EUROPE?

/4
HOW IS THE HISTORY
RECONSTRUCTED?

4.1 Two methods depending
on the system
4.2 Handling special cases

/5
WHAT SOURCES AND
WHAT VALIDATION?

/6
WHAT ARE THE LIMITS
AND PRECAUTIONS OF
USE?

PTV provides only a current snapshot. History since 2017 is reconstructed country by country: for each year, we rebuild the percentage change in the rate from official rate schedules. Applied one after another from the 2017 reference, these percentages reconstruct the base-100 curve.

4.1 TWO METHODS DEPENDING ON THE SYSTEM

Uniform national rate: the annual change published by the official operator applies directly to all our routes. Direct and robust reconstruction.

Differentiated or mixed rate: rates vary by region or concessionaire; we build a weighted average rate representative of the network travelled. The reconstruction draws on several sources and an explicit weighting, validated for each country (see §5.2).

4.2 HANDLING SPECIAL CASES

- **Vignette years:** an annual flat fee independent of distance, hence a nil marginal cost. The indicator is set to 0 €/km, as PTV returns; converting it would assume an arbitrary mileage.
- **Structural breaks:** the switch from one system to another is shown on purpose (Bulgaria 2020, Denmark 2025, Netherlands and Romania 2026). It is information in itself.
- **Near-zero values:** countries with no significant per-kilometre toll (Sweden, United Kingdom) are shown at a nil or near-nil value.
- **Non-reconstructible history:** where no reliable reconstruction is possible (Slovenia, Norway, Ireland), no index is published.

#5

WHAT SOURCES AND WHAT VALIDATION?

SUMMARY

/1
WHAT DOES THE
INDICATOR MEASURE?

/2
HOW IS THE VALUE PER
COUNTRY DEFINED?

/3
WHAT ARE THE TOLL
SYSTEMS IN EUROPE?

/4
HOW IS THE HISTORY
RECONSTRUCTED?

/5
WHAT SOURCES AND
WHAT VALIDATION?

- 5.1 Sources
- 5.2 Validation
- 5.3 Simple cases: uniform national rate
- 5.4 Complex cases: documented decisions

/6
WHAT ARE THE LIMITS
AND PRECAUTIONS OF
USE?

5.1 SOURCES

Each country's history is reconstructed from official sources: **toll operators** and their annual rate schedules, national **regulatory texts** (decrees, orders, official gazettes), reference sector indices (for example the CNR «Infrastructures» index in France), and **cross-checking sources** (hauliers' federations, ASECAP reports, trade press).

5.2 VALIDATION

Each series is checked against an independent value : an absolute 2017 rate from an official source, to which the cumulative changes are applied, compared with the current PTV level. The residual gap most often reflects deliberate methodological choices (the chosen weighting, proxies used where no exhaustive source exists, the mix of network travelled).

5.3 SIMPLE CASES: UNIFORM NATIONAL RATE

A single official source is enough: the annual change in the schedule applies to the whole country.

Country	System / operator	Main source
Germany	LKW-Maut (Toll Collect / BALM)	balm.bund.de , toll-collect.de
Austria	GO-Maut (ASFINAG)	go-maut.at
Czechia	MYTO CZ (CzechToll)	regulatory texts (zakonyprolidi.cz)
Slovakia	myto SK (SkyToll / NDS)	regulatory texts (slov-lex.sk)
Switzerland	LSVA / RPLP (OFDF)	bazg.admin.ch , ASTAG
Bulgaria	BG TOLL (Agence des Infrastructures Routières)	bg toll.bg
Hungary	HU-GO	hu-go.hu ; KSH (indexation)

#5

SUMMARY

/1
WHAT DOES THE
INDICATOR MEASURE?

/2
HOW IS THE VALUE PER
COUNTRY DEFINED?

/3
WHAT ARE THE TOLL
SYSTEMS IN EUROPE?

/4
HOW IS THE HISTORY
RECONSTRUCTED?

/5
WHAT SOURCES AND
WHAT VALIDATION?

- 5.1 Sources
- 5.2 Validation
- 5.3 Simple cases: uniform national rate
- 5.4 Complex cases: documented decisions

/6
WHAT ARE THE LIMITS
AND PRECAUTIONS OF
USE?

5.4 COMPLEX CASES: DOCUMENTED DECISIONS

Where several sub-systems or concessionaires coexist, we build a representative rate from an explicit weighting decision.

Belgium. We weight the three regional schedules at 67% Flanders/Brussels and 33% Wallonia by the weight of the routes, with two indexation dates per year.
Source: Viapass.

France. We follow the CNR «Infrastructures» index, which aggregates class-4 tolls weighted by heavy-vehicle traffic on each concession network.
Source: CNR «Coûts du TRM» reports.

Italy. In the absence of a published network average, we use the dominant operator's rate (ASPI, about 43% of the network) as a national proxy.
Sources: MIT/MEF decrees, ASPI reports.

Greece. We weight four operators by their contribution to route costs (Nea Odos 45%, Olympia 25%, Attiki 15%, Egnatia 15%).
Sources: operators, ELSTAT.

Poland. We combine two systems by their actual weight in the routes: 93% public toll (e-TOLL) and 7% AWSA A2 concession.
Sources: etoll.gov.pl, autostrada-a2.pl.

Spain. We include annual revisions and the effect of liberalisations (a motorway that becomes free drops out of the calculation and lowers the average), with a 2017 anchor from the official Informe.
Sources: Delegación del Gobierno, MITMA.

Portugal. We apply the national concession indexation mechanism (October CPI +0.1%, floored at 0%) as the annual change.
Source: Infraestruturas de Portugal.

Croatia. We use the category-IV rate of the barrier network (HAC), with the EURO VI discount (-12%) applicable to our vehicle.
Sources: HAC, ASECAP reports.

Denmark. We combine the national distance-based toll (since 2025) and the contribution of the Storebælt bridge, weighted by its share in the routes.
Sources: vejafgifter.dk, storebaelt.dk.

#6

WHAT ARE THE LIMITS AND PRECAUTIONS OF USE?

SUMMARY

/1
WHAT DOES THE
INDICATOR MEASURE?

/2
HOW IS THE VALUE PER
COUNTRY DEFINED?

/3
WHAT ARE THE TOLL
SYSTEMS IN EUROPE?

/4
HOW IS THE HISTORY
RECONSTRUCTED?

/5
WHAT SOURCES AND
WHAT VALIDATION?

/6
WHAT ARE THE LIMITS
AND PRECAUTIONS OF
USE?

The indicator is meant to compare toll levels between countries and track their evolution. A few precautions for interpreting it correctly:

- **It is not a route price.** The value is a weighted national average; it does not give the exact toll of a specific itinerary.
- **Network-mix effect.** Each value combines motorways, secondary roads and untolled sections depending on the routes selected: it is therefore lower than a country's "pure" motorway rate.
- **Exchange-rate effect.** For countries outside the euro area (Switzerland, Hungary, Poland, etc.), the evolution reflects currency movements, not just rate increases.
- **A single reference vehicle.** Values apply to a 40 t, 4-axle, EURO VI vehicle. Not every national schedule has exactly this profile: we then use the closest equivalent category (weight, axles, emission class). Other vehicle profiles would give other levels.
- **History reconstructed, not measured.** The series rely on deliberate choices (weighting, proxies), validated by cross-checking, but remain a reconstruction and not a direct measurement.
- **Scope.** The indicator covers domestic routes; it excludes international transit, does not publish countries whose history cannot be reconstructed (Slovenia, Norway, Ireland), and shows a zero value for countries with no significant per-kilometre toll (Sweden, United Kingdom).
- **Dated snapshot.** The current value comes from a PTV reading taken on a given date; subsequent reforms are only reflected at the next update.

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