



CFR NETWORK STATEMENT - 2024

**ANNEX 25.c**      **MODALITY OF ALLOCATING THE DIRECT COSTS TAKEN INTO  
ACCOUNT FOR THE CALCULATION OF THE IAC AT CFR**

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COMPANIA NATIONALA DE CAI FERATE CFR SA

## **Modality of Allocating the Direct Costs Taken into Account for the Calculation of the IAC at CFR**

### **1. 1. GENERAL PRINCIPLES REGARDING THE IAC CALCULATION MODALITY**

For the traffic of a train on the railway infrastructure managed by CFR between two points (stations) of the network, without shunting or (re)fuelling services, CFR shall calculate and levy an Infrastructure Access Charge (IAC). IAC shall apply in a non-discriminatory way to all the RUs under similar conditions of transport.

TUI shall be calculated by the CFR for the services supplied within the minimum access package defined in point 1 of Annex II to Law No. 202/2016 on the integration of the Romanian railway system into the Single European Railway Area, hereinafter referred to as the MAP, with its further amendments and supplements, hereinafter referred to as Law 202/2016.

In accordance with the provisions of Article 31(3) of Law No. 202/2016 on the integration of Romania into the Single European Railway Area, with its further amendments and supplements (hereinafter referred to as Law No. 202/2016), which is the transposition of UE Directive No. 2014/34,

*„.... the charges for the minimum access package and for access to infrastructure connecting service facilities shall be set at the cost that is directly incurred as a result of operating the train service, in accordance with the measures adopted by the European Commission, by means of implementing acts, setting out the modalities for the calculation of the costs that are directly incurred as a result of operating a train.”*

The implementing act is Implementing Regulation (EU) 2015/909 on the modalities for the calculation of the cost that is directly incurred as a result of operating the train service (hereinafter referred to as EU Regulation 2015/909).

In order to explain the principles regarding the modality of allocating the IAC-related direct costs (the direct cost that is directly incurred as a result of operating the train service), we present in the following some general aspects regarding the IAC calculation modality

As shown in Article 5.3.2 of the NS, the IAC shall be calculated on the basis of the “Methodology for Charging the Use of the Railway Infrastructure”, approved, in accordance with the law, by means of the Activity and Performance Contract of Compania Națională de Căi Ferate "C.F.R." - SA, a methodology which is presented in [Annex 25.a](#) to the NS.

This methodology sets down that the IAC shall be calculated, for each train running on the railway infrastructure managed by CFR SA, on the basis of a formula including values of the basic charging elements according to the category of the line on which the train runs.

For determining the value of the basic charging elements, the traffic lines of the railway infrastructure shall be classified according to the maximum allowed line speed, per line categories from A (lines with a maximum speed of over 121 km/h) to D (lines with a maximum speed up to 50 km/h (Table No. 1).

*Table No. 1 – Line Categories*

Line Category	Speed Regime (km/h)	
	from	Up to
A	121	160
B	91	120
C	51	90
D	0	50

The line categories and the modality of sharing the line categories into sections for the IAC calculation shall be presented in Article 6 and Article 7 of the methodology, and the list of line categories for the IAC sections shall be approved, in accordance with the law, by means of the Activity and Performance Contract of Compania Națională de Căi Ferate "C.F.R." - SA. The list of the sections for the IAC calculation classified per line categories can be found in [Annex 25.b](#) to the NS.

The basic charging element shall be determined at the level of the direct cost related to the activity of the charging element, for each line category. Thus, the basic charging elements shall represent the direct cost related to the charging element incurred for running one kilometre on the relevant line category.

The direct costs shall mainly include the costs of line maintenance and repair, those for the traffic activities (traffic management, signalling equipment, etc.), as well as those for supplying the traction current (for electrification).

The basic charging elements applicable for determining the IAC shall be structured in accordance with Table No. 2, for each freight or passenger traffic type:

Table No. 2 – Basic Charging Elements

Name of the charging element	Basic charging elements			
Charging elements according to the train tonnage	Charge per train-km according to the tonnage (RON/train-km)			
Category of line	A	B	C	D
Traffic lines	$T_{tsn}$	$T_{tsn}$	$T_{tsn}$	$T_{tsn}$
Minimum tonnage	$T_{min}$	$T_{min}$	$T_{min}$	$T_{min}$
Tonnage factor	$F_t$	$F_t$	$F_t$	$F_t$
Charging elements according to the run distance	Charge per train-km according to the distance ( RON/train-km )			
Category of line	A	B	C	D
Traffic	$T_c$	$T_c$	$T_c$	$T_c$
Electrification	$T_{tse}$	$T_{tse}$	$T_{tse}$	$T_{tse}$

The basic charging elements shall have the following meaning:

$T_{tsn}$  - represents the charge according to the tonnage for each km of line category;

$T_{min}$  – represents the gross tonnage of the train starting from which the tonnage factor shall be applied; for trains with a tonnage lower than  $T_{min}$ ,  $T_{tsn}$  related to  $T_{min}$  shall be applied.

- $F_t$  – the tonnage factor represents a correction coefficient to be applied to the gross train tonnage;  
 $T_c$  - represents the traffic charge according to the distance for every km of line category.  
 $T_{tse}$  – represents the charge for the use of electrification equipment for each km of category of electrified line, and does not include the value of traction current;

The direct costs shall mainly include:

- for  $T_{tsn}$  - the line maintenance and repair costs according to the train tonnage;
- for  $T_c$  - the costs of the traffic activities (traffic management, signalling equipment, etc.);
- for  $T_{tse}$  - the costs for supplying the traction current (for electrification).

(2) The IAC value for a train running on a traffic route shall be calculated as the sum of the charges for each distance run on a IAC section (section IAC), according to its category, by using the following formula:

$$TUI = \sum \text{section IAC}$$

where:

$$\text{section IAC} = \text{tonnage IAC} + \text{traffic IAC} + \text{electrification IAC}$$

and:

*tonnage IAC* - represents the railway infrastructure access charge for a IAC section category according to the run distance, as well as the tonnage of the train, and shall be calculated by using the following formula:

$$\text{tonnage IAC} = Km \times T_{tsn} [1 + (\text{Gross tonnage} - T_{min}) \times F_t]$$

where:

$Km$  = the number of km run on the IAC section;

$F_t = 0$  for the trains with a gross tonnage below  $T_{min}$ ;

*Gross tonnage* = the gross tonnage of the train according to the form „Wagon Display”, including the locomotives in action or the tonnage of the locomotives or self-propelled units for the traffic without hauled rolling stock.

*traffic IAC* - represents the charge for the traffic management according to the distance run, and shall be calculated by using the following formula:

$$\text{traffic IAC} = Km \times T_c$$

where:

$Km$  = the number of kms run on the IAC section;

*electrification IAC* - represents the charge for the use of electrification equipment for each category of electrified line, only for trains with electric traction, according to the distance run, and shall be calculated by using the following formula:

$$\text{electrification IAC} = Km \times T_{tse}$$

where:

$Km$  = the number of kms run on the IAC section with electric traction;

By using the values of these charging elements specific to the line categories related to the traffic route of a train in the formula set down in the methodology, it results the IAC value for the relevant train.

The values of the basic charging elements for the calculation of the IAC for each IAC category and per type of freight or passenger traffic as mentioned in the methodology shall be determined by CFR SA, in accordance with the provisions of the Activity and Performance Contract of CFR SA for the period of time 2021-2025.

**As a result, it is the basic charging elements that actually determine the IAC value for a run train.**

The values of the basic charging elements for the IAC calculation valid for the period of the timetable in force are presented in Annex in paragraph 1.2 of [Annex 26.a.](#)

## **2. 2. MODALITIES OF APPROACHING THE DETERMINATION OF THE DIRECT COSTS FOR THE IAC**

As we shown before, the IAC value shall be the value of the basic charging elements determined at the level of the direct costs, according to the category of the line used.

In a first stage, starting from the total operating expenses, there shall be determined the total value of the net direct costs related to the IAC (or the MAP) to be allocated to the specific basic activities.

In the second stage, by allocating them according to the line categories set down in the IAC calculation methodology, there shall be obtained the values of the basic elements used in the IAC calculation formula.

Taking into account the provisions of Article 3(5) of Regulation 2015/909, there can be in principle two ways of approaching the determination of the direct costs related to the supply of the MAP:

### **a) according to the forecast costs**

This modality shall include the determination of the forecast direct costs related to the supply of the MAP estimated for the calendar year following the timetable in force (forecast cost - as shown in Article 5, last paragraph of EU Regulation 2015/909) to be calculated according to the forecast direct costs eligible for the MAP for the next reference period. In this case, there shall be used the forecast traffic data for the next calendar year, provided by the RU distributed per line categories according to the percentages recorded in the previous year. Although CFR requested several times the forecast traffic data from the RUs at least 6 months before the next year, these, for objective reasons (related to the predictability of the transport contracts), were unable to provide the requested data. In this case, there may be used the traffic data related to the previous period or the data updated by applying an index forecast by CFR in its capacity as the railway infrastructure manager based on the previous progress of the train-km indicator.

Considering the fact that during the period of assessing the forecast costs for the next year (usually in the middle of the current year) the amounts related to the transfers from the state budget are not established yet (the CFR budget is approved later, usually only in the first part of the next year), these transfers are forecast according to the mechanism for establishing the budget transfers related to the last available period (e.g. the current year or the previous year).

### **b) according to the (previous) outturn costs**

When the forecast data on the direct costs for the next year or those on the budget transfers are not available or cannot be forecast with sufficient accuracy for the next reference period (next year) there may be used the actual available direct costs related to the immediately previous period (outturn cost - as shown in Article 5, last paragraph of EU Regulation 2015/909), calculated according to the outturn direct costs eligible for the MAP for the previous reference period (budget year already completed). In this case, there shall be used the traffic data related to the previous period.

Throughout this material, it shall be considered that the notion of "cost" is equivalent to that of "expenditure" and vice versa, and refers to the forecast cost or the outturn cost, depending on the approach adopted at letter (a) or (b) above.

It should also be specified that the references to costs/expenditures in the following chapters refer only to CFR and the lines of the interoperable and non-interoperable railway infrastructure managed by CFR. CFR cannot take into account the cost incurred by the managers of the non-interoperable railway infrastructure for the infrastructure rented from CFR and managed by them.

### 3. 3. PRINCIPLES OF DETERMINING THE EXPENDITURES/DIRECT COSTS TAKEN INTO ACCOUNT FOR THE CALCULATION OF THE IAC

The principles of allocating the direct costs for the calculation of the IAC are based on the provisions of Law 202/2016 and EU Regulation 2015/909.

For the calculation of the direct costs at network level, CFR shall use the principle defined in Article 3(1) of Regulation (EU) 2015/909:

*"Article 3(1) Direct costs on a network-wide basis shall be calculated as the difference between, on the one hand, the costs for providing the services of the minimum access package and for the access to the infrastructure connecting service facilities and, on the other hand, the non-eligible costs referred to in Article 4."*

The costs for providing the services of the minimum access package shall be the costs related to the services from item 1 of Annex II to Law 202/2016.

We will use below the acronym MAP for the minimum access package.

The costs for providing the services for the access to the infrastructure connecting service facilities shall be the costs related to the Charge for the Access of Shunting Convoys to/from the CFR Railway Infrastructure, a charge included in the category of additional services (ASC), which shall be determined at the level of the direct costs (without AGC and profit share), which is why in the following we will refer only to the Costs for providing the services in the MAP.

**The main stages** for determining the direct costs for providing the IAC-related services shall be as follows:

**a) Determination of the total operating expenses ( $C_{\text{total operating}}$ )** – these shall be obtained from the analysis of the CFR annual budget.

**b) Determination of the total gross cost for the MAP ( $C_{\text{total gross}}$ )**

$$C_{\text{total gross MAP}} = C_{\text{total eligible}} - \text{Costs not attributable to the MAP}$$

**c) Determination of the gross eligible cost for the IAC ( $C_{\text{gross eligible IAC}}$ )**

$$C_{\text{gross eligible IAC}} = C_{\text{total gross MAP}} - \text{Non-eligible costs}$$

**d) Determination of the IAC-related direct cost ( $C_{\text{d TUI}}$ )**

$$C_{\text{direct IAC}} = C_{\text{gross eligible IAC}} - \text{IAC non-eligible costs}$$

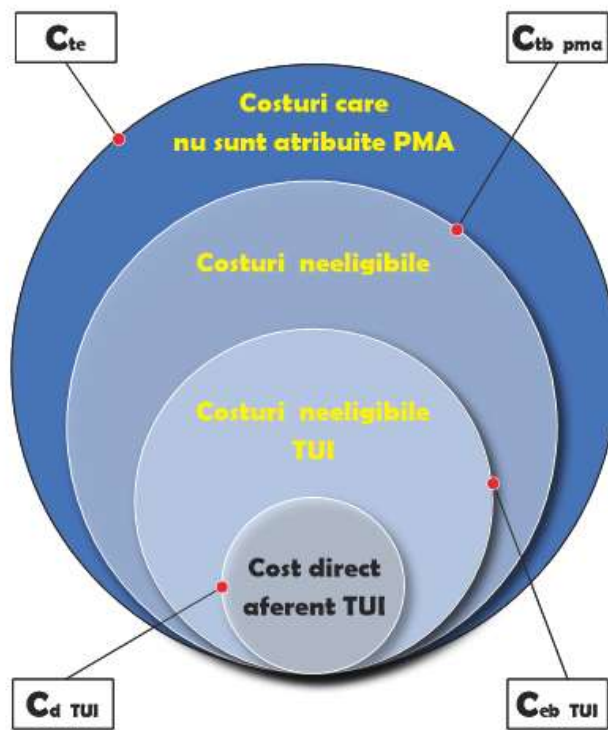
After determining the IAC-related direct cost, its value shall be distributed among the main activities (Lines, Installations, Traffic, Electrification) according to the direct costs incurred by each of these activities.

**e) Determination of the value of the basic charging elements**

This shall represent the final stage, and consist in determining the value of the basic charging elements from the IAC calculation methodology:  $T_{\text{tsn}}$  for line activity,  $T_{\text{c}}$  for installation, traffic and other activities (such as traffic-related telecommunications), and  $T_{\text{tse}}$  for electrification activities ) by traffic types (freight or passenger and per line classes (A, B, C and D).

The modalities of determining the costs specific to each stage are explained in the chapters below.

Figure No. 1 shows the diagram of the relations between the cost types from a) to d)





## 4. MODALITY OF DETERMINING AND ALLOCATING THE COSTS

This chapter shall present the modality of determining the costs related to the main stages indicated in the previous chapter.

### 4.1 Determination of the Total Operating Expenses

The total operating expenses shall be CFR's gross operating costs related to the provision of the railway infrastructure.

These expenses shall mainly include the following items:

- the operational cost of the functioning of the network (maintenance, repair, traffic management, and other operational costs, and other overheads);
- the capital cost;
- total subsidies related to the provision of the MAP;
- subsidies related to the capital cost and the operational cost.

The total operating expenses shall be recorded at the level of a calendar year on the basis of the form "Annex 2 Budget", which is established in accordance with the requirements of the Order of the Minister of Public Finances No. 3818/2019 on approving the format and structure of the income and expense budget of the economic operators, as well as its substantiating annexes. As a supporting element, for a detailed breakdown of staff costs only, there shall also be used a breakdown of the costs of all CFR staff.

For collecting this data, CFR developed two data templates, as follows:

- a template with **the recording of the expenses related to the CFR staff**, which includes both the details on nine expense items (on the rows in the table), and their breakdown (on the columns in the table) per the main activities (Lines, Installations, Traffic, Electrification, other activities) for: basic units of the Regional Railway Branches, central unit of the Regional Railway Branches, and the CFR Headquarters, hereinafter referred to as **Annex 1** (Annex for staff expenses). At the end of the table is presented the summary for: (i) the staff costs for the IAC, (ii) the administrative expenses for the staff, (iii) the fixed staff costs, and (iv) other non-eligible staff costs for the IAC. This data shall be later used for the distribution of the staff expenses related to **Annex 2** but also for determining the direct costs of the CFR staff.

- a complex template with **the recording of the operating expense indicator**, which is in accordance with the form "Annex 2 Budget" set down in the Order of the Minister of Public Finances No. 3818/2019, but also includes the additional details of some expense chapters to allow a clearer record of some common costs. This annex shall be hereinafter referred to as **Annex 2** (Annex on the operating expenses), and include the details of the operating expenses per over 150 sub-chapters (on the rows in the table), and their breakdown (on the columns in the table) per main activities (Lines, Installations, Traffic, Electrification, Operation Buildings and Other Activities). There shall also be recorded in Annex 2 the amounts related to the Gross Eligible Cost for the IAC (GEC\_IAC).

Annex 1 and Annex 2 shall be filled in with the data required in the form both at the level of each of the 8 CFR Regional Railway Branches (RRBs 1-8) and at the level of the CFR Headquarters, whereas the supplied data shall be then centralized (summed in a matrix) in order to obtain the costs at the overall level of CFR.

The total operating expenses shall be calculated as the sum of the expense chapters from A to D in Annex 2.

## 4.2 Determination of the Total Gross Cost for the MAP

This cost shall be obtained by deducting from the Total Operating Expenses the expenses that are not part of the supply of the MAP, and represent:

- the cost of the services related to the additional services - ASC (which are not included in the MAP) provided by CFR upon the request of the RU (ASC-related costs)
- the costs for other services besides the ASC, such as, e.g., the charge for driving the traffic on non-interoperable sections, and the service charge for the industrial railway lines;
- the administrative costs related to the ASC and other charges besides the ASC.

## 4.3 Determination of the Gross Eligible Cost for the IAC

This cost may be obtained by using two methods:

*a) the method indicated at Article. 3(1) of EU Regulation 2015/909*

For this purpose, in principle there shall be deducted from the Total Gross Cost (Art. 3.2), in a first stage, a part of the non-eligible costs for the direct cost mentioned at Article 4 of the same Regulation:

- fixed cost related to the administrative cost of all the staff (from Annex 1);
- fixed cost of the used staff irrelevant of the traffic volume (from Annex 1);
- other non-eligible staff costs (from Annex 1);
- other non-eligible costs recorded in Annex 2;
- subsidies (budget allocations) for the costs related to the CFR staff not involved in the activities related to the MAP (the IAC);
- subsidies (budget allocations) for the investment activities.

b) the method of using the data from Annex 2, from which only the gross eligible costs related to the MAP and registered in Annex 2 are recorded and taken into account.

In principle, the amount of these costs collected from the data supplied by the RRBs 1-8 and the CFR Headquarters should be concurrent with the amount of the costs determined by using the method a).

The gross eligible cost for the IAC shall be then recorded per the main activities of CFR (Lines, Installations, Traffic, Electrification).

In order to facilitate the determination of the gross eligible cost for the IAC, there are highlighted (for example by marking on a green background) on each of the two annexes from Chapter 4.1. (Determination of the total operating expenses) the cells containing the data related to the gross eligible cost for the IAC.

## 4.4 Determination of the IAC-Related Direct Cost

This cost shall be obtained by deducting from the Gross Eligible Cost for the MAP the second stage of non-eligible cost for the direct cost mentioned at Article 4 of EU Regulation 2015/909:

- total budget amounts for the railway infrastructure maintenance, repair and operation;

- amounts from the budget for the social security for the traffic operating staff;
- salary cost for the ASC + other charges besides the ASC;
- fixed cost related to the staff on sections without traffic (from Annex 1).

In order to obtain the IAC-related direct cost per the main activities, there shall be deducted from the gross eligible cost for the IAC recorded per the main activities (mentioned at the end of Chapter 4.3) the costs shown above, also distributed per the main activities.

The result shall be the IAC-related direct cost for Lines, Traffic (Traffic + Installations) and Electrification, a cost that is used in the next stage to determine the basic charging coefficients:  $T_{tsn}$  (Lines),  $T_c$  (Traffic + Installations + other activities) and  $T_{tse}$  (Electrification) ). The weight of the values of the IAC-related direct cost applicable in 2023, distributed per types of activities, is presented in Table No. 3

*Table No. 3 – The Weight of the IAC-Related Costs per Types of Activities Applicable in 2023*

<i>Lines</i>	<i>Traffic</i>	<i>Electrification</i>
34.41%	58.95%	6.64%

Table No. 4 shows the weight of the value of each type of cost from the stages of determining the IAC-related direct cost (presented in Chapters 4.2-4.4) relative to the value of the total operating expenses (Chapter 4.1). These weights are valid for the data applicable in 2023.

*Table No. 4 - The Weight of the Types of Costs Relative to the Total Operating Expenses*

<b>C<sub>total gross</sub></b> <b>MAP</b>	<b>C<sub>gross</sub></b> <b>eligible IAC</b>	<b>C<sub>direct IAC</sub></b>
96.99%	48.44%	22.19%

## 4.5 Determination of the Value of the Basic Charging Elements

The values of the basic charging elements (coefficients) used in the IAC calculation formula ( $T_{tsn}$ ,  $T_c$  and  $T_{tse}$ ) shall be unit values of the related direct costs (RON/km) distributed per line categories and traffic types (freight and passenger).

These unit values shall be obtained by relating the value of the IAC-related direct costs per types of activity (shown in Chapter 4.4) to the volume of traffic in the period under analysis (according on the modalities of approaching the determination of the direct costs presented in Chapter 2 letter (a) and (b) , using the combined weight of the costs and the traffic volume per line categories per types of transport (freight and passenger).

The values of the basic charging elements (coefficients) used in the IAC calculation formula, applicable in 2023, were determined based on the data from the Final Report developed within the project "Calculation of the Infrastructure Access Charges", carried out by the consulting firm First Class Partnerships (FCP) Ltd. from England, by using the modality of approaching the determination of the direct costs presented in Chapter 2 letter (b).

There shall be presented next the principles for determining the unit costs per charging elements (from a) to c)), and then (letter d) the modality of determining these costs for the basic charging elements ( $T_{tsn}$ ,  $T_c$ ,  $T_{tse}$ ), as well as a comparative analysis between the new values and the old ones.

### a) Unit costs for line activity (Ttsn)

There are two standard ways of determining costs by line categories. One is based on UIC sheet 714, 'Classification of lines for railway maintenance purposes (Fourth Edition, 2009)'. It uses theoretical traffic volumes based on a combination of gross tons circulated, speed and axle load for each railway station.

The other method closely related to the first, is the use of "Instruction no. 300 for repair and maintenance of railway lines", which is the CFR standard for line maintenance and is very similar to the UIC Sheet 714. This method is more appropriate to the specifics of CFR.

Thus, for the CFR activity, the determination of the costs related to the activity of lines by categories of traffic line is made according to the elements and conditionalities set out in the Annexes 5 and 10 of the Instruction no. 300:

- Annex 5 "Schedule of the cycles of periodic repair and current maintenance" highlights the frequency of types of repair and maintenance of the path:
  - overhauls,
  - burage maintenance work,
  - periodic repairs for maintaining parameters,
  - periodic repair with material replacements, and
  - current maintenance works

The frequency and type of works actually determine the costs related to the maintenance/repair of the line which are also depending on the scale and density of the works and the length of the line path.

- Annex 10 "Coefficients for conversion into conventional km in terms of maintenance"

The relative weights of the current maintenance effort on different types of lines are given in this Annex. Depending on the line speed category, the coefficients are set between 1.45 for the best category and 0.7 for the weakest category and intermediate coefficients of 1.15 and 0.95. Thus, the equivalence coefficient for the current line categories can be assimilated under reasonable conditions as shown in Table No. 5:

*Table No. 5 - Coefficients for the equivalence of the assimilated maintenance and repair activity in the Instruction 300*

Line category			
A	B	C	D
1,45	1,15	0,95	0,70

These coefficients shall be used for the weighting of line costs by line category.

Depending on the cost structure resulting from the application of the Instruction 300, it appears that for an A category line, the costs should be approximately double that of a D category line ( $1.45 : 0.70 = 2.07$ ).

This weighting corresponds to an obvious reality: the costs for an A category line must be significantly higher than those for a D category line.

In view of the above, in order to ensure a fair relationship between the cost of repair/maintenance of the line and the line categories, new Ttsn coefficients have been determined, corresponding to the reality.

### b) Unit costs for traffic activity

In order to determine the direct costs related to the traffic activity (Tc), the expenses with the traffic activity, those with the activity of installations, as well as other expenses such as those with telecommunications related to the traffic activity were taken into account.

### c) Unit costs for electrification activity

These costs are determined relatively simply because they do not depend on the line category on which the train runs or on the type of traffic (freight or passengers). As a result, they are obtained by relating the direct costs related to the electrification activity to the volume of the train km that circulated with electric traction.

### d) Determination of the value of basic charging elements (Ttsn, Tc and Ttse) and their comparative analysis

In order to be able to determine the unit values of the charging elements, a computerized calculation model was developed with the help of which several simulation iterations were performed.

The computer model had as input data(s) the following elements:

- the costs of line, circulation and electrification activities;
- coefficients for the equivalence of maintenance and repair activity by line categories;
- the weight of the line lengths for each of the A to D category;
- the volume of the freight traffic broken down by line category;
- the volume of passenger traffic broken down by line category;
- the tonnages of the freight trains and the tonnages of the passenger trains broken down by line categories
- the tonnage factor.

As a general principle, in order to obtain the unit values of the basic charging elements, the model reported the value of the direct costs related to the IAC for the activity of lines, circulation and electrification to the volume of traffic during the analyzed period, using the combined share of the above elements.

The simulations carried out showed some variations in the coverage of direct costs by the type of activity, but the option that reached a 99.2% coverage of the costs was chosen.

The values of the basic charging elements resulting from this variant are presented in Table no. 6

*Table No. 6 - Values of the basic charging elements resulting from the simulation (RON/km)*

Traffic type	Element	Line category				Ttse	Ft
		A	B	C	D		
Passengers	Tsn	5	4,05	3,1	2,15	1,11	0.00020
	Tc	6,2	6,2	5,9	2,65		
Freight	Tsn	5	4,05	3,1	2,15		0.00025
	Tc	11,5	11,5	10,5	4,95		

In Table No. 7 a **comparative analysis** of the unit costs values for line activity that has seen a significant change from the old values is presented.

Table No. 7 - Comparative values of Ttsn (RON/km)

Calculation period	Traffic type	Ttsn				Weight Ttsn
		A	B	C	D	cl.A : cl.D
Previous	freight	4,65	4,35	4,23	4,00	1,16
	passengers	4,7	4,39	4,25	4,00	1,18
determined within the framework of the Project	freight + passengers	5,00	4,05	3,10	2,15	2,33

It is noted first of all that Ttsn has the same value for passenger traffic as for freight traffic, since it has been considered that the maintenance and repair work is the same for a line on which both freight and passenger trains run.

CFR used an inadequate structure of line costs (Ttsn), which varied between RON 4.65 for A category (lines with speeds of 121-160 km / h) and RON 4.00 for D category (lines with speeds below 50 km / h), i.e. a ratio of 1.17 between the costs of these categories (basically the costs were comparable), a structure that did not correspond to reality.

Under the new conditions, a ratio of 2.33 of the Ttsn for A category lines versus the Ttsn for D category lines shall be ensured. This ratio is consistent with the ratio of the equivalent coefficients of the assimilated maintenance and repair activity in the Instruction 300 for the same line categories, which is 2.07 (as shown in Chapter 4.5.a) and with the actual effort with the current maintenance by line categories.

In conclusion, the new Ttsn coefficients ensure a more appropriate coverage of the costs broken down by line categories and type of traffic.

#### 4.6 Modulation of the direct cost of the IAC

EU Regulation 2015/909 provides in art. 5(2) the possibility of modulating the average unit costs with different parameters in order to take into account the different levels of wear and tear caused to the infrastructure.

In principle, the railway infrastructure charging methodology used by CFR does not explicitly provide for the modulation of the direct costs related to the IAC (i.e. the coefficients Ttsn, Tc and Ttse). This would mean calculating and applying coefficients to their value according to some wear parameters.

However, it may be borne in mind that the formula for calculating the Tonnage IAC in the methodology has a term that can be interpreted as a modulation parameter.

Unit value of tonnage IAC (per km) =  $Ttsn (1 + (\text{Gross tonnage} - T_{min}) \times Ft)$ , or

$$\text{Tonnage IAC} = Ttsn + Ttsn (\text{Gross Tonnage} - T_{min}) \times Ft$$

In this case it can be interpreted that Ttsn is modulated by adding a tonnage parameter (mass of the train) 'Ttsn (Gross Tonnage - T<sub>min</sub>) x Ft'.

Exemplifying for a freight train of 2500 tons, we have:

$$\text{Tonnage IAC} = Ttsn + Ttsn (2,500-60) \times 0.00025, \text{ i.e. } \text{Tonnage IAC} = Ttsn + Ttsn \times 0.61,$$

and the modulation coefficient that would be added to the  $T_{tsn}$  value is ( $T_{tsn} \times 0.61$ ).

It can thus be considered that modulation with the tonnage parameter is taken into account when carrying out the simulations for the determination of the charging elements presented in Chapter 4.5.d), which among the 7 input elements also have 'the tonnages of freight trains and the tonnages of passenger trains broken down by line category' as well as the 'tonnage factor'.

## 5. DETERMINATION OF DIRECT COSTS FOR THE BASIC CHARGING ELEMENTS FOR THE YEAR 2023

In 2022, CFR initiated an action to update the costs related to IAC using the method described in chapters 3 and 4 above, with the financial-accounting data and traffic volume for 2021.

The amount of direct costs of the IAC by type of activity was thus determined. The share of costs related to the IAC by type of activity applicable for 2023 and the share of cost types related to total operating expenses is that presented in Chapter 4.4.

The electrification coefficient (Ttse) was determined by reporting the direct costs with the electrification activity to the volume of the train km with electric traction, resulting in a value of 1.22 RON / km. At the same time, the value of Ft for freight traffic was reduced from 0.00025 to 0.00020, given that the structure of the RU's fleet of freight wagons has improved.

In order to establish the values of the basic tariff elements, the previous expertise developed within the consultancy project for the IAC calculation was used.

In a first step, the value of the elements Ttsn and Tc shown in Table 6 of Chapter 4.5.d was used.

The simulations carried out with the support of SC Informatica Feroviară SA which has developed an IT model for highlighting the direct costs related to the IAC according to the lines categories and types and volumes of traffic (freight/passengers) as well as the values of the Ttsn and Tc tariff elements presented in the previous paragraph (for Ttse the value of 1.22 was used) for a number of over 900,000 trains circulated in 2021, highlighted a 98.63% coverage of the direct costs of IAC.

In these circumstances, CFR applied in the same correction index of 1.02 to the value of Ttsn and Tc on each line category and the simulations carried out under these conditions revealed a total coverage of the direct costs related to IAC. The new values of the basic charging elements are presented in Table No. 8.

Table No. 8 - Values of the basic charging elements for 2023 (RON/km))

Traffic type	Element	Line category				Ttse	Ft
		A	B	C	D		
Passengers	Tsn	5,1	4,13	3,16	2,19	1,22	0.00014
	Tc	6,32	6,32	6,02	2,7		
Freight	Tsn	5,1	4,13	3,16	2,19		0.00020
	Tc	11,73	11,73	10,71	5,05		

The results of this action indicated an increase of the IAC with a forecasted average value of 7% and the new values of the basic charging elements were applied starting with 11.12.2022 (the date of the change of train schedule and the conclusion of the new access contracts with the RU).



## **6. 6. HOW TO TAKE INTO ACCOUNT THE COST CATEGORIES FOR DETERMINING THE IAC ACCORDING TO THE REGULATION (EU) 2015/909**

### **6.1 6.1 Cost categories not taken into account in the calculation of IAC (art. 4 of R 2015/909)**

In accordance with Article 4(1) of EU Regulation 2015/909, the following costs have not been included in the calculation of IAC direct costs,

- a) for the fixed costs related to the making available of a section of infrastructure have been deducted:
  - fixed personnel costs, regardless of the volume of traffic resulting from Annex 1 (personnel expenses);
  - other (fixed) ineligible costs represented by the e.g. of meal vouchers and travel permits for the family members of the CFR employees involved in the IAC eligible traffic activities, all the costs of the traffic safety personnel;
  - fixed costs for the staff of the sections where there is no railway traffic (indicated in Annex 1 personal expenses);
- b) no costs were highlighted that are not related to payments made by CFR.  
Costs that are not related to the provision of PMA were excluded as follows:
  - costs related to the provision of TSA;
  - costs for other charges related to services outside the PMA (e.g. driving traffic on rented sections;
  - the administrative costs for the two types of tariffs provided outside the PMA (TSA and other tariffs) were calculated by applying the 2021 CGA quota to the amounts of the two types of tariffs;
- c) rental expenses were not considered in the calculation of direct costs related to IAC (shown in Annex 2 (operating expenses));
- d) the administrative salary expenses have been excluded and the method of establishment is shown in Annex 1 (personal expenses);
- e) financial expenses were not considered (Chapter 2 Expenditure of Annex 2 (operating charges))
- f) no costs related to obsolescence have been recorded;
- g) the costs related to intangible assets – shown in Annex 2, expenditure chapter D, were not considered as costs related to intangible assets;
- h) no costs related to track-side equipment have been recorded which are not directly generated by the operation of the rail transport service;
- i) no costs have been recorded for communication equipment located outside the railway or costs for telecommunications equipment;
- j) no force majeure-related costs were recorded;
- k) the costs of traction power supply equipment that are not directly generated by the operation of the rail transport service have been deducted (e.g. maintenance and repair costs for substations for traction power supply);
- l) no costs related to the provision of information have been recorded;
- m) no costs related to differentiated charging regimes have been recorded;

n) depreciation that was not considered to have been determined on the basis of wear and tear caused by train movements;

o) the costs for the part of the maintenance and renewal of the infrastructure which would not be directly generated by the operation of the railway service were not considered.

With regard to the application of Article 4(2) of the Regulation:

- a) budget transfers to finance infrastructure investments have been excluded;
- b) budget transfers have also been deducted for the maintenance, repair and operation of railway infrastructure.

## **6.2 Cost categories that have been taken into account in the IAC calculation**

The regulation states that the infrastructure manager, within the framework of the direct costs calculated according to art. Article 3(1) may include 'in particular' the following costs:

- a) the costs related to the personnel necessary to keep open a section of the network outside the working hours – do not apply to the CFR;
- b) the costs of infrastructure (switches) exposed to wear and tear as a result of train movements have been considered within the costs of Annex 2;
- c) the part of the maintenance costs of the catenary wire and the support equipment has been included in the direct costs and deducted from the total electrification costs;
- d) the costs related to the personnel necessary for the preparation of the allocation of train paths and the working timetable are highlighted in Annex 1 – Personnel costs.

## **7. APPROVAL AND PUBLICATION OF THE BASIC CHARGING ELEMENTS FOR THE CALCULATION OF THE IAC**

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As we have indicated before, the determination of direct costs is the determination of the basic charging elements used in the formula for calculating the IAC and actually determines the value of the IAC for a train running on various line categories on the CFR network.

Setting these values is one of the two essential functions of CFR, in addition to the one of allocating infrastructure capacities and for which CFR in its capacity as railway infrastructure manager benefits from functional independence in accordance with the provisions of Law 202/2016.

In accordance with this provision, the values of the basic elements for the calculation of the IAC applicable for the following year are subject to the approval of the CFR management, regardless of whether they undergo changes or not, presenting the necessary justifications. In the case of changes in charging elements, the method of their calculation with all the cost elements described above is also presented.

Before submitting for approval to the CFR Management, CFR informs the National Railway Supervisory Board about the changes in the basic charging elements for the IAC calculation, presenting also the way of determining them in accordance with the above.

The values of the basic charging elements are published by CFR in accordance with the normative provisions in force in the Network Statement (NS).

These values can be modified by CFR under the conditions of the normative acts in force depending on the evolution of the specific cost elements.