

APPENDIX 5.1.1

CHARGING PRINCIPLES OF MINIMUM SERVICES

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The information published in Appendix 5.1.1 relating to Chapter 5 of the National Rail Network Statement is intended to describe the process for establishing price scales applicable to minimum services, with regard to the principle and *"the aim(s) regarding transparency, in particular concerning the description of charging principles, the justification of the links between the costs and charges and the changes in the charges"*¹.

This appendix therefore provides details on the European and national legal framework for establishing charges and the process for compiling the charges imposed by SNCF Réseau. Unless otherwise stated, the amounts provided are nominal values.

It recalls, in particular, the economic principle applicable to the minimum service charges laid down by Directive 2012/34/EU: the usage charges must be equal to the *"cost directly incurred"* (CDI) as a result of operating the train service. Directive 2012/34/EU nevertheless authorises SNCF Réseau to levy mark-ups if the market can bear this **(section 1)**.

Next, this Appendix will present how SNCF Réseau implements these charging principles, and describe the significant changes made for the 2027 to 2029 timetables:

- The different costs incurred by the minimum services (comprehensive, directly incurred and shared network costs) are presented first **(section 2)**;
- The resulting minimum service rates **(section 3)**;
- The principles adopted to revise the charges **(section 4)**;
- The price sustainability analysis **(section 5)**.

¹ Item III.18 of ARAF statement No. 2014-001.

1. Charging principles: legal framework

In application of the French legislative and regulatory framework, the charging system for use of the whole national rail network is decided by SNCF Réseau², within the framework set up by the State³. For minimum services, it is subject to approval issued by the Transport Regulation Authority ("ART")⁴. According to the provisions of the transport code, ART approves the setting of infrastructure charges related to the use of the national rail network. This approval takes into account:

1. The principles and pricing rules applicable on this network, provided for in **Article L. 2111-25**;
2. Sustainability of pricing for the rail transport market, in view of the competitive position of rail transport on the transport market;
3. Contract provisions mentioned in Article L. 2111-10, concluded between the State and SNCF Réseau.

Furthermore, charging must comply with the principles and the general architecture arising from European and French law established under the European Directive 2012/34/EU, the French Transport Code, Decree No. 2003-194 as amended and Decree No. 97-446 of 5 May 1997 as amended, and the provisions of the contract concluded between the State and SNCF Réseau.

1.1. EU law: Directive 2012/34/EU

Directive 2012/34/EU specifies four principal objectives for charging of the infrastructure:

- Encouraging infrastructure managers to optimise the use of their infrastructure⁵;
- Ensuring, within a reasonable time frame and taking into account public funding⁶, that the infrastructure manager's accounts are balanced;
- Ensuring fair and non-discriminatory access conditions for different railway undertakings⁷;
- Issuing clear and consistent signals to allow railway undertakings to make rational decisions with regard to use of the network⁸.

These aims define the structure of the articles in Section 2 "*Infrastructure and services charges*" of Chapter IV of Directive 2012/34/EU.

Article 31.3 establishes in particular the principle of charging based on the "*cost directly incurred*":

² Transport Code, Decree No. 97-446 as amended and Decree No. 2003-194 as amended.

³ In particular with regard to available public funding as "*the general level of cost recovery through infrastructure pricing has implications for the level of public contributions. Member States may require different levels of cost recovery. However, any infrastructure charging scheme should allow traffic that can cover at least the additional cost it imposes to use the rail network*" (recital 70 of the Directive).

⁴ Article L.2133-5 of the Transport Code.

⁵ "*Within the framework set out by Member States, charging and capacity-allocation schemes should encourage railway infrastructure managers to optimise use of their infrastructure.*" (Recital 43).

⁶ Article 8.4: "*Member States shall ensure that, under normal business conditions and over a reasonable period which shall not exceed five years, the profit and loss account of an infrastructure manager must at least strike a balance between income from infrastructure charges, mark-ups from other commercial activities, non-refundable incomes from private sources and State funding, as well as include advance payments from the State, where appropriate, and infrastructure expenditure, on the other hand.*"

⁷ "*charging and capacity-allocation schemes should permit equal and non-discriminatory access for all undertakings and insofar as possible, should attempt to meet the needs of all users and traffic types in a fair and non-discriminatory manner. Such schemes should allow fair competition in the provision of railway services.*" (Recital 42).

⁸ "*The capacity distribution systems should emit clear and consistent signals which enable the railway undertakings to take rational decisions.*" (Recital 44).

" [...] the charges for the minimum services package and to access the infrastructure connecting service facilities shall be set at the cost directly incurred as a result of operating the rail service. Before 16 June 2015, the Commission shall adopt measures setting out the modalities for the calculation of the cost that is directly incurred as a result of operating the rail service. "

The modalities for the calculation of the cost that is directly incurred as a result of operating the rail service are defined by the Implementing Regulation 2015/909 of 12 June 2015. Recital 12 defines the cost directly incurred as a marginal cost: "It is a well-established economic principle that user charges based on marginal costs ensure the optimum effective use of available infrastructure capacity. Hence, the infrastructure manager may decide to use the proxy of marginal costs for calculating the costs directly incurred by the operation of the rail service."

Furthermore, according to Article 31.4 of the aforementioned Directive 2012/34/EU, the basic charges may cover the costs linked to the scarcity of capacity offered by the infrastructure manager. The Directive establishes that "[they] may include a charge which reflects the capacity scarcity on the identifiable section of the infrastructure during periods of congestion".

Exceptions to these charging principles are established by EU law. Article 32.1 states that mark-ups may be applied on the condition that the market can bear these: " In order to obtain full recovery of the costs incurred by the infrastructure manager, a Member State may, if the market can bear this, levy mark-ups based on efficient, transparent and non-discriminatory principles, while guaranteeing optimal competitiveness between rail market segments. The charging system shall respect the productivity increases achieved by railway undertakings. The level of charges shall not, however, exclude the use of infrastructure by market segments which can pay at least the cost directly incurred as a result of operating the railway service, plus a rate of return which the market can bear. "

The principle of a charging system is thus in place, comprising:

- **charges** whereby the network user pays the direct cost that **it incurs upon SNCF Réseau**(*i.e.* the marginal cost that is the cost incurred for running a supplementary unit of traffic on the network). These charges may include the external costs linked to use of the infrastructure of the national rail network (in particular scarcity);
- **mark-ups** that enable SNCF Réseau to recover the fixed costs it incurs. These mark-ups can only be levied if they are sustainable for the railway undertakings operating on the market segment in which they are applied.

These EU charging principles, for the most part derived from former Directives 97/440/EEC and 2001/14/EC (now repealed) were transposed into French law, under Decree No. 2003-194 and Decree No. 97-446 now in force.

Furthermore, without creating any new obligations, the European Commission has adopted interpretative guidelines on the implementation of railway infrastructure charges⁹. They clarify the application of Articles 31 and 32 of Directive 2012/34/EU and Regulation (EU) 2015/909. SNCF Réseau takes these guidelines into account when preparing and publishing its price lists.

1.2. The French regulatory framework

The aforementioned provisions of Directive 2012/34/EU are specified under Decrees No. 97-446 as amended and No. 2003-194, in particular:

- The "**cost directly chargeable**" pricing principle, as well as the various charges subject to it (traffic charge, electric traction charge, charge to cover losses of electrical systems);

⁹ European Commission C/2025/2606: Interpretative guidelines on the implementation of charges for the use of railway infrastructure.

- The possibility of levying mark-ups in order to recover all costs incurred, on the condition that the market can bear these;
- The possibility of charging for the scarcity of capacities;
- The possibility of implementing special charges linked to specific investment projects;
- As well as potential adjustments of the pricing.

2. Costs of minimum services

The total full costs of the network and those of the minimum services are presented by major masses (section 2.1).

Costs directly incurred falling within the scope of minimum services are presented in section 2.2.

The allocation of fixed costs between activities is presented in section 2.3.

The **total projected costs** attributable to each activity and to each AOM are presented in section 2.5.

2.1. Full cost of minimum services

The full cost estimate for 2027-2029 is based on:

- the trajectory of the performance contract signed between the State and SNCF Réseau in 2022, based on SNCF Réseau's actual figures for 2020 (published accounts for 2020);
- the application of SNCF's own cost trends, taking into account the surge in inflation seen in the 2020-2029 period.

The full cost is made up of:

- (i) Current operating costs, half of which are payroll costs and half Purchases and External Charges (PEC). **These costs correspond to:**
- **maintenance costs:** the sums spent on monitoring and maintaining the network, mainly the labour provided by staff in charge of the work, the use of machinery, the consumption of materials (rails, ballast, sleepers, etc.) and invoices for internal and external services;
 - **operational traffic management costs**, consisting mainly of the salaries of staff working in the network's signal boxes;
 - **other costs** including marketing, train path planning, studies and costs for non-capital projects, and regulated services.

Within the operating costs:

- The **payroll** is expected to grow by +2.5% between 2024 and 2025, then by +2.1% per year on average between 2025 and 2029, after applying inflation and the following annual productivity gains:

Table 1 - Operating expenses - Expected annual productivity gains on payroll (%)

	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025
Operating expenses (OPEX)	-1,7%	-1,6%	-2,1%	-0,5%	-2,3%

Source: SNCF Réseau

- **Purchases and External Charges (PEC)** are expected to rise by 1.2% between 2020 and 2021, +1.1% between 2022 et 2023 and by 1.7% per year between 2025 and 2029 due to inflation and the following annual productivity gains:

Table 2 - Operating expenses - Expected annual productivity gains on PECs (%)

	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025
PEC (OPEX)	-1,9%	-2,6%	-2,0%	-3,0%	-8,0%

Source: SNCF Réseau

- (ii) **Depreciation charges net of subsidies** for past investments and the investment programme for the 2023-2026 period.

Future investment projects, totalling between €5 and €6 billion, consist of 20 to 25% in payroll costs, with the remainder comprising purchases and external expenses. The forecast investment amounts vary as follows:

Table 3 - Future investment - Inflation and expected annual productivity gains (%)

	2020/2021	2021/2022	2022/2023	2023/2024
Inflation	+1,3%	+1,0%	+1,2%	+10,9%
Productivity gains	-1,7%	-1,2%	-1,2%	-0,6%

Source: SNCF Réseau,

However, it should be noted that the net depreciation and return on capital generated by these future projects account for little of the total depreciation, which is mainly made up of investments already made on the network.

- (iii) **A return on capital** by applying a Weighted Average Cost of Capital (WACC) rate of 5.7% to the net residual value of the assets (net of subsidies).

This rate is of a similar magnitude to the normative CMPCs used by regulators to calculate regulated costs in other sectors, such as energy (the CRE has set the rate at 5.4% for 2024) or telecoms (ARCEP has set the rate at 5.5% for 2024).

SNCF Réseau's WACC is mainly calculated based on normative standards (debt ratio, market risk premium, market yield, tax rate). However, it also takes into account the cost of the resource and the risk associated with SNCF Réseau's activity. These elements are based on the reference thresholds determined based on data or characteristics specific to the company:

- The cost of the resource is based on SNCF Réseau's debt structure. Thus, taking into account the maturity of SNCF Réseau's bond portfolio with institutional financiers during the calculation, coupled with the life of SNCF Réseau's assets, leads to the use of long-term interest rates (between 10 and 30 years) which risk remuneration is higher.
- The risk associated with the activity of SNCF Réseau, or beta, is based on a panel of comparable items among infrastructure managers in comparable sectors (rail, energy, telecommunications infrastructure, etc.) sharing the same financing conditions (use of debt in the absence of cost coverage from public funding). The betas were calculated over two years and five years, using the weighted and median averages of the samples from the comparable panel.

These two factors specific to SNCF Réseau account for the difference in the CMPC compared with other regulated sectors (between 0.2 and 0.3 percentage points). All of these assumptions and the overall structure of the model were the subject of a study carried out by an external consultancy (Frontier Economics) in 2021.

- (iv) **Taxes and duties.**

In total, the full cost of the network is estimated to be between €9.2 billion and €9.4 billion, depending on the year between 2023 and 2026, covering the costs of minimum services (detailed in section 5.1.5 of the NS), the cost of service facilities and the cost of non-regulated activities.

Table 4 - Total network costs (€M)

in €M current value	2023 ¹⁰	2024	2025	2026
Total full costs	9 256	9 351	9 297	9 365
Operating expenses (OPEX)	5 278	5 276	5 127	5 074
- of which maintenance	2 706	2 912	2 830	2 800
- of which traffic management	1 011	1 088	1 057	1 046
- of which other costs	1 560	1 276	1 240	1 228
Capital expenditure (CAPEX)	3 977	4 075	4 170	4 291
- of which depreciation charges, net of subsidies	1 604	1 628	1 663	1 716
- of which return on capital	2 374	2 446	2 507	2 575

Source: SNCF Réseau

Within this full cost, the costs incurred for minimum services are between €8.3bn and €8.8bn, broken down as follows.

Table 5 - Full cost of minimum services (€M)

in €M current value	2023 ¹¹	2024	2025	2026
Total full costs	8 364	8 805	8 765	8 838
Operating expenses (OPEX)	4 420	4 764	4 629	4 582
- of which maintenance	2 562	2 756	2 678	2 651
- of which traffic management	952	1 024	996	985
- of which other costs	906	983	955	946
Capital expenditure (CAPEX)	3 944	4 041	4 136	4 257
- of which depreciation charges, net of subsidies	1 595	1 620	1 654	1 707
- of which return on capital	2 349	2 421	2 482	2 550

Source: SNCF Réseau

These costs consist of:

- The costs of the dedicated network for each activity. These costs are detailed in section 2.3.
- The costs of the shared network, presented in section 2.4, broken down into two types of costs according to whether they are variable or fixed:
 - **Costs directly attributable to each activity on the shared network.** Due to their variable nature (in relation to tonne-km and train-km travelled), these costs are allocated to each rail activity by multiplying the directly attributable costs by the traffic volumes of the activities.

¹⁰ Source : contrat de performance.

¹¹ Other costs mainly consist of the costs of services relating to the allocation and marketing of train paths, feasibility studies for investment projects (net of grants), and taxes

The method used to determine these costs, which form the variable traffic charges, is detailed in section 2.2;

- **Fixed costs on the shared network.** These costs, which are common to all activities, cannot be allocated to each individual activity. The method used to allocate these costs among the various activities is detailed in section 2.4.1. This method aims to allocate a share of the fixed costs of the shared network to each activity operating on it.

2.2. Costs directly attributable (CDI) to journeys within the scope of the Minimum Services

2.2.1. Overview of the method

The calculation of directly attributable costs is based on econometric analyses that explain locally observed expenditure on maintenance, renewal and traffic management in terms of the infrastructure's technical characteristics and the stresses to which it is subjected: traffic expressed in tonne-kilometres and train-kilometres. These analyses enable cost functions to be estimated, from which marginal costs are derived.

The work carried out by SNCF Réseau to estimate the directly attributable cost ranks among the most advanced studies in Europe. Indeed, over the past decade, significant progress has been made following several updates to these estimates. This work has been carried out by recognised researchers from the academic community. Furthermore, SNCF Réseau has regularly communicated on this work (methodology and results) to clients (railway companies, AOMs, combined transport operators, associations and institutional partners) during consultation meetings on tariff reform. This modelling work and its results are notably cited as an example by the CERRE (Centre on Regulation in Europe) in its report on tolls **12**.

The first cost estimates date back to 2007. They had helped to establish a basis for part of the pricing structure for the fare reform of 2010 ¹³. Between 2010 and 2012, significant resources were mobilised to update these estimates. The marginal costs of maintenance, operation and renewal had been estimated using econometric analyses ¹⁴, based on data from 2007 to 2009. The methodological choices were based on the findings of academic research, particularly that carried out as part of European research programs¹⁵. These estimates have been incorporated into the pricing structure from the 2014 timetable onwards.

¹² "Probably the most reliable evidence on the absolute level of wear and tear costs comes from econometric evidence, given the extensive range of studies conducted through coordinated research programs. This evidence suggests that charges for these costs are generally far too low, except in France" (cf. CERRE, Track access charges : reconciling conflicting objectives, may 2018).

¹³ See the IGF-CGPC report on rail network pricing, July 2007.

¹⁴ The econometric analyses carried out for maintenance and operations were the subject of a research paper presented at the annual conference of the International Transport Economics Association (ITEA, Toulouse, 2014): Estimating the marginal cost of operation and maintenance for the French railway network. The paper is available at the following link:

https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=ITEA2014&paper_id=137 .

¹⁵ The study commissioned by SNCF Réseau took particular care to apply analytical methods in line with the most advanced scientific research in this field. It sought to apply the methods used in the European CATRIN research project, which involved Phill Wheat, Andrew Smith and Chris Nash (from the University of Leeds) and Marc Gaudry and Emile Quinet for the case study concerning France.

Following an update of the marginal cost models for maintenance and renewal between 2015 and 2016, SNCF Réseau resumed this work in 2019, with the objective of informing the 2024–2026 service timetables. This update focused on maintenance and renewal costs.

The update builds on the key findings from previous modelling work, while seeking to extend its application to additional asset classes within the rail network, to strengthen the robustness of the results by standardizing the use of econometric models (particularly for renewal costs), and to rely on multi-year panel data.

The analyses involved consulting firms specializing in statistics and econometrics¹⁶ and were overseen by a scientific committee composed of Phillip Wheat, Andrew Smith, and Kristofer Odolinski from the Institute for Transport Studies at the University of Leeds. In its report, the scientific committee states: “Overall, we consider that SNCF Réseau and its consultants have undertaken a high-quality analysis of marginal infrastructure wear-and-tear costs, as well as marginal maintenance and renewal costs, disaggregated by asset type. The estimated models are consistent with, and build upon, the existing literature and, in several respects, may be regarded as an advancement of that literature. The data have been carefully assessed, and a rich set of control variables has been included to ensure that traffic elasticities can be used to derive appropriate short-term marginal costs. [...] The results are plausible, generally falling within the range of previous econometric estimates (where available) or aligning with prior engineering evidence.”

This process was also carried out in close collaboration with the sector regulator, which monitored it regularly and closely between 2019 and 2022. Its Opinion 2023-008 of 9 February 2023 lists the significant improvements requested by the ART and incorporated into the 2024–2026 Tariff Framework. In summary, “the proposed tariff plan follows the Authority’s recommendations in its previous opinions and the commitments made by SNCF Réseau during the 2021–2023 cycle”¹⁷.

The scope of the costs used to estimate the CDIs covers the following items:

- **Maintenance of the track, points, signalling, overhead lines, engineering structures and earthworks (OA-OT), as well as level crossings (PN).** These last two assets were added as part of the latest update. The econometric modelling was based on data on costs, traffic and infrastructure characteristics observed on conventional and high-speed lines between 2015 and 2018;
- **Operational traffic management;**
- **The renewal of track, points, signalling and electrical installations.** The latter two assets were added as part of the latest update. All renewal costs are derived from observed data on conventional and high-speed lines between 2013 and 2018. The new models for the marginal costs of track and points renewal therefore take observed costs into account, whereas the marginal renewal costs previously used were based on data simulated by two separate engineering models for conventional lines and costs derived from a simplified approach for high-speed lines. This econometric modelling, tailored to the specific characteristics of this data, proven and recognised in academic literature¹⁸ (and also used by the Swedish infrastructure manager), and methodologically consistent across the entire scope (the various infrastructure components on conventional and high-speed lines), constitutes a major contribution to the current pricing framework¹⁹.

¹⁶ The analyses were carried out by a consortium of experts comprising the consultancy firms IMDM and ECOPLAN.

¹⁷ ART Opinion No. 2023-008 of 9 February 2023, Section 2.2, page 16.

¹⁸ Andersson, M., Smith, A.S.J., Wikberg, A., and Wheat, P.E. (2012), Estimating the marginal cost of railway track renewals using corner solution models, *Transportation Research Part A*, 46 (6), 954–964 ; Odolinski, K., Nilsson, J-E., Yarmukhamedov, S., Haraldsson, M., 2020. The marginal cost of track renewals in the Swedish railway network: Using data to compare methods. *Economics of Transportation*, 22, DOI: <https://doi.org/10.1016/j.ecotra.2020.100170> .

¹⁹ These econometric analyses were the subject of a research paper presented at the annual International Transport Economics Association (ITEA) conference in Paris in 2019.

The main improvements made to the cost models and incorporated into the 2024–2026 service timetable are based on extensive databases and consistent econometric analysis:

Regarding data sources:

- For maintenance: SNCF Réseau used observed and enriched data from 2015 to 2018. This information is derived from the annual 10,000-point matrices, taken from SNCF Réseau’s destination-based accounts. These costs, submitted annually to the ART, provide justification for maintenance and monitoring by asset type and management segment (network grid). The extracted and reprocessed databases enabled the introduction of numerous additional variables into the cost functions, as well as additional infrastructure components (OA-OT and PN). In total, more than a hundred variables were collected;
- For renewal: SNCF Réseau used observed, enriched and reworked data from 2013 to 2018. This information comes from the Works Database, which contains, for each project, the location of the operations to be carried out as well as the nature of the operations undertaken. The GEREMI database enabled the consolidation of renewal expenditure and project monitoring. This data allowed the costs of renewing certain assets, such as signalling and electrical installations, to be incorporated into the modelling.

Regarding the analyses carried out:

- Use of econometric models that are appropriate and in line with best practices in sectoral regulation and academic ²⁰ research;

In-depth analyses of the choice of explanatory variables to be included, in consultation with subject matter experts;

- Robustness and suitability tests for the models.

The regulator carried out regular monitoring of the progress of the econometric modelling between 2019 and 2022. This monitoring enabled the ART to review the data and calculation assumptions used, to monitor and scrutinise the methodological choices made, and to carry out various checks following the submission of all elements of the study (data, computer code, formulas and study reports). The ART had also carried out a second opinion on the results obtained in 2015, the recommendations of which served as the basis for updating the econometric ²¹. models.

2.2.2. Determining the costs directly attributable

2.2.2.1. Marginal costs per maintenance, operation and renewal activity

The econometric analyses enable the cost functions to be estimated. These functions were then used to estimate the **marginal cost** of each activity (cost directly attributable to it), in order to transpose this into the toll price scale. The activities carried out on the network were split into 3 types, corresponding to the main rail activity categories in relation to the infrastructure characteristics:

²⁰ The methods used to estimate maintenance costs are also recognised and recommended in the scientific literature (see, in particular, Smith, A., Odolinski, K., Wheat, P., & Dheilly, C. (2023). Why the Fixed Effects estimator may not be the “gold standard” for estimation of economies of density in rail transport: An application from rail infrastructure maintenance data in France. *Journal of Transport Economics and Policy*.)

²¹ A second opinion was carried out between November and December 2016 by Frontier Economics, a firm specialising in econometrics, on behalf of the regulator. The findings were published by the regulator.

<http://www.arafer.fr/wp-content/uploads/2017/02/RAP-Frontier-Expertise-cout-marginal-dentretien-stc-vf-pour-public....pdf>

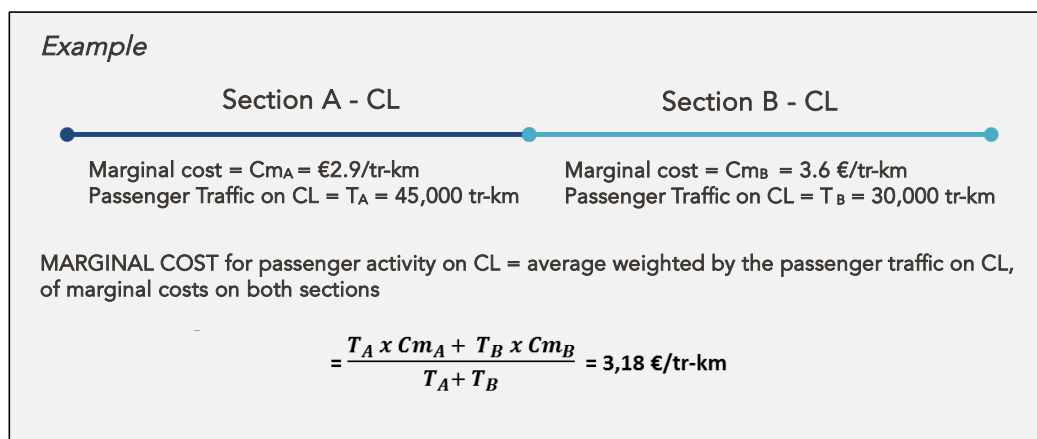
<http://www.arafer.fr/wp-content/uploads/2017/02/RAP-Frontier-Expertise-cout-marginal-de-renouvellement-vf-pour-pub....pdf>

- "Passenger" activities on conventional lines (CL),
- "Passenger" activities on high speed lines (LGV),
- And freight/HLP freight activities.

Given the cost functions estimated, the marginal cost is a local concept which depends on the traffic cost data and the characteristics of the infrastructure for the section where this cost is measured. However, in order to avoid excessive disparities in marginal costs between sections of lines with similar characteristics, it is calculated to represent a weighted average marginal cost: a weighted average of marginal costs and the traffic charge is uniform for each of the three categories of activity across the entire national rail network. To this end, since the sections of the network used by each activity distinguish between those on the conventional network (CL) and those on the high-speed network (HSL), the marginal cost of each section can then be weighted by the traffic per activity on that same section to obtain the total marginal cost of the network used by the activity.

Figure 1 below illustrates the process for calculating average marginal costs for the passenger activity on conventional lines (CL). The same method is used for the remaining activities across the entire rail network.

Figure 1 - Calculation of average marginal costs for passenger services on conventional lines (illustration)



Source: SNCF Réseau

For the marginal **renewal** cost, a distinction is established according to the UIC group in order to take account of the specificities of the method used to finance fine regional service lines. Thus:

- For network sections within UIC groups 2 to 6, the renewal of which is under SNCF Réseau's responsibility, an average marginal renewal cost is calculated via a weighted average over the UIC 2 to 6 network;
- For network sections belonging to UIC groups 7 to 9, the renewal of which is financed by third parties without participation by SNCF Réseau, the marginal cost of renewal is set at 0. The CDI is therefore limited to the sum of the marginal costs of maintenance and renewal only.

Note that, depending on the cost item and asset analysed, marginal costs are estimated in Euro per tonne-kilometre²² or in Euro per train-kilometre²³. Following exchanges with the regulator, and in order to respect the non-discriminatory nature imposed by Article 29 of the Decree of 7 March 2003, it was decided to keep this double unit for the 2019 pricing for passenger transport. For freight trains, modulation per class of tonnage was kept (see section 3.2.1.2 below).

2.2.2.2. Indexation of costs

For the reasons explained above, econometric estimates of marginal costs are made using data covering the period from:

- 2013 to 2018 for renewal costs;
- 2015 to 2018 for maintenance costs.

These estimates produce results expressed in 2018 Euro. Successive indexations are detailed below.

Furthermore, as the marginal operating cost could not be updated due to a lack of observed data by signal box, the previously estimated operating CDI is retained for the 2025 Timetable. It is nevertheless necessary to express marginal costs in terms of the economic conditions of the given timetable, using specific cost-of-living adjustments for each post, which are based as far as possible on the observed trends in these costs.

For operating costs, SNCF Réseau uses specific cost-of-living adjustment factors based on the observed changes in costs between 2009 and 2018:

- **Until 2014: taking into consideration actual changes**

For the period over which SNCF Réseau has recorded data on changes in marginal operating costs and on a consistent basis (Réseau Ferré de France scope until 2014, then SNCF Réseau as set out below), the marginal costs are updated using the following annual rates, which were drawn from the timetable pricing from 2019 to 2023.

Table 6 - Indexation used for operating costs for the 2009-2014 period (%)

Cost categories	Initial economic conditions	Taking into consideration actual changes	Overall trend in marginal operating costs	Average change per year
Operation	2009	2009-2014	8.18%	1.58%

Source: SNCF Réseau

- **2014-2018 period: taking into consideration the actual rate of change**

For the 2014-2018 period, SNCF Réseau used the observed change in total operating costs.

²² This concerns marginal maintenance and renewal costs for the tracks and switchgear, as well as the maintenance of the civil engineering structures and earthworks.

²³ This concerns the marginal operating, maintenance and renewal costs for signalling systems as well as the maintenance of level crossings.

Table 7 - Indexation used for operating costs for the 2014-2018 period (%)

Cost categories	Initial economic conditions	Taking into consideration actual changes	Overall trend in marginal operating costs	Average change per year
Operation	2014	2014-2018	-1.66%	-0.42%

Source: SNCF Réseau

- **2018-2020 period: taking into consideration the actual rate of change**

For this period, the marginal costs estimated by SNCF Réseau are updated using actual data: for operating costs, the data comes from the accounts per destination; for maintenance costs, the average maintenance expenditure per km of track is used (performance contract); for renewal costs, the change in the GOPEQ index is used (available in SNCF Réseau's financial reports). The annual rates are as follows:

Table 8 – Indexation used for operating costs for the 2018-2020 period (%)

Cost categories	Initial economic conditions	Taking into consideration actual changes	Overall change	Average change per year
Maintenance	2018	2018-2020	2.69%	1.34%
Operation	2018	2018-2020	-4.70%	-2.38%
Renewal	2018	2018-2020	0.00%	0.00%

Source: SNCF Réseau

- **2020-2026 period: taking into consideration the growth rates taken from the performance contract**

For the period 2020-2026, SNCF Réseau uses the projected cost trends (OPEX personnel for operating costs, maintenance costs per kilometre of track and GOPEQ²⁴) from the multi-year performance contract between the State and SNCF Réseau²⁵ expressed in current euros using data and inflation forecasts (HICP) from the Banque de France: observed inflation as published in June 2025 for the 2024 timetable (+2.3%), HICP projection published in June 2025 for the 2026 timetable (+1.4%).

²⁴ Unit for an Equivalent Major Scheduled Operation, i.e. the average cost of regenerating one kilometre of line on the network.

²⁵ Contract signed in June 2022.

Table 9 - Indexation used for operating costs for the 2020-2026 period (%)

Annual rate of change per cost category	Maintenance	Operation	CL Renewal	HSL Renewal
2020-2021	5,34%	3,50%	3,89%	1,04%
2021-2022	5,97%	-1,20%	5,86%	7,38%
2022-2023	5,97%	-1,13%	3,39%	6,24%
2023-2024	1,47%	-0,06%	2,02%	2,70%
2024-2025	0,49%	-0,06%	1,02%	1,70%
2025-2026	0,19%	-0,06%	0,72%	1,40%

Source : SNCF Réseau

2.2.2.3. Marginal maintenance, operating and renewal costs for 2026

For the year 2026, the marginal **maintenance**, **operation** and **renewal** costs are detailed in the table 10 below.

Table 10 - Marginal maintenance, operating and renewal costs for 2027

	Maintenance mc (Track + Adv + Civil engineering structures/earthworks) €2026 / kCGT-km	Maintenance mc (Signalling + Non-HSL level crossings) €2026 / tr-km	Renewal mc (Track + Adv) €2027 / kCGT-km		Renewal mc (Signalling) €2026 / tr-km		Operation mc €2026 / tr-km
	RFN	RFN	UIC 2-6	UIC 7-9	UIC 2-6	UIC 7-9	RFN
Passenger on LC	1,921	0,347	3,638	0.000	0,126	0.000	0.177
Passenger on LGV	0,634	0,150	1,028	N/A	0,019	N/A	0.104
Freight & Light Running Freight	0,796	0,347	1,996	0.000	0,126	0.000	0.193

Source: SNCF Réseau

For the year 2026, the sum of the marginal costs for each activity is detailed in the table 11 below.

Table 11 - Total marginal costs for 2026

	MC total €2026 / kCGT-km		MC total €2026 / tr-km	
	UIC 2-6	UIC 7-9	UIC 2-6	UIC 7-9
Passenger on LC	5,560	1,921	0,649	0,524
Passenger on LGV	1,663	n/a	0,273	n/a
Freight & Light Running Freight	2,792	0,796	0,666	0,540

Source: SNCF Réseau

The above results show relatively different marginal costs from one activity to another. This is because activities do not all operate on networks with comparable UIC classes, while marginal costs vary from one section of the network to another depending on the costs, volumes and types of traffic.

This data shows that the marginal share of renewal costs (*i.e.* the share that varies with traffic) is 29%. Conversely, this means that 71% of SNCF Réseau’s renewal expenses are not included in the running charge. The same applies for operating and maintenance costs. Only 16% of maintenance costs and 9% of operating costs vary according to the traffic. Conversely, the fixed portions of the maintenance costs (84%) and operating costs (91%) are not covered by this charge. On average, these values correspond to the minimum threshold recommended by CERRE (Centre on Regulation in Europe) in its report on railway tolls²⁶.

Table 12 - Marginal share of costs for the 2026 pricing (share of costs varying with traffic)

Maintenance	16%
Operation	9%
Renewal	29%

Source: SNCF Réseau

N.B.: assessment based on projected marginal costs in 2027 and traffic assumptions in 2026.

2.2.2.4. Marginal costs of fixed electric traction installations directly attributable to traffic

The cost of fixed electric traction installations directly attributable to traffic is the sum of four components:

- (1) The marginal maintenance cost **of catenaries**;
- (2) The marginal maintenance cost **of EALEs**²⁷;
- (3) The marginal renewal cost **of catenaries**;
- (4) The marginal renewal cost **of EALEs**.

The marginal maintenance cost **of catenaries** (1) and the marginal renewal cost of **IFTEs**²⁸ (3+4) were estimated using econometric analyses in the same way as the marginal costs presented in the previous section.

As regards the marginal maintenance cost **of EALEs** (2), in the absence of sufficiently detailed data (observed or simulated) to enable econometric analyses to be carried out, it was considered that its traffic marginality was equal to that of the maintenance cost of catenaries (11.55%). The 11.55% marginality was applied to the observed maintenance expenditure for EALEs in 2020, converted into €2026 using the maintenance cost history from the performance contract. The results are shown in the following table.

For 2026, the rate of change for the electrical CDI is +2.11% compared to 2026. Thus, in total for 2027, the evaluations carried out by SNCF Réseau and the application of the simplified method

²⁶ "Overall, given the extensive nature of the econometric evidence, it seems hard to ignore the conclusion that marginal wear and tear costs for maintenance and renewals should be above 20%" (see CERRE, *Track access charges: reconciling conflicting objectives*, May 2018).

²⁷ "Équipement d’Alimentation des Lignes Electrifiées" or power line supply equipment.

²⁸ "Installations Fixes des Terminaux Electriques" or electrical terminal fixed facilities.

(between 2018 and 2027) result in an overall electric CDI value of **€0.291** per electric train-km, for all activities. The breakdown of the electric CDI per cost item is shown in the following table.

Table 13 - Breakdown of the electric CDI per cost item for 2026

	Total cost (€M2027)	Marginality	Variable costs (€M2026)	Marginal cost (€2026/tr-km)
(1) Maintenance of catenaries	/	/	/	0,056
(2) Maintenance of EALE	96,6	11,5%	11,2	0,026
(3 + 4) Renewal of catenaries and of EALE	/	/	/	0,203
Electric CDI 2025 (€2025)				0,285

Source: SNCF Réseau

2.2.3. Summary of costs directly incurred by each activity and AOM

Based on traffic forecasts for the various activities, SNCF Réseau has assessed the costs directly incurred by each of the activities, and in particular by AOMs for contracted passenger activities.

The table below details the costs directly incurred by the network for each activity.

Table 14 – Breakdown of costs directly incurred by each activity and AOM (€M)

	2023 ²⁹	2024	2025	2026
Non-contracted passenger services	511	307	316	321
- of which maintenance	116	119	122	123
- of which operating	20	17	17	18
- of which renewal	375	171	177	180
Freight services	243	286	300	300
- of which maintenance	80	93	98	98
- of which operating	15	13	13	13
- of which renewal	148	180	189	189
Contracted passenger services	480	730	753	764
- of which maintenance	240	295	304	308
- of which operating	59	51	52	52
- of which renewal	181	383	397	404
Per AOM:				
Ile-de-France Mobilités	138	228	236	236
AOM State - TET	35	49	50	53
AOM Auvergne Rhône-Alpes	51	72	73	73

²⁹ Source : contrat de performance.

AOM Burgundy-Franche-Comté	24	33	33	33
AOM Bretagne	13	18	18	18
AOM Centre-Val de Loire	23	35	36	36
AOM Grand-Est	41	69	71	72
AOM Hauts-de-France	46	57	58	58
AOM Normandy	30	50	50	51
AOM Nouvelle-Aquitaine	20	32	32	32
AOM Occitanie	20	34	36	37
AOM Pays de la Loire	16	26	27	28
AOM Provence Alpes Côte-d'Azur	21	28	32	36

Source: SNCF Réseau

2.3. Network costs attributable to activities

Certain fixed costs can be directly allocated to a specific activity. These are costs that, for accounting purposes, are allocated to network segments used almost exclusively by one activity, with traffic shares from other activities being either zero or marginal. These networks are referred to as dedicated networks. Dedicated networks are allocated to the following activities:

- High-Speed Trains (TAGV) for High-Speed Lines (LGV);
- Freight trains for feeder freight lines, i.e. UIC classes 7 to 9 without passengers (SV);
- AOM trains for regional lines in UIC classes 7 to 9 with passengers (AV), the costs of which are allocated to each AOM in proportion to their share of the total cost of these lines.

Costs not directly associated with a dedicated network correspond to the costs of the shared network and are dealt with in section 2.4 below.

The table 15 below the costs of the network dedicated to each activity.

Table 15 - Breakdown of network costs per activity (€M)

ACTIVITY	2023 ³⁰	2024	2025	2026
Contracted passenger services	909	957	935	928
Non-contracted passenger services	1 476	1 498	1 470	1 455
Freight services	122	131	130	132

Source: SNCF Réseau

Table 16 below details the costs of the network allocated to each contracted passenger service. These costs have been calculated on the basis of the 2018 UIC line classification system, which enables a line to be assigned to a specific AOM. Each dedicated line consists of one or more management segments. Certain cost items are directly allocated to a management segment, and consequently to a dedicated line: maintenance, depreciation charges and return on capital. Among the items that cannot be directly allocated: traffic management costs are apportioned in proportion to traffic on the dedicated lines

³⁰ Source : contrat de performance.

relative to total traffic. The 'other costs' item is allocated in proportion to the maintenance and traffic management costs of the dedicated network.

Table 16 – Breakdown of dedicated network costs by contracted passenger service (€ million)

AOM : Transport Authority	2023 ³¹	2024	2025	2026
AOM IDFM	0	0	0	0
AOM ETAT	0	0	0	0
AOM Auvergne Rhône-Alpes	142	150	147	145
AOM Bourgogne-Franche-Comté	59	62	61	60
AOM Bretagne	76	80	78	78
AOM Centre-Val de Loire	42	44	43	43
AOM Grand-Est	100	105	103	102
AOM Hauts-de-France	54	57	56	55
AOM Normandie	56	59	58	58
AOM Nouvelle-Aquitaine	193	203	198	197
AOM Occitanie	117	123	121	120
AOM Pays de la Loire	32	33	33	32
AOM Provence Alpes Côte-d'Azur	37	39	38	38

Source : SNCF Réseau

2.4. Shared network costs allocated to activities

Shared network costs can be allocated to the various activities by applying two successive methods. Firstly, the costs generated by the traffic of the various activities are determined. These costs, which are variable in nature as they are sensitive to traffic levels and directly attributable to the activities, are set out in section 2.2.

Secondly, once all the costs directly attributable to each activity are known, the remaining shared network costs—which are not affected by traffic volumes and are therefore fixed in nature—must be allocated. The treatment of these costs is detailed in the following paragraph.

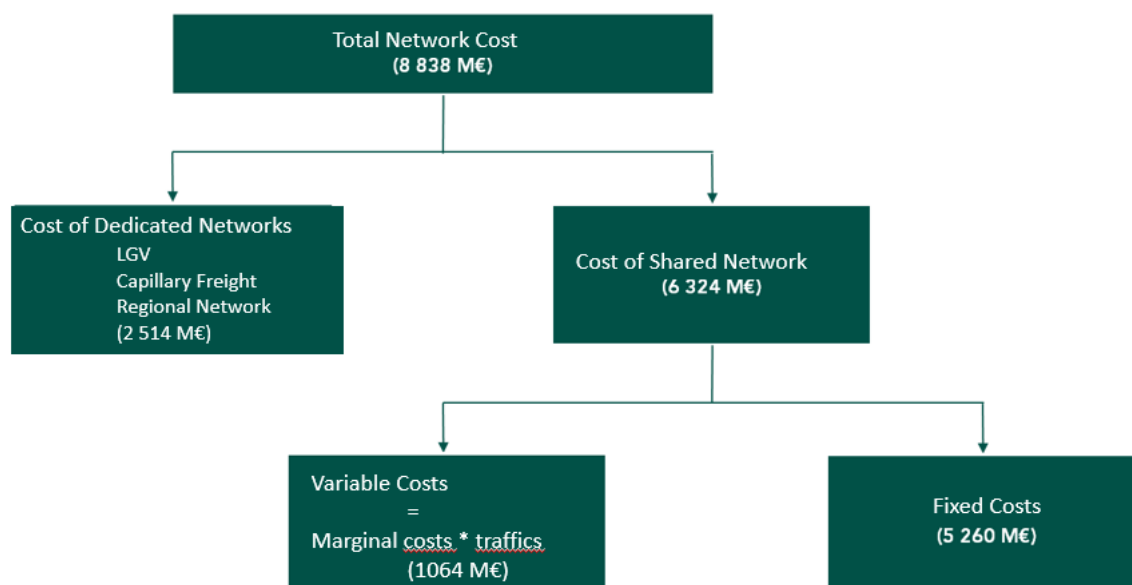
2.4.1. Fixed costs of the shared network allocated to different activities and regions

The full cost of minimum services per activity, which are set out in this Appendix, is made up of:

- The **variable costs of each activity**, detailed above in section 2.3.
- The **fixed costs on the network**, as obtained by the difference between the total network cost and total variable costs. These costs can be attributed per activity and segment and represent a total of **60%** of the full network costs in 2026 (Figure 2).

³¹ Source : contrat de performance.

Figure 2 - Breakdown of the various cost items for minimum services per type (2026)



Source: SNCF Réseau

To allocate the network's fixed costs among the various activities for the 2027-2029 pricing cycle, SNCF Réseau is once again using an allocation methodology based on an **economic approach known as isolated supply costs, also referred to as the Moriarity method**.

According to this approach, costs between activities must be allocated based on the costs of a network that would be built for a single activity. To implement this method, it is necessary to evaluate the hypothetical cost of a network that would be sized to meet the needs of a single activity.

In the case of the French rail network, the implementation of this technical and economic approach required several steps, which can be summarised in two phases.

The first stage of this technical-economic model aims to build a network dedicated to each of the activities listed above in a theoretical and simulated way. To this end, the technical requirements for each line are identified by activity (standard regional, high-density regional, freight, long-distance on conventional lines and TAGV) designed and adapted to meet the specific needs in terms of availability, traffic speed and regularity of each activity on the "conventional line" network. The same was done for TAGV or regional TAGV activities operating on high-speed lines. This first stage was carried out through interviews with rail infrastructure operation and management experts, who came to provide their technical insight on the methodology deployed by SNCF Réseau.

In a subsequent stage, the unit costs of managing the networks thus constructed are assessed taking into account the performance expected by each rail activity in each network.

The main processing operations applied to maintenance, renewal and operating costs are as follows :

Regarding maintenance costs:

The average unit maintenance costs are obtained by dividing the total maintenance costs of a component (e.g. rail with an "UIC 60" profile) on a management segment by the kilometres of track making up the management segments with the same characteristics (e.g.: all the management segments comprising tracks with UIC 60 rails).

The requirements of each activity in terms of maintenance costs for tracks and switchgear, signalling and power supply are taken from the 10,000-point matrix³² produced in 2019.

The interviews with experts revealed that TAGV and AOM State-TET activities required the same infrastructure components as conventional lines (these activities are grouped below in the "long distance category").

Tracks and switchgear:

Interviews with network experts revealed that the type of activity is likely to influence the following track and switchgear characteristics:

- **Rail profile, or the weight in kg of a one-metre rail section.** The main profiles are UIC 50 (50 kg/m) and UIC 60 (60 kg/m);
- **The density of switches per kilometre** There are mainly medium and high densities;
- **The average number of tracks** to ensure the smooth flow of rail traffic.

The specific characteristics of each type of activity are summarised in the table below:

Table 17 - Main track and switchgear characteristics per type of rail activity

ACTIVITY	Rail profile	Switchgear density	Number of tracks
Freight train	60 kg / m	Average	2
Long distance	60 kg / m	Average	2
Standard Regional	50 kg / m	Average	2
Dense Regional	60 kg / m	High	4

Source: SNCF Réseau

Table 17 illustrates the following specificities for regional activities (dense or standard):

- **The "dense regional" activities** have very specific needs in terms of track equipment, with a higher density of assets (tracks and switchgear);
- **The "standard regional" activity** requires lighter equipment, given the lighter rolling stock used. This means choosing a lighter rail (50 kg/m as opposed to 60 kg/m), which is less expensive while being less robust.

On the other hand, the needs of the **long-distance passenger activities** and **freight trains** are difficult to differentiate, and a relatively standard network meets the needs of these different activities.

Signalling devices:

Three signalling technologies were considered, from lowest to highest performance:

- **Automatic block with restricted permissiveness (BAPR):** a low-cost device that is not suitable for high throughputs on a line. What's more, it cannot exceed a speed of 160 km/h;
- **Automatic light block (BAL):** a device that allows high throughput on a line and reduced spacing between 2 trains. It is a more flexible traffic regulating system, while being more expensive;
- **ERTMS level 2** is the most advanced signalling system both for train spacing and speed control functions. It optimises distances between trains and improves line throughput.

The signalling characteristics selected for each activity are detailed in the table 18 below:

³² This is an accounting database produced annually by SNCF Réseau, summarising maintenance costs per management segment making up the network and detailing the maintenance amounts for each railway asset.

Table 18 - Main signalling characteristics per type of rail activity

ACTIVITY	Technology	Performance
Freight train	BAPR	Flexible
Long distance	BAL	High
Standard Regional	BAPR	High
Dense Regional	ERTMS 2	Very high

Source: SNCF Réseau

Power supply devices:

As far as power supply is concerned, the main factors influencing the design of the network relate to the electrical power required for the planned traffic. This depends on the tonnage of the trains (influenced, for example, by their composition), their speed and the maximum frequency (at peak times). This mainly affects the spacing between power supply substations. The characteristics per activity are detailed in the table below.

Table 19 - Main power supply characteristics per type of rail activity

ACTIVITY	Maximum throughput (peak trains)	Frequency (Hz)	Substation spacing (km between 2 substations)
Freight train	1	15-30	30
Long distance	1 or 2	15-45	25
Standard Regional	3	15-45	25
Dense Regional	14	15-45	15

Source: SNCF Réseau

Regarding renewal costs:

Renewal costs include the GOPEQs (“Grande Opération Programmée Equivalent” or equivalent major scheduled operation), a works unit that values track renewal works for one kilometre of track. At this stage, the renewal of other infrastructure components has not been taken into account in the absence of an equivalent indicator. As a reminder, in 2023, track renewal accounted for just over half of the annual renewal budget.

Based on interviews with the teams in charge of management control for renewal operations, it was established that **the conditions under which works are carried out** play a predominant role in differentiating the costs of operations (day or night works, traffic speed when the track is restored - once the works completed - immediately after opening).

The different activities on the network do not have the same requirements in terms of network availability or traffic speed once the track has been restored:

- **Since freight trains** can run at night, it is assumed that the renewal of a network dedicated to freight would be carried out during the day, with no requirement as to running speed, as this is the least costly type of works;
- **For regional activities**, all renewal operations are carried out at night, due to the continuity of services during the day, without any speed requirements;
- **Long-distance passenger train services** have speed requirements, however works can be conducted during the day, when the service offer is limited. SNCF Réseau has chosen a threshold of 10 trains per day: below this threshold, it is considered that sufficiently long work slots can be freed up for works to be carried out during the day. Above this threshold, works are carried out at night.

The calculation of the average renewal costs also takes into account the asset's lifetime, which is by nature heterogeneous for rails. There are many types of rail failure (fatigue, contact defects, cracks, wear, etc.) and they depend mainly on the rail profile, its use (traffic, tonnage, etc.) and, more marginally, the layout (alignment, curve, connection).

The table below summarises the renewal scenarios adopted for each type of activity:

Table 20 - Renewal scenarios used for each type of rail activity

Class	Description	Activity	Lifespan (years)
Mass transit	Mass Transit-type near-dedicated network	Dense Regional	32
High performance	Cost at V80 ³³ restitution and night works	TAGV	60
	Cost at V80 restitution and daytime works	TET	60
Standard 1	Cost at V60 and night-time works	Standard Regional	40
Standard 2	Cost at V60 and daytime works	Freight	60

Source: SNCF Réseau

Regarding operating costs:

The **operating costs** include the number of Centralised Network Controls (CCR) that would be needed to equip a network calibrated for a single activity (depending on the network coverage requirement).

Rail operations are undergoing a profound technological change. In the future, around 17 Centralised Network Controls (CCR) will be used to manage the operation of all rail activities on the entire network, replacing the 1,500 signal boxes currently in service on the main network. Almost all CCRs should be deployed by 2040.

In the Moriarity technical-economic approach, the isolated supply cost is assumed to be proportional to the number of CCRs³⁴ that would be needed to equip a network built for a single activity (depending on the need for network coverage). Given that the radius of action of a CCR is around 1,000 kilometres of line, 15 sites would need to be deployed to cover the nearly 14,000 kilometres of line required for Freight, TAGV and State AOM activities. For regional AOM traffic, a specific number of CCRs is allocated to each regional AOM, according to SNCF Réseau's provisional deployment map. The breakdown of cost centres per activity thus obtained makes it possible to identify the equivalent number of CCR sites required.

The keys are then obtained by dividing the requirement for each activity by the total CCR equivalents obtained. These keys are then used to allocate the fixed operating costs to each rail activity and each AOM within the AOM activity.

Average unit costs (maintenance, renewal and operation) per region were calculated as the weighted average based on the total length of the network for each administrative region in order to obtain the

³³ V60 or V80 corresponds to the restitution speed (V60 for 60 km/h, V80 for 80 km/h). A restitution speed of 80 km/h is necessary when the traffic graph is "dense".

³⁴ This method was established and validated by ART following several exchanges with the Authority's departments.

isolated supply costs per activity circulating on each network. The breakdown of standard regional activity operating costs among the various AOMs is carried out in proportion to the target number of centralised network command centres for operating costs.

A **regional approach to unit costs** was implemented specifically for dense regional traffic, which is specific to services contracted by Ile-de-France Mobilités in the Ile-de-France region. The unique characteristics of the infrastructure and the specific rules governing maintenance and renewal justified special treatment for this type of activity.

Lastly, the keys for allocating fixed costs per activity were calculated by dividing the isolated supply cost of each activity by the sum of the isolated supply costs for all the activities circulating in each management segment.

The table 21 below details the fixed network costs attributable to each activity.

Table 21 - Breakdown of fixed network costs per activity (€m)

	2023 ³⁵	2024	2025	2026
Contracted passenger services	3 632	3 716	3 702	3 766
- of which maintenance	1 049	1 082	1 035	1 018
- of which operating	496	525	508	502
- of which renewal	522	444	456	489
- of which other fixed costs	455	493	479	474
- of which return on capital	1 110	1 171	1 224	1 283
Non contracted passenger services	678	697	690	699
- of which maintenance	227	234	224	220
- of which operating	95	101	98	96
- of which renewal	83	70	72	77
- of which other fixed costs	98	107	104	102
- of which return on capital	175	185	193	203
Freight Services	771	792	785	795
- of which maintenance	253	261	250	246
- of which operating	115	121	117	116
- of which renewal	94	80	82	88
- of which other fixed costs	110	119	116	115
- of which return on capital	200	211	220	231

Similarly, the full cost of minimum services per AOM was calculated by applying the allocation keys for fixed maintenance, renewal and operating costs to the respective regional areas.

Table 22 below details the assessment of shared fixed network costs attributable to each contracted passenger service.

³⁵ Source : contrat de performance.

Table 17 – Breakdown of fixed costs for the shared network by regulated passenger service (€ million)

	2023 ³⁶	2024	2025	2026
Ile-de-France Mobilités	897	919	913	926
- of which maintenance	306	315	301	297
- of which operating	95	101	98	96
- of which renewal	116	99	102	108
- of which other fixed costs	132	144	140	138
- of which return on capital	247	261	273	286
AOM Etat	603	619	613	621
- of which maintenance	205	211	202	199
- of which operating	76	81	78	77
- of which renewal	74	63	65	70
- of which other fixed costs	89	96	94	93
- - of which return on capital	158	167	174	183
AOM Auvergne Rhône-Alpes	310	316	316	323
- of which maintenance	81	83	80	78
- - of which operating	38	40	39	39
- of which renewal	50	42	43	47
- of which other fixed costs	35	38	37	37
- of which return on capital	106	112	117	122
AOM Bourgogne-Franche-Comté	197	201	201	205
- of which maintenance	53	55	52	51
- of which operating	19	20	20	19
- - of which renewal	33	28	28	31
- of which other fixed costs	23	25	24	24
- of which return on capital	69	73	76	80
AOM Bretagne	94	96	96	98
- of which maintenance	22	23	22	22
- of which operating	19	20	20	19
- of which renewal	14	12	12	13
- of which other fixed costs	10	10	10	10
- of which return on capital	29	31	32	34
AOM Centre-Val de Loire	145	147	148	151
- of which maintenance	37	39	37	36
- of which operating	19	20	20	19
- of which renewal	23	20	20	22
- of which other fixed costs	16	18	17	17
- of which return on capital	49	52	54	57

³⁶ Source : contrat de performance.

AOM Grand-Est	356	363	363	370
- of which maintenance	89	92	88	86
- of which operating	57	61	59	58
- of which renewal	55	47	48	51
- of which other fixed costs	39	42	41	40
- of which return on capital	116	123	128	135
AOM Hauts-de-France	268	274	274	279
- of which maintenance	69	71	68	67
- of which operating	38	40	39	39
- of which renewal	42	36	37	40
- of which other fixed costs	30	32	31	31
- of which return on capital	90	95	99	104
AOM Normandie	104	107	107	109
- of which maintenance	25	26	25	25
- of which operating	19	20	20	19
- of which renewal	16	13	14	15
- of which other fixed costs	11	12	12	11
- of which return on capital	33	35	37	38
AOM Nouvelle-Aquitaine	220	225	225	229
- of which maintenance	54	56	53	53
- of which operating	38	40	39	39
- of which renewal	33	28	29	31
- of which other fixed costs	23	25	25	25
- of which return on capital	71	75	78	82
AOM Occitanie	195	200	199	203
- of which maintenance	47	48	46	45
- of which operating	38	40	39	39
- of which renewal	29	25	25	27
- of which other fixed costs	20	22	21	21
- of which return on capital	61	65	68	71
AOM Pays de la Loire	126	129	128	131
- of which maintenance	32	33	31	31
- of which operating	19	20	20	19
- of which renewal	20	17	17	18
- of which other fixed costs	14	15	15	14
- of which return on capital	42	44	46	48
AOM Provence Alpes Côte-d'Azur	117	120	120	122
- of which maintenance	29	30	29	28
- of which operating	19	20	20	19
- of which renewal	18	15	16	17
- of which other fixed costs	13	14	13	13
- of which return on capital	38	40	42	44

Source: SNCF Réseau

2.5. Overview of the full costs per activity and region

In total, the sum of **costs directly incurred** (section 2.3) and **fixed network costs** (section 2.4.1) provides the **full costs per activity** as detailed in the table 23 below.

Table 23 - Full costs per activity and AOM (€M)

	2023 ³⁷	2024	2025	2026
Non contracted passenger services	2 241	2 247	2 214	2 209
Freight Services	1 137	1 208	1 215	1 226
Contracted passenger Services	4 986	5 349	5 335	5 403
By AOM :				
Ile-de-France Mobilités	1 035	1 147	1 148	1 162
Etat	638	668	663	674
Auvergne Rhône-Alpes	498	530	527	533
Bourgogne-Franche-Comté	277	292	291	295
Bretagne	182	192	190	192
Centre-Val de Loire	207	223	223	226
Grand-Est	492	529	528	535
Hauts-de-France	363	381	381	386
Normandie	187	210	209	211
Nouvelle-Aquitaine	431	456	452	454
Occitanie	331	354	352	355
Pays de la Loire	172	185	185	188
Provence Alpes Côte-d'Azur	172	183	186	191

Source: SNCF Réseau

3. Minimum service rates

After presenting the charging principles for the various network charges (3.1), the pricing methods applicable to minimum services founded on the cost directly incurred are first detailed (3.2), followed by the pricing methods applicable to charges with a mark-up over and above the cost directly incurred (3.3). Next, the terms for applying other charges are described (3.4). Finally, a summary of the turnover collected by SNCF Réseau via all the charges per activity and region is presented (3.5).

3.1. Charging principles, types of charges and framework for their application to the different activities

The charges adopted by SNCF Réseau, in accordance with the framework defined by the State and the regulations, are based on the economic analysis and take into account the capacity of the railway undertakings to bear the charges. As such, the charging system implemented by SNCF Réseau complies with the following principles:

³⁷ Source : contrat de performance.

- Adapt to the existing market organisation by proposing a structure that sends the right economic signals to the various stakeholders (State, AOM and carrier);
- Enable SNCF Réseau to recover its marginal cost (CDI);
- Encourage efficient use of the network;
- Help to cover all or part of the fixed costs borne by SNCF Réseau (beyond marginal costs).

In order to implement the charging principles described above, SNCF Réseau applies several types of charges. These can be divided into three categories:

- **The charges based on the cost directly incurred** comprise the running charge (RC), the electrical traction charge (RCE) and the charge for the transmission and distribution of electric power (RCTE - component A);
- **The surcharges** comprise the market charge (RM) and the access charge (RA);
- **The other charges** comprise the saturation charge (RS) and other special charges (RP).

The table below shows the nature of the costs that each type of charge applicable by SNCF Réseau is intended to cover:

Table 24 - Application method and type of costs covered by each charge

Type of charge	How the fee is applied to carriers	Cost categories
Running charge (RC)	Unit price according to the transport service and actual use of the network	CDI: marginal cost of maintenance, operation and renewal of the network (excluding electric facility costs)
Electric traction charge (RCE)	Unit price according to the actual use of the electric facilities	CDI: marginal cost of maintenance and renewal of the electric facilities
Charge for the transmission and distribution of electric power (RCTE - component A)	Unit price based on actual electric traction current consumption	CDI: marginal cost of providing the electrical energy to compensate for losses in electrical systems from substations up to train detection points
Market charge (RM)	Unit price or flat rate according to the market segments with possible modulation	All or part of the fixed cost
Access charge (RA)	Fixed flat rate	All or part of the fixed cost
Congestion charge (RS)	Unit price according to traffic on sections declared to be congested	Financial incentive for good use of the network
Special charges (RP)	Unit price according to traffic on predefined sections	All or part of the investment costs or deficits incurred by specific projects

Source: SNCF Réseau

Currently, two types of organisation coexist on the market: **contracted** and **non-contracted activities**.

Contracted activities include regional trains, Ile de France trains, CDG Express trains and regional service trains (TET). As part of these activities, the AOMs define the level of services offered under contracts signed with transport companies. In order to take into account the multitude of stakeholders involved in the provision of contracted services, SNCF Réseau has developed a pricing system made up of the following elements:

- **A flat-rate fee** which corresponds to the *access charge* paid by Ile-de-France Mobilités in the Ile-de-France region and by the State in all other regions;
- **Other charges, including those dependent on network usage, paid by the carrier even if they are subject to compensation by the AOMs..** This category includes all the charges based on the CDI ($RC+RCE+RCTE-A$) as well as the *market charge*, which is now a flat rate.

Non-contracted activities are organised directly by the rail transport companies without the involvement of an AOM. These activities (high-speed trains, freight, etc.) are therefore open to competition available on the market. In order to take account of this organisational structure, **a pricing system entirely dependent on the level of use of the network is applied to non-contracted activities.** Under this pricing system, fixed and variable costs are paid by the transport operators according to their use of the network and their capacity to bear the charges.

3.2. Charging of minimum services at the cost directly incurred

In accordance with Article 31.3 of Directive 2012/34/EU, the charges levied for all minimum services are equal to the Cost Directly Incurred (CDI) by rail service operations. Within the meaning of Implementing Regulation (EU) 2015/909, the CDI corresponds to the cost directly incurred as a result of railway operations. Thus, in accordance with recital 12, SNCF Réseau's interpretation, which is in line with European law, is that the CDI is comparable to the notion of marginal cost, i.e. the cost incurred by the infrastructure manager when an additional traffic unit runs on the network.

In this context, the charges based on the cost directly incurred are equal to the cost incurred by SNCF Réseau through the running of an additional traffic unit on the network.

3.2.1. Running charges (RC)

To determine the running charge, a distinction is made between the terms applicable to passenger transport activities (section 3.2.1.1) and Freight (section 3.2.1.2).

3.2.1.1. Procedures for determining the RC for passenger transport activities

The Running Charge for passenger trains is calculated directly based on the marginal operating, maintenance and renewal costs.

The valuation of this charge is based on **the total forecast volume (in train-kilometres)** per type of UIC line and **the average tonnage of the train**, and takes into account the type of UIC line (HSL, 2-6 or 7-9) on which it runs. A pricing system based on the average tonnage per train was introduced since the 2019 timetable to take better account of the impact of traffic on the infrastructure.

Table 25 below sets the traffic charges for the 2027 timetable based on the marginal costs presented in Table 10.

Table 18 -Running charges applicable to passenger activities for the 2027 timetable

	Running charge (per thousand compensated gross tonnage, kCGT-km) €2026 / kCGT-km		Running charges (in train-kilometres, tr-km) €2026 / tr-km	
	UIC 2-6	UIC 7-9	UIC 2-6	UIC 7-9
Passenger on LC	5,560	1,921	0,649	0,524
Passenger on LGV	1,663	n/a	0,273	n/a
Freight & Light Running Freight	2,792	0,796	0,666	0,540

Source: SNCF Réseau

3.2.1.2. Procedures for determining the RC for the Freight activity

The charging system for the Freight activity has the following specific features:

- The "cost directly incurred" charging principle is maintained; however, for some Freight train categories, the coverage of the CDI is shared between the State and the companies in the sector;
- No additional surcharge is applied to recover the cost incurred.

Since the 2019 timetable, SNCF Réseau has introduced the principle of a **differentiated price per tonnage class**: applicants pay a fee according to the tonnage class to which their train belongs, rather than the exact tonnage of each journey. Following the 2019 consultation, SNCF Réseau has decided:

- **5 tonnage classes**: the 1st class covers the lightest trains (especially "top-of-the-line" trains), while the 6th class applies mainly to the market for the heaviest trains;
- **A reference tonnage** is selected for each class based on the average tonnages observed. It is used to calculate the fare applicable to the entire class.
- An incentive-based pricing mechanism whereby, for the same total tonnage, it is more cost-effective to run a single convoy than several.

The State decided to make a financial contribution to trains in classes 2 to 5. This contribution is absent for the first tonnage class given that trains in this class already have low tonnage levels.

In this context, the following two charges should be distinguished for each of the tonnage classes:

- **Net running charge (RC)**: this represents the proportion of the CDI actually borne by companies after taking into account the State's contribution³⁸;
- **Gross running charge (RC)**: this corresponds to the CDI for the category. This is the amount of fees collected by SNCF Réseau.

Under the charging system in force for the 2026 timetable, SNCF Réseau will collect the net charge from freight railway undertakings as well as compensation from the State equal to the difference between the gross charge and this net charge.

³⁸ It should be noted that since 2020, the State has been paying part of the Net Running Charge. As a result, the latter is now partly borne by the railway undertakings.

The traffic structure used to determine the charges for the 2026 timetable is based on the traffic data recorded for the 2021 timetable.

The toll rates applicable to freight transport for the 2026 timetable are set out in Table 26 below.

Table 26 - Running charges applicable to Freight activities for the 2026 timetable

Categories in tonnes	Reference tonnage	% Tkm	Net running charge			Gross running charge			Rate of CDI covered by railway undertakings
			UIC 2-6	UIC 7-9	Average Toll €/Tkm	UIC 2-6	UIC 7-9	€/Tkm	
[1-350[	175	12%	1,15	0,68	2.02	1,15	0,68	4,11	100%
[350-750[	525	16%	1,18	0,70		2,13	0,96		55%
[750-1050[	875	12%	1,69	0,70		3,11	1,24		54%
[1050-1550[	1300	23%	2,36	0,89		4,30	1,57		55%
>=1550	2002	37%	2,61	0,94		6,26	2,13		42%

Source : SNCF Réseau

3.2.1.3. Overview of SNCF Réseau's forecast turnover for RC over the 2023-2026 period

Based on the traffic structure elements for the different activities and the traffic volume estimates at its disposal, SNCF Réseau has assessed the RC revenue attributable to each activity. The analysis distinguishes between the revenue received from each AOM for its contracted passenger transport activities.

The table 27 below details the RC income attributable to each activity.

Table 27 - Income collected via the RC per activity and region (€M)

	2023 ³⁹	2024	2025	2026
Non-contracted passenger services	472	269	277	282
Freight services - Net RC	122	132	139	140
Freight services - Gross RC	229	272	286	285
Contracted passenger services	420	667	688	699
By AOM :				
Ile-de-France Mobilités	122	211	218	219
État	31	45	46	49
Auvergne Rhône-Alpes	44	65	66	66
Bourgogne-Franche-Comté	21	30	31	30
Bretagne	11	16	16	16
Centre-Val de Loire	20	32	32	33
Grand-Est	36	63	65	65
Hauts-de-France	40	51	53	53
Normandie	27	46	47	47
Nouvelle-Aquitaine	18	29	29	29
Occitanie	17	30	32	33
Pays de la Loire	14	23	24	26
Provence Alpes Côte-d'Azur	18	25	29	32

Source: SNCF Réseau

3.2.2. Electric Traction Charge (RCE)

The valuation of the electric traction charge is based on forecasts of the total volume of train-kilometres travelled on electrified lines using electric equipment. **The RCE is equal to the cost of maintaining and renewing fixed electrical traction installations (catenaries and power line supply equipment) directly attributable to traffic.**

Table 28– Electrical traction charges applicable to the 2026 timetable

	RCE 2026 (€2026/tr-km)
Electric traction charge	0,285

Source: SNCF Réseau

Following the cost reassessments described above, the value of the RCE applicable for the 2027 timetable has increased by 2.11% compared with the previous timetable.

SNCF Réseau has evaluated the income from the RCE charge attributable to each activity over the 2023-2026 period based on currently available data. The results are shown in the table below.

³⁹ Source : contrat de performance.

Table 19 - Income collected via the RCE per activity and region (€M)

	2023 ⁴⁰	2024	2025	2026
Non-contracted passenger services	39	38	39	40
Freight services	14	14	14	15
Contracted passenger services	61	62	64	66
Per AOM:				
Ile-de-France Mobilités	16	17	17	17
State TET	4	4	4	4
Auvergne Rhône-Alpes	7	7	7	7
Bourgogne-Franche-Comté	3	3	3	3
Brittany	2	2	2	2
Centre-Val de Loire	3	3	3	3
Grand-Est	5	6	6	6
Hauts-de-France	6	5	6	6
Normandy	3	4	4	4
Nouvelle-Aquitaine	2	3	3	3
Occitanie	3	4	4	4
Pays de la Loire	2	3	3	3
Provence Alpes Côte-d'Azur	3	3	3	3

Source: SNCF Réseau

3.2.3. Charge for transmission and distribution of electric power (RCTE – component A)

Since the 2016 timetable, SNCF Réseau has distinguished the RCTE in two components, one covering the expenses related to the losses (component A) and the other the transport and distribution charges (component B), in application of the amended version of Decree No. 2003-194, which states that the part covered by the coverage of electrical losses is included in the minimum services. Thus, the cost of these losses is considered a cost directly incurred by traffic using electric traction.

This change is a mere formality and does not result in any economic change in situations where all other things are equal; this means no income changes for SNCF Réseau, and no changes to charges for the railway undertakings using electric traction. The pricing principles for this charge are detailed in **Appendix 5.1.2** of the NS.

3.3. Charges with a mark up over the cost directly incurred

As per the principles set out in European and national regulations (section 3.3.1), SNCF Réseau has segmented the rail market (section 3.3.2) and, within each segment, has determined the market charge (section 3.3.3) and the access charge (section 3.3.4) applicable to network users.

⁴⁰ Source : contrat de performance.

3.3.1. Application of the principles provided by European and national regulations

Article 32.1 of Directive 2012/34/EU specifies that "*In order to obtain full recovery of the costs incurred by the infrastructure manager, a Member State may levy mark-ups on rail market segments, if the market can bear this*". The relevance of the segments is assessed with regard to the element pairs listed in point 1 of the Appendix VI thereto⁴¹. They shall contain "*at least the three following segments: freight services, passenger services within the framework of a public service contract and other passenger services*".

These principles have been transposed in Article 31 of the amended Decree No. 2003-194 of 7 March 2003. Article 31-2 of the aforementioned Decree further stipulates that the infrastructure manager (IM) may make a more in-depth segmentation of the markets according to the goods or passengers transported. **A more in-depth segmentation has been adopted by SNCF Réseau.**

Therefore, charges in this category (the market charge and access charge) are mark-ups defined per market segment, which contribute to covering the fixed costs of the network. However, although the aim of the mark up charges is to cover, at least partially, the fixed costs of the network, **the pricing of these fees pursues the objective of seeking optimal use of the infrastructure.** Furthermore, these mark-ups are subject to verification to ensure that the total fees collected by SNCF Réseau do not exceed the full cost of the network and that they are sustainable for the market segments concerned.

These charges only apply to passenger trains.

3.3.2. Segmentation of the rail market

In application of Article 31-1 of the amended Decree No. 2003-194 of 7 March 2003, the IM assesses the relevance of the segmentation implemented "*based on data available to it, and in accordance with the best practices in this field*". The segmentation is in keeping with the regulatory framework. The segmentation criteria used are mainly related to the nature of the transport service. They are different for contracted services (section 3.3.2.1) and for non-contracted services (section 3.3.2.2).

3.3.2.1. Segmentation of contracted passenger transport activities

The category of "*passenger services within the framework of a public service contract*" constitutes one of the three minimum market segments explicitly provided for in the aforementioned Article 31.2° of Decree No. 2003-194 of 7 March 2003. Article 5 of Decree no. 97-446 specifies that SNCF Réseau distinguishes at least one segment per organising transport organisation for contracted passenger transport activities.

In accordance with the principles set out above, the segmentation of passenger transport activities under contract is described in Figure 3 below:

⁴¹ "1. The pairs to be considered by infrastructure managers when they define a list of market segments with a view to introducing mark-ups in the charging system according to Article 32(1) include at least the following:

- a) passenger versus freight services;
- b) trains carrying dangerous goods versus other freight trains;
- c) domestic versus international services;
- d) combined transport versus direct trains;
- e) urban or regional versus interurban passenger services;
- f) block trains versus single wagon load trains;
- g) regular versus occasional train services".

Figure 3 - Segmentation used by SNCF Réseau for contracted passenger transport activities



Source: SNCF Réseau

3.3.2.2. Segmentation of non-contracted passenger transport activities

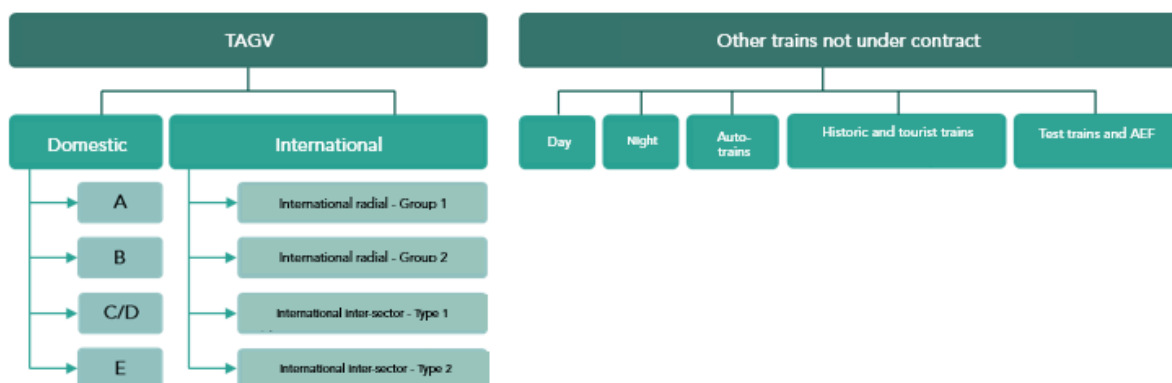
Article 31.2 of the amended Decree No. 2003-194 of 7 March 2003 mentions the existence of a mandatory minimum segment, referred to as "other passenger transport services". This essentially concerns long-distance (TAGV) and conventional Train activities (other non-contracted trains).

Article 5 of Decree No. 97-446 specifies that SNCF Réseau may carry out a more extensive differentiation by grouping connections that have shared economic, commercial or geographical characteristics. Consequently, SNCF Réseau has made the following segmentation choices:

- For the TAGV activity, the segmentation distinguishes between **domestic segments** and **international segments, which are themselves further sub-divided (see Figure 4)**.
- For the Other Trains activity which is non-contracted, the segmentation differentiates between the main types of traffic. Five market segments were defined: **day trains on conventional lines, night trains on conventional lines, vehicle transport trains (Auto-trains), historic and tourist trains, test trains**

The segmentation of "non-contracted passenger transport activities" can be summarised using the breakdown set out in Figure 4 below:

Figure 4 - Segmentation used by SNCF Réseau for non-contracted passenger transport activities



Source : SNCF Réseau

3.3.3. Market charge (RM)

The aim of the market charge is to cover part of the full costs not covered by the CDIs, i.e. the fixed costs. SNCF Réseau is proposing different mechanisms for determining the market charge for:

- contracted passenger transport activities (section 3.3.3.1); and
- non-contracted passenger transport activities (section 3.3.3.2).

3.3.3.1. Market charge applicable to contracted passenger transport activities

After recalling the RM charging principles applicable to activities covered by contracts (section 3.3.3.1.1), the procedures for implementing the flat-rate charge applicable to AOMs are presented (section 3.3.3.1.2). This is illustrated by an example (section 3.3.3.1.3). Finally, the RM scale applicable to AOMs for the 2027 timetable is detailed (section 3.3.3.1.4) and a summary of the revenue generated by the RMs in the various contracted activity segments is provided (section 3.3.3.1.5).

3.3.3.1.1. Charging principles for the market charge applicable to contracted passenger transport activities

With regard to the charges applicable to contracted passenger transport activities, SNCF Réseau proposes to implement a binomial price structure distinguishing between:

- a **fixed portion**: covering part of the fixed costs associated with providing each AOM with the infrastructure capacity it needs for its planned traffic. This portion corresponds to the market charge and the access charge.; and
- a **variable portion**: to cover the costs directly linked to the traffic organised by this AOM.

This structure contributes to the optimal use of the network. In fact, according to economic theory, in the context of an activity managed by a natural monopoly, the use of a binomial price structure provides an incentive for efficient use of the network and offers advantages both for the users and the network operator.

On the one hand, the price structure proposed by SNCF Réseau encourages use of the network by lowering the total variable cost for the AOMs, which are now encouraged to increase their offers. In addition, this mechanism improves the predictability of the AOMs' total toll costs, which become less sensitive to unforeseen changes in usage levels. Moreover, this structure makes it possible to integrate more effectively the investment challenges linked to the modernisation of SNCF Réseau's network by encouraging a more intensive and optimal use of its infrastructure to meet users' needs.

To this end, SNCF Réseau proposes to continue, for the 2027-2029 timetable, the flat-rate market fee applied to contracted passenger transport activities introduced in the 2024 timetable, in accordance with the terms and conditions described below.

3.3.3.1.2. Details of the RM flat-rate charge implementation for contracted passenger transport activities

The market charge for contracted passenger transport activities is paid by the railway undertakings to SNCF Réseau. Its cost is taken into account in the compensation paid by the AOMs under public service contracts, in accordance with the applicable contractual provisions.

Until the 2023 NS, the market fee applied in a purely variable manner that linearly depended on the volume of traffic carried by each AOM. As part of the 2024 NS, SNCF Réseau offers flat-rate pricing for market fees.

The flat-rate amount constituting the market fee is calculated on the basis of projected traffic volumes derived from discussions with the AOMs and the projected traffic structure for 2023 (timetables, line type, etc.) provided at the end of 2022 by the transport operators acting on behalf of the AOMs. SNCF Réseau may have adjusted these figures. Some adjustments were made following the outcome of the public consultation. All adjustments are based on a non-discriminatory method and take into account information available at the end of 2022.

In order to avoid a significant break with the current pricing structure for AOMs and to ensure continuity between the two tariff cycles, the calculation of the flat-rate fee constituting the market charge proposed in the 2024 NS follows the same methodological principles as those applied in previous NS's, namely the application of unit prices to forecast volumes. The only difference is that, in previous NS's, these prices were applied to actual volumes. The calculation methodology is illustrated in section 3.3.3.1.3.

Thus, the calculation principles remain unchanged, but instead of being applied to actual journeys, they are applied to traffic forecasts for the years in question.

In this way, the flat-rate charge proposed for the 2024–2026 service schedules ensures a controlled transition to a more efficient pricing system and prepares market conditions for the potential implementation of a usage-independent flat-rate charge in future tariff cycles.

In order to calculate the flat-rate amount for each AOM, SNCF Réseau proceeded as follows:

- Determination of the projected traffic volume:
 - o SNCF Réseau obtained traffic estimates from the AO for the 2024, 2025 and 2026 timetable during discussions held at the end of 2022 and, where necessary, applied adjustments resulting from discussions with the regions and/or their transport operators (Table 30);

Table 20 – Forecast volumes for 2024–2026, as reported by the AOMs in autumn 2022

Transport Authority	Work Unit	TT 2024	TT 2025	TT 2026
Auvergne-Rhône-Alpes	Commercial train-km	32 200 000	32 200 000	32 200 000
Bourgogne-Franche-Comté(1)	Commercial train-km	16 300 000	16 300 000	16 300 000
Bretagne	Commercial train-path km	7 893 742	8 179 089	8 179 089
Centre-Val de Loire	Commercial train-path km	13 200 000	13 200 000	13 200 000
Grand Est	Commercial train-km	33 300 000	33 800 000	33 800 000
Hauts-de-France	Commercial train-km	24 403 800	24 403 800	24 403 800
Normandie	Commercial train-km	16 505 626	16 505 626	16 601 588
Nouvelle-Aquitaine	Commercial train-km	20 732 629	20 732 629	20 732 629
Occitanie	Commercial train-km	18 291 600	18 822 056	19 482 711
Pays de la Loire	Commercial train-km	12 400 000	12 652 403	13 478 014
Provence-Alpes-Côte d'Azur	Commercial train-km	12 583 807	15 117 487	15 691 567
Ile-de-France Mobilités (1)	Commercial train-km	55 467 846	56 128 793	56 128 793
State	Commercial train-km	15 023 923	15 069 599	15 951 018

Source : SNCF Réseau based on data provided by the AOMs

(1) excluding the transfer of routes between Bourgogne-Franche-Comté and Île-de-France Mobilités.

The projected volumes agreed between the region and SNCF Réseau have been calculated on the basis of the volumes recorded in previous years, in accordance with the following rule: train paths are invoiced to the party that orders them. Consequently, the volumes of inter-regional train paths are allocated to the AOM that has been responsible for them to date.

- For certain AOMs, SNCF Réseau has revised the reported volumes to correct obvious errors or where SNCF Réseau was aware, in December 2022, of an increase in traffic over the period (Table 31);

Table 21 – Adjustments made by SNCF Réseau to the 2024–2026 forecast volumes provided by the AOMs

Transport Authority	Work Unit	Comment	TT 2024	TT 2025	TT 2026
Bourgogne-Franche-Comté	Commercial train-km	Correction of an obvious error regarding line closures and works	-509 000	-509 000	-509 000
		Transfer of responsibility to Ile-de-France Mobilités	-416 000	-416 000	-538 000
		Correction of an obvious error in the operational risk rate	-163 000	-163 000	-163 000
Bretagne	Commercial train-path km	TMV Development	75 193	42 467	42 467
		Correction of the skm/tkm ratio	-41 274	-42 582	-42 582
Centre-Val de Loire	Commercial train-path km	Correction of an obvious error in the unit of work	669 000	669 000	669 000
		Development following changes to the hardware infrastructure	/	/	207 000
Grand Est	Commercial train-km	Further development of REME	100 000	100 000	100 000
		Phase 2 of the REME development and Line 4	/	/	350 000
Hauts-de-France	Commercial train-km	Etoile d'Amiens Development	/	338 200	338 200
Ile-de-France Mobilités	Commercial train-km	Transfer of a line from Bourgogne-Franche-Comté	416 000	416 000	538 000
Normandie	Commercial train-km	Line transfer	/	-159 819	-159 819
Provence-Alpes-Côte-d'Azur	Commercial train-km	Correction of an obvious error regarding line closures and works	-383 107	-1 352 789	-757 812

Source : SNCF Réseau

The adjustments made are considered to be consistent across the traffic structure (based on the timetable and line category).

- o The projected volumes adopted are therefore as follows (Table 32):

Table 32 – Projected volumes for 2024–2026

Transport Authority	Work Unit	HDS 2024	HDS 2025	HDS 2026
Auvergne-Rhône-Alpes	Commercial train-km	32 200 000	32 200 000	32 200 000
Bourgogne-Franche-Comté	Commercial train-km	15 212 000	15 212 000	15 090 000
Bretagne	Commercial train-path km	7 927 661	8 178 974	8 178 974
Centre-Val de Loire	Commercial train-path km	13 869 000	13 869 000	14 076 000
Grand Est	Commercial train-km	33 400 000	33 900 000	34 250 000
Hauts-de-France	Commercial train-km	24 403 800	24 742 000	24 742 000
Normandie	Commercial train-km	16 505 626	16 345 806	16 441 769
Nouvelle-Aquitaine	Commercial train-km	20 732 629	20 732 629	20 732 629
Occitanie	Commercial train-km	18 291 600	18 822 056	19 482 711
Pays de la Loire	Commercial train-km	12 400 000	12 652 403	13 478 014
Provence-Alpes-Côte d'Azur	Commercial train-km	12 200 700	13 764 698	14 933 755
Ile-de-France Mobilités	Commercial train-km	55 883 846	56 544 793	56 666 793
State	Commercial train-km	15 023 923	15 069 599	15 951 018

Source : SNCF Réseau

- For these various estimates of commercial train-kilometres, SNCF Réseau applied the projected 2023 skm/tkm ratio provided by the carriers operating on behalf of the regions, in order to determine the reference volumes of commercial train-kilometres used to calculate the market-based charge (Table 33);

The conversion rate between train-km and path-km is the logical consequence of the fact that the access charge and the market charge are based on different units of work: train-km for the access charge and path-km for the market charge.

The difference between these two units of work stems from two factors:

- ✓ The methodology for calculating train-km: train-km are recorded at each kilometre point passed. To determine train-km, SNCF Réseau has divided the network into basic line sections (SELs) of varying lengths (several km), each SEL having one or more billing points: when the booked train path passes the billing point, the entire length of the SEL is recorded, regardless of whether the train travels the full length of the SEL or not. Conversely, when the booked train path travels along an SEL without passing through the billing point, no kilometres are recorded for that SEL.
- ✓ The fundamental difference between a train path and a train: the train path corresponds to the capacity reserved by the customer and therefore to the theoretical route, whilst the **train**

corresponds to the actual journey and therefore to the actual route. This difference is based on operational traffic on the day in question:

- an adjustment to the traffic: for example, a Paris-Lille train path where the train only runs as far as Arras will result in the recording of train-path-km between Paris and Lille, and train-km between Paris and Arras;
- Management of train paths ordered by the railway undertaking operating on behalf of the AOM: any ordered train path that is not returned and not used results in the length of the SEL being recorded without any train-km being recorded.

Consequently, the skm/tkm ratio varies between AOMs. However, barring exceptional circumstances, it remains relatively stable from one year to the next. SNCF Réseau has ensured consistency with the rates applied in previous years.

Table 33 – Volumes of commercial train-path kilometres used by SNCF Réseau in calculating the market charge

Transport Authority	Commercial train-path kilometres			
	TT 2023	TT 2024	TT 2025	TT 2026
Auvergne-Rhône-Alpes	32 440 903	32 846 600	32 846 600	32 846 600
Bourgogne-Franche-Comté	15 228 301	15 805 268	15 805 268	15 678 510
Bretagne	7 827 662	7 927 661	8 178 974	8 178 974
Centre-Val de Loire	13 832 485	13 869 000	13 869 000	14 076 000
Grand Est	33 511 500	33 917 700	34 425 450	34 780 875
Hauts-de-France	25 135 914	25 135 914	25 484 260	25 484 260
Normandie	15 996 830	16 984 289	16 819 835	16 918 581
Nouvelle-Aquitaine	19 908 367	21 285 859	21 285 859	21 285 859
Occitanie	18 450 000	18 748 890	19 292 607	19 969 779
Pays de la Loire	12 497 682	12 772 000	13 031 975	13 882 354
Provence-Alpes-Côte d'Azur	12 299 791	12 322 707	13 902 345	15 083 092
Ile-de-France Mobilités	56 175 541	57 562 976	58 239 986	58 366 744
State	15 120 282	15 189 186	15 235 365	16 126 479

- **Breakdown of volumes according to pricing parameters:**

o SNCF Réseau has applied the 2023 forecast traffic structure specific to each AOM (in terms of technical movement rates, distribution of services by line type, timetable flexibility, average tonnage of services by line type, and rate of electric power usage), drawing on data provided by transport operators acting on behalf of the regions in order to break down volumes according to the various pricing parameters;

As an exception, given the objective change in circumstances resulting from the arrival of new operators and rolling stock, which has led to structural changes during the cycle, the parameters of the PACA AOM have been adjusted for the 2025 and 2026 Timetable

. Regarding the request to amend the rate of technical movements by the aforementioned AOMs: technical movements correspond to train-kilometres referred to as 'non-commercial', relating to the repositioning of empty trains (without passengers), journeys to a maintenance depot, temporary stops, or the stabling and removal of trains from service tracks. The technical movement rate therefore

corresponds to the proportion of these empty movements relative to loaded movements: it is the ratio of the volume of non-commercial train-km to the volume of commercial train-km. The technical movement rate is a parameter relating primarily to the operations and organisation of the railway undertaking operating on behalf of the AOM. Consequently, technical movement rates vary significantly between AOMs. Following feedback from the public consultation, SNCF Réseau has decided to adopt a tailored approach for each AOM when determining the technical movement rate.

Firstly, SNCF Réseau distinguishes between three types of operations within the regulated passenger transport sector:

- ✓ Mass transit, which corresponds to the operations of Île-de-France Mobilités, where changes in service frequencies result in a high number of technical movements related to the stabling and removal of trains;
- ✓ Long-distance services, which correspond to the State AOM's operations for TET services, for which the number of technical movements is limited;
- ✓ Regional trains, which correspond to the operations of the other AOMs, for which the number of technical movements varies greatly, and for which the projected national average for 2023, as communicated by TER in autumn 2022, stands at 4.5%.

Secondly, to ensure fair treatment both between these three types and within regional trains across the relevant AOMs, SNCF Réseau has decided to adopt the following methodology:

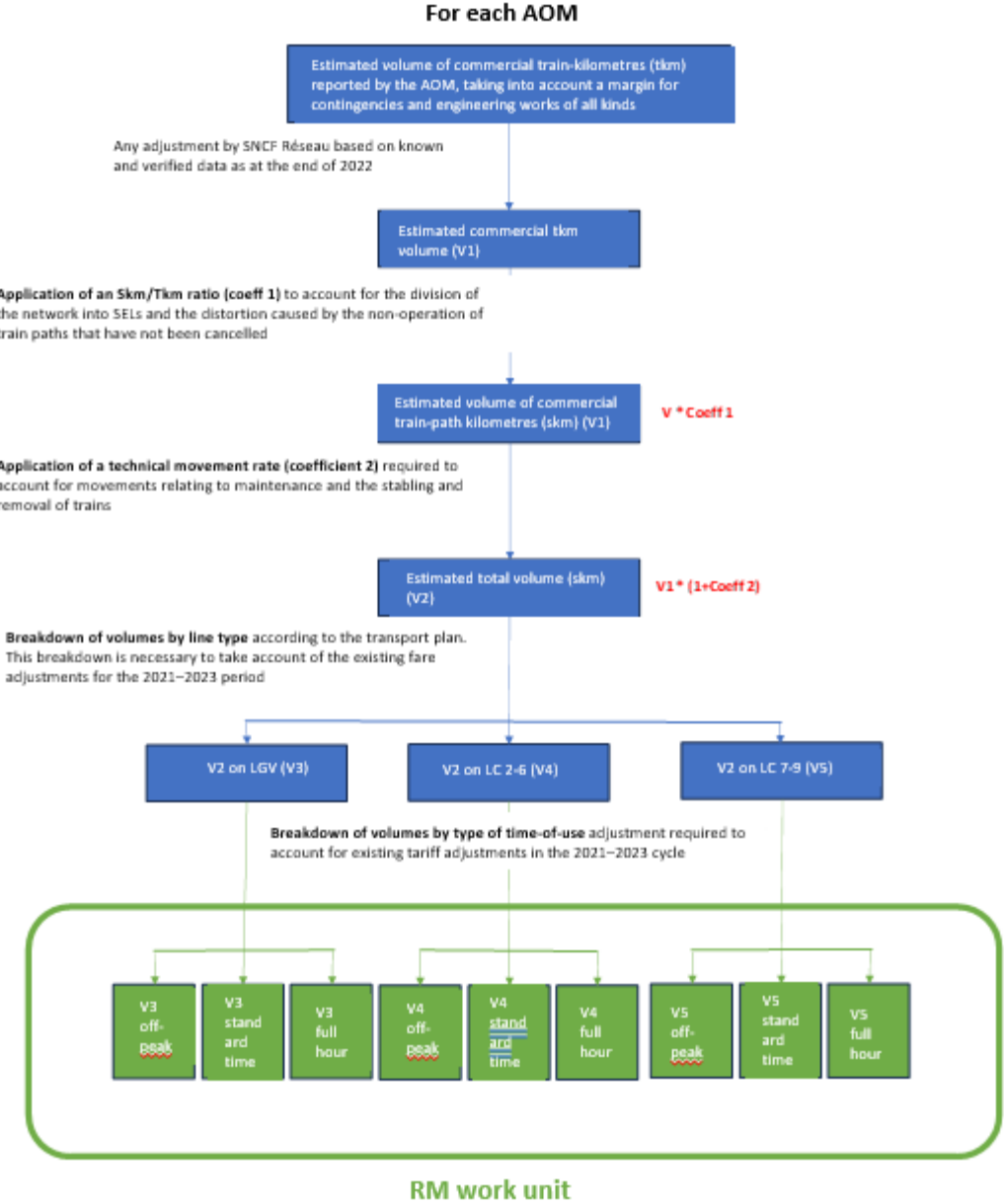
- ✓ Select the most favourable technical movement rate for the AOMs from among those recorded in 2021, those recorded in 2022 up to the end of October 2022, and the forecast rate for 2023;
- ✓ Specifically regarding regional trains, cap the rate at an average of 4.5% for AOMs whose regionalised rates mentioned above would then be higher than 4.5% to avoid increasing the infrastructure tolls for AOMs that do not control this parameter and/or have not requested a revision of this parameter, thereby ensuring fair treatment between AOs;
- ✓ Specifically regarding Ile-de-France Mobilités, cap the rate at that previously published in the consultation DRR, namely 8%, to avoid having to increase the infrastructure tolls for the AO, which does not control this parameter and has not requested a revision of this parameter.
- SNCF Réseau subsequently adjusted this breakdown to take account of the transfer of the 14 local feeder lines (LDFT), for which SNCF Réseau will be responsible for funding the renewal from 2024 onwards, as these lines move from UIC 7-9 line pricing to UIC 2-6 line pricing: as the main difference in pricing between these two types of lines relates to renewal, the cost of these 14 LDFTs to SNCF Réseau will therefore be equivalent to that of UIC 2-6 lines. This transfer is based on the train-km volumes recorded in the 2021 timetable, converted into train-path-km (Table 34);

Table 34 – Train-km volumes recorded in the 2021 timetable for the 14 local feeder lines across the region, for which SNCF Réseau is responsible for funding the regeneration in 2024

Transport Authority	Tkm 2021
Auvergne-Rhône-Alpes	1 532 622
Bourgogne-Franche-Comté	842 566
Bretagne	978 951
Centre-Val de Loire	252 538
Grand Est	1 028 312
Hauts-de-France	763 229
Normandie	1 152 040
Nouvelle-Aquitaine	2 911 926
Occitanie	993 955
Pays de la Loire	304 291
Provence-Alpes-Côte d'Azur	306
Ile-de-France Mobilités	1 265
State	602 483

Source : SNCF Réseau

Figure 5 – Summary diagram illustrating the calculation of projected volumes for the market levy and their allocation according to pricing parameters



- Valuation of the provisional transport plan:
 - o Once this provisional transport plan had been drawn up, SNCF Réseau applied the pricing principles used for the previous cycle. Among these principles, SNCF Réseau decided to retain:

The development incentive mechanism provided for in the 2023 timetable pricing structure, namely: in the event of an increase in traffic compared with the 2019 provisional transport plan, the market charge is reduced by 50% for additional train-km between the defined threshold and the level of the threshold plus 5% traffic, and by 75% for train-km exceeding a supply increase of more than 5% (Table 35);

Table 35 – Thresholds for train-kilometres (skm) triggering a reduction in the market charge for the 2023 timetable

Mobility Authority	Threshold triggering a 50% reduction in RM for additional skm	Threshold triggering a 75% reduction in RM for additional skm
	Threshold for commercial and non-commercial train-kilometres	
	TT 2023	TT 2023
Auvergne-Rhône-Alpes	34 712 738	36 448 375
Bourgogne-Franche-Comté	17 088 004	17 942 404
Bretagne	8 970 300	9 418 815
Centre-Val de Loire	14 674 324	15 408 040
Grand Est	30 625 917	32 157 213
Hauts-de-France	27 367 865	28 736 258
Normandie	16 383 392	17 202 562
Nouvelle-Aquitaine	18 619 562	19 550 540
Occitanie	15 988 353	16 787 771
Pays de la Loire	11 628 822	12 210 263
Provence-Alpes-Côte d'Azur	13 829 187	14 520 646
Ile-de-France Mobilités	69 129 457	72 585 930
State	15 150 952	15 908 500

Source : SNCF Réseau

The phased reinstatement of the development incentive payment due under the 2023 timetable, with 50% of this amount to be paid under the 2024 timetable 75% under the 2025 timetable and 100% under the 2026 timetable, given that this aid was intended as a temporary measure to test and establish a rail service;

The level of the market charge also takes into account the price effect associated with changes in the road usage charge and the electric vehicle road usage charge following the revision of directly attributable costs: the market charge acts as an 'adjustment variable' to ensure that AOMs' overall tariff changes are consistent with the trends described in section 4. This implies that if, for the same volume of traffic in 2025 and 2026, the directly attributable costs related to road traffic (RC) and electric traffic (RCE) increase or decrease in 2026 compared to 2025, the RM will change accordingly, either downwards or upwards, to ensure that the sum of the RM, the RC and the RCE changes in accordance with the outcome of the tariff adjustment mechanism mentioned in section 4.

Given that changes to the track access charge and the electric track access charge affect the development of the market charge, SNCF Réseau includes the following in this section on the market charge:

- A summary diagram showing how the forecast volumes for the traffic charge are determined and how they are allocated according to the pricing parameters (Figure 6);
- A summary diagram showing how the forecast volumes for the electric traffic charge are determined and how they are allocated according to the pricing parameters (Figure 7).

Figure 6 – Summary diagram illustrating the calculation of projected volumes for the road usage charge and their allocation according to pricing parameters

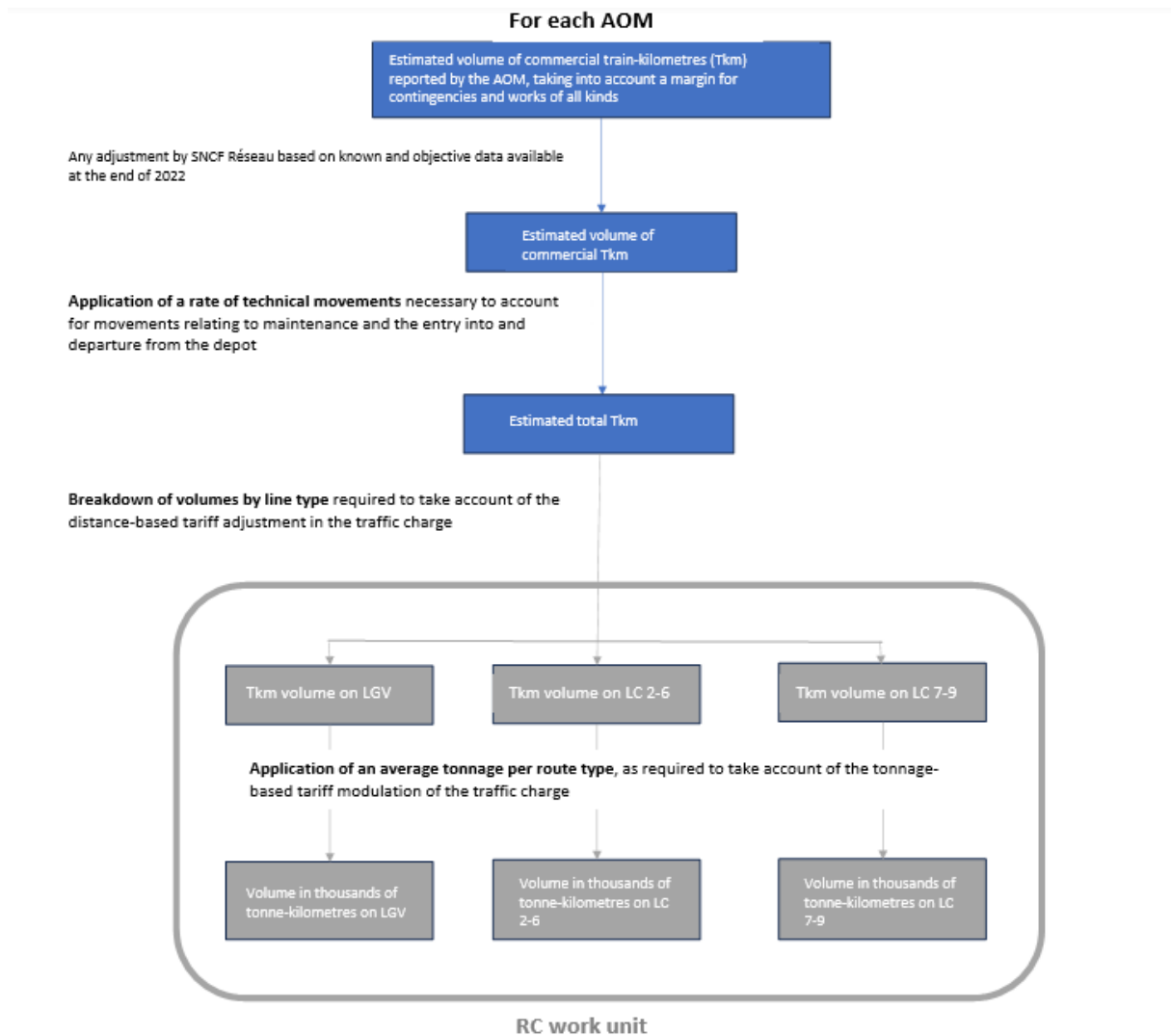
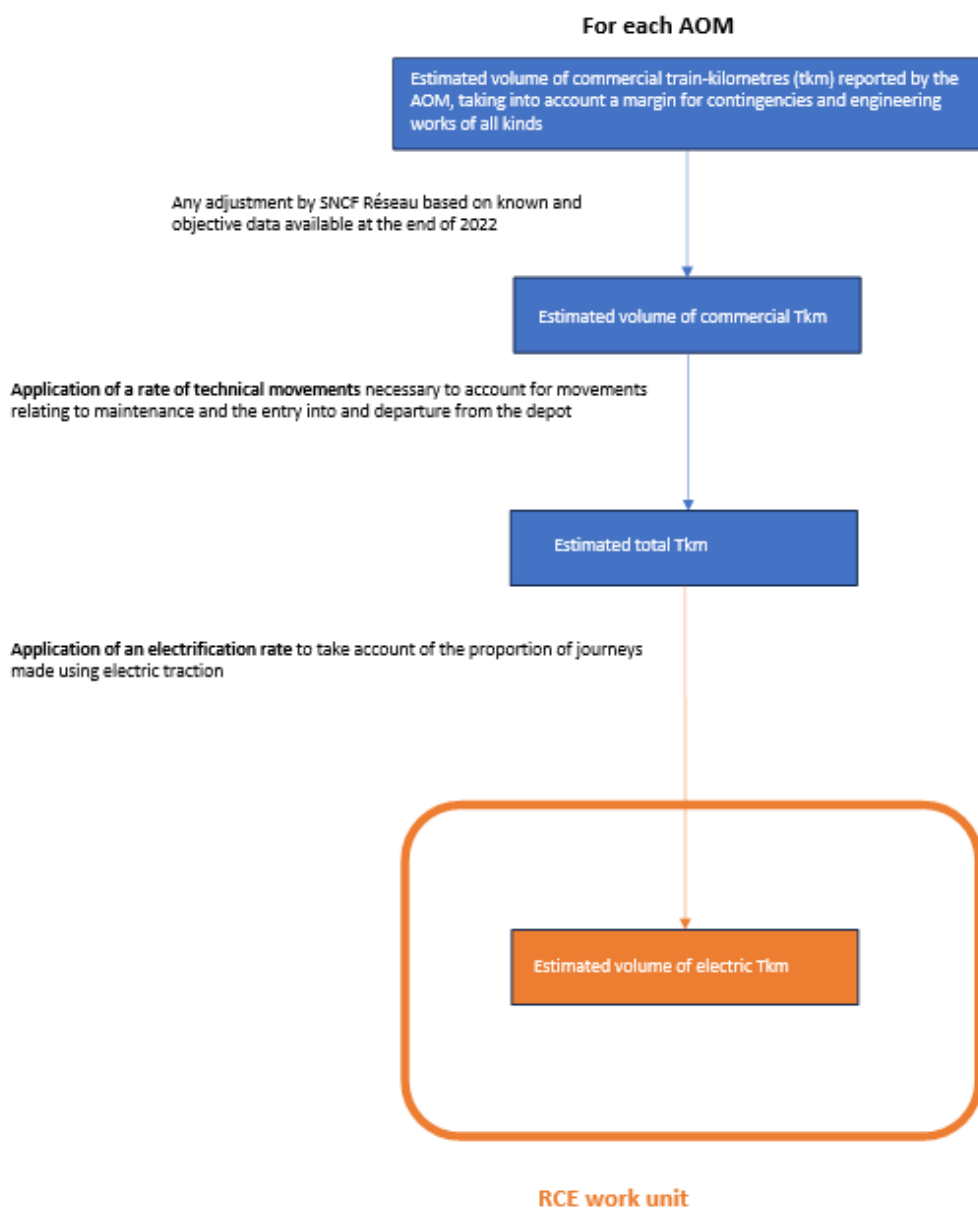


Figure 7 – Summary diagram illustrating the calculation of projected volumes for the electricity transmission charge and their allocation according to pricing parameters



Taking these criteria into account makes it possible to determine the flat-rate amounts for the 2024 timetable to 2026 by applying the scales valid for the 2022 Timetable – indexed up to the relevant TT – to the aforementioned units of work.

These amounts may, however, be adjusted at a later stage :

- a change to the network scope used (transfer of a line between AOMs or a line transfer as provided for in Article L2111-1-1 of the Transport Code): the volume of skm to be transferred from one entity to another will be negotiated between the parties. The figures will be valued on the basis of the transferring entity's reference €/skm, corresponding to the reference flat rate / number of reference skm of the TT affected by the transfer. The details must be communicated to SNCF Réseau by June of year Y-1 at the latest for this transfer to be taken into account for the TT in year Y. These scope adjustments will therefore be made in advance, with no subsequent adjustment possible;

- a significant drop in traffic volume exceeding 8% of the skm used to value the AOM flat rate for the TT in question. In the event of an x% decrease in volumes, where x is greater than 8%, SNCF Réseau

will make a retrospective adjustment to the flat-rate amount in the first quarter of Y+1 based on $(x\% - 8\%) * \text{the flat-rate amount for the relevant TT}$. For example, if an AOM reaches 86% of its reference skm volume, SNCF Réseau will refund 6% of the reference flat-rate payment.

Furthermore, in the 2027–2029 tariff cycle, SNCF Réseau will take into account any over-charges invoiced should actual revenue exceed actual costs in respect of the minimum services provided within the scope of the AOM.

Furthermore, where there are multiple carriers operating on behalf of a single AOM, the market fee for each segment shall be allocated amongst the carriers operating on behalf of the AOM in accordance with a methodology agreed between the parties, or, failing that, in proportion to the projected commercial skm.

Should the parties (AOM and carriers) wish to use a methodology agreed between them, negotiations must be concluded by 15 August of year Y-1 for Timetable Y and must be formalised by email sent to SNCF Réseau, with copies to the relevant contacts of the parties. The use of the agreed methodology is at the initiative of the parties, who must organise themselves to meet the aforementioned deadline.

If the default methodology is used, the allocation will be based on the 2024–2026 traffic forecasts, provided that these forecasts have been supplied by the AOMs as part of the preparation of the 2024–2026 pricing structure. Otherwise, the allocation will be based on the latest information available to SNCF Réseau (volumes submitted as part of the budget preparation process).

In all cases, each carrier will be informed of the market fee amount allocated to them when the advance payment invoicing details are sent. Only the AOM will be able to verify that the market fee amount allocated to it is consistent with the total amount.

In the event of an adjustment in year Y+1 to the flat-rate fee resulting from a significant drop in traffic as mentioned above, SNCF Réseau will notify the AOM concerned of the total amount of the refund, whereupon the AOM may decide on a different allocation among the carriers acting on its behalf.

3.3.3.1.3. Example of how to determine the market-based fee for licensed passenger transport services

To illustrate the process for calculating the market fee applicable to each AOM, a hypothetical example is provided below.

1. Step 1: Determining the forecast traffic data for the timetable for year N

On the basis of the data provided by the modelled AOM (hereinafter 'AOM A') and the rail transport company operating on its behalf, SNCF Réseau determines the traffic figures in train-kilometres, train-kilometres and electric train-kilometres forecast for year N, distinguishing between commercial and non-commercial traffic.

Furthermore, SNCF Réseau also determines the average tonnage per train running on the network by line type according to the UIC category.

Table 36 below presents the traffic assumptions used in the example.

Traffic forecasts	Skm	Tkm	Tkme
Totals	120 000	100 000	50 000
of which commercial	108 000	90 000	45 000
Tonnage	LC 2-6	LC 7-9	LGV
Average tonnage (in tonnes)	600	250	450

The traffic data provided by the AOMs and transport operators is then processed by SNCF Réseau to determine its structure in terms of timetable patterns and line types. This processing is carried out on the basis of data provided by the AOMs and transport companies from financial years prior to financial year N. For example, for the 2026 timetable, this structure is determined on the basis of traffic from the 2023 timetable.

Table 37 – Example of how to calculate the RM for contracted activities: structure of the forecast traffic for year N

Structure: breakdown by infrastructure type and timetable flexibility (excluding LDFT transfers)	LC 2-6	LC 7-9	LGV
HC	6%	3%	1%
HP	15%	7,5%	2,5%
HN	39%	19,5%	6,5%
Total infrastructure	60%	30%	10%

Source : SNCF Réseau

Furthermore, the analysis of traffic for each AOM must also take into account changes to the scope of the network used. In particular, the traffic data used by SNCF Réseau to determine charges for year N must account for line transfers between AOMs, as well as transfers of line management from SNCF Réseau to the AOMs or to service providers designated by them. **In the example presented here, for AOM A, a transfer of 10,000 train-km is made from lines LC 7–9 to lines LC 2–6.**

Consequently, as shown in Table 38, the traffic data and its structure are adjusted to take this transfer into account.

Tableau 22 – Example of RM calculation for contracted services: adjustment of traffic data and traffic structure in line with changes to the network scope

Tonnage (after change in scope)	LC 2-6	LC 7-9	LGV
Average tonnage (in tonnes)	550	250	450
Structure: breakdown by infrastructure type and timetable flexibility (following a change in scope)	LC 2-6	LC 7-9	LGV
HC	7%	2%	1%
HP	17,5%	5%	2,5%
HN	45,5%	13%	6,5%
Total infrastructure	70%	20%	10%

Source : SNCF Réseau

2. Step 2: Calculation of the RM, RC and RCE charge values for the reference traffic, based on the rates for year N-1 and taking into account the target rate of change for the charges

For illustrative purposes, the fee scales for year N-1 in this example correspond to the fee scales in force for the 2025 timetable. These scales are set out in Table 39.

Table 39 – Example of RM calculation for contracted activities: summary of the RM, RC and RCE scales for the 2025 HDS

Market Fee (MF) – AOM 'A'				
PKM (€excl. VAT per track-km)			On LC 2-6 or LGV	On LC 7-9
Timetable adjustments depending on the time and day of departure	Week	HC	2,95	1,97
		HP	3,54	2,26
	Weekend	HN	3,15	2,06

Road Tax (RC)				
RC = (Unit price per tonne-kilometre × tonnage carried in kilotonnes × distance travelled) + (Unit price per train-kilometre × distance travelled)	Unit price per thousand tonne-kilometres (€ excl. VAT per kTBC-km)		+ Unit price per train-km (€ excl. VAT per train-km)	
	On line UIC 2 à 6	On line UIC 7 à 9	On line UIC 2 à 6	On line UIC 7 à 9
Passenger trains operating on conventional lines	5,551	1,925	0,650	0,524
Passenger trains operating on high-speed lines	1,654	-	0,273	-

N.B. : kTBC = kilo tonne brute complète

Electricity Transmission Charge (RCE)		
RCE = Unit price (UP) × transport distance		
PU (€ excl. VAT per electric train-km)	Electric-powered convoys	0,284

Source : SNCF Réseau

Furthermore, when calculating the track access charge (TAC) based on the tariff for year N-1, SNCF Réseau takes into account the incentive mechanisms put in place to encourage infrastructure managers and railway undertakings to promote the efficient use of the network. In this regard, SNCF Réseau considers traffic volumes that exceed the thresholds triggering a reduction in the TAC. In the present example, the thresholds are defined according to the details in Table 40 below:

Table 40 – Example of how the RM is calculated for contracted activities: thresholds triggering a reduction in the RM

Transport Authority	Threshold triggering a 50% reduction in RM for additional skm	Threshold triggering a 75% reduction in RM for additional skm
	Threshold for commercial and non-commercial train-kilometres	
	TT N-1	TT N-1
AOM « A »	100 000	105 000

Source : SNCF Réseau

Consequently, based on the factors described above and before taking into account changes to the scope of the network used, the RM, RC and RCE charges calculated using the timetable N-1 scales are calculated in accordance with the procedures set out in Table 41.

Table 41 – Example of RM calculation for regulated activities: calculation of RM + RC + RCE fee values for reference traffic based on the N-1 year scales

Fees	Calculation	Result (€ excl. VAT)
RM	$100\,000 * (6\% * 2,95 + 15\% * 3,54 + 39\% * 3,15 + 3\% * 1,97 + 7,5\% * 2,26 + 19,5\% * 2,06 + 1\% * 2,95 + 2,5\% * 3,54 + 6,5\% * 3,15)$ $+ 5\,000 * (1 - 50\%) * (6\% * 2,95 + 15\% * 3,54 + 39\% * 3,15 + 3\% * 1,97 + 7,5\% * 2,26 + 19,5\% * 2,06 + 1\% * 2,95 + 2,5\% * 3,54 + 6,5\% * 3,15)$ $+ 15\,000 * (1 - 75\%) * (6\% * 2,95 + 15\% * 3,54 + 39\% * 3,15 + 3\% * 1,97 + 7,5\% * 2,26 + 19,5\% * 2,06 + 1\% * 2,95 + 2,5\% * 3,54 + 6,5\% * 3,15)$	307 014,69
RC	$100\,000 * 60\% * (600/1000 * 5,551 + 0,65)$ $+ 100\,000 * 30\% * (250/1000 * 1,925 + 0,524)$ $+ 100\,000 * 10\% * (450/1000 * 1,654 + 0,273)$	279 166,50
RCE	$50\,000 * 0,284$	14 200,00
TOTAL RM+RC+RCE	RM + RC + RCE	600 381,19

Source : SNCF Réseau

Furthermore, in this example, SNCF Réseau sets a rate of change for the RM+RC+RCE charges between year N and year N+1 at 4.1%.

The target value for the sum of the RM+RC+RCE charges is therefore calculated as follows:

Table 23 – Example of RM calculation for contracted activities: target value of the sum of RM, RC and RCE fees for timetable N

Fees	Calculation	Result (€ excl. VAT)
TOTAL RM+RC+RCE target N	$TOTAL\ RM+RC+RCE * (1 + 4,1\%)$	624 996,82

Source : SNCF Réseau

3. Step 3: Indexation of the RM for year N, taking into account changes in the unit rates for the RC and the RCE

The level of the RM for the TT N takes into account changes in the RC and RCE compared with the previous financial year. Indeed, for the same network scope and before taking into account the reinstatement of supply reductions under the RM for previous years, the RM acts as an adjustment variable that ensures the sum of RM+RC+RCE for year N follows the projected trend, which in this example corresponds to 4.1%.

For illustrative purposes, the fee scales for year N in this example correspond to the fee scales in force for the 2026 timetable. These scales are set out in Table 43.

Table 24 – Example of how to calculate the RM for contracted activities: a reminder of the RC and RCE scales in the TT 2026

Running charge (RC)				
RC = (Unit price per thousand tonnes-kilometres x track tonnage in kTBC* x traffic distance) + (Unit price per train-kilometre x traffic distance)	Unit price per thousand tonnes-km (in € ex. VAT per kCGT-km)		+ Unit price per train-km (in € ex. VAT per train-km)	
	On line UIC 2 to 6	On line UIC 7 to 9	On line UIC 2 to 6	On line UIC 7 to 9
Passenger trains travelling on a conventional line	5.560	1.921	0.649	0.524
Passenger trains travelling on a high-speed line	1.663	-	0.273	-

*

Source: SNCF Réseau

Electric Traction Charge (RCE)		
RCE = Unit price x traffic distance		
Unit price (€ ex. VAT per electric train-km)	Electric traction convoys	0.285

Source: SNCF Réseau

These unit rates are then applied to the traffic forecasts to calculate the total value of the RC and RCE allocated to AOM A. This calculation is shown in Table 44.

Table 44 – Example: of how to calculate the RM for contracted activities: calculation of RC and RCE for HDS N

Charges	Calculation	Result (€/ex. VAT)
RC N	100,000 * 60% * (600/1,000 * 5.56 + 0.649)	279,441.00
	+	
	100,000 * 30% * (250/1,000 * 1.921 + 0.524)	
RCE N	+	14,250.00
	100,000 * 10% * (450/1,000 * 1.663 + 0.273)	
TOTALRC+RCE	RC + RCE	293 691,00

Source : SNCF Réseau

The total value of the RC and RCE allocated to AOM A is then compared with the target value of the sum of the RM, RC and RCE fees for Timetable N in order to derive the target value of the RM for TT N. This value is then compared with the RM value calculated on the basis of the N-1 fee scales to derive an indexation rate for the RM.

Table 45– Example of how to calculate the RM for contracted activities: calculation of RC and RCE for TT N

Charges	Calculation	Result (€/ex. VAT)
RM target N	TOTAL RM+RC+RCE TARGET N – RC N – RCE N	331 305,82
Indexation RM N	(RM target N - RM N-1)/ RM N-1	+7,9%

This indexation rate is then applied to the RM tariff scale in force in year N-1 (see Table 39) to determine the applicable RM unit rates for the TT in year N.

Table 25 – Example of how the RM is calculated for contracted activities: HDS N RM scales following indexation

Market Fee (MF) – AOM 'A'				
PKM (€ excl. VAT per track-km)			On LC 2-6 or LGV	On LC 7-9
Timetable adjustments depending on the time and day of departure	Week	HC	3,18	2,13
		HP	3,82	2,44
	Weekend	HN	3,4	2,22

Source : SNCF Réseau

4. Step 4: Application of the RM N scales (after indexation), taking into account changes to the scope of the network used and reductions in the RM relating to previous financial years

In order to calculate the RM based on the N tariff, SNCF Réseau takes into account changes to the scope of the network used, incentive mechanisms to increase traffic levels (the thresholds triggering a reduction in the RM value) and the reinstatement of reductions to the offer under the RM for the 2023 TT. In this example, the value of these reinstatements is estimated at €35,000 and will be invoiced in full in the TT N.

Based on these factors, and taking into account the forecast traffic adjusted for changes in scope, the RM for year N is calculated as follows:

Table 26 – Example of how to calculate the RM for contracted activities: calculation of the RM for timetable N

Fees	Calculation	Total (€ excl. VAT)
RM N Package	$100\,000 * (7\% * 3,18 + 17,5\% * 3,82 + 45,5\% * 3,4 + 2\% * 2,13 + 5\% * 2,44 + 13\% * 2,22 + 1\% * 3,18 + 2,5\% * 3,82 + 6,5\% * 3,4)$ + $5\,000 * (1 - 50\%) * (7\% * 3,18 + 17,5\% * 3,82 + 45,5\% * 3,4 + 2\% * 2,13 + 5\% * 2,44 + 13\% * 2,22 + 1\% * 3,18 + 2,5\% * 3,82 + 6,5\% * 3,4)$ + $15\,000 * (1 - 75\%) * (7\% * 3,18 + 17,5\% * 3,82 + 45,5\% * 3,4 + 2\% * 2,13 + 5\% * 2,44 + 13\% * 2,22 + 1\% * 3,18 + 2,5\% * 3,82 + 6,5\% * 3,4)$ + $100\% * 35\,000 * (1 - 10,9\%) * (1 + 10,4\%) * (1 + 7,9\%)$	381 338,17

Source : SNCF Réseau

5. Step 5 : Calculation of RC+RCE+RM attributable to AOM A under TT N

The final step involves calculating the sum of RC+RCE+RM attributable to AOM A under TT N. This calculation is shown in Table 48.

Table 27 – Example of how to calculate the RM for contracted activities: calculation of the RM for TTN

Fees	Calculation	Total (€ excl. VAT)
RM	Flat-rate charge RM N	381 338,17
RC	$100\,000 * 70\% * (550/1000 * 5,56 + 0,649)$ + $100\,000 * 20\% * (250/1000 * 1,921 + 0,524)$ + $100\,000 * 10\% * (450/1000 * 1,663 + 0,273)$	289 788,50
RCE	50 000 * 0,285	14 250,00
TOTAL RM+RC+RCE N target	RM + RC + RCE	685 376,67

Source : SNCF Réseau

3.3.3.1.4. RM scale applicable to contracted passenger transport activities for the 2026 timetable

The annual flat-rate market charge for the 2026 timetable calculated based on the principles detailed above and applied to each AOM is set out in the following table 49. The amount shown takes into account the valuation of both commercial and non-commercial train-path-kilometres.

Table 49 - Market charge scale per AOM for the 2026 timetable

Annual fixed price per Mobility Organising Authority (AOM)			
Passenger trains contracted by an Organising Authority	Auvergne Rhône-Alpes	32 846 600	119 851 084
	Bourgogne-Franche-Comté	15 678 510	53 333 954
	Brittany	8 178 974	19 789 458
	Centre-Val-de-Loire	14 076 000*	57 276 523
	Grand-Est	34 780 875*	123 302 294
	Hauts-de-France	25 484 260	96 885 394
	Normandy	16 918 581*	52 342 756
	Nouvelle-Aquitaine	21 285 859	60 198 510
	Occitanie	19 969 779*	54 091 563
	Pays de la Loire	13 882 354*	35 715 927
	Provence Alpes Côte-d'Azur	15 083 092*	45 828 086
	Ile-de-France Mobilités	58 366 744	517 982 025
	State - TET	16 126 479*	63 371 582

Source: SNCF Réseau

* Correction of a hardware error

N.B.: As per the principles of the NS, the RM is distributed among the transport companies operating on behalf of AOMs.

3.3.3.1.5. Overview of the turnover from the market charge applicable to contracted passenger transport activities

In the table below, SNCF Réseau evaluated the market charge income attributable to contracted passenger transport activities per region, over the 2023-2026 period.

Table 50 - Income received from the RM for contracted activities (€M)

	2023 ⁴²	2024	2025	2026
Contracted passenger services	1 190	1 096	1 209	1 300
Per AOM:				
Ile-de-France Mobilités	447	446	488	518
State - TET	62	52	58	63
Auvergne Rhône-Alpes	120	103	112	120
Bourgogne-Franche-Comté	54	46	50	53
Brittany	19	16	18	20
Centre-Val de Loire	57	49	53	57
Grand-Est	110	102	113	123
Hauts-de-France	97	82	91	97
Normandy	54	43	48	52
Nouvelle-Aquitaine	49	51	56	60
Occitanie	46	43	48	54
Pays de la Loire	32	28	32	36
Provence Alpes Côte-d'Azur	44	35	41	46

Source: SNCF Réseau

3.3.3.2. Market charge applicable to non-contracted passenger transport activities

After recalling the RM pricing principles applicable to non-contracted activities (section 3.3.3.2.1), the different segments making up the TAGV activities (section 3.3.3.2.2) are defined. The measures taken in relation to land use planning (section 3.3.3.2.3) and the procedures for implementing RM for TAGVs are then outlined.

This implementation is explained through an example (section 3.3.3.2.4).

Following a review of the RM pricing principles applicable to non-contracted activities (section 3.3.3.2.1), the various components of TAGV activities (section 3.3.3.2.2) and the procedures for implementing the RM for TAGVs (section 3.3.3.2.3) are set out.

This implementation is explained using an example (section 3.3.3.2.4).

The RM scales applicable to TAGV services for the 2026 timetable are presented (section 3.3.3.2.5), as are the procedures for determining the RM for trains operating on multi-segment journeys (section 3.3.3.2.6).

The procedures for implementing the RM for non-contracted and non-TAGV activities, are then detailed (section 3.3.3.2.7)

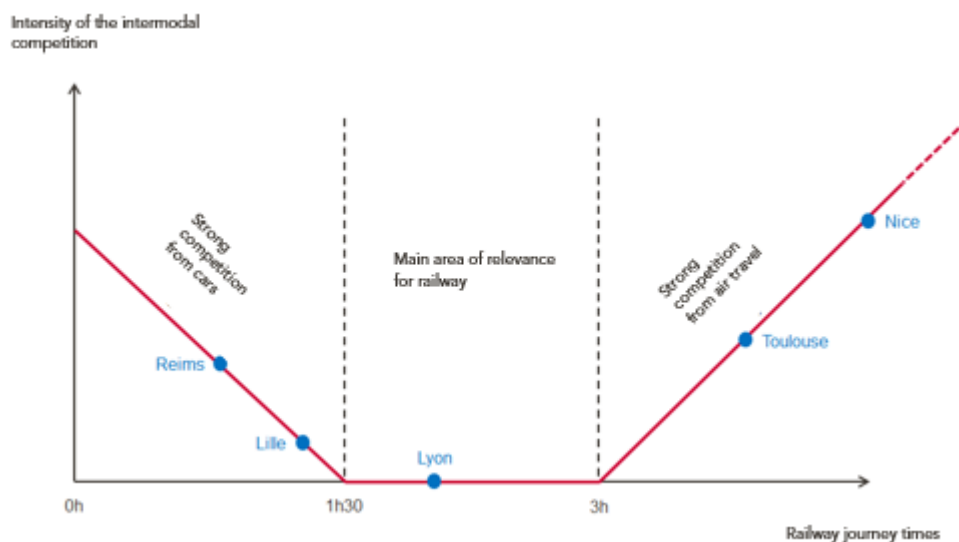
⁴² Source : contrat de performance.

Lastly, SNCF Réseau will present a summary of its estimated turnover achieved by applying the RM to the various non-contracted activity segments (section 3.3.3.2.8)

The price levels applicable to TAGV activities are based on the Ramsey-Boiteux economic theory, which states that **the more price-sensitive the passenger, the lower the level of tolls can be**. In the absence of precise information on passenger price sensitivity, SNCF Réseau uses alternative indicators to assess passenger dependence on rail transport. Thus, the characterisation of the domestic TAGV segments is based on an economic analysis of the downstream passenger market using 2 cross-cutting criteria:

- **the size of the potential market defined in terms of population:** this^{1st} criterion characterises the potential of the market in terms of passengers;
- **the intensity of the rail/road/air competition (according to the respective journey times of each mode):** this 2nd criterion, showing the significance of intermodal competition, makes it possible to characterise a rail segment according to the various degrees of competition exercised by road and air, as shown in Figure 8 .

Figure 8 - Illustration of the intensity of intermodal competition experienced by rail (TAGV) according to the travel time from Paris to other cities in France



Source: SNCF Réseau

According to the proposed approach, it is considered that a small market size or intense intermodal competition means that the risk of not adequately filling trains in the event of higher prices is greater, and vice versa.

3.3.3.2.2. Definition of TAGV market segment

By combining the two criteria above, it is possible to define the first four domestic TAGV segments. This analysis was conducted using public data that characterises the urban areas served by TAGV (except for regional development services on conventional lines), see Table 51).

Table 51 - Terms for defining TAGV domestic segments

Corridors	Market size (population)	Intermodal competition (air or road)	Rating	Segments
Lyon St Etienne Radial	Important (3pts)	Low (3pts)	6	A
BPL Radial	Average (2 pts)	Low (3pts)	5	B
East Radial North Radial (ex Arras) Alps Radial	Average (2pts)	Average (2pts)	4	C/D
Mediterranean Radial South-West Radial	Important (3pts)	High (1pt)	4	
BFC Radial* Arras Radial	Low (1 pt)	Average or low (2 or 3 pts)	3*	E

Source: SNCF Réseau

*The BFC radial segment is identified with low inter-modal competition (3pts), which would give it an overall rating of 4. However, this corridor is maintained in segment E due to the strong limit linked to the population served.

Compared with the segmentation used in the 2021–2023 timetable, the former segments C and D have been merged, as although their characteristics differ, their overall scores are equivalent.

International high-speed radial trains are segmented according to a principle equivalent to that used to segment domestic trains (Table 52).

Table 52 - Terms for defining international radial high-speed train segments (TAGV)

Corridors	Market size (population)	Intermodal competition (air or road)	Rating	Segments
Great Britain Radial Belgium, Netherlands and Germany Radial by North corridor Luxembourg & Germany Radial by East corridor Switzerland Radial	Average (2 pts)	Average (2pts)	4	International radial – group 1
Italy Radial Spain Radial	Average (2 pts)	High (1pt)	3	International radial – group 2

Source: SNCF Réseau

This analysis therefore leads to the creation of two international radial segments: the “Great Britain Radial”, the “Belgium, Netherlands and Germany Radial by North corridor”, the “Luxembourg & Germany Radial by East corridor” and the “Switzerland Radial” are gathered within the “International radial – group 1” segment, whereas the “Italy Radial” and “Spain Radial” are grouped in the “International radial – group 2” segment.

The high-speed international cross-sector sections remain unchanged: as a reminder, international cross-sector sections using modern tunnel-type infrastructure (Channel Tunnel, Perpignan-Figueras link) are classified in the "International inter-sector - type 2" segment and benefit from a preferential tariff to take account of the very high charges applied in these tunnels (which are not managed by SNCF Réseau). All other international inter-sectors are grouped together in the "International inter-sector - type 1" segment.

Pricing based on the Ramsey-Boiteux economic theory implies applying different HSL market charge levels depending on the segmentation.

As a result, the market charge level in segment A is higher than in segment E: in fact, strong market potential and low competition lead to a profitable market for passenger transport companies. Conversely, segment E represents more difficult economic conditions for transport companies, and the tariff level is adjusted accordingly.

Furthermore, this segmentation was established taking into account the level of previous charges paid by each segment. For example, during the previous 2021–2023 tariff cycle, the Radial East route should have been classified in Segment C, but it was assigned the charges applicable to Segment D to avoid an excessive increase.

3.3.3.2.3. Terms and conditions for the implementation of the market charge applicable to TAGV activities

The principle behind these mark-ups is the same as that described in Article 6 of Decree no. 97-446. The level of mark-ups can be based on:

- Performance offered by the railway infrastructure (speed, power of the electrical system, etc.)
- The quality of the services offered by the train;
- The scheduled time of arrival or departure of the trains.
- Load capacity.

In order to have a pricing system that reflects the downstream market as closely as possible, and in particular the contributive capacity of each passenger, SNCF Réseau is proposing to maintain or introduce the following changes to the structure of the market charge for the TAGV activity :

- **Simplification of the TAGV market** segmentation: reduction from 13 to 8 market segments. This follows the grouping of segments with similar characteristics, following an analysis of the intensity of intermodal competition (air/road) and the size of the population within the catchment area (catchment zones).

For example, the former C and D segments have been merged, and the 'C/D' tariff (at equal toll rates) has been calculated as the average of the 2023 tariffs for segments C and D, weighted by train-kilometre volumes based on traffic recorded on the 2021 timetable (at equal volumes).

- Optimisation of time-of-use pricing by extending the scope of application and introducing a new premium time-of-use band, to encourage railway companies to make better use of the network. Time-of-use pricing will change from three time bands (off-peak / standard / peak) applicable only from Monday to Friday and only to part of the domestic market, to four time bands (off-peak / standard / peak / super-peak) applicable every day of the week depending on the train's departure time and to all market segments (domestic and international).

The high-speed line market charge depends on the type of day and the theoretical departure time of the train path⁴³, according to 4 groups: off-peak times (HC), standard times (HN), peak times (HP), high peak times (HH).

Compared to the standard hourly rate (HN):

- Train paths leaving at peak times (HP) include a 15% unit price surcharge;
- Train paths leaving at high peak times (HH) include a 25% unit price surcharge;
- Train paths leaving at off-peak times (HC) benefit from a 44% unit price reduction.

This adjustment applies to all TAGV segments.

Table 53- Type of modulation per TAGV departure time slot

Definition of the type of adjustment per time slot				
Type of timetable adjustment		Monday to Friday	Saturday	Sunday
Time slots TAGV activities	[00:00:00 - 01:00:00 [	HC	HC	HC
	[01:00:00 - 02:00:00 [	HC	HC	HC
	[02:00:00 - 03:00:00 [	HC	HC	HC
	[03:00:00 - 04:00:00 [	HC	HC	HC
	[04:00:00 - 05:00:00 [	HC	HC	HC
	[05:00:00 - 06:00:00 [	HN	HC	HC
	[06:00:00 - 07:00:00 [	HH	HP	HC
	[07:00:00 - 08:00:00 [	HP	HH	HC
	[08:00:00 - 09:00:00 [	HP	HP	HN
	[09:00:00 - 10:00:00 [	HN	HP	HN
	[10:00:00 - 11:00:00 [	HC	HP	HN
	[11:00:00 - 12:00:00 [	HN	HN	HN
	[12:00:00 - 13:00:00 [	HN	HP	HN
	[13:00:00 - 14:00:00 [	HN	HP	HN
	[14:00:00 - 15:00:00 [	HN	HP	HP
	[15:00:00 - 16:00:00 [	HP	HN	HP
	[16:00:00 - 17:00:00 [	HP	HP	HP
	[17:00:00 - 18:00:00 [	HH	HP	HH
	[18:00:00 - 19:00:00 [	HP	HN	HH
	[19:00:00 - 20:00:00 [	HN	HN	HP
	[20:00:00 - 21:00:00 [	HC	HC	HN
	[21:00:00 - 22:00:00 [	HC	HC	HN
	[22:00:00 - 23:00:00 [	HC	HC	HC
	[23:00:00 - 00:00:00 [	HC	HC	HC

Source: SNCF Réseau

1. Implementation of a modulation to the theoretical loading class

To obtain a pricing more in line with the service offered to passengers: transition from a load modulation based on the distinction between Single Unit/Multiple Units (US/UM) to a new level of modulation based on the characteristics of the rolling stock according to two variables, which aim to reflect the level of comfort offered by railway companies and the contributive capacity of their train: **the density of the number of seats per square meter and the number of premium and standard seats.**

⁴³ For international trains coming from abroad, the time adjustment factor applicable corresponds to the day and time when the train path is taken into account in SNCF Réseau's information systems.

- The overall density of the number of seats per square metre which corresponds to the number of seats divided by the usable surface area. By default, any rolling stock is considered to have a density below the 1.35 seats per m² threshold. Where applicable, railway undertakings must provide the elements required to prove their rolling stock is part of the “high density” category, and thus have the corresponding pricing applied to them. The parameters for calculating the density are defined as follows:
 - o **the useful surface area:** surface corresponding to the location of the seat implantation: length * width of each car, from which the technical surfaces are deducted (toilets, stairs, bar, engine);
 - o **the number of seats:** according to the manufacturer data or the layout created since manufacturing (plans).
- The number of seats per range (premium or standard) makes it possible to distinguish the theoretical average service offered by the railway undertaking: **the premium range** corresponds to first classes and similar ranges, and **the standard range** to second classes and similar ranges.

The adjustment is based on the premium and standard coefficients per overall density and number of seats per range, as shown in the table 54 below.

Table 54 - Adjustment coefficients according to seat density/m², range (Premium or Standard) and number of seats per range

Density number of seats /m ²	Number of seats per range	Premium Adjustment factor	Standard Adjustment factor
< 1.35	[0-175[	1.02	0.76
	[175-205[	1.10	0.78
	[205-325[	1.20	0.82
	[325-500[	1.38	0.88
	[500-800[	1.48	0.96
	>= 800	1.58	1.11
>= 1.35	[0-800[	1.13	0.90
	>= 800	1.28	1.02

Source: SNCF Réseau

The formula for calculating adjustment coefficients is as follows:

$$\frac{\text{Coeff Premium} \times \text{Nombre sièges premium} + \text{Coeff Standard} \times \text{Nombre sièges standard}}{\text{nombre sièges total}}$$

- For the 2026 timetable, the application of modulation to the carrying capacity will be based on the equipment used for the train-path. SNCF Réseau reserves the right to change this rule in order to base it on the material that actually ran on the train path.
- Furthermore, a simplified correspondence table has been defined by SNCF Réseau setting:
 - the number of seats per range and per train set according to the reference equipment used for the path's routing;
 - the modulation coefficients calculated by Single and Multiple Units (Table 55).

Table 55 – Simplified correspondence table of seat numbers and modulation coefficients per reference vehicle

Density number of seats /m ²²	Reference equipment	Number of seats per range			Coefficient C2	
		Premium	Standard	Total	US	UM
< 1,35	ETR-1K	86	376	462	0,9061	0,9712
	ICE3	111	333	444	0,9150	1,0200
	TGV / TGVSE	111	240	351	0,8832	0,9812
	TGVAT	116	369	485	0,9135	1,0174
	TGV-D / TGVDAS / TGV2N2	182	328	510	0,9585	1,1099
	TGVPOS / TGV R	110	254	364	0,8804	1,0325
	TGV-TM	206	544	750	1,0259	1,1842
>= 1,35	TGV-D / TGVDAS	0	620	620	0,9000	1,0200

Source: SNCF Réseau

NB : Should new track layout data become available, this table will be updated. It can be obtained on request from the SNCF Réseau pricing department.

To determine the number of trains making up a given service, SNCF Réseau will use the tonnage declared by the railway company: any train with a tonnage exceeding 550 tonnes is considered a multiple unit (two trains – MU). A train with a declared tonnage of less than 550 tonnes is considered a single unit (one train set – US). However, services on train paths using the Channel Tunnel, operated with non-separable train sets with a declared tonnage of 550 tonnes or more, will be considered single units. In the event of non-declaration or rejection of the declaration, the adjustment for a multiple unit movement shall apply.

The annual advance payment and the monthly provision are calculated on the basis of the US tariff. The adjustment of the RM entails the application of the US or UM adjustment.

2. Price effect

The price effect is applied to the new market charge structure determined above in order to calculate the tariff scales. Changes in the market charge for high-speed lines act as an 'adjustment variable', as the market charge for conventional lines is identical across all market segments. This implies that if the CDI rises or falls in 2026, then the RM will change accordingly, either upwards or downwards, to ensure that the sum of the RM, the RC and the RCE changes in accordance with point 3 of this document, at constant volumes between 2025 and 2026.

In practice, it is the interplay of the various parameters outlined above (segments, time-of-use modulation, modulation based on theoretical load class, etc.) that enables a better assessment of the downstream market's ability to contribute and, in accordance with the Ramsey-Boiteux economic theory, allows the applicable market charge to be determined.

3.3.3.2.4. Example of how the market charge is determined for the TAGV activity

For example, the RM tariff applicable on high-speed lines for a 'TGV / TGVSE' running on the 'International Radial – Group 2' segment, with the train departing at 4 pm on a Saturday, will be calculated as follows:

- Base price: price per kilometre (PKM) = €22.69/km (see Table 56 below)
- Peak-hour adjustment coefficient (HP): C1 = 1.15
- Theoretical load modulation coefficient: C2:

$$= ((1.02 * 111 + 0.82 * 240) / 351) = 0.8832, \text{ for a TAGV in US}$$

$$= ((1.20 * 111*2 + 0.88 * 240*2) / (351*2)) = 0.9812, \text{ for a TAGV in UM}$$

The unit price (€2026 excl. VAT per skm) of the RM is therefore = PKM * C1 * C2:

$$= €23.05/skm \text{ for a TAGV in US}$$

$$= €25.60/skm \text{ for a TAGV in UM}$$

3.3.3.2.5. Market charge scale applicable to the TAGV activity

For the TAGV, the market charge is defined by market segment, with a separate scale for conventional lines (LC) and for high speed lines (LGV).

The unit market charge before LGV adjustments for the 2026 timetable, calculated on the basis of the principles detailed above and applied to the TAGV activity segments is detailed in the table below:

Table 56 - Market charge scales applicable to the TAGV activity segments for the 2026 timetable

TAGV Market charge (RM)				
<i>RM for each SEL = Price per kilometre x C1 x C1 x C2 x C3 x length of the SEL</i>				
Price per km (€ ex. VAT per train path-km)			On Conventional Line (LC)	On High-Speed Line (LGV)
Passenger trains capable of high speeds (TAGV)	Domestic traffic	A	4,00	33,16
		B	4,00	29,18
		C/D	4,00	23,03
		E	4,00	14,39
	International traffic**	International radial – group 1	4,00	21,47
		International radial – group 2	4,00	22,69
		International inter-sector – type 1	4,00	14,39
		International inter-sector – type 2	4,00	7,80

Source: SNCF Réseau

3.3.3.2.6. Methods for determining the market charge applicable to trains running on several segments

If a train makes a journey passing through several market segments (e.g.: Paris-Lyon Part Dieu-Marseille or Paris-Arras-Lille), the pricing is determined according to **the average weighted to the train path-km of the unit train paths for the markets served**. Therefore, a high-speed train travelling from

Paris to Lille with a commercial stop in Arras, then taking the high-speed line to Lille, will be charged in proportion to the length of the high-speed line train path-km in segment E for Paris-Arras, in segment E for Arras-Lille and in segment C for Paris-Lille. This TAGV allows passengers to make the Paris-Arras, Arras-Lille and Paris-Lille journeys, so it is affected by all three segments and is priced accordingly.

The train journey is broken down into sub-paths corresponding to the longest journeys within the same market axis, according to the classification of stations specified in the technical document on the assignment of path numbers to market axes.

For example, for a Paris – Arras – Lille and a Paris – Lyon – Marseille (in 2026 prices):

Table 57 - Example of how the market charge is determined for a domestic TGV train passing through several segments (Paris - Arras - Lille)

Origin - Destination	LGV distance (skm)	Segment	LGV price (€2027 excl. VAT/skm)
Paris – Arras	148.09/38%	E	14,39
Arras - Lille	47.64/12%	F	14,39
Paris - Lille	195.73/50%	C/D	23,03
Price list	391.46		18,71

Source: SNCF Réseau

Table 58 - Example of how the market charge is determined for a domestic TGV train passing through several segments (Paris - Lyon - Marseille)

Origin - Destination	LGV distance (skm)	Segment	LGV price (€2025 excl. VAT/skm)
Paris- Lyon	400.86/29%	A	33,16
Lyon - Marseille	292.08/21%	F	14,39
Paris - Marseille	692.94/50%	C/D	23,03
Price list	1,385.88		24,14

Source: SNCF Réseau

In addition, for trains running on international segments:

- The pricing applicable to an international train path without domestic stops is the RM LGV for the international train path;
- The pricing applicable to international train paths with domestic stops take account of both the domestic and international markets concerned, in proportion to the high-speed line lengths of each unit train path, using the method previously mentioned for domestic train paths.

Thus a Paris-Lyon Part Dieu-Chambéry-Milan train, since it has a commercial stop in Lyon, will be charged in proportion to the unit train paths under the RM LGV segment A price (Paris-Lyon on the Paris-Lyon high-speed line) and of the Italy Radial, whereas a Paris-Chambéry-Milan train will be charged at the average rate of segment C (current Alps Radial) and of the Italy Radial.

Table 59 - Example of how the market charge is determined for an international TGV train passing through several segments (Paris - Lyon Part Dieu - Chambéry - Milan)

Origin - Destination	LGV distance (skm)	Segment	LGV price (€2027 excl. VAT/skm)
Paris – Lyon Part-Dieu	400.86/50%	A	33,16
Lyon Part-Dieu - Chambéry	0/0%	F	14,39
Chambéry - Modane (PF)	0/0%	International inter-sector – type 1	14,39
Paris – Modane (PF)	400.86/50%	International radial – group 2	22,69
Price list	801.72		27,93

Source: SNCF Réseau

Table 60 - Example of how the market charge is determined for an international TGV train passing through several segments (Paris - Chambéry - Milan)

Origin - Destination	LGV distance (skm)	Segment	LGV price (€2027 excl. VAT/skm)
Paris - Chambéry	437.01/50%	C/D	23,03
Chambéry - Modane (PF)	0/0%	International inter-sector – type 1	14,39
Paris – Modane (PF)	437.01/50%	International radial – group 2	22,69
Price list	874.02		22,86

Source: SNCF Réseau

A Paris – Dijon – Mulhouse – Zurich train will be charged according to the weight in relation to the unit length of each train path between the Paris-Mulhouse high-speed line market charge (segment E, formerly BFC Radial) and the Mulhouse-Basel high-speed line market charge (type 1 international inter-sector) and the Paris-Zurich high-speed line market charge (Switzerland Radial)

Table 61 - Example of how the market charge is determined for an international TGV train passing through several segments (Paris - Dijon - Mulhouse - Zurich)

Origin - Destination	LGV distance (skm)	Segment	LGV price (€2027 excl. VAT/skm)
Paris – Mulhouse	320.30/50%	E	14,39
Mulhouse – Basel (PF)	0/0%	International inter-sector – type 1	14,39
Paris – Basel (PF)	320.30/50%	International radial – group 1	21,47
Price list	640.60		17,93

Source: SNCF Réseau

By way of example, the scale of charges applicable to international train paths with domestic stops in € 2026, according to the applicable 2026 pricing, is as follows, for the train paths concerned:

Table 62 - Example of a market charge applicable to composite train paths and certain international train paths with domestic stops for the 2026 timetable

Market charge (RM)		
PKM (€ ex. VAT per train path-km)	On Conventional Line (LC)	On High-Speed Line (LGV)
Multi-segment Paris-Arras-Lille	4,00	18,71
Multi-segment Paris-Lyon-Aix-en-Provence-TGV	4,00	24,22
Multi-segment Paris-Lyon-Alpes	4,00	28,10
Multi-segment Paris-Lyon-Marseille and beyond	4,00	24,14
Multi-segment Paris-Lyon-Miramas	4,00	26,59
Multi-segment Paris-Lyon-Nîmes and beyond	4,00	24,75
Belgium, Netherlands and Germany Radial via North Corridor with domestic stop	4,00	21,94
Spain Radial with domestic stop	4,00	22,86
Great Britain Radial with stop in Calais	4,00	22,24
Great Britain Radial with stop in Lille	4,00	19,76
Italy Radial with Alps domestic stop	4,00	22,86
Italy Radial with stop in Lyon	4,00	27,93
Luxembourg and Germany Radial via East Corridor with domestic stop	4,00	22,25
Switzerland Radial - Others with domestic stop	4,00	17,93
Switzerland Radial - Geneva with domestic stop	4,00	22,25
International Inter-sector - type 1 with domestic stop	4,00	14,39
International Inter-sector - type 2 Spain with domestic stop	4,00	11,10
International Inter-sector London-Bourg-St-Maurice with stop in Lille	4,00	10,66
International Inter-sector London-Brussels with stop in Lille	4,00	8,26
International Inter-sector London-Brussels with stops in Lille and Calais	4,00	11,10
International Inter-sector London-Marne la Vallée-Chessy international with stop in Lille	4,00	10,07
International Inter-sector London-Marseille with stop in Lille	4,00	10,78

Source: SNCF Réseau

N.B.: The prices are likely to be supplemented when new train movements, as yet unknown, are implemented.

3.3.3.2.7. The procedures for implementing the market charge applicable to for non-contracted passenger transport activities other than TAGVs

Other non-contracted trains are broken down into 5 segments:

- **Non-high speed day trains:** a non-high speed day train is a train travelling during the day on a conventional line, on commercial and non-commercial train paths departing from and/or arriving in France. By default, any non-contracted and non-high-speed train will be considered as a "day train" if the conditions are not fulfilled to classify it as a "night train", "auto-train", "historical and tourist train", or "trial train".

To take into account the specific nature of daytime trains that are not suitable for high speed, the mark up is set at a level 70% lower than that applied to high-speed trains running on conventional lines.

- **Non-high speed night trains:** a night train is a train travelling at night on a conventional line, with the following characteristics:
 - the train is either fully or partially composed of passenger cars equipped with bunk beds or reclining seats;
 - the commercial train travels for more than 5.5 hours during the night (at least between 11:30 pm on day D and 5am on D+1, French time zone, and considering the whole journey for international trains);
 - the scope concerned is commercial train paths departing from and/or arriving in France.

Night trains represent an even more fragile market than day trains: they are therefore not subject to a mark-up.

- **Automobile transport (auto-trains):** an auto-train is a train enabling passengers to transport their vehicles (cars and motorbikes) between two stations of the rail network, generally at night, on both commercial and non-commercial train paths, departing from and/or arriving in France.

Auto-trains are a market for which the CDI is similar to that of freight trains: they are therefore not subject to a mark-up.

- **Historic and tourist trains:** a historic and tourist train is a train travelling on line sections dedicated to historic or tourist trains and governed by special rules as regards safety, through an agreement concluded with SNCF Réseau. The purpose of this type of train is not to provide a regular passenger transport service, but to offer passengers a heritage and leisure visit. The train must be composed of historic and tourist rolling stock only (steam engines, former public service engines, old railcars, old cars or wagons) that cannot exceed a speed of 50 km/h.

Historical and tourist trains, a fragile segment, often run by associations, are not subject to a mark-up.

- **Test trains:** test trains ensure movements to conduct technical tests on the rolling stock before its approval.

Test trains, a segment deemed sustainable (testing agencies invoice the cost of tolls to their customers), have a mark-up level set to the same level as high-speed trains on conventional lines and a high-speed market charge that follows the tariff adjustment mechanism set out in point 4.

The unit market charge for the 2027 timetable calculated based on the principles detailed above and applied to non-contracted passenger transport activities other than TAGV activities is detailed in the table below.

Table 63 - Market charge scales applicable to non-contracted and non-high speed passenger transport activities for the 2026 timetable

Market Charge (RM) for other the non-contracted passenger trains			
<i>RM for each SEL = Price per km x length of the SEL</i>			
Price per km (€ ex. VAT per train path-km)		On Conventional Line (LC)	On High-Speed Line (LGV)
Other non-contracted passenger trains	Trains not capable of daytime high speeds	4,00	-
	Trains not capable of night-time high speeds	-	-
	Auto-train	-	-
	Historical and tourist trains	-	-
	Test trains	4,00	14,90

Source: SNCF Réseau

N.B.: Capacity bookings (train-path kilometres) not recorded by the information systems are invoiced at a flat rate of €4.21 (excluding VAT) per train-path kilometre for passenger services.

3.3.3.2.8. Overview of the income form the market charge applicable to non-contracted passenger transport activities

SNCF Réseau evaluated the market charge income attributable to non-contracted passenger transport activities, over the 2023-2026 period (4). based on the traffic estimates it has available to date.

Table 64 - Income received via the RM for non-contracted activities (€M)

	2023 ⁴⁴	2024	2025	2026
Non-contracted passenger services	1 666	2 281	2 354	2 387

Source: SNCF Réseau

3.3.4. Access Charge (RA)

For contracted activities, SNCF Réseau collects an access charge (RA) which contributes to the objective of covering the total cost borne by SNCF Réseau in addition to other income collected for minimum services. The access charge is paid by the State for activities contracted by AOMs, excluding Ile-de-France Mobilités, and by Ile-de-France Mobilités for its contracted activity.

The access charge amount for activities contracted by AOMs apart from Ile-de-France Mobilités was estimated in 2007 at the time of the IGF-CGPC report on national rail network charging in preparation for the 2010 charging reform (see part 2, § 1.2 of the report). The fixed maintenance, operation and renewal costs amount was calculated from the difference between the total cost and their variable costs (product of the traffic and marginal costs of each of the activities) for each line category. The fixed costs are divided between the activities in proportion to the number of trains. For each region, the RA for each market segment was calculated in order to match the sum of fixed costs corresponding to the activity contracted by the AOM, excluding from Ile-de-France Mobilités, on the corresponding network.

The access charge for the State AOM was estimated in 2011 for the 2012 Network Statement. It was calculated according to the same principles as the RA related to the activities contracted by the AOMs, excluding Ile-de-France Mobilités: it reflects the fixed costs of the State AOM activity.

Since 2017, the State AOM line transfers were operated to the regional AOMs.

These transfers took place until 2020, and in order to take into account this major shift of activity from the State AOM to the regional AOMs, the RA amounts were revised for the 2020 timetable. As a result, €247 million was deducted from the State AOM RA and broken down into each AOM in proportion to the train-km transferred to each region.

During the 2021-2023 pricing cycle, the RA breakdown for activities contracted by the AOMs, excluding Ile-de-France Mobilités, paid in full by the State, was updated to ensure uniform coverage of the full costs allocated per AOM in 2021.

As part of the pricing applicable for the 2021-2023 pricing cycle, the RA breakdown for activities contracted by the AOMs, excluding Ile-de-France Mobilités, paid in full by the State, was updated in accordance with the new method for allocating costs per activity to ensure uniform coverage of the full costs allocated per AOM in 2021.

⁴⁴ Source : contrat de performance.

For the years 2022 and 2023, the RA for AOMs outside the Ile-de-France Mobilités area is indexed in accordance with the indexation rates approved by the ART (Opinion No. 2020-016 of 6 February 2020), namely +3.2% for 2022 and +3.4% for 2023.

The 2022 and 2023 RA for the Ile-de-France Mobilités AOM have been set in accordance with the provisional HICP indexation published by the Banque de France in June 2021 and the inflation surcharge defined within the framework of the 2021/2023 tariff cycle, i.e. an indexation of +2.2% for 2022 and +2.4% for 2023.

As part of the pricing applicable for the 2024/2026 tariff cycle, the allocation of the 2024 RA for contracted activities among the AOMs excluding Ile-de-France Mobilités, funded in full by the State, has been updated in accordance with the new method of allocating costs by activity to ensure uniform coverage of full costs in 2024 allocated by AOM ⁴⁵.

The 2025 and 2026 RA allocations are indexed in accordance with the fare adjustment mechanism described in section 4.

In the table below, SNCF Réseau evaluated the access charge income attributable to contracted passenger transport activities per region, over the 2023-2026 period.

Table 65 - Income received via the RA for contracted activities (€M)

	2023 ⁴⁶	2024	2025	
Contracted passenger services	2 266	2 443	2 589	2 695
Per AOM:				
Ile-de-France Mobilités	168	181	192	200
State TET	464	441	468	487
Auvergne Rhône-Alpes	208	254	270	281
Bourgogne-Franche-Comté	158	158	168	174
Brittany	103	122	129	135
Centre-Val de Loire	96	98	103	108
Grand-Est	266	260	275	287
Hauts-de-France	157	171	181	189
Normandy	55	76	81	84
Nouvelle-Aquitaine	248	288	306	318
Occitanie	181	211	223	232
Pays de la Loire	90	96	102	106
Provence Alpes Côte-d'Azur	72	86	92	95

Source: SNCF Réseau

⁴⁵ As the ART has issued an unqualified approval of the access charge amounts set out in Annex 5.2, the level of these charges has been validated by the ART. SNCF Réseau therefore considers that it is not possible to amend these amounts, despite the changes to the market charge following the qualified approval

⁴⁶ Source : contrat de performance.

3.4. Other fees

3.4.1. Congestion charge (RS)

The congestion charge will not apply during the 2024, 2025 and 2026 timetables.

3.4.2. Special Charges

The additional charges for the use of the infrastructures referred to above are specifically set out to take account of the investment costs incurred by SNCF Réseau or the loss (maintenance, operating) connected with these projects. The charges change in line with the indexation of tolls (according to the multi-year arrangement defined in paragraph 3).

3.4.3. Charges for the use of the 'Montérolier-Buchy-Motteville' section by freight trains

The Montérolier-Buchy-Motteville toll forms part of a strategic policy aimed at improving access to the Port of Le Havre (Port 2000), in particular through the modernisation of the section in question, which provides an alternative route bypassing the congested Rouen junction.

To enable SNCF Réseau to meet its financial commitment, estimated at €9.918 million in current prices, a specific charge on the Montérolier-Buchy-Motteville section was introduced in 2007 and will cease to apply from the 2027 NS.

3.4.4. Charges for use of freight trains and trains on the piggyback corridor through the Alps (AFA) on the line "Saint-Pierre-d'Albigny – Modane Frontière"

These charges were introduced to cover the financing provided by SNCF Réseau to implement:

- The facilities on the 'Saint-Pierre-d'Albigny – Modane Frontière' section (freight trains): this was introduced in 2008 and will cease to apply as of the 2028 timetable;
- Modernisation work on the Mont-Cenis (or 'Fréjus') tunnel and the conversion to gauge GB1 and work to improve security between Ambérieu and the French-Italian border (Modane) for trains on the piggyback corridor: this was introduced in 2012 and will cease to apply as of the 2032 timetable.

The aim of this work is to develop cross-border traffic of freight transport.

The financial contribution made by SNCF Réseau in 2004 provided additional financing via a special charge based on the traffic level of the benefiting activities, with a distinction between freight and piggyback corridors.

In 2004, these charges were configured to produce the SNCF Réseau contribution of € 5.409 M current value.

3.4.5. Charge for use of the short link line at Mulhouse

The short link line at Mulhouse is an investment that avoids the need for direct trains capable of high speeds that are travelling from and to northern Alsace to double back in Mulhouse station or to use the Mulhouse-Nord marshalling yard bypass. It allows trains capable of high speeds to gain around 10 minutes and was introduced from the 2012 timetable.

This special charge (applied per train path) covers the SNCF Réseau contribution of €5.1 M current value within this project and will cease to apply as of the 2032 timetable.

3.4.6. Special charge related to the CEVA project

The Cornavin-Eaux Vives-Annemasse rail link project was commissioned at the start of the 2020 timetable. It is designed to offer passengers access to "Greater Geneva" via the Lemman Express, with 2 km of new line in France between Annemasse and Geneva.

This charge is designed to cover the SNCF Réseau share of €35 M within the overall investment of €244 M excluding VAT, and is fixed for a period of 20 years from the end of the works. It started with the 2020 timetable and will cease to apply as of the 2040 timetable.

3.4.7. Special charge related to the Serqueux-Gisors modernisation project The

Serqueux Gisors modernisation project was also commissioned during the first half of 2021. The plan is to create a new freight route to strengthen the rail service to the port of Le Havre and to offer additional capacity for freight trains between the Normandy ports and the Paris region. This charge is designed to cover SNCF Réseau's maintenance and operating loss linked to the investment of €264.9 M excluding VAT, and is fixed for period of 20 years from the end of the works. It will cease to apply as of the 2041 timetable.

3.4.8. Special charge connected with the LGV+ Paris-Lyon project

The LGV+ Paris-Lyon project seeks to implement the European interoperation system entitled ERTMS and to modernise the signalling installations on the LGV (high-speed line). Its purpose is to bolster the frequency of trains through a range of technological innovations.

This charge is designed to cover SNCF Réseau's financing of €194 M out of the overall investment of €820 M excluding VAT, and is fixed for a period of 25 years from the end of the works. It will start with the 2023 timetable and will cease to apply as of the 2048 timetable.

3.4.9. Summary of special charges

For each of the charges defined above, the amount of the investment made by SNCF Réseau and covered by the special charge, and the period of application for the charge are detailed below:

Table 66 - Overview table of special charges

Special charges	Amount of investment to be borne by SNCF Réseau <i>In current €M</i>	Duration of collection	First year of collection	Last year (last timetable) of collection
Charges for the use of the « Montérolier-Buchy-Motteville » freight line	9,9 M€	20 ans	2007	2026
Charges for use of freight trains on the "Saint-Pierre-d'Albigny – Modane Frontière" line	5,4 M€	20 ans	2008	2027
Charges for use of trains of the piggyback corridor through the Alps (AFA) on the "Saint-Pierre-d'Albigny – Modane Frontière" line			2012	2031
Charge for use of the short link line at Mulhouse	5,1 M€	20 ans	2012	2031
Special charge related to the CEVA project	35 M€	20 ans	2020	2039
Special charge related to the Serqueux-Gisors modernisation project	0 M€ (*)	20 ans	2021	2040
Special charge connected with the LGV+ Paris-Lyon project	194 M€	25 ans	2023	2047

Source: SNCF Réseau

() For this project, the special charge covers the maintenance and operating loss.*

3.5. Summary of the income received by SNCF Réseau from all charges per activity

The total income for minimum services collected by SNCF Réseau via all the charges per activity and region is summarised in the following table:

Table 67 - Income from minimum service charges per activity and region (€M)

	2023 ⁴⁷	2024	2025	2026
Non-contracted passenger services	2 177	2 609	2 693	2 731
Freight services	243	286	301	300
Contracted passenger services	3 936	4 268	4 552	4 761
Per AOM:				
Ile-de-France Mobilités	754	856	916	954
State TET	561	542	575	603
Auvergne Rhône-Alpes	379	430	456	475
Bourgogne-Franche-Comté	236	237	251	261
Brittany	136	156	166	173
Centre-Val de Loire	176	181	192	201
Grand-Est	417	430	459	481
Hauts-de-France	300	310	330	344
Normandy	139	170	179	187
Nouvelle-Aquitaine	317	371	394	410
Occitanie	247	287	307	323
Pays de la Loire	138	150	160	170
Provence Alpes Côte-d'Azur	137	149	165	177

Source: SNCF Réseau

NB: For 2028 and 2029, the income amounts shown in the table above are projections calculated on the basis of the latest known HICP estimates, as the final data for 2025 and 2026 are not yet available, nor are the estimates for 2028 and 2029. Income figures will be refined once all the charge indexation parameters are known.

⁴⁷ Source : contrat de performance.

4. Change procedures for minimum service charges

After recalling the principles governing changes in minimum service charges (section 4.1), a summary of the changes planned between 2023 and 2024 (section 4.2) and between the successive years making up the 2024-2026 pricing cycle (section 4.3) is presented.

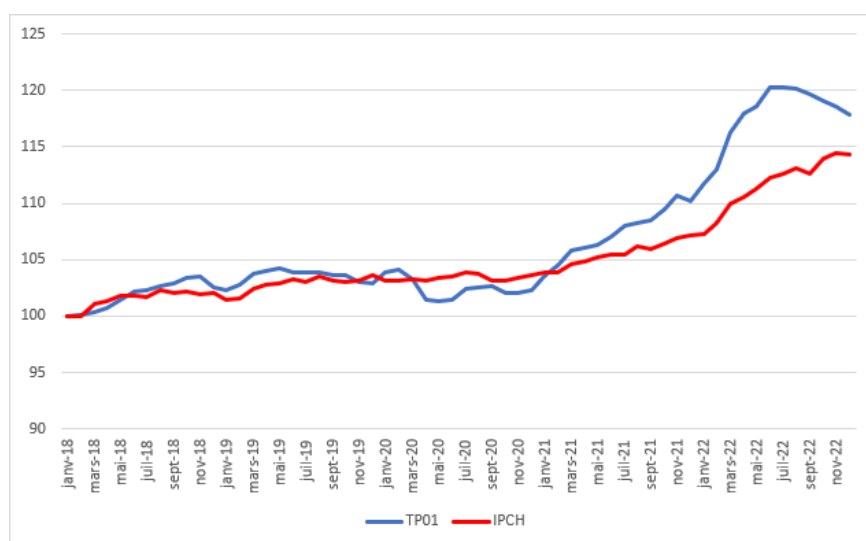
4.1. Change procedures for minimum service charges

The multi-year pricing will satisfy the market's need for predictable tolls and pricing stability. SNCF Réseau thus proposes to maintain the charging structure proposed in the 2024 timetable over the pricing cycle concerned and develop charges according to known indexes.

For non-contracted freight and passenger activities, as well as specific charges, SNCF Réseau offers a mechanism for adjusting the minimum service charges based on two components:

- **A provisional inflation component reflected by the harmonised consumer price index (HCPI)** published by the Banque de France in September 2022 for the 2024 timetable (which is set to +2.7%), and in June Y-1, under the forecast inflation increase for year Y for the 2025 (which is set to +1.7%), and 2026 (which is set to +1.4%), timetables;
- A fixed component designed to accelerate the recovery of the network's full costs. There are two economic reasons for including a fixed component in addition to the HICP when indexing charges.

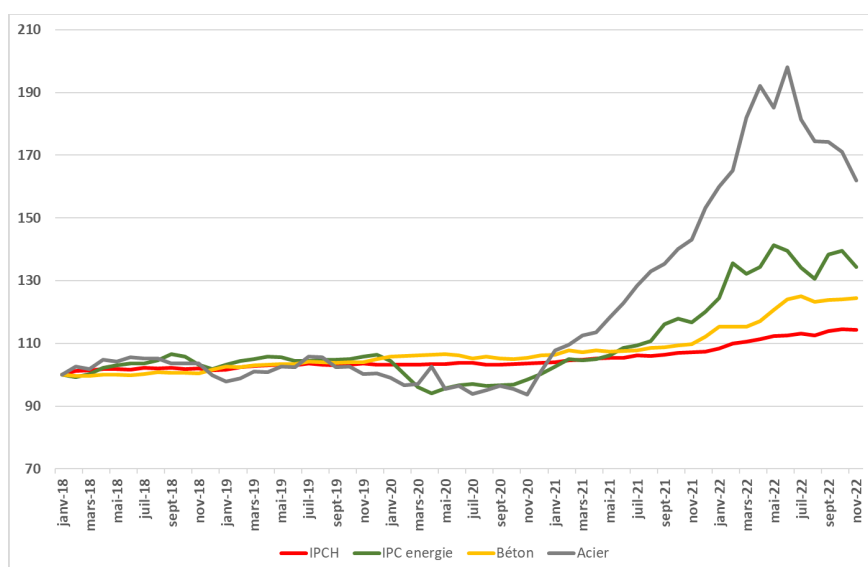
- *Figure 5 – Changes in the TP01 index and the HICP (base 100 in January 2018)*



Source : SNCF Réseau based on INSEE data. Furthermore,

SNCF Réseau's costs may also be influenced by the prices of supplies and various materials (concrete, steel, etc.), which account for a significant proportion of SNCF Réseau's network costs. Figure 10 shows that the rise in the raw materials price index was also higher than the HICP between 2021 and the end of 2022.

Figure 6 – Changes in raw material prices (CPI for energy, concrete and steel) and the HICP (base 100 in January 2018)



Source : SNCF Réseau based on INSEE data

Consequently, the fixed component added to the HICP also serves to account for these differences in growth between the HICP on the one hand and other relevant indices (public works, raw materials, etc.) on the other.

The fixed component applicable to the 2024–2026 tariff cycle is set out, for each activity, in Table 68 below.

Table 28 – The annual fixed rate applied by SNCF Réseau to determine the annual increase in minimum service charges

Segment	TT 2024	TT 2025	TT 2026
Contracted passenger services	+5.3%	+4.3%	+3.1%
Non contracted passenger services	+4.9%	+0.8%	/
Freight Services	/	/	/

- An adjustment to account for the inflation differential – whether upward or downward – between the forecast inflation rate incorporated into the fare scales and the actual inflation rate recorded over the 2024–2026 period, applicable to all services (contracted passenger services / non-contracted passenger services / freight). Thus, the inflation gap observed in the 2024 timetable will be reflected in the 2026 TT tariffs (which stands at -0.40%). The inflation differentials observed in the 2025 and 2026 timetable, meanwhile, will be reflected in the subsequent tariff cycle for 2027–2029.

4.2. Changes in charges between 2023 and 2024

The table below sets out the changes in charges between the 2023 and 2024 timetables:

Table 69 - Terms for indexation of charges between the 2023 and 2024 timetables

Type of charge	Non-contracted passenger activities	Contracted passenger activities	Freight activities
Running charge (RC)	Indices specific to CDI (see section 2.2.2.2), including HICP 2024 Banque de France June 2025		<p>Gross RC: indices specific to the CDI, including HICP 2024 Banque de France September 2022</p> <p>Net RC: HICP 2024 Banque de France September 2022</p>
Electric traction charge (RCE)	Indices specific to CDI (see section 2.2.2.4), including HICP Banque de France September 2022		
Charge for transmission and distribution of electric power (RCTE- component A)	According to the electricity purchase price and loss factor		
Market charge (RM)	RM+RC+RCE are changing to: HICP 2024 Banque de France september 2022 + 4,9%	RM+RC+RCE are changing to: Banque de France september 2022 + 5.3%	Not applicable
Access charge (RA)	Not applicable	IPCH 2024 Banque de France september 2022 + 5.3%	Not applicable
Special charges (RP)	HICP 2024 Banque de France September 2022		
Congestion charge (RS)	Not applicable		

Source: SNCF Réseau

4.3. Changes in charges for the 2024-2026 period

Table 70 and Table 71 set out the changes in charges between the 2024-2025 timetables and the 2025-2026 timetables, respectively:

Table 70 - Change in charges between the 2027 and 2028 timetables

Type of charge	Non-contracted passenger activities	Contracted passenger activities	Freight activities
Running charge (RC)	Indices specific to CDI (see section 2.2.2.2), including HICP 2025 Banque de France June 2024		Gross RC: indices specific to the CDI, including HICP 2025 Banque de France June 2024 Net RC: 2025 HICP Banque de France June 2024
Electric traction charge (RCE)	Indices specific to CDI (see section 2.2.2.4), including HICP 2025 Banque de France June 2024		
Charge for the transmission and distribution of electric power (RCTE - component A)	According to the electricity purchase price and loss factor		
Market charge (RM)	RM+RC+RCE are changing to: 2025 HICP Banque de France June 2024 + 0,8%	RM+RC+RCE are changing to: ICPH 2025 Banque de France June 2024 + 4,3%	Not applicable
Access charge (RA)	Not applicable	ICPH 2025 Banque de France June 2024 + 4,3%	Not applicable
Special charges (RP)	ICPH Banque de France June 2024		
Congestion charge (RS)	Not applicable		

Source: SNCF Réseau

Table 71 - Terms for changes in charges between the 2025 and 2026 timetables

Type of charge	Non-contracted passenger activities	Contracted passenger activities	Freight activities
Running charge (RC)	Indices specific to CDI (see section 2.2.2.2), including HICP 2026 Banque de France June 2025		<p>Gross RC: indices specific to the CDI, including HICP 2026 Banque de France June 2025</p> <p>Net RC: HICP 2029 Banque de France June 2028 + 2027 inflation differential adjustment</p>
Electric traction charge (RCE)	Indices specific to CDI (see section 2.2.2.4), including HICP 2026 Banque de France June 2025		
Charge for the transmission and distribution of electric power (RCTE - component A)	According to the electricity purchase price and loss factor		
Market charge (RM)	RM+RC+RCE are changing to: HICP 2026 Banque de France June 2025 + inflation differential adjustment	RM+RC+RCE are changing to: 3.1% + 2024 inflation adjustment	Not applicable
Access charge (RA)	Not applicable	3.6%	Not applicable
Special charges (RP)	HICP 2026 Banque de France June 2025 + 2024 inflation differential adjustment		
Congestion charge (RS)	Not applicable		

Source: SNCF Réseau

5. Sustainability of charges

SNCF Réseau may apply price mark-ups to certain market segments *"when the market allows it"*. It must then take account *"of the sustainability of charges on the market segment in question, as well as the economic value of using the national rail network for the infrastructure capacity provider, while respecting the productivity gains made by railway undertakings"*.

SNCF Réseau will provide a set of information on its full cost coverage rate and will show that, on the scale of all transport activities, the charges do not exceed the total amount of full costs (section 5.1). SNCF Réseau will also ensure that the charges paid for contracted passenger transport activities (section 5.2) and for non-contracted passenger transport activities (section 5.3) are sustainable.

5.1. Full cost coverage rate for all rail transport activities

On the scale of all transport activities, it is important to check that the charges paid do not exceed the full cost. To this end, the overall cover rate is calculated. This represents the proportion of the total cost covered by the collection of charges.

$$\text{Coverage rate} = \frac{\text{Total of charges}}{\text{Total cost}}$$

This rate is one of the contractual indicators set out in the 2021-2030 performance contract signed between the State and SNCF Réseau. It is defined as follows: " *The coverage rate assessment takes into account all of SNCF Réseau's resources (subsidies and income from infrastructure charges) in order to reflect as faithfully as possible the financial balance for the management of the existing network*".

For the 2024-2026 period, the coverage rates per activity and overall are presented in the following table.

Table 29 - Cost coverage by income from charges for all rail activities

Activity	Item	2024	2025	2026
Contracted passenger	Income	4 268 M€	4 552 M€	4 761 M€
	Costs	5 349 M€	5 335 M€	5 403 M€
	Coverage rate	80%	85%	88%
Non-contracted passenger	Income	2 609 M€	2 693 M€	2 731 M€
	Costs	2 247 M€	2 214 M€	2 209 M€
	Coverage rate	116%	122%	124%
Freight	Income	286 M€	301 M€	300 M€
	Costs	1 208 M€	1 215 M€	1 226 M€
	Coverage rate	24%	25%	24%
TOTAL minimum services	Income	7 166 M€	7 548 M€	7 794 M€
	Costs	8 805 M€	8 765 M€	8 838 M€
	Coverage rate	81%	86%	88%

Source: SNCF Réseau

For all rail activities, SNCF Réseau's forecast cost coverage rate is 81% in 2024, 86% in 2025 and 88% in 2026: **on the scale of all activities, charges do not exceed the full cost.**

5.2. Sustainability of contracted passenger transport activities

The binomial pricing structure proposed by SNCF Réseau promotes optimal use of the network. On the one hand, the flat-rate component (via the RM) of the charges makes it possible to maximise the traffic volume on the network, while encouraging AOMs to really provide users with the rail transport services to which they have committed themselves, and makes it possible to integrate the investment issues linked to the modernisation of SNCF Réseau's network more effectively. On the other hand, the variable component based on the directly chargeable cost makes it possible to send an optimum price signal to the railway undertakings.

Under the terms of Article L2111-25 of the Transport Code, the sustainability of the charges paid by the contracted activities is assessed according to two criteria:

- The level of charges does not exceed the full costs attributable to each AOM (5.2.1)
- The level of charges must guarantee the economic equilibrium of the railway undertakings responsible for providing the rail transport services covered by the public service contract, taking into account the public service compensation paid by the AOMs (5.2.2).

5.2.1. Charges for each AOM must not exceed full cost coverage

As detailed in point 2.1, SNCF Réseau calculates the full cost of each of its activities and determines the total cost of minimum services per AOM for the contracted activities.

The coverage rate for this full cost by the charges for each activity and each AOM is then calculated.

For the record, the coverage rate corresponds to the proportion of total costs (fixed and variable) covered by the income, within the scope of minimum services. It is determined for each AOM by calculating the following ratio:

$$\text{Coverage rate of the AOM} = \frac{\text{Fees paid by the AOM and the State}}{\text{total cost attributable to the AOM}}$$

Details of the full cost coverage rates per AOM for the contracted passenger services excluding access charge are shown in the table below. This corresponds to the coverage of full costs by income collected from AOMs:

Table 30 - Coverage of costs by income from charges other than RA on the scale of all rail activities

Transport Organising Authority	Item	2024	2025	2026
Auvergne-Rhône-Alpes	Income	176 M€	187 M€	194 M€
	Costs	530 M€	527 M€	533 M€
	Coverage rate	33%	35%	36%
Bourgogne-Franche-Comté	Income	79 M€	84 M€	86 M€
	Costs	292 M€	291 M€	295 M€
	Coverage rate	27%	29%	29%
Brittany	Income	34 M€	37 M€	38 M€
	Costs	192 M€	190 M€	192 M€
	Coverage rate	18%	19%	20%
Centre-Val de Loire	Income	84 M€	89 M€	94 M€
	Costs	223 M€	223 M€	226 M€
	Coverage rate	38%	40%	41%
Grand-Est	Income	170 M€	184 M€	195 M€
	Costs	529 M€	528 M€	535 M€
	Coverage rate	32%	35%	36%
Hauts-de-France	Income	139 M€	149 M€	155 M€
	Costs	381 M€	381 M€	386 M€
	Coverage rate	36%	39%	40%
Normandy	Income	93 M€	98 M€	103 M€
	Costs	210 M€	209 M€	211 M€
	Coverage rate	44%	47%	49%
Nouvelle-Aquitaine	Income	82 M€	88 M€	92 M€
	Costs	456 M€	452 M€	454 M€
	Coverage rate	18%	19%	20%
Occitanie	Income	77 M€	84 M€	91 M€

	Costs	354 M€	352 M€	355 M€
	Coverage rate	22%	24%	26%
Pays de la Loire	Income	54 M€	59 M€	64 M€
	Costs	185 M€	185 M€	188 M€
	Coverage rate	29%	32%	34%
Provence-Alpes-Côte d'Azur	Income	62 M€	74 M€	82 M€
	Costs	183 M€	186 M€	191 M€
	Coverage rate	34%	40%	43%
Ile-de-France Mobilités	Income	674 M€	724 M€	754 M€
	Costs	1 147 M€	1 148 M€	1 162 M€
	Coverage rate	59%	63%	65%
State	Income	101 M€	108 M€	116 M€
	Costs	668 M€	663 M€	674 M€
	Coverage rate	15%	16%	17%
TOTAL	Income	1 825 M€	1 963 M€	2 065 M€
	Costs	5 349 M€	5 335 M€	5 403 M€
	Coverage rate	34%	37%	38%

Source: SNCF Réseau

This analysis shows that, with the exception of RA (paid for by the State in all regions except Ile-de-France), the total income received from AOMs is less than the full costs attributable to the AOM in all regions, for the entire period of the 2024-2026 pricing cycle. On average, charges excluding RA cover 34%, 37% and 38% of the full cost attributable to contracted passenger transport activities in 2024, 2025 and 2026 respectively.

Details of the full cost coverage rates per AOM for the contracted passenger services **including access charge** are shown in the table 74 below.

Table 74- Coverage of costs by income from charges with RA included on the scale of all rail activities

Transport Organising Authority	Item	2024	2025	2026
Auvergne-Rhône-Alpes	Income	430 M€	456 M€	475 M€
	Costs	530 M€	527 M€	533 M€
	Coverage rate	81%	87%	89%
Bourgogne-Franche-Comté	Income	237 M€	251 M€	261 M€
	Costs	292 M€	291 M€	295 M€
	Coverage rate	81%	86%	88%
Brittany	Income	156 M€	166 M€	173 M€
	Costs	192 M€	190 M€	192 M€
	Coverage rate	81%	87%	90%
Centre-Val de Loire	Income	181 M€	192 M€	201 M€
	Costs	223 M€	223 M€	226 M€
	Coverage rate	81%	86%	89%
Grand-Est	Income	430 M€	459 M€	481 M€

	Costs	529 M€	528 M€	535 M€
	Coverage rate	81%	87%	90%
Hauts-de-France	Income	310 M€	330 M€	344 M€
	Costs	381 M€	381 M€	386 M€
	Coverage rate	81%	87%	89%
Normandy	Income	170 M€	179 M€	187 M€
	Costs	210 M€	209 M€	211 M€
	Coverage rate	81%	86%	89%
Nouvelle-Aquitaine	Income	371 M€	394 M€	410 M€
	Costs	456 M€	452 M€	454 M€
	Coverage rate	81%	87%	90%
Occitanie	Income	287 M€	307 M€	323 M€
	Costs	354 M€	352 M€	355 M€
	Coverage rate	81%	87%	91%
Pays de la Loire	Income	150 M€	160 M€	170 M€
	Costs	185 M€	185 M€	188 M€
	Coverage rate	81%	87%	90%
Provence-Alpes-Côte d'Azur	Income	149 M€	165 M€	177 M€
	Costs	183 M€	186 M€	191 M€
	Coverage rate	81%	89%	93%
Ile-de-France Mobilités	Income	856 M€	916 M€	954 M€
	Costs	1 147 M€	1 148 M€	1 162 M€
	Coverage rate	75%	80%	82%
State	Income	542 M€	575 M€	603 M€
	Costs	668 M€	663 M€	674 M€
	Coverage rate	81%	87%	89%
TOTAL	Income	4 268 M€	4 552 M€	4 761 M€
	Costs	5 349 M€	5 335 M€	5 403 M€
	Coverage rate	80%	85%	88%

Source: SNCF Réseau

Taking the RA into account, the above analysis shows that the sum of revenues received from AOMs remains lower than the full costs attributable to the AOM in all regions, over the entire period of the 2024-2026 pricing cycle. On average, the fees will cover 80%, 85% and 88% of the full cost attributable to contracted passenger transport services in 2024, 2025 and 2026 respectively.

With regard to the contracted activity, it is therefore well established that, for each AOM, income will not cover total costs over the period 2024-2026.

5.2.2. Effects of the market charge on the economic equilibrium of railway undertakings and on the offer level

The second criterion analysed to assess the sustainability of minimum service charges is that of guaranteeing **the economic equilibrium of the railway undertakings** responsible for providing the rail transport services covered by the public service contract, taking into account the public service compensation paid by the AOMs

The State Council clarified this criterion by stating that " *the mark-up amounts must not call into question the economic equilibrium of the public service contracts for the market segment in question, by imposing on railway undertakings mark-ups that they cannot bear or, in the case of compensation or payment of charges by the organising authorities, by setting mark-ups at a level likely to lead them to take measures that could significantly affect the use of the infrastructure on this segment*"⁴⁸.

Firstly, in the context of regulated passenger transport services, the financial viability of railway undertakings is necessarily safeguarded by the mechanism whereby these undertakings pass on the charges on a one-to-one basis to the AOMs.

With regard to the level of services offered by the AOMs, the table 75 below shows the traffic estimates used for each AOM and the changes in services planned (in train-kilometres) by the AOMs for the period 2024-2026 (cf Table 33).

Table 75 - Annual change in the AOM train path-km offer over the 2023-2026 period

Mobility Organising Authority	Change in volumes of train-km		
	2023/2024	2024/2025	2025/2026
Auvergne-Rhône-Alpes	1,30%	0,00%	0,00%
Bourgogne-Franche-Comté	3,80%	0,00%	-0,80%*
Bretagne	1,30%	3,20%	0,00%
Centre-Val de Loire	0,30%	0,00%	1,50%
Grand Est	1,20%	1,50%	1,00%
Hauts-de-France	0,00%	1,40%	0,00%
Normandie	6,20%	-1,0%*	0,60%
Nouvelle-Aquitaine	6,90%	0,00%	0,00%
Occitanie	1,60%	2,90%	3,50%
Pays de la Loire	2,20%	2,00%	6,50%
Provence-Alpes-Côte d'Azur	0,20%	12,80%	8,50%
Ile-de-France Mobilités	2,50%	1,20%	0,22%
State – CDG Express	0,50%	0,30%	5,80%
State - TET	2023/2024	2024/2025	2025/2026

Source: SNCF Réseau

* Decline in volume due to a line transfer.

Based on the AOM traffic forecasts available to SNCF Réseau, overall the AOMs anticipate maintaining or increasing their traffic levels for an equivalent network scope by the 2024-2026 pricing cycle. Furthermore, over the entire fare cycle, passenger numbers across all AOMs have increased compared with 2023 levels. These figures demonstrate that there has been no deterioration in service provision

throughout the 2024–2026 fare cycle. In fact, there has been nothing but an increase in the number of services or, at the very least, a maintenance of service levels year-on-year, on a like-for-like network basis.

As a result, surcharges, particularly the RM, are set at a level that is sustainable for all AOMs.

5.3. Sustainability of non-contracted passenger transport activities

5.3.1. Sustainability of TAGV activities

Concerning TAGV activities the fare levels are based on the Ramsey-Boiteux economic theory to take the best possible account of users' ability to contribute to the downstream market. According to this theory, the level of tolls applied to a passenger depends negatively on their price sensitivity: the higher this sensitivity, the lower the price level should be.

In order to check the sustainability of the charging system for the different TAGV market segments for the railway undertakings or other candidates, SNCF Réseau conducts evaluations based on the economic model of a "*normative transport operator*", which is deemed to be representative of high speed transport operators on the national rail network. This model, controlled by the Transport Regulating Authority, can be used to estimate the transport operators'/candidates' profitability and therefore to ensure that they can bear the level of the charges in accordance with the provisions of Article 6 of Decree No. 97-446.

Model of a normative transport operator

The normative transport operator model incorporates different sections (model for forecasting revenue, model for estimating operating costs, impact of charges), and makes it possible to test the impact of changes in charges on the profitability of a normative transport operator. This model is broken down by market segment to correspond with the market segments defined for the application of mark-ups.

A demand forecasting model makes it possible to calculate revenue by axis in relation to macroeconomic parameters (GDP, price of oil, inflation on a national scale) combined with hypotheses concerning rail service policy (volume and price per axis).

A model for transport operator costs makes it possible to estimate the operating costs, and combined with the demand forecasting model, results in the calculation of the gross operating surplus for transport operators.

The cost items taken into account in this model are as follows (with, in brackets, the proportion of each cost item in the national average in 2027):

- traction, support and shunting (11%),
- energy (7%),
- maintenance (14%),
- on-board services (2%),
- services within stations and distribution (16%),
- structure (3%),
- and infrastructure charges (47%, including LISEA).

Their projections for the future are based on indices using the HICP.

The normative transport operator model is updated regularly to take into account changes in the macroeconomic context and competition.

In terms of control, the normative transport operator model is transmitted to the Regulator to justify the sustainability of the charging system for high-speed trains.

The sustainability of TAGV charges is monitored by ensuring that operators are able to maintain and renew their rolling stock fleets. As the Cour des Comptes (the French Court of Auditors) points out⁴⁹: " *the operating margin [...] must make it possible to absorb [...] the value of the net assets required to carry on this activity, weighted by the cost of the capital that had to be raised to finance it.* "

SNCF Réseau has therefore estimated the value of the assets required to operate high-speed trains on the national rail network. This value is then divided by the useful life of the asset to model the depreciation charges for the rolling stock. The lifespan of rolling stock is generally 30 years. To take account of the costs of mid-life operations, in particular, it is assumed that depreciation is carried out over 25 years, which is favourable to operators. For the cost of capital, an 8% CMPC rate is used. Summing up this annualised asset value and these capital costs, then dividing them by the sales observed in the context of a normative operator, gives a rate of between 10% and 12%.

The sustainability of the charges is therefore verified when the normative transport operator model results in a ratio of gross operating profit to revenue of more than 12%.

The lifespan of rolling stock is generally around thirty years, meaning renewal is planned on the long term. In this respect, a year with a deteriorating ratio would not be likely to call into question an operator's overall renewal policy for its rolling stock fleet. As a result, this rate may be lower than 12% from time to time if it is offset by higher rates in subsequent years.

For the period in question, the results of the normative transport operator model, per market segment, are presented in the table below (for confidentiality reasons, the results are given with ranges of values).

Table 76- Margin rates (EBITDA/turnover) for the different market segments making up the non-contracted passenger transport activity

EBITDA/TURNOVER	[20-25] %	[20-25] %	[25-30] %
Domestic - segment A	[20-25] %	[20-25] %	[25-30] %
Domestic - segment B	[15-20] %	[20-25] %	[20-25] %
Domestic - segment C/D	[10-15] %	[10-15] %	[10-15] %
Domestic - segment E	[10-15] %	[15-20] %	[15-20] %
International Radial - Group 1	[40-45] %	[40-45] %	[40-45] %
International Radial - Group 2	[45-50] %	[45-50] %	[50-55] %
International Inter-sector - type 1	[35-40] %	[35-40] %	[35-40] %
International Inter-sector - type 2	[40-45] %	[40-45] %	[40-45] %

Source: SNCF Réseau

For international routes, the results correspond only to the part travelled on the national rail network (and in this case, revenues and costs, excluding tolls, are allocated in *proportion to* the distance travelled on the national rail network compared with the entire journey).

Court of Auditors, 'High-speed rail: a model pushed beyond its limits', October 2014.

5.3.2. Sustainability of other non-contracted trains

Among other non-contracted trains, SNCF Réseau distinguishes the following:

-Trains deemed viable:

o Daytime trains: a segment deemed viable, with a surcharge set at the same level as TAGV trains on conventional lines;

o Test trains and AEF: a segment deemed sustainable (as the AEF passes on toll costs to its customers), with a surcharge set at the same level as day trains or at a high-speed line market rate that follows the fare trends of segment E when operating on high-speed lines;

-Trains not subject to surcharge fees and for which a sustainability analysis is not required:

o Night trains, representing a more fragile market than that of day trains, with a surcharge level of zero;

o Car trains, used to transport a vehicle, generally at night, between two stations on the rail network. This is a market for which the CDI is treated in the same way as that for freight trains and for which the surcharge level is zero;

o Heritage and tourist trains, which represent a fragile segment and are often managed by associations, have a surcharge level of zero;

o Freight trains for which no surcharge is applied.

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