APPENDIX 5.1.1

CHARGING PRINCIPLES OF MINIMUM SERVICES

CONTENTS

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 Réseau[2], within the framework set up by the State[3]. 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 infrastructure[5];
- Ensuring, within a reasonable time frame and taking into account public funding[6], that the infrastructure manager's accounts are balanced;
- Ensuring fair and non-discriminatory access conditions for different railway undertakings[7];
- Issuing clear and consistent signals to allow railway undertakings to make rational decisions with regard to use of the network[8].

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"*:

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[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 charges[9]. 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 (%)

	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
Operating expenses (OPEX)	-2.6%	-1.8%	-1.6%	-0.7%	-0.8%

Source: SNCF Réseau

- Purchases and External Charges (PEC) are expected to rise by 1.7% between 2024 and 2025, 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 (%)

	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
PEC (OPEX)	-1.9%	-2.1%	-1.6%	-1.3%	-1.3%

Source: SNCF Réseau

(ii) **Depreciation charges net of subsidies** for past investments and the investment programme for the 2025-2029 period.

Future investment projects will gradually increase from €5.9 billion in 2026 to €9 billion in 2029, according to commitments made with the State to address the ageing network. The forecast investment amounts vary as follows:

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

	2025/2026	2026/2027	2027/2028	2028/2029
Inflation (IPCH)	1.4%	1.8%	1.8%	1.8%
Productivity gains	2.0%	1.2%	1.4%	1.3%

Source: SNCF Réseau, Banque de France (June 2025)

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).

The WACC of SNCF Réseau has been the subject of several studies (Frontier Economics in 2021, then KPMG in 2025), applying normative assumptions specific to regulated sectors. The most recent (2025) confirmed the robustness of this rate.

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) over time horizons of 1 to 5 years in the samples selected. The market premium is calibrated using the DMS method, the standard method used to assess market risk premiums, based on the long-term arithmetic and geometric averages. The spread was assessed in relation to the weighted rating of SNCF Réseau and comparable companies. Gearing was calculated on the basis of the sample of comparable companies (see below), using weighted averages and medians.
- 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.

(iv) Taxes and duties.

Table 4 - Total network costs (€M)

in €M current value	2026	2027	2028	2029
Total full costs	**9,550**	**9,693**	**9,872**	**10,022**
Operating expenses (OPEX)	**4,923**	**4,978**	**5,056**	**5,108**
- of which maintenance	3,250	3,286	3,344	3,376
- of which traffic management	1,217	1,231	1,246	1,263
- of which other costs	456	460	466	470
including OPEX on projects	*95*	*96*	*97*	*98*
including train paths & marketing	*307*	*310*	*314*	*317*
including services for regulated third parties	*53*	*54*	*54*	*55*
Capital expenditure (CAPEX)	**4,627**	**4,716**	**4,816**	**4,914**
- of which depreciation charges, net of subsidies	1,962	2,017	2,084	2,152
- of which return on capital	2,665	2,699	2,732	2,762

Source: SNCF Réseau

Within this full cost, the costs incurred for minimum services are between €9.5bn and €9.98bn, broken down as follows.

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

in €M current value	2026	2027	2028	2029
Total full costs	9,441	9,583	9,759	9,907
Operating expenses (OPEX)	4,835	4,889	4,965	5,016
- of which maintenance	3,172	3,207	3,263	3,294
- of which traffic management	1,212	1,226	1,241	1,257
- of which other costs	451	456	461	465
including OPEX on projects	*306*	*309*	*313*	*316*
including train paths & marketing	*92*	*93*	*94*	*95*
including services for regulated third parties	*53*	*53*	*54*	*54*
Capital expenditure (CAPEX)	4,605	4,694	4,794	4,891
- of which depreciation charges, net of subsidies	1,955	2,009	2,076	2,144
- of which return on capital	2,651	2,685	2,718	2,747

Source: SNCF Réseau

These costs, broken down into variable costs and fixed costs, are broken down by activity, as detailed in sections 2.3 and 2.4.

2.2. Cost performance

Since 2017, SNCF Réseau, as part of a Performance Contract with the French state, has been implementing a Performance Programme aimed at improving the competitiveness of the national rail system. This performance programme is designed to be long-term. It covers all of SNCF Réseau's industrial and structural expenditure, excluding capital expenditure.

SNCF Réseau's performance programme is organised around 10 programmes structured around the following four areas:

- **Optimisation of the company's organisation**: overhaul of the organisational model for establishments responsible for maintenance and works, review of the organisation of work in signal boxes, consolidation of training centres, reduction in workforce at head office and regional offices, etc.
- **New procurement contract models**: increased competition by expanding the pool of suppliers, longer contracts offering greater visibility, and more comprehensive contracts opening up technological opportunities.
- **Industrial programmes for the modernisation and digitalisation of production facilities:** automation of monitoring, differentiation of maintenance policy by network segment, supply chain optimisation, modernisation of the vehicle fleet, digitalisation of the train path allocation process, deployment of the operational centralisation programme, etc.
- **Controlling project costs**: establishing project management standards, features tailored precisely to the needs expressed or identified by clients, risks properly assessed and provisions made to ensure that costs are kept under control during the implementation phase.

This performance concerns both capital expenditure (CAPEX) and operating and maintenance expenditure (OPEX).

The expected gains from the performance programme are secured because they are deducted each year at source from SNCF Réseau's overall budget: performance is allocated and accumulated year after year in the budgets of the various entities.

To date, SNCF Réseau has met its commitments, with performance slightly above that set out in the performance contract (+€169 million at the end of 2024).

Cumulative total (in € million)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Performance Contract Trajectory	151	276	395	492	718	888	1,058	1,128	1,364	1,500
Performance achieved	150	275	414	544	748	940	1,143	1,397	-	-

2.3. Costs directly incurred (CDI) by traffic within the scope of the Minimum Services

2.3.1. Presentation of the method

The calculation of the cost directly incurred is based on econometric analyses, which have made it possible to explain the maintenance, renewal and management expenses observed locally due to the technical characteristics of the infrastructure and the stresses it undergoes: traffic expressed in tonnes-km and trains-km These analyses are used to estimate the cost functions, from which the marginal costs are derived. For the 2027-2029 pricing cycle, the methodology for estimating costs directly incurred is identical to that used in the previous cycle.

SNCF Réseau's CDI estimation work is one of the most advanced studies in Europe. In fact, over the past ten years or so, significant progress has been made following several updates of these estimates. This work was done by recognised researchers from the academic community. In addition, SNCF Réseau has always regularly communicated on its work (methodology and results) to customers (railway undertakings, AOM, combined transport operators, associations and institutional partners) during. This modelling work and its results are particularly cited by CERRE (Centre on Regulation in Europe) as an example in its report on tolls[10].

The analyses mobilised design offices specialised in statistics and econometrics[11] and were supervised by a scientific committee formed by Phillip Wheat, Andrew Smith and Kristofer Odolinski from the Institute for Transport Studies (ITS) of the University of Leeds. In its report, the Scientific Committee states: " *Overall, we consider that SNCF Réseau and its consultants have undertaken a quality analysis of the marginal costs for infrastructure wear and tear as well as maintenance and renewal, broken down by type of asset. The estimated models integrate and adapt to past literature and, in many respects, can be considered as a step forward in the literature. The data has been carefully evaluated and a rich set of control variables has been included to ensure that traffic elasticities can be used to generate appropriate short-term marginal costs. [...] The results are plausible, being generally within the bounds of past econometric estimates (where they exist) or consistent with past technical evidence* ".

The methodology used for the 2024-2026 pricing cycle, approved by the regulator on that occasion, has been adopted by SNCF Réseau for the 2027-2029 pricing cycle. After analysis, it was decided not

[10] " *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 programmes. This evidence suggests that charges for these costs are generally far too low, except in France"* (see CERRE, Track access charges: reconciling conflicting objectives, May 2018).

[11] The analyses were conducted by a group of experts made up of the IMDM, and ECOPLAN design offices.

to extend the multi-year data panel to the years 2019–2022, which would have led to a significant increase in permanent contracts.

In this context, SNCF Réseau used the same method and data set as those used for the 2024-2026 period and indexed the HICP projected and published by the Banque de France in June 2025 for the year 2027, adjusting it to the trajectory of the performance contract for the year 2027. In the absence of HICP projections by the Banque de France for 2028 and 2029, indexation was carried out on the basis of the HICP projected for 2027. The data will be updated in future NS to take into account the HICP projections published by the Bank of France for 2028 and 2029.

The scope of costs used to estimate CDI applicable to the 2027-2029 timetables remains unchanged from that used for the 2024-2026 timetables, namely:

- Maintenance of the tracks, track equipment, signalling systems, catenaries, civil engineering structures and earthworks (OA-OT), as well as level crossings (PN);
- Operational traffic management;
- Renewal of tracks, switches, signalling and electrical installations.

Data sources:

- For **maintenance**: SNCF Réseau used observed and enriched data from 2015 to 2018. This information comes from the annual 10,000-point matrices, taken from SNCF Réseau's accounts per destination. ;
- For **renewal**: SNCF Réseau used observed, enriched and reworked data from 2013 to 2018. This information comes from the Works Bank, which contains for each project the location of the operations to be carried out and the nature of the operations undertaken. The GEREMI database was used to consolidate renewal expenditure and monitor projects.

2.3.2. Determining the costs directly attributable

2.3.2.1. Marginal costs per maintenance, operation and renewal activity

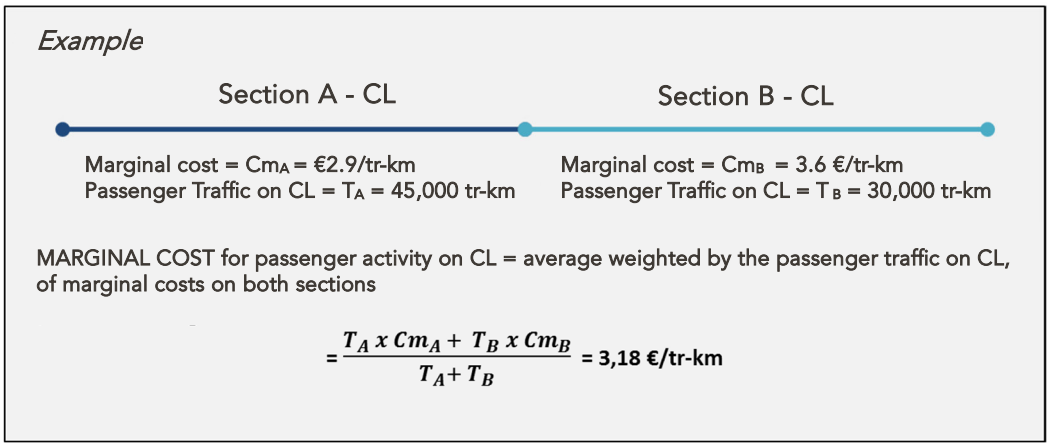
The econometric analyses enable the cost functions to be estimated. These functions were then used to estimate the **marginal cost** of each activity (cost directly attributable to it), in order to transpose this into the toll price scale. The activities carried out on the network were split into 3 types,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

- "Passenger" activities on conventional lines (CL),
- "Passenger" activities on high speed lines (LGV),
- And 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-kilometre[12] or in Euro per train-kilometre[13]. 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).

2.3.2.2. 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.

However, the marginal costs must be expressed under the economic conditions of the timetable in question, using indicators specific to each of the categories, based on the changes observed in these costs whenever possible.

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

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

For operating costs, SNCF Réseau reuses the specific indicators based on the changes observed 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.

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

- **2020-2029 period: taking into consideration the growth rates taken from the performance contract**

For the period 2020-2029, SNCF Réseau uses the projected cost trends (OPEX personnel for operating costs, maintenance costs per kilometre of track and GOPEQ[14]) from the multi-year performance contract between the State and SNCF Réseau[15] 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 2025 timetable (+1.0%)and June 2025 projection for the 2026 timetable (+1.4%) and for the 2027 timetable (+1.8%). For the 2028 and 2029 timetables, the inflation forecast is not yet known. SNCF Réseau

Table 9 - Indexation used for operating costs for the 2020-2029 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%
2026-2027	1,40%	0,11%	4,34%	1,80%
2027-2028	1,40%	0,11%	4,34%	1,80%
2028-2029	1,40%	0,11%	4,34%	1,80%

Provisional HICP base for 2027 at 1.8%, 2028 at 1.8% and 2029 at +1.8%

2.3.2.3. Marginal maintenance, operating and renewal costs for 2027

For the year 2027, the marginal **maintenance**, **operation** and **renewal** costs are detailed in the table below.

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

[15] Contract signed in June 2022. Adjustments to cost and revenue trajectories have been incorporated to take into account the amendment currently under negotiation.

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

	Maintenance mc (Track + Adv + Civil engineering structures/earthworks) €2027 / kCGT-km	Maintenance mc (Signalling + Non-HSL level crossings) €2027 / tr-km	Renewal mc (Track + Adv) €2027 / kCGT-km		Renewal mc (Signalling) €2027 / tr-km		Operation mc €2027 / tr-km
	RFN	RFN	UIC 2-6	UIC 7-9	UIC 2-6	UIC 7-9	RFN
Passenger on LC	1.935	0.350	3.770	0.000	0.130	0.000	0.177
Passenger on LGV	0.639	0.151	1.040	N/A	0.019	N/A	0.104
Freight & Light Running Freight	0.802	0.350	2.068	0.000	0.130	0.000	0.193

Source: SNCF Réseau

For the year 2027, the sum of the marginal costs for each activity is detailed in the table below.

Table 11 - Total marginal costs for 2027

	MC total €2027 / kCGT-km		MC total €2027 / tr-km	
	UIC 2-6	UIC 7-9	UIC 2-6	UIC 7-9
Passenger on LC	5.705	1.935	0.657	0.526
Passenger on LGV	1.679	N/A	0.274	N/A
Freight & Light Running Freight	2.870	0.802	0.673	0.542

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 tolls[16].

[16] "*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).

Table 12 - Marginal share of costs for the 2027 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 2027.

2.3.2.4. 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**[17];

(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**[18] (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 €2027 using the maintenance cost history from the performance contract. The results are shown in the following table.

For 2027, 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 (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.

[17] "Equipement d'Alimentation des Lignes Electrifiées" or power line supply equipment.

[18] "Installations Fixes des Terminaux Electriques" or electrical terminal fixed facilities.

Table 13 - Breakdown of the electric CDI per cost item for 2027

	Total cost (€M2027)	Marginality	Variable costs (€M2027)	Marginal cost (€2027/tr-km)
(1) Maintenance of catenaries	/	/	/	0.056
(2) Maintenance of EALE	97.3	11.55%	11.2	0.026
(3 + 4) Renewal of catenaries and of EALE	/	/	/	0.209
Electric CDI 2027 (€2027)				**0.291**

Source: SNCF Réseau

2.3.3. 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)

	2026	2027	2028	2029
Non-contracted passenger services	**286**	**301**	**309**	**320**
- of which maintenance	101	105	108	111
- of which operating	37	39	39	41
- of which renewal	149	157	162	168
Freight services	**266**	**281**	**295**	**314**
- of which maintenance	94	98	103	109
- of which operating	34	36	38	40
- of which renewal	139	147	155	165
Contracted passenger services	**747**	**767**	**798**	**822**
- of which maintenance	262	268	279	286
- of which operating	96	98	102	104
- of which renewal	389	400	418	432
Per AOM:	**747**	**767**	**798**	**822**
Ile-de-France Mobilités	236	242	249	257
AOM State - TET	53	54	56	57
AOM Auvergne Rhône-Alpes	73	72	76	78
AOM Burgundy-Franche-Comté	32	35	37	38
AOM Bretagne	18	22	23	24
AOM Centre-Val de Loire	36	40	41	42
AOM Grand-Est	64	62	64	66
AOM Hauts-de-France	58	60	61	63

AOM Normandy	51	53	60	62
AOM Nouvelle-Aquitaine	28	28	28	29
AOM Occitanie	34	35	36	37
AOM Pays de la Loire	28	29	30	31
AOM Provence Alpes Côte-d'Azur	35	36	37	38

Source: SNCF Réseau

2.4. Network costs attributable to activities

In response to requests from the Transport Regulation Authority and mobility organising authorities (AOM), SNCF Réseau has carried out extensive work to refine the calculation of costs attributable to activities. Compared to the previous cycle, there is no longer any distinction between dedicated networks and shared networks: the entire network is now considered to be fully shared. To this end, it has sought to determine the nature of traffic at the level of each segment of the RFN in order to refine the costs attributable to each activity. The method chosen thus provided a precise picture of the use of the lines by these different activities, enabling the most accurate possible estimate of the costs for each activity to be made.

The network costs can be allocated to the different activities by applying two successive methods. The first step is to determine the costs generated by the traffic for the different activities. These costs, which are variable in nature since they are sensitive to traffic and directly attributable to activities, have been set out in section 2.3.

Secondly, with all costs directly incurred by each activity now known, the remaining shared network costs need to be allocated, which are insensitive to traffic and therefore fixed in nature, according to the methodology described below.

The table below presents, as a preliminary indication, the total cost of the network by activity.

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

ACTIVITY	2026	2027	2028	2029
Total	9,441	9,583	9,759	9,907
Contracted passenger services	5,480	5,563	5,665	5,751
Non-contracted passenger services	2,140	2,173	2,213	2,246
Freight services	1,820	1,847	1,881	1,910

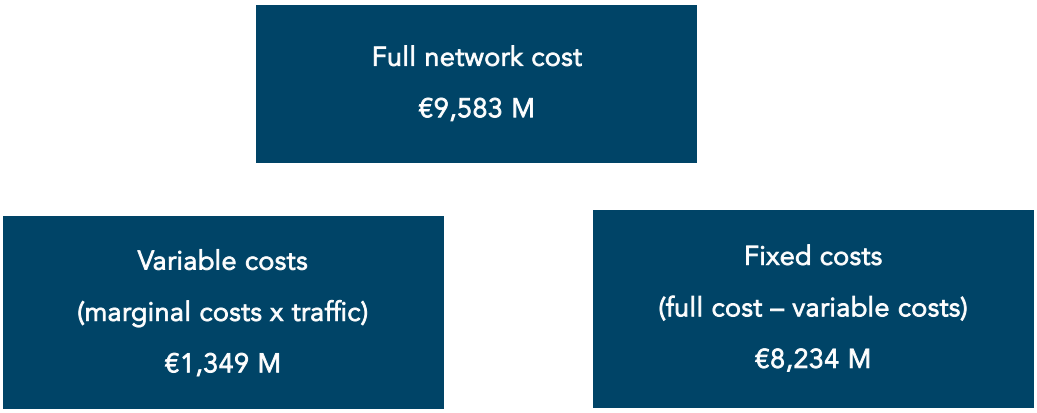
Source: SNCF Réseau

2.4.1. Fixed network costs allocated to the 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 2.2.3;
- 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 **85%** of the full network costs in 2027 (Figure 2).

Figure 2 - Breakdown of the various cost items for minimum services per type (2027)



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 component 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.

Once the fictitious network design stage has been completed, the next step is to identify the activities that actually take place on the French rail network. In accordance with the recommendations made by the Transport Regulating Authority, with the identification of traffic by sponsoring AOM operating on each management segment, the calculation of the isolated supply costs for maintenance, renewal and operation by activity and sponsoring AOM was carried out using a technical-economic model whose data was updated for the 2027-2029 pricing cycle. This was achieved by identifying, for each management segment, the activities that actually took place in 2024. This major advance means that the number of railway activities operating on the network can be increased from five to sixteen:

- 11 standard regional activities[19]: AOM Auvergne Rhône Alpes, AOM Bourgogne Franche-Comté, AOM Bretagne, AOM Centre Val de Loire, AOM Grand Est, AOM Hauts de France, AOM Normandie, AOM Nouvelle Aquitaine, AOM Occitanie, AOM Pays de la Loire, AOM Provence Alpes Côtes d'Azur

[19] In the previous cycle, these activities were handled as a single block. Now, each AO has its own specific costs, which allows for better consideration of its specific characteristics.

- 2 high-density regional activities: AOM IDFM, AOM State – CDG Express[20]
- 1 Freight activity
- 1 TAGV activity
- 1 long-distance activity on a conventional line (including AOM State for the TET activity)

To ensure the robustness of the analysis and avoid charging a user for the costs of a management segment on which they only generate a marginal volume of traffic, a minimum traffic threshold of 120 per year (i.e. 10 per month) has been set.

Thus, with the exception of the vast majority of the high-speed rail network, the rest of the network is considered to be a shared network. Each segment that makes up the rail network will therefore have different Moriarity keys depending on the activities that take place in each of these segments. The fixed cost allocation keys will therefore be at the management segment level.

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 matrix[21] 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:

[20] For the reasons provided above in part 3.1 the costs and income related to the CDG Express activity are the subject of an *ad hoc* analysis.

[21] 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 16 - 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 16 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 below:

Table 17 - 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 18 - 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 19 - 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[22] 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

<u>Regarding operating costs:</u>

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 CCRs[23] 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 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.

[22] 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".

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

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 below details the fixed network costs attributable to each activity.

Table 20 - Breakdown of fixed network costs per activity (€m)

	2027	2028	2029
Total	8,233	8,357	8,450
Non-contracted passenger services	1,871	1,904	1,926
- of which maintenance	626	637	640
- of which operating	239	242	244
- of which renewal	392	405	417
- of which other fixed costs	89	90	90
- of which return on capital	524	530	534
Freight services	1,566	1,586	1,596
- of which maintenance	524	530	530
- of which operating	200	202	203
- of which renewal	328	337	345
- of which other fixed costs	74	75	75
- of which return on capital	439	442	442
Contracted passenger services	4,796	4,867	4,929
- of which maintenance	1,605	1,627	1,639
- of which operating	614	619	626
- of which renewal	1,005	1,035	1,067
- of which other fixed costs	228	230	231
- of which return on capital	1,344	1,355	1,367
Ile-de-France Mobilités	859	872	881
- of which maintenance	287	292	293
- of which operating	110	111	112
- of which renewal	180	185	191
- of which other fixed costs	41	41	41
- of which return on capital	241	243	244
State AOM	822	837	849
- of which maintenance	275	280	282
- of which operating	105	106	108
- of which renewal	172	178	184
- of which other fixed costs	39	40	40

- of which return on capital	230	233	235
AOM Auvergne Rhône-Alpes	384	389	394
- of which maintenance	128	130	131
- of which operating	49	49	50
- of which renewal	80	83	85
- of which other fixed costs	18	18	18
- of which return on capital	108	108	109
AOM Burgundy-Franche-Comté	297	301	305
- of which maintenance	99	101	101
- of which operating	38	38	39
- of which renewal	62	64	66
- of which other fixed costs	14	14	14
- of which return on capital	83	84	85
AOM Bretagne	100	101	102
- of which maintenance	34	34	34
- of which operating	13	13	13
- of which renewal	21	21	22
- of which other fixed costs	5	5	5
- of which return on capital	28	28	28
AOM Centre-Val de Loire	264	269	272
- of which maintenance	88	90	91
- of which operating	34	34	35
- of which renewal	55	57	59
- of which other fixed costs	13	13	13
- of which return on capital	74	75	76
AOM Grand-Est	473	481	487
- of which maintenance	158	161	162
- of which operating	60	61	62
- of which renewal	99	102	105
- of which other fixed costs	22	23	23
- of which return on capital	132	134	135
AOM Hauts-de-France	447	455	461
- of which maintenance	150	152	153
- of which operating	57	58	58
- of which renewal	94	97	100
- of which other fixed costs	21	21	22
- of which return on capital	125	127	128
AOM Normandy	203	200	202
- of which maintenance	68	67	67
- of which operating	26	25	26
- of which renewal	43	43	44

- of which other fixed costs	10	9	9
- of which return on capital	57	56	56
AOM Nouvelle-Aquitaine	337	343	348
- of which maintenance	113	115	116
- of which operating	43	44	44
- of which renewal	71	73	75
- of which other fixed costs	16	16	16
- of which return on capital	94	96	97
AOM Occitanie	294	299	303
- of which maintenance	98	100	101
- of which operating	38	38	38
- of which renewal	62	64	66
- of which other fixed costs	14	14	14
- of which return on capital	82	83	84
AOM Pays de la Loire	171	173	175
- of which maintenance	57	58	58
- of which operating	22	22	22
- of which renewal	36	37	38
- of which other fixed costs	8	8	8
- of which return on capital	48	48	49
AOM Provence Alpes Côte-d'Azur	145	147	149
- of which maintenance	48	49	49
- of which operating	19	19	19
- of which renewal	30	31	32
- of which other fixed costs	7	7	7
- of which return on capital	41	41	41

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 below.

Table 21 - Full costs per activity and AOM (€M)

	2027	2028	2029
Total	9,583	9,759	9,907
Non-contracted passenger services	2,173	2,213	2,246
Freight services	1,847	1,881	1,910
Contracted passenger services	5,563	5,665	5,751

Per AOM:			
Ile-de-France Mobilités	1,101	1,121	1,138
State	877	893	906
Auvergne Rhône-Alpes	456	465	472
Bourgogne-Franche-Comté	332	338	343
Brittany	122	124	126
Centre-Val de Loire	304	310	315
Grand-Est	535	545	553
Hauts-de-France	506	516	524
Normandy	256	260	264
Nouvelle-Aquitaine	365	372	377
Occitanie	328	335	340
Pays de la Loire	200	203	207
Provence Alpes Côte-d'Azur	181	184	187

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:

- 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 22 - 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.

The 2027/2029 pricing cycle corresponds to the cycle during which the State AOM will begin operating the CDG Express service. Charges collected for this activity shall be paid by the operator. The variable costs associated with these movements will be covered by user charges (RC and RCE). The fixed costs specific to CDG Express' activity will be fully covered by the collection of the RM allocated to the service. To take into account the financial contribution of the CDG Express infrastructure manager to certain investment works on the RFN, the contract stipulates that the market charge collected by SNCF Réseau from the operator, less the fixed costs specific to the CDG Express activity borne by SNCF Réseau, will be transferred to the CDG Express infrastructure manager.

This methodology results in a full cost coverage rate of 100% for the CDG Express contract activity. Consequently, to date no RA has been allocated to the AOM CDG Express scope as the full costs associated with this activity are already covered by other charges. Consequently, the following developments will only cover the activities of the AOMs excluding State-CDG Express, as the latter activity cannot be analysed in such detail because it is not yet operating on the network and the projected costs that would characterise it cannot, at this stage, be extrapolated due to the lack of data and the specific nature of the proposed service.

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 charge (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 23 below sets the traffic charges for the 2027 timetable based on the marginal costs presented in Table 10.

Table 23 -Running charges applicable to passenger activities for the 2027 timetable

	Running charge (per thousand compensated gross tonnage, kCGT-km) €2027 / kCGT-km		Running charges (in train-kilometres, tr-km) €2027 / tr-km	
	UIC 2-6	UIC 7-9	UIC 2-6	UIC 7-9
Passenger on LC	5.705	1.935	0.657	0.526
Passenger on LGV	1.679	-	0.274	-
Freight & Light Running Freight	2.870	0.802	0.673	0.542

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. Thus, all trains in the same class pay the same fee per train-km, regardless of their exact tonnage.

For the 2027-2029 pricing cycle, SNCF Réseau has decided on:

- **6 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.

The State decided to make a financial contribution to trains in classes 2 to 6. This contribution is absent for the first tonnage class. 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 contribution[24];
- **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 2027 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.

[24] 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.

As part of this pricing cycle, the tonnage classes have been modified. The distribution of tonnages is based on the traffic structure observed for freight traffic in the 2024 timetable.

Analysis of the distribution of tonnages carried showed that more than a third of train-kilometres were concentrated in the fifth class (≥ 1550 T). It was therefore decided to split this class in two in order to define reference tonnages that are better suited to the average weights of trains. There are now a total of six classes. The tonnage thresholds for the first four classes have been retained to ensure stability for freight railway companies.

The **gross RC** kilometre scales are based on the total marginal costs presented in the Table 11Table 11 - Total marginal costs for 2027 "Freight & HLP Freight Line" and have been calculated for each tonnage class and UIC category applying the RC formula:

RC = Cm total kTBC-km * Reference tonnage / 1000 + Cm total tr-km

The **net RC** kilometre scales for the first tonnage class follow the same calculation formula. For the other five classes, the net CR scales have been established in such a way as to ensure that the annual indexation of the overall charges borne by the RUs remains aligned with the HICP (+1.8%). The running charge scales applicable to the Freight activity for the 2027 timetable are presented in the table below.

Table 24 - Running charges applicable to Freight activities for the 2027 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 €/Tkm	
[1-350[	140	13%	1.07	0.65	2.04	1.07	0.65	4.24	100%
[350-750[	570	16%	1.21	0.72		2.31	1.00		53%
[750-1050[	890	12%	1.73	0.72		3.23	1.26		54%
[1050-1550[	1310	23%	2.42	0.91		4.43	1.59		55%
[1550-2050[	1790	21%	2.61	0.94		5.81	1.98		45%
>=2050	2400	15%	2.76	1.00		7.56	2.47		37%

3.2.1.3. Overview of SNCF Réseau's forecast turnover for RC over the 2027-2029 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 below details the RC income attributable to each activity.

Table 25 - Income collected via the RC per activity and region (€M)

	2027	2028	2029
Non-contracted passenger services	264	270	279
Freight services - Net RC	74	79	85
Freight services - Gross RC	268	282	300
Contracted passenger services	700	729	751
Per AOM:			

Ile-de-France Mobilités	224	231	238
State	50	51	53
Auvergne Rhône-Alpes	65	68	70
Bourgogne-Franche-Comté	31	33	34
Brittany	19	21	22
Centre-Val de Loire	36	37	39
Grand-Est	56	58	59
Hauts-de-France	54	55	57
Normandy	49	56	58
Nouvelle-Aquitaine	25	26	26
Occitanie	31	32	32
Pays de la Loire	26	27	28
Provence Alpes Côte-d'Azur	33	33	34

Source: SNCF Réseau

NB: For 2028 and 2029, the income amounts shown in the table above are projections calculated on the basis of the 2027 HICP estimate, as data are not available for 2028 and 2029. They will be refined once all the royalty indexation parameters are known.

The estimated traffic charge for the CDG-Express service is €2.4 million in 2027, €3.3 million in 2028 and €3.4 million in 2029.

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 26 – Electrical traction charges applicable to the 2027 timetable

	RCE (€2027/tr-km)
Electric traction charge	0.291

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 2027-2029 period based on currently available data. The results are shown in the table below.

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

	2026	2027	2028	2029
Non-contracted passenger services	36	38	39	41
Freight services	12	13	14	15
Contracted passenger services	65	67	69	72
Per AOM:				

Ile-de-France Mobilités	17	18	18	19
State TET	4	4	4	5
Auvergne Rhône-Alpes	7	7	7	8
Bourgogne-Franche-Comté	3	3	4	4
Brittany	2	2	3	3
Centre-Val de Loire	3	4	4	4
Grand-Est	6	6	6	6
Hauts-de-France	6	6	6	6
Normandy	4	4	4	5
Nouvelle-Aquitaine	3	3	3	3
Occitanie	4	4	4	4
Pays de la Loire	3	3	3	4
Provence Alpes Côte-d'Azur	3	3	3	4

Source: SNCF Réseau

NB: For 2028 and 2029, the income amounts shown in the table above are projections calculated on the basis of the 2027 HICP estimate, as data are not available for 2028 and 2029. They will be refined once all the royalty indexation parameters are known.

The estimated electric traffic charge for the CDG-Express service is €0.3 million in 2027 and €0.5 million in 2028 and 2029.

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.

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 thereto[25]. 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:

[25] "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

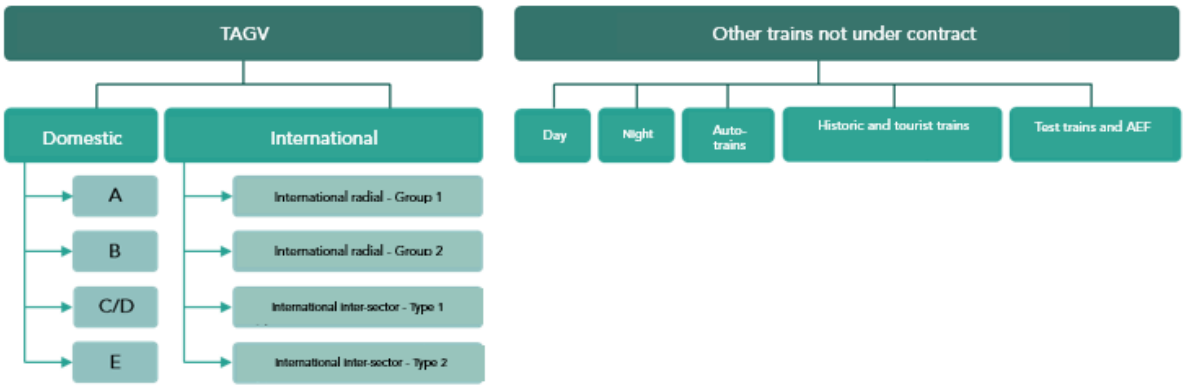
Article 31.2 of the amended Decree No. 2003-194 of 7 March 2003 mentions the existence of a mandatory minimum segment, referred to as *"other passenger transport services"*. This essentially concerns long-distance (TAGV) and conventional Train activities (other non-contracted trains).

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 **Erreur ! Source du renvoi introuvable.**) 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.

As part of the implementation of Metropolitan Express Services (SERM), the fees paid by the AOMs can be divided into those falling within the SERM scope and those falling outside the SERM scope. Thus, for each AOM, with regard to the flat-rate fee, the portion associated with the SERM scope can be calculated on the basis of the proportion of kilometres of track in the network labelled "SERM" within each regional network.

The network labelled as "SERM" is determined by each AOM within its area of operation.

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.

In accordance with Article 6 of Decree No. 97-446, as amended by Decree No. 2025-679, the market charge constitutes an infrastructure surcharge set by SNCF Réseau. For the 27/29 pricing cycle, it is calculated for each AOM by taking the RM flat rate paid under the previous timetable, to which the tariff adjustment mechanism described in point 4 is applied. Thus, the RM tariff change depends on the overall tariff change on the one hand and on the change in CDIs on the other: the RM is said to be "closed-loop" in the sense that its change is adjusted to ensure an overall change in fees equal to the indexation retained for each year of the cycle.

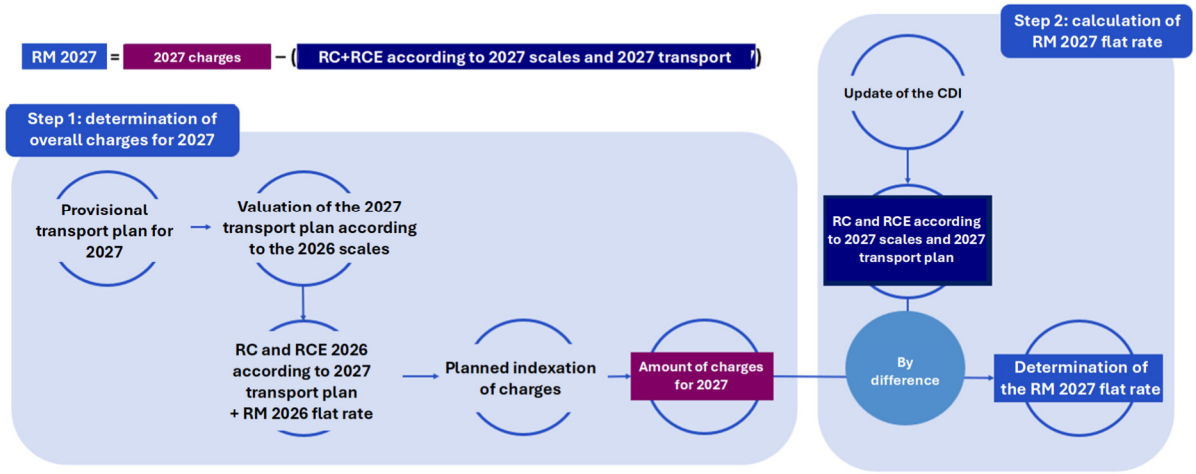
Thus, the RM for each AOM was calculated as follows

- *Step 1:* SNCF Réseau collected traffic volume and structure data for the 2027, 2028 and 2029 timetables from each AOM. Based on this data, SNCF Réseau estimated the projected revenue owed by each AOM in terms of charges at the cost directly incurred (RC+RCE) by applying the scale applicable for the year 2026.
  Thus, for the 2027 timetable, SNCF Réseau estimated the RC and RCE on the basis of the traffic volumes and structure collected under the 2027 timetable, valued at 2026 economic conditions (using the scales applicable to the 2026 timetable), to which was added the RM flat rate for each of the AOMs for the 2026 timetable (as shown in the 2026 NS).
  SNCF Réseau then applied the expected price increase between 2026 and 2027 to this result to obtain the overall valuation of the transport plan (i.e. a 3.6% increase, in accordance with the principles set out in part 4 of this Appendix). At the end of this first stage, SNCF Réseau will have the amount of charges owed by each AOM under the 2027 timetable.

- *Step 2:* To obtain a breakdown of the 2027 timetable charges between RC, RCE and RM charges, SNCF Réseau proceeded as follows:
  SNCF Réseau calculated the anticipated amount of CDI charges owed by each AOM in accordance with the 2027 scales based on the traffic volumes and structure collected under the 2027 timetable. It thus calculated the RC and RCE owed by each AOM for the year 2027.
  By deducting the amount of anticipated charges for the AOM's traffic under the 2027 timetable from the 2027 valuation of the RC and RCE, SNCF Réseau determined the amount of the 2027 RM flat rate for each AOM.
  For the 2028 and 2029 timetables, SNCF Réseau used the same methodology: it valued the timetable Y transport plan at the Y-1 rates, then applied the projected tariff change between Y-1 and Y to obtain the amount of charge sowed by the AOM under timetable Y. SNCF Réseau then broke down this total amount by calculating the amount of charges for the CDI under the

economic conditions of timetable Y, and obtained by difference the amount of the RM flat rate valid for timetable A).

Figure 5 – Summary diagram of the looping RM mechanism for contracted passenger transport activities (2027 timetable)



Source: SNCF Réseau

In addition, SNCF Réseau will take into account in the proposed tariffs for the 2030 to 2032 cycle any overpayments invoiced if, for the minimum services provided within the AOM perimeter, actual revenue exceeds actual costs.

In addition, where there is more than one carrier operating on behalf of a single AOM, the market charge for each segment is allocated between carriers operating on behalf of the AOM, following a methodology agreed between the parties, or by default, in proportion to each carrier's forecast tkm.

If there is a desire to use a methodology agreed between the stakeholders (AOM and carriers), the negotiations must have been concluded before 15 August of year Y-1 for Timetable Y, and must be formalised by email sent to SNCF Réseau, with a copy to the various stakeholders. Recourse to the concerted methodology is at the initiative of the parties, who will have to organise themselves in order to achieve the above-mentioned deadline.

In the absence of an agreed methodology between the stakeholders, by default, the allocation will be based on 2027-2029 traffic forecasts if these forecasts have been provided by the AOMs as part of the development of the 2027-2029 pricing structure. Otherwise, the allocation will be made based on the latest information known to SNCF Réseau (volumes transmitted as part of the budget preparation of SNCF Réseau).

In all cases, each carrier will be informed of the amount of the contract fee allocated to it when it submits its invoicing details for the deposit. Only the AOM can check that the amount of the market charge billed to it complies with the overall amount.

Finally, SNCF Réseau reserves the right to update the market charge amount in the event of a line transfer between AOMs and/or a line transfer as per Article L2111-1-1 of the Transport Code or Article L3114-1 of the General Code of Public Property.

3.3.3.1.3. Example of how the market charge is determined for an AOM

The following example shows how to calculate the flat-rate RM for a fictitious AOM called 'Z'.

According to the information relating to the provisional transport plan of the fictitious AOM, the traffic assumptions for each of the parameters influencing the calculation of charges are as follows:

Table 28 – RM AOM example: hypotheses

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
Structure: tkm breakdown per infrastructure type	LC 2-6	LC 7-9	LGV
Tkm	60%	30%	10%

The scales for timetable n-1 are recalled below.

Table 29 – RM AOM example: RM scales (fictitious) 2026

Market Charge (RM) - AOM "A"			
PKM (€ ex. VAT per train path-km)		Reference commercial train path-km	Amount (€ excl. VAT)
Passenger trains contracted by an Organising Authority	AOM Z	100,000	750,000

Table 30 – RM AOM example: RC scales 2026 timetable

Running charge (RC)				
RC = (Unit price per thousand tonne-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	-

** kTBC = complete gross kilotonne)*

Source: SNCF Réseau

Table 31 – RM AOM example: RCE scales 2026 timetable

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

The RM, RC and RCE charges resulting from the 2027 provisional transport plan, calculated on the basis of the 2026 timetable scales, are calculated in accordance with the methods described in the following table.

Table 32 – RM AOM example: charges calculated

Charges	Calculation	Result (€/ex. VAT)
RM	RM flat rate	750,000.00
RC	100,000 * 60% * (600/1,000 * 5.56 + 0.649) + 100,000 * 30% * (250/1,000 * 1.921 + 0.524) + 100,000 * 10% * (450/1,000 * 1.663 + 0.273)	279,441.00
RCE	50,000 * 0.285	14,250.00
TOTAL RM+RC+RCE	RM + RC + RCE	1,043,691.00

This calculation of charges, in accordance with the terms of the preceding timetable, is subject to overall indexation of charges. For 2027, the charges increase by 3.6% compared with 2026.

Table 33 – RM AOM example: indexed charges

Charges	Calculation	Result (€/ex. VAT)
TOTAL RM+RC+RCE target N	TOTAL RM+RC+RCE * (1 + 3.6%)	1,081,263.88

As a result, taking into account the provisional transport plan of AOM Z for 2027, the total amount of anticipated charges for this timetable amounts to €1,081,263.88.

The next step is to evaluate the provisional transport plan, based on the known 2027 scales. RC and RCE, as outlined below, are determined according to the CDI logic by applying the scales shown in the following tables:

Table 34 – RM AOM example: RC scales of the 2027 timetable

Running charge (RC)				
RC = (Unit price per thousand tonne-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	5.705	1.935	0.657	0.526
Passenger trains travelling on a high-speed line	1.679	-	0.274	-

Source: SNCF Réseau

Table 35 – RM AOM example: RCE scales of the 2027 timetable

Electric Traction Charge (RCE)		
RCE = Unit price x traffic distance		
Unit price (€ ex. VAT per electric train-km)	Electric traction convoys	0.291

Source: SNCF Réseau

The next step is to evaluate the provisional transport plan based on these scales.

Table 36 – RM AOM example: CDI charges valued

Charges	Calculation	Result (€/ex. VAT)
RC N	100,000 * 60% * (600/1,000 * 5.705 + 0.657) + 100,000 * 30% * (250/1,000 * 1.935 + 0.526) + 100,000 * 10% * (450/1,000 * 1.679 + 0.274)	285,388.00
RCE N	50,000 * 0.291	14,550.00
RC+RCE N	RC+RCE	299,938.00

Since the amount of RC and RCE resulting from this theoretical transport plan is known, it is possible to calculate, by difference, the RM amount for the 2027 timetable.

Table 37 – RM AOM example: determination of the RM flat rate

Charges			Calculation	Result (€/ex. VAT)
RM flat rate	TOTAL RM+RC+RCE TARGET N - (RC+RCE N)	781,325.88		

3.3.3.1.4. RM scale applicable to contracted passenger transport activities for the 2027 timetable

The annual flat-rate market charge for the 2027 timetable calculated based on the principles detailed above and applied to each AOM is set out in the following table (these amounts have been calculated based on traffic estimations shown below in part 5.2.2).

Table 38 *- Market charge scale per AOM for the 2027 timetable*

Market charge (RM)		
Annual fixed price per Mobility Organising Authority (AOM)		Amount (€ excl. VAT)
Passenger trains contracted by an Organising Authority	Auvergne Rhône-Alpes	125,228,754
	Bourgogne-Franche-Comté	55,771,482
	Brittany	20,817,216
	Centre-Val-de-Loire	59,884,320
	Grand-Est	128,697,925
	Hauts-de-France	101,247 629
	Normandy	54,940,786
	Nouvelle-Aquitaine	62,867,547
	Occitanie	56,591,930
	Pays de la Loire	37,461,827
	Provence Alpes Côte-d'Azur	48,010,459
	Ile-de-France Mobilités	539,615,034
	State - TET	66,356,997

Source: SNCF Réseau

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

The annual market charge for the CDG-Express service is €13,270,440 for the 2027 timetable. This fee was calculated taking into account the fact that the service operates on a dense network, based on a standard operating year of 365 days per year.

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 2027-2029 period.

Table 39 - Income received from the RM for contracted activities (€M)

	2027	2028	2029	
Contracted passenger services	1,357	1,397	1,454	
Per AOM:				
Ile-de-France Mobilités	540	555	576	
State - TET	66	68	71	
Auvergne Rhône-Alpes	125	129	134	
Bourgogne-Franche-Comté	56	57	60	
Brittany	21	21	22	
Centre-Val de Loire	60	62	64	
Grand-Est	129	133	138	
Hauts-de-France	101	104	109	
Normandy	55	57	59	
Nouvelle-Aquitaine	63	65	68	
Occitanie	57	58	61	
Pays de la Loire	37	39	40	
Provence Alpes Côte-d'Azur	48	49	52	

Source: SNCF Réseau

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 final data for 2025 and 2026 is not yet known. Income figures will be refined once all the charge indexation parameters are known.

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 (section 3.3.3.2.4) are then outlined.

This implementation is explained through an example (section 3.3.3.2.63.3.3.2.6)3.3.3.2.6)).

Then, the tariff adjustment mechanism is applied (section 3.3.3.2.5) which determines the RM scales applicable to TAGV activities for the timetable (section **Erreur ! Source du renvoi introuvable.**). Next, the methods for determining the RM for trains operating on multi-segment routes are presented (section3.3.3.2.9).

The procedures for implementing the RM for non-contracted and non-TAGV activities, are then detailed (section 3.3.3.2.10).

Lastly, SNCF Réseau will present a summary of its estimated turnover achieved by applying the RM to the various non-contracted activity segments (section 3.3.3.2.11).

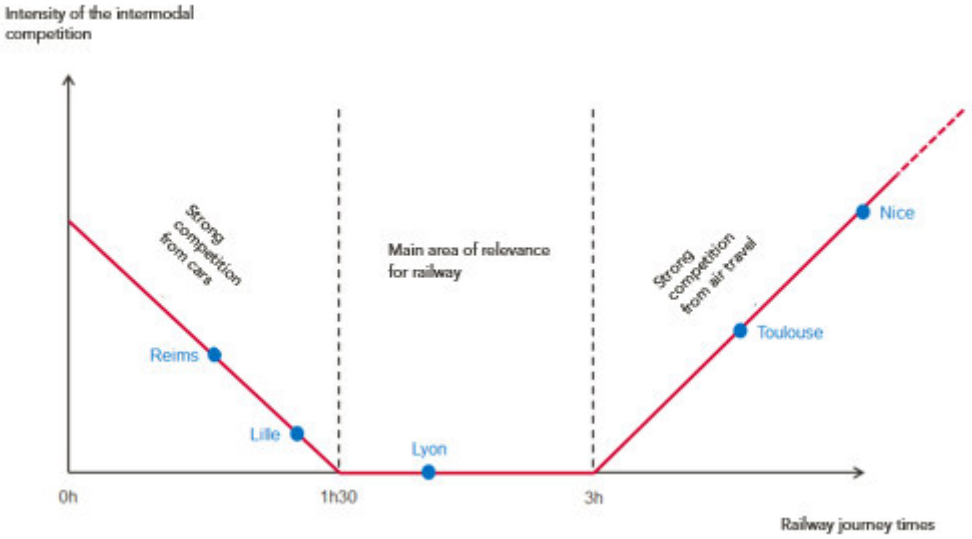
As a reminder, only commercial train paths are subject to the market charge for non-contracted passenger services.

3.3.3.2.1. Market charge pricing principles applicable to non-contracted passenger transport activities

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 6.

Figure 6 - 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.

In practice, the combination of the different parameters set out above (segments, modulations) makes it possible to better assess the contributive capacity of the downstream market, and, in application of the Ramsey-Boiteux economic theory, makes it possible to determine the applicable level of market charge.

3.3.3.2.2. Definition of TAGV market segments

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 40).

The organisation of high-speed lines in France has been structured around Paris as a highly attractive economic zone: thus, the vast majority of TAGVs originate from or terminate at a station within Paris.

On this basis, SNCF Réseau analysed the so-called radial services in order to define the various existing radial segments that cannot be substituted for one another. This analysis was carried out on the basis of two criteria: (i) the size of the market in terms of the population of the towns served on the radial line concerned and (ii) the existence and importance of intermodal competition (by air and road). This methodology resulted in the following classification:

Table 40 - 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.*

Furthermore, in order to take account of this particular structure of TAGV services, a new segment F has been introduced as part of the 2027 timetable in order to isolate domestic inter-sector services that are objectively different from radial services, since they do not serve stations within Paris. Traffic on these lines accounts for around 10% of commercial traffic and meets lower demand. They are therefore less attractive to railway undertakings and cannot be substituted for radial connections, thus justifying the creation of a dedicated segment.

International high-speed radial trains are segmented according to a principle equivalent to that used to segment domestic trains (**Erreur ! Référence non valide pour un signet.**).

Table 41 – Terms for defining international radial high-speed train segments

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

The segmentation of international trains has not changed in relation to the previous pricing cycle.

The international radial segments are grouped into two 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.

International high-speed cross-sector segments are also grouped into two segments: international inter-sectors using recent, tunnel-type infrastructures (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 F: in fact, strong market potential and low competition lead to a profitable market for passenger transport companies. Conversely, segment F represents more difficult economic conditions for transport companies, and the tariff level is adjusted accordingly.

3.3.3.2.3. Land use planning measures

In accordance with Article L. 2111-25 of the Transport Code, SNCF Réseau introduces or maintains several provisions related to regional planning in the calculation of the RM.

Firstly, a specific segment for domestic cross-sector TAGVs has been created (segment F) (see previous section).

Secondly, the measures implemented during previous pricing cycles, consisting of no RM on conventional line sections labelled "regional development" for high-speed passenger trains operating on the domestic market, are maintained. The charging system thus proposed in the context of regional development for passenger trains capable of high speed (TAGV) running on the domestic market is based on the cost directly incurred by the conventional line sections between the exit of the HSLs and the cities served.

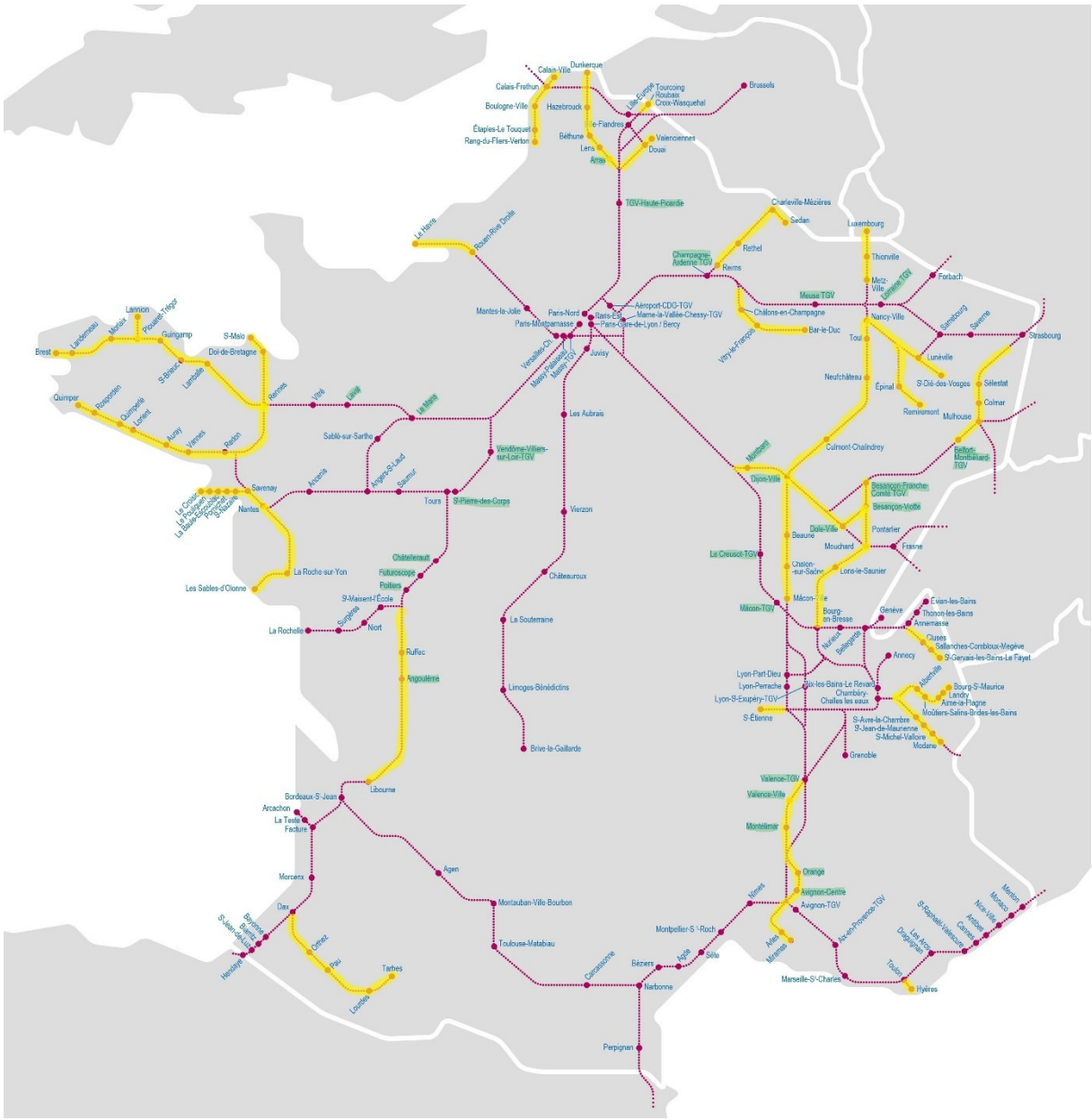
To this end, SNCF Réseau has characterised the urban areas served by TAGVs (only those served by conventional lines beyond the HSL exit) according to three criteria: population, median income and the presence of tourist amenities (seaside location, UNESCO World Heritage sites, proportion of second homes, proportion of on-site employment rates, average temperature, sunshine, number of national museums, etc.)[26].

A score is given to each urban area for each of these three criteria. The sum of these three scores is used to rank the urban areas. The highest-ranked (and therefore most attractive) urban areas are excluded from the scheme, and conventional rail services serving them are not labelled as "regional development". The other services that serve the remaining, less attractive areas are therefore eligible for the scheme.

The list of "regional development" basic line sections is set out in Appendix 5.5, resulting in the following map:

[26] Sources: INSEE, Meteo France, UNESCO

Figure 7 – Illustrative map of conventional line sections known as "regional development"



Source: SNCF Réseau

The sections of conventional line sections known as "regional development" lines, which are eligible for RM exemption for the train paths concerned, are shown in yellow. Also indicated in green are the "HSL stations" referred to as "regional development" stations, listed in Table 44, for application of the C3 modulation described in point 3.3.3.2.4

International train paths (within the meaning of origin-- destination) are not concerned by the "regional development" on conventional lines charging system.

Thirdly, a specific modulation coefficient C3 has been introduced to promote regional development services on high-speed lines, as described in the following section.

3.3.3.2.4. 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.

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:

✓ *Maintenance of time adjustment (C1)*

SNCF Réseau is continuing the time adjustment with four bands (off-peak/standard/peak/high peak), applicable every day of the week depending on the train 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 path[27], 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.

[27] 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.

Table 42 - 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

✓ *Adjustment to take into account the quality of the services offered to passengers (C2)*

The RM is modulated based on a C2 coefficient which reflects, in particular, the quality of the service offered to passengers. To this end, SNCF Réseau relies on several objective criteria, namely seat density on the train, the number of premium and standard seats, and the total number of seats. Combined, these criteria enable a detailed assessment of the level of service quality offered by the carrier, while making optimal use of the Ramsay-Boiteux pricing principle, according to which the less price-sensitive the passenger is, the higher the prices can be. This coefficient also promotes competition, while respecting the productivity gains of railway companies, as it does not increase linearly in relation to the number of seats available on trains.

This adjustment is reflected in the C2 coefficient, which is calculated on the basis of several factors:

- 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:
  - **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);
  - **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 below.3.3.3.1.3

Table 43 - C2 adjustment coefficients according to seat density/m², range (Premium or Standard) and number of seats per range

Density number of seats /m²	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 C2 adjustment coefficients is as follows:

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

✓ *Adjustment related to regional development services on HSL (C3)*

SNCF Réseau has developed a pricing mechanism that takes into account the intrinsic characteristics of transport services that result in stops at certain stations located directly on or near high-speed lines, when these stations have the specific characteristics described below. The aim of this mechanism is to encourage stops at stations identified as being relevant to regional development. This analysis has resulted in the introduction of a modulation coefficient known as "C3", the methods for determining and applying which are defined below.

In order to conduct this analysis, SNCF Réseau identified stations located directly on high-speed lines or close to high-speed lines. Proximity to a high-speed line was assessed by SNCF Réseau on the basis of the natural route of high-speed lines and the possibility of rejoining the high-speed line after stopping at the station, by making a quick cabotage journey.

- "HSL stations" were thus labelled "regional development" based on the following criteria: The population of the catchment area concerned, as defined by INSEE (source: INSEE);
- The median income of the population in the catchment area (source: INSEE); and
- The presence of tourist amenities (seaside location, UNESCO World Heritage sites, proportion of second homes, proportion of on-site employment rates, average temperature, sunshine, number of national museums, etc.).[28]

[28] Sources: INSEE, Meteo France, UNESCO

- Station traffic, determined based on the number of high-speed train stops for each station served by TAGV trains.
-

Thus, the adjustment resulting from coefficient C3 is based on objective qualitative and quantitative criteria reflecting the lower attractiveness of the stations concerned compared to other stations in the national rail network and, consequently, on the lower commercial attractiveness of serving these stations for railway companies.

Applying this methodology, SNCF Réseau arrived at the following list of twenty-seven (27) stations:

Table 44 – List of stations labelled "regional development" for the 2027 to 2029 timetables

Regional development stations		
Angoulême	Dole	Montbard
Arras	Futuroscope	Montélimar
Avignon Ville	Laval	Orange
Belfort Montbéliard TGV	Le Creusot TGV	Poitiers
Besançon Franche Comté TGV	Le Mans	Saint Pierre des Corps
Besançon Viotte	Les Laumes Alésia	TGV Haute Picardie
Champagne-Ardenne TGV	Lorraine TGV	Valence
Châtellerault	Mâcon Loché TGV	Valence TGV
Dijon	Meuse TGV	Vendôme Villiers sur Loire

Source: SNCF Réseau

Thus, a radial TAGV train path making one or more stops at one of these stations will benefit from the following reductions (which cannot be combined from one timetable to another):

- In 2027: 1% reduction of the high-speed line market charge unit price on train paths with two stops for regional development and 2% reduction on train paths with three or more stops for regional development.
- In 2028: 2% reduction of the high-speed line market charge unit price on train paths with two stops for regional development and 4% reduction on train paths with three or more stops for regional development.
- In 2029: 1% reduction of the high-speed line market charge unit price on train paths with one stop for regional development; 2% on train paths with two stops for regional development and 4% on train paths with three or more stops for regional development.

As a reminder, only stations located directly on or near high-speed lines (and which meet the above criteria) are eligible for C3 modulation. For stations located at the end of conventional lines, the RM neutralisation mechanism on conventional lines mentioned in the "land use planning measures" section applies.

3.3.3.2.5. Application of the tariff adjustment mechanism

The price effect is applied to the new market charge structure determined above to calculate the price scales.

Changes in the RM on high-speed lines act as an "adjustment variable", while the RM charge on conventional lines is identical for all market segments. This means that if the CDI rises or falls in 2027, the RM will rise or fall accordingly, so that the sum of the RM, RC and RCE changes in accordance with point 4 of this document, at constant volumes between 2026 and 2027.

- *Step 1*: SNCF Réseau has estimated traffic volumes and structures for the 2027, 2028 and 2029 timetables for all SLO customers, taking into account the information it has on customers' transport plans during these three timetables. Based on this data, SNCF Réseau estimated the projected revenue (RC+RCE+RM) for all customers by applying the 2026 scale to the anticipated volumes for the 2027 timetable.
  Thus, for the 2027 timetable, SNCF Réseau estimated the charges on the basis of the volumes and traffic structure envisaged under the 2027 timetable, valued at 2026 economic conditions (using the scales applicable to the 2026 timetable).

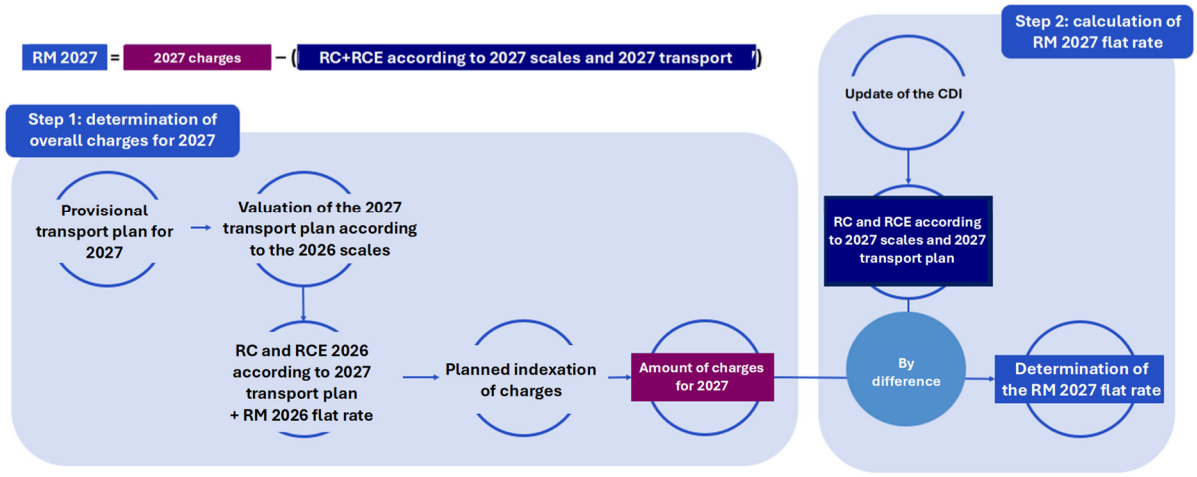
  SNCF Réseau then applied the expected price increase between 2026 and 2027 (i.e. a 1.8% increase, in accordance with the principles set out in part 4 of this Appendix) to this result in order to obtain the overall valuation of the charges linked to the national transport plan. At the end of this first stage, SNCF Réseau will have the amount of anticipated charges for traffic under all non-contracted TAGV traffic anticipated for the 2027 timetable.

- *Step 2*: To obtain the breakdown of the 2027 timetable charges between RC, RCE and RM charges, the projected amount of anticipated CDI charges was calculated by applying the 2027 scales based on traffic estimates for all SLO customers under the 2027 timetable. This amount is subtracted from the amount of anticipated charges for all non-contracted TAGV traffic anticipated for the 2027 timetable, to obtain the amount of the anticipated RM for TAGV traffic on high-speed lines for 2027, for all customers combined. The next step is to apply the envisaged traffic structure to this amount in order to determine the scales applicable to the RM.

  These measures were then taken into account by weighting the unit price of the RM. For the 2027 timetable, for example, a coefficient of 0.99 should be applied for trains serving two stops in stations labelled "regional development". Once calculated, it is possible to calculate the total RM amount for all non-contracted TAGV activities.

  The HSL RM is said to be a looping mechanism because it ensures an increase of 1.8% in the total RC+RCE+RM charges.

Figure 8 – Summary diagram of the looping RM mechanism for non-contracted passenger transport activities (2027 timetable)



Source: SNCF Réseau

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

The example below shows how the new *TAGV TM scale is calculated for a fictitious domestic radial market called "Z".*

To calculate the RM, SNCF Réseau values the provisional transport plan for all TAGV customers combined on the fictitious Z axis. To do this, for the purposes of this example, the following traffic assumptions are used for each of the parameters influencing the calculation of charges. In this example, it is assumed that only two different types of rolling stock are in service (the TGVAT and the ERT1k in US and UM), and that services have a maximum of one stop at regional development stations.

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Table 45 – RM TAGV example: assumptions

Traffic forecasts	Skm	Tkm	Tkme
Totals	120,000	100,000	100,000
of which commercial	108,000	90,000	90,000

Tonnage	LC 2-6	LC 7-9	HSL
Average tonnage (in tonnes)	600	450	650

Structure: breakdown of tkm per infrastructure type	LC 2-6	LC 7-9	HSL
total tkm	15%	5%	80%

Structure: breakdown of commercial skm per infrastructure type	LC	HSL
commercial skm	18%	82%

Structure: breakdown of commercial LC skm according to regional development	Regional development LC	Non-regional development LC
commercial skm on LC	75%	25%

Structure: breakdown of commercial HSL skm according to applicable adjustments		HC	HN	HP	HH
With no Regional Development stops	C2 corresponding to TGVAT equipment in US	0%	4%	2%	0%
	C2 corresponding to TGVAT equipment in UM	0%	6%	8%	2%
	C2 corresponding to ETR-1K equipment in US	2%	3%	4%	0%
	C2 corresponding to ETR-1K equipment in UM	0%	2%	4%	6%
With one Regional Development stop	C2 corresponding to TGVAT equipment in US	2%	5%	3%	1%
	C2 corresponding to TGVAT equipment in UM	0%	5%	6%	8%
	C2 corresponding to ETR-1K equipment in US	1%	2%	3%	3%
	C2 corresponding to ETR-1K equipment in UM	0%	0%	7%	11%

The scales for timetable n-1 are recalled below.

Table 46 – RM TAGV example: RM scales (fictitious) 2026

Market charge (RM) TAGV				
RM for each SEL = Price per kilometre x C1 x C2 x length of the SEL				
Price per kilometre (€ ex. VAT per train path-km)			On Conventional Line (LC)	On High-Speed Line (LGV)
High-speed passenger trains	Domestic traffic	Domestic axis Z	4	25

Table 47 – RM TAGV example: RC scales 2026 timetable

Running charge (RC)				
RC = (Unit price per thousand tonne-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	-

** kTBC = complete gross kilotonne)*

Source: SNCF Réseau

Table 48 – RM TAGV example: RCE scales 2026 timetable

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

The RM, RC and RCE charges calculated on the basis of the N-1 timetable scales are calculated in accordance with the methods described in the following table.

Table 49 – RM TAGV example: charges calculated

Charges	Calculation	Result (€/ex. VAT)
LC RM	108,000 * 18% * 25% * 4	19,440.00
HSL RM	108 000 * 82% * 25 * 0.56 * (0.9135 * 0% + 1.0174 * 0% + 0.9061 * 2% + 0.9712 * 0% + 0.9135 * 2% + 1.0174 * 0% + 0.9061 * 1% + 0.9712 * 0%) + 108,000 * 82% * 25 * 1 * (0.9135 * 4% + 1.0174 * 6% + 0.9061 * 3% + 0.9712 * 2% + 0.9135 * 5% + 1.0174 * 5% + 0.9061 * 2% + 0.9712 * 0%) + 108,000 * 82% * 25 * 1.15 * (0.9135 * 2% + 1.0174 * 8% + 0.9061 * 4% + 0.9712 * 4% + 0.9135 * 3% + 1.0174 * 6% + 0.9061 * 3% + 0.9712 * 7%) + 108,000 * 82% * 25 * 1.25 * (0.9135 * 0% + 1.0174 * 2% + 0.9061 * 0% + 0.9712 * 6% + 0.9135 * 1% + 1.0174 * 8% + 0.9061 * 3% + 0.9712 * 11%)	2,380,912.75
RC	100,000 * 15% * (600/1,000 * 5.56 + 0.649) + 100,000 * 5% * (450/1,000 * 1.921 + 0.524) + 100,000 * 80% * (650/1,000 * 1.663 + 0.273)	175,033.25
RCE	100,000 * 0.285	28,500.00
TOTAL RM+RC+RCE	RM LC + RM LGV + RC + RCE	2,603,886.00

This calculation of charges, in accordance with the terms of the preceding timetable, is subject to overall indexation of charges to determine the total target charges for year N. For 2027, fees will increase by 1.8% compared to 2026. It is this rate which is taken into account in the following example.

Table 50 – RM TAGV example: indexed charges

Charges	Calculation	VAT)
TOTAL RM+RC+RCE target N	TOTAL RM+RC+RCE * (1 + 1.8%)	2,650,755.95

The next step is to evaluate the provisional transport plan, based on the known 2027 scales. RC and RCE, recalled below, are determined according to the CDI scales set for the 2027 timetable (presented above in part 3.2). The LC RM changes in line with the overall indexation of charges.

Table 51 – RM TAGV example: RC scales 2027 timetable

Running charge (RC)				
RC = (Unit price per thousand tonne-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	5.705	1.935	0.657	0.526
Passenger trains travelling on a high-speed line	1.679	-	0.274	-

Source: SNCF Réseau

Table 52 – RM TAGV example: RCE scales 2027 timetable

Electric traction charge (RCE)		
RCE = Unit price x traffic distance		
Unit price (€ ex. VAT per electric train-km)	Electric traction convoys	0.291

Source: SNCF Réseau

Table 53 – RM TAGV example: charges valued

Charges	Calculation	Result (€/ex. VAT)
RM LC N	108,000 * 18% * 25% * 4 * (1+ 1.8%)	19,789.92
RC N	100,000 * 15% * (600/1,000 * 5.705 + 0.657) + 100,000 * 5% * (450/1,000 * 1.935 + 0.526) + 100,000 * 80% * (650/1,000 * 1.679 + 0.274)	177,411.75
RCE N	100,000 * 0.291	29,100.00
RM LC+RC+RCE N	RM LC N + RC N + RCE N	226,301.67

Table 54 – RM TAGV example: determination of RM indexation

Charges	Calculation	Result (€/ex. VAT)
RM LGV target N	TOTAL RM+RC+RCE TARGET N - (RM LC+RC+RCE N)	2,424,454.28
RM LGV N indexation	(RM LGV target N - RM LGV N-1) / RM LGV N-1	1.83%

To ensure an overall increase in RM, RC and RCE of 1.8%, the RM LGV must therefore increase by 1.83%. This indexation is applied to the unit price of the RM LGV.

Table 55 – RM TAGV example: determination of RM scales

Market charge (RM) TAGV				
RM for each SEL = Price per kilometre x C1 x C2 x length of the SEL				
Price per kilometre (€ ex. VAT per train path-km)			On Conventional Line (LC)	On High-Speed Line (LGV)
High-speed passenger trains	Domestic traffic	Domestic axis Z	4.07	25.46

These RM, RC and RCE scales for the 2027 timetable are therefore complete. Full application of the 2027 pricing system gives the following results:

Table 56 – RM TAGV example: estimation of 2027 charges

Charges	Calculation	Result (€/ex. VAT)
LC RM	108,000 * 18% * 25% * 4.07	19,789.92
HSL RM	108,000 * 82% * 25.46 * 0.56 * (0.9135 * 0% + 1.0174 * 0% + 0.9061 * 2% + 0.9712 * 0%) * 1 + 108,000 * 82% * 25.46 * 0.56 * (0.9135 * 2% + 1.0174 * 0% + 0.9061 * 1% + 0.9712 * 0%) * 1 + 108,000 * 82% * 25.46 * 1 * (0.9135 * 4% + 1.0174 * 6% + 0.9061 * 3% + 0.9712 * 2%) * 1 + 108,000 * 82% * 25.46 * 1 * (0.9135 * 5% + 1.0174 * 5% + 0.9061 * 2% + 0.9712 * 0%) * 1 + 108,000 * 82% * 25.46 * 1.15 * (0.9135 * 2% + 1.0174 * 8% + 0.9061 * 4% + 0.9712 * 4%) * 1 + 108,000 * 82% * 25.46 * 1.15 * (0.9135 * 3% + 1.0174 * 6% + 0.9061 * 3% + 0.9712 * 7%) * 1 + 108,000 * 82% * 25.46 * 1.25 * (0.9135 * 0% + 1.0174 * 2% + 0.9061 * 0% + 0.9712 * 6%) * 1 + 108,000 * 82% * 25.46 * 1.25 * (0.9135 * 1% + 1.0174 * 8% + 0.9061 * 3% + 0.9712 * 11%) * 1	2,424,721.55
RC	100,000 * 15% * (600/1,000 * 5.705 + 0.657) + 100,000 * 5% * (450/1,000 * 1.935 + 0.526) + 100,000 * 80% * (650/1,000 * 1.679 + 0.274)	177,411.75
RCE	100,000 * 0.291	29,100.00
TOTAL RM+RC+RCE	RM LC + RM LGV + RC + RCE	2,651,023.22

3.3.3.2.7. 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 2027 timetable, calculated on the basis of the principles detailed above and applied to the TAGV activity segments is detailed in the table below:

Table 57 - Market charge scales applicable to the TAGV activity segments for the 2027 timetable

TAGV Market charge (RM)				
RM for each SEL = Price per kilometre x C1 x C1 x C2 x C3 x length of the SEL				
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	4.07	33.76
		B	4.07	29.71
		C/D	4.07	23.45
		E	4.07	14.65
		F[29]	4.07	14.36
	International traffic**	International radial – group 1	4.07	21.87
		International radial – group 2	4.07	23.10
		International inter-sector – type 1	4.07	14.36
		International inter-sector – type 2	4.07	7.95

Source: SNCF Réseau

3.3.3.2.8. Example of how the market charge is determined for a given TAGV activity

The following example shows how the TAGV RM is calculated for the "International radial – group 2" market axis.

The RM charge applicable on LGV for a "TGV / TGVSE" running on the "Radial international - group 2" segment, on a train path departing at 4pm on a Saturday, will be calculated as follows:

- Base price: price per kilometre (PKM) = **€23.10/skm** (see **Erreur ! Source du renvoi introuvable.** below)
- Hourly modulation coefficient for peak time (HP): C1 = **1.15**
- Modulation coefficient related to the quality of the service offering:
  A TAGV, as a single unit, is fitted with 111 premium and 240 standard seats. Therefore, the C2 coefficient is:

  = ((1.02 * 111 + 0.82 * 240) / 351) = **0.8832**, for a TAGV in SU

29 This new segment benefits from a gradual reduction in the unit price of the LGV RM of 2% in 2027, 3% in 2028 and 9% in 2029, excluding indexation, compared to the unit price of the 2026 market charge for segment E which included domestic cross-sector trains in the previous cycle .

A TAGV, as a multiple unit, is fitted with 222 premium and 480 standard seats. Therefore, the C2 coefficient is:

= ((1.20 * 111*2 + 0.88 * 240*2) / (351*2)) = **0.9812**, for a TAGV in MU

- Regional development modulation coefficient without regional development stops: C3 = **1**

The unit price (€2027 ex VAT per skm) of the RM is therefore = PKM * C1 * C2 * C3:

= €23.46/skm for a journey made by a TAGV in SU

= €26.07/skm for a journey made by a TAGV in MU

3.3.3.2.9. 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 2027 prices):

Table 58 - 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	14.65
Arras - Lille	47.64/12%	F	14.36
Paris - Lille	195.73/50%	C/D	23.45
Price list	**391.46**		19.01

Source: SNCF Réseau

Table 59 - 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	33.76
Lyon - Marseille	292.08/21%	F	14.36
Paris - Marseille	692.94/50%	C/D	23.45
Price list	**1,385.88**		24.52

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 60 - 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	33.76
Lyon Part-Dieu - Chambéry	0/0%	F	14.36
Chambéry - Modane (PF)	0/0%	International inter-sector – type 1	14.36
Paris – Modane (PF)	400.86/50%	International radial – group 2	23.1
Price list	**801.72**		28.43

Source: SNCF Réseau

Table 61 - 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	23.45
Chambéry - Modane (PF)	0/0%	International inter-sector – type 1	14.36
Paris – Modane (PF)	437.01/50%	International radial – group 2	23.1
Price list	**874.02**		23.28

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 62 - 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	14.65
Mulhouse – Basel (PF)	0/0%	International inter-sector – type 1	14.36
Paris – Basel (PF)	320.30/50%	International radial – group 1	21.87
Price list	**640.60**		**18.26**

Source: SNCF Réseau

Source: SNCF Réseau

By way of example, the scale of charges applicable to international train paths with domestic stops in € 2027, according to the applicable 2027 pricing, is as follows, for the train paths concerned:

Table 63 - Example of a market charge applicable to composite train paths and certain international train paths with domestic stops for the 2027 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	4.07	19.01
Multi-segment Paris-Lyon-Aix-en-Provence-TGV	4.07	24.60
Multi-segment Paris-Lyon-Alpes	4.07	28.61
Multi-segment Paris-Lyon-Marseille and beyond	4.07	24.52
Multi-segment Paris-Lyon-Miramas	4.07	27.05
Multi-segment Paris-Lyon-Nîmes and beyond	4.07	25.14
Belgium, Netherlands and Germany Radial via North Corridor with domestic stop	4.07	22.34
Spain Radial with domestic stop	4.07	23.28
Great Britain Radial with stop in Calais	4.07	22.65
Great Britain Radial with stop in Lille	4.07	20.13
Italy Radial with Alps domestic stop	4.07	23.28
Italy Radial with stop in Lyon	4.07	28.43
Luxembourg and Germany Radial via East Corridor with domestic stop	4.07	22.66
Switzerland Radial - Others with domestic stop	4.07	18.26
Switzerland Radial - Geneva with domestic stop	4.07	22.66
International Inter-sector - type 1 with domestic stop	4.07	14.36
International Inter-sector - type 2 Spain with domestic stop	4.07	11.16
International Inter-sector London-Bourg-St-Maurice with stop in Lille	4.07	10.73
International Inter-sector London-Brussels with stop in Lille	4.07	8.40
International Inter-sector London-Brussels with stops in Lille and Calais	4.07	11.16
International Inter-sector London-Marne la Vallée-Chessy international with stop in Lille	4.07	10.16
International Inter-sector London-Marseille with stop in Lille	4.07	10.85

Source: SNCF Réseau

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

3.3.3.2.10. 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 64 - Market charge scales applicable to non-contracted and non-high speed passenger transport activities for the 2027 timetable

Market Charge (RM) for other the non-contracted passenger trains			
RM for each SEL = Price per km x length of the SEL			
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	1.22	1.22[30]
	Trains not capable of night-time high speeds	-	-
	Auto-train	-	-
	Historical and tourist trains	-	-
	Test trains	4.07	15.15

Source: SNCF Réseau

3.3.3.2.11. Overview of the income from 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 2027-2029 period (Table 65). based on the traffic estimates it has available to date.

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

	2029	2028	2027
Non-contracted passenger services	2,254	2,290	2,399

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.

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

[30] Non-high-speed trains may occasionally run on high-speed lines during the day. In such cases, the applicable RM scale is identical to that applicable on conventional lines for the segment (day trains not suitable for high speed).

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 2024-2026 pricing cycle, the RA 2024 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 2024. The 2024, 2025 and 2026 RAs have been indexed in accordance with the planned tariff adjustment mechanism, by +8%, +6% and +4.1% respectively.

For the 2027-2029 period, a similar method has been applied.

For the RA paid by the State for contracted activities, excluding IDFM and AOM State – CDG Express, it has been indexed in accordance with the tariff adjustment mechanism set out in point 4. Then, in a second step, for each timetable in the pricing cycle, the amount of the RA for contracted activities excluding Ile-de-France Mobilités, paid in full by the State, is distributed among AOMs in such a way as to obtain a rate of cost coverage by all charges.

With regard to the RA owed by IDFM, it will also be indexed in accordance with the mechanism set out in point 4.

In the table below, SNCF Réseau evaluated the access charge income attributable to contracted passenger transport activities per region, over the 2026-2029 period.

Table 66 - Income received via the RA for contracted activities (€M)

	2027	2028	2029
Contracted passenger services	2,792	2,873	2,977
Per AOM:			
Ile-de-France Mobilités	207	213	221
State TET	653	673	698
Auvergne Rhône-Alpes	203	209	216
Bourgogne-Franche-Comté	203	208	216
Brittany	65	66	68
Centre-Val de Loire	168	173	180
Grand-Est	281	290	301
Hauts-de-France	286	296	307

Normandy	115	113	117
Nouvelle-Aquitaine	230	238	246
Occitanie	197	203	211
Pays de la Loire	109	113	116
Provence Alpes Côte-d'Azur	75	77	80

Source: SNCF Réseau

NB: For 2028 and 2029, the income amounts shown in the table above are projections calculated on the basis of the known HICP estimate, as data are not available for 2028 and 2029. Income figures will be refined once all the charge indexation parameters are known.

3.4. Other fees

3.4.1. Congestion charge (RS)

The congestion charge will not apply during the 2027, 2028 and 2029 timetables.

3.4.2. Special Charges (RP)

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).

Furthermore, new specific charges may be introduced during the cycle, subject to the Transport Regulating Authority's approval of the specific charge.

3.4.2.1. 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.

3.4.2.2. 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.

3.4.2.3. 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 Leman 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.

3.4.2.4. It started with the 2020 timetable and will cease to apply as of the 2040 timetable.

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.

3.4.2.5. 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.

3.4.2.6. 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 67 - Overview table of special charges

Special charges	Amount of investment to be borne by SNCF Réseau *In current €M*	Duration of collection	First year of collection	Last year (last timetable) of collection
Charges for use of freight trains on the "Saint-Pierre-d'Albigny – Modane Frontière line	€5.4 M(*)	20 years	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 years	2012	2031
Special charge related to the CEVA project	€35 M(*)	20 years	2020	2039
Special charge related to the Serqueux-Gisors modernisation project	€0 M(*)	20 years	2021	2040
Special charge connected with the LGV+ Paris-Lyon project	€194 M	25 years	2023	2047

Source: SNCF Réseau

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

SNCF Réseau has evaluated the income from the special charges attributable to each activity over the 2027-2029 period. The results are shown in the table below.

Table 68 – Income collected via the RP per activity and region (€M)

	2027	2028	2029
Non-contracted passenger services	13	13	14
Freight services	0	0	0
Contracted passenger services	1	1	1
Per AOM:			
Ile-de-France Mobilités	0	0	0
State TET	0	0	0
Auvergne Rhône-Alpes	1	1	1
Bourgogne-Franche-Comté	0	0	0
Brittany	0	0	0
Centre-Val de Loire	0	0	0
Grand-Est	0	0	0
Hauts-de-France	0	0	0
Normandy	0	0	0
Nouvelle-Aquitaine	0	0	0
Occitanie	0	0	0
Pays de la Loire	0	0	0
Provence Alpes Côte-d'Azur	0	0	0

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.

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

	2027	2028	2029
Non-contracted passenger services	2,567	2,575	2,635
Freight services	283	297	316
Contracted passenger services	4,940	5,093	5,277
Per AOM:			
Ile-de-France Mobilités	995	1,024	1,061
State TET	775	799	828
Auvergne Rhône-Alpes	404	416	431
Bourgogne-Franche-Comté	293	303	314
Brittany	108	111	115

Centre-Val de Loire	269	277	288
Grand-Est	473	488	505
Hauts-de-France	448	462	479
Normandy	226	233	241
Nouvelle-Aquitaine	323	333	345
Occitanie	290	300	310
Pays de la Loire	177	182	189
Provence Alpes Côte-d'Azur	160	165	171

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.

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 2026 and 2027 (section 4.2) and between the successive years making up the 2027-2029 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 2027 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 June 2025 for the 2027 timetable (which is set to +1.8%), and in June Y-1, under the forecast inflation increase for year Y for the 2028 and 2029 timetables;
- **A compensation for the inflation differential,** either upwards or downwards, between the forecast inflation integrated in the price scales and the actual inflation observed. Thus, the inflation differential observed for the 2025 and 2026 timetables will be reflected on the price scales for the 2028 timetable. The inflation differential observed for the 2027 timetable will be reflected in the price scales for the 2029 timetable. The inflation differentials observed for the 2028 and 2029 timetables will be reflected in the 2030-2032 pricing cycle.

For contracted passenger activities, as well as access charges, SNCF Réseau offers a mechanism for adjusting the minimum service charges based on two components:

- **An annual increase of 3.6%**. This increase corresponds to the commitments in the Performance Contract;
- **A compensation for the inflation differential**, either upwards or downwards, between the forecast inflation integrated in the price scales and the actual inflation observed for the 2025-2026 timetables, in accordance with the provisions provided in the previous pricing cycle. This differential will be reflected in the scales of the 2028 timetable. No other inflation differential compensation mechanism is planned for contracted passenger transport activities.

The income estimates presented in this document are based on a projected HICP inflation rate of +1.8% for the 2028 and 2029 timetables. The 2028 timetable is impacted by the compensation for the inflation differential for the 2025 and 2026 timetables, estimated at -0.7% according to the June 2025 HICP publication by the Banque de France. This data has been taken into account in the calculation of the income estimates for SNCF Réseau presented above. For the 2029 timetable, which will be impacted by the compensation for the inflation differential for the 2027 timetable, no differential has been taken into account.

4.2. Changes in charges between 2026 and 2027

The table below sets out the changes in charges between the 2026 and 2027 timetables:

Table 70 - Terms for indexation of charges between the 2026 and 2027 timetables

Type of charge	Non-contracted passenger activities	Contracted passenger activities	Freight activities
Running charge (RC)	Indices specific to CDI (see section 2.3.2.2), including HICP 2027 Banque de France June 2025		**Gross RC:** indices specific to the CDI, including HICP 2027 Banque de France June 2025 **Net RC:** HICP 2027 Banque de France June 2025
Electric traction charge (RCE)	Indices specific to CDI (see section 2.3.2.4), including HICP 2027 Banque de France June 2025		
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 2027 Banque de France June 2025	RM+RC+RCE are changing to: 3.6%	Not applicable
Access charge (RA)	Not applicable	3.6%	Not applicable
Special charges (RP)	HICP 2027 Banque de France June 2025		
Congestion charge (RS)	Not applicable		

Source: SNCF Réseau

4.3. Changes in charges for the 2027-2029 period

Table 71 and Table 72 set out the changes in charges between the 2027-2028 timetables and the 2028-2029 timetables, respectively:

Table 71 - 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 2.3.2.2), including HICP 2028 Banque de France June 2027		**Gross RC:** indices specific to the CDI, including HICP 2028 Banque de France June 2027 **Net RC:** 2028 HICP Banque de France June 2027 + 2025 inflation differential adjustment + 2026 inflation differential adjustment
Electric traction charge (RCE)	Indices specific to CDI (see section 2.3.2.4), including HICP 2028 Banque de France June 2027		
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: 2028 HICP Banque de France June 2027 + 2025 inflation differential adjustment + 2026 inflation differential adjustment	RM+RC+RCE are changing to: 3.6% + 2025 inflation differential adjustment + 2026 inflation differential adjustment	Not applicable
Access charge (RA)	Not applicable	3.6% + 2025 inflation differential adjustment + 2026 inflation differential adjustment	Not applicable
Special charges (RP)	2028 HICP Banque de France June 2027 + 2025 inflation differential adjustment + 2026 inflation differential adjustment		
Congestion charge (RS)	Not applicable		

Source: SNCF Réseau

Table 72 - Terms for changes in charges between the 2028 and 2029 timetables

Type of charge	Non-contracted passenger activities	Contracted passenger activities	Freight activities
Running charge (RC)	Indices specific to CDI (see section 2.3.2.2), including HICP 2029 Banque de France June 2028		**Gross RC:** indices specific to the CDI, including HICP 2029 Banque de France June 2028 **Net RC:** HICP 2029 Banque de France June 2028 + 2027 inflation differential adjustment
Electric traction charge (RCE)	Indices specific to CDI (see section 2.3.2.4), including HICP 2029 Banque de France June 2028		
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 2029 Banque de France June 2028 + 2027 inflation differential adjustment	RM+RC+RCE are changing to: 3.6%	Not applicable
Access charge (RA)	Not applicable	3.6%	Not applicable
Special charges (RP)	HICP 2029 Banque de France June 2028 + 2027 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.

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

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 2027-2029 period, the coverage rates per activity and overall are presented in the following table.

Table 73 - Cost coverage by income from charges for all rail activities

Activity	Item	2027	2028	2029
Contracted passenger	Income	4,940	5,093	5,277
	Costs	5,563	5,665	5,751
	Coverage rate	89%	90%	92%
Non-contracted passenger	Income	2,567	2,575	2,635
	Costs	2,173	2,213	2,246
	Coverage rate	118%	116%	117%
Freight	Income	283	297	316
	Costs	1,847	1,881	1,910
	Coverage rate	15%	16%	17%
TOTAL minimum services	**Income**	**7,789**	**7,965**	**8,228**
	Costs	**9,583**	**9,759**	**9,907**
	Coverage rate	**81%**	**82%**	**83%**

Source: SNCF Réseau

For all rail activities, SNCF Réseau's forecast cost coverage rate is 81% in 2027, 82% in 2028 and 83% in 2029: on the scale of all activities, charges do not exceed the full cost.

As a reminder, for 2028 and 2029, the income amounts shown in the table above are projections calculated on the basis of HICP estimates known to date, as the final data are not yet available for 2028 and 2029. They will therefore be refined once all the charge indexation parameters are known. Income is estimated by SNCF Réseau based on current traffic forecasts on the one hand, and on the other hand on an estimate of price changes (as the HICP indices are not yet known at this date). They will therefore be adjusted in the next NS for the timetable concerned to take account of updates to the HICP index.

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:

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

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

Transport Organising Authority	Item	2027	2028	2029
Auvergne-Rhône-Alpes	Income	200	207	215
	Costs	456	465	472
	Coverage rate	44%	45%	46%
Bourgogne-Franche-Comté	Income	91	95	98
	Costs	332	338	343
	Coverage rate	27%	28%	29%
Brittany	Income	43	46	47
	Costs	122	124	126
	Coverage rate	35%	37%	37%
Centre-Val de Loire	Income	101	104	108
	Costs	304	310	315
	Coverage rate	33%	34%	34%
Grand-Est	Income	192	198	205
	Costs	535	545	553
	Coverage rate	36%	36%	37%
Hauts-de-France	Income	161	166	172
	Costs	506	516	524
	Coverage rate	32%	32%	33%
Normandy	Income	111	120	125
	Costs	256	260	264
	Coverage rate	43%	46%	47%

Nouvelle-Aquitaine	Income	93	95	99
	Costs	365	372	377
	Coverage rate	25%	26%	26%
Occitanie	Income	93	96	100
	Costs	328	335	340
	Coverage rate	28%	29%	29%
Pays de la Loire	Income	67	69	72
	Costs	200	203	207
	Coverage rate	34%	34%	35%
Provence-Alpes-Côte d'Azur	Income	85	87	90
	Costs	181	184	187
	Coverage rate	47%	47%	48%
Ile-de-France Mobilités	Income	788	811	840
	Costs	1,101	1,121	1,138
	Coverage rate	72%	72%	74%
State	Income	122	126	130
	Costs	877	893	906
	Coverage rate	14%	14%	14%
TOTAL	**Income**	**2,148**	**2,219**	**2,300**
	Costs	**5,563**	**5,665**	**5,751**
	Coverage rate	**39%**	**39%**	**40%**

Source: SNCF Réseau

NB: For 2028 and 2029, the income amounts shown in the table above are projections calculated on the basis of HICP estimates known to date, as the final data are not yet available for 2028 and 2029.

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 2027-2029 pricing cycle. On average, charges excluding RA cover 39%, 40% and 41% of the full cost attributable to contracted passenger transport activities in 2027, 2028 and 2029 respectively.

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

Table 75 - Coverage of costs by income from charges with RA included on the scale of all rail activities

Transport Organising Authority	Item	2027	2028	2029
Auvergne-Rhône-Alpes	Income	404	416	431
	Costs	456	465	472
	Coverage rate	88%	90%	91%
Bourgogne-Franche-Comté	Income	293	303	314
	Costs	332	338	343
	Coverage rate	88%	90%	91%
Brittany	Income	108	111	115
	Costs	122	124	126

	Coverage rate	88%	90%	91%
Centre-Val de Loire	Income	269	277	288
	Costs	304	310	315
	Coverage rate	88%	90%	91%
Grand-Est	Income	473	488	505
	Costs	535	545	553
	Coverage rate	88%	90%	91%
Hauts-de-France	Income	448	462	479
	Costs	506	516	524
	Coverage rate	88%	90%	91%
Normandy	Income	226	233	241
	Costs	256	260	264
	Coverage rate	88%	90%	91%
Nouvelle-Aquitaine	Income	323	333	345
	Costs	365	372	377
	Coverage rate	88%	90%	91%
Occitanie	Income	290	300	310
	Costs	328	335	340
	Coverage rate	88%	90%	91%
Pays de la Loire	Income	177	182	189
	Costs	200	203	207
	Coverage rate	88%	90%	91%
Provence-Alpes-Côte d'Azur	Income	160	165	171
	Costs	181	184	187
	Coverage rate	88%	90%	91%
Ile-de-France Mobilités	Income	995	1,024	1,061
	Costs	1,101	1,121	1,138
	Coverage rate	90%	91%	93%
State	Income	775	799	828
	Costs	877	893	906
	Coverage rate	88%	90%	91%
TOTAL	**Income**	**4,940**	**5,093**	**5,277**
	Costs	**5,563**	**5,665**	**5,751**
	Coverage rate	**89%**	**90%**	**92%**

Source: SNCF Réseau

NB: For 2028 and 2029, the income amounts shown in the table above are projections calculated on the basis of HICP estimates known to date, as the final data are not yet available for 2028 and 2029.

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 2027-2029 pricing cycle.

With regard to the contracted activity, it is therefore well established that, for each AOM, income will not exceed total costs over the period 2027-2029.

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***"[31].

With regard to contracted passenger transport services, the cost of charges (including the market charge) is taken into account in the compensation owed by the AOMs in accordance with the applicable contractual provisions. This compensation mechanism therefore preserves the economic balance of railway undertakings within the scope of the agreement. For the rest, in accordance with the analysis adopted by the Council of State, the sustainability of charges for contracted passenger transport is based on a detailed assessment of the effects of price increases on transport supply.

With regard to the level of services offered by the AOMs, the table below shows the traffic estimates used for each AOM and the changes in services planned (in train-kilometres) by the AOMs for the period 2027-2029.

Traffic estimates are based on the information available to date and are based on:

- either data provided by the AOMs during the pre-consultation phase or during the consultation phase. If an AOM provided data during both periods, the data from the more recent formal consultation was used.
- or, in the absence of information provided by the AOTs, on the data available to SNCF Réseau.

Table 76 - Annual change in the AOM train path-km offer over the 2026-2029 period

	Annual train path-km retained				Change in volumes of train-km		
Mobility Organising Authority	2026	2027	2028	2029	2026-2027	2027-2028	2028-2029
Auvergne-Rhône-Alpes	33,399,526	32,290,000	32,800,000	32,920,000	-3.3%	+1.6%	+0.4%
Bourgogne-Franche-Comté	15,283,471	16,584,346	17,059,752	17,059,752	+8.5%	+2.9%	+0.0%
Bretagne	8,395,902	9,315,598	9,746,990	9,840,641	+11.0%	+4.6%	+1.0%
Centre-Val de Loire	14,101,000	14,610,903	14,610,903	14,610,903	+3.6%	+0.0%	+0.0%
Grand Est	31,868,142	30,362,130	30,362,130	30,362,130	-4.7%	+0.0%	+0.0%
Hauts-de-France	25,855,390	25,855,390	25,855,390	25,855,390	+0.0%	+0.0%	+0.0%
Normandie	17,133,457	17,400,000	19,400,000	19,500,000	+1.6%	+11.5%	+0.5%

Nouvelle-Aquitaine	18,300,514	18,300,514	18,300,514	18,300,514			
Occitanie	18,350,844	18,350,844	18,350,844	18,350,844			
Pays de la Loire	14,084,525	14,597,774	14,732,706	14,961,839	+3.6%	+0.9%	+1.6%
Provence-Alpes-Côte d'Azur	15,363,597	15,363,597	15,363,597	15,363,597			
Ile-de-France Mobilités	61,190,376	61,190,376	61,190,376	61,190,376			
State – CDG Express	0	1,131,626	1,508,834	1,508,834	-	+33.3%	+0.0%
State - TET	16,290,572	16,290,572	16,290,572	16,290,572	+0.0%	+0.0%	+0.0%

Source: SNCF Réseau

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 2027-2029 pricing cycle. Only the Auvergne-Rhône-Alpes and Grand Est regional councils are planning reductions in their provision, of 3.3% and 4.7% respectively.

These reductions are limited in scale and therefore not significant.

Furthermore, and on a secondary basis, despite explicit requests from SNCF Réseau, the reasons for these reductions have not been explained for AURA. In the case of Grand Est, the traffic estimate for 2027 to 2029 was communicated in June 2025, at a time when the level of charges had not yet been communicated to the AOM. These estimates were not modified during subsequent discussions with the AOM during the public consultation. The region's comments focused only on the traffic figures used for the 2026 timetable, which were used in the current pricing proposal.

In view of these factors, it cannot be considered that the traffic reductions are directly linked to the 2027/2029 pricing proposal.

For all these reasons, the RM flat rates presented in the appendix should therefore be considered sustainable.

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

Concerning TAGV activities the fare levels are 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 out[32]: " *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%.

[32] State Council decision no. 431748 of 27 November 2020

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

EBITDA/TURNOVER	Average 2027-2029
Domestic - segment A	[20-25] %
Domestic - segment B	[25-30] %
Domestic - segment C/D	[10-15] %
Domestic - segment E	[25-30] %
Domestic - segment F	[10-15] %
International Radial - Group 1	> 40%
International Radial - Group 2	> 40%
International Inter-sector - type 1	> 35%
International Inter-sector - type 2	> 35%

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).

Consequently, the fare mark-ups imposed on TAGV trains are sustainable.

For trains that are not suitable for high speed during the day, SNCF Réseau uses a variation of the normative carrier model adapted to these trains. As with TAGVs, the results show that, over the three-year cycle, the margin rate is above 12%. Pricing is therefore sustainable.

Other non-contracted trains (test trains) subject to a market charge are also considered sustainable.

6. Table of figures

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