# Capacity Strategy

## For timetable 2028

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# Modifications

The following overview displays the most significant modifications **compared to the capacity strategy for timetable 2027**

| chapter | content |
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| **Contact Details** | Additional sub-chapter |
| **Geographical Area** | Update of concerned lines on the Infrabel network |
| **Modifications** | New chapter on modifications compared to previous versions |
| **Introduction** | Updated information |
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| **3.1.1** | Updated scope |
| **3.1.2** | Additional information on Capacity Needs Announcements |
| **3.2** | Addition new border points |

The following overview displays the most significant modifications compared to the **draft** capacity strategy for timetable **2028**

| chapter | content |
|---|---|
| **1.2** | Updated table – extra added |
| **1.3** | Updated table – extra added |
| **1.4** | Updated map overview |
| **2.4.1** | Updated table – extra added |
| **2.4.2** | Updated map overview |
| **3.1.2** | Status: additional reference to European legislative process on capacity management and status of Capacity Model and Capacity Supply Plan<br>Capacity Needs Announcements: additional details added |
| **3.2** | Updated figures for border Essen/Roosendaal |

# Introduction

Within TTR, each Infrastructure Manager is expected to publish until X-36 (December 2024) its Capacity Strategy for Timetable 2028. General aim of the Capacity Strategy is to provide indication on key values of capacity planning, such as changes in infrastructure availability, temporary capacity restrictions as well as minimum bookable capacity for a given timetable. It is the earliest TTR planning instrument, based on which the Capacity Model (June 2026 for Timetable 2028) and the Capacity Supply (January 2027 for Timetable 2028) will be developed.

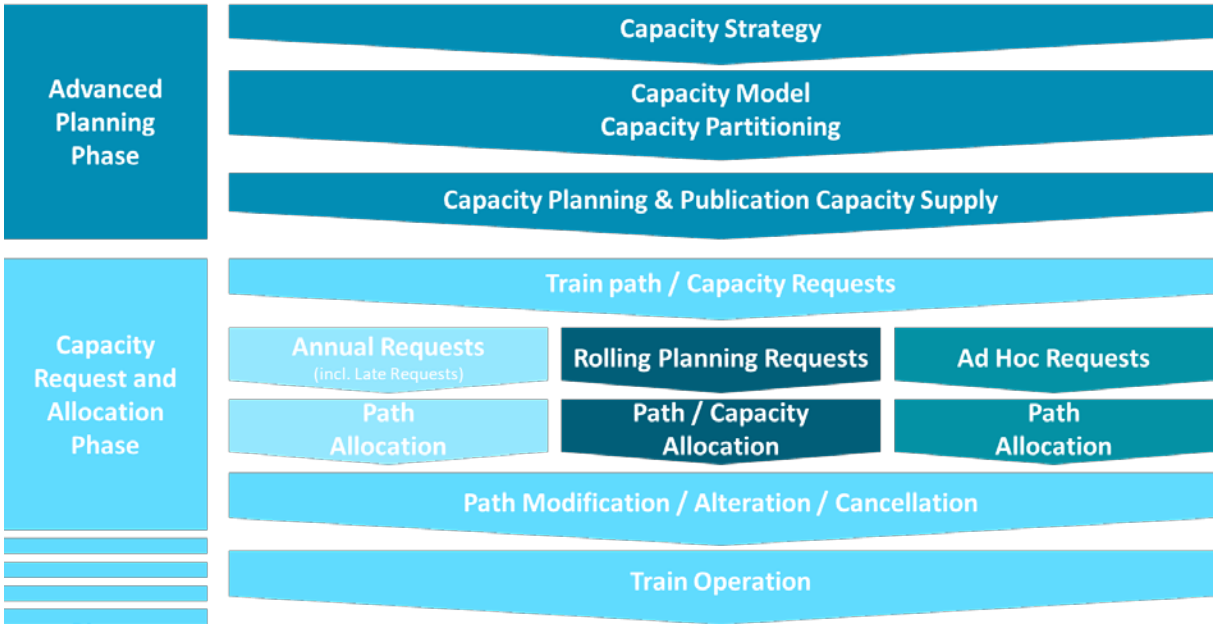



Figure 1: Steps of the TTR process (Source: RNE)

The present document

- meets the requirements of RNE's Capacity Strategy Handbook, version 3.0,
- focuses for timetable 2028 on the main lines of the Infrabel network, which means a considerable increased geographic scope compared to the timetable 2025 to 2027, as described more in detail in chapter 0,
- encloses, beyond the description of the geographical scope, three main chapters:
  - Expected capacity of infrastructure in TT2028 with focus on expected permanent changes in infrastructure capacity
  - Description of planning of temporary capacity restrictions and expected temporary capacity restrictions with major impact
  - Description of traffic planning principles and expected traffic flows

The Capacity Strategy targets Applicants as well as their end customers, Service Facilities and Terminals, Policy decision makers as well as any other stakeholder of rail capacity planning and allocation.
The present document is non-binding. It applies to Timetable 2028 and builds further on the documents for timetable 2025 (published in June 2022), 2026 (published in December 2022) and 2027. Major changes compared to the previous timetable year version and the published draft version are indicated in the table 'modifications'.
It is endorsed by the appointed representatives of Infrabel.

From timetable 2027, Infrabel provides a draft version of the document to all stakeholders for consultation purposes. Questions and comments on the draft version for TT2028 could be submitted latest by November 18th 2024 to Infrabel via ttr@infrabel.be.

Infrabel takes the time to answer to all questions and takes the input into account where possible.

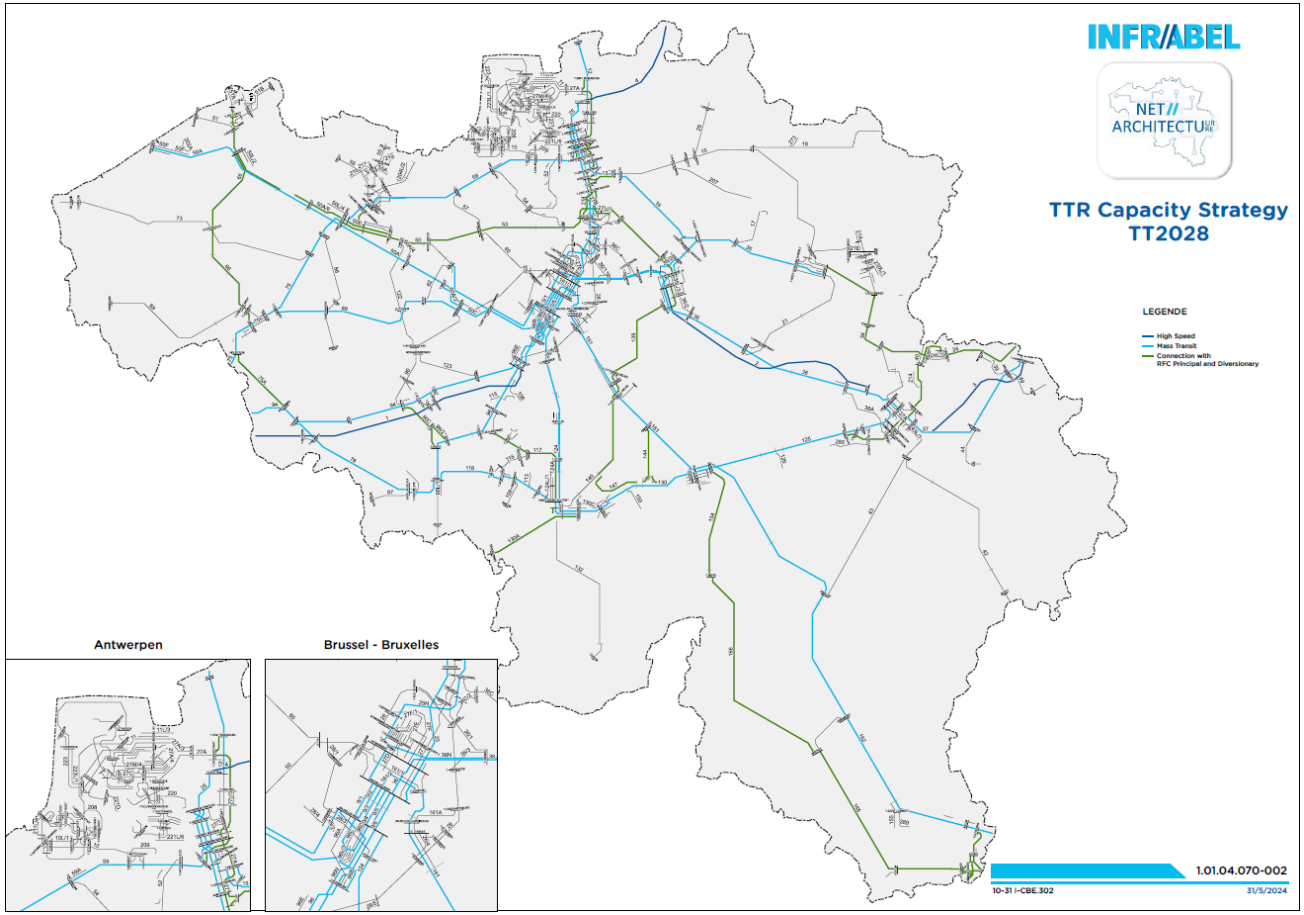
The TT2028 Capacity Strategy was published on December 16th, 2024.

## Contact Details

Questions and comments can be provided to the following email-address: ttr@infrabel.be. In case of receival in the consultation period (X-39-X-37), these will be taken into account as much as possible in the final publication at X-36. Otherwise we will integrate this input in the conception phase of the next Infrabel Capacity Strategy. All input will receive an individual response.

# Geographical Area

## Map



For the TT2028 Capacity Strategy, Infrabel has decided to base the geographical scope on the major axes of its network, defined as High Speed, Mass Transit and Rail Freight Corridor lines (principal and diversionary, with exception of portuary lines). The intention is to keep this classification as the basis for the future Capacity Strategies as well.

## Relevant Border Points

A list of border points to be included in the geographic scope of the Capacity Strategy has been agreed between the participating IMs:

| | **Infrabel** |
|---|---|
| **ProRail** | Roosendaal– Essen;<br>Meer/ Hazeldonk (HSL) |
| **DB Netz** | Aachen-West/ Montzen<br>Aachen-Süd/Hergenrath |
| **ACF** | Aubange/Rodange,<br>Kleinbettingen/Sterpenich,<br>Athus/Rodange |
| **SNCF Réseau** | Aubange/Mont-St.Martin,<br>Erquelinnes/Jeumont,<br>Blandain/Baisieux,<br>Mouscron/Tourcoing,<br>Wannehain/Esplechin |

# 1. Expected capacity of infrastructure in TT2028

Every network has a nominal (or theoretical) capacity from which long-duration TCRs and standard maintenance windows have to be subtracted. This leads to the effective capacity for a given timetable year, which is the capacity that can actually be used to plan train paths and TCRs (other than long duration TCRs).

## 1.1 Available Capacity Description

The present chapter provides an overview of significant additional (also called positive changed) or reduced (also called negative changes) available capacity for Timetable 2028, compared to the infrastructure available at December 2024.

The projects listed in this chapter fulfill the following criteria:

- Unlike TCRs which are mentioned in chapter 2, the project has a permanent impact on the available capacity,
- The project unfolds its effect on capacity for Timetable 2028. Subsequent Capacity Strategies will provide annual updates,
- The projects have a significant size and are located on network segments relevant for international traffic, whereby each Infrastructure Manager evaluates the fulfillment of this criteria on its own,
- About effects on capacity, projects labeled as “high” are expected to allow a higher number of trains, projects labeled as “medium” are expected to allow longer, heavier or enhanced profile trains, projects labeled as “minor” concern improvements in flexibility, marshalling and other.

In the map at the end of the chapter, green bullets locate the projects that provide available capacity, red bullets locate the projects that provide negative capacity.

## 1.2 Additional Available Capacity

A common table structure has been defined which specifies the level of details of the required information about the infrastructure measures taken into consideration.

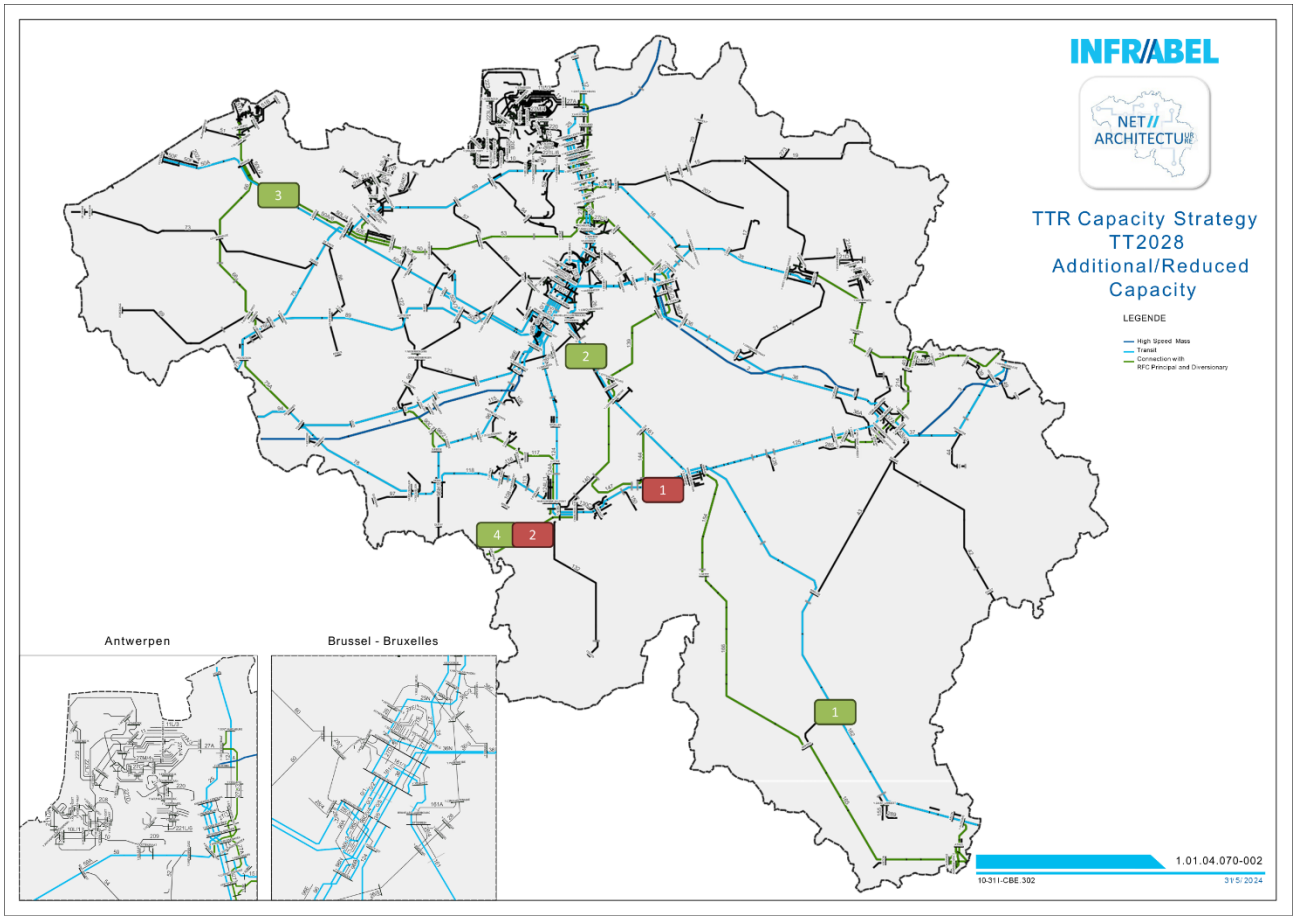
| Additional Available Capacity | | | | | |
|---|---|---|---|---|---|
| **ID** | **Network segment** | **Description** | **Effect** | **Financing secured** | **Effective from [if available]** |
| **2025** | | | | | |
| 1 | Libramont L165/1 - L162 | New link between L165/1 and L162 | New diversion route for freight traffic | No | Dec-25 |
| **2026** | | | | | |
| 2 | L161 Watermael-Ottignies | Full commissioning 4 tracks | Project RER | Yes | Dec-26 |
| **2029** | | | | | |
| 3 | L50D Gent-Brugge | Full commissioning 4 tracks | capacity expansion | Yes | Dec-29 |
| 4 | L130A Hourpes-Lobbes | Commissioning second track | removal of single track section | No | Dec-29 |

## 1.3 Reduced Capacity

The same table structure as for additional available capacity applies (see 2.2). It is noted that reduced available capacity refers to measures resulting into permanent capacity reductions in contrast to Temporary Capacity Restrictions (TCRs), which will be considered in the chapter “Temporary Capacity Restrictions”.

| Reduced Available Capacity | | | | |
|---|---|---|---|---|
| **ID** | **Network segment** | **Description** | **Estimated effects on capacity** | **Capacity reduced since** |
| | | | | |
| 1 | L144 Moustier – Garage | Single track operations | Quantitative | Immediate |
| 2 | L130A Hourpes-Lobbe | Single track operations | Quantitative | Immediate |

## 1.4 Geographical Overview

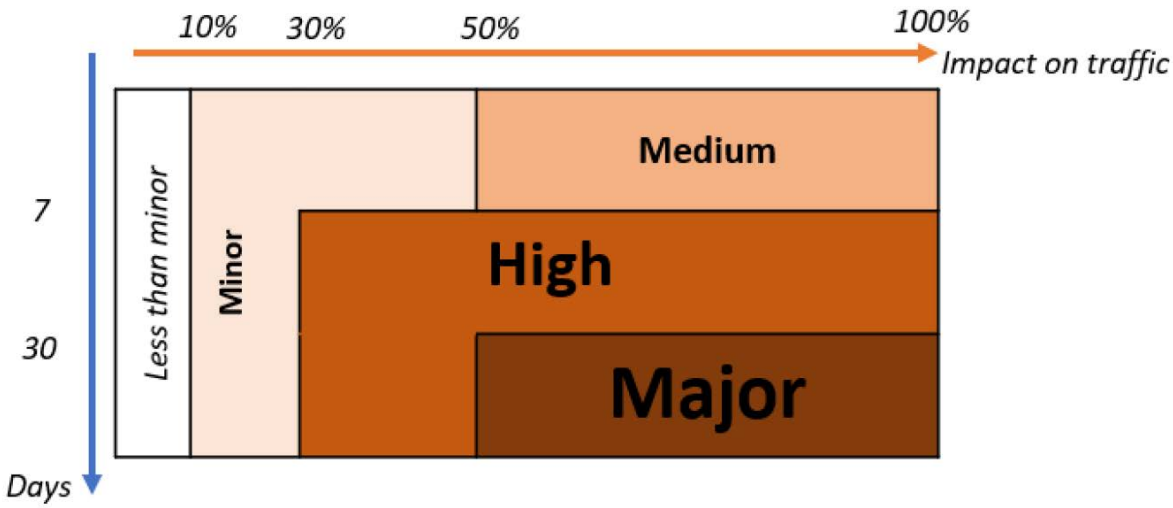


# 2. Temporary Capacity Restrictions

## 2.1 Principles for TCR Planning

The goal of this chapter is to describe the principles and typology for the planning of TCRs on the Infrabel network and the coordination process linked to it.

Infrastructure Managers are required to plan TCRs following “Annex VII”:
Annex VII sets the frame for TCR-planning, the aim of which is to promote early planning, international coordination among Infrastructure Managers, transparency towards customers and planning stability, thereby pursuing the goal of an increased performance and competitiveness of rail services.




## 2.2 Maintenance Windows

### 2.2.1 Introduction

The maintenance of the infrastructure is repetitive in nature. Every asset must be maintained regularly with a frequency fixed by the regulation. Therefore planning can be based on this regularity and does not have to start from scratch every time. By elaborating a regular planning, maintenance is facilitated, which will positively affect the availability of the infrastructure.

Tying the planning of maintenance to a recurring principle also means that less effort is required to create the planning. This will make the planning process more efficient. The rotation plan is part of the Capacity Strategy and the Capacity Based Planning (CBP) is developed to ensure that sufficient capacity

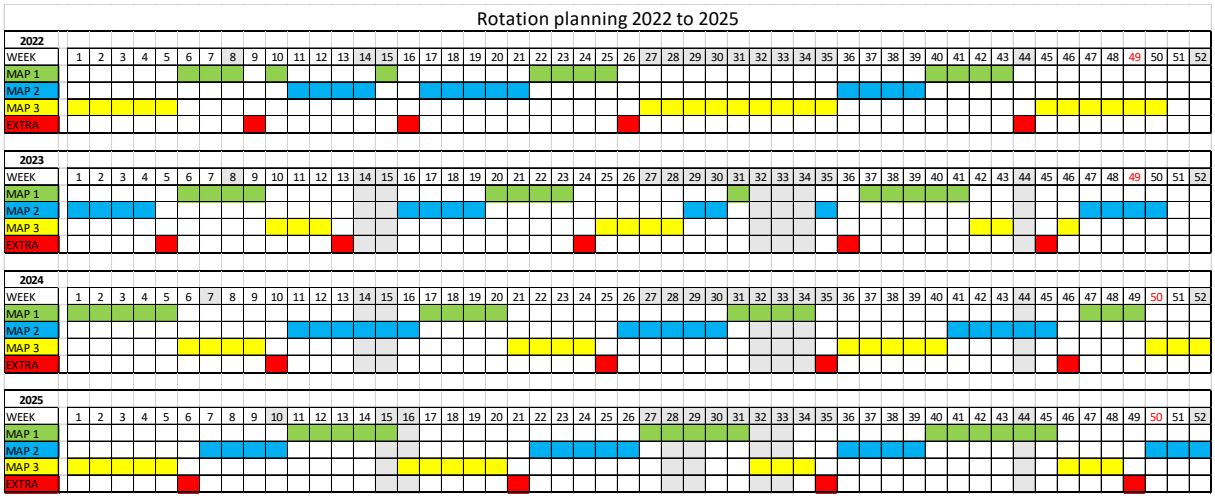
is available to carry out the maintenance. At the same time, alternative routes for freight and long-distance passenger services are safeguarded.

### 2.2.2 The Rotation Plan

The rotation plan is build out of a number of maps and a rotation schedule. The maps indicate how the trains will be rerouted in order to free up capacity for works. These maps apply on working days from Monday to Friday.

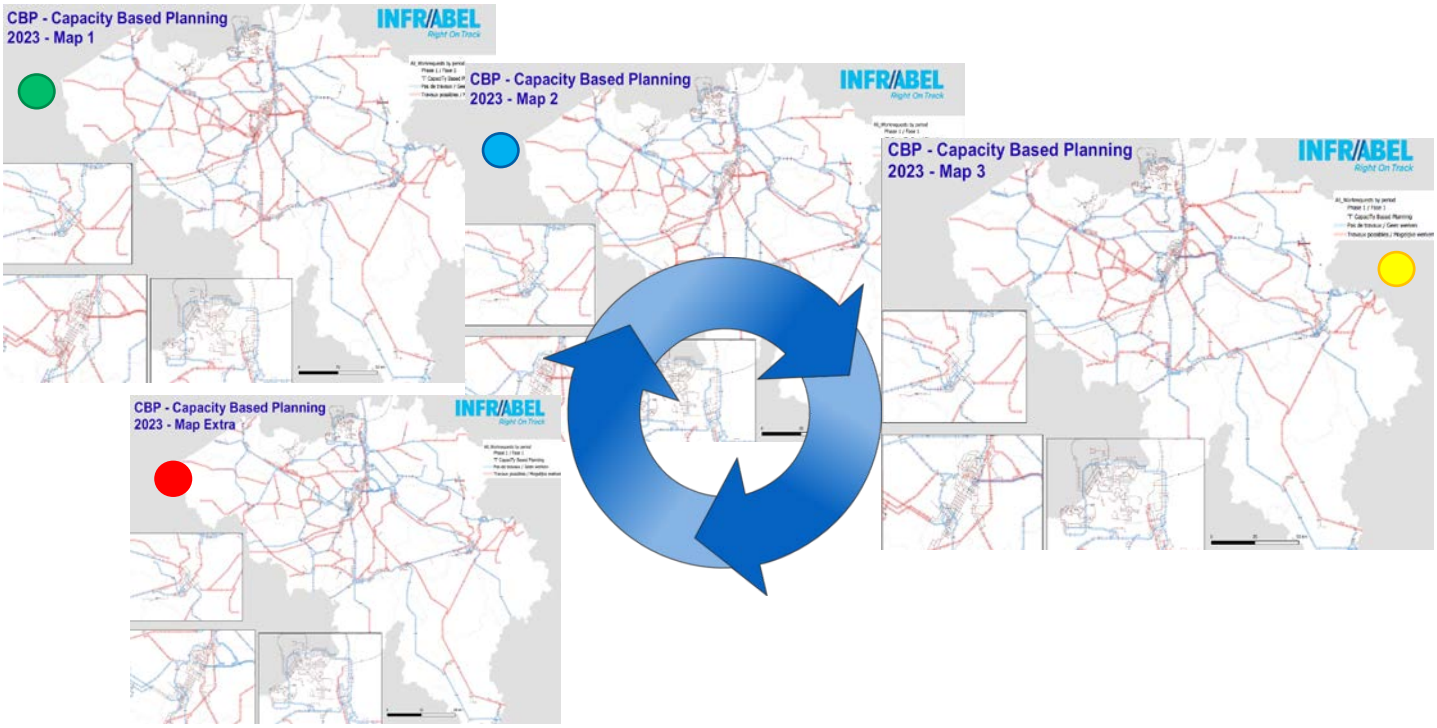
### 2.2.3 The Rotation Schedule

The rotation schedule looks as follows: a grouping of multiple weeks where one rotation map applies. Every year, the rotation starts with a different map in order to ensure a fair spread of maintenance windows during winter and summer periods, and vacation periods.




Four different rotations exist: rotation 1+2+3 apply for the vast majority of lines, while the rotation EXTRA applies for difficult to obtain infrastructure. Maps 1,2 and 3 apply on average 16 times a year, while the map EXTRA applies 4 times a year.

On the maps below, the red lines represent the capacity reserved for nightly maintenance windows, while the blue lines represent the capacity left free for freight and passenger flows.




### 2.2.4 Amplitude of maintenance Windows

In 2022, the amplitudes of the maintenance windows are identified between the passage of the last commercial passenger train and the first commercial passenger train. From 2023, Infrabel will gradually extend the range of maintenance windows to 6 hours.

### 2.2.5 Capacity Based Planning (CBP)

The CBP is the precise planning of the rotation scheme for the year in question. After the planning of the long-term TCRs, major projects and works with a high capacity impact, i.e. after the planning of phase 1 TCRs (see art. 2.3), the rotation scheme for the year in question is adapted to take into account these constraints. We then obtain the Capacity Based Planning for year A. From this moment on, Infrabel can plan the minor TCRs in the maintenance windows both for the maintenance of its assets and for preparatory or finishing work for renewal or modernisation projects on its network.

### 2.2.6 Maintenance on lines not included in the rotation plan

This concerns either regional lines on which there is no freight traffic or, on the contrary, major freight routes on which there is no alternative way of diverting the flow of freight.

- For lines with **no freight traffic**, Infrabel provides systematic nightly work windows. This ensures that maintenance is possible.

- For lines with **a lot of freight traffic** at night and for which there is currently no alternative, maintenance has to be planned separately, via daytime windows or weekend windows.

### 2.2.7 Planning of TCRs in CBP

Minor TCRs are planned in the maintenance windows (see planning phase 4 Art. 2.3.) and this is done both to ensure the maintenance of assets and to prepare or finish work for renewal or modernisation projects of the network.

During this phase, the maintenance windows can be adjusted:

- Either reduced if the minor TCR amplitude is less than the maintenance window. The residual capacity is then de facto freed up and can be used for the allocation of ad hoc train paths.
- Or extended if the residual capacity after the path allocation procedure allows it, without impact on the allocated paths.

## 2.3 TCR Planning

### 2.3.1 Main Phases

Infrabel plans the TCRs in different coordination phases, in order to align the planning of the different types of TCRs with the particularities of Infrabel's network, with its needs in terms of resources and with the needs of applicants in terms of information, as well as in compliance with Annex VII of Directive 2012/34/EU.

| RNE TRCs Definitions | Consecutive days | Impact on traffic (estimated traffic cancelled, re-routed or replaced by other modes of transport) |
|---|---|---|
| **Major impact TCR** | More than 30 consecutive days | More than 50% of the estimated traffic volume on a railway line per day |
| **High impact TCR** | More than 7 consecutive days | More than 30% of the estimated traffic volume on a railway line per day |
| **Medium impact** | 7 consecutive days or less | More than 50% of the estimated traffic volume on a railway line per day |
| **Minor impact TCR** | unspecified | More than 10% of the estimated traffic volume on a railway line per day |
| **Less than Minor TCR impact** | unspecified | Less than 10% of the estimated traffic volume on a railway line per day |
| Not Defined | unspecified | No impact |

| Planification and coordination phases |
|---|
| **Phase 1** |
| **Phase 2** / **Phase 3** |
| **Phase 4** |
| Phase 5[1] |

[1] Phase 5 integrated in the short term process

| ***Phase 1: Major construction projects with a major impact on train circulation and any capacity restrictions affecting a foreign network.*** |
|---|
| • Total Line Closure of 4 consecutive days or more<br>• Single Track Operation for 7 consecutive days or more.<br>• Non-accessibility of a railway connection 4 consecutive days or more<br>• Total Line Closure with impact on neighboring IMs (See Map in 2.3.3.)<br>• Other work with a major impact on capacity<br>• Work not respecting the recommendations of the RUs |
| Including nights and/or WE for preparation and finishing works and Temporary Speed Restriction |

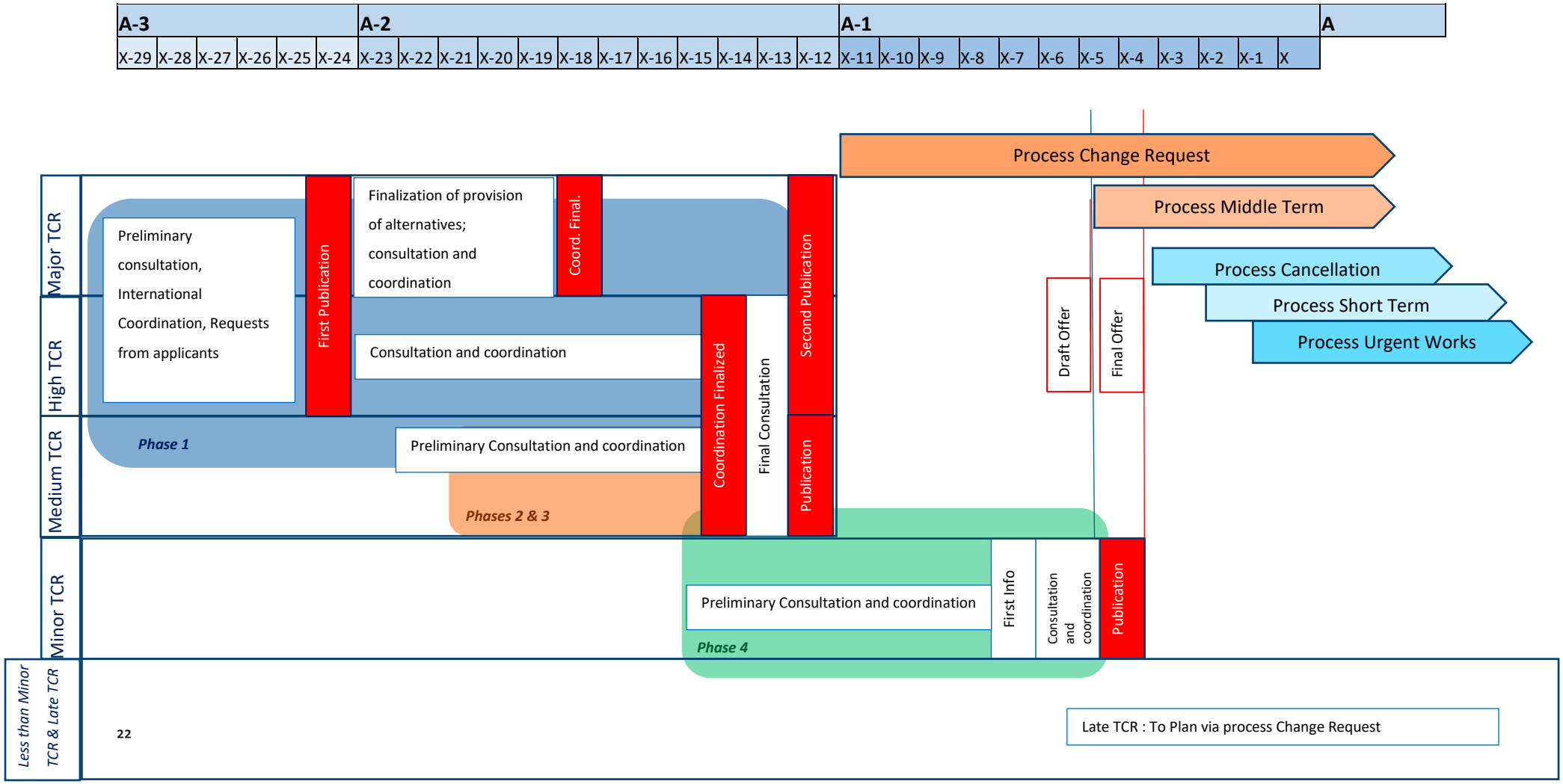
| ***Phase 2: Works with impact on train traffic on weekends (consecutive weekends)*** |
|---|
| • Total Line Closure less than 4 consecutive days (WE, long WE and/or public holiday)<br>• Non-accessibility of a railway connection less than 4 consecutive days<br>• Single Track Operation for 1 day to 6 consecutive days including at least one working day<br>• Works lasting several consecutive weekends of total line closure |
| Including nights and/or WE for preparation and finishing works and Temporary Speed Restriction |

| ***Phase 3: Works with impact on train traffic on weekends (individual weekends)*** |
|---|
| • Total line closure on individual weekends on lines other than those dealt with in phase 1 and 2 (including the planning of the outages for preparation of the works and linked temporary speed restrictions)<br>• Continuous single track service during the weekend or on public holidays |
| Including nights for preparation and finishing works and Temporary Speed Restriction |

| ***Phase 4: Works with impact on train traffic during nights or days*** |
|---|
| • Total line closure during the night or during the day outside peak hours<br>• Single track services outside peak hours |
| Including Temporary Speed Restriction |

| *Phase 5: Works without impact on the circulation* |
|---|
| Works planned in the short term within the residual capacity without impact on traffic |

## 2.3.2 TCR process – timeline



### 2.3.3 Description of the process of planning and coordination of long-term works

#### 2.3.3.1 Definition of the planning and coordination phases of the TCRs

*Phase 1:*

The TCR-planning and coordination in phase 1 deals with major TCRs, high TCRs, medium TCRs of 4 consecutive days or more and all medium TCRs that impact foreign networks. To facilitate the planning and coordination process, Phase 1 is divided into three sub-phases.

- *Phase 1.1. - Preliminary Phase*

During this phase, Infrabel draws up a list of important modernisation projects without necessarily having a precise schedule yet.

- *Phase 1.2 - Planning*

During this phase Infrabel plans the TCRs related to these major projects and adds the TCRs related to the other renewal and modernisation projects.

- *Phase 1.3 - Coordination*

During this phase, Infrabel coordinates all the TCRs that correspond to the definition of "Planning and coordination phase 1".

*Phase 2*

Phase 2 planning and coordination of TCRs deals with medium TCRs of less than 4 consecutive days, which do not fall under the criteria of Phase 1.
The medium TCRs to be considered in Phase 2 are medium TCRs that cannot be separated.
These are, for example, several total line closure-weekends which, in the context of the same modernisation or renewal project, cannot be separated.

*Phase 3*

Phase 3 TCR planning and coordination deals with medium TCRs of less than 4 consecutive days, which do not have an impact on foreign networks and can be planned individually.

*Phase 4*

Phase 4 TCR planning and coordination deals with minor and less than minor TCRs.

#### 2.3.3.2 Long Term Planning

Long-term planning is based on :

- Infrabels multi-annual investment plan;
- Long-term programmes for major projects;
- Long-term programmes for renewal works (classic major works);
- All available information relating to major construction projects announced in the long term that may have an impact on traffic (government projects, SNCB-Stations modernisation projects for stations and major private projects located near the railway lines, etc.).

##### *Phase 1*

###### *Between X-60 and X-30 (phase 1.1)*

Infrabel identifies the major modernisation projects planned for year A. This identification concerns projects that are considered to have a high capacity impact (projects that fall into the category of major and high TCRs). This identification also covers projects or phases of projects of lesser duration but which have an impact on neighbouring networks and/or which impact on lines used by international trains either on the RFC (Rail Freight Corridor) or on the HSL (High Speed Lines). This identification also covers the facilities or access to facilities necessary for the operation of this type of traffic. This corresponds to part of the medium TCR. When the impact of these TCRs is not limited to its own network, Infrabel initiates the international coordination process with the Infrastructure Managers affected.

When identifying the major projects of Phase 1.1., Infrabel takes into account, on the basis of the general recommendations and the Corridor Book Process, the recommendations in terms of diversionary routes and other alternatives for all applicants, in a balanced and non-discriminatory manner.

###### *X-30*

Infrabel provides initial information to the applicants about the major TCRs and, as far as possible, the relevant information known about the other phase 1 TCRs. This initial information is provided at the half-yearly spring meeting.

### *X-29 to X-27*

The applicants analyse this initial information and send Infrabel their requests, remarks or proposals for alternatives (another execution period or another operating mode). Infrabel takes these requests into account as reasonably as possible in order to plan these TCRs. Infrabel initiates the consultation process in order to ensure that the TCRs are coordinated in such a way as to limit, as reasonably as possible, the impact on capacity and on the applicants.

### *X-27 to X-24*

Infrabel plans all the TCRs of Phase 1.1. and adds other renewal, modernisation and extension projects to its network (Phase 1.2.). When the impact of these TCRs is not limited to its own network, Infrabel starts the international coordination process with the Infrastructure Managers affected. When planning Phase 1 TCRs, Infrabel takes into account, on the basis of the general recommendations and the Corridor Book Process, the recommendations in terms of exclusion and diversionary routes and other alternatives for all applicants, in a balanced and non-discriminatory manner. Infrabel shall communicate to the applicants, in the form of a list/schedule, the majors, high and medium TCRs with an impact on foreign networks, known, and in the form of maps showing part of the projects with a high capacity impact, with concerned details.

For the projects with a high capacity impact planned in phase 1, Infrabel invites the applicants to participate in the biannual meeting in November. At this meeting, the various projects are presented to the applicants with a view to an exchange between the parties. Clarifications and answers to the applicants' questions can be given live by Infrabel and will be recorded in the minutes of the meeting.

<u>Remark:</u>
At the request of the applicants, Infrabel provides a comparison of the conditions encountered, with at least two capacity restriction alternatives. Infrabel will then draw up these alternative scenarios together with the applicant on the basis of the information provided by the them at the time of their applications.

For each scenario, the comparison must include at least the following elements

- The duration of the capacity restriction ;

- The expected indicative infrastructure charges (based on current charges);
- Available capacity on diversionary routes;
- Alternative routes available;
- Indicative journey times.

Before making a choice between the alternative capacity restriction scenarios, Infrabel consults interested applicants and takes into account the impact of the different scenarios on these applicants and on service users. This consultation is carried out in consultation meetings with the potentially concerned applicants.

Criteria for diverting traffic and redistributing capacity for major TCRs

For major TCRs on the core network, Infrabel will determine the types of traffic that can be diverted, taking into account the criteria published in the Network Statement.

The application of these criteria is discussed with the applicants during the consultation meetings relating to the TCRs concerned. At these meetings, for major TCRs, the provisional allocation of remaining capacity for the different types of rail services is communicated to the applicants.

*X-24*

Infrabel assures the first publication of the major, high and medium TCRs with impact on foreign networks on its website (TCRs of phase 1).

*Between X-24 and X-23*

On the basis of the published TCRs and the comments of the applicants, Infrabel initiates the consultation process in order to coordinate the TCRs in such a way as to limit, as far as possible, the impact on capacity and the applicants.

*X-23 to X-20*

On the basis of the results of the various consultations, Infrabel finalises the coordination of the TCRs of phases 1.1 and 1.2 that have been validated and adds, if necessary, other projects for the renewal, modernisation and extension of its network (Phase 1.3). In the event of conflicts between TCRs, IMs must ensure that these conflicts are resolved. When coordinating Phase 1 TCRs, Infrabel shall take into account, on the basis of the general recommendations and the Corridor Book Process, the

recommendations in terms of diversionary routes and other alternatives for all applicants in a balanced and non-discriminatory manner.

*X-18*

Infrabel invites applicants to participate in the June biannual meeting.

With regard to the Phase 1 TCRs

Infrabel informs the applicants of the result of the coordination of the TCRs and publishes an update of the planning of these TCRs, in the form of an Excel-list and maps. The maps only include a part of the projects with a high capacity impact.

If, following the coordination of the Phase 1 TCRs, changes have been made to the planning, the consultation process is triggered a second time in order to ensure the validation of the coordination.

The TCRs that have not been modified in Phase 1.3 are validated.

TCRs that have been modified in terms of date, increase in duration or increase in impact on traffic will be presented to the applicants for further validation. Modifications that reduce the duration of the TCR or that reduce the impact on traffic are communicated to the applicant but are not subject to a new validation.

Infrabel provides the applicants with a first draft list of infrastructure constraints, linked to the TCRs of Phase 1.

Infrabel, in collaboration with the applicants, determines the major projects that will be the subject of a monitoring file (SIRU)[2] and an STS[3] working group.

[2] SIRU: Specific Information for Railway Undertakings. Document drawn up by Infrabel to monitor major projects and/or projects with several execution phases that have a differing impact on capacity. Additionally, the concerned meetings are called "SIRU meetings".

[3] Special train service organised jointly between Infrabel and the applicant(s) concerned in the event of a TCR not integrated into the service timetable and affecting the basic train service.

*from X-18 to X-13.5*

Infrabel finalises the coordination of the TCRs of Phase 1.

Infrabel draws up the monitoring files for the major projects (SIRU) and monitors them in the subsequent processes via a working group and regular meetings.

*X-13*

For TCRs planned in phase 1, Infrabel invites the applicants to participate in the November biannual meeting and confirms to the applicants the planning, coordination and validation of major, high and medium TCRs with impact on foreign networks.

*X-12*

Infrabel publishes the updated major and high TCRs and the medium TCRs with impact on foreign networks via its website.

For each type of TCR, Infrabel publishes the following details:
- The period,
- The duration,
- The affected line section,
- If applicable, the time losses due to temporary slowdowns, the routes kept free for the organisation of diversions and the capacity on these routes.

Infrabel publishes the list of infrastructure constraints linked to this type of TCR. Infrabel will take these constraints into account when preparing the annual service.

From X-12 onwards, any modification to be made to the published major, high or medium TCRs or any addition of a new TCR of this type ("Late TCR") must be subject to the specific change request process.

### *Phase 2 and 3*

*from X-23 to X-18*

Infrabel plans the TCRs for phases 2 and 3 and, on the basis of the general recommendations and the Corridor Book Process, and takes into account the recommendations in terms of diversionary routes and other alternatives for all applicants in a balanced and non-discriminatory manner.

*X-18*

Infrabel invites the applicants to the June biannual meeting.

Infrabel informs the applicants of these TCRs by sending them a list / Excel schedule and map overviews. These maps only include a part of the projects with a high capacity impact.

On the basis of this information and depending on the comments of the applicants received, Infrabel launches the consultation process in order to validate the coordination of the TCRs of phase 2 and 3.

*from X-18 to X-13.5*

Infrabel finalises the coordination of the TCRs of Phases 2 and 3. If necessary, Infrabel integrates these TCRs into the monitoring files for major projects (SIRU).

*X-13*

For the TCRs planned in phases 2 and 3, Infrabel invites the applicants to the November biannual meeting and confirms to the applicants the planning, coordination and validation of the TCRs planned in these phases.

*X-12*

Infrabel publishes the medium TCRs via its website in the form of an Excel list/schedule.

For each type of TCR, Infrabel publishes the following details:

- The period,
- The duration,
- The section of line affected,

- If applicable, the time losses due to temporary slowdowns, the routes kept free for the organisation of diversions and the capacity on these routes.

Infrabel will update the list of infrastructure constraints, including the constraints linked to the TCR planned in phases 2 and 3. Infrabel will take these constraints into account when preparing the annual service.
From X-12 onwards, any modification made to the published Major, High or Medium TCRs or any addition of a new TCR of this type ("Late TCR") must be subject to the Change Request process.

### *Phase 4*

#### *from X-11 to X-8*

Infrabel plans the TCRs for phase 4 (minor TCRs and less than minor TCRs not planned in the previous phases) and takes into account, on the basis of the general recommendations and the Corridor Book Process, the recommendations of all applicants on diversionary routes and other alternatives, in a balanced and non-discriminatory manner.

#### *from X-6.5 to X-4*

Infrabel communicates the schedule of minor TCRs and less than minor TCRs to the applicants

Infrabel publishes on its website at X-6, in the form of an Excel list/schedule, for minor and less than minor TCRs, the following details:
- The period,
- The duration,
- The section of line affected,
- If applicable, the time lost due to temporary slowdowns, the routes kept free for the organisation of diversions and the capacity on these routes.

The consultation of applicants on Minors TCR is part of the medium term process, starting from X-6.

Infrabel publishes the updated list of infrastructure constraints for the timetable service.

#### *Annual planning for year A*

At X-6, Infrabel publishes the complete annual planning for year A. This includes all known major, high, medium, minor and "less than minor" TCRs. On the same date, Infrabel publishes the list of infrastructure constraints to be taken into account when drawing up the annual service.

### 2.3.4 General Recommendations and Corridor Book Process

#### *Introduction*

As part of its task of providing information on the temporary capacity restrictions necessary to maintain, renew and extend its network, Infrabel draws up a schedule of works taking into account these TCRs and the routes or corridors that must remain free of any capacity constraints in order to ensure the continuity of traffic.

In order to facilitate the planning of the works and to facilitate the consultation process, general recommendations are agreed between Infrabel and the applicants. Infrabel uses these general recommendations as a basis for determining which corridors should remain open and for coordinating the annual planning of the works. The TCRs and the routes left open are published annually in the form of a Corridor Book. This Corridor Book is made available to applicants on the Business Corner.

#### *Design*

The general recommendations are drawn up in consultation with and validated by all applicants. These general recommendations include, among other things

- The overview of the corridors, axes and/or track sections that must remain free when other track sections are unavailable.
- Specifically for the passenger sector:
    - A map showing by line or section which periods are preferred for planning long weekday daytime TCRs.
    - Guidelines on when sections of track or lines should remain open so as not to impede the flow of passengers to tourist attractions (coastline, theme - and wildlife parks)

When designing the annual Corridor Book, Infrabel takes into account the general recommendations and the commercial needs of each applicant in a balanced and non-discriminatory way. It also takes

into account its own interests and priorities, which are essential for maintaining a safe and efficient network.

Examples:

- Avoid planning capacity restrictions on heavily used routes during the summer period
- In the event of a capacity restriction on a line/section, ensure that the alternative routes proposed in the recommendations can absorb the diverted flows

Wherever possible, the annual Corridor Book will propose several alternative route scenarios for the planning of the same TCR.

### *Usage*

The general recommendations are published on the Business Corner and form a working basis for the planning and coordination process of the TCRs for year "A". Infrabel takes these recommendations into account in order to ensure stability in terms of the possibilities of using the alternatives. On this basis, Infrabel draws up and publishes the Corridor Book for the year in question. The annual Corridor Book indicates on the one hand the validated temporary capacity restrictions and on the other hand the planned routes for the organisation of diversions and alternatives. The Corridor Book is a dynamic tool which is first published at X-12 and is used during the path allocation process and the updates at X-4 after the final offer. It is then updated according to changes in the schedule, including those resulting from change requests to the TCRs.

It must be noted however that for certain points and sections in the network, there is no possible rail alternative to reach the destination.

For each phase of planning and coordination of the TCRs, Infrabel checks, on the basis of the general recommendations, whether it is possible to keep traffic flows free via the recommended alternative routes. If none of the scenarios set out in the general recommendations is available, Infrabel will inform the applicant(s) concerned. This information is given at the various half-yearly meetings, consultations or specific meetings:

- at X-30, X-24 and/or X-18 for TCRs planned in phase 1
- at X-18 and/or X-12 for RCWs planned in phases 2 and 3
- at M-6 for RCWs planned in phase 4.

In case of disagreement following this consultation, the applicant can activate the escalation process.

### 2.3.5 International Coordination

If the impact of TCR is not limited to Infrabel's network alone, the infrastructure managers concerned, including the infrastructure managers who might be affected by the change of train routes, shall coordinate capacity restrictions among themselves. Infrabel shall share all information on the planned TCRs (period, duration, section of line affected, possible impact on capacity and plans for cancellation, rerouting of train paths or replacement by other modes) with IMs, applicants and major service facility operators likely to be affected by the TCRs.

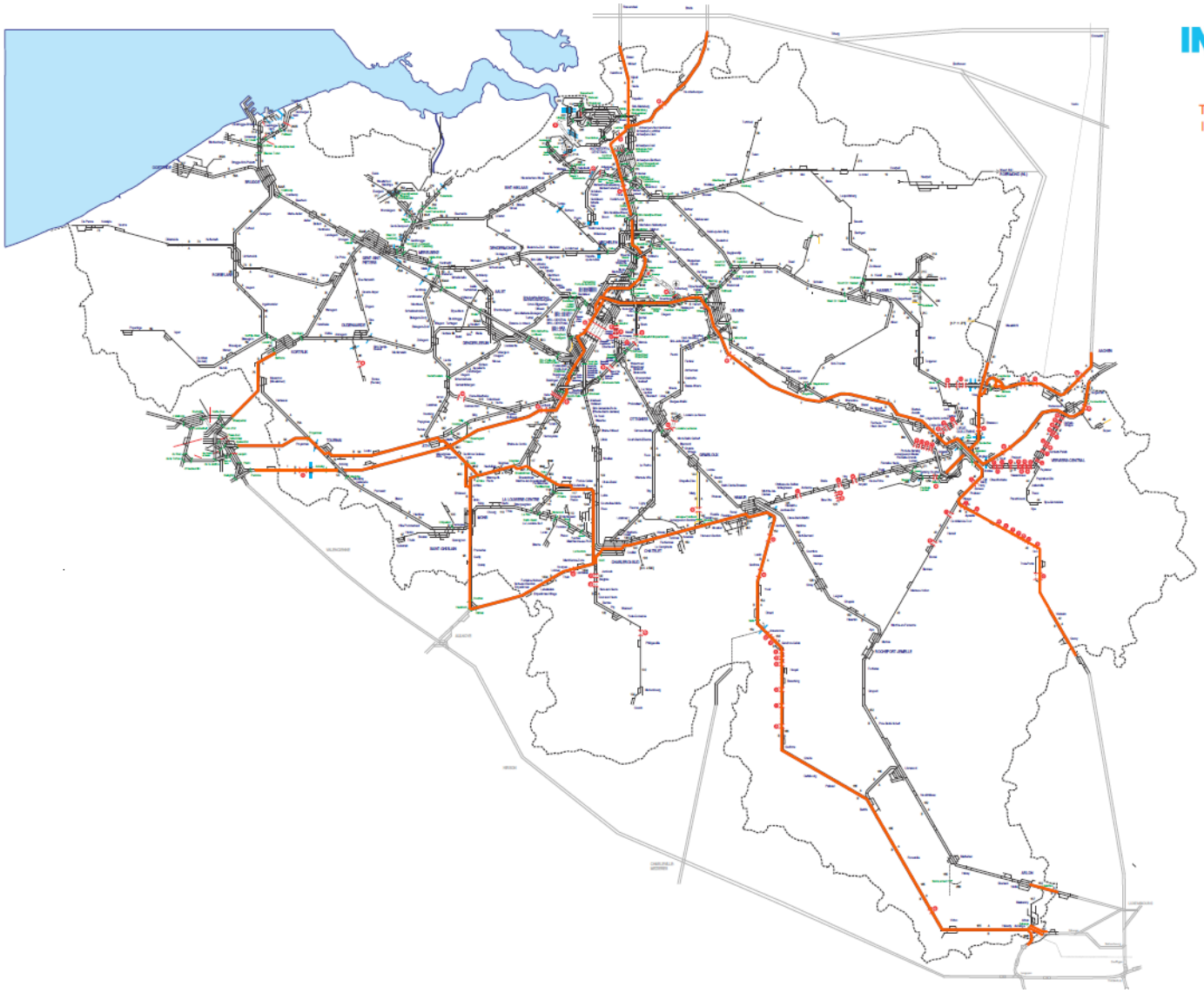
Infrabel coordinates the concerned TCRs on two levels (X-33 – X-24):

- Coordination between the IMs via the RFC RALP, NSM or NS-B: for TCRs located on these Rail Freight Corridor lines
- Coordination via the established IM trilateral working groups for all TCRs impacting the borders (freight and passenger combined):
    - DB-Netz, Infrabel, ProRail
    - SNCF Réseau, Infrabel, CFL/ACF

As these meetings have a regular and recurrent character, no leading IMs have been designated.

To determine where TCR’s have to be located on the network in order to have an impact on the neighbouring network, a perimeter per trilateral working group has been agreed upon.

In phase 1 the following perimeter for TCRs with International Impact to be coordinated with neighbouring IMs has been defined:



INFRABEL
Right On Track

I-CBE.33
Travaux / Werken
International impact line

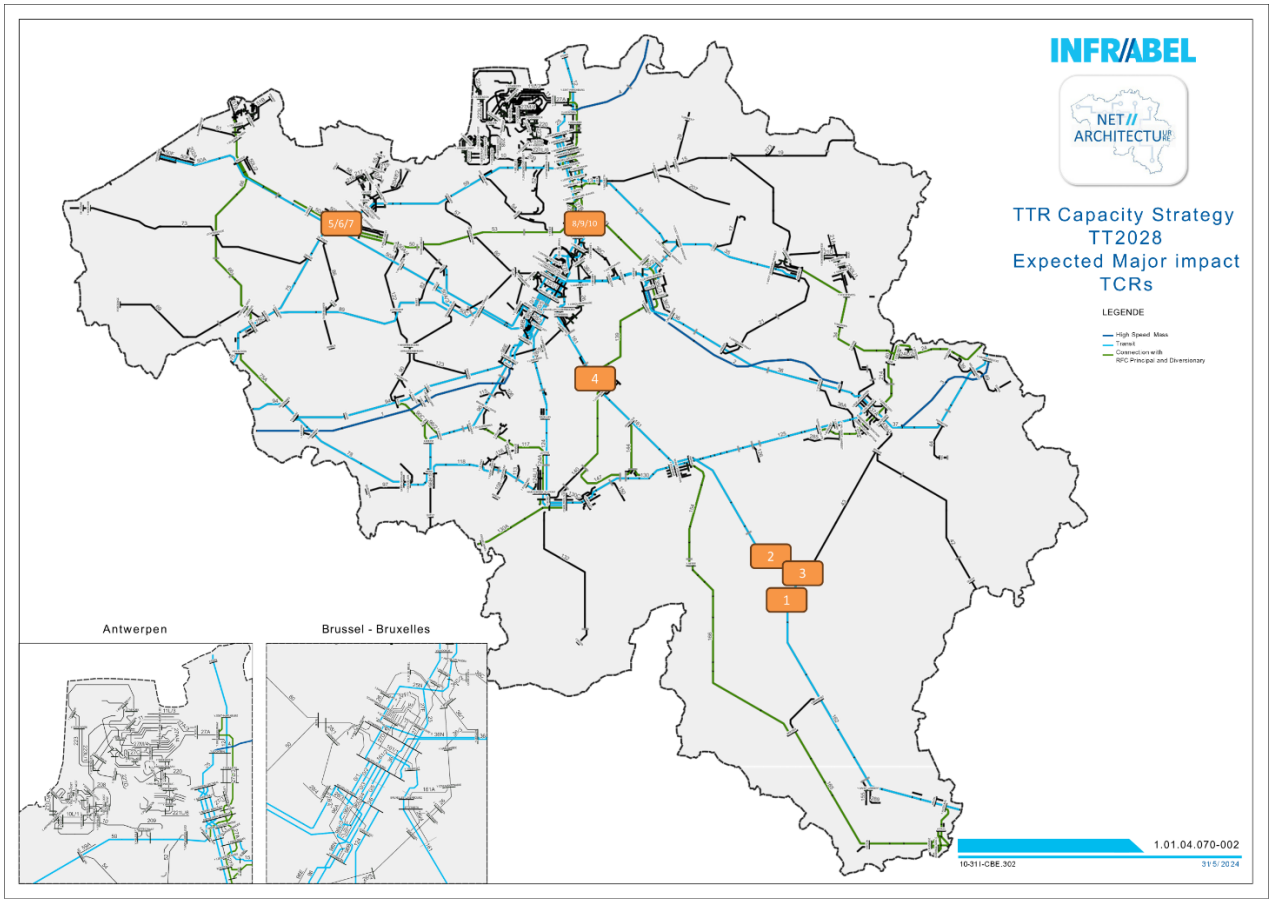
## 2.4 Expected Major impact TCRs

With expected major impact TCRs, we want to provide an overview of “once-in-a-lifetime”-TCRs that are already known years ahead of their realization. In general, relevant criteria to select the TCRs to fall in the category of “Crucial Major Impact TCRs” are the impact on capacity and the location of the TCR.

### 2.4.1 Table Overview

| Expected Major impact TCRs | | | | | |
|---|---|---|---|---|---|
| **Nr.** | **Network segment** | **Purpose** | **Time of execution** | **Impact (total closure/single track operation/speed restriction)** | **Financing secured** |
| 1 | L162 Rochefort-Jemelle – Grupont | Modernization of axis 3 | 06/04/2026 - 11/12/2028 | One Track during daytime + Total Line Closure during night (continuously) | Yes |
| 2 | L162 Haversin – Marloie | Modernization of axis 3 | 15/12/2025 - 12/2028 | One Track during daytime + Total Line Closure during night (continuously) | Yes |
| 3 | L162 Marloie - Rochefort-Jemelle | Modernization of axis 3 | 12/2028-12/2029 | One Track during daytime + Total Line Closure during night (continuously) | Yes |
| 4 | Station Ottignies | RER - Ottignies | 2026-2032 | Capacity Reductions in Ottignies | Yes |
| 5 | Station Gent-Sint-Pieters | Master Plan Step37 | 12/2027-06/2028 | Tracks II, III, IV out of service | Yes |
| 6 | Station Gent-Sint-Pieters | Master Plan Step38 | 06/2028-12/2028 | Tracks III, IV out of service | Yes |
| 7 | Station Gent-Sint-Pieters | Master Plan Stp39 and end of the project | 12/2028-06/2029 | Tracks IV, V out of service | Yes |
| 8 | Station Mechelen | Master Plan | 12/2024 - 12/2026 | Tracks 3-4 & 8-9-10 out of service | Yes |
| 9 | Station Mechelen | Master Plan | 12/2026 - 07/2028 | Tracks 3-4 &7-8 out of service | Yes |
| 10 | Station Mechelen | Master Plan | 07/2028 - 02/2030 | Tracks 5-6 & 7-8 out of service | Yes |

## 2.4.2 Schematic Overview



# 3. Traffic Planning Principles and Traffic Flows

## 3.1 Traffic Planning Principles

The goal of this chapter is to provide the national planning principles for traffic flows and their incorporation in the future capacity model and capacity supply. For timetable 2028, it has been agreed to offer an indicative capacity model and supply plan based on TTR principles with the following scope:

### 3.1.1 Capacity Model and Supply Scope

The scope can be defined on two levels:

- Geography
- Complexity

**Geography**

The lines for which a capacity model and supply for timetable 2025 and 2026 was drafted was limited to the lines included in the TTR pilot BeNe and focused on the trains with international relevance (thus not only international trains). The most important reason for this is that Infrabel wants to make use of the RNE tool ECMT to publish and update the capacity model, in order to provide an international overview. At this stage however, the tool is not advanced enough to allow the creation and updating of capacity models beyond the chosen geographical scope. An interface is scheduled to be developed between Infrabel planning tools and ECMT, which will enable us to increase the scope significantly when proved successful. For timetable 2027, the border points with Germany were added., together with the high speed line 1 between Brussels and Esplechin. For timetable 2028, the geographical lines will stay the same, but **we will include all national trains** in the capacity model and capacity supply plan for the lines **marked in blue** below, including the Antwerp node. This will provide insight in the way to set up larger capacity models an capacity supply plans in the future.

The exact lines:

| | |
|---|---|
| L12 | Essen-grens – Y Mariaburg |
| L12-1 | Y. Sint-Mariaburg – Y. Driehoekstraat |
| L27A | Y Driehoekstraat – Y Schijn |

| | |
|---|---|
| L12 | Y.Sint-Mariaburg – Y.Luchtbal |
| L25 | Y.Luchtbal – Y. Abeelstraat |
| L4 | Y Luchtbal – Meer Grens |
| L25N | Y. Abeelstraat – Y. Albertbrug |
| L36N | Y. Albertbrug – Brussel-Noord |
| L0 | Brussel-Noord – Brussel-Zuid |
| L1 | Halle – Esplechin Frontière |
| L96N | Brussel-Zuid - Halle |
| L24 | Botzelaer – Montzen Grenze |
| L37 | Welkenraedt – Hergenrath Frontière |

**Complexity**

The goal of the TTR Capacity Model and Supply Plan is to show the available capacity on any given day. This means that on days for which TCRs are planned, an alternative model and supply should be elaborated. However, as this increases the complexity of the conception of the capacity model and supply plan greatly, in the first phases, Infrabel will offer the available capacity in the model and supply only on a standard non-TCR day. On top of this, a limited number of variants will be provided in case of TCRs with international consequences, harmonised between Infrabel and ProRail. These can be published in ECMT as a try-out.

### 3.1.2 Capacity Model and Supply Principles

**Status**

Not all TTR process elements can already be implemented for timetable 2028 because of a missing legal basis. For this reason, the European Commission has initiated the development of a supporting legal framework with the publication of a proposal for a regulation of the European Parliament and of the Council Regulation on the use of railways infrastructure capacity in the single European railways

area, amending Directive 2012/34/EU and repealing Regulation (EU) No 913/2010. The legislative procedure is still ongoing at time of publication. This means that the capacity model and the capacity supply plan that Infrabel will develop will only have an advising character. This also means that no appeal or escalation procedure is foreseen at the moment.

**Concept**

Infrabel intends to deliver a market driven capacity model and supply, which we intend to achieve by using the following elements:

- Historical data
- Evolution prognosis
- Capacity Needs Announcements (CNA) – in pilot mode

- For the **evolution prognosis**, we will base ourselves on:
    - a growth prognosis for the entire network based on real train runs divided into five daily timeframes, as for TT2018:
        - the two peak hours
            - 06:00 – 09:00
            - 16:00 – 19:00
        - day time: 09:00 – 16:00
        - evening: 19:00 – 22:00
        - night time 22:00-06:00
    - planned and finalised train runs over the last 3 timetable years, including evolutions detected.

    Both models are then compared to make final decisions per line or O/D.

**Capacity Needs Announcements** can be communicated up to X-24 (15 December 2025). The exact process for timetable 2028 will be communicated in the course of 2025. At the moment, the possibility exists for applicants:

- to share their assessments for future traffics (only new and changing needs) via the ECMT-tool. The testing of this application is important to prepare it for a full implementation.

- Infrabel will also investigate the possibility of an additional workstream to gather CNAs, via formalised interactions.

The elements described above give direction to the volume of capacity needed and the parameter sets used to construct the standard catalogue paths used as a basis for the capacity model and supply. These elements will be, just as will be the case with the border times, harmonised with the neighbouring IMs. These parameter sets may differ from line to line and axis to axis, but are not rigid in nature. The goal of the standard catalogue paths is to optimise the available capacity in a manner that allows optimal use by the concerned clients. The goal of a Capacity Model and Capacity Supply Plan is that paths requested and used should take into account and be in line with the Capacity Model and Capacity Supply Plan as much as possible. This means that optimisation and adaptation to specific customers' needs remains possible to a certain degree, on a case-by-case basis. On top of this, the capacity model and supply does not intend to pre-plan all available capacity, but to allow sufficient room for a pragmatic and flexible use.

International harmonization takes place ahead of the publication of a draft Capacity Strategy as well as of the Capacity Model for consultation and is all the more so crucial, that IMs use different data basis depending on pre-existing national processes.

## 3.2 Traffic Flows

The goal of this chapter is to provide an analysis of rough demand forecast based on the traffic flows at time of writing and known or possible adjustments in the future. The figures will be used as a basis for the construction of future capacity models. At this moment, the table is limited to an overview of border sections to show the harmonisation level with our neighbouring networks on hourly pattern level (per direction). Figures are estimations and thus not binding. They represent the standard hourly pattern per hour per direction. Figures might be higher than the demand forecast because of flexibility reasons and a full completion of all paths might not be possible for all hours of the day. As the figures represent only the border points, they should not be interpreted as being paths on long distance O/Ds.

| Infrabel | DB Netz |
|---|---|
| **Montzen** | **Aachen-West** |
| 3 freight services per hour per direction[4] | |
| **Hergenrath** | **Aachen-Süd** |
| 2 long distance passenger services per hour per direction<br>1 regional passenger train service per hour per direction | |

| Infrabel | ProRail |
|---|---|
| **Essen** | **Roosendaal** |
| 2 freight services per hour per direction<br>1 regional passenger services per hour per direction[5] | |
| **Meer** | **Hazeldonk** |
| 2 high speed passenger services per hour per direction<br>2 long distance passenger services per hour per direction | |

| Infrabel | ACF/CFL |
|---|---|
| **Aubange** | **Rodange** |

[4] In the Infrabel Network Statement, 5 time slots per hour per direction are foreseen and harmonised between Infrabel and DB Netz. This is however only for flexibility reasons and to optimise the path construction and harmonisation process between the two countries. A full usage of all time slots with paths would in most cases not be possible because of capacity constraints.

[5] Capacity for long distance passenger services are necessary but not structural (every hour). This capacity will be studied in the Capacity Model and Supply Plan.

| | |
|---|---|
| 1 freight service per hour per direction | |
| **Athus** | **Rodange** |
| 1 freight service per hour per direction<br>2 regional passenger services per hour per direction | |
| **Sterpenich** | **Kleinbettingen** |
| 3 passenger services per hour per direction<br>- 2 regional<br>- 1 long distance | |

| **Infrabel** | **SNCF Réseau** |
|---|---|
| **Aubange** | **Mont-St.Martin** |
| 1 freight service per hour per direction | |
| **Esplechin** | **Wannehain** |
| 5 high speed passenger services per hour per direction | |
| **Mouscron** | **Tourcoing** |
| 1 freight service per hour per direction<br>1 regional passenger service per hour per direction | |
| **Blandain** | **Baisieux** |
| 1 freight service per 2 hours per direction<br>1 regional passenger service per hour per direction | |
| **Erquelinnes** | **Jeumont** |
| 1 freight service per hour per direction<br>1 regional passenger service per hour per direction | |
| **Quévy**[6] | **Feignies** |
| 1 freight service per hour per direction<br>1 long distance passenger service per hour per direction | |

[6] Quévy/Feignies border is not classified as a capacity strategy border point. Figures are for information only.

# 4. Validation

The Capacity Strategy for timetable 2028 is an indicative document describing the planning procedures on the Infrabel Network for the concerned timetable in line with the TTR principles. The goal of this Capacity Strategy is to test the updated process after the first evaluations of the documents for timetable 2025 to 2027 and evaluate the concept and the manner in which Infrabel is elaborating the document further.