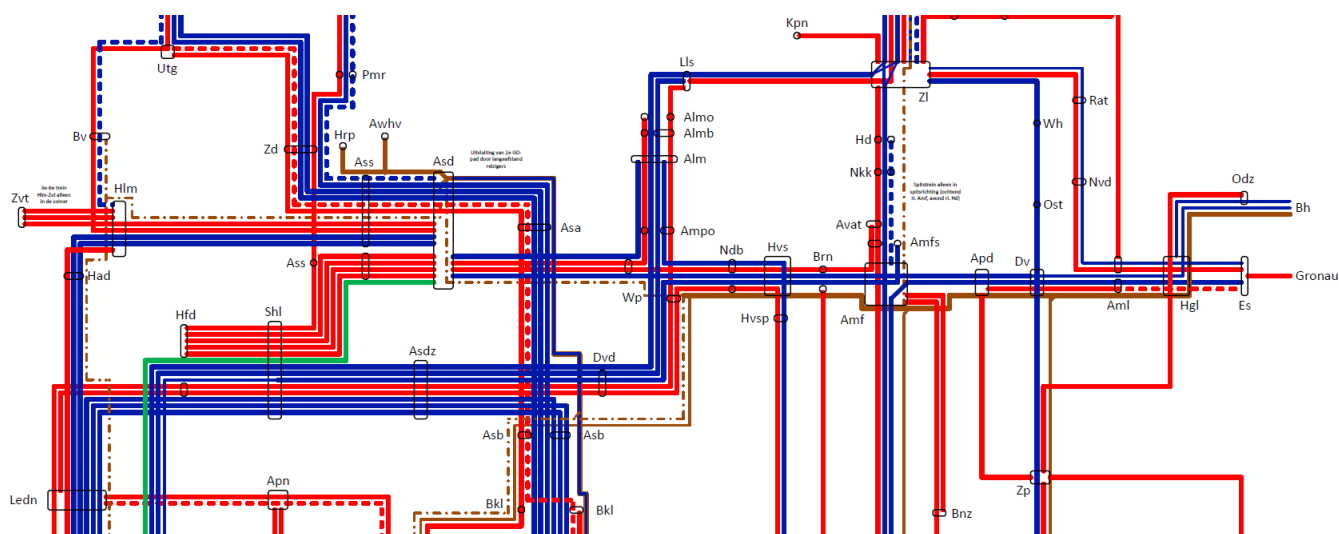


Final Capacity Model 2028 Netherlands



By	ProRail Capacity Management
Reference	NLTR-903684274-1457
Version	1.0
Date	22 juni 2026
Subject	Capacity Model timetable 2028
Status	Final, non-binding

1	Introduction	3
2	Process and scope TTR Capacity Model	5
2.1	<i>Capacity Model within the TTR-process</i>	5
2.2	<i>Planning for Capacity Model 2028</i>	6
2.3	<i>Scope Capacity Model</i>	6
3	ECMT: European Capacity Management Tool	9
3.1	<i>What is ECMT?</i>	9
3.2	<i>Accessing ECMT</i>	9
3.3	<i>Explanation of the use of ECMT for Capacity Model 2028</i>	9
3.4	<i>ECMT status and developments</i>	9
3.5	<i>Capacity Planning Tool (CPT)</i>	9
4	Capacity Model 2028	10
4.1	<i>Input from traffic flows for the Capacity Model</i>	10
4.2	<i>Traffic flows Capacity Model 2028</i>	10
4.3	<i>Harmonization with infrastructure managers from neighbouring countries</i>	10
4.4	<i>TCRs for the Capacity Model</i>	10
4.5	<i>Status and limitations of the 2028 Capacity Model</i>	11
4.6	<i>Differences between Capacity Strategy and Capacity Model</i>	11
4.7	<i>Differences between the draft and final Capacity Model</i>	12
5	Appendices	13
5.1	<i>Appendix A: List of abbreviations</i>	13
5.2	<i>Appendix B: Further explanation of the use of ECMT</i>	14
5.3	<i>Appendix C: Traffic flows for the Capacity Model 2028</i>	18

1 Introduction

Starting from timetable 2031, the EU Regulation on the use of railway infrastructure capacity (or short the Capacity Regulation) will be in place. The goal of the Capacity Regulation is to harmonise timetables on a European level, and to develop a uniform method for requesting and allocation of capacity. International timetables should match, engineering works (TCRs) should be harmonized and information about infrastructure changes should be shared. Furthermore, the annual allocation of capacity will be earlier to make it possible for railway undertakings to start ticket sales earlier. For freight, the goal is to have high quality international capacity until the last moment.

This is a major change in the process of requesting and allocation of capacity. The process before the start of the annual timetable will become legally binding. The Capacity Regulation mentions three products in this phase: the Capacity Strategy, the Capacity Model and the Capacity Supply.

The expectation of ProRail is that not only its internal processes will have to change, but the internal processes for and with other stakeholders will also change. Because these changes are major, ProRail started the publication of the Capacity Strategy, the Capacity Model and the Capacity Supply a couple of years ago. This offers the opportunity for ProRail and other involved parties to practice, evaluate and eventually change these. Where possible, we also align with stakeholders. If you want to be part of this, we kindly request you to contact us via TTR@prorail.nl.

Because the Capacity Model is still relatively new, you will find more information in this document about the Capacity Model for 2028. The Capacity Model itself should be published in ECMT, the European Capacity Management Tool. Unfortunately we experienced technical errors in ECMT that made uploading impossible. We expect that this Capacity Model is the last product we publish in ECMT. Capacity Supply 2028 and Capacity Model 2029 will be published in the new European Capacity Planning Tool, CPT. We thus expect to be able to publish Capacity Model 2029 in CPT.

The Capacity Strategy 2028 and the Capacity Supply 2027 form the input for the Capacity Model 2028. In addition, railway undertakings could indicate which train paths are desired for 2028 by means of CNAs (Capacity Needs Announcements). The CNA process for 2028 was still a pilot and not performed in ECMT. ProRail has also made an estimate of the capacity requirement for freight trains based on historical data and forecasts. ProRail has processed this information into a Capacity Model in which the amount of train paths per transport segment are indicated for each hour of the day. The Capacity Model 2028 is then the input for the Capacity Supply 2028.

For the Capacity Model for 2028, a limited scope was chosen in consultation with other Infrastructure Managers and RailNetEurope (RNE). This means that only a few temporary capacity restrictions (TCRs) have been added. The geographical scope is the same as the scope used for the Capacity Strategy 2028.

The Capacity Model is not yet binding, but it does provide information about the intended capacity for timetable 2028, so that railway undertakings can use it to develop traffic products. Furthermore, this Capacity Model gives a good indication about how ProRail aims to create the binding Capacity Model from timetable 2031.

2 Process and scope TTR Capacity Model

2.1 Capacity Model within the TTR-process

The capacity planning process starts with the Capacity Strategy 5 years before the start of the timetable. This phase lasts 2 years, after which the Capacity Model phase starts. The Capacity Model phase runs from 3 years to 1.5 years before the start of the timetable. Both the Capacity Strategy and the Capacity Model fall within the current period of the Medium Term Process (MLT) with which ProRail works.

The phase of Capacity Planning and Supply starts 1.5 years before the start of the timetable. At ProRail, this is the current phase of preparation of the annual timetable. The timetable preparation phase is followed by the annual timetable phase as we currently know it at ProRail 11 months before the start of the timetable.

Figure 1 indicates the different phases of TTR. The TTR process description¹ contains more information about the content of each planning phase.



Figure 1: Scheme of products in the Capacity Regulation

¹ Description of the Timetabling and Capacity Redesign Process, version 4.0;

https://rne.eu/wp-content/uploads/Long_Description_of_the_TTR_process_V4.0_2024-12-10.pdf

2.2 Planning for Capacity Model 2028

Table 1 shows the planning for the 2028 Capacity Model².

Table 1: Planning of Capacity Model 2028

Timeline (in months)	Timeline	Milestone / activity
X-36	December 2024	Start Capacity Model
X-26	20 October 2025	Infrastructure managers invite applicants to submit CNAs (pilot)
X-24	15 December 2025	Deadline to submit CNAs
X-22.5	2 February 2026	Applicants who submitted CNAs are notified about the result of the analysis of the infrastructure managers
X-21	23 March 2026	Deadline to publish draft Capacity Model, accessible for applicants
X-20	20 April 2026	Deadline for applicant to comment on the draft Capacity Model
X-19	18 May 2026	Deadline for ProRail to review comments and to import them in the base of the Donna-BU
X-18	22 June 2026	Deadline to publish final Capacity Model

The Capacity Model phase starts at X-18.

2.3 Scope Capacity Model

2.3.1 Scope for Capacity Model 2028

Capacity Model 2028 does not yet include the full scope for TCRs, but it does include more than previous capacity models. ProRail has chosen to upload the Capacity Model for 365 days, because no agreement has been reached about the definition of a representative day.

The Capacity Model is available in two variants in the national planning system Donna. These are:

- 20271212-BU-003: the standard timetable after the TCR in Amsterdam Zuid;
- Variant MLT 2028 Def Capaciteitsmodel Asdz: the timetable during the TCR in Amsterdam Zuid

If you don't have access to these variants, please contact ProRail via TTR@prorail.nl.

The draft Capacity Model 2028 contained a variant for TCR R-594100 2801 on the High Speed Line between Hoofddorp and Rotterdam, starting in September 2028. Because it was impossible to align both the logistical as the infrastructural possibilities for the adjusted timetable during this TCR, this variant is not published in the final Capacity Model. ProRail will evaluate this outcome, because of the obligation to publish the adjusted timetable under the Capacity Regulation.

² A more detailed description of the process for the Capacity Model is given in the handbook: https://rne.eu/wp-content/uploads/Capacity_Model-Handbook-4.0-1.pdf

2.3.2 Indicative planning development Capacity Model

In the coming years, ProRail foresees the following steps for expanding the scope:

- Capacity Model 2029:
 - Full scope; 365 day planning including all (very) large TCRs for the entire network.
- Capacity Model 2030:
 - See 2029
- Capacity Model 2031:
 - Full scope; First binding capacity model.

To be able to reach these milestones, additional IT and data are necessary. ProRail will use the experience gathered during the preparation of the Capacity Model and the Capacity Supply 2028 to determine the process for the next Capacity Model and Capacity Supply.

2.3.3 CNA pilot 2028

To test the process of submitting Capacity Needs Announcements (CNAs), the CNA process was carried out in the form of a pilot for the Capacity Model 2028. CNAs are requests for new or changed train paths. The aim is for infrastructure managers to know what the market needs in order to include these new or changed train paths in the Capacity Model where possible.

Applicants were asked to submit CNAs via email, because the support in ECMT is not functioning properly. A number of applicants have submitted CNAs. They have received feedback about the incorporation of these CNAs in the Capacity Model.

2.3.4 Time scope

Timetable 2028 starts Sunday December 12, 2027 and ends Saturday December 9, 2028.

2.3.5 Geographic scope

For the 2028 Capacity Model, the scope corresponds to the scope of the 2028 Capacity Strategy. Figure 2 shows the geographical scope for the 2028 Capacity Model within the Netherlands.

Geographic scope Capacity Model 2028

Version 22-06-2026

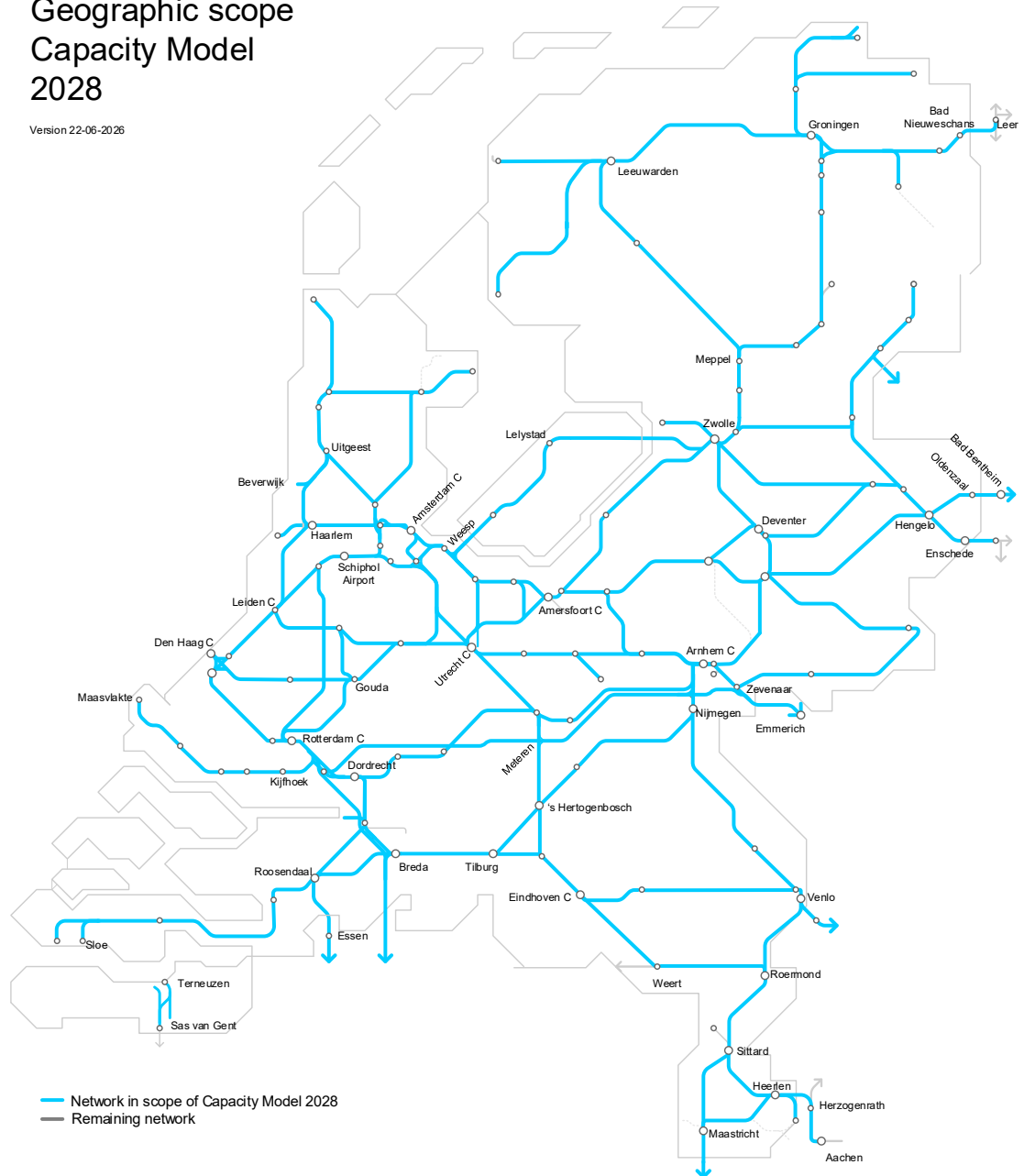


Figure 2: Geographic scope Capacity Model 2028 Netherlands

3 ECMT: European Capacity Management Tool

3.1 What is ECMT?

The European Capacity Management Tool is an application in which all Infrastructure Managers within Europe publish the Capacity Model. And later the Capacity Supply will also be published in ECMT. This application is under development at RNE. Infrastructure managers and railway undertakings draw up the specifications so that the software increasingly better meets the needs.

3.2 Accessing ECMT

ECMT can be reached via <https://ecmt-online.rne.eu/>. You need an account to view the Capacity Model. This can be requested on the home page via the link above.

3.3 Explanation of the use of ECMT for Capacity Model 2028

After you have logged in, you can view the Capacity model by clicking on 'ECMT Tabfolder' at the top of the screen. There are three different views:

- Segment overview: Displays the available capacity between two adjacent timetable points;
- Line overview: Displays the available capacity per segment over a specified route;
- Network overview: Shows for an entire network where capacity is still available and where the network is full.

Further explanation about the use of ECMT and how to obtain the above overviews can be found in the appendix, section 5.2. More information is also available in the 'Help' function in ECMT.

3.4 ECMT status and developments

The development of ECMT is currently on-hold. This means that no new functionalities will be added, awaiting the new planning tool "CPT" (see next paragraph).

In addition, the functionality that is ready may not work properly. If there are imperfections in ECMT, or if there are specific wishes for improvement, these can be reported in the consultation of the CPT advisory group (Change Control Board, CCB) or by e-mail to support.ecmt@rne.eu.

3.5 Capacity Planning Tool (CPT)

The new Capacity Planning Tool (CPT) is the basis of the digital modernization under the Capacity Regulation. This tool combines the stand-alone tools (TCR-tool and ECMT). CPT contains a shared database and modular architecture, enabling better aligning of processes and the work of infrastructure managers.

The first modules of CPT (TCR, Capacity Supply) are now implemented and available for users. We expect to publish the Capacity Model 2029 in [CPT](#).

4 Capacity Model 2028

4.1 Input from traffic flows for the Capacity Model

Input for the Capacity Model 2028 comes from:

- Capacity Supply 2027;
- Intended product developments as known in Medium-term process (MLT process):
 - Intended developments (product steps) for both passenger and freight traffic
 - Realization data and forecasts for numbers of freight trains
- TTR Capacity Strategy 2028³
 - Available infrastructure
 - Intended traffic flows
 - Major TCRs
- Major and High TCRs from the X-24 publication
- Capacity Needs Announcements (CNAs)
 - Via email, railway undertakings could submit desired train paths via CNAs
 - The CNA process is still a pilot for 2028

4.2 Traffic flows Capacity Model 2028

The Capacity Model 2028 contains all structural train paths for 2028. Non-structural trainpaths are not yet added. All train paths that are included in the Capacity Model 2028 are shown in appendix C. This file is available in a higher resolution added to the email accompanying the publication of the Capacity Model.

4.3 Harmonization with infrastructure managers from neighbouring countries

At the border crossings, ProRail coordinates the Capacity Model with the infrastructure manager of the neighboring country. For this version of the Capacity Model 2028, consultations have taken place with DB InfraGo for the border crossings between the Netherlands and Germany and with Infrabel for the border crossings between the Netherlands and Belgium.

The Capacity Model on the border route segments has been harmonized as far as possible. There may be differences on the border between the Netherlands and Germany, because DB InfraGo has based the Capacity Model on the train numbers between 6:00 a.m. and 10:00 p.m., and does not take the night into account. Differences with Infrabel may occur from rounding of planned times.

4.4 TCRs for the Capacity Model

The Capacity Model 2028 includes, with limited scope, capacity restrictions. Major and high TCRs because of engineering work have been published for the first time in December 2025 on the “Logistiek Portaal”: [Publicatie Capaciteitsbeperkingen 2027 en 2028 van 11-12-2025.pdf](#). The part that is incorporated in the Capacity Model is mentioned in paragraph 2.3.1.

In addition, all weekly maintenance windows have been added in the Capacity Model 2028. Non-weekly maintenance windows are not in scope for the Capacity Model.

³ See [TimeTable Redesign | ProRail](#)

More TCR variants will be added in the Capacity Model in the upcoming years. These variants will provide insights in the possibilities for train traffic around TCRs and the effects on maintenance windows.

4.5 Status and limitations of the 2028 Capacity Model

The Capacity Model 2028 is non-binding because the legal basis is yet to be established. Therefore, the Capacity Model for 2028 is informative.

Due to limitations in the technical infrastructure⁴, there may be a restriction on the use of train paths on certain routes. This means that on some routes not all train paths can actually be used by trains. The reason that the train paths are included is that ProRail cannot foresee at which times of the day train paths are required.

4.6 Differences between Capacity Strategy and Capacity Model

In comparison to the Capacity Strategy 2028, the following has changed in Capacity Model 2028:

4.6.1 Infrastructure

The infrastructure basis has been changed. The actual infrastructure can be found in the Capacity Strategy 2029, see [Capacity Strategy 2029](#).

4.6.2 Temporary capacity restrictions

The temporary capacity restrictions have been changed. The most recent publication of the TCRs can be found in the [Publication Capacity Restrictions 2027 and 2028 van 11-12-2025.pdf](#).

4.6.3 Train numbers and train characteristics

Congestion declarations

In Capacity Model 2027, the following sections have been declared congested:

- Amsterdam – Breda Border (via the High Speed Line)
- Amsterdam – Oldenzaal Border
- Amsterdam – Zevenaar Border

The capacity enhancement plans have not yet been finished. The amount of trains on these sections are the same in Capacity Model 2028 and Capacity Model 2027.

Two additional sections have been declared congested in Capacity Model 2028:

- Watergraafsmeer – Amsterdam – Roosendaal Border (via Haarlem), for the combination of national and international passenger, and freight traffic)
- Sittard – Heerlen, for Flirt trainsets

The characteristics for the new rolling stock between Dordrecht and Geldermalsen are not yet known. Therefore there is no conclusion yet whether these trains match the timetable.

⁴ This refers to infrastructure in the technical fields of rail embankments, civil structures, traction and energy supply, level crossings, train detection, environment (noise)

On other sections, the running timetable does not meet the standards for capacity planning. These sections will also be analysed for potential changes in infrastructure, rolling stock or operation. These sections are:

- Amsterdam Centraal – Haarlem: combination of freight and national passenger traffic
- Arnhem – Utrecht: Combination of international and national passenger traffic on off-peak hours
- Apeldoorn – Winterswijk: through trains in the evening and on Saturdays
- Amersfoort: Freight traffic starting from Amersfoort towards Oldenzaal Border
- Elst – Tiel: shortage in the combination of travel time, dwell time, turning time and crossing time on single track.
- Amsterdam Zuid and Schiphol: the total of stopping times does not meet the standards for trains to and from Almere
- Gouda: the stopping times and headways on tracks 3 and 8 do not meet the standards
- Deventer: Platform capacity. A project has already been started
- Harderwijk/Nunspeet: dwell time and following time. A project has already been started

Freight:

- Sittard – Heerlen – Herzogenrath Border: following the results of capacity allocation in timetable 2026, the maximum train length is 569m in direction Sittard
- Amersfoort – Onnen – Veendam: following the results of capacity allocation in timetable 2026, the frequency is limited to a couple of times a day
- Amsterdam Westhaven/Houtrakpolder – Weesp and on to Amersfoort: because of engineering works in Amsterdam Centraal, the frequency is limited to a couple of times a day

Passengers:

- Eindhoven – Venlo – Venlo Border: because the infrastructure in Venlo has not yet been changed, the additional regional passenger train between Eindhoven and Venlo cannot run yet.

4.7 Differences between the draft and final Capacity Model

In comparison to the draft Capacity Model, changes have been made to be compliant to the standards. These changes have been requested by railway undertakings or ProRail. This may lead to differences in capacity because capacities have shifted to other hours. No changes in train numbers are foreseen on a full day.

The figure in appendix C has been changed based on feedback on the draft Capacity Model. This creates a better overview for frequencies below once an hour.

5 Appendices

5.1 Appendix A: List of abbreviations

AG:	Advisory Group
CCB:	Change Control Board
CMO:	Capacity Model Object
CNA:	Capacity Needs Announcements
CPT:	Capacity Planning Tool
ECMT:	European Capacity Management Tool
ICL:	Intended Capacity Line
IM:	Infrastructure Manager
MLT:	Medium term (MLT: Middellange termijn)
PLC:	Primary Location Codes
RNE:	Railnet Europe
TCR:	Temporary Capacity Restriction
TTR:	Timetable Redesign

5.2 Appendix B: Further explanation of the use of ECMT

5.2.1 Segment overview

The available capacity between two adjacent primary location codes (PLCs) is available in the segment overview, see Figure 3. To view the intended capacity for a specific day for timetable 2028 at a certain location, the procedure is as follows:

- Enter the desired PLCs in the 'From location' and 'To location' fields. One or more waypoints can be entered via the input field 'Waypoints'.
- Select 2028 at 'Timetable period'
- Enter the desired date in "Exact day"
- If desired, other fields can be filled.
- Click on 'Search'

Segment Overview

The screenshot shows the ECMT Segment Overview search interface. At the top right are buttons for 'Choose', 'Save', and 'Reset'. The main form has several sections: 'FROM LOCATION' with a dropdown menu showing 'Boskoop - NL125'; 'TO LOCATION' with a dropdown menu showing 'Alphen aan den Rijn - NL53'; 'TIMETABLE PERIOD' with a dropdown menu showing '2028'; 'VALIDITY PERIOD (FROM)' with a date field showing '12-12-2027'; 'VALIDITY PERIOD (TO)' with a date field showing '09-12-2028'; 'MATCH' with checkboxes for 'EXACT' and 'SUBSET'; 'CIRCULATION DAYS' with buttons for 'ALL DAYS', 'MON', 'TUE', 'WED', 'THU', 'FRI', 'SAT', and 'SUN'; 'DIRECTION' with a dropdown menu showing a downward arrow; and 'VARIANT' with a dropdown menu showing 'Empty'. A calendar for January 2028 is open, showing the 12th as the selected date. At the bottom left is a 'Search' button.

Figure 3: View to choose segment overview in ECMT

Figure 4 shows the result for the Boskoop – Alphen a/d Rijn segment for a specific day (January 12, 2028) in the 2028 timetable.

Each block is a CMO (Capacity Model Object), an available train path for a certain category. The colour of the CMO indicates the train type and the letters in the CMO indicate the product type, see also the legend below the graph. The horizontal axis shows hours 0 to hour 23, the vertical axis shows the number of CMOs per hour.

Clicking on a CMO will reveal further information about that CMO, including:

- The validity
- The route
- The intended planning times

- Tonnage (by clicking on 'More values' at the route)
- Length (by clicking on 'More values' at the route)
- Timetable speed (by clicking on 'More values' at the route)

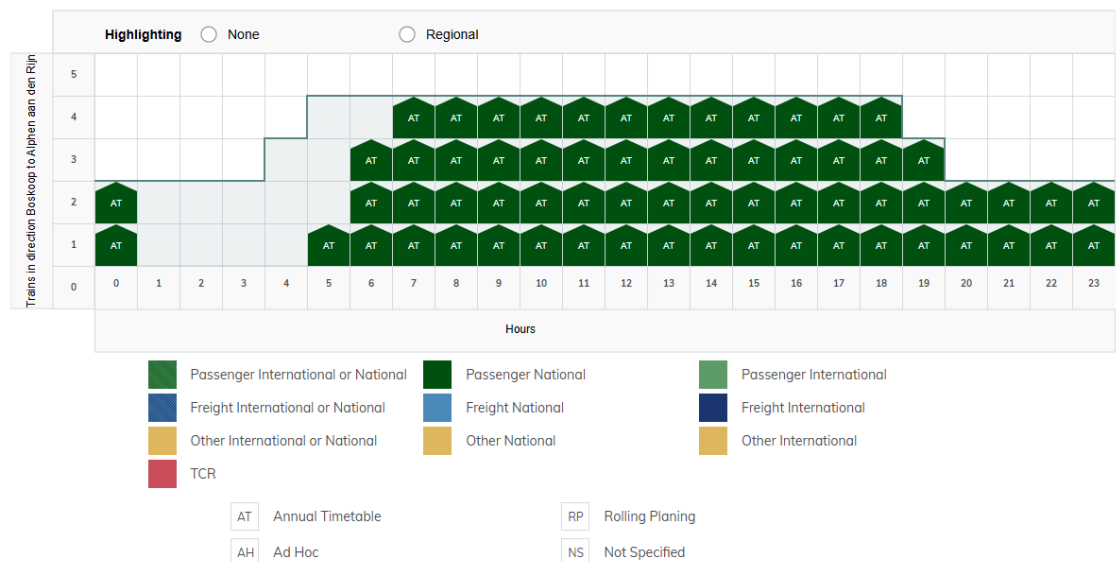


Figure 4: ECMT segment overview Boskoop – Alphen a/d Rijn for a specific day (January 12, 2028)

5.2.2 Intended Capacity Line

The Intended Capacity Line (ICL) is also shown in the segment overview. This line indicates the maximum number of CMOs per hour. If there is a gap between the sum of the CMOs and the ICL in a given hour, this means that there is 'free capacity space' in that hour.

For the 2028 Capacity Model, both national and international train paths are in scope. We're developing the ICL to cover all train paths, but this development has not yet finished. That's why the published ICL for the Capacity Model 2028 is only an indication.

In most cases, the ICL will equal the total amount of CMO's. It's not possible to add trains because the maximum capacity has been reached on the infrastructure that is planned for timetable 2028.

5.2.3 Line overview

The available capacity for a route is visible in the line overview. The procedure to view a line overview for a specific route is similar to the segment overview. For the line overview you can specify locations that are further apart. It is important to specify the correct via PLCs, because ECMT searches for the short route in terms of distance between the specified PLCs.

Figure 5 shows the result for the Boskoop – Alphen a/d Rijn route for a specific day (January 12, 2028) in the 2028 timetable. The route is shown on the horizontal axis, with all PLCs on that route at the top. The hours of the day are shown on the vertical axis, in this example hour 16 is visible at the top and hour 20 at the bottom. The CMOs are represented by blocks/bars, where each block/bar indicates in which hour the CMO is on which part of the trajectory.

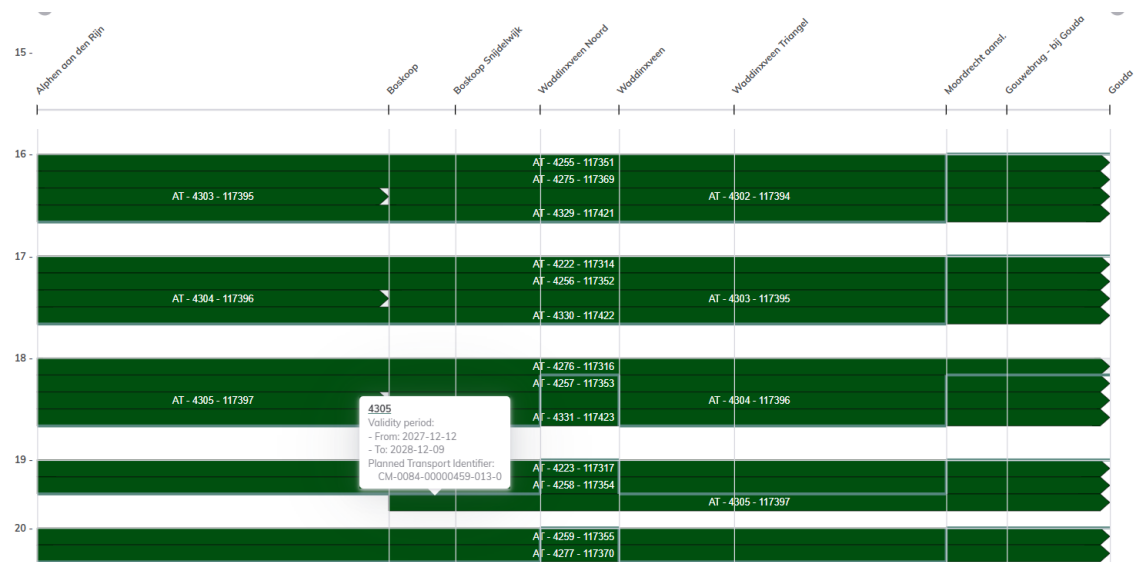


Figure 5: ECMT Line overview Boskoop – Alphen a/d Rijn from hours 16 to 20

5.2.4 Network overview

The available capacity for a network can be viewed via the network overview. The method to view a network overview is to enter the desired day and hour and click on 'Search'.

In the map, the colour indicates whether there is still capacity available or whether the network is full. See the legend at the bottom of the map. The ICL is used as maximum capacity and ECMT compares the number of CMOs per segment with the ICL.



Figure 6: ECMT Network overview for Capacity Model 2028

Traffic flows Capacity Model 2027

23 June 2025

Traffic flows as included in the 2027 capacity model.
No rights can be derived from this document.

