Capacity Strategy 2029

Common document of
ProRail, SNCF Réseau, DB InfraGO AG, ÖBB Infrastruktur AG, RFI S.p.A , SŽ Infrastruktura, SZCZ, ACF/CFL, ZSR

Version 1.0
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Disclaimer

With the present document, the participating Infrastructure Managers (IM) test an integrated approach for delivering Capacity Strategies.

In the spirit of TTR, the aim beyond the pilot is to reach an understanding of the expected content, which should be harmonized yet detailed enough to feed a single document that covers several, intricately connected networks.
After the positive last year experience, it was decided to reply to the pilot of a common document with higher number of IM's involved that is the result of a new approach which sees the participation of FTE and some EU railway companies.

In the long run, the present pilot helps collecting experience and building up know-how together with RailNetEurope (RNE) and Forum Train Europe (FTE) in view of the future European Regulation on the use of railway infrastructure capacity in the single European railway area [COM (2023) 443]. The first timetable in scope of the Regulation is expected to be Timetable 2031.

As of 2029 ÖBB Infrastruktur AG, SZ Infra and ZSR decided to publish a national Capacity Strategy. In case of discrepancies between the present document and the national Capacity Strategies, the latter remain the reference documents. For ProRail, DB InfraGO, RFI, SNCF Reseau, SZCZ and ACF/CFL the present document is the reference document.

Furthermore, the present document, pending the new Capacity Regulation currently under approval at European Level, is defined taking into account rules, principles and timeline of the Capacity Strategy Handbook 3.0.

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0. Introduction

TTR expects each IM to publish a Capacity Strategy until 3 years prior to timetable-change (X-36). General aim of the Capacity Strategy is to provide indication on key values of capacity planning, i.e., on changes in the availability of the infrastructure, Temporary Capacity Restrictions (TCRs or "negative capacity") as well as on commercial capacity ("positive capacity") for a given timetable.

The Capacity Strategy is the earliest TTR-planning instrument, based on which the Capacity Model (June 2027 for Timetable 2029) and, for some of the first implementing IMs, the Capacity Supply (January 2028 for Timetable 2029) will be developed.

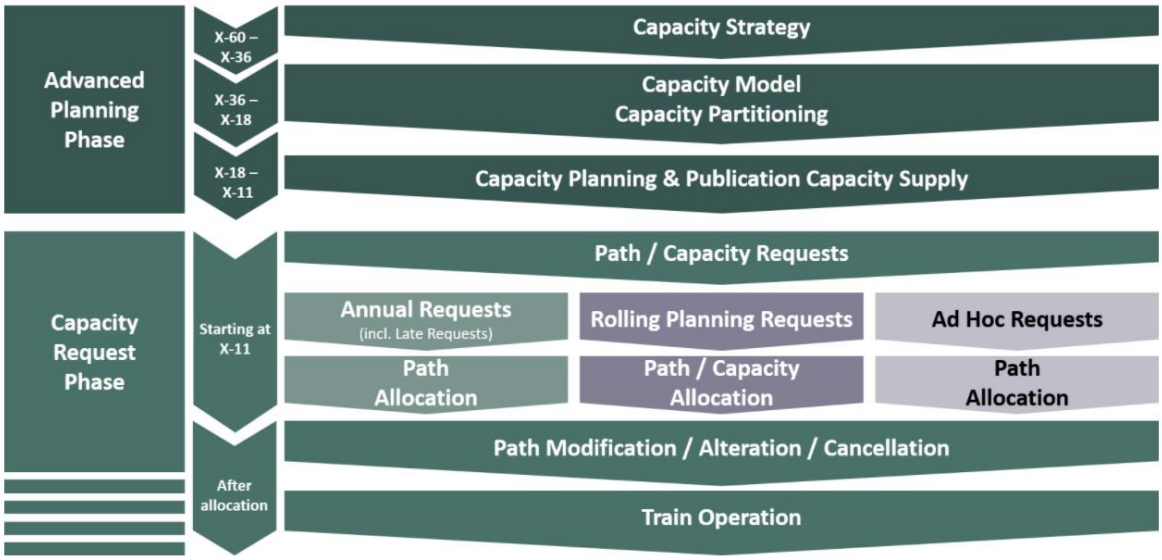

Figure 1: Steps of the TTR process (Source: RNE)

The present document aims at stressing the international character of TTR-end products to the benefit of consistency, coherence, and customer-friendliness. It has been developed based on the RNE's Capacity Strategy Handbook; version 3.01 saves the systematic publication of a national Capacity Strategy (s. Disclaimer).

The present document applies to Timetable 2029 on lines of international relevance. It encloses four main chapters:

- A description of the geographic scope
- Expected permanent changes in infrastructure capacity,
- Expected Temporary Capacity Restrictions (TCRs) with major impact,
- Expected traffic flows, whereby the values displayed apply for Timetable 2029 at relevant border sections within the geographical scope.

[1] https://rne.eu/wp-content/uploads/HB_Capacity_Strategy_3.0_2023-05-31.pdf

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 endorsed by the Infrastructure Managers involved but is, however, non-binding.

0.1 List of Involved IMs and Contact Details

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0.2 Approval and Status of the Document

This document is the final version approved by all by all involved infrastructure managers. This version is result of the consultation process held with all applicants.

0.3 Geographical Scope

For the geographical scope the lines with international relevance were selected on basis of experience, starting from border points with the highest volume of international traffic, both passenger and freight. An overview of the geographic scope is displayed in the map in Figure 2. For reasons of better visualization, the geographical scope is also visible in an annex; Network Map Geographic Scope_incl.submaps.

An overview of terminals and service facilities can be found here: https://railfacilitiesportal.eu/ The terminals and service facilities themselves are not included in the scope. Only the lines leading to these terminals and service facilities are included in the scope, provided that the lines are included in the geographical scope.

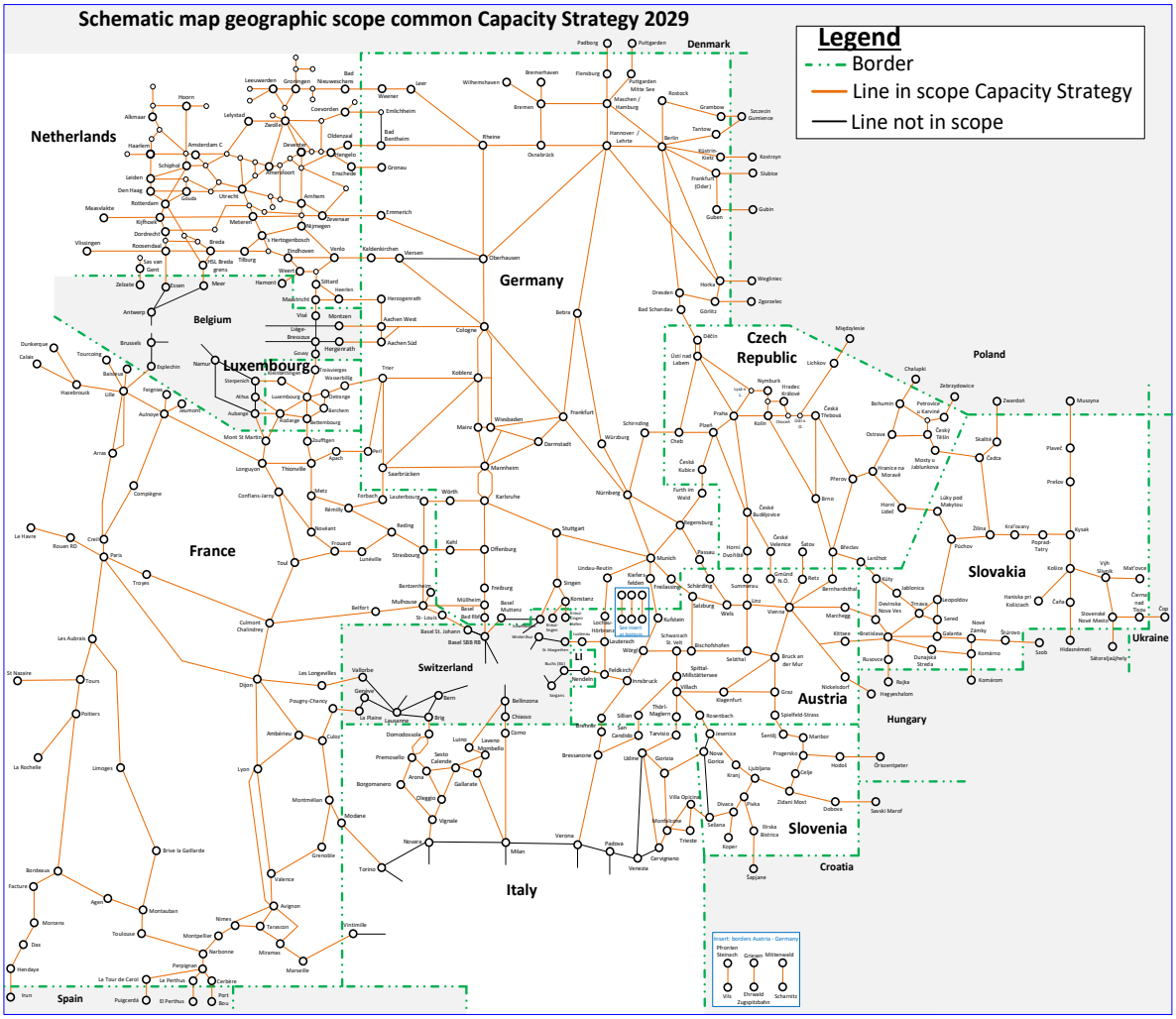


Figure 2: Schematic map geographic scope Common Capacity Strategy 2029

1. Expected Capacity of Infrastructure in Timetable 2029

The present chapter provides an overview of significant positive or negative changes to the available capacity for Timetable 2029, compared to the infrastructure available in December 2025.

In case of changes regarding capacity, which was already announced in previous Capacity Strategies, the modifications are shown in blue color to facilitate traceability. Regarding changed dates, changes are shown in blue color if the change exceeds 3 months. For new added capacities the cell with ID is marked blue.

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 2029. Subsequent Capacity Strategies will provide annual updates.

- The projects have a significant effect on capacity and are located on network segments relevant for international traffic, whereby each Infrastructure Manager evaluates the fulfillment of this criteria on its own.

- The column 'Effect' describes the impact for the timetable, on capacity and on operation. It is also describes if there is a relation with market needs.

- About positive effects on capacity, projects labeled as "quantitative" are expected to allow a higher number of trains; projects labeled as "train characteristics" are expected to allow longer, heavier or enhanced profile trains; projects labeled as "operational improvement" concern improvements in flexibility, marshalling and other.

- About negative effects on capacity, projects labeled as "quantitative" have, as outcome, a lower number of trains; projects labeled as "train characteristics" have, as outcome, a reduction of train length, weight, or profile; projects labeled as "operational restrictions" have, as outcome, a performance reduction about flexibility, marshalling and other.

In the geographic maps at the end of the chapter, green bullets locate the projects that provide additional available capacity, red bullets locate the projects that provide reduced available capacity. They are linked to the IDs in the following tables.

1.2 Additional Available Capacity

The following link contains the most up-to-date copy of the list of projects approved by each IM ´s management:

Common CS2029_Available-Reduced Capacities.xlsx

Additional Available Capacity All listed projects have been approved by IM Management							
Country	**ID blue cel is new added**	**Network segment**	**Description**	**Effect**	**Estimated effects on capacity**	**Financing secured**	**Effective from [if available] (text in blue if change > 3 months)**
Year	**dec-25**						
DE	1	Berlin-Südkreuz - Blankenfelde	Dresdner Bahn Berlin: Closing of a gap	Journey time reduction (ca. 10 min.)	Quantitative	Yes	dec-25
DE	2	Frankfurt Hbf	Signals (Zd) tracks 10, 11, 14-17: Splitting of tracks for possibility to temporarily increase capacity in Frankfurt Hbf	Increase in capacity	Quantitative	Yes	dec-25
AT	1	Stadlau - Marchegg state border	electrification and double-track upgrade	2-track upgrade, raise speed up to 200 km/h, station refurbishments	High	Yes	2025
AT	2	Graz–Weitendorf	4-track upgrade Graz–Feldkirchen, extension of track lengths at Puntigam station	increase of capacity, preparation for new Koralm Railway line	High	Yes	dec-25
AT	3	Graz-Klagenfurt, Koralm railway line	Construction of Graz–Klagenfurt line	new high speed line between Graz an Klagenfurt, new stations and connections to existing lines	High	Yes	dec-25
AT	**4**	Wettmannstätten - Wies-Eibiswald	line upgrade	electrification and line upgrade	minor	Yes	dec-25
AT	**5**	Floridsdorf	enlargement of sidings	upgrade in capacity of sidings for passenger trains	minor	Yes	dec-25
IT	1	Gallarate	New 750 m passing tracks	Adaptation to TSI	Train characteristics	Yes	**dec-25**

IT	2	Gallarate	New interlocking	Increase in flexibility	Operational improvement	Yes	**dec-25**
IT	3	Cressa F.	750 m passing track	Adaptation to TSI	Train characteristics	Yes	**dec-25**
IT	4	Chiasso - Como S.G. - B. Rosales	New interlocking	4' headway, increase in flexibility	Quantitative	Yes	new date under discussion
LU	1	Luxembourg Central Station	Track reorganization	Traffic segregation	Operational	Yes	dec-25
Year	**2026**						
NL	1	Hoofddorp	Adjustments layout	Realize simultaneous departure from different platforms to Hoofddorp stabling yard and terminal tracks Hoofddorp Midden. Increasing capacity at Hoofddorp and improving accessibility of the stabling yard	Operational improvement	Yes	feb-26
NL	2	Den Haag Centraal	Two extra platform tracks, adjustments layout and signalling	Capacity for more trains. Shorter running and headway times	Quantitative and Operational improvement	Yes	jul-26
NL	3	Almere Oostvaarders	New switches for higher speed	Shorter running and headway times	Operational improvement	Yes	sep-26
NL	4	Europoort	Electrification of 2 arrival and departure tracks	Freight trains with length of 740m can start/end at Europoort	Train characteristics	Yes	**okt-26**
NL	**5**	Stroe	New switches for higher speed	Shorter running times for trains departing from side track and shorter headway times	Operational improvement	Yes	nov-26
NL	6	Eindhoven Centraal	Adjustments layout east side	Shorter running times and more simultaneities. Necessary (next to other projects) to run an extra passenger train between Eindhoven and Venlo.	Quantitative and Operational improvement	Yes	**dec-26**
NL	7	Heerlen	Adjustments layout west side	Optimized shunting process	Operational improvement	Yes	dec-26
NL	8	Coevorden	Extra platform track, adjustments layout and signalling	New hourly passenger service Coevorden - Neuenhausen	Quantitative	Yes	dec-26
NL	**9**	Eindhoven - Venlo	Adjustments signalling and level crossings	Shorter running times. Necessary (next to other projects) to run an extra	Quantitative and Operational improvement	Yes	dec-26

				passenger train between Eindhoven and Venlo.			
NL	10	Lelystad - Zwolle	Speed increase to 160 km/h along the platforms of Kampen Zuid (part of speed increase to 180 km/h Lelystad - Hattemerbroek)	Shorter running times	Operational improvement	Yes	dec-26
DE	**3**	Basel - Kenzingen	ETCS Corridor A Upgrade - RBC Buggingen and Reiburg	Elimination of LZB restrictions, no new ESTW required	-	Yes	jun-26
DE	4	Stuttgart	Tiefbahnhof Stuttgart 21 + Filder new-built line	Travel time reduction approx. 15 min; prerequisite for realisation of half-hourly service in the long-distance north-south corridor and Mannheim - Munich	Quantitative	Yes	dec-26
DE	5	Hannover - Berlin	1. BS Electrification Lehrter Stammbahn: Electrification of section Schönhausen West - Wuster Damm and Nahrstedt - Gardelegen, 4 new junctions to line 6185, 740m track Gardelegen	Enabling access with elect. rolling stock; Bypassing track 6185 possible	Operational improvement	Yes	dec-26
DE	6	Flörsheim	New ESTW Flörsheim: Track 3603 Hattersheim - Mainz-Kastel, Track 3525 Kostheim - Kaiserbrücke, increase of the number of blocks of the tracks, speed optimization, optimization of the usable length	Shorter headways	Quantitative	Yes	dec-26
DE	7	Karlsruhe - Offenburg	ABS/NBS Karlsruhe - Basel: New-built line between Karlsruhe and Offenburg	Journey time reduction approx. 3min in long dictance traffic, capacity expansion to 4-track, continuous 4-track Karlsruhe - Offenburg	Quantitative	Yes	dec-26
DE	8	Wendlingen	Project S21 / new-build line Wendlingen Ulm: restoration of two-track operation in Wendlingen curve	Elimination of dependencies on the direction and increase in capacity	Quantitative	Yes	dec-26
DE	**9**	Köln Hbf	ETCS upgrade & adaptations to the track plan	more crossover points	Quantitative	No	dec-26
CZ	**1**	Brno-Královo Pole	Reconstruction of Brno-Královo Pole station	Enabling operation of 740 m freight trains	Rolling stock parameter improvements	Yes	mar-26

CZ	**2**	Karlštejn – Beroun	Optimization of Karlštejn (excl.) – Beroun (excl.) line	Construction the crossover track arrangement at the junction of Lom	Operational parameter improvements	Yes	oct-26
CZ	**3**	Chomutov – Kadaň – Prunéřov	Reconstruction of the line section Chomutov (excl.) – Kadaň – Prunéřov (incl.)	Installation of connecting tracks at 80 km/h, speed increase	Operational parameter improvements	Yes	dec-26
CZ	4	Border point Horní Lideč - Vsetín	Traction power system conversion	Shortening of the electrical interval	Train characteristic	Yes	dec-26
AT	6	Arnoldstein	Station refurbishment, 760m tracks	passing of 750m freight trains possible	Minor	Yes	2026
AT	**7**	Messendorf	Station refurbishment	increase of station capacity and extension of tracks for >700m freight trains	Medium	Yes	dec-26
AT	**8**	Terminal Wien Süd	Expansion of intermodal Terminal	upgrade of terminal infrastructure, additional tracks	medium	Yes	dec-26
AT	**9**	Northern Line Wien Süßenbrunn - Gänserndorf	line upgrade	raise speed up to 160km/h, closure of level crossings, station refurbishments	High	Yes	dec-26
IT	5	Bretella di Riga	New 1-track link	Direct southward connection from the Pusteria Valley line to the Brenner line	Operational improvement	Yes	**jun-26**
IT	6	Udine	New interlocking	Increase in flexibility	Operational improvement	Yes	**jul-26**
IT	7	Portogruaro - Ronchi d.L. Sud	New interlocking	5' headway, increase in regularity	Quantitative	Yes	**nov-26**
IT	8	S. Giorgio di Nogaro	750 m passing tracks	Adaptation to TSI	Train characteristics	Yes	**nov-26**
IT	9	Brescia Est - Verona Ovest	New High Speed / High Capacity 2-tracks line	Increase in capacity, running times reduction	Quantitative	Yes	dec-26
IT	10	Chivasso	New interlocking and 750 m track	Adaption to TSI and increase in flexibility	Operational improvement	Yes	**dec-26**
IT	11	Milano Smistamento	New yard connected to Teralp new terminal	750 m trains enabled to the new Teralp terminal	Quantitative	Yes	**dec-26**
IT	12	Settimo T. - Chivasso - B. Castelrosso	New interlocking	4' headway, increase in flexibility	Quantitative	Yes	dec-26

IT	13	Trieste C.M.	750 m tracks and new interlocking	Adaptation to TSI; Increased transportation capacity to 20 arrivals and 20 departures per day	Quantitative and Train Characteristics	Yes	**dec-26**
IT	14	Venezia Airport link	New 2-tracks line	New link branching from the Venezia - Trieste line	Quantitative	Yes	**dec-26**
IT	15	Verona P.V. - B. Vicenza	New High Speed / High Capacity 2-tracks line	Increase in capacity, running times reduction	Quantitative	Yes	**dec-26**
IT	16	Villa Opicina	New interlocking and 750 m tracks	Adaption to TSI and increase in flexibility	Train characteristics	Yes	**dec-26**
IT	17	Venezia Mestre - Ronchi d.L. Sud	Infrastructural enhancement	Speed limitations for heavy trains removal	Operational improvement	Yes	**To be confirmed. The end date of work could change.**
LU	2	Howald	Track reorganization and additional platform	Increase of the capacity, traffic segregation	Quantitative and operational	Yes	Q1 2026
SI	1	Zidani Most -Maribor	Technological upgrade	Modernising the traffic control centres, increasing level of traffic safety	Quantitative	Yes	**2026**
Year	**2027**						
NL	11	Wolfheze	Remove passing track and switches, adjustment of signalling	Less possibilities for traffic control. Shorter headway times	Operational improvement	Yes	**mrt-27**
NL	12	Tilburg – Breda	Adjustments layout and fourth platform track Tilburg. Remove switches Gilze-Rijen. Adjustment signalling Tilburg - Breda	Higher platform capacity and shorter headway times. Necessary (next to other projects) for capacity increase from 2 to 4 regional express trains per hour per direction between Breda and Eindhoven.	Quantitative	Yes	jun-27
NL	13	Maasvlakte	New railway yard Maasvlakte Zuid, construction of first set of 6 tracks for 740m long freight trains	Capacity for more freight trains to/from Maasvlakte	Quantitative	Yes	**jun-27**
NL	**14**	Alkmaar	Adjustments layout and longer platform tracks for tracks 1, 4 and 5.	Necessary (next to other projects) for capacity increase from 4 to 6 regional express trains per hour per direction between Alkmaar and Amsterdam. More capacity for longer passenger trains.	Quantitative and train characteristics	Yes	nov-27

NL	15	Nijmegen - Venlo - Roermond	Electrification of line, longer double track sections and increase of speed	Making electric trains possible, shorter running times, higher capacity. Note; this line has ATB-NG-signalling	Qualitative and train characteristics	Yes	dec-27
LU	3	Luxembourg - Ettelbruck	New blocks	Additional capacity	Timetable stabilisation, capacity augmentation	Yes	**2027**
LU	4	Luxembourg - Bettembourg	Construction of a new line, additional platforms in Howald, track reorganisation	Traffic segregation (national / international to France)	Doubling of capacity between Luxembourg and Bettembourg	Yes	Q4 2027
DE	**10**	Hamburg - Berlin	new railroad switches and crossover points & 740m track length upgrade at Neustadt / Dosse	-	qualitative	Yes	jun-27
DE	11	Dresden Hbf	Flying junction Dresden: New signals and tracks	More flexibility in running trains; Increase in max. speed at Dresden Hbf	Operational improvement	Yes	dec-27
DE	12	Müllheim-Schliengen	ABS/NBS Karlsruhe - Basel: New tracks between Müllheim-Schliengen	Speed increase to 250 km/h, capacity expansion to 4 tracks	Quantitative	Yes	dec-27
DE	13	Haltingen-Basel Bad Bf	ABS/NBS Karlsruhe - Basel: New tracks between Haltingen-Basel Bad Bf	Speed increase to 160 km/h, capacity expansion to 4 tracks	Quantitative	Yes	dec-27
DE	**14**	Osnabrück	new ESTW Osnabrück	Overall commissioning of the final construction stages	Qualitative and quantitative improvement	Yes	dec-27
DE	**15**	Berlin - Lehrte	1st construction phase (BS 1) of electrification in section of Schönhausen	Electrification	-	Yes	dec-27
DE	**16**	Berlin - Hannover	ETCS upgrade	-	Qualitative	No	dec-27
CZ	5	State Border CZ/SK – Vsetín	State Border CZ/SK (Střelná) – Vsetín (excl.), conversion of the traction power supply to 25 kV 50 Hz AC	Rolling stock parameter improvements	Reduction of intermediate time (*successive interval between two electric trains*)	Yes	jan-27
CZ	**6**	České Velenice – České Budějovice – Horní Dvořiště	ETCS installation on the line sections České Velenice – České Budějovice – Horní Dvořiště	Operational parameter improvements	More flexibility in managing the traffic operation process	Yes	mar-27

CZ	7	Lipník nad Bečvou - Drahotuše	Upgrade of Lipník n. B. – Drahotuše line section	Operational parameter improvements, more flexibility in traffic management and increased stability of the timetable	Construction the crossover track arrangement at the junction of Jezernice	Yes	mar-27
CZ	**8**	Přibyslav – Pohled	Reconstruction of Přibyslav – Pohled line section	Operational parameter improvements	Speed increase	Yes	may-27
CZ	**9**	Praha Masaryk station	Modernisation and completion of Prague Masaryk Station	Capacity increase	Increase in the number of running tracks	Yes	aug-27
CZ	**10**	Plzeň – Nýřany – Chotěšov	Modernisation of Plzeň – Domažlice – State Border CZ/DE railway line, Construction Phase 2, Plzeň (excl.) – Nýřany – Chotěšov (excl.) line section	Capacity increase	Extension of running tracks lengths at stations, speed increase, installation of connecting tracks at higher speed	Yes	sep-27
CZ	**11**	Praha-Smíchov station	Reconstruction of Praha-Smíchov station	Capacity increase	Speed increase, enlarging the number of platform edges	Yes	sep-27
CZ	**12**	Žďár nad Sázavou – Sázava u Žďáru	Reconstruction of Žďár nad Sázavou (excl.) – Sázava u Žďáru (excl.) line section	Operational parameter improvements	Speed increase	Yes	sep-27
CZ	**13**	Ejpovice – Plzeň	Speed increase on Ejpovice (excl.) – Plzeň (excl.) line section	Capacity increase	Speed increase to 200 km/h	Yes	dec-27
CZ	**14**	Kutná Hora – Kolín	Reconstruction of Kutná Hora (excl.) – Kolín (excl.) line section	Capacity increase	Construction of Hlízov connecting line, speed increase	Yes	dec-27
CZ	**15**	Kyjice – Chomutov	Reconstruction of Kyjice – Chomutov line section	Capacity increase	Speed increase	Yes	dec-27
CZ	16	Nedakonice	Increasing the power of the traction power station	Shortening of the electrical interval	Train characteristic	Yes	dec-27
CZ	**17**	Povrly – Děčín hl.n. (*Main Station*)	Construction the crossover track arrangement at the junction of Borek u Děčína	Capacity increase	Enhancing line capacity and enabling greater operational flexibility	No	dec-27

AT	**10**	Graz - Autal	electrification	electrification	minor	Yes	sep-27
AT	**11**	Wiener Neustadt - Loipersbach-Schattendorf	line upgrade	line electrification, extension of tracks for 750m freight trains in selected stations	medium	Yes	2027
AT	12	Mixnitz-Bärenschützklamm	Station refurbishment	increase of station capacity and extension of tracks for 750m freight trains	Medium	Yes	**dec-27**
AT	**13**	Linz Main Station west side	4-track extension	increase of capacity, removal of bottleneck of four track western line	High	Yes	dec-27
AT	**14**	Terminal Wels	station refurbishment	upgrade of terminal infrastructure, enabling access to terminal from both directions	minor	Yes	dec-27
AT	**15**	Himberg	station refurbishment	increase of station capacity and extension of tracks for 750m freight trains	Medium	Yes	dec-27
AT	**16**	Wien Meidling - Floridsdorf, Stammstrecke Wien	line upgrade	line upgrade, extension of platforms and increase of capacity of line and stations	high	Yes	dec-27
AT	17	Pottendorf Line, Wampersdorf–Ebenfurth	line upgrade	increase of capacity, new high performance line between Vienna and Wiener Neustadt	High	Yes	**dec-27**
AT	**18**	Friedburg - Braunau/Inn	electrification	line upgrade and electrification	minor	Yes	dec-27
AT	**19**	St. Pölten - Hainfeld/Freiland	line upgrade	line upgrade, electrification	minor	Yes	dec-27
AT	**20**	Zeltweg - Pöls	electrification	electrification	minor	Yes	**dec-27**
IT	18	Bivio d'Aurisina - Villa Opicina	Technological upgrade	Increase in capacity	Quantitative	Yes	**jan-27**
IT	19	Cervignano Smistamento	New interlocking	Possibility of 750 m through trains	Train characteristics	Yes	**jan-27**
IT	20	Cervignano Smistamento	750 m arrival/departure tracks	Adaptation to TSI	Train characteristics	Yes	**jan-27**
IT	21	Milano Porta Garibaldi	New interlocking and track layout	Increase in capacity and flexibility	Quantitative	Yes	**jun-27**
IT	22	Torino P. Susa - To. Rebaudengo F.	New interlocking	4' headway, increase in flexibility	Quantitative	Yes	**jun-27**
IT	23	Brescia Scalo	Freight terminal upgrade	Tracks upgraded to 750 m	Quantitative	Yes	**2026 First Phase** 2027 Final Phase

IT	24	Chivasso	Further 750 m track	Increse in 750 m trains admitted	Operational improvement	Yes	2027
IT	25	Gorizia direct link	New 1-track link	Direct southward route from Slovenia	Operational improvement	Yes	2027
IT	26	Milano Certosa	New interlocking and 750 m passing tracks	Adaptation to TSI; increase in flexibility.	Train characteristics	Yes	2027
IT	**27**	Rho - Parabiago	New Line Layout with 4 tracks	Increasing in capacity	Train characteristics	Yes	First Phase 2026 Second Phase 2027
IT	28	Torino Orbassano	New interlocking	Increase in capacity and flexibility	Train characteristics	Yes	2027
IT	29	Trento Belt Line	New 2-tracks line	New freight line shunting Trento	Train characteristics	Yes	2027
IT	30	Verona Quadrante Europa	New interlocking	Increase in flexibility and regularity	Train characteristics	Yes	2027
IT	31	Venezia Mestre - Portogruaro	New interlocking	5' headway, increase in regularity	Quantitative	Yes	**dec-27**
IT	32	S.Giovanni Nat. and Cormons	750 m passing tracks	Adaptation to TSI; 750 m trains admitted on the Udine - Trieste line	Train characteristics	Yes	**new date under discussion**
IT	33	Udine - Ronchi d.L. Nord	Technological upgrade	Increase in capacity	Quantitative	Yes	**new date under discussion**
SI	2	Divača- Koper	Building new track	Increase in capacity	Quantitative	Yes	**2027**
SI	3	Ljubljana rail hub	upgrade the railway station and the sections between the stations	Removing a bottleneck at the junction of major traffic flows in transit across the Republic of Slovenia	Quantitative and Train characteristics	Yes	**2027**
SI	**4**	Jesenice	upgrade the railway station and the sections between the stations	Removing a bottleneck at the junction of major traffic flows in transit across the Republic of Slovenia	Quantitive and the train characteristics	Yes	2027
Year	**2028**						
NL	16	Almelo - Mariënberg	Electrification of line	Making electric trains possible, shorter running times	Quantitative and train characteristics	Yes	**During 2028**
NL	17	Haanrade	Making switches operable for central control	Faster handling of freight trains from/to Haanrade possible. Shorter occupation times for section Landgraaf - Herzogenrath	Operational improvement	Yes	**During 2028**

NL	**18**	Kijfhoek - Meteren	Adjustment safety measurements Sophiatunnel	Shorter headway times. Increase in number of freight paths in both directions, from 6 per hour to 8 per hour .	Quantitative	Yes	During 2028
NL	19	Leeuwarden - Harlingen Haven	New interlocking with ETCS	Safety enhancement	Train characteristics	Yes	**During 2028**
NL	20	Moerdijk	2 shunting tracks for 740m long freight trains	Freight trains with length of 740m can start/end at Moerdijk	Train characteristics	Yes	**During 2028**
NL	21	Nijmegen	Extra platform track, adjustments layout of track at station and stabling yard, increase of speed and adjustment of signalling	Capacity for more trains, shorter running and headway times. Higher capacity for stabling of passenger rolling stock.	Quantitative and Operational improvement	Yes	During 2028
NL	**22**	Nijmegen - Arnhem	Adjustments signalling	Shorter headway times.	Operational improvement	Yes	During 2028
NL	23	Waalhaven	Adjustment lay out to realize more tracks for 740m long freight trains	Higher capacity for 740m trains	Train characteristics	Yes	During 2028
DE	**17**	Basel Bad	new ESTW and "Ks" short-signal fitting	improvement of train sequence	Qualitative	No	apr-28
DE	**18**	Bremen Hbf	refurbishment of signalling	implementation of new regional / local train concept and new express node Bremen / Lower Saxony	Quantative	Yes	dec-28
DE	**19**	Rheine - Ibbenbüren-Esch	Increasing the number of signalling blocks, crossover points, GWB (track switch blocks)	Due to refurbishement of the level crossing Dortmund-Ems-Canal, 2 new crossover points to be placed (Rodde and Torfmoorsee) before and after the bridge, permanent retention of the crossover points and increasing signalling blocks between Rheine and Ibbenbüren-Esch	Qualitative and quantitative improvement	Yes	dec-28
DE	**20**	Kehl	finalisation and commissioning of the Eastern track strip of Kehl Bf (part of POS Süd, planning segment 2)	passing through Kehl in both directions at 160 km/h	Quantitative	No	dec-28
CZ	**18**	Valašské Meziříčí	Reconstruction of platforms at Valašské Meziříčí station	Rolling stock parameter improvements	Extension of platform lengths	Yes	jan-28
CZ	**19**	Kuřim – Tišnov	Reconstruction of Kuřim (excl.) – Tišnov (excl.) line section	Capacity increase	Construction of Čebínka junction, speed increase	Yes	jun-28

CZ	**20**	Tišnov	Reconstruction of Tišnov station	Operational parameter improvements	Enabling new operational concept	Yes	jun-28
CZ	**21**	Čáslav	Reconstruction of Čáslav station	Operational and capacity improvements	Capacity increase by removing level platforms, speed increase, enabling new operational concept	Yes	aug-28
CZ	**22**	Ústí n. L. hl.n. (*Main station*) – Ústí n. L. západ	Reconstruction of viaduct at km 0.439 on Ústí n.L. hl.n. – Ústí n.L. západ line	Capacity increase	Speed increase	Yes	sep-28
CZ	**23**	Týniště nad Orlicí	Capacity increase of Týniště n. O. – Častolovice – Solnice line, Phase 3	Operational parameter improvements	Capacity enhancement, enabling introduction of new operational concept	Yes	dec-28
AT	**21**	Straßwalchen	station refurbishment	increase of station capacity	minor	Yes	aug-28
AT	**22**	Kledering	connection to airport line	new level-free connecting track from eastern line to airport line	Medium	Yes	**dec-28**
AT	**23**	Innsbruck Hbf	enlargement of sidings	upgrade in capacity of sidings for passenger trains	minor	Yes	**dec-28**
AT	**24**	Lieboch - Köflach	electrification	electrification	minor	Yes	dec-28
AT	**25**	Wiener Neustadt Hbf - Gloggnitz	line upgrade	line upgrade and increase of capacity	Medium	Yes	dec-28
FR	1	Hendaye / Irun	Y Basque	Capacity increase	Quantitative	Yes	2028
IT	34	Verona Porta Nuova	New interlocking and track layout	Increase in capacity and flexibility, faster routes	Quantitative	Yes	**09/27 First Phase 04/28 Second Phase**
IT	**35**	Arona - Oleggio	Loading Gauge Upgrading	Higher capacity for trains with rolling higways and semi-trailers	Quantitative and Train characteristics	Yes	2028
IT	**36**	Avigliana - Bussoleno	Technological and Infrastructural Upgrade of Bussoleno - Avigliana line (First Phase)	New Signalling Block System aiming to increase capacity (4' Headway)	Quantitative	Yes	2028
IT	37	Bolzano	New layout with 3 tracks (New Virgolo Tunnel)	Increase in capacity	Quantitative	Yes	2028
IT	**38**	Domodossola - Arona - Sesto Calende	Loading Gauge Upgrading	Higher capacity for trains with rolling higways and semi-trailers	Quantitative and Train characteristics	Yes	2028

IT	**39**	Iselle - Domodossola	Infrastructural upgrading (Stations Layout and Loading gauge upgrading in short section)	Higher capacity for trains with rolling higways and semi-trailers	Quantitative and Train characteristics	Yes	2028
IT	**40**	Novara Boschetto	New freight tracks with lenght of 750 m	Freight trains with length of 740m can start/end at Novara Boschetto	Train characteristics	Yes	2028
IT	41	Torino Porta Susa - Torino Porta Nuova	New 2-tracks line	Increase in capacity	Quantitative	Yes	2028
IT	42	Verona	West Node	Increase in capacity	Quantitative	Yes	2028
IT	43	Udine (New Cargnacco Freight Station)	750 m passing tracks	Adaptation to TSI; 750 m trains admitted on the Udine - Trieste line	Train characteristics	Yes	**new date under discussion**
Year	**2029**						
DE	**21**	Aachen - Border Point (Herzogenrath)	Electrification of Aachen Euregionahn (on DB Infrastructure only, until Herzogenrath - Stolberg)	-	-	Yes	dec-29
DE	**22**	Mannheim - Saarbrücken ("POS Nord")	ETCS upgrade (ESTW Kaiserslautern, ESTW Landstuhl, ESTW Hochspeyer)	reduction of journey time	Quantitative and Operational improvement	Yes	dec-29
DE	**23**	Lahr - Rastatt Süd	ETCS Corridor A Upgrade, RBC Offenburg	Elimination of LZB restrictions, additionally ESTW fitted	-	Yes	dec-29
DE	**24**	Angermünde - Szczecin	ETCS upgrade	reduction of journey time, increase of train frequency, capacity increase	Quantitative and Operational improvement	Yes	2029
NL	24	Amsterdam Aziëhaven	Extra track for 740m long freight trains	Capacity for more 740m-long freight trains	Train characteristics	Yes	**During 2029**
NL	**25**	Heerhugowaard	New stabling yard 'De Vaandel' for passenger trains with 6 tracks for 340m trains including service facilities.	Increase of stabling capacity in region North-West. Necessary (next to other projects) for capacity increase from 4 to 6 regional express trains per hour per direction between Alkmaar and Amsterdam	Quantitative and Operational improvement	Yes	During 2029
NL	**26**	's Hertogenbosch - Vught	Extra track (increase from 3 to 4 tracks) between Den Bosch and Vught aansl., fly-over at Vught aansl. and removal of several level crossings.	Simultaneous traffic flows from 's Hertogenbosch to Eindhoven and from Tilburg to 's Hertogenbosch. Necessary (next to other projects) to increase the capacity for freight trains.	Quantitative and Operational improvement	Yes	During 2029

NL	**27**	Leeuwarden - Grou-Jirnsum	New station Leeuwarden Werpsterhoeke	New station with stop for regional trains	Quantitative	Yes	During 2029
NL	28	Leeuwarden - Stavoren	New interlocking with ETCS	Safety enhancement	Train characteristics	Yes	**During 2029**
NL	29	Merseyweg, connecting track with Botlek	Local track will be made suitable for 740m trains and adjustments to interlocking	Capacity for more freight trains, track prepared for 740m trains. Shunting yard Botlek, to which Merseyweg connects, still has a length restriction of 700m	Train characteristics	Yes	**During 2029**
AT	**26**	Bruck a.d. Mur - Graz	switch to right-hand traffic, line upgrade and speed increase	increase of line capacity	medium	Yes	nov-29
AT	**27**	Kufstein station	construcion of turnaround option	new turnaround option for passenger trains	minor	Yes	2029
AT	**28**	Feldkirch - Nendeln state border (FL/CH)	line upgrade	upgrade of platforms along the line and extension of tracks in Nendeln station	minor	Yes	2029
AT	**29**	Wiener Neustadt Hbf	4-track expansion Wiener Neustadt Hbf north side	4-track expansion, increase of capacity of line and station	high	Yes	2029
AT	**30**	Marchtrenk - Wels	4-track extension	increase of capacity	High	Yes	2029
FR	**2**	TELT St Jean de Maurienne	Torino tunnel	Capacity increase	Major	Yes	2029
FR	**3**	Hendaye - Irun	Double HS track 1435mml	Capacity increase	Major	Yes	2029

1.2 Reduced Capacity

Reduced Available Capacity All listed projects have been approved by IM Management					
Country	**ID** **blue cel is new added**	**Network segment**	**Description**	**Estimated effects on capacity**	**Capacity reduced since** **(text in blue if change > 3 months)**
Year	**dec-25**				
Year	**2026**				
NL	1	Rijssen	Remove sidetrack and switches.	Operational restrictions No effect for regular traffic.	sep-26
SI	1	Jesenice	Renewal main station (reduced tracks, switches)	Operational restrictions Capacity reduction 30%	2026
Year	**2027**				
NL	2	Dieren	Remove sidetrack and switches. Not used for regular traffic.	Operational restrictions No effect for regular traffic.	jul-27
LU	1	Luxemburg - Hollerich (lines 5 and 7)	Track and platform reorganization, 2 available tracks instead of 4 in period 2027 - 2034	Capacity reduction of 50%	2027
SI	2	Ljubljana	Renewal main station (reduced tracks, switches)	Operational restrictions Capacity reduction 20%	**2027**
Year	**2028**				
NL	3	Zaltbommel	Remove passing track and switches Oud-Zaltbommel. Not used for regular traffic.	Operational restrictions No effect for regular traffic.	**2028**
Year	**2029**				

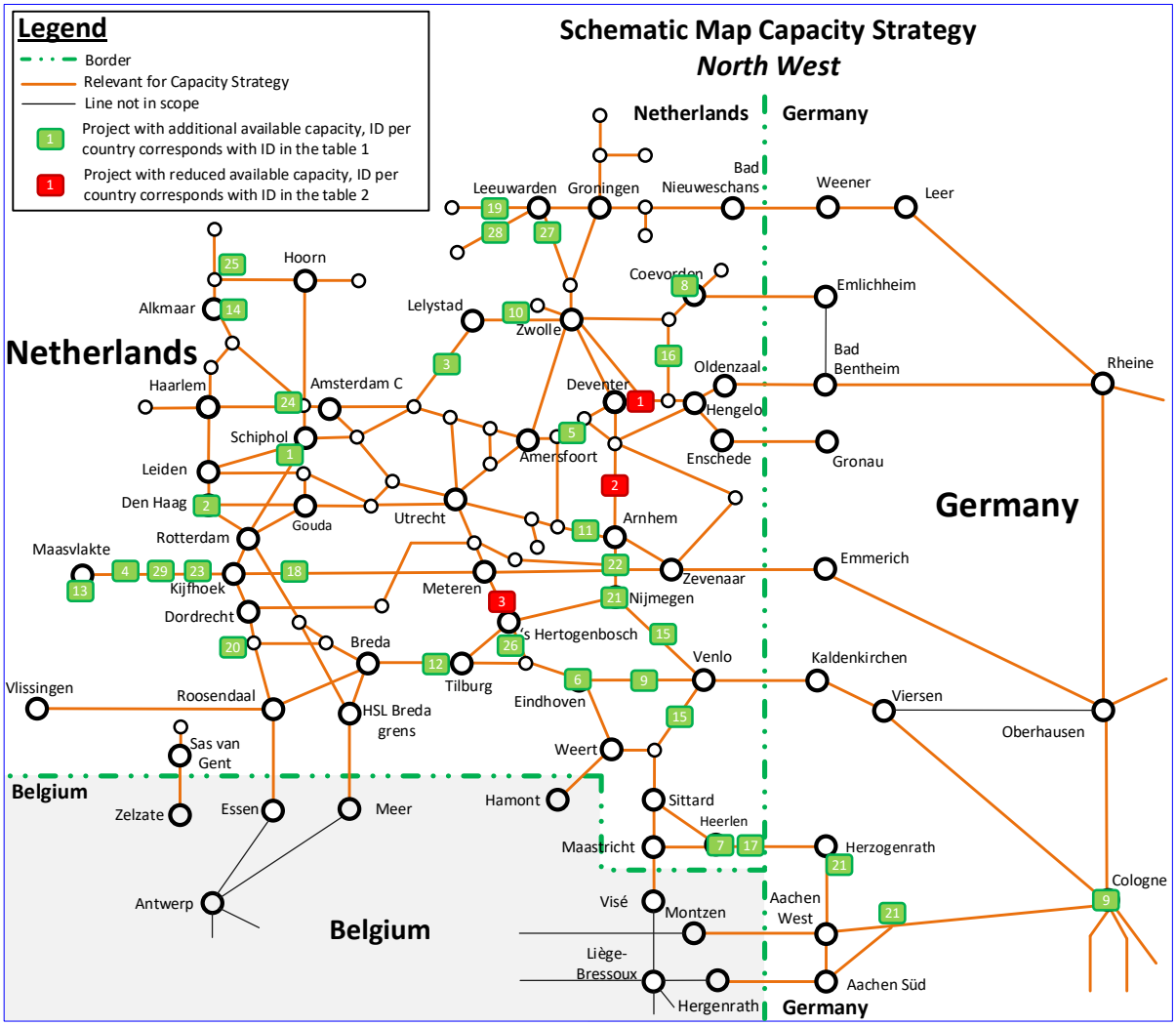


Figure 3: Submap North-West of infrastructure projects with additional and reduced capacity. The numbers correspond to the numbers in the tables of paragraphs 1.1 and 1.2.

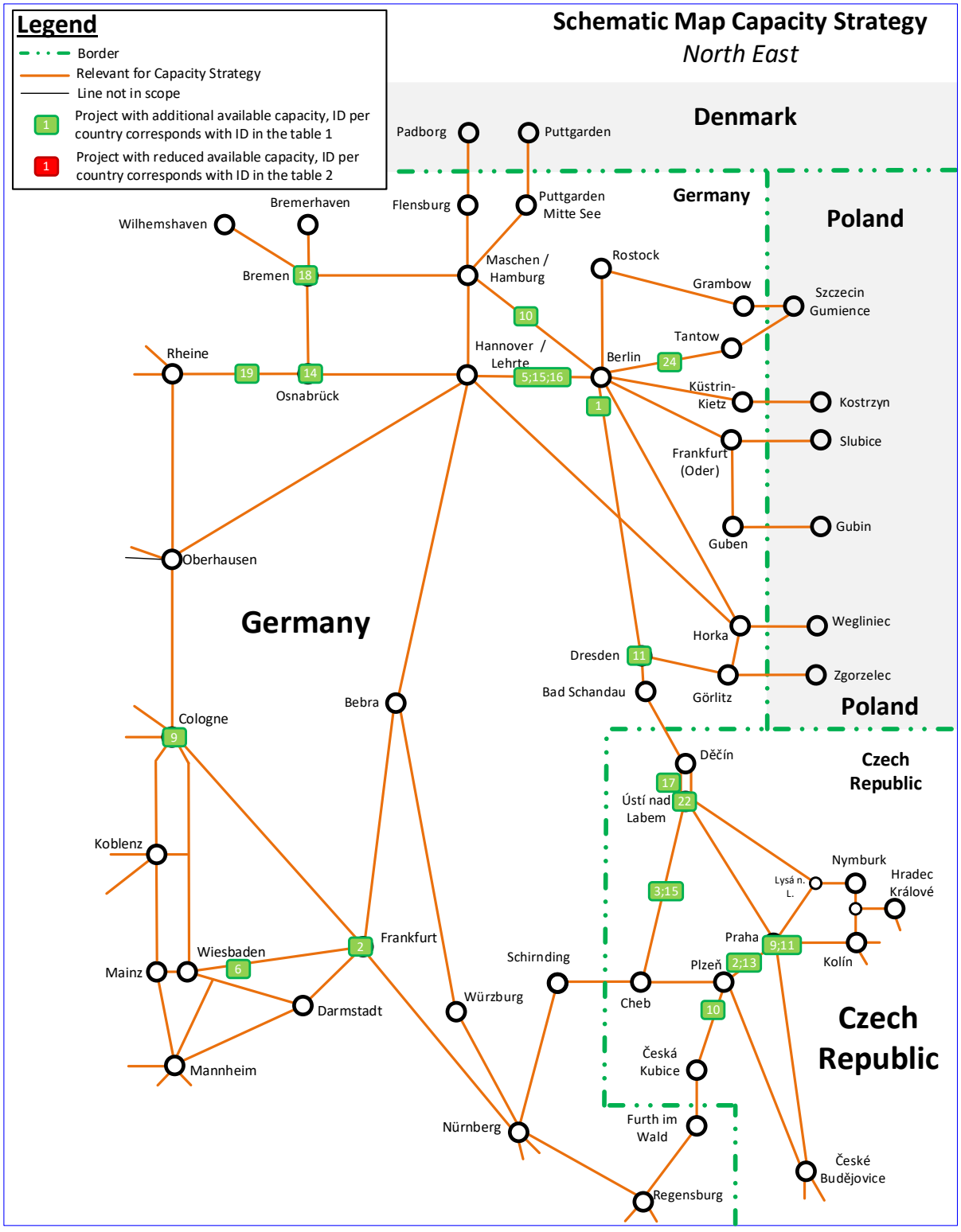


Figure 4: Submap South-West of infrastructure projects with additional and reduced capacity. The numbers correspond to the numbers in the tables of paragraphs 1.1 and 1.2.

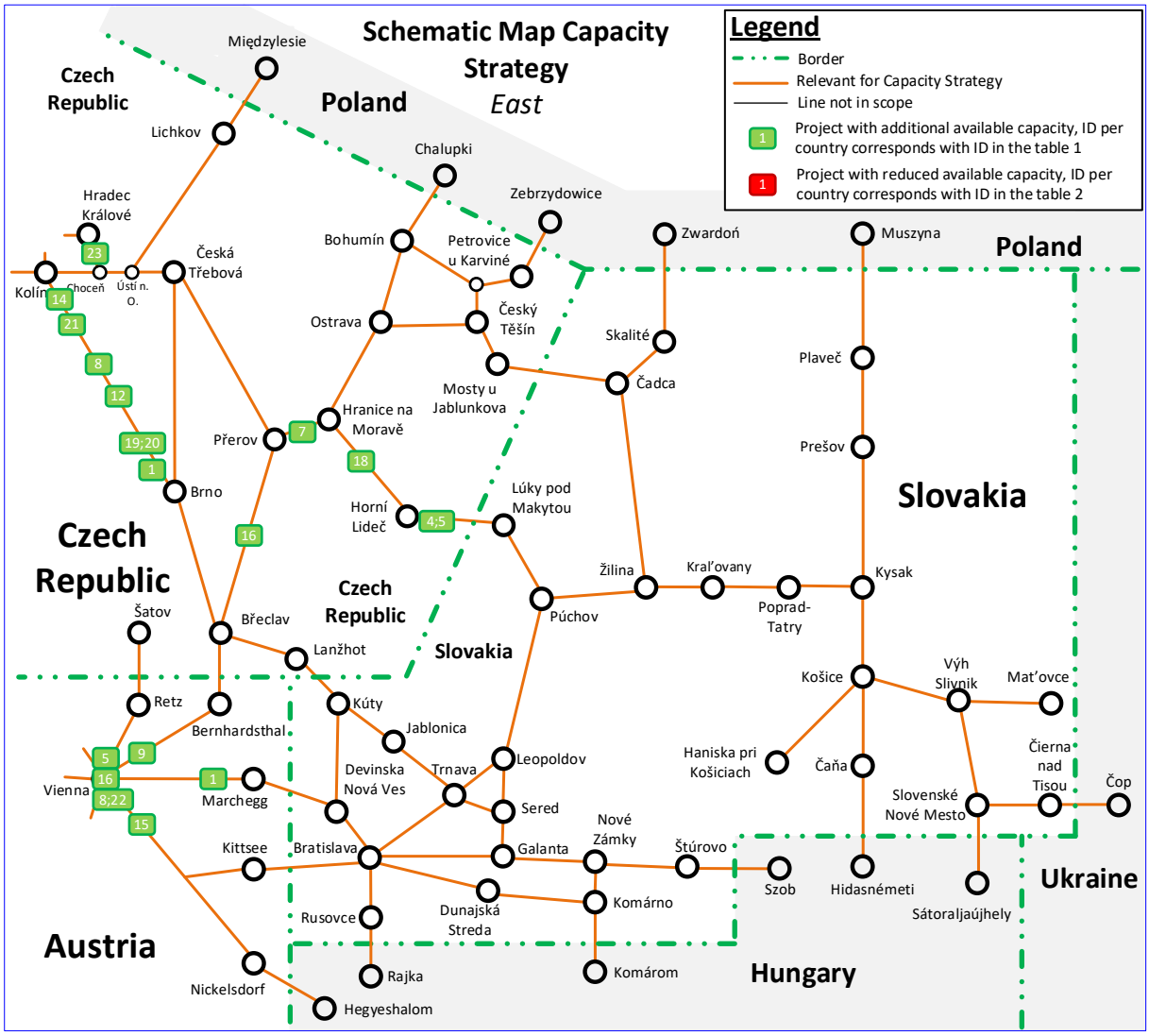


Figure 5: Submap East of infrastructure projects with additional and reduced capacity. The numbers correspond to the numbers in the tables of paragraphs 1.1 and 1.2.

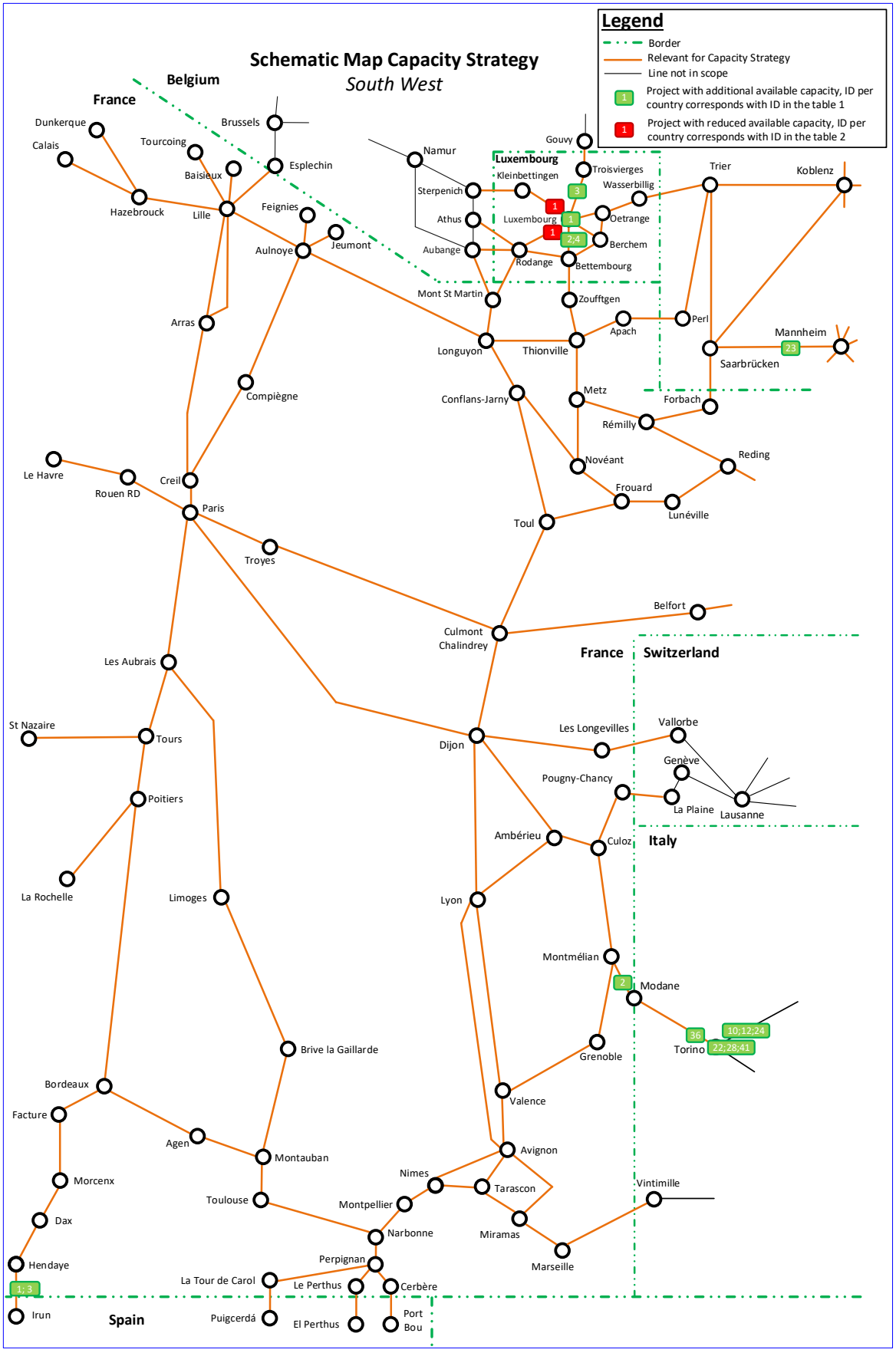


Figure 6: Submap South-West of infrastructure projects with additional and reduced capacity The numbers correspond to the numbers in the tables of paragraphs 1.1 and 1.2.

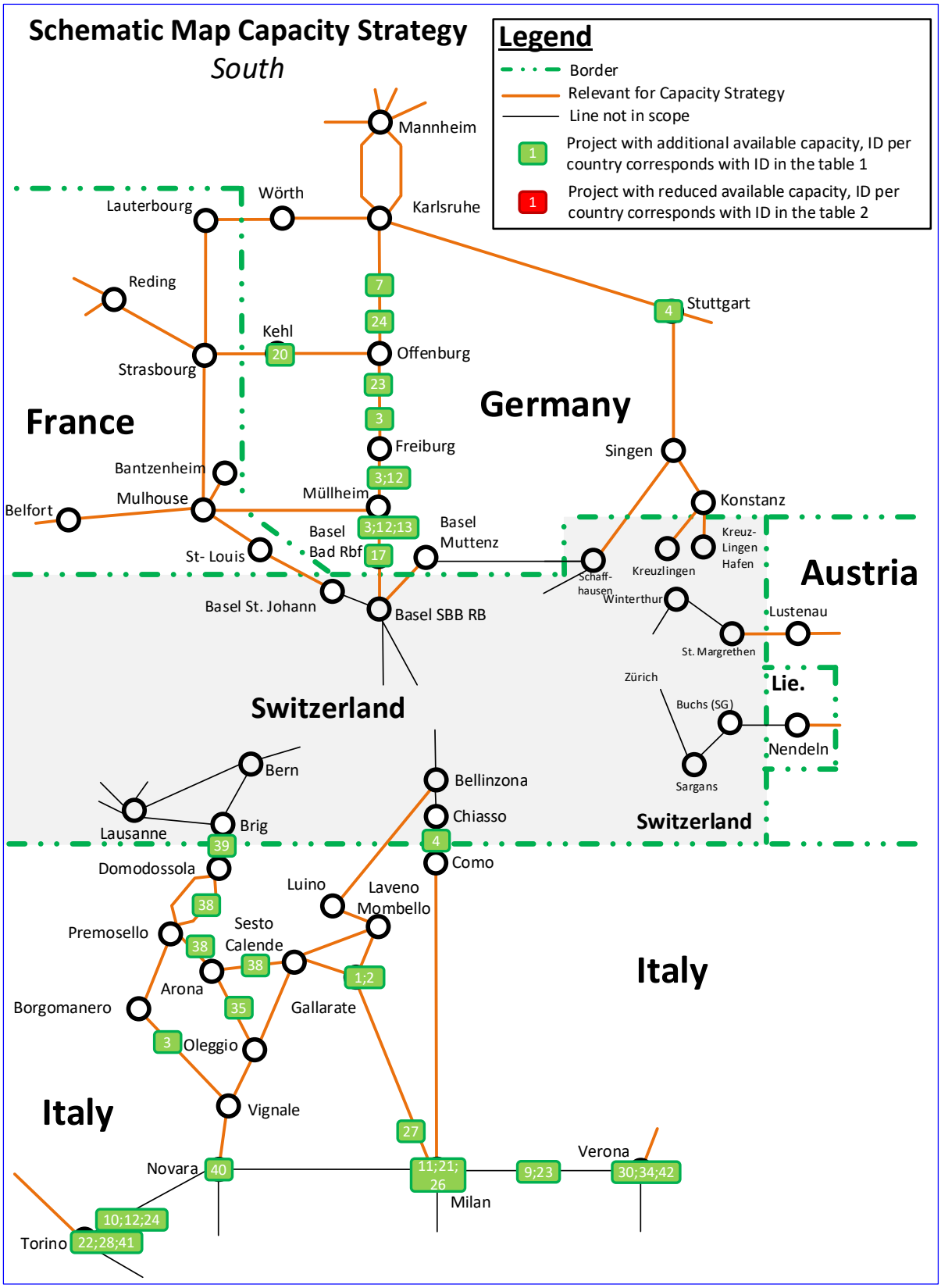


Figure 7: Submap South of infrastructure projects with additional and reduced capacity[2]. The numbers correspond to the numbers in the tables of paragraphs 1.1 and 1.2.

[2] *The lines marked in black are not in the geographic scope of the common capacity strategy. Anyway projects on these lines with impact on capacity for the lines included in the geographical scope are added.*

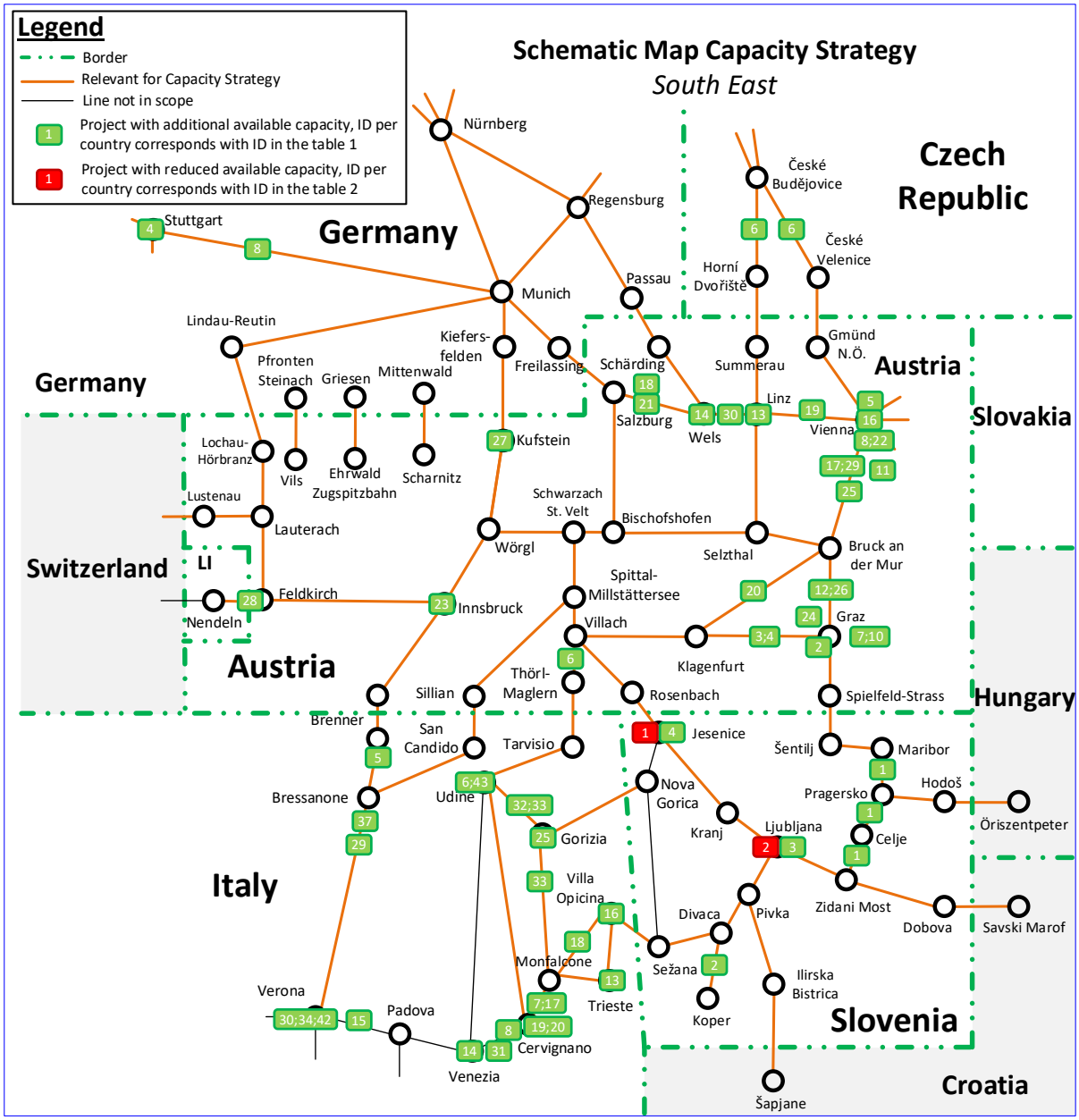


Figure 8: Submap South-East of infrastructure projects with additional and reduced capacity[3]. The numbers correspond to the numbers in the tables of paragraphs 1.1 and 1.2.

[3] *The lines marked in black are not in the geographic scope of the common capacity strategy. Anyway projects on these lines with impact on capacity for the lines included in the geographical scope are added.*

2. Temporary Capacity Restrictions

In this chapter, principles and typology for the planning of TCRs are described in paragraph 2.1 and several aspects of TCR planning are considered. Each subparagraph contains the common denominators (the principles that are used by most or all IMs), a summarising table and a description of national specificities, where necessary. A selection of major TCRs is pre-announced in paragraph 2.2, anticipating the first publication at X-24.

A selection of Major TCRs is pre-announced in paragraph 2.2, anticipating the first publication at X24.

2.1. Principles for TCR Planning

Please note that the references to the Network Statements are indicative only, since the Network Statements for Timetable Year 2029 will be only published, as per the regular process, in autumn 2027. Therefore, the references in the document refer to the recently published draft Network Statements.

To facilitate easy access of network statement processes, documents and timelines per IM, the following chart includes the network statement website per country:

Country	Link to Network Statement on IM website
AT	https://infrastruktur.oebb.at/en/partners/rail-network/network-statement
CZ	https://www.spravazeleznic.cz/web/en/our-railway/how-to-operate-on-our-railway
DE	https://www.dbinfrago.com/web-en/rail-network/network_statement/Network-Statement-2026-13188078#
FR	https://www.sncf-reseau.com/en/national-rail-network-statement
IT	https://www.rfi.it/en/railway-infrastructure-access-/Network-statement.html
LU	https://acf.gouvernement.lu/dam-assets/sillon/documents-de-reference-du-reseau/20251128/en-ns-2027-v10.pdf
NL	https://www.prorail.nl/samenwerken/vervoerders/network-statement
SI	https://infrastruktura.sz.si/en/partners/access-to-infrastructure-for-rus/network-statement/

SK	https://www.zsr.sk/en/railway-infrastructure/network-statement/

2.1.1 Clustering of TCRs to minimise the gravity of impact and duration

Common Denominators

Clustering of works geographically and timewise, with the aim of deriving a single alternative transport concept, can be an effective way to minimize the gravity of impact and/or the duration of impact of TCRs for RUs. From an IM point of view, working with multiple projects close to each other, or taking advantage of larger TCRs to organize small TCR or maintenance works is possible if it's technically possible, if works logistics are permitting and if the plannings of the individual projects have the required flexibility to plan the works simultaneously. Clustering of works is a continuous process.

	AT	CZ	DE	FR	IT	LU	NL	SI	SK
Clustering is done to minimize gravity of impact	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering is done to minimize duration of impact	-	Yes	Yes	No	No	Yes	No	Yes	Yes
Clustering for other reasons	-	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Clustering process starts at …	-	X-28	X-45	X-28	X-26	X-43	X-28	X-28	X-12
Pre-defined agreements with RUs on clustering	-	Yes	No	Yes	No	Partially	Yes	No	No
Reference to network statement, where available	-	Chapter 2.5.1	Richtlinie 402-0305	-	Chapter 4.3.2.	-	-	-	-

2.1.2 Description of connected areas where TCRs due to shortage of capacity shall not be planned simultaneously

Common Denominators

To avoid an (extra) shortage of capacity during TCRs, IMs can define areas where TCRs shall not be planned simultaneously. That includes deviation routes. IMs have several approaches of defining and handling deviation routes:

1. A “Corridorbook” like approach, with pre-defined deviation route(s) which need to be applied if a certain line is closed
2. A “Corridorbook” like approach, with multiple pre-defined deviation routes per line, of which at least one needs to be open
3. No pre-defined deviation routes are described or agreed on, but deviation possibilities are reviewed while planning TCRs

Besides deviation routes there can be other connected areas where TCRs shall not be planned at the same moment.

	AT	CZ	DE	FR	IT	LU	NL	SI	SK
Pre-defined deviation routes available - fixed	-	Yes		Yes	Yes	No	Yes	Yes	-
Multiple pre-defined deviation routes available – one (or more) to be left free of TCRs	-	Yes	Yes	Yes	Yes	Partially	Yes	No	-
No pre-defined deviation routes described, tailor made during planning	-	No		No	-	Yes	No	No	-
Other reasons for not planning TCR simultaneously in connected areas	-	Yes		No	-	Yes	Yes	Yes	-
Major public events are considered in the planning of TCRs	-	Yes	Yes	No	Yes	If signalled by the RU	Yes	No	-
This topic is covered in the network statement (including annexes)	-	Partially		No	Partially	-	Yes	No	
Reference to network statement, where available	-	Chapter 2.5.1 & Chapter 4.3	Richtlinie 402-0305	Chapter 4.3.2 (Determing Capacity for TCRs)	Chapter 4.3.2	-	Chapter 4.3.2.2	-	Chapter 4.3.1

2.1.3 Description of the periods when regular TCRs will be executed if their nature makes it possible (nights, weekends)

Common denominators

In general, TCR are planned in all countries on periods with a reduced traffic to minimize their impact on passengers: during (extended) nights, weekends, school holidays or in summer (marked in blue in the table below). However, some IMs don't necessary distinguish the periods by traffic intensity and can also plan during daytime or at workdays. Because of the intensification of construction and maintenance activities, IMs can be obliged to spread more equally the TCR to preserve costs and resources. All the exceptions observed in the working group are described in the paragraph "National specificities".

	AT	CZ	DE	FR	IT	LU	NL[4]	SI	SK
During school holidays	-	★	★	☆	★	★	★	★	★
During summer	-	☆	★	☆	★	★	☆	★	★
During weekends	-	★	★	☆	★	☆	★	☆	★
During nights	-	☆	☆	☆	★	★	☆	☆	⊗
Economically justified	-	☆	★	☆	☆	☆	☆	⊗	★
During daytime	-	☆	☆	☆	☆	⊗	☆	☆	★
During daytime in hours with less traffic demand	-	★	☆	☆	☆	⊗	☆	★	★
Period depending on a rational assessment between impact on traffic and cost	-	★	☆	⊗	☆	☆	☆	☆	★
More equally spread all over the	-	★	☆	⊗	⊗	⊗	★	☆	★

[4] See national specificities (section 2.1.9 of this document)

days of the year, because of a feasible planning for contractors									
Reference to network statement, where available	-	-	-	-	-	-	-	-	-

★ favoured option; ☆ alternative option; ⊗ exceptional or impossible option

2.1.4 Description of the periods when TCRs will be planned (nights, weekends, etc.)

Common denominators

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

Tying the planning of maintenance to a recurring principle of TCR Windows also means that less effort is required to create the planning. This will make the planning process more efficient.

	AT	**CZ**	**DE**	**FR**	**IT**	**LU**	**NL**	**SI**	**SK**
Types of TCR windows: recurring all year	-	No	Yes	Yes	Yes	No	Yes	Yes	No
Types of TCR windows: recurring during a limited number of weeks	-	No	No, only few exceptions	No	No	No	No	No	No
Typical duration of TCR windows [hours]	-	-	8 (outside nodes)	6	4	-	4	6-9	-

Typical cycle time of recurring TCR windows	-	-	every four to eight weeks	Weekly	Weekly	-	Weekly (90%)	Every second week	-
Number of windows per cycle per location	-	-	1	between 2 & 4	2-7		2 to 4	2-4	-
Typical impact	-	-	single track closure on double track lines, total closure on single track lines	Single	Total or single-track closure	-	Total closure (90%)	Single track closure on double track lines,	-
Time-positioning of TCR windows	-	-	night (100%) - maintenance container only	Night	Night or day	-	Night (90%)	Day	-
Days of the week	-	-	all, except Sun night	All	Depending on the line	-	All, except Fri/Sat night	Weekend, Mon	-
Lines covered by TCR windows	-	-	65%	100%	100%	-	100%	30%	-
TCR windows at stations and yards	-	-	Yes, for big nodes	100%	0%	-	100%	50%	-
TCR windows are released if not used at ... days	-	-	-	Week-5	30 days	-	x-12 days (freight corridors x-21 days)	x-14	-

TCR windows can be used for small maintenance	-	-	Yes	Yes	Yes	-	Yes	Yes	-
TCR windows can be used by other projects	-	-	Yes	Yes	Yes	-	Yes	Yes	-
Safeguarding of alternative routes or freight, long distance passenger services, and/or night train services in TCR window model	-	-	Yes, among maintenance windows	Yes	Yes	-	Yes	Yes	-
Cancellation of TCR windows on deviation routes of regular TCRs	-	-	Generally no, but exceptions possible	Yes	Partially	-	Yes	Yes	-
In annual timetable (no replanning of trains needed in later phases)	-	-	No	Yes	Yes	-	Yes (weekly windows only)	No	-
Works can be planned in the allocated TCR Windows without further consultation of RUs or coordination with neighboring IMs	-	-	Yes	No	Yes	-	Yes	Yes	-
Reference to network statement, where available	-	-	-	Chapter 4.3.2 (Determining Capacity for TCRs)	Chapter 4.3.2 (TCRs)	-	Chapter 4.3.2.1	-	

2.1.5 Description of how the TCR allocation process will look like, how the coordination and consultation will be ensured

Consultation level

The market is consulted on the TCR Planning in all involved countries. Market consultations take place at a minimum of 1 level and a maximum of 5 levels.

Most countries do the consultation of all aspects of the TCRs in the same meeting; some make a distinction between discussing TCR scenario's (number of TCRs, duration, affected tracks) and the TCR planning including deviation routes.

Consultation level	AT	CZ	DE	FR	IT	LU	NL	SI	SK
Project	-	-	-	S	-	S	S	S	X
Regional	-	X	X	X	X	X	S	X	X
Corridor	-	-	-	S	P	X	-		-
National	-	X	X	X	X	X	P	P	X
International	-	X	X	S	P	X	P	S	X
Reference to network statement, where available	-	Chapter 4.3 & Annex S	Richtlinie 402-0305	DRR 4.5.3	page 112 PIR2025 ed.mar24	4.3.4	4.3.1b & 4.3.2.2	Network Statement	-

X = all aspects of TCR planning (S+P)

S = TCR scenario's/alternatives of individual TCRs

P = TCR planning only (scheduling, re-routing)

Start of the consultations

In all countries RUs are consulted before each publication at X-24, X-12 and X-4. Although the publication moments of TCRs are harmonized by Annex VII, the consultation periods or moments have some slights differences from country to country, as expressed in the table below:

Start of the consultation	AT	CZ	DE	FR	IT	LU	NL	SI	SK

For the x-24 publication	-	x-26	x-40 (n-4) & x-27 (n-3)	x-26	x-26	x-40 and x-27	x-27	-	x-26
For the x-12 publication	-	x-18	x-18	x-18	x-19 to x-13,5	x-17	x-17	x-15	x-15
For the x-4 publication	-	x-5	x-6,5	x-12	x-6	x-8	x-8	x-6	x-5
Reference to network statement, where available	-	"Annex S - Temporary capacity restriction"	Richtlinie 402-0305	DRR 4.5.3	-	-	-	Network Statement	-

Number of consultation meetings per phase

Some IMs have concentrated their consultation for every phase in one or two meetings per year. Other countries have periodical meetings throughout the consultation phase or even continuous meetings throughout the year.

Number of consultation meetings per phase	**AT**	**CZ**	**DE**	**FR**	**IT**	**LU**	**NL**	**SI**	**SK**
One or two meetings	-	x-26			X	X[5]		X	X
Periodical meetings during consultation	-	x-18	X	X	X				X
Continuous meetings	-	x-5					X		X

[5] more if needed

between IM and RU									
Reference to network statement, where available	-	"Annex S - Temporary capacity restriction"	Richtlinie 402-0305	DRR 4.5.3	-	-	4.3.2.2	Network Statement	-

How and until when RUs can ask for two alternatives concerning major impact TCRs

Applicants can request a comparison of the conditions to be encountered under at least two alternatives of capacity restrictions with regards to major Impact TCRs. The highest flexibility to check for alternatives is in the first consultation phase. Some IM do not have a fixed deadline by which the alternative scenario must be requested. Some IM also offer the possibility to carry out alternative scenarios for high and medium TCRs.

	AT	CZ	DE	FR	IT	LU	NL	SI	SK
Final deadline to request alternative TCR scenario	-	★	x-28	x-12	★	X[6]	★	★	★
Reference to network statement, where available	-	-	Richtlinie 402-0305	DRR 4.5.3	-	-	-	-	-

★ = anytime during the entire consultation phase with no fixed deadline

[6] more if needed

2.1.6 International Coordination

2.1.6.1 General Principles

All IMs coordinate their TCRs in order to synchronize as much as possible their TCRs on both sides of a border point and to ensure that deviation routes are available. Coordination can be done bilateraly from IM to IM or in a group of IMs, especially when lines or deviation routes impact multiple countries.

With the Brenner Group as an example and DB InfraGO as a booster, several groups have introduced a “2-days approach”. This means that twice a year RUs are invited to the regular coordination meetings of IMs, which are extended with an extra day: IMs do their normal coordination on the first day and discuss the results with RU’s on the second day.

Several IM groups use a harmonized Gantt chart for sharing and coordinating their TCRs. A similar chart will be implemented in the TCR Module currently being developed by RNE and will probably replace current versions shortly.

	Infrabel – ACF/ CFL – DB InfraGO – SNCF Réseau – SBB (“ RAN Group”)	DB InfraGO – ÖBB Infrastruktur – RFI („Brenner Group“)	Infrabel – ProRail – DB InfraGO („BeNeDe Group“)	RFI – SNCF Réseau	DB InfraGO – SBB Infrastruktur („Rhine Valley Rail“ - Group)	RFI – SZ-Infrastruktura	ÖBB – SZ-Infrastruktura	DB InfraGO – Správa železnic (“ Elbe valley group”)	DB InfraGO – Scandinavia (“ TCR ScanMed North”)	SNCF Réseau - ADIF	DB InfraGO - SBB-nfrastruktur - RFI	DB InfraGO – PKP PLK (“ Oder-Neiße Group – Grupa Odra-Nysa”)	DB InfraGO – ÖBB Infrastruktur („Danube Group”)	RFI – SBB Infrastruktur	ÖBB Infrastruktur – SZ	ÖBB Infrastruktur - SZCZ
Number of IMs involved	5	3	3	2	2	2	2	2	4	2	3	2	2	2	-	-
Synchronisation of TCRs on both sides of a border point	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-
Deviation routes safeguarded	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-

Capacities available and needed for re-routing are discussed	No deep dives, when necessary	Yes	No, deep dives when necessary	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No		
2-days approach (2nd day with RUs)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	-	-
Standardized Gantt Chart is used	Excel Gantt chart	No (Excel file)	Excel Gantt chart	No (Excel file)	Excel Gantt chart	No (Excel file)	No (Excel table)	Yes (TT 2028/2029); Maps used for TT 2026/2027	Yes	No	No (Excel file)	Yes	Yes	No	-	-

	Infrabel – ACF/ CFL – DB InfraGO – SNCF Réseau – SBB (“RAN Group”)	DB InfraGO – ÖBB Infrastruktur – RFI („Brenner Group“)	Infrabel – ProRail – DB InfraGO („BeNeDe Group“)	RFI – SNCF Réseau	DB InfraGO – SBB Infrastruktur („Rhine Valley Rail“ - Group)	RFI – SZ-Infrastruktura	ÖBB – SZ-Infrastruktura	DB InfraGO – Správa železnic (“Elbe valley group”)	DB InfraGO – Scandinavia (“TCR ScanMed North”)	SNCF Réseau - ADIF	DB InfraGO - SBB-nfrastruktur - RFI	DB InfraGO – PKP PLK (“Oder-Neiße Group – Grupa Odra-Nysa”)	DB InfraGO – ÖBB Infrastruktur („Danube Group”)	RFI – SBB Infrastruktur	ÖBB Infrastruktur – SZ	ÖBB Infrastruktur - SZCZ
Timetable years in coordination in May 2026	27 - 29	26 - 29	26-29	26-28	26-29	26-27	25,26	26-29	26-29	23, 24, 25	26-28	26 -29	26-29	26-29	-	-
Frequency of IM-IM meetings [number per year]	4	Min. 3	6-7	4	4	2	1	2	2	2	6	2	5 - 6	5	-	-

2.1.6.2 Specificities per coordination of group of IMs

Infrabel – ProRail – DB InfraGO („BeNeDe Group“)

During bimonthly meetings, the trilateral TCR-planning focuses on the coordination of TCRs among Infrabel, ProRail and DB InfraGO two timetable years (TTY) ahead. The planning of TCRs is synchronised and one or multiple deviation routes, based on historical experience, are safeguarded to provide sufficient rerouting capacity. Starting in September 2022, the two-day model including the joint presentation to RUs has been introduced and continues taking place twice a year, approximately at X-26, followed by an update at X-19 and X-14 accordingly.

Infrabel – ACF/ CFL – DB InfraGO – SNCF Réseau – SBB Infrastruktur (RAN Group = Rhine-Ardennes-North Sea Group)

Between the IMs SNCF Reseau, DB InfraGO, Infrabel, ACF / CFL and SBB I, pre-coordination start at X 33, followed by an update at X-30, X-27, X-21, X-18 and X-15 accordingly.

Starting in November 2023, the two-day model including the joint presentation to RUs has been introduced and will continue taking place every year approximately at X-25. The coordination via the established multilateral working group covers all TCRs impacting the borders (freight and passenger combined).

To determine where TCRs must be located on the network in order to reduce an impact on the neighboring network or to facilitate diversion capacity, an international perimeter has been agreed upon for the five countries concerned.

DB InfraGO – SBB Infrastruktur („Rhine Valley Rail“-Group)

Bilateral coordination of TCRs has so far taken place as part of the regular TCR planning processes two to three years ahead, depending on the TCRs at stake. The Annex VII-target approach for international coordination and consultation includes TCR-bundling, cross-border overview of diversionary lines, estimation of required deviation capacity and estimation of remaining capacity.

Starting in May 2023, the two-day model including the joint presentation to RUs has been introduced and continues taking place twice a year, approximately at X-30, followed by an update at X-25, X-18 and X-13 accordingly. and thus covers the envisaged coordination rhythm fully.

From September 2024, the two IMs have introduced additional coordination meetings at X-27, X-22, X15 among themselves to coordinate the respective intermediate statuses between the major milestones according to the two-day model.

DB InfraGO – ÖBB Infrastruktur – RFI („Brenner Group“)

TCR-coordination and exchange with customers on the Brenner corridor has been up and running for over ten years, and addresses TCRs to three years ahead, depending on the TCRs at stake, as well as short term information matters whenever deemed appropriate.

It is structured in three meetings, in February/March, June and November, during which a first part (“Day 1”) dedicated to coordination with neighbouring IMs takes place and is followed by a second part (“Day 2”) in the June and November/December editions. That day is open to applicants and all interested parties. In this area, the GANTT-Chart has not been introduced considering that another, well established Excel-based overview had previously been used. This overview will continue to be used until the TCR-Tool can be used.

DB InfraGO – ÖBB Infrastruktur („Danube Group“)

DB InfraGO and ÖBB-Infrastruktur have been coordinating their TCR on further lines and jointly border points, as those being in focus within the Brenner-Group, every two months within so called “SoFaZo” format. For the first time, this has been extended with the 27th June 2024 as “Day 2” being open to customers and all interested parties, with focus on TCR for Timetables 2025 and 2026.

This exchange is planned to take place twice a year - approximately in June and October, in a standardised format. The well established Excel-based overview from the Benner-Group is used here as well.

DB InfraGO – SZCZ

DB InfraGO and Správa železnic coordinate their TCRs twice per year - approximately in May/June and October/November in a standardised format.

The 2-day exchange during May 2025 focused on milestone X-19 (TT27). In addition, DB InfraGO presented the planning status of TCRs regarding milestone X-31 (TT28). The Applicants were kindly asked to raise questions and remarks regarding the planning status. It is targeted, that autumn coordination in 2025 will cover the milestones X-13,5 (TT27) and X-27 (TT28) and if available X-39 (TT29).

DB InfraGO – PKP PLK

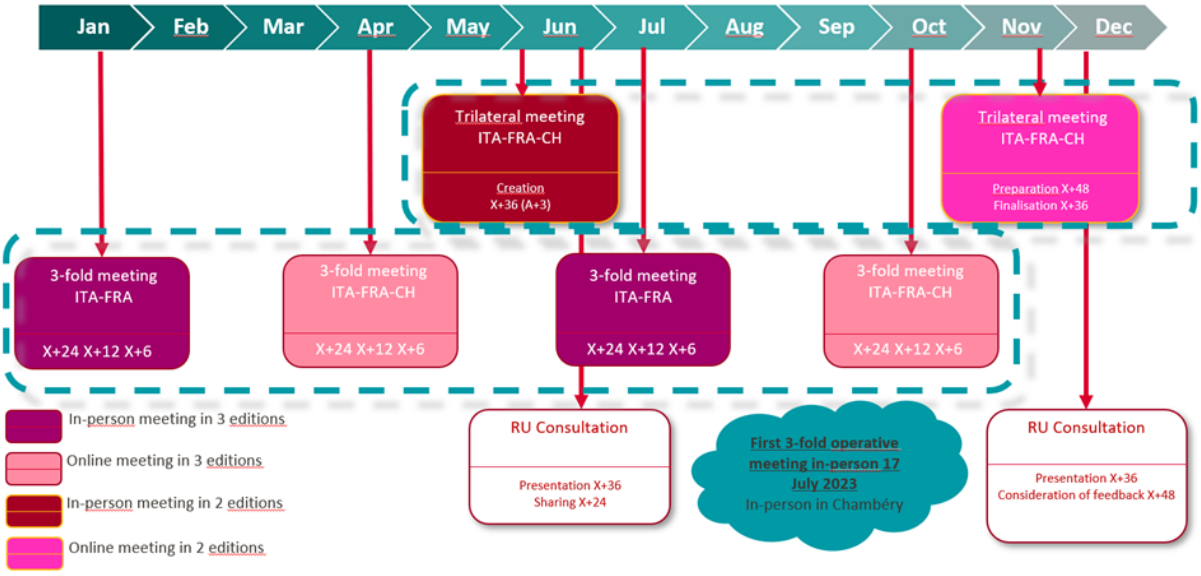
DB InfraGO and PKP PLK coordinate their TCRs twice per year - approximately in May/June and October/November in a standardised format.

The 2-day exchange during May 2025 focused on milestone X-19 (TT27). In addition, DB InfraGO presented the planning status of TCRs regarding milestone X-31 (TT28). The Applicants were kindly asked to raise questions and remarks regarding the planning status. It is targeted, that autumn coordination in 2025 will cover the milestones X-13,5 (TT27) and X-27 (TT28) and if available X-39 (TT29).

SZCZ – ÖBB Infrastruktur – ŽSR

To ensure uninterrupted cross-border services, Správa železnic, ÖBB Infrastruktur, and ŽSR hold a trilateral periodic meeting to coordinate capacity, timetable paths, and TCR harmonisation, with a particular focus on the impact on neighbouring networks. The focus is on the period from X-24 to X-12. These meetings are held online twice a year, typically in April/May and September/October. If necessary, ad hoc meetings are organised.

SNCF – R _ SBB _ RFI



2.1.7 Description of currently existing (National, Bi-, Trilateral) escalation process(es) in case of disagreement of the involved stakeholders

None of the IMs have agreed on a pre-defined TCR related escalation process with one or more of their neighbour-IMs. For most IMs, escalation in case of disagreement of involved stakeholders takes place within and as part of the regular national process.

	AT	CZ	DE	FR	IT	LU	NL	SI	SK
Pre-defined international IM-IM escalation	-	No	No	No	No	No	No	No	No

National escalation process IM-RU	-	Yes	Yes	Yes	No	Yes	Yes	No	Yes
Reference to network statement, where available	-	-	-	-	-	-	4.5	-	-

2.1.8 National Specificities

Austria – ÖBB Infrastruktur

At ÖBB Infra there is a special consultation process for complex large-scale projects, which begins before the dates given in the table and is preferably finished at X-24. Consultation on the major, high and medium TCR begins at time X-18. At ÖBB Infra the request for an alternative TCR scenario is not strictly limited to Major TCRs. Alternatives can be requested during consultation meeting.

Czech Republic – Správa železnic

In the Network Statement, only the major TCRs affecting traffic are listed in "Annex S – Temporary Capacity Restrictions" (hereinafter also referred to as DOK).

Planning and negotiation of TCRs on SZCZ

1. Long-term plans (3, 2 and 1 year ahead)
    a. DOK7 - Long-term capacity limitation (according to the European law - 3 and 2 years ahead)
    b. RVP8 - Annual closure plan (according to the national Railway law - 1 year ahead)
2. Medium-term plans (4, 3, 2 months ahead)
3. Short-term plans (weekly)

Long-term and medium-term plans are discussed and consulted with railway undertakings (106), contracting and coordinating authorities for public transport (15),

[7] DOK = Dočasná omezení kapacity (Temporary Capacity Restrictions)
[8] RPV = Plán výluk na následující rok (TCR Planning for the Next Year)

and professional associations in the rail sector (2), all hereinafter referred to as "participants".

In principle, all types of planning and coordination follow this procedure:

- Internal compilation of draft plans based on individual requirements, including those from CPS (a foreign legal entity).
- Distribution of the draft plans to all participants for comments.
- Incorporation of received comments, with every effort made to accommodate them.
- Circulation of the revised plans to all participants prior to the hearing.
- Conference call with all participants.
- Incorporation of comments following the hearing.
- Publication of the final negotiated plans on the Rail Infrastructure Manager's Operations Portal.

Participants are notified at all stages (invitations, documents, minutes) via Data Box or email. The annual plans and any subsequent amendments are approved by the Authority.

Brief timeline of long-term plan discussions during the calendar year

January – March: Compilation of closure requests at the level of Construction Departments and Regional Directorates. Distribution of the draft plan to the participants.

March - April: Discussion of lockout requirements at the regional level with regular participants.

Resulting draft Annual Plan is sent to all participants for comments as a basis for national coordination.

May: Incorporation of comments received from participants.

- Conference discussion at annual nation-wide meeting
- Plan update in the DOK document (*Temporary Capacity Restriction*)

June: Distribution of the coordinated version of the documents following the nation-wide meeting for comments.

- Settlement of received comments
- Final discussion with all participants

July: Request to DOK for approval of the Annual Plan.

Autumn: Publication of the Annual Plan (depending on the duration of the administrative procedure).

September: Internal drafting of DOK X-24 (this year will be 2028) and update of DOK X-12 (2027).

October: Distribution of DOK documents X-24 and X-12 to all participants for comment.

November:

- Incorporation of participants' comments into the DOK plans and redistribution as a basis for consultation.
- Consultation of DOK plans with all participants.

December: Publication of DOK X-24 and X-12 before the start of the new Timetable.

Medium-term planning

New requirements and changes to the already approved Annual Plan are coordinated and discussed on a monthly basis. Only new requests for X-4 and changes to X-3 and X-2 are considered.

First week of the month: Compilation of new requirements and changes from the Annual Plan. Documents are sent out for regional lockout meetings.

Second week of the month: Regional lockout meetings are held.

Third week of the month: Incorporation of agreed changes from regional lockout meetings and distribution of updated documents to all participants for the monthly nation-wide lockout meeting(s).

Last Thursday of the month: Regular monthly national lockout meeting is held.

First week of the following month: Minutes of the regular monthly national lockout meeting are sent to all participants for comments.

Second week of the following month: Minutes are finalized and individual requests are submitted to the Authority for approval of the discussed changes to the approved Annual Plan.

Short-term planning

Friday: Summarize weekly plans, including the addition of necessary lockouts to address known emergency situations or natural disasters.

Monday and Tuesday: Review of all planned lockouts to ensure that the appropriate lockout orders have been issued and that they align with the agreed scope of restrictions.

Wednesday: Issuance of the *Schedule of Authorized Lockouts* for the following week, which also serves as formal authorization for the execution of individual lockouts.

Germany – DB InfraGO

TCR planning principles are described in Chapter 2.5.3 of our Network Statement (Link to English version applicable for TT26).

DB InfraGO is committed to fully implementing Annex VII until Timetable 2028 and describes its yearly migration steps in the RiL 402.0305 document. The version applicable to Timetable 2026 can be found here (in German only). The version applicable to Timetable 2029 will be published in line with the publication deadlines set out by regulations in mid-December 2027 and will be consulted with RUs in autumn 2026 via the. The EN language version of the document can be accessed here.

Furthermore, DB InfraGO will introduce as of Timetable 2026 a “container” approach for TCR-planning. As a general principle, containers have a fixed duration and are structured in two categories: Investment and Maintenance Containers.

Furthermore, the container concept aims at standardising the use of capacity for TCR-purposes on the most requested and therefore key parts of the network. Investment Containers pursue the goal of either extending, renewing or refurbishing infrastructure capacity whereas Maintenance Containers enclose standard-keeping TCRs.

Investment Containers are of six types and all of them may apply to both the High-Performance-Network and Cross-Regional-Networks.

They are defined as follows:

	Container – Type	Type of closure	Duration (in months)	Intended TCR-free time after Container measure (in years)
High-Performance Network & Cross-regional Network	A	Total closure	5	5-10
	B	Total closure	3	4
	C	Total closure	2	2
	D	Single-track closure	5	4
	E	Single-track closure	3	2
	F	Single-track closure	2	1

Maintenance containers are 8-hour TCR-windows planned every 4-8 weeks as ESP. They are planned alternatively on in- and outbound tracks and known 12 months ahead of Timetable change.

High-Performance-Corridors

Container type A corresponds to the concept of a general renovation. A general renovation is planned for a total of 40 corridors of the high-performance network, which are defined in the German Federal Railway Infrastructure Development Act (in German: Bundesschienenwegeausbaugesetz, BSWAG).

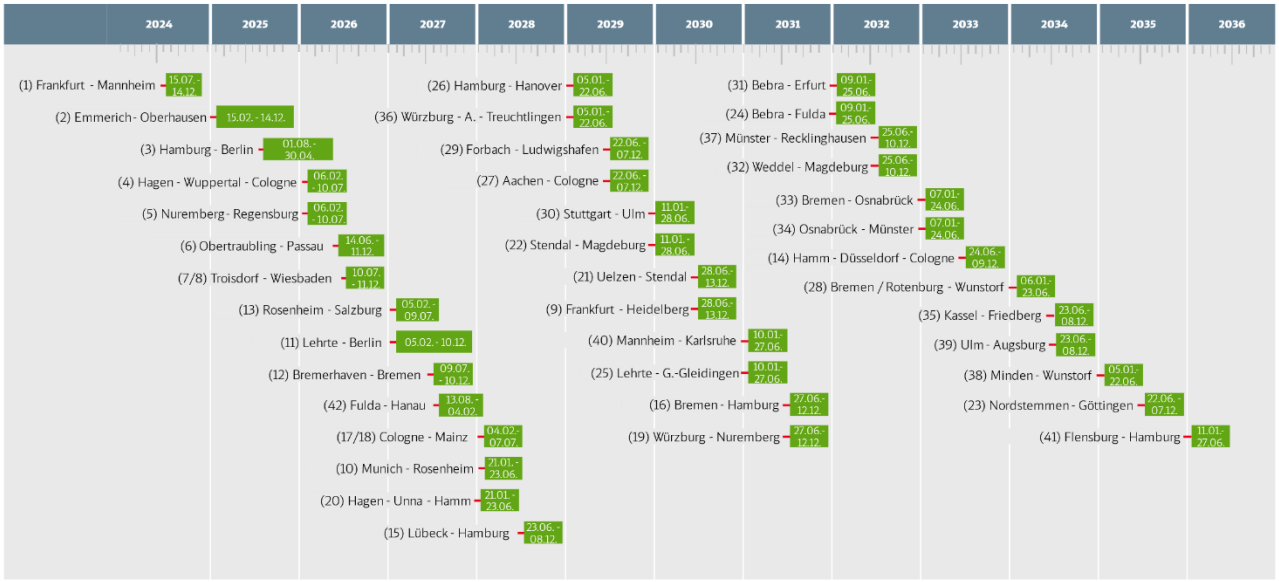
General renovations involve bundling construction projects to a much greater extent than in the past. The aim is to completely renew lines in need of refurbishment within the shortest possible period. To this end, single-track operation is largely dispensed during the work and the line is completely closed instead. The focus is not just on one construction discipline, but all disciplines are worked on in parallel. Subsequently, no major construction work will be required for several years. In addition, the renovated sections will be more efficient, will be equipped to a first-class standard and will be made fit for the digital rail operations of the future.

As part of the establishment of the special fund for infrastructure and climate neutrality, the following updated schedule for the general renovations was agreed with the sector and the German Federal Ministry of Transport in 2025. This schedule envisages extending the general renovations until 2036. The revised rollout therefore includes a maximum of four general renovations per year.

Rollout scenario published in coordination with the German Federal Ministry for Transport on September 9th, 2025

DB InfraGO

Version 2.5



Numbering according to BSWAG § 11c

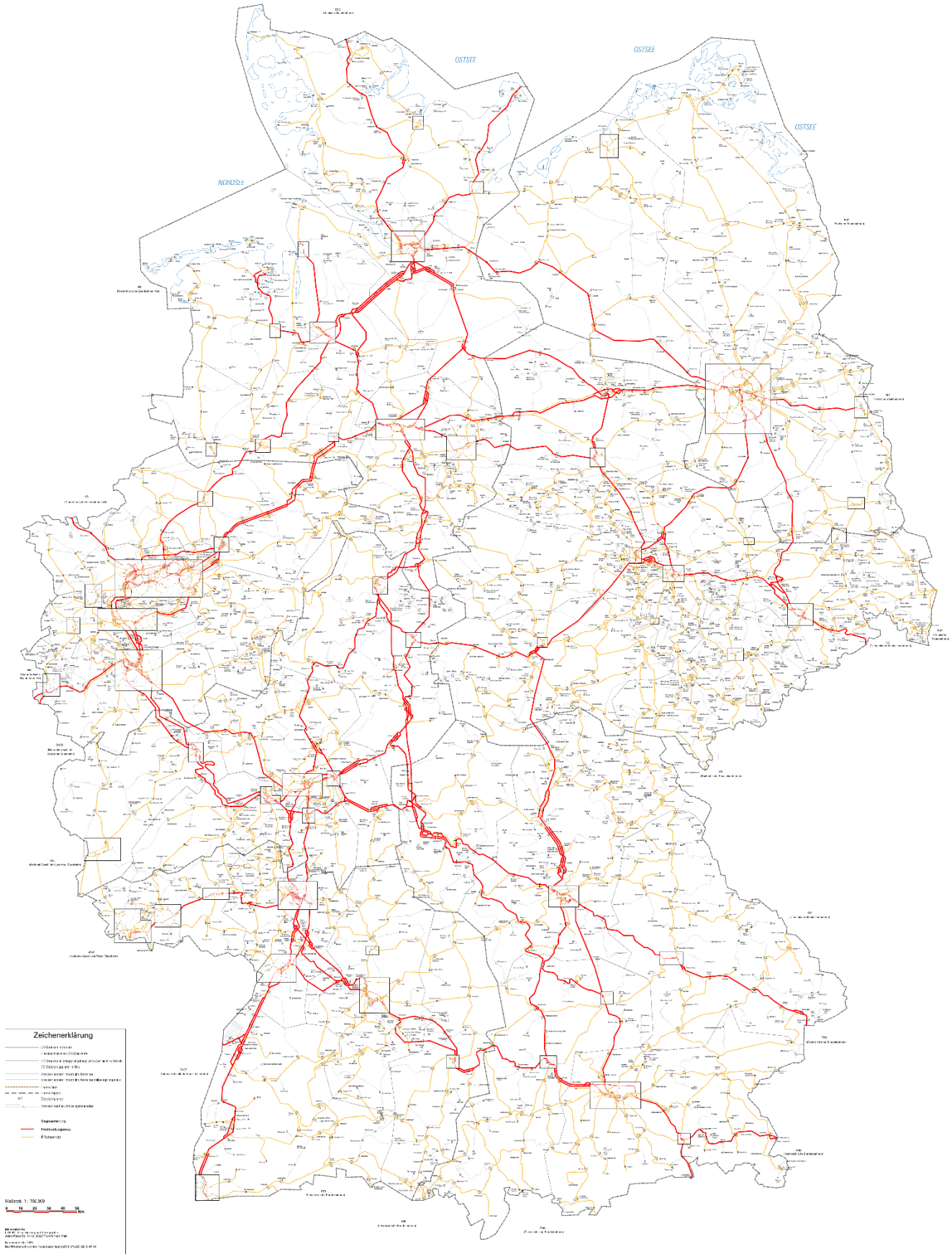


Figure 9: Route Numbering Map DB-InfraGO (High-Performance Corridor in red, Rest of Network in green) available via www.dbinfrago.com/streckennummernkarte-CS2029 in high-resolution

France – SNCF Réseau

The process of allocation capacities is based on fragmentation, depending on the timetable: a TCR is divided into windows. A major TCR at X-24 can thus have as a result several high or medium windows at X-12. In addition, the restriction can be optimized by positioning one or more TCRs in the shadow of the main site, without additional impact on traffic.

The capacities allocated for works needs are the object of "works windows" defined on sections with windows. Several types are available:

1. Regular windows": corresponding to capacity for the most common works carried out during periods of reduced commercial demand;
    - "Générique“: 6 h usually at night;
    - "Corrective": from Sunday night to Monday morning;
    - "Surveillance": 1 h during the day for maintenance;

2. "Distorted windows": applied to a limited number of weeks and likely to have a significant impact on train paths;
    - "Déformé": 8h. The pattern is based on a "generic“window with extended hours;
    - "Capacité": limited inside a station to a few tracks;
    - "Poreuse": which literally means « go throught ». It is SNCF Réseau method to avoid the total closure of a line, by working on one of the two tracks, while running the trains in batteries or sequences on the other track, either uphill or downhill. The transition from one direction to another is decided at the last moment, which makes this type of intervention an operational management. As trains are treated in the most derogatory conditions (opposite direction), the separation times are increased, as the traffic flow reduces (SNCF Réseau regulation AR30190). In a limited number, the paths are drawn within the range of the works, without conflict (SNCF Réseau regulation AR30240). This additional time allows, depending on the direction given, to be able to rework the train paths without further impact (SNCF Réseau regulation AR30190). Impact that will have already been regulated during Capacity Supply timeline.

For such operations, SNCF Réseau will base its decisions case-by-case on efforts to strike the best possible technical and economic balance, which may result in the following operational measures:

- total stoppage of traffic for a given period on the track concerned or on both tracks, if necessary;
- temporary speed restrictions (TSR) on the track concerned and on adjacent tracks.

Italy – RFI

The planning of the periodic maintenance windows (IPO) is recurring on an annual basis, but can be subject to remodulation according to significant TCRs on alternative traffic lines. Generally, no trains are planned during IPOs; in few cases related to PSO trains, special timetable arrangements are taken to manage them during one-track closures. The (IPO) maintenance windows along all the entire networks are published annually in the Network Statement and can be consulted by the RUs on the RFI ePIR portal.

Luxembourg – ACF / CFL

In Luxembourg, two levels of consultation can be distinguished:

- National consultations:
  all aspects of TCR planning, including TCR scenarios (number, duration, tracks) are discussed.

- International consultations:
  They include the neighbouring IMs (DB InfraGO, SNCF Réseau and Infrabel) and additionally the concerned IMs by the RFC (SBB). During those meetings, only TCR schedules, date, time) are discussed. It is planned to extend the consultation to corresponding international RUs. The consultations for the X-24 publication start at X-26 and occur until X-13 for the X-12 publication. One or two consultation meetings per phase are planned. Moreover, continuous meetings between IM and RU can be organised if needed.

Netherlands – ProRail

Due to a growing number of projects, the limited availability of technically skilled personnel among our contractors, as well as financial limitations, ProRail is likely to reconsider the planning principles for both TCRs and TCR Windows.

For TCR Windows, a project has been completed with representatives of all stakeholders and is awaiting follow-up. In particular, the information in paragraphs 2.1.3 and 2.1.4 of this document may be impacted, potentially leading to greater effects of TCRs on traffic.

A planned revision of the TCR process, which also aims to implement TTR, may affect the timelines mentioned in paragraph 2.1.5, as well as the consultation approach.

The standardised deviation routes and other planning principles are part of the Corridor book, which is available for applicants through the ProRail Logistics Portal (folder “Corridorboeken”).

Note that the linked folder requires authentication in Sharepoint. Applicants can request access via the process outlined at this website in case of interest.

Slovenia – SŽ

Currently, there is no officially defined escalation process in case of disagreement between railway undertakings and the infrastructure manager. If stakeholders cannot reach an agreement regarding planned track closures, stakeholders first try to resolve disagreements through internal meetings and working groups.
Unresolved issues may be referred to the relevant ministry or addressed through administrative or legal procedures.

On single-track lines, within the framework of the maintenance windows, there is a complete interruption of traffic, while on double-track lines, one track of the double-track line is closed. Maintenance windows are not planned simultaneously on interconnected sections.

They are distributed throughout the year and last between 6 and 9 hours. Typically, maintenance windows are scheduled every second week. Most maintenance windows are scheduled during weekends when there is less passenger traffic and on Mondays when there is less freight traffic. Maintenance windows are not taken into account in the annual timetable, the train timetable is adjusted operationally.

Maintenance windows are planned for approximately 30% of the public railway infrastructure network, namely on lines with higher traffic density. On other lines, maintenance is carried out between trains.

If the individual maintenance window will not be used, the IM will cancel it 14 days before the scheduled window. Maintenance windows can also be used for other works within the project. If this requires an extension of the maintenance windows, this is not done without prior consultation with neighbouring IMs, insofar as they affect the traffic of international trains.

Slovakia – ŽSR

General principles of TCR planning on ŽSR:

The process of planning, consultation and coordination of long-term planning of temporary capacity constraints (TCR) is not in place at ŽSR. As part of the proposal for new TCR processes at ŽSR, a proposal is approved to split the current process of 'Rail Exclusion Activity' into 'long term' and 'interim' TCR planning processes as follows:

A) "long-term" TCR planning activity, which includes the development of multi-year, three-year, two-year, and annual TCR plans and activities:
    - Regular production, updating and publication of long-term TCR plans,

- Coordination of TCR within the ŽSR specialized departments,
- Coordination with neighbouring MIs and members on the relevant rail corridors freight transport (RFC) within the framework of international activities of the Railway Infrastructure Administration,
- Coordination meetings with the parties concerned;

A) "interim" TCR planning activity, the so-called "late" TCR:
   - Elaboration, updating of four-monthly/monthly TCR plans on the basis of the long-term TCR plan and the current requirements of the relevant Regional Directorate for limiting the capacity of the railway,
   - Internal negotiation of late TCRs with respect respect to other closures and restrictions near affected area,
   - Coordination meetings with the participation of affected parties of applicants and carriers,
   - Communication and mutual information/approval of TCRs with neighbouring MIs;

Maintenance works of smaller scope resulting from immediate or preventive maintenance and requiring a certain "smaller time space" should not have a significant impact on the limitation of the capacity of the railway and should be solved in the so-called "Railway Maintenance Windows", which ŽSR will determine in advance and announce in the form of allocation of the necessary part of the capacity of the railway line for the relevant period in the form of SROVs (file orders on the closure) before the validity of the relevant TT in accordance with the regulation of ŽSR DP 4 "Exclusion activity of the Railways of the Slovak Republic".
The general list of SROVs for the RFC lines are partr of national CS of ŽSR.

Description of the TCR planning process, including table of escalation processes

TCR coordination: means the active exchange of information on the TCR plan between neighbouring MIs through formal communication channels. These formal communication channels include:

- Open meetings, e.g. stakeholders are invited to attend an open meeting or several meetings;

- written information to interested parties with an opportunity to submit comments. The MI planning the TCR shall actively initiate communication with the neighboring MI for information on the TCR.

TCR Coordination:

is required when TCRs impact a neighboring MI. This means that the TCR takes place on one line section, possibly also on a downstream line section if its impact affects traffic

at an adjacent MI. In the case of continuous TCR, the objective is to carry out the maximum amount of work simultaneously. TCR coordination includes the expected coordination of train movements on alternative track sections within the diversions. TCR coordination is also required when coordinating IM closures if the same track sections are expected to be used for diversions.

TCR Consultation:
means an active process of exchange of information on TCRs between RU applicants and the main operators of the service facilities concerned through formal communication channels. These formal communication channels include:
- open meetings, e.g. stakeholders are invited to attend an open meeting or several meetings

- written information to interested parties with an opportunity to submit comments. ŽSR actively initiates communication with applicants for information on TCRs.

Following the coordination process and prior to the TCR plan approval process, the RUs shall ask the applicants/carriers/main operators of the affected service facilities for their opinion on the planned measures to be implemented in relation to the planned temporary capacity constraints (TCRs) for the defined thresholds (affected traffic volumes as defined in Commission Delegated Decision (EU) 2017/2075 replacing Annex VII of the EPaR Directive 2012/34/EU).

TCRs require the disclosure of information at the time and to the extent according to a specified distribution and criteria.

<table>
<tr><th>TCR with low impact</th><th>TCR with medium impact</th><th>TCR with a big impact</th><th>TCRs with significant impact</th><th>Month (X) before the TT expires</th></tr>
<tr><td rowspan="11">Preliminary consultation and coordination</td><td rowspan="11">Consultation and coordination</td><td colspan="2">Pre-consultation with applicants
Coordination with neighbouring MI
Applicants' requirements</td><td>Before X-24</td></tr>
<tr><td colspan="2">First publication of TCR</td><td>X-24</td></tr>
<tr><td rowspan="9">Consultation and coordination</td><td rowspan="7">Final decision options, consultation and coordination</td><td>X-23</td></tr>
<tr><td>X-22</td></tr>
<tr><td>X-21</td></tr>
<tr><td>X-20</td></tr>
<tr><td>X-19</td></tr>
<tr><td>Completing coordination</td><td>X-18</td></tr>
<tr><td>Final consultation</td><td>X-17</td></tr>
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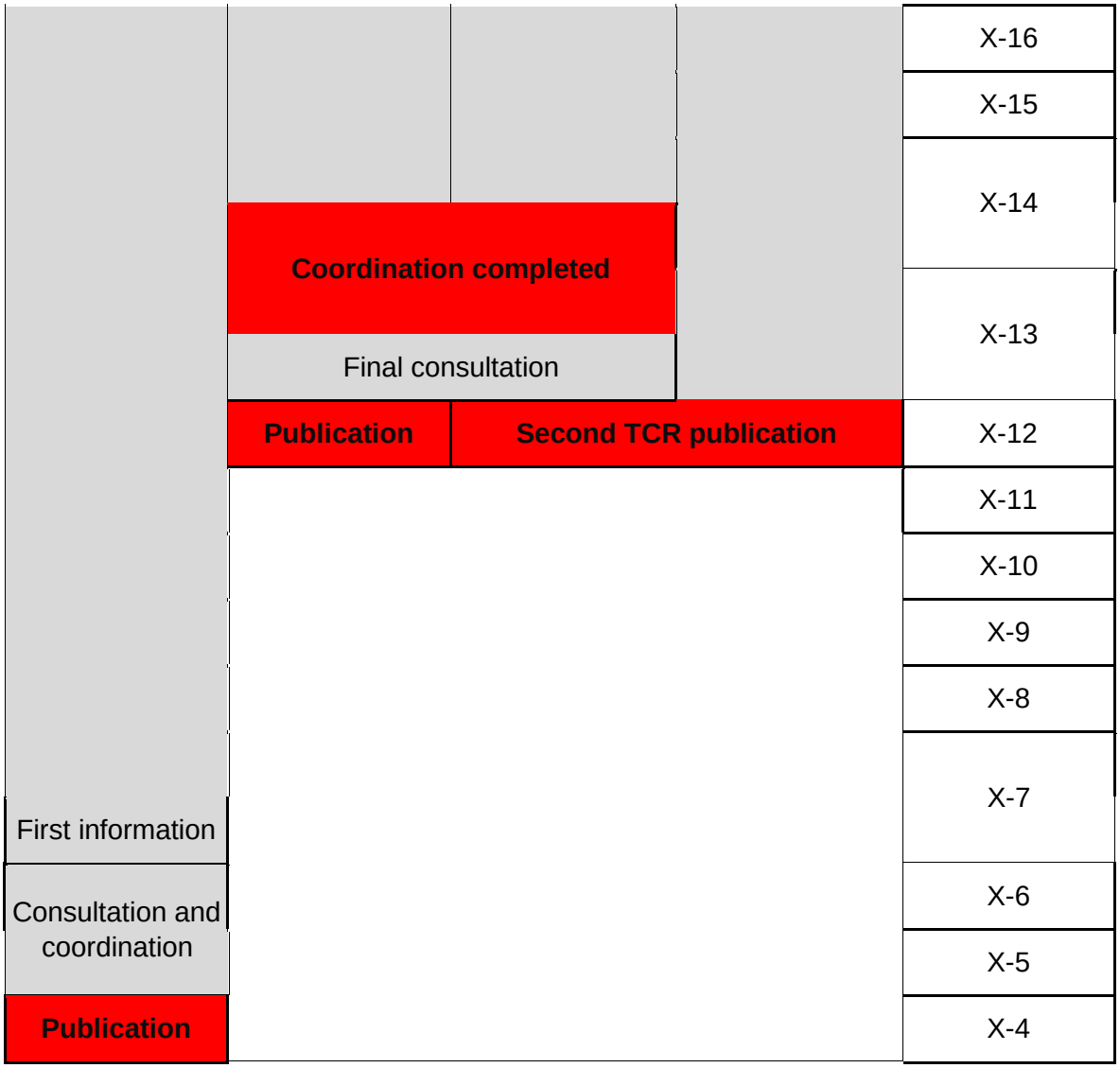


2.2. Pre-Announcements of Major Impact TCRs and their Standard Reroutings

This chapter includes a pre-announcement of major impact TCRs that will affect the timetable 2029. Additionally, it provides a visualisation of the TCR locations on the map and a compilation of potential re-routings for the pre-announced TCRs.

2.2.1 Table with pre-announcement of major impact TCRs

A selection of TCRs with major impact on traffic is shown in the chart linked below. The corresponding numbers per country are shown on the maps in Figure 9 to Figure 13. In general, the selected TCRs have impact on the timetable during an exceptional period of time and the financing of these TCRs is secured.

Exceptions on these two criteria apply; please see the data in the table. All projects listed hereunder have been approved by the respective IM ´s management.

The Timing of TCRs planned cannot be guaranteed and is subject to changes relating to international TCR coordination, financing and other considerations.

The below table constitutes a preview of the current state of planning. It shall be noted that the first official publication date for major TCRs is only at x-24, not x-36 when the Final Capacity Strategy 2029 is published, let alone earlier at x-38 with the publication of the Draft Capacity Strategy.

Due to the changing nature of the TCR collection per country, we ask that RUs may refer to the following link to be able to access the most up-to-date information and be able to use the filtering options of EXCEL for ease:

Online List of TCR Pre-Announcements for CS29

Table With Pre-Announcement of Major Impact TCRs									
Country[9]	**ID**	**Line Nr in IM system (*)**	**Network segment**	**Purpose**	**Time of execution**	**Start (quarterly basis)**	**Impact (total closure/single track operation/speed restriction)**	**Impact to passenger & freight traffic[1]**	**Financing Secured**	**Access to service facilities affected**
CZ	1	305	Polom – Suchdol nad Odrou	The modernisation of Polom – Suchdol nad Odrou line section	02/2027 – 11/2029	Q1/2027	8 months of single-track operation in the line section Polom – Junction of Vražné, followed by final construction works	Preliminary estimated capacity reduction of 50%	Yes	
CZ	2	305	Prosenice – Lipník nad Bečvou	Fast Connections Line 1 HSL Prosenice – Ostrava-Svinov, Phase I, Modernisation of Prosenice – Hranice na Moravě line section to build a connecting track between the conventional and the high-speed line	07/2028 – 08/2033	Q3/2028	Approx. 1 month of single-track operation in the line section Prosenice – Lipník n. Bečvou, construction of Chabrov Branch line junction	Preliminary estimated capacity reduction of 50%	Yes	
CZ	3	305	Ostrava-Svinov	Fast Connections Line 1 Ostrava-Svinov station, the station upgrade will include building a connecting track to the high-speed line	01/2027 – 12/2029	Q1/2027	07-08/2029 Track closure of central area of development of switches towards Ostrava hl.n. (main station)	Preliminary estimated capacity reduction of 30%	Yes	
CZ	4	305	Hranice na Moravě	Fast Connections Line 1 Hranice na Moravě station, the station upgrade will include rail link to the high-speed line	11/2027 – 09/2031	Q4/2027	Fast Connections Line 1 Hranice na Moravě station, the station upgrade will include rail link to the high-speed line	Expected track group closure	Yes	
CZ	5	305	Hranice na Moravě – Polanka nad Odrou	Conversion of traction power supply to 25 kV 50 Hz within Hranice na Moravě – Polanka nad Odrou line section	06/2029 – 11/2031	Q2/2029	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	No	

[9] Abbreviations countries; AT= Austria, CZ= Czech Republic, DE=Germany, FR=France, IT=Italy, LU=Luxembourg, NL=Netherlands, SI = Slovenia, SK= Slovakia

CZ	6	305	Ostrava railway junction	Modernisation of Ostrava railway junction	08/2028 – 12/2034	Q3/2028	Preparatory works, short-term track closures at Ostrava hl.n. (main station) and temporary suspension of operations on selected tracks at Ostrava-pravé station, approx. 8 months closure of connecting track 601/602 (VOK - Frýdlant platform)	Preliminary estimated capacity reduction of 30%	No	
CZ	7	308	Hranice na Moravě – Střelná	GSM-R + ETCS installation on the line section Hranice na Moravě – Horní Lideč – Střelná, Stage II	04/2028 – 12/2030	Q2/2028	Expected short-term cut-off of signalling equipment	Preliminary estimated capacity reduction of 30-50%	Yes	
CZ	8	308	Vsetín – Valašské Meziříčí	Revitalisation of Vsetín (excl.) - Valašské Meziříčí (incl.) line section	03/2028 – 04/2031	Q1/2028	Expected single-track operation in the section of Vsetín - Jablůnka for approx. 150 days and Val. Meziříčí - Bystřička for approx. 150 days	Preliminary estimated capacity reduction of 30-50%	Yes	
CZ	9	308	Hranice na Moravě – Vsetín	Conversion of traction power supply to 25 kV 50 Hz in the Hranice na Moravě – Vsetín line section	07/2028 – 01/2032	Q3/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	Yes	
CZ	10	309	Brodek u Přerova – Prosenice	HSL 1 (VRT) Brodek u Přerova – Prosenice, building a connecting track between the conventional and the high-speed line	07/2028 – 08/2033	Q3/2028	10 months of track group closure in the station of Brodek u Přerova	Preliminary estimated capacity reduction of 30%	Yes	
CZ	11	316	Otrokovice	Modernisation and electrification Otrokovice - Vizovice railway line, Stage I Otrokovice - Zlín střed line section	08/2026 – 08/2031	Q3/2026	Disruption at Otrokovice station	No significant impact	Yes	
CZ	12	318	Brno-Židenice – Brno-Černovice	Modernisation of line section Brno-Židenice (excl.) - Černovice Branch line junction	07/2026 – 08/2029	Q3/2026	Final construction works, short-term daily track closures for third tamping	Preliminary estimated capacity reduction of 30-50%	Yes	

CZ	13	320	Brno railway junction	Modernisation of Brno railway junction	01/2028 – 12/2035	Q1/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	No	
CZ	14	320	Rakvice – Břeclav	Infrastructure upgrade of the Rakvice – Břeclav section for 200 km/h operation	11/2028 – 11/2030	Q4/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	No	
CZ	15	324	Sázava u Žďáru – Přibyslav	Upgrade of Sázava u Žďáru (incl.) – Přibyslav (excl.) line section	10/2028 – 04/2031	Q4/2028	Single-track operation	Estimated capacity reduction 30-50%	Yes	
CZ	16	324	Pohled – Havlíčkův Brod	Upgrade of Pohled (excl.) – Havlíčkův Brod (excl.) line section	2/2028 – 01/2030	Q1/2028	Single-track operation, short-term overnight track closures	Estimated capacity reduction 30-50%	Yes	
CZ	17	324	Brno – Žďár nad Sázavou	Implementation of ETCS + remote control of signalling equipment and centralised traffic control (DOZ) in the section Brno – Žďár nad Sázavou	01/2028 – 12/2029	Q1/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	Yes	
CZ	18	326	Rájec-Jestřebí – Skalice nad Svitavou	Boskovice connecting line (Boskovická spojka), construction of Lhota u Rapotina Junction branch line	04/2028 – 04/2030	Q4/2028	Approx. 60 days continuous track closure of Rájec-Jestřebí – Skalice nad Svitavou line section	Estimated capacity reduction 30-50%	Yes	
CZ	19	501	Česká Třebová railway junction	Modernisation of Česká Třebová railway junction, works in receiving yard	01/2025 – 01/2032	Q1/2025	Single-track operation in the sections of Opatov – Zádulka Branch line junction and	Estimated capacity reduction 30-50%	Yes	

							Parník Branch line junction – Česká Třebová			
CZ	20	501, 525	Praha-Libeň – Praha-Malešice	Modernisation of Praha-Libeň – Praha-Malešice line section, Phase I	11/2028 – 12/2032	Q4/2028	Even-numbered track group at Praha-Libeň station is disrupted	Estimated capacity reduction 30%	Yes	
CZ	21	502	Čáslav – Kutná Hora	Reconstruction of Čáslav (excl.) – Kutná Hora (excl.) line section	02/2028 – 12/2030	Q1/2028	Single-track operation	Estimated capacity reduction 30-50%	Yes	
CZ	22	502	Kutná Hora hl.n. (main station)	Modernisation of Kutná Hora hl.n. station	03/2028 – 12/2030	Q1/2028	9 months track group closure, 65 days single-track operation towards Kolín	Estimated capacity reduction 30-50%	Yes	
CZ	23	503	Kolín – Litoměřice dolní nádraží	ETCS Level 1 Limited Supervision installation on the line section Kolín (excl.) – Litoměřice dolní nádraží (excl.)	01/2029 – 11/2030	Q1/2029	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	Yes	
CZ	24	503	Kalvárie Crossover track Junction – Sebuzín	Upgrade of Litoměřice dolní nádraží (incl.) – Ústí nad Labem Střekov (excl.) line section	06/2027 – 12/2030	Q2/2027	Single-track operation in the section of Kalvárie Crossover track junction – Sebuzín, works in track group of Sebuzín-Církvice station	Estimated capacity reduction 30-50%	Yes	
CZ	25	503	Ústí nad Labem-Střekov – Děčín východ	Upgrade of Ústí nad Labem-Střekov (incl.) – Děčín východ (excl.) line section	09/2027 – 03/2030	Q3/2027	01-06/2029 total track closure of the section Ústí nad Labem-Střekov – Děčín východ (Jakubský tunnel), parallel works in track group of Ústí nad Labem-Střekov station	Capacity unavailable, train diversions required	Yes	
CZ	26	503	Děčín východ dolní nádraží	Reconstruction of Děčín východ dolní nádraží station	05/2027 – 10/2029	Q2/2027	Track group closures at Děčín východ dolní nádraží, finishing construction works	No significant impact	Yes	
CZ	27	504	Chabařovice	Reconstruction of Chabařovice station	11/2027 – 11/2029	Q4/2027	Finishing construction works	No significant impact	Yes	
CZ	28	504	Oldřichov u Duchcova – Bílina	Bridge reconstruction at km 32.588 on the Ústí nad Labem – Most line	02/2029 – 11/2029	Q1/2029	02/2029 single-track operation in the section	Estimated capacity reduction 30-50%	Yes	

							Oldřichov u Duchcova – Bílina, then 8 months single-track operation Chotějovice Branch line junction – Bílina, 11/2029 single-track operation Oldřichov u Duchcova – Bílina			
CZ	29	504	Bílina – Most	Reconstruction of Bílina (incl.) – Most (excl.) line section	10/2028 – 03/2032	Q4/2028	Preparatory works, daily track closures Bílina – České Zlatníky Branch line junction and Br. České Zlatníky – Most, then 8 months single-track operation Chotějovice Crossover track junction – Bílina, parallel track group closure at Bílina station	Estimated capacity reduction 30-50%	Yes	
CZ	30	504	Most – Kyjice	Reconstruction of Most (excl.) – Kyjice (incl.) line section	01/2028 – 06/2030	Q1/2028	90 days single-track operation in the section of Most – Třebušice, parallel works at approach tracks to the Most station and works in Třebušice station	Estimated capacity reduction 30-50%	Yes	
CZ	31	504, 533	Ústí nad Labem – Cheb	Installation of ETCS + remote control of signalling equipment and centralised traffic control (DOZ) in the line of Ústí nad Labem – Cheb	09/2027 – 11/2031	Q3/2027	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	No	
CZ	32	505	Kanín Branch line junction – Chlumec nad Cidlinou	Modernisation of Br. Kanín – Chlumec nad Cidlinou (incl.) line section	01/2027 – 12/2030	Q1/2027	Total track closure of Br. Kanín – Chlumec nad Cidlinou section	Capacity unavailable	Yes	
CZ	33	505	Chlumec nad Cidlinou – Hradec Králové	Modernisation of Chlumec nad Cidlinou (excl.) – Hradec Králové (excl.) line section	01/2027 – 06/2030	Q1/2027	01-06/2029 total track closure Plačice Branch line junction – Hradec Králové hl.n. station (trains are diverted via Opatovice nad Labem – Pohřebačka route)	Capacity unavailable – trains must be diverted	Yes	

CZ	34	505	Hradec Králové railway junction	Modernisation of Hradec Králové – Pardubice – Chrudim line, 2nd phase, double-tracking Opatovice nad Labem – Hradec Králové, Phase I at Hradec Králové hl.n. station	09/2025 – 12/2030	Q3/2025	Track closures at southern development of switches and at central part station near platforms	Estimated capacity reduction 30-50%	Yes	
CZ	35	505	Hradec Králové – Týniště nad Orlicí	Modernisation of Hradec Králové (excl.) – Týniště nad Orlicí (excl.) line	12/2026 – 12/2029	Q4/2026	Total rail traffic closure on the section of Hradec Králové-Slezské předměstí – Týniště nad Orlicí	Capacity unavailable	Yes	
CZ	36	505	Týniště nad Orlicí – Choceň	Modernisation of Týniště nad Orlicí (excl.) – Choceň line section	12/2027 – 12/2030	Q4/2027	Preparatory works and short-term closures (no total rail traffic closure)	Estimated capacity reduction 20-30%	Yes	
CZ	37	521	Černošice – Berounka Crossover track junction	Upgrade of Černošice (incl.) – Berounka junction (excl.) line section	12/2026 – 12/2030	Q4/2026	04-12/2029 single-track operation in the section between Kosoř Crossover track junction and Berounka Crossover track junction	Estimated capacity reduction 30-50%	Yes	
CZ	38	521	Berounka Crossover track junction – Karlštejn	Upgrade of Berounka Crossover track junction (incl.) – Karlštejn (incl.) line section	12/2026 – 12/2030	Q4/2026	01-02/2029 single-track operation single-track operation in the section between Dobřichovice and Řevnice, 04-09/2029 90 days closure for rail traffic of Řevnice track group, 04-11/2029 single-track operation in the section between Řevnice and Zadní Třebaň	Estimated capacity reduction 30-50%	Yes	
CZ	39	525	Praha-Krč station	Modernisation of Praha-Krč station	01/2029 – 03/2030	Q1/2029	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	No	

CZ	40	525	Praha hlavní nádraží (main station)	Reconstruction of tracks in the Vinohrady tunnels	original assumptions 06/2026 – 06/2033	Q2/2026	The reconstruction of the southern development of tracks was originally planned as a simple refurbishment; however, design works have been suspended pending the finalisation of the comprehensive master plan for Správa železnic (SŽ) projects.	Information unavailable during the strategy development phase	Yes	
CZ	41	525	Praha hl.n. – Praha-Vyšehrad Passing loop	Track reconstruction in the section between Praha hl.n. (excl.) – Praha-Vyšehrad Passing loop (incl.)	02/2027 – 12/2029	Q1/2027	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	Yes	
CZ	42	525	Praha-Vyšehrad Passing loop – Praha-Smíchov	Reconstruction of the railway bridges at Vyšehrad	09/2028 – 10/2031	Q3/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	Yes	
CZ	43	526	Rokytka Branch line junction – Praha-Holešovice	Reconstruction of Rokytka Branch line junction – Praha-Holešovice (excl.) line section	11/2027 – 12/2029	Q4/2027	02-11/2029 single-track operation in the section betwen Rokytka Branch line junction and Praha-Holešovice	Estimated capacity reduction 30-50%	Yes	
CZ	44	527	Kralupy nad Vltavou – Nelahozeves	Reconstruction of Nelahozeves tunnels	01/2028 – 06/2030	Q1/2028	Single-track operation in the section between Kralupy nad Vltavou and Tunnels Crossover track junction until 11/2029	Estimated capacity reduction 30-50%	Yes	
CZ	45	527	State border CZ/DE – Kralupy nad Vltavou	ETCS implementation in the line section State border CZ/DE – Dolní Žleb – Kralupy nad Vltavou	09/2026 – 03/2031	Q3/2026	Gradual closures of open line tracks, balise installation, and temporary deactivation of block signalling and station	Estimated capacity reduction 30-50%	Yes	

							interlocking equipment, which will be subsequently activated after installation.			
CZ	46	527	Lovosice – Prackovice nad Labem	Upgrade of Lovosice (excl.) – Prackovice nad Labem (incl.) line section	02/2028 – 12/2029	Q1/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	Yes	
CZ	47	527	Prackovice nad Labem – Ústí nad Labem	Upgrade of Prackovice nad Labem (excl.) – Ústí nad Labem (excl.) line section	02/2028 – 12/2029	Q1/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	Yes	
CZ	48	527	Kralupy nad Vltavou – Dolní Žleb state border CZ/DE	Conversion of traction power supply to 25 kV 50 Hz within Kralupy nad Vltavou (excl.) – Dolní Žleb state border CZ/DE line section	04/2028 – 04/2030	Q2/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	No	
CZ	49	533	Hájek – Dalovice	Rehabilitation of the railway substructure between Hájek and Dalovice	03/2029 – 12/2029	Q1/2029	Total track closure 03-10/2029	Capacity unavailable	Yes	
CZ	50	533	Karlovy Vary – Nové Sedlo u Lokte	Reconstruction of Karlovy Vary (excl.) – Nové Sedlo u Lokte (incl.) line section	05/2027 – 12/2030	Q2/2027	Total track closure in the Karlovy Vary – Nové Sedlo u Lokte section during the 2029 timetable period	Capacity unavailable	No	
CZ	51	533	Nové Sedlo u Lokte – Sokolov	Reconstruction of Nové Sedlo u Lokte (excl.) – Sokolov (excl.) line section	07/2027 – 12/2030	Q3/2027	Single-track operation	Estimated capacity reduction 50%	Yes	

CZ	52	709	Horažďovice předměstí – Plzeň-Koterov	Modernisation of Horažďovice předměstí (excl.) – Plzeň-Koterov (excl.) line section	05/2028 – 11/2030	Q2/2028	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	Yes	
CZ	53	712	Plzeň – Stod	Modernisation of the Plzeň – Domažlice – state border CZ/DE railway line, Phase 1, newly built railway line Plzeň (excl.) – Stod (incl.)	10/2026 – 11/2029	Q4/2026	Final construction works, short-term track closures	No significant impact	No	
CZ	54	712	Stod – Domažlice	Modernisation of the Plzeň – Domažlice – state border CZ/DE railway line, Phase 3, line section Stod (excl.) – Domažlice (incl.)	12/2027 – 12/2030	Q4/2027	To determine restrictions on rail transport operations, it is necessary to complete a more advanced level of documentation than the current project intention stage of this investment action	Information unavailable during the strategy development phase	No	
CZ	55	320, 326	Modřice – Adamov	ETCS installation on the line section Modřice – Adamov	4/2028 – 1/2030	Q2/2028	Expected short-term cut-off of signalling equipment during the 2029 timetable period	Estimated capacity reduction 30-50%	Yes	
DE	1		line upgrade Berlin - Dresden	Line upgrade	28.04.2028	07.12.2029	total closure	freight: a few deviations expected: long distance: a few deviations expected regional: no deviations expected	Yes	Yes
DE	2		line upgrade Berlin – Dresden	package of line upgrade measures	10.12.2027 28.04.2028 23.06.2028	28.04.2028 23.06.2028 Dez 2029	single track operation / total closure	freight: numerous deviations expected: long distance: numerous expected regional: no deviations expected	Yes	Yes
DE	3		level crossing Ludwigsburg	package of measures Ludwigsburg – Bruchsal - Karlsruhe	22.06.2029 03.08.2029 14.09.2029	20.07.2029 17.08.2029 12.10.2029	total closure	freight: numerous deviations expected: long distance: a few deviations expected regional: no deviations expected	Yes	Yes

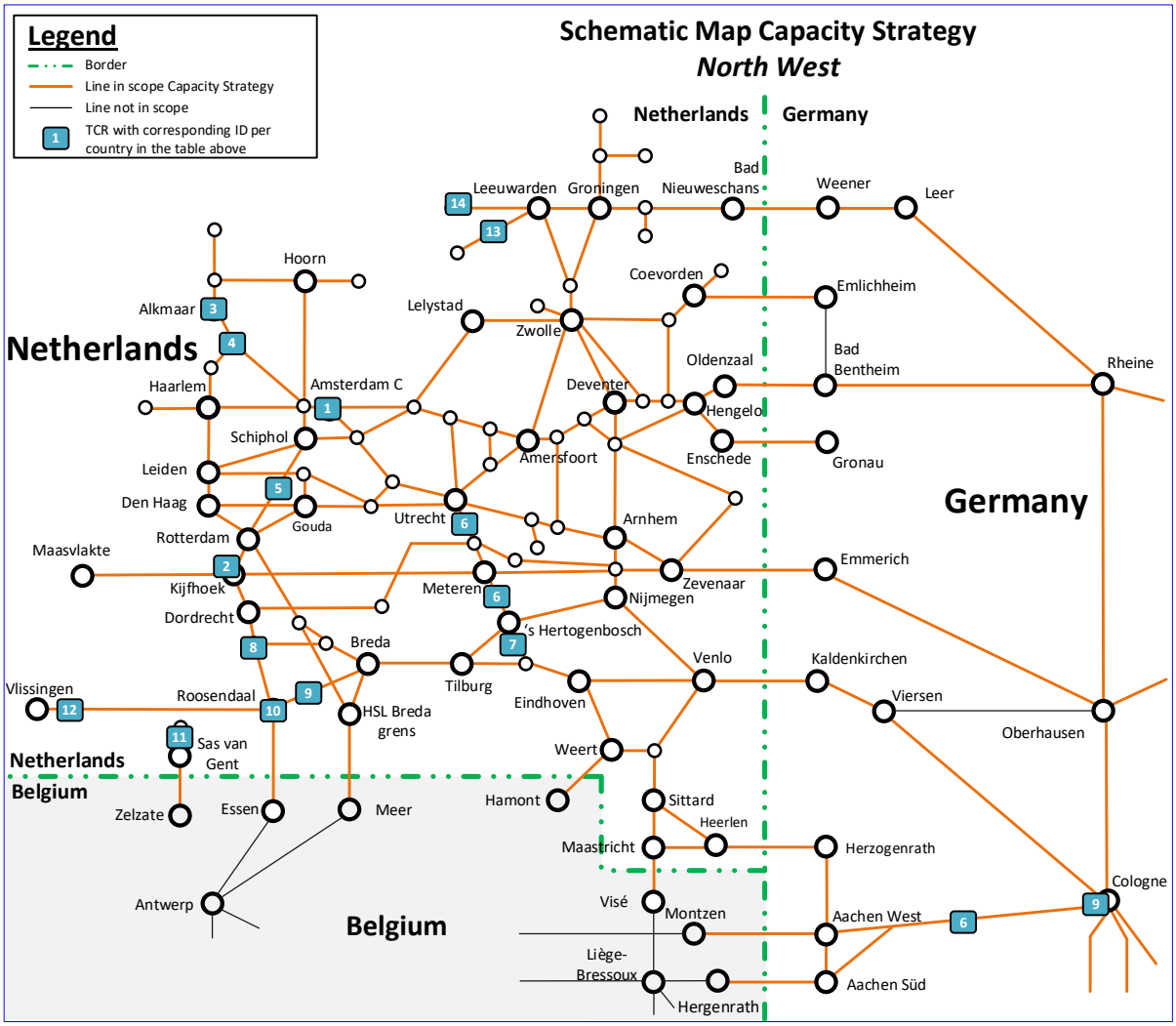
DE	4		Würzburg - Ansbach - Treuchtlingen	General refurbishment with modernization of track, switches and stations as well as modernization of signalling. Implementation of new switch crossovers.	01/2029 - 06/2029	Q1/2029	total closure	Concept with train diversion and bus replacement	No	Yes
DE	5		Hamburg - Hannover	General refurbishment with modernization of track, switches and stations as well as modernization of signalling. Implementation of new switch crossovers.	01/2029 - 06/2029	Q1/2029	total closure	Concept with train diversion and bus replacement	No	Yes
DE	6		Aachen - Köln	General refurbishment with modernization of track, switches and stations as well as modernization of signalling. Implementation of new switch crossovers.	06/2029 - 12/2029	Q2/2029	total closure	Concept with train diversion and bus replacement	No	Yes
DE	7		Flieden - Burgsinn	tunnel refurbishment	15.10.2027	Q2/2029	total closure	freight: numerous deviations expected: long distance: a few deviations expected regional: no deviations expected	Yes	Yes
DE	8		Forbach - Ludwigshafen	General refurbishment with modernization of track, switches and stations as well as modernization of signalling. Implementation of new switch crossovers.	06/2029 - 12/2029	Q2/2029	total closure	Concept with train diversion and bus replacement	No	Yes
DE	9		Kölner Brücken	renewal of level crossing	15.09.2028	Q1/2030	total closure	freight: numerous deviations expected: long distance: numerous deviations expected regional: numerous deviations expected	Yes	Yes
FR	1	930000	CCR Marseille - Vintimille	Control Center updating	Q1 2029					
FR	2	42000	Épinal	Line upgrade	Q1 2029					

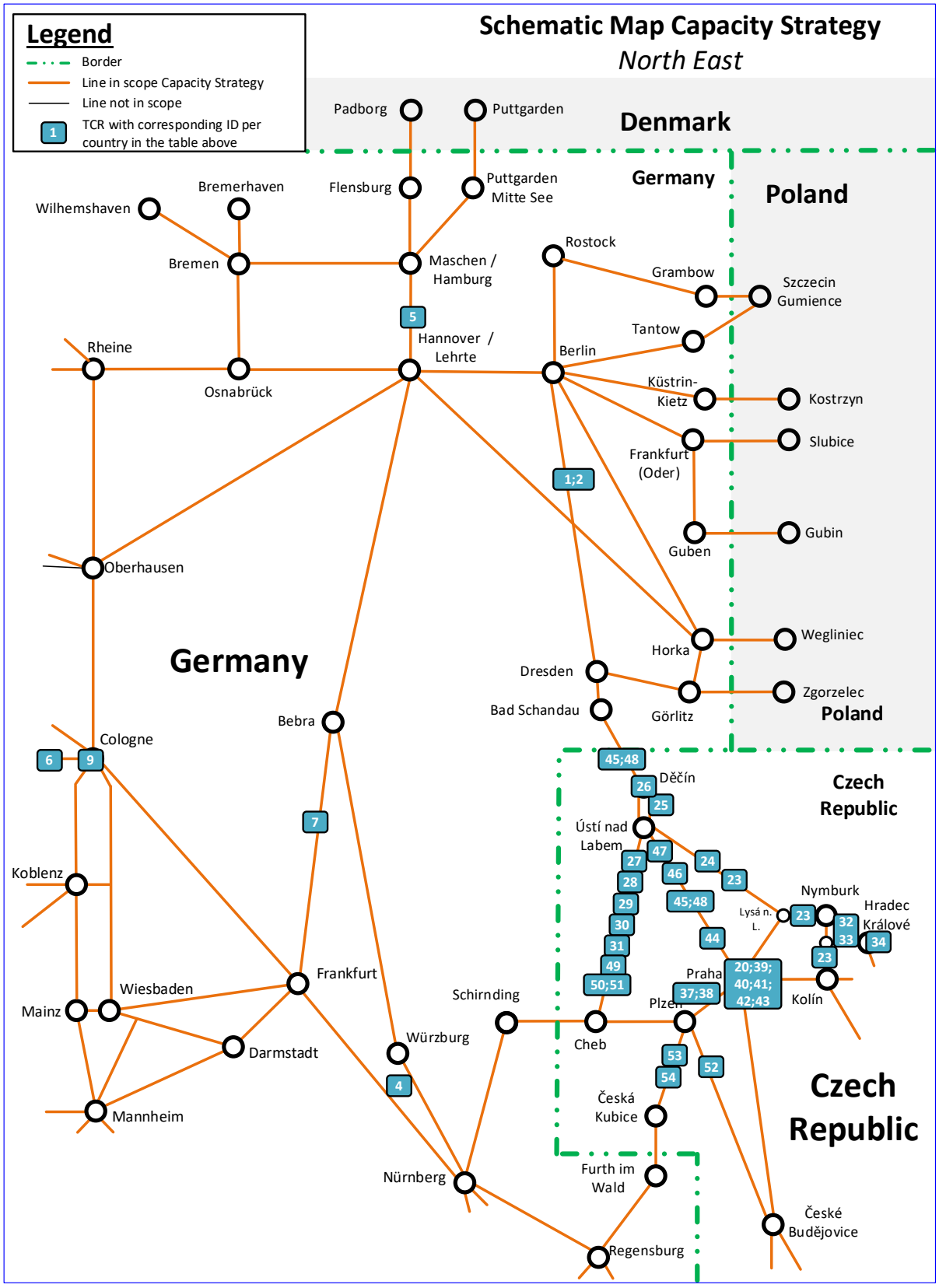
IT	1	04201, 04301, 04302	Brennero - Verona	Brenner wall	2027-2028	Q3/2027	Closure of tracks 8, 9, 10, 11, 12 in Brennero station	Re-routing, cancellations, remodulation	Yes	
IT	2	06202	Tarvisio Boscoverde - Udine	Extraordinary maintenance of artworks	2027-2029	Q3/2027	Total closure	Re-routing, cancellations, remodulation	Yes	
IT	3	02301	Iselle - Domodossola - Milano	Adjustment to P/C80 profile of the line	2024-2029	2024	Line closure	Re-routing, cancellations, remodulation	Yes	
IT	4	02402	Pino Tronzano - Luino	Extraordinary maintenance of artworks	2026-2031	Q4/2026	Line closure	Re-routing, cancellations, remodulation	Yes	
IT	5	00201	Torino - Modane	Extraordinary maintenance of artworks	2026-2030	Q3/2026	Track closure	cancellations + remodulation	Yes	
LU	1	6g, 6h, 6j	Rodange – Rodange frb1/frb2/frf	Building and connection of a new storage and maintenance facility in Rodange and track reorganisation	2028-2030	Q3/2028	Periodical total closures	Passenger: cancellation and replacement bus service Freight: re-routing	Yes	No
LU	2	5, 7	Hollerich	Creation of a new interchange station and track reorganisation	2027-2034 (or 2026-)?	Q2/2027 or Q4/2026?	Partial closure of 2 out of 4 tracks, combined with periodical total closures	Passenger: partial cancellation and replacement bus service Freight: partial re-routing	Yes	No
NL	1		Amsterdam Centraal	Increased capacity and transfer capacity at and around Amsterdam C.	Dec 2023 – 2030	Q4/2023	7 out of 10 platform tracks available at Amsterdam C. (Step 1-M3-2: tracks 5, 6, 7 and 8b not available during 16 months)	To be elaborated	Yes	No
NL	2		Barendrecht tunnel	PFAS measures for the fire extinguishing system	2029 | 2x 25-30 days	t.b.a.	Total closures per freight tube in the Barendrecht tunnel, single track operation between harbour railway line and Kijfhoek	To be elaborated	Yes	Yes
NL	3		Alkmaar	Renovation of platform canopies	2029 | several weeks	t.b.a.	TCR scenario's to be discussed. Multiple TCRs expected (multiple canopies).	To be elaborated	Yes	No
NL	4		Alkmaar - Zaandam	Increased capacity and extra platform in Uitgeest	2028-2030	Q1 2028	A total of 35 days limited or no availability of platform tracks + total closures on adjacent sections divided over 12 TCRs	Re-routing of freight; replacement bus service	Yes	No

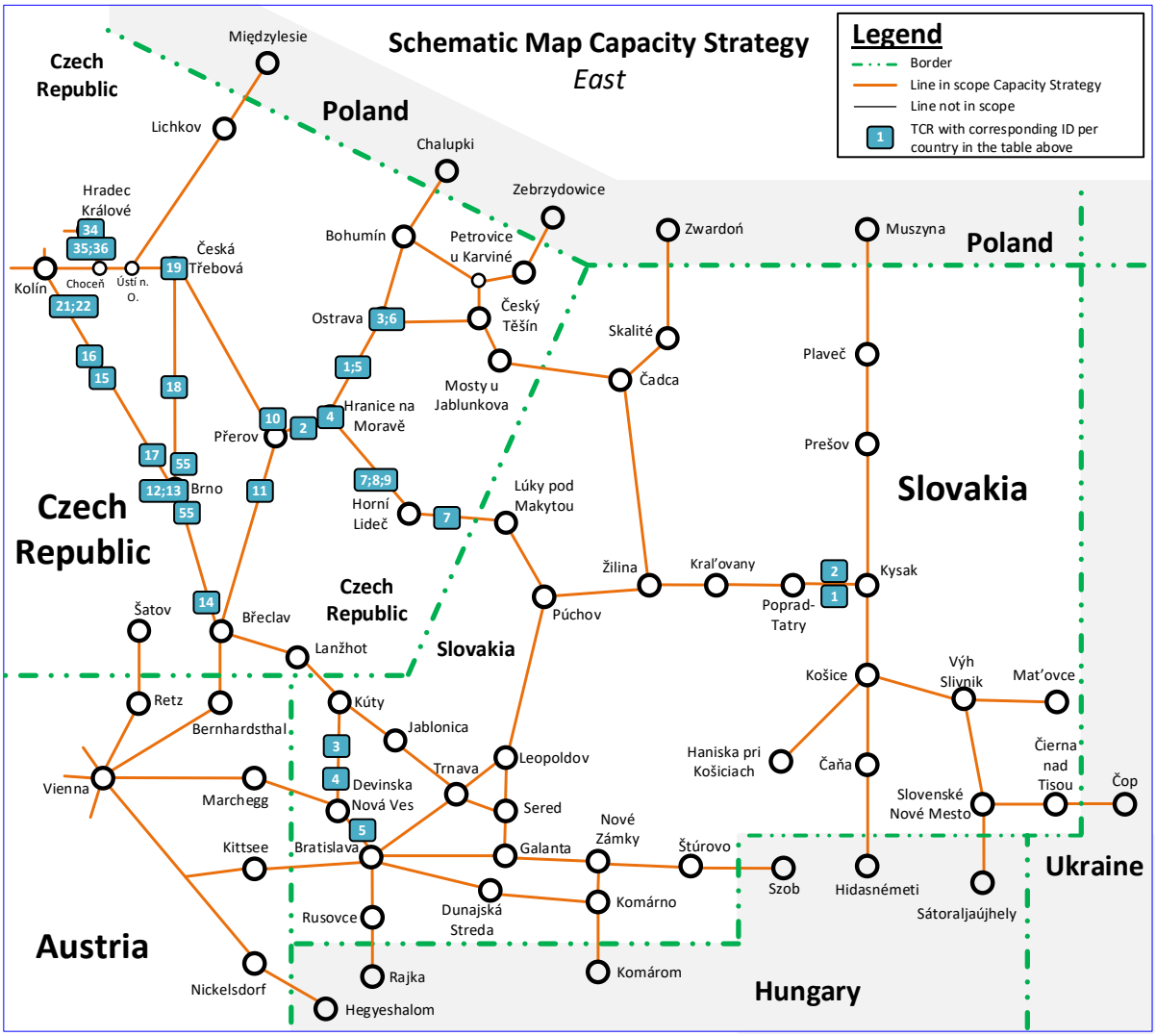
NL	5		Rotterdam - Hoofddorp (HSL)	Solving TSRs on high speed line	2028 onwards | 30 - 80 days per TSR | 9 to 10 TSRs	t.b.a.	Total closure, clustering of TCRs expected	Re-routing of passenger trains; re-routing of passengers with other trains	Yes, for 4 TSRs	No
NL	6		's-Hertogenbosch - Houten Castellum	Solving TSR due to unstable subsoil	2029 | 21 days	t.b.a.	Total closure	Re-routing of freight; replacement bus service	No	No
NL	7		's-Hertogenbosch - Vught	Increased capacity on the south side of 's-Hertogenbosch	2029 | 44 days	t.b.a.	Total closure, after 23 days 's-Hertogenbosch - Tilburg re-opens	Re-routing of freight; replacement bus service	Yes	No
NL	8		Lage Zwaluwe	Tracks for 740m freight trains	2029 or later (previously: 2028)	t.b.a.	TCR scenario's to be discussed. Multiple TCRs expected, no Major TCRs	Yes, affecting Moerdijk, Oosterhout Weststad as well as main corridors. HSL not affected	Yes	Yes
NL	9		Breda - Roosendaal	Construction of underpass for local traffic	2029 | 4 weeks	t.b.a.	Total closure	Re-routing of freight; replacement bus service	No	No
NL	10		Roosendaal	Multiple works, stabling capacity	2029 or later | est. 2 to 6 weeks	t.b.a.	TCR scenario's to be discussed. Multiple TCRs expected.	To be elaborated	No	Yes
NL	11		Sluiskil	Renovation of bridge	2029 or later (previously: 2028) | at least 6 weeks	t.b.a.	Total closure alternated with windows for freight trains	freight traffic during train windows only	By Rijkswaterstaat	Yes
NL	12		Lewedorp - Vlissingen	ERTMS	2029 | 2 weeks	Q4	Total closure	replacement bus service	Yes	No

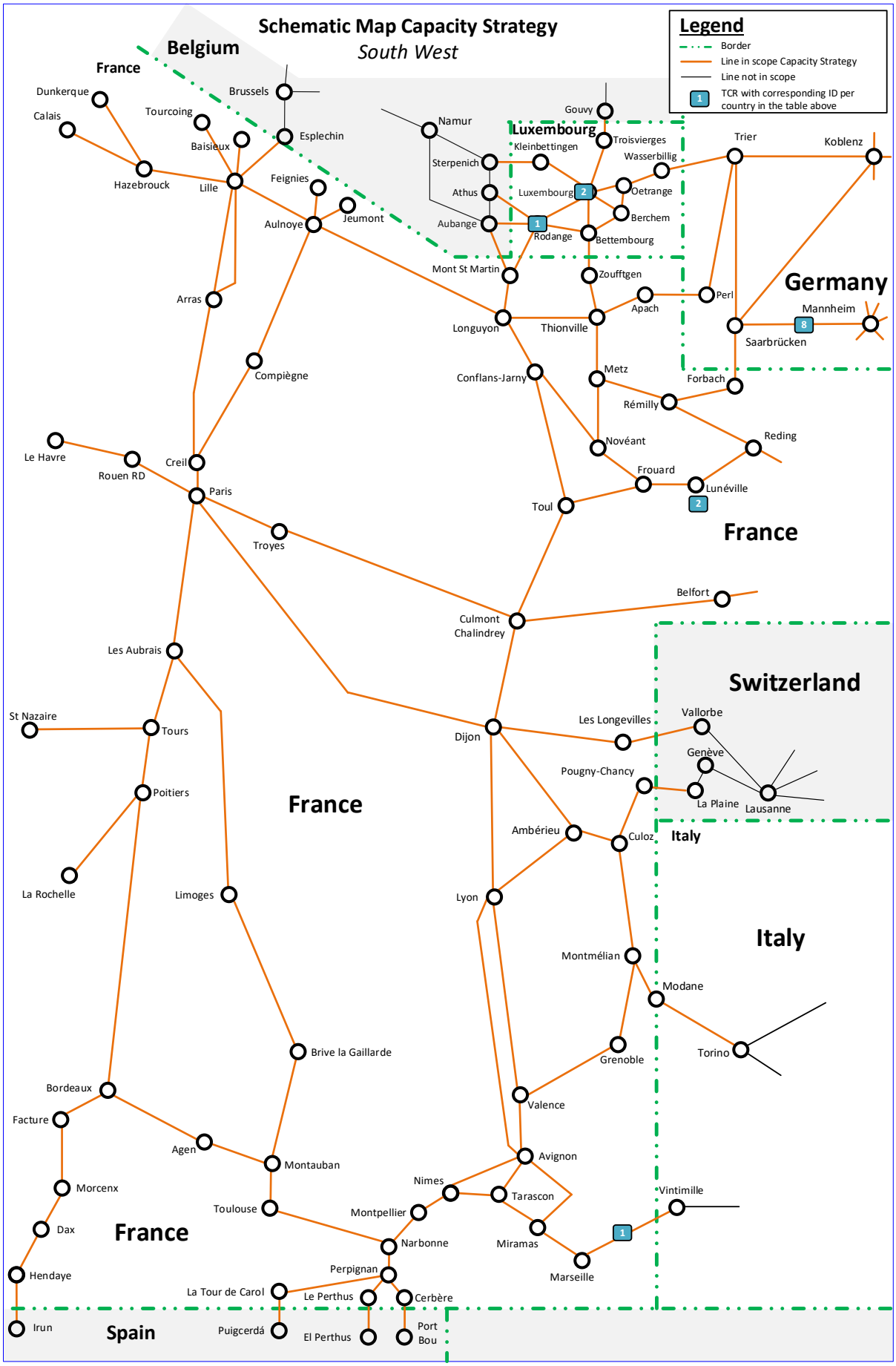
NL	13		Leeuwarden - Stavoren	ERTMS	2029 | 2 weeks	Q2	Total closure	replacement bus service	Yes	No
NL	14		Harlingen - Harlingen Haven	Renovation of bridge	2029 | 6 months	t.b.a.	Total closure	replacement bus service	No	No
SI	1		Dobova d.m.-Zidani Most	Modernising the traffic control centres, increasing level of traffic safety	2026 or later	2026	Single track operation	Estimated capacity reduction 30-40%, replacement bus service	Yes	
SI	2		Ljubljana- Sežana	Increase in capacity	2026 or later	2026	Single track operation	Estimated capacity reduction 30-40%, replacement bus service	Yes	
SK	1	105A	ŽST Vydrník - Výh. Gánovce	track modernisation (2 complete new PLC points - z. Hôrka - Výh. Hozelec)	2027 or later					
SK	2	105A	Výh. Gánovce - ŽST Poprad Tatry	track modernisation	ongoing - prediction until 2029					
SK	3	126A	ŽST Malacky - ŽST Veľké Leváre	track modernisation Devínska Nová Ves - Kúty št.hr. (SK/CZ borders)	q1 2027 - q3 2029					
SK	4	126A	ŽST Malacky	track modernisation Devínska Nová Ves - Kúty št.hr. (SK/CZ borders)	q4 2026 - q2 2029					
SK	5	126A	BA Lamač - Devínska Nová Ves	contruction of pasanger terminal - TIOP BORY	q2 2028 - q1 2029					

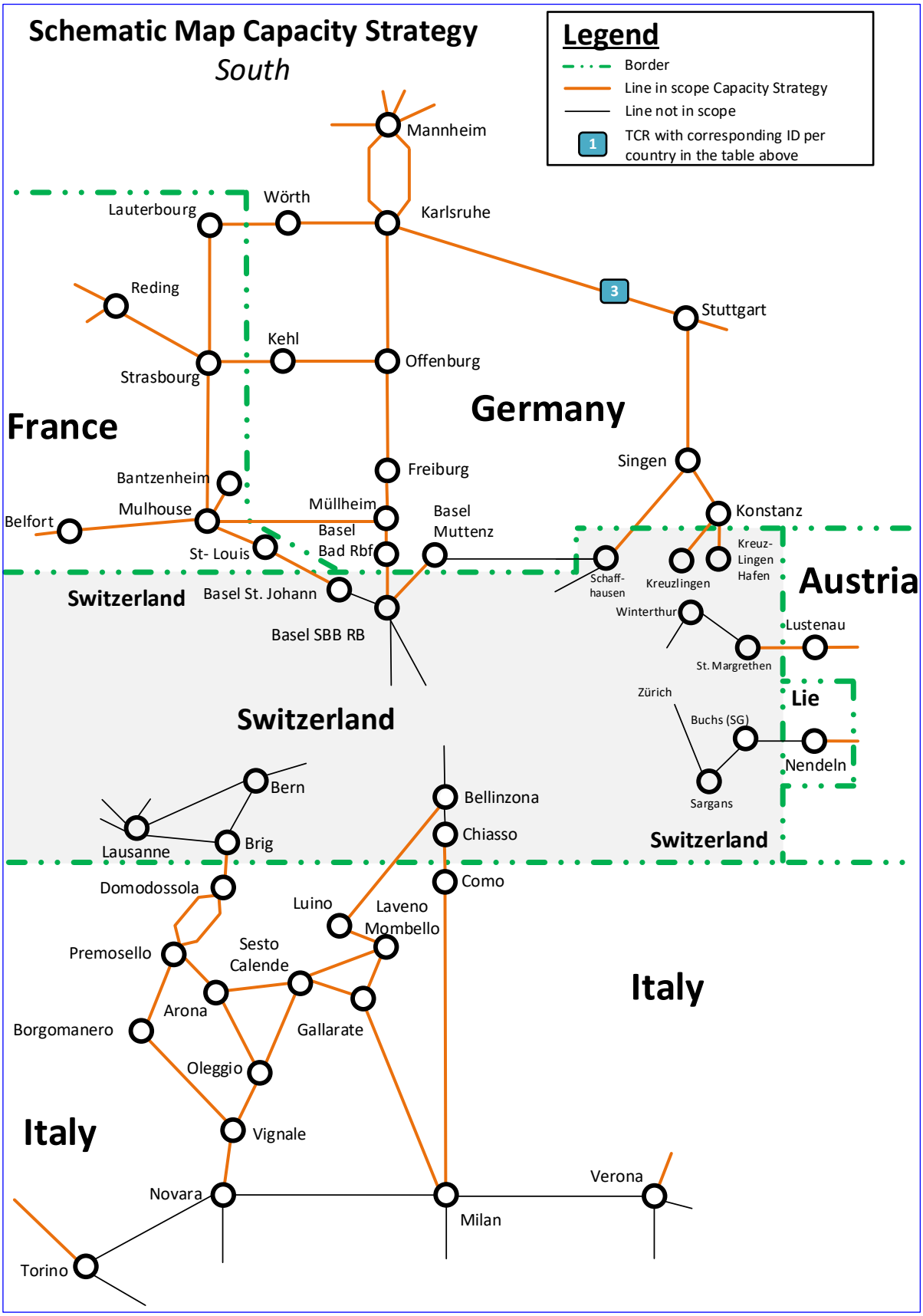
2.2.2 Map Visualisation of pre-announced major impact TCRs for Timetable 2029

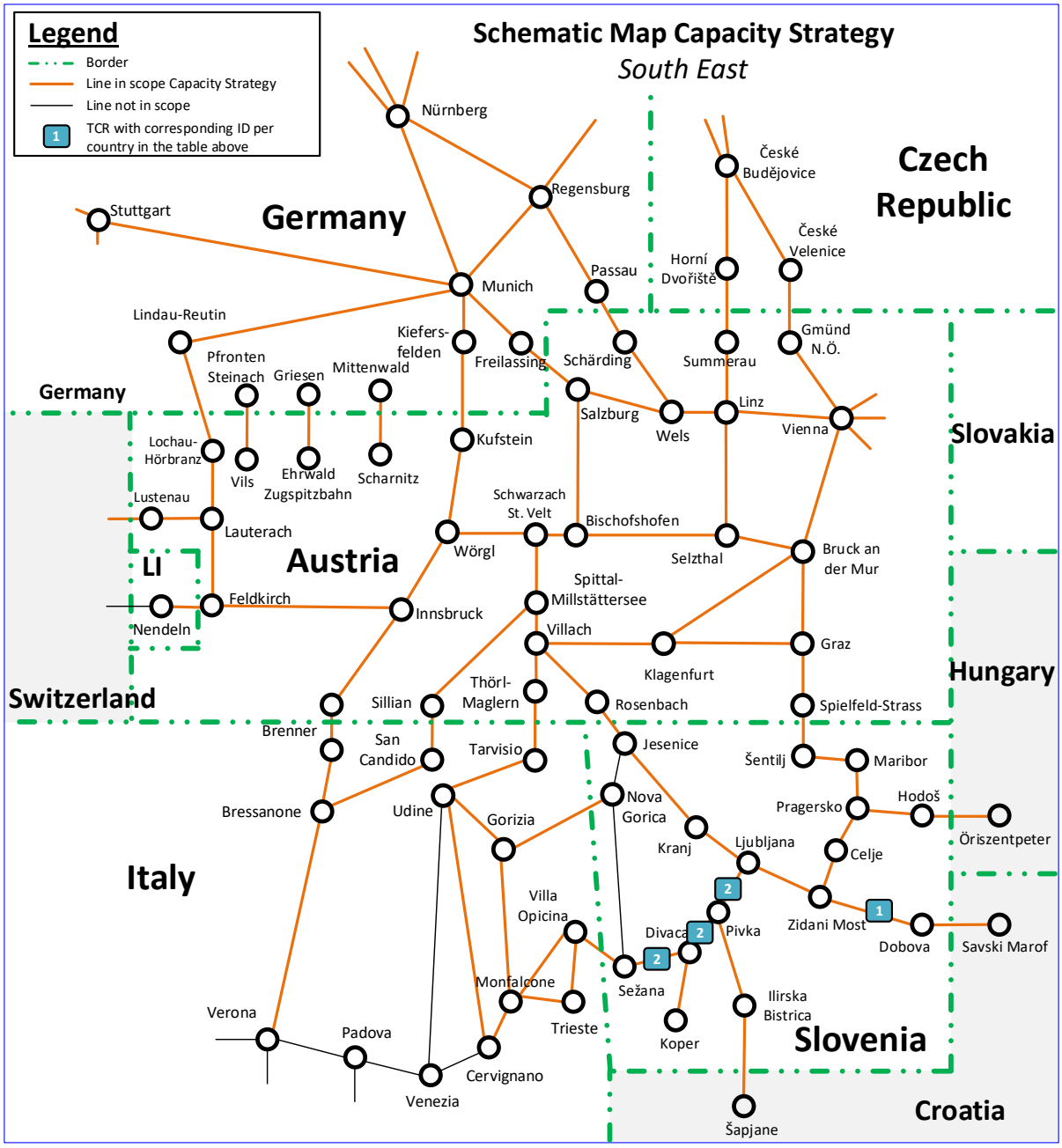



Legend
Border
Line in scope Capacity Strategy
Line not in scope
1
TCR with corresponding ID per country in the table above
Schematic Map Capacity Strategy
North East
Denmark
Germany
Poland
Czech Republic
Padborg
Puttgarden
Flensburg
Puttgarden Mitte See
Wilhemshaven
Bremerhaven
Bremen
Maschen / Hamburg
Rostock
Grambow
Szczecin Gumience
Tantow
5
Hannover / Lehrte
Rheine
Osnabrück
Berlin
Küstrin-Kietz
Kostrzyn
Slubice
Frankfurt (Oder)
1;2
Guben
Gubin
Oberhausen
Horka
Wegliniec
Dresden
Zgorzelec
Bad Schandau
Görlitz
Bebra
Cologne
6
9
7
45;48
Děčín
26
25
Ústí nad Labem
47
27
46
24
28
23
29
45;48
Nymburk
Lysá n. L.
23
Hradec Králové
32
33
34
30
44
31
23
49
50;51
Praha
37;38
20;39; 40;41; 42;43
Kolín
Koblenz
Wiesbaden
Mainz
Frankfurt
Schirnding
Plzeň
Cheb
Würzburg
Darmstadt
53
52
54
4
Česká Kubice
Mannheim
Furth im Wald
Nürnberg
České Budějovice
Regensburg


Schematic Map Capacity Strategy
East
Legend
Border
Line in scope Capacity Strategy
Line not in scope
TCR with corresponding ID per country in the table above
Czech Republic
Poland
Slovakia
Austria
Hungary
Ukraine
Międzylesie
Lichkov
Chalupki
Zebrzydowice
Zwardoń
Muszyna
Hradec Králové
Česká Třebová
Kolín
Choceň
Ústí n. O.
Bohumín
Petrovice u Karviné
Ostrava
Český Těšín
Skalité
Čadca
Mosty u Jablunkova
Plaveč
Prešov
Přerov
Hranice na Moravě
Brno
Horní Lideč
Lúky pod Makytou
Žilina
Kraľovany
Poprad-Tatry
Kysak
Púchov
Šatov
Břeclav
Lanžhot
Retz
Bernhardsthal
Kúty
Jablonica
Trnava
Leopoldov
Sered
Devinska Nová Ves
Marchegg
Vienna
Kittsee
Bratislava
Galanta
Nové Zámky
Štúrovo
Szob
Hidasnémeti
Sátoraljaújhely
Košice
Výh Slivník
Mat'ovce
Haniska pri Košiciach
Čaňa
Slovenské Nové Mesto
Čierna nad Tisou
Čop
Rusovce
Dunajská Streda
Komárno
Nickelsdorf
Rajka
Komárom
Hegyeshalom


Schematic Map Capacity Strategy
South West
Legend
Border
Line in scope Capacity Strategy
Line not in scope
TCR with corresponding ID per country in the table above
Belgium
France
Germany
Luxembourg
Switzerland
Italy
Spain
Dunkerque
Calais
Tourcoing
Baisieux
Brussels
Esplechin
Hazebrouck
Lille
Feignies
Aulnoye
Jeumont
Arras
Compiègne
Le Havre
Rouen RD
Creil
Paris
Troyes
Les Aubrais
St Nazaire
Tours
Poitiers
La Rochelle
Limoges
Brive la Gaillarde
Bordeaux
Facture
Agen
Montauban
Morcenx
Dax
Hendaye
Toulouse
Irun
Puigcerdá
La Tour de Carol
Perpignan
Le Perthus
El Perthus
Cerbère
Port Bou
Narbonne
Montpellier
Nimes
Tarascon
Avignon
Miramas
Marseille
Vintimille
Valence
Grenoble
Montmélian
Modane
Torino
Lyon
Ambérieu
Culoz
Pougny-Chancy
La Plaine
Lausanne
Genève
Vallorbe
Les Longevilles
Dijon
Culmont Chalindrey
Belfort
Toul
Conflans-Jarny
Metz
Novéant
Frouard
Lunéville
Rémilly
Reding
Forbach
Thionville
Longuyon
Mont St Martin
Zoufftgen
Apach
Perl
Trier
Koblenz
Mannheim
Saarbrücken
Wasserbillig
Oetrange
Berchem
Bettembourg
Rodange
Aubange
Athus
Sterpenich
Kleinbettingen
Troisvierges
Gouvy
Namur
Luxembourg
1
2
3


Schematic Map Capacity Strategy
South
Legend
Border
Line in scope Capacity Strategy
Line not in scope
1
TCR with corresponding ID per country in the table above
Mannheim
Wörth
Lauterbourg
Karlsruhe
Reding
3
Stuttgart
Kehl
Offenburg
Strasbourg
France
Germany
Freiburg
Singen
Bantzenheim
Mulhouse
Müllheim
Basel
Muttenz
Konstanz
Belfort
Basel
Bad Rbf
St- Louis
Kreuz-
Lingen
Hafen
Schaff-
hausen
Kreuzlingen
Austria
Switzerland
Basel St. Johann
Winterthur
Lustenau
Basel SBB RB
St. Margrethen
Zürich
Lie
Switzerland
Buchs (SG)
Nendeln
Sargans
Bern
Bellinzona
Chiasso
Lausanne
Brig
Switzerland
Como
Domodossola
Luino
Laveno
Mombello
Premosello
Sesto
Calende
Italy
Arona
Borgomanero
Gallarate
Oleggio
Italy
Vignale
Verona
Novara
Milan
Torino


Legend
Border
Line in scope Capacity Strategy
Line not in scope
1
TCR with corresponding ID per country in the table above
Schematic Map Capacity Strategy
South East
Germany
Czech Republic
Austria
Switzerland
Italy
Slovakia
Hungary
Slovenia
Croatia
LI
Nürnberg
Regensburg
Stuttgart
Munich
České Budějovice
České Velenice
Horní Dvořiště
Passau
Lindau-Reutin
Kiefers-felden
Freilassing
Schärding
Summerau
Gmünd N.Ö.
Pfronten Steinach
Griesen
Mittenwald
Salzburg
Wels
Linz
Vienna
Lochau-Hörbranz
Kufstein
Vils
Ehrwald Zugspitzbahn
Scharnitz
Lustenau
Lauterach
Schwarzach St. Velt
Bischofshofen
Selzthal
Bruck an der Mur
Wörgl
Spittal-Millstättersee
Feldkirch
Innsbruck
Nendeln
Villach
Graz
Klagenfurt
Thörl-Maglern
Sillian
Rosenbach
Spielfeld-Strass
Brenner
San Candido
Tarvisio
Jesenice
Šentilj
Maribor
Bressanone
Udine
Gorizia
Nova Gorica
Pragersko
Hodoš
Öriszentpeter
Kranj
Ljubljana
Celje
Villa Opicina
Divaca
Pivka
Zidani Most
Dobova
Savski Marof
Sežana
Monfalcone
Ilirska Bistrica
Verona
Padova
Trieste
Koper
Cervignano
Venezia
Šapjane

2.2.3 Standard Re-Routing for Pre-Announced Major Impact TCRs

Czech Republic – Správa železnic

Selected TEN-T lines are primarily affected by high and major TCRs. The duration of restrictions is defined in phases: initial estimates are gradually refined and specified in more detail as planning progresses.

SZCS offers re-routing options to railway undertakings (RUs), where feasible, as part of the planning and consultation process described above. The acceptance of these alternative routes is at the discretion of the RUs and depends on their specific operational requirements, including train length, weight, traction type, and the available capacity of the proposed diversion routes.

France – SNCF Réseau

SNCF Réseau offers two permanent alternatives, the first is a modify request outside the periods impacted by TCRs. The second is a modified request for alternative path when the infrastructure facilities allow it. The general principle is to keep always at least one of the paths open. The two courses can be not equal in time, tracks number or speed limit. It is then necessary to apply compensation to the quickest one, in order to solve the impact consequences to the slowest.

You may find map & charts in the following link:
https://www.sncf-reseau.com/fr/drr/timetable-redesign-ttr-english

Germany – DB InfraGO

Since no standardised deviation routes are in operation in Germany, but any such deviation is developed on a case-by-case basis, only guidelines can be communicated.

For TCR reroutings related to the TCRs published in the document (see section 2.2 of this document), the chart includes rerouting information per each high-performance corridor concerned.

In general, any total closure results in some cancellations of paths, which usually concern regional traffic and in the rerouting of others, which usually concern both freight and long-distance traffic, following general principles such as the usage of an alternative line, as in the example of the Eastern Rhine train line if the Western Rhine line is blocked, and vice-versa.

Finally, in the event that insufficient information on all TCR reroutings for TT2029 at the time of publication was available, such information will become available later on in the process and will be communicated through the pertinent channels.

More information on the comprehensive TCR informtion platform “KomBau” via the following link:
https://www.dbinfrago.com/web/schienennetz/fahren_und_bauen/kombau-11857434

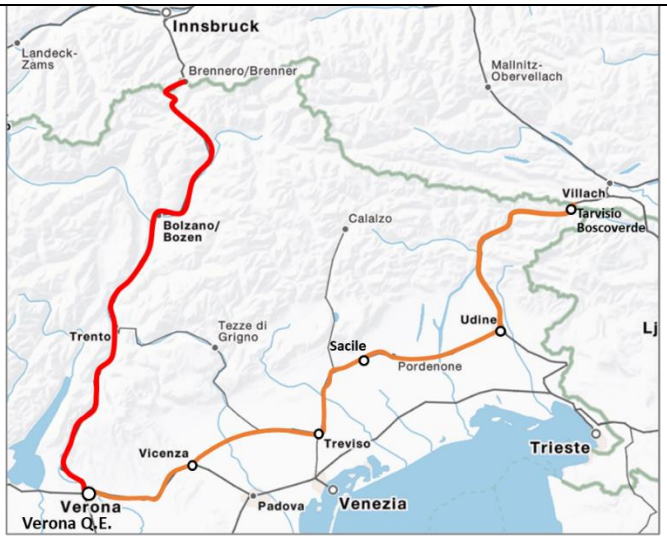
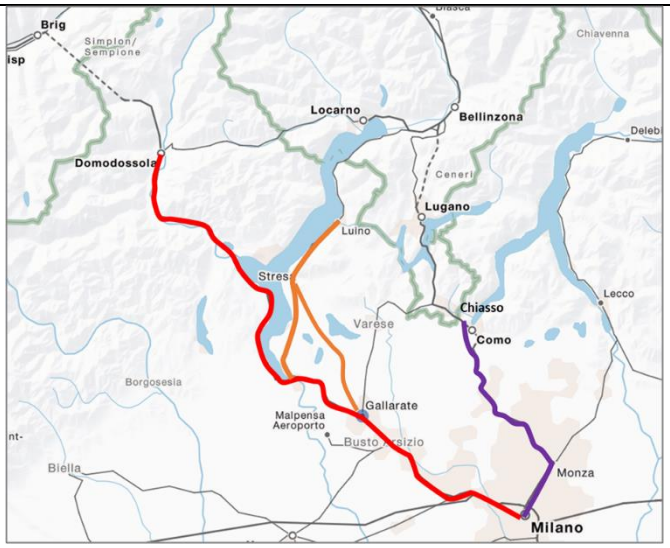
More information on the implementation by DB InfraGO AG of the Annex VII as part of the implementation of the EU Directive 2012 / 34 on the Single European Railway Area:
https://www.dbinfrago.com/web/schienennetz/fahren_und_bauen/annex-vii-richtlinie-2012-34-eu-11857512

Overview chart regarding the categorisation of TCRs, with “BKE 7” and “BKE 8” grade TCR measures being considered major in the international context:

BKE Kategorie	Anzahl aufeinanderfolgen der Tage	Anteil geschätztes Verkehrsaufkommen betroffen	Auswirkungen auf mehr als ein Netz	Konsultations-phasen	Aufnahme Netzfahrplan
1	unerheblich	max. 10%	unerheblich	4	☒
2	bis 7	mehr als 10%	unerheblich	3	☒
3	bis 7	mehr als 10% bis max. 50%	ja	3	☒
4	bis 7	mehr als 50%	ja	2	☑
5	mehr als 7	mehr als 10% und max. 30%	unerheblich	3	☒
6	mehr als 7	mehr als 30%	tlw	1 *(soweit bekannt)* 2 *(geändert & neu)*	☑
7	Mind. 30	mehr als 50%	unerheblich	1 *(erstmals)* 2 *(abschließend)*	☑
8	mehr als 30	mehr als 50%	tlw	1 *(erstmals)* 2 *(abschließend)*	☑

Italy – RFI

RFI coordinates with neighbouring Infrastructure Managers (IMs) to define re-routing options. All IMs collect detailed information on the available capacity and on the technical and operational characteristics of the alternative routes. Subsequently, they jointly meet with the involved Railway Undertakings (RUs) to consult on Temporary Capacity Restrictions (TCRs) and their impact on traffic, in order to gather any feedback from customers. Below is a table describing the main rerouting options:

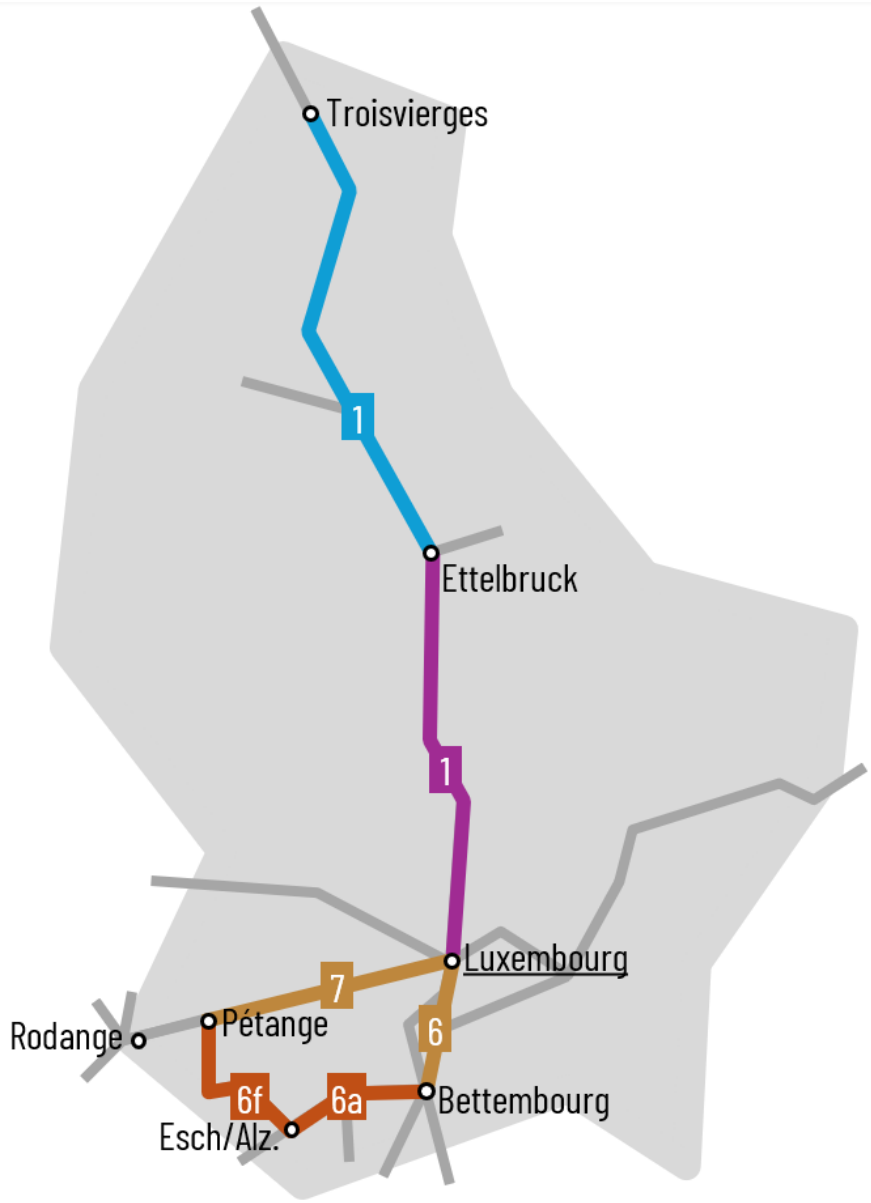
RFI	1 - 2	Alternative routes: 1) Brennero – Verona 2) Tarvisio Bv. - Udine - Sacile - Treviso - Vicenza -Verona	
RFI	3 - 4	Alternative routes: 1) Iselle - Domodossola - Milano 2) Chiasso - Monza - Milano 3)Pino T. - Luino - Gallarate - Milano	

Luxembourg – CFL / ACF

In Luxembourg, there is no re-routing concept existing. Ad-hoc alternative itineraries are considered for each TCR. However, two national rules are defined in the TCR planification (see map below) :

- On the line 1, the sections Luxembourg – Ettelbruck ■ and Ettelbruck – Troisvierges ■ cannot be closed simultanously;
- In order to garantee the itinerary Bettembourg – Pétange, the sections of the lines 6a/6f via Esch/Alz. ■ and 6/7 via Luxembourg ■ cannot be closed simultanously.

Moreover, the TCR having an impact on foreign networks are coordinated by the RAN Group = Rhine-Ardennes-North Sea Group.

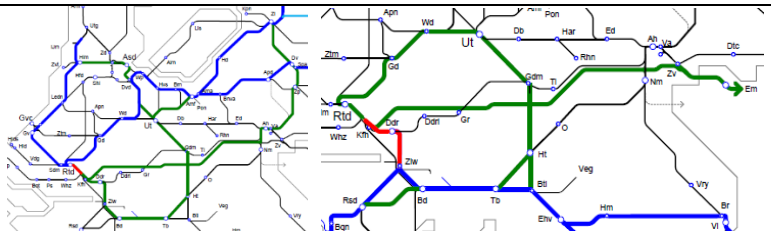
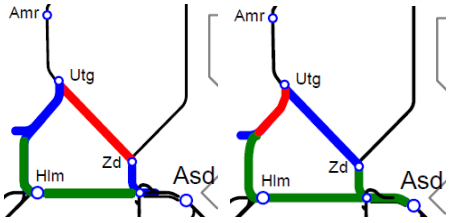
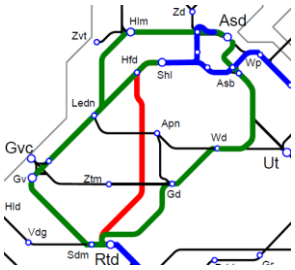
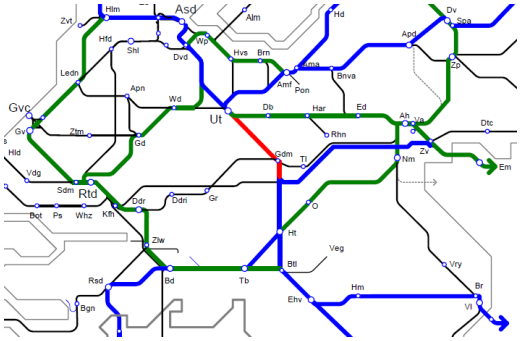


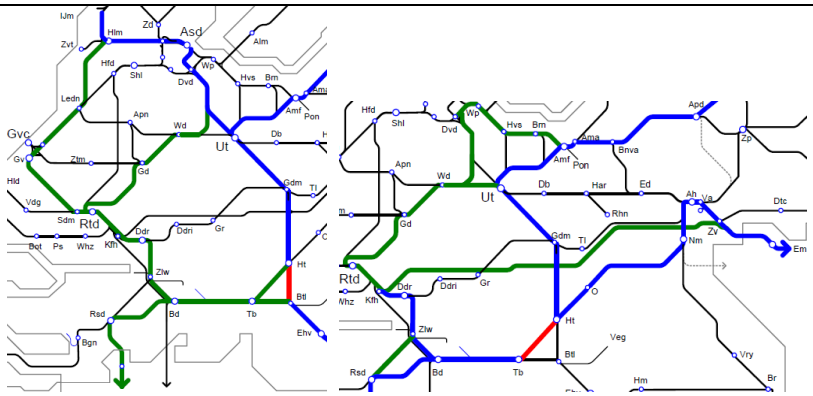
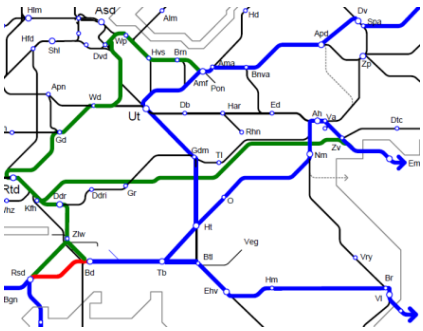
Netherlands – ProRail

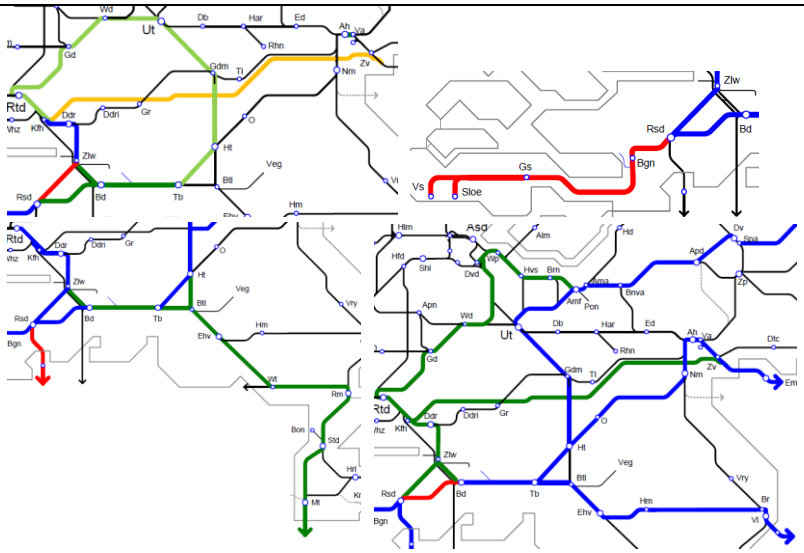
The standardised deviation routes and other planning principles are part of the Corridor book, which is available for applicants through the ProRail Logistics Portal (folder “Corridorboeken”).

The numbers in the table below refer to the table in paragraph 2.2.1

Country	ID	Location	Re-routing
NL	1	Amsterdam Centraal	Traffic impact to be elaborated.
NL	2	Barendrecht tunnel	Traffic impact to be elaborated. See maps 37 & 38 in the Corridor book for regular freight train rerouting (shown maps below for freight only. Red = TCR/original route, green = deviation).

			
NL	3	Alkmaar	No re-routing of trains foreseen.
NL	4	Alkmaar - Zaandam	See maps 25 & 33 in the Corridor book (shown maps below for freight only. Red = TCR/original route, green = deviation). 
NL	5	Rotterdam - Hoofddorp (HSL)	See map 55 in the Corridor book (Red = TCR/original route, green = deviation). 
NL	6	's-Hertogenbosch - Houten Castellum	See map 18 in the Corridor book (shown maps below for freight only. Red = TCR/original route, green = deviation). 
NL	7	's-Hertogenbosch - Vught	See maps 19 & 48 in the Corridor book (shown maps below for freight only. Red = TCR/original route, green = deviation).

			
NL	8	Lage Zwaluwe	See maps 38, 39 & 42 in the Corridor book. (shown maps below for freight only; also to be used by long distance passenger traffic not using HSL. Red = TCR/original route, green = deviation). 
NL	9	Breda - Roosendaal	See map 47 in the Corridor book (shown maps below for freight only. Red = TCR/original route, green = deviation). 
NL	10	Roosendaal	See maps 39, 40, 41 & 47 in the Corridor book (shown maps below for freight only. Red = TCR/original route, green = deviation, yellow = don't plan together due deviation capacity).

			
NL	11	Sluiskil (bridge)	No re-routing possible. Windows for freight traffic expected.
NL	12	Lewedorp - Vlissingen	No re-routing possible.
NL	13	Leeuwarden - Stavoren	No re-routing possible.
NL	14	Harlingen - Harlingen Haven	No re-routing possible.

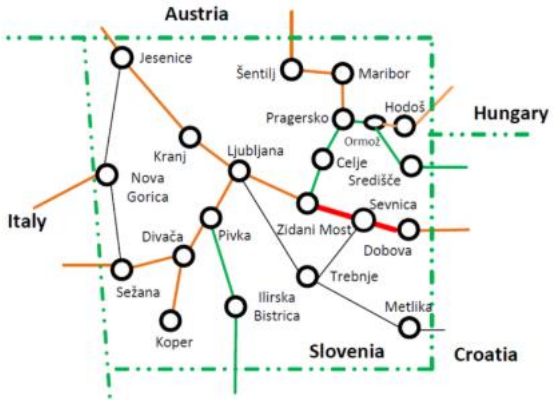
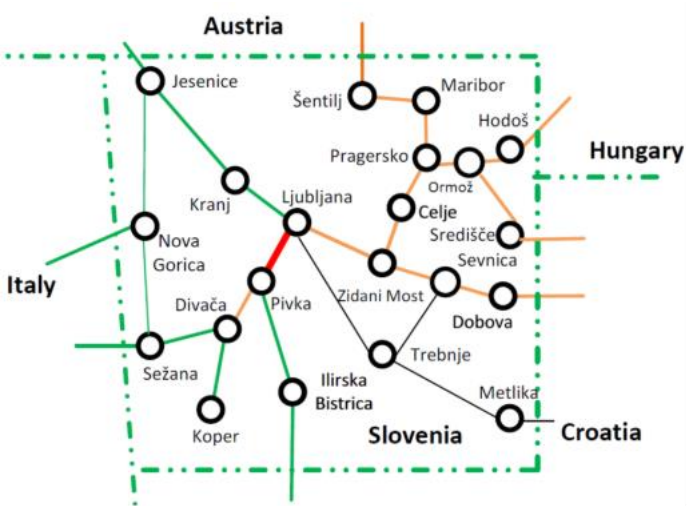
Slovenia – SŽ

Train rerouting options are coordinated with RUs during scheduled meetings, where we provide detailed information on available capacity and outline the technical and operational parameters that must be observed when planning and operating diverted train services.

The chart where the parameters are described can be found on the website of RFC 6: Re-Routing Options RFC 6

The table below presents the available options based on the data provided in Table 2.1.

SI	1	Zidani Most-Dobova Closures will be implemented on individual sections of the double-track line. Depending on the traffic volume, diversion	Modernising the traffic control centres, increasing level of traffic safety Red = TCR/original route, green = deviation).

		options are indicated in the figure.	
SI	2	Pivka-Ljubljana Closures will be implemented on individual sections of the double-track line. Depending on the traffic volume, diversion options are indicated in the figure.	Increase in capacity (Red = TCR/original route, green = deviation). 

Slovakia – ŽSR

RFC lines, that are characteristic for the use of Capacity strategy and on a local scale, they are affected by high and major TCRs. ŽSR as national IM offers re-routing options to railway undertakings (RUs) as a part of the planning and consultation process described in chap. 2.1.8 – if they are feasible. The acceptance of these alternative routes is in the decision of the RUs and depends on their spec. of operational requirements, traction type, length, weight etc..., and the available capacity of the proposed rerouting routes.

3. Expected Traffic Flows and Traffic Planning

3.1 General principles

This chapter describes the main principles of transport planning that will later be used in designing the elements of the Capacity Model, Capacity Supply, and Capacity Allocation. These principles are different in each country and therefore a comparison is made for better visualization.

Additionally, each country is at a distinct stage of implementation, and the expected progress with the TTR processes after the release of the Capacity Strategy is also discussed here.

Furthermore, the essential parameters for passenger and freight trains, which will be used in the capacity model, are defined. These parameters align with the Capacity Model Procedures.

The projected capacity figures are indicative, as the final capacity of the infrastructure is influenced by the technical characteristics of the traffic and many other factors. Further assessment and more detailed differentiation will be conducted during the preparation of the Capacity Model and the Capacity Supply.

3.1.1. Description of the Values Used in the Chapter

In all core parts of this chapter, we encounter a lack of common procedures that apply across IMs, which would lead to greater coherence between data that are further compared within the common outputs. Several methods are used in the traffic flow chapter:

Past timetables

One possible basis is the use of data from past timetables. The reference timetable may be the latest available timetable, or it may be the median, average, or another calculated value based on several past timetables. The forward-looking approach provides a growth factor.

Capacity concepts

The second approach is to use pre-existing capacities delivered through established timetabling processes. This is considered the best possible basis for estimating the volumes to be included in the capacity strategy.

Hybrid

The two approaches mentioned above can be combined in different ways:

Method	Applied by
Past timetables	SNCF Réseau, Správa železnic, ACF/CFL
Capacity concepts	DB InfraGO
Hybrid	ÖBB INFRA, RFI, ProRail, SŽ

3.2 National specificities in traffic planning

Austria – ÖBB Infrastruktur

The infrastructure for the corresponding timetable year is considered to determine traffic flows. The 2025-infrastructure is supplemented by:

- Known amendments to the infrastructure for the timetable 2029 (s. Chapter 1)
- Known TCRs that presumably must be considered for the timetable 2029 (s. Chapter 2)
- Traffic flows are evaluated based on the supposed infrastructure for Timetable 2028. Consequently, the 2025-timetable is supplemented by:
  - Known requests for train paths for the scheduled timetable for 2025
  - Known expansions of services in passenger traffic for the timetable 2029 (For e.g., pre-announced PSO-traffic)
  - Approx. 8% increase for freight traffic 2025–2029, rounded up to entire trains (2% per year) Adjustments in the scheduled timetable that are triggered due to new infrastructure (For e.g., commissioning construction and expansion plans)

Czech Republic – Správa železnic

Traffic planning principles

This section explains the national principles of rail capacity allocation and path planning in the Czech Republic. Currently, rail capacity is principally allocated for the duration of one timetable year, based on regular, late, and ad-hoc requests for capacity.

Transport planning is carried out in accordance with the Network Statement (NS):

	Location/Chapter	Available from
Rail capacity application method and form	NS - 4.2.1; 4.2.2	Link here
Dates for timetable preparation	NS - 4.5.1.5; 4.5.1.6; 4.5.2	Link here
Coordination process and dispute resolution	NS - 4.5.4; 4.5.5	Link here

Access to service facilities	NS - 7.1; 7.2; 7.3	Link here

The process for allocating rail capacity on cross-border routes is addressed in the applicable Network Statements of both participating infrastructure managers. The construction of train paths is subsequently elaborated in the respective infrastructure interconnection agreements.

Traffic flows

For the preparation of the capacity models, the projected traffic flows are based on real traffic volumes between 2015 and 2024, taking into account the increase in available capacity from Chapter 1 and temporary capacity restrictions during the validity of the 2029 Timetable, as described in Chapter 2. The reference timetable for the 2029 capacity model is the 2025 Timetable. Data on train counts were obtained from databases and timetable data (IS KADR). Passenger and freight train categories according to internal regulation SŽ D1 PART ONE were generalised into three categories:

- **Freight service** includes the categories: **Nex** (express freight train), **Pn** (standard freight train – through-freight train carrying wagons between classification yards), **Mn** (local freight train shunting wagons at each intermediate station on the train path), **Vleč** (industrial siding train), **Lv** (light locomotive transfer train), **Služ** (service train), **Pom** (assistance train)
- **Long-distance passenger service** includes the categories: **Ex** (express train), **R** (long-distance fast train)
- **Regional passenger service** includes the categories: **Sp** (regional fast train), **Os** (regional train), **Sv** (empty train set)

The final capacity is influenced by the technical parameters of the infrastructure and the characteristics of the operational concept chosen. The numbers of planned paths may not reflect 100 % of the future traffic volume, but they approximate the volume of traffic which Správa železnic considers to be demanded in the course of long-term capacity planning.

For the purposes of the Timetable Redesign Project (TTR), train journeys are divided by the type of rail capacity into trains running according to the annual timetable, where all three modes are considered. For ad-hoc rail capacity, only freight trains are considered, as the proportion of passenger trains running on the basis of ad-hoc requests for rail capacity is marginal. The average calculation includes 99.9 % of all trains that used the infrastructure in the period 2015-2024 between 00:00 and 24:00. These are really running trains, not planned trains. The arithmetic mean is used for the calculation, with the inclusion of zero values. Maximum values from the average number of train journeys per day between 2015 and 2024 are the result.

In addition, the future operational framework will be influenced by the implementation of ETCS-only operation on selected lines. An overview of these lines, which will operate exclusively under ETCS from December 2029, is provided in the following map: Czech Railway Lines Operating Exclusively under ETCS from December 2029.svg

Germany – DB InfraGO

In the context of the upcoming EU Regulation on Capacity Management (442 / 2023) and ongoing convergence efforts as part of the TTR project, as well as ahead of the realisation of the "Deutschlandtakt"[10], **DB InfraGO is working on developing instruments for drivable, network-wide optimised capacity planning**. As part of the project **KaZu Novum (Capacity Planning and Allocation of the Future)**[11], DB InfraGO is actively paving the way for the interconnected, pre-planned and European capacity management as required by national and European legislation. As part of **the first of three pre-planning phases, the mKoK (Mediumterm concept for optimized capacity utilization)** is being piloted since a few years and elaborates on results of previous "Deutschlandtakt" planning concepts, historic timetable data as well as customer input on planned changes or additional trains paths as part of the wide market involvement effort. A first attempt was published in April 2022 under the title "mKoK 24" and was focussed on Timetable 2024 and has further been used to steer the allocation of framework contracts for Timetables 2024 and 2025. In April 2024, an updated version of the mKoK has been published on DB InfraGO's website for the Timetables 2026 and onwards, referred to as "mKoK 26". On 15th May 2025, both online and in a large-scale customer information event, another updated version of the mKoK was published with a validity of TT 2028 and onwards, referred to as the "**mKoK28 ff**" of which the slides can be accessed through the same website.[12] **The mKoK 28 ff concept serves as the best available data for pre-planning of the entire DB InfraGO network and also represents the data base for this Capacity Strategy 2029 publication.**

France – SNCF Réseau

To present the Capacity Strategy, we are using the reticular documents, elaborated in one hand with our historical data, and on the other hand with the forecasts provided from the marketing department, in link with our main business partners. We share then these data with our neighbors, to coordinate the result.

Italy – RFI

In compliance with the Network Statement of RFI, the general approach is to manage the freight timetable construction phase through a pre-planned path offer (path

[10] Federal Ministry of Transport Germany - The 2030 Federal Transport Infrastructure Plan
[11] KaZu Novum – Kapazitätsplanung und -zuweisung der Zukunft (link available in DE)
[12] https://www.dbinfrago.com/resource/blob/13378464/ba322c1c3767f0c75751f2cc0bbe1ffb/Unterlage-zur-Kundenveranstaltung-vom-15-05-2025-data.pdf

catalogue). As a general statement, on single-track corridor lines, which have a high degree of capacity utilization, path timetable and available channels are defined by a clock-face model that considers pre-determined dwelling times at the cross-border stations, therefore paths are expected to bear a strong resemblance to what provided by the path catalogue. On other lines, for which there is a lower level of capacity utilization, the available paths are published in pre-planned mode. A certain level of flexibility in the construction of the Timetable is admitted, to consider all market needs. The possible offer of Rolling Planning capacity, starting from the predefined and pre-built capacity catalogue, will depend on the regulatory developments currently being studied at European level as well as on the decisions taken in the RNE area regarding the implementation of the steps of the TTR project for timetable 2029. Passenger trains timetabling is based mainly upon Framework Agreements; further market demands are considered as well, according to the criteria stated in the RFI Network Statement.

Luxembourg – ACF / CFL

- **Passenger traffic:** The numbers ACF publishes in terms of expected traffic flows are backed by historic data, by actual data from timetable 2025, by the National Mobility Plan 2035 and by future market demands for 2028 soon to be confirmed upon reception of the first CNAs. CNAs are the result of market consultations, targeting RUs from passenger and freight services, which operate on the Grand-Duchy's railway network, which we held during the last months.
- **Freight traffic:** Except for the National Mobility Plan 2035, the same abovementioned sources support the data in terms of freight traffic.

The data was regrouped in a 2H - systematic timetable, based on which a 24H - graphic timetable will be established for the subsequent Capacity Model. We are committed to sharing and harmonizing the data with neighboring IMs.

The Capacity Model will be shared with key stakeholders, in due time according to the TTR planning process.

Netherlands – ProRail

Design principles for timetables and reference models

The Netherlands has the busiest rail network in Europe. We are seeing demand for and requirements for train paths increasing faster than the expansion of the infrastructure. In addition, complexity is also increasing due to the rise in the number of transport operators.

In order to continue to offer a stable rail system in the future, ProRail will have to manage timetables and operations more strictly. This means that we will move from a demand-driven to a supply-driven approach, organizing supply in such a way that the available capacity is used optimally for society. ProRail applies the following principles in this regard:

- Quarter-hourly services as a basis, 7.5 minute intervals where necessary and possible.
- For international freight and passenger transport: Separate standard routes
- Focus freight transport on the Betuwe Route
- Retain transfer hubs for passenger services in the region areas where intervals are quarter-hourly or half-hourly.
- S-Bahn-type systems around the major cities

The above design principles for the timetable have been partially implemented in the current timetable, but are primarily intended as a starting point for the development of timetable models for the future. These principles are particularly important in situations where an increasing number of trains need to be scheduled on the same infrastructure.

In recent years, reference models have been developed in TBOV, chaired by the Ministry of Transport (IenW) and in coordination with railway undertakings and regional governments, against which interim development steps are assessed. TBOV's 'Doorgroeireferentie' (growth reference) is the reference model for 2035-2040. This addresses the future transport bottlenecks identified in the 2021 Integral Mobility Analysis (IMA-2021). The 'Doorgroeireferentie' also provides insight into which more intensive usage requirements can already be taken into account for current and future rail projects. In this way, the reference ensures that any subsequent expansions remain feasible. We update the 'Doorgroeireferentie' prior to each new Integral Mobility Analysis (IMA) based on the latest agreements and insights.[13]

As an interim step, ProRail is using the TBOV 6/4 model, which includes the implementation of the policy-based 'Programma Hoogfrequent Spoor' (High-Frequency Rail Transport Program) and initial development steps toward the 'Doorgroeireferentie'.

For the coming years, supply driven approach will have a limited impact on the final result. However, we want to start gaining experience with this now, so that in a few years' time we can comply with (or deviate from, with justification) the new European regulation.

Planning principles for the 2029 timetable

The starting point for the 2029 timetable is the allocated 2026 timetable, including the intended developments in both passenger and freight transport up to and including 2029. In doing so, we make use of the intended medium-term product steps (MLT), which are based on:

- Public Service Obligations (PSO's)
- Requests of railway undertakings

[13] Letter to parliament on the results of the national public transport and rail committee: Kamerbrief over uitkomsten Landelijke Openbaar Vervoer- en Spoortafel | Kamerstuk | Rijksoverheid.nl

- Timetable adjustments due to new infrastructure that will be available until 2029
- Timetable adjustments due to major TCRs at the start of the 2029 timetable or which will be valid for a large part of 2029
- Growth forecasts for freight transport, from which we derive the number of freight paths required per origin-destination relationship.
    - Based on forecasts from the integrated mobility analysis (IMA-2021) and the most recent reference forecast (Referentieprognoses 2025)
- Growth forecasts for passenger volume, from the integrated mobility analysis (IMA-2021) and the most recent reference forecast (Referentieprognoses 2025)

The number of trains per category is indicated for the busiest hours, usually rush hour on weekdays. Trains that only run once or a few times a day and do not fit into the planned train paths are not included separately in this capacity strategy. These trains are included in the capacity model, the next TTR phase. In addition, there are train paths that cannot be used every hour of the day due to exclusions with other trains, bridge openings, maintenance schedules or other TCRs, or other restrictions such as noise standards or infrastructure limits.

For freight transport, we only include train numbers for commercial freight trains in this TTR phase. We do not include individual locomotives and work trains. Furthermore, freight trains in the special transport category (e.g., out of gauge, such as military transport) are only counted in this phase for the number of freight trains, but we cannot guarantee that they will fit into the standard train paths.

The planning standards for timetable design are described in 'Normen voor een veilige en uitvoerbare dienstregeling'[14].

Slovenia – SŽ

An evaluation approach based on historical timetables is used in the preparation of capacity strategies and models. The reference timetable for the 2029 capacity strategy is timetable 2025. When determining the volume of traffic, the average value for the average working day of the week is taken into account. In a later phase, the expected traffic growth based on traffic flow forecasts can also be taken into account.

The number of trains is coordinated with neighbouring IMs and corresponds to average values according to the type of traffic per hour, without distinguishing between peak and off-peak periods. The figures shown show the non-binding average hourly available capacity for long-distance passenger, regional passenger and freight traffic for timetable 2029. Further assessment and more detailed differentiation will be carried out during the preparation of the capacity model and capacity supply.

[14] Document standards for a safe and feasible timetable is published on Logistiek Portaal - Spelregels

When planning train paths, the available infrastructure capacity is allocated by the market segments, taking into account current traffic flows and planned capacity constraints. After determining the limits of use necessary for the implementation of large-scale engineering works, the available capacities are classified by segment and level of priority:

Capacities for long-distance passenger trains within the framework of the implementation of the public service obligation.

Capacities for regional passenger trains within the framework of the implementation of the public service obligation.

Capacities for freight trains on Rail Freight Corridors (PaPs) and freight trains with known running days.

The possible offer of Rolling Planning capacity, starting from the predefined and pre-built capacity catalogue, will depend on the regulatory developments currently being proposed at European level for timetable 2029.

Slovakia – ŽSR

Principles of transport planning

This chapter describes the main principles of train path design for the line sections under the management of ŽSR included in this CS (the range of lines RFC 5, RFC 7, RFC 9 and RFC 11), which will be used in the planning of the individual elements in the Capacity Models.

The RU (railway line, service facility) **has a set maximum capacity**. This is the capability of the facility, how many trains (train paths) of different categories and different types can pass through the facility in different time windows. It is expressed in terms of the number of train paths that can be constructed on a given line section for a given time interval (e.g. 24 hours). The capacity of multi-track sections shall be determined for each track separately. ŽSR allocates railway capacity in accordance with Act No 513/2009 Coll. Act on Railways and on Amendments and Additions to Certain Acts, as amended (hereinafter referred to as "Act 513/2009 Z.z") under the following conditions:

MI is in addition to the basic obligations of the railway operator according to § 30 of Act No. 513/2009 Coll. is obliged to allocate in a fair and non-discriminatory manner to railway undertakings the capacity of the railway until the entire capacity of the railway is exhausted (§ 34);
ŽSR allocates the capacity of ŽI in the form of a train route from the starting station to the destination station (§ 34);
Allocation of RU capacity in the form of a train path may be granted to an applicant for a maximum period of validity of one timetable of the railway network, i.e. an 'annual timetable' (§ 40).

The conditions for requests for the allocation of RU capacity are specified in the relevant RTS of the TT concerned in the subchapter. 3.2.1.

The process for allocating RU capacity in the form of a train path is set out in the relevant RTS of the TT in subsection 4.5.

Part of the TTR project is the development of a capacity model, which creates an assumption about the possible use of the capacity of the railway by individual transport segments with the respective capacity products. In addition to the pre-prepared train paths, serving primarily to meet the transport needs of applicants within predictable time and technical parameters, it will leave the relevant part of the RU capacity to meet AD HOC requests for RU capacity made during the relevant TT period. RRs, in accordance with subchapter 4.5 of the RTS, have the right to **retain a capacity reserve of at least 10 %** of the capacity of the relevant railway line for the purpose of allocating infrastructure capacity to additional train path requests **for the TT 2029.** The capacity of the railway line to carry out planned maintenance and renewal is taken into account when allocating railway infrastructure capacity to applicants.

Within the implementation of the TTR project, a **new capacity product Rolling Planning** is considered, where the applicant will be allowed to submit one application for RU capacity for the period of validity of several timetables (max. for three TTs). The legislative framework for this activity is not yet in place.

ŽSR shall attempt to resolve any conflict in the allocation of RU capacity through negotiation with the applicants concerned. In the event that the Railway Infrastructure Administration is **unable to resolve the disagreements by negotiation** with the applicants**, it shall resolve them**

through coordination. The conditions for the coordination process for the allocation of RU capacity are set out in the relevant RTS of the TT in chapter 4.5.4.

For the allocation of RU capacity on interstate line sections where a change of MI occurs, a specific MI **is designated by** the Agreement on the Interconnection of Railway Infrastructures, which is responsible for the planning of RU capacity on the given line section. This division of responsibilities between the individual IMs on the interstate sections is also valid for the development of the relevant capacity models and capacity offer.

Congested infrastructure means a section of the rail network on which, even after negotiation with applicants and coordination, it is not possible to adequately meet the demand for railway capacity at a particular time or part of the day (§ 46).

If the coordination has not achieved a satisfactory result and the railway infrastructure has been declared congested for a given period or a given section of the day, MI shall

apply the following **priorities** when allocating railway infrastructure capacity to the congested infrastructure:

- on the main railway lines in the following order:
  - transport services in the public interest implemented by systemic or tactical route distribution,
  - agreed international train routes for passenger services operated in the public interest,
  - other agreed international train routes for passenger services,
  - agreed international train routes for freight,
  - transport services in the public interest not covered by the first and second points,
  - other international passenger transport services,
  - other international freight transport services,
  - other transport services.

- on secondary railway lines in the following order:
  - transport services in the public interest,
  - passenger transport services,
  - freight transport services,
  - other transport services.

It follows from the above that the allocation and allocation of railway capacity described in the TTR rules cannot be used in the case of a declaration of congested infrastructure until a legislative change in this area is made.

Principles of cooperation with service facilities as well as other strategic components for future TT design

Service facilities of other entities, which are connected with the railway network under the administration of ŽSR, have a signed contract with ŽSR on the contact of railways (for TIP Žilina there is a signed concession contract).

In the field of timetable development (TT), the operator/manager of other entities' SZ communicates with ŽSR in a standard way through applicants (carriers) by requesting train paths. List of freight terminals (combined transport terminals) and service equipment of other entities is available on the ŽSR website in the section:

"Carriers/Other Services/Service Facilities".

Basic principles of train service planning for individual line sections

When planning train traffic for individual railway lines, several qualitative and quantitative indicators must be taken into account, such as technical parameters of the

railway line, the use of practical throughput, the uneven distribution of trains during the day, the development potential of the railway line for passenger and freight transport, respectively for international and national transport.

In different parts of the assessed capacity of the railway there is a different range of train traffic (intensities). The railway lines considered in this Common CS TT 2029 are divided in terms of train traffic planning into individual line sections, which have different parameters. These are line sections between important railway junctions (train stations). In these junctions there are important service facilities such as railway depots or wagon repair depots (Kuty, Bratislava main station, Trnava, Bratislava East, Bratislava Nové Mesto, Nové Zámky, Štúrovo, Komárno, Žilina, Žilina Teplička, Poprad, Košice, Čierna nad Tisou, Prešov, Maťovce) and combined transport terminals (Bratislava ÚNS, Dunajská Streda, Žilina, Košice, TDK, Haniska pri Košiciach, Čierna n/Tisou).

The RU capacity allocated for AD HOC train path planning shall be published in the form of a timetable offer of average train paths or in the form of bands. Zones for medium-term planning of RU capacity (TT changes) shall not be published. Maintenance windows in the form of SROVs are also not published, these are published in the monthly/weekly closure plans of the individual Regional Directorates. The residual RU capacity after all required train paths have been allocated can then be prioritised for medium-term RU capacity planning.

See distribution of railway lines RFC corridors crossing ŽSR infrastructure according to the level of capacity utilisation of RU and the categories of trains operated in Annex 1.

3.3 Outputs of the Capacity Strategy

	AT	CZ	DE	FR	IT	NL	SL	LU	SK
Conduction of CNAs	Yes	Yes	No	Yes	No	Yes [15]	Yes	Yes	Yes
Capacity Model without TCRs	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Capacity Model with TCRs	Yes	No	No	No	No	Yes	No	Yes	No
Capacity Supply	No	No	No	Yes	No	Yes	No	Yes	No

3.4 Train parameters

For TTR planning, the capacity strategy defines basic parameters separately for passenger and freight transport. Parameters of international train lines are also shown in

[15] ProRail will conduct CNAs for TT2029, if the required IT-support is available

the traffic flow map. These parameters consider specific limitations along the entire route.

Passenger transport

In passenger transport, the segments serving the area are defined. For each segment, the basic parameters (Referent trainset speed, Maximum trainset length) that should be complied with by the operating trains are given. The countries in which these parameters are valid are indicated separately in a column. Due to local specificities (e.g. length of platforms) there may be deviations from the values shown.

Category	Country	Stopping pattern	Reference trainset speed	Reference trainset length
High-speed trains	NL, DE, IT, FR	Connects main stations exclusively	300 km/h	400 m
Long distance trains	DE, AT, FR	Connects main stations exclusively	230 km/h	400 m
	DE, IT, AT		160 -200 km/h	400 m
	NL		200 km/h	330 m
	NL, LU		140 km/h	330 m
	CZ		160 km/h	400 m
	CZ		160 km/h	300 m
Express regional trains	IT, AT, SI	Does not serve all stops in section	160 km/h	250 m
	NL, LU		140 km/h	250 m
Regional trains	CZ, IT, AT, SI, FR	Serves all stops in section	160 km/h	180 - 250 m
	CZ, NL, LU		140 km/h	180 - 250 m

Freight transport

In freight transport, it is very difficult to specify train types due to the generality of the capacity strategy. There are a large number of individual and local limits that make it impossible to reliably specify specific parameters for a large network. The limiting parameters for freight transport include allowed line classes of loading, maximum allowed train length, maximum allowed train weight, track slope and others. More specific freight train types can be specified when the capacity model is developed.

Category	Reference trainset weight	Reference trainset length	Reference trainset speed
Standard 1	Maximum weight set by infrastructure limits	Maximum weight set by infrastructure limits	80 km/h
Standard 2			100 km/h
Standard 3			120 km/h
Special (Danger/ Extraordinary trains)	Individual	Individual	Individual

Capacity availability

Rail capacity utilisation is an important index of the effectiveness and efficiency of rail transport. This concept includes the degree of utilisation of available capacity of lines. The capacity of a railway system is influenced by a variety of factors, including both infrastructural and traffic planning aspects. Therefore, the expected available capacity is always related to an expected mix and structure of paths. Should significantly different commercial requests be received, the overall available capacity could be different.

However, determining in a harmonized way the actual level of capacity available is challenging due to the lack of a uniform and standardised method for calculating this indicator. Different countries and organisations use different methodologies and parameters, which makes international comparison and analysis difficult.

The specific level of available capacity is shown within the traffic flow map. The map visualises the available capacity at border crossings for passenger and freight traffic together in three levels:

- Green – All requests might be met
- Yellow – Changes might be necessary
- Red – High demand expected

Traffic flows

There is no common methodology within the participating IMs for calculating traffic flows for the purposes of the TTR capacity strategy. The traffic flows are based on the timetable concepts already available, taking into account the increase in available capacity from Chapter 1 and the Temporary Capacity Restriction during the validity of the timetable 2029 as described in Chapter 2. The route counts presented in this document may not reflect 100% of the future traffic flows, but they approximate the traffic volumes considered to be in demand during the long-term capacity planning process. The exact

number of planned train paths is always known only when the timetable is drawn up and may change during the period of validity depending on the needs of the parties involved (applicants can make suggestions, in particular through the Capacity Needs Announcement (CNA)). The traffic flow volumes given in this document are considered as the starting point for the next phases of the TTR project implementation, the Capacity Model.

The planned traffic flows are shown in the map of figure 10. This map contains international routes divided into long-distance traffic, regional traffic and freight traffic. Different line types are used for different intervals.

The traffic flow map can also be found via this link:

Online Version of Expected International Traffic Flows of Capacity Strategy 2029

It is easier to zoom in onto the details of the map, like the train parameters and expected capacity availability and provided for a better user experience.

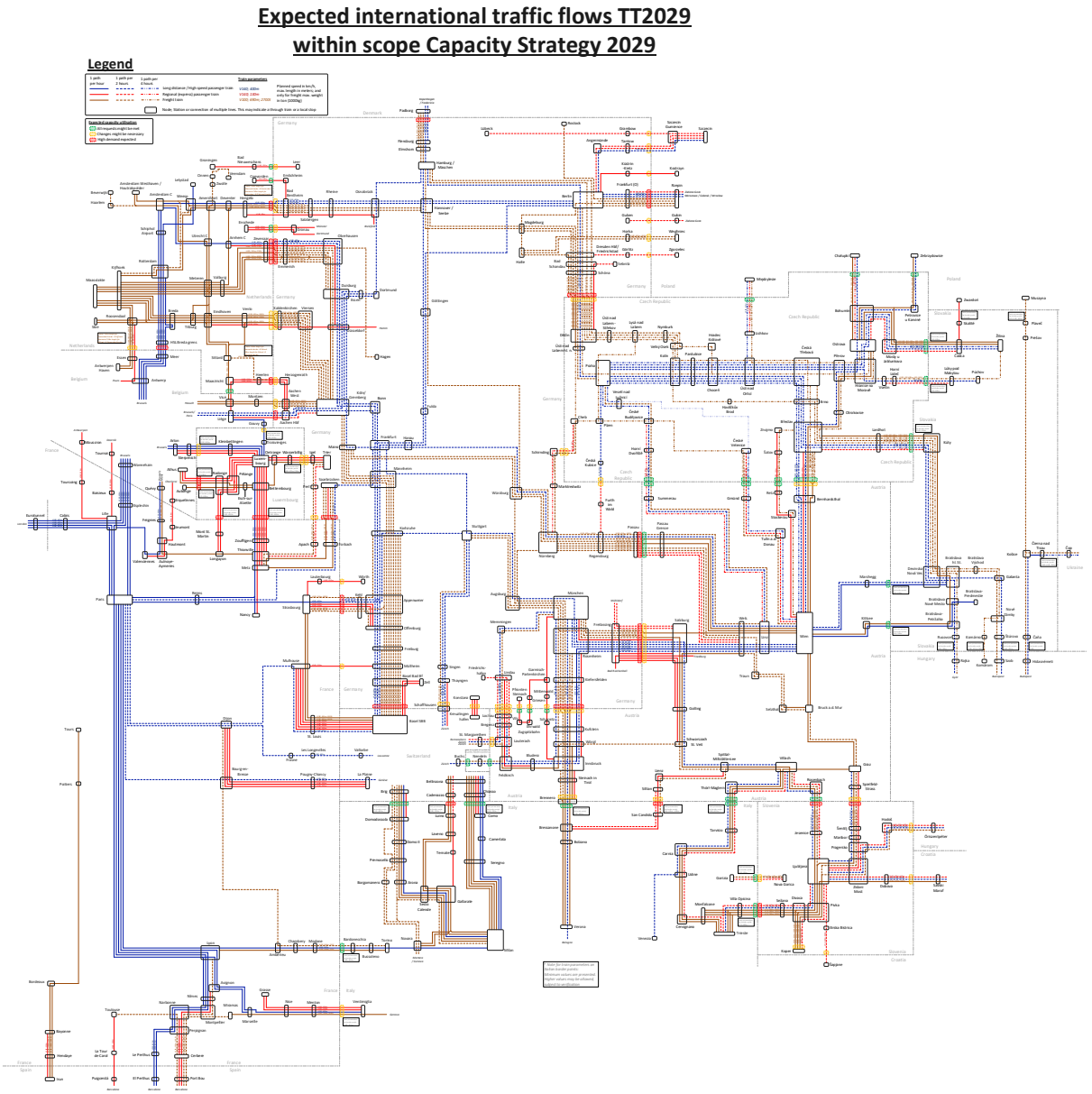


Figure 10: Expected international traffic flows Capacity Strategy 2029

3.5 Border Traffic Flows

The values laid down in this chapter represent train paths per hour and per direction for individual border crossings, divided into three categories: long-distance, passenger, and freight trains.

The tables below are split into two sections:

The first section covers border crossings that are included in this strategy on both sides of the border.

The second section includes border crossings where one side is located within the railway network covered by this strategy.

The column ‘IM responsible for the cross-border section’ indicates which of the two Infrastructure Managers (IMs) is responsible for the cross-border section.

In some cases, both IMs may be responsible for their respective sections up to the state border. To ensure seamless international traffic, they need to coordinate on timetable planning, capacity allocation, and operational conditions.

Exceptionally, the entity responsible for the cross-border section may differ from the IMs on either side of the border.

Border points Netherlands – Germany	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Bad Nieuweschans – Weener	DB InfraGO	0	1	0
Oldenzaal - Bad Bentheim	ProRail	1	1	2
Zevenaar - Emmerich	ProRail	1	1	4 NL --> DE 3 DE --> NL
Venlo - Kaldenkirchen	DB InfraGO	0	1	3
Heerlen - Herzogenrath	DB InfraGO	0	2	0 / 0,5 (runs in off peak hours)
Enschede - Gronau	DB InfraGO	0	2	0
Coevorden - Emlichheim	Bentheimer Eisenbahn	0	1	0

Border points Czech Republic – Austria	Name of the IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Horní Dvořiště – Summerau	SZCZ and ÖBB Infra	0,5	non-systematic	0,5
České Velenice – Gmünd		non-systematic	0,5	0,5

Šatov – Retz		0	1	non-systematic
Břeclav – Bernhardsthal		1	1	2

Border points Czech Republic – Germany	Name of the IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Děčín – Bad Schandau	SZCZ and DB InfraGO	1	0,5	3,5
Cheb – Schirnding		0	1	0,5
Česká Kubice – Furth im Wald		0,5 *		0

* This figure covers the types of trains that are categorised as regional in Germany and as long-distance in the Czech Republic

The following border points are not in scope of the CS29 (DE – CZ unless stated otherwise): Bayerisch Eisenstein – Zelezna Ruda-Alzbetin, Selb-Plößberg – As, Sebnitz – Dolni Poustevna, Bad Brambach – Plesna, Großschönau (DE) – Varnsdorf (CZ) – Seifhennersdorf (DE), Klingenthal – Kraslice, Johanngeorgenstadt – Potucky, Zittau – Hradek Nad Nisou

Border points Czech Republic – Slovakia	Name of the IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Lanžhot – Kúty	SZCZ and ZSR	1	0,5	2
Horní Lideč – Lúky pod Makytou		0,5	0,5	0,5
Mosty u Jablunkova – Čadca		1	0,5	2

Border points Italy – France	Name of the IM responsible for each cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Modane – Bardonecchia	RFI	1	1	1,5

Menton-Garavan – Ventimiglia	SNCF-R	1	2*	1

* All regional trains and most long-distance trains terminate at the border station Ventimiglia

Border points **Spain – France**	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
Figueres V. – Perpignan BV	LPF *	2	0	0
Figueres V. – Perpignan FI (Le Soler)	LPF *	0	0	0 **
Cerbère-Portbou (vía UIC)	SNCF-R	0	2	2
Cerbère-Portbou (vía ibérica)	ADIF	0	1	non-systematic
Irún-Hendaya (vía UIC)	SNCF-R	0	1	0
Irún-Hendaya (vía ibérica)	ADIF	0	1,5	non-systematic
Puigcerdá-La Tour de Carol (vía ibérica)	ADIF	0	1	0

* Linea Figueras Perpignan S.A.

Border points Luxembourg – France	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		long distance	regional	
Zoufftgen – Bettembourg	SNCF-R	1	6	-
Mont St Martin – Rodange	SNCF-R and CFL	-	2	-

Border points Germany – France	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		long distance	regional	
Apach – Perl	DB InfraGO	0	0,5	0,5
Forbach – Saarbrücken	DB InfraGO	0,5	1	2
Port du Rhin – Kehl	SNCF-R	0,5	2	2
Lauterbourg – Berg	SNCF-R and DB InfraGO	0	1	0
Neuenburg – Mulhouse	SNCF-R and DB InfraGO	0	1	non-systematic

Border points Luxembourg – Germany	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		long distance	regional	
Wasserbillig – Igel (DE)	CFL and DB InfraGO	0	2 [16]	1

Border points Slovenia – Italy	Name of the IM responsible for each cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Sežana - Villa Opicina	SZ	0,5	0,5	3
Nova Gorica-Gorizia	RFI	0	0,5	0,5

Border points Austria-Italy	Name of the IM responsible for each	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	

[16] At the time of publication of the Draft Capacity Strategy 2029, ongoing discussions were being held between CFL and DB InfraGO regarding a potential 3rd regional path on this line. The published mKoK28 volumes of DB InfraGO are not expected to change, irrespective of the 3rd path.

	cross-border section			
Arnoldstein-Tarvisio Boscoverde	ÖBB Infra	0,5	0,5	2
Sillian-San Candido/Innichen	ÖBB Infra	0	1,5	non-systematic
Brennersee Terminal-Brennero	ÖBB Infra	0,5	1*	3

* Trains terminate at the border station Brennero

Border points Austria – Slovenia	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		long distance	regional	
Rosenbach – Jesenice	SŽ I	0,5	0,5	1,5
Spielfeld-Straß – Šentilj	ÖBB Infra	0,5	1	1,5

Border points Austria – Germany	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		long distance	regional	
Passau	ÖBB Infra	0,5	1	3 *
Salzburg – Freilassing	DB InfraGO	3	6	2 / 1,5
Kufstein – Kiefersfelden	DB InfraGO	2,5	1	3 / 2,5
Lochau – Lindau	ÖBB Infra	0,5	2,5	0 **
Mittenwald	ÖBB Infra	0	1	0 **
Griesen	DB InfraGO	0	1	0
Pfronten Steinach	DB InfraGO	0	1	0

*) plus 0,5 / hour DE → AT only in addition

**) non-systemic traffic volumes

Border Points with One-Sided Inclusion in the Common Capacity Strategy 2029

Border points Belgium - Netherlands	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Essen – Roosendaal	Infrabel and ProRail	non-systematic	1	2

Meer – HSL Breda grens	Infrabel and ProRail	4 (2x 300 km/h, 2x 200 km/h)	0	0
Visé – Eijsden	Infrabel and ProRail	0	1	1
Zelzate – Sas van Gent	Infrabel and ProRail	0	0	non-systematic
Hamont - Budel	Infrabel and ProRail	0	0	non-systematic

Border points Czech Republic – Poland *	Name of the IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Petrovice u Karviné – Zebrzydowice	SZCZ and PKP PLK	0,5	0	1
Bohumín passenger station – Chałupki		0,5	non-systematic	non-systematic
Bohumín-Vrbice track group – Chałupki		non-systematic	0	1
Lichkov – Międzylesie		non-systematic	non-systematic	non-systematic

* The numbers displayed in this table have not been aligned for TT 2029 and are solely endorsed by SZCZ

Explanation of the cross-border section Bohumín – Chałupki

On the Czech side, the Bohumín – Chałupki cross-border railway connection consists of two separate single-track lines. One branches off from the track group at Bohumín-Vrbice, serving traffic from Ostrava (including certain long-distance passenger trains and mostly freight trains). The other departs from the Bohumín passenger station, handling traffic from Ostrava when long-distance passenger trains stop in Bohumín for boarding

and alighting, and also serving trains heading towards Žilina (and occasionally Katowice, although this route is rarely used).

These two single-track lines are not interconnected and form a triangular track layout near the Czech – Polish border. From this point, both lines continue in parallel towards Chałupki station in Poland, effectively creating a so-called "false double-track line" – two single-track lines running side by side without being physically linked by a turnout or crossover.

For this reason, the following two cross-border sections are listed separately in the strategy:

- Bohumín-Vrbice – Chałupki, and
- Bohumín passenger station – Chałupki.

This distinction reflects the actual infrastructure layout and allows for a more precise representation of train flows and planning constraints on each route.

Border points Switzerland – France	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
St Louis – Basel	SNCF-R and SBB Infrastruktur *	0,5	4	2
Pougny – Chancy - La Plaine (Genève).	SNCF-R	0,5	3	-
Les Longevilles – Vallorbe	SNCF-R	0,5	0	-

* Both IMs SNCF-R and SBB Infrastruktur are responsible for their respective sections up to the state border. For seamless international traffic, they need to coordinate on timetable planning, capacity allocation and operational conditions.

Border points **Belgium – France** *	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
Feignies – Quévy	SNCF-R and Infrabel	1	0	1

Tourcoing – Mouscron		-	1	1
Jeumont – Erquelinnes		-	1	0
Baisieux – Blandain		-	1	0
Mont St Martin – Aubange		-	-	0

* The numbers displayed in this table have not been aligned for TT 2029 and are solely endorsed by SNCF-R

Border points Luxembourg – Belgium	IM responsible for the cross-border section	passenger train paths per hour per direction		freight train paths per hour per direction
		long distance	regional	
Rodange – Athus (BE)	CFL IM and Infrabel	0	2	1
Rodange – Aubange (BE)	CFL IM and Infrabel	0	0	1
Kleinbettingen – Sterpenich (BE)	CFL IM and Infrabel	2	2	0
Troisvierges – Gouvy (BE)	CFL IM and Infrabel	1	0	0

Border points Italy – Switzerland	Name of the IM responsible for each cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Domodossola-Brig	SBB	0,5	0	3,5
Chiasso-Como SG/Rosales	RFI	1	3	4
Luino-Cadenazzo	SBB Infrastruktur	0	0,5	2

Border points Austria – Switzerland *	IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		long distance	regional	

Tosters – Nendeln	ÖBB Infra	0,5	non-systematic	0,5
Lustenau – St. Margrethen	ÖBB Infra	0,5	2,5	non-systematic

* The numbers displayed in this table have not been aligned for TT 2029 and are solely endorsed by ÖBB Infra

Border points Slovenia – Croatia	Name of the IM responsible for each cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Dobova – Savski Marof	SŽ I	0,5	0,5	1
Ilirska Bistrica – Šapjane	HŽ	0	0,5	0
Središče – Čakovec *-less than 0,5 per hour	HŽ	0	0,5*	0,5*

Border points Slovenia – Hungary (GYSEV Zrt.[17])	Name of the IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Hodoš – Őriszentpéter	SŽ I	0,5	0,5	0,5

Border points Germany – Switzerland *	Name of the IM responsible for the cross-border section	Passenger train paths per hour per direction		Freight train paths per hour per direction
		Long distance	Regional	
Basel Bad – Basel SBB	DB InfraGO	1,5	2	4,5
Konstanz – Kreuzlingen	SBB Infrastrukturand DB InfraGO	1	3	0
Konstanz – Romanshorn	SBB Infrastrukturand DB InfraGO	0	2	0

[17] Győr–Sopron–Ebenfurti Vasút Zártkörűen Működő Részvénytársaság

Schaffhausen Grenze – Schaffhausen	DB InfraGO	1	1 **	0

* The numbers displayed in this table have not been aligned for TT 2029 and are subject to confirmation.

** 3,5 regional additional capacities foreseen for traffic entering the Canton of Schaffhausen before returning to the German network

4. Validation & Publication

The present document adds to but does not replace national Capacity Strategies where published. The present document will be made accessible by RNE on its own webpage directly or by means of a weblink from the page dedicated by any participating IM to its own national Capacity Strategy.

ANNEX 1

Tabled 6: Distribution of railway lines RFC corridors crossing ŽSR infrastructure according to the level of capacity utilisation of RU and the categories of trains operated

MI	Track section	Description of the level of fulfilment of the capacity of the line section and of the categories of trains operated
SŽCZ - ŽSR	Lanžhot - Kúty	Line section used by international traffic with extremely high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - International regional passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains);
ŽSR	Kuty - Devínska Nová Ves	Line section used by international traffic with extremely high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - International regional passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (complete trains, single-wagon trains).
ŽSR	Devínska Nová Ves - Bratislava hl. st. (main station)	Line section used by international traffic with extremely high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International regional passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (integrated trains, single-wagon trains).
ŽSR	Kúty - Trnava	In passenger transport it is a line section with regional trains and in freight transport it is a line section with international traffic with a low level of filling of the railway capacity. The following categories of trains are operated on this line section:

		- Regional passenger trains; - International freight transport (complete trains); - National freight transport (relational trains).
ŽSR	Bratislava hl. st. - Nové Zámky (New Castles)	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - National long-distance passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (complete trains, single-wagon trains);
ŽSR	Nové Zámky - Komárno	In passenger transport it is a line section with regional trains and in freight transport it is a line section with international traffic with a high level of fulfilment of railway capacity. The following categories of trains are operated on this line section: - Regional passenger trains; - International freight transport (combined transport trains, integrated trains); - National freight transport (relational trains).
ŽSR	Nové Zámky - Štúrovo	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - National long-distance passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (integrated trains, single-wagon trains).
ŽSR - MÁV Zrt. (HU)	Komárno - Komárom	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - Regional (national) passenger trains, common line section Komárno - Dunajská Streda;

		- International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains);
ŽSR - MÁV Zrt. (HU)	Štúrovo - Szob	Line section used by international transport with low level of capacity filling of ŽI. The following categories of trains are operated on this line section:
		- International long-distance passenger trains;
		- International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains);
ŽSR	Trnava - Galanta	In passenger transport it is a line section with regional trains and in freight transport it is a line section with international traffic with a medium level of fulfilment of RU capacity. The following categories of trains are operated on this line section:
		- Regional passenger trains;
		- International freight transport (complete trains);
		- National freight transport (complete trains, single-wagon trains).
ŽSR	Bratislava hl. st. - Bratislava Nové Mesto (New Town)	Line section used by international traffic with extremely high level of capacity utilization of ŽI. The following categories of trains are operated on this line section:
		- International long-distance passenger trains;
		- International regional passenger trains;
		- Regional passenger trains;
		- International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (integrated trains, single-wagon trains).
ŽSR	Bratislava Nové Mesto - Rusovce	Line section used by international traffic with extremely high level of capacity utilization of ŽI. The following categories of trains are operated on this line section:
		- International regional passenger trains;
		- Regional passenger trains;
		- International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains);

		- National freight transport (complete trains, single-wagon trains).
ŽSR - Gysev Zrt. (HU)	Rusovce - Rajka	Line section used by international transport with medium level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - International regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains).
ŽSR	Bratislava New Town - Komárno	In passenger transport it is a line section with regional trains and in freight transport it is a line section with international traffic with a high level of fulfilment of railway capacity. The following categories of trains are operated on this line section: - Regional passenger trains; - International freight transport (combined transport trains); - National freight transport (integrated trains, single-wagon trains).
ŽSR	Trnava - Bratislava hl. st.	Line section used by international traffic with extremely high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - National long-distance passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (combined transport trains, integrated trains, single-wagon trains);
ŽSR - ÖBB Infra (AT)	Devínska Nová Ves - Marchegg	Line section used by international transport with medium level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - International regional passenger trains; - International freight transport (complete trains).
ŽSR - ÖBB Infra (AT)	Bratislava-Petržalka - Kittsee (AT)	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains);

		- National freight transport (complete trains, single-wagon trains).
ŽSR	Trnava - Nové Mesto nad Váhom	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - National long-distance passenger trains - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (integrated trains, single-wagon trains).
ŽSR	Nové Mesto nad Váhom - Púchov	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - National long-distance passenger trains - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (integrated trains, single-wagon trains).
ŽSR	Púchov - Žilina	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - National long-distance passenger trains - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (complete trains, single-wagon trains).
ŽSR	Sereď - Leopoldov	Line section used by international transport with low level of capacity filling of ŽI. The following categories of trains are operated on this line section: - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (complete trains, single-wagon trains).
ŽSR	Žilina - Žilina-Teplička departure group	Line section used by international transport with low level of capacity filling of ŽI. The following categories of trains are operated on this line section: - International freight transport (combined transport trains, integrated trains);

		- National freight transport (combined transport trains, integrated trains, single-wagon trains).
ŽSR	Žilina - Čadca	Line section used by international traffic with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport (complete trains, single-wagon trains).
ŽSR - SŽCZ (CZECH ONLY)	Čadca - Čadca št.hr	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - International passenger trains; - International freight transport (combined transport trains, integrated trains).
ŽSR	Čadca - Skalité	Line section used by international transport with medium level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International passenger trains; - Regional passenger trains; - National freight transport (relational trains).
JSR - PLK SA (PL)	Skalité - Skalité št.hr	Line section used by international transport with medium level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International passenger trains;
ŽSR - UA	Čop - Čierna nad Tisou	Line section used by international traffic with extremely high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - Regional passenger trains; - International freight transport (complete trains, long-distance single-wagon trains);
ŽSR - UZ	Čierna n/Tisou nr.hr- Košice	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - Regional passenger trains; - International freight transport (complete trains, long-distance single-wagon trains);

		- National freight transport (combined transport trains, integrated trains, single-wagon trains).
ŽSR	Košice - Kralovany	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - Regional passenger trains; - International freight transport (complete trains, long-distance single-wagon trains); - National freight transport (combined transport trains, integrated trains, single-wagon trains).
ŽSR	Kraľovany - Žilina-Teplička departure group	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - Regional passenger trains; - International freight transport (complete trains, long-distance single-wagon trains); - National freight transport (combined transport trains, integrated trains, single-wagon trains).
ŽSR - SŽDC	Púchov - Lúky p/Makytou št.hr	Line section used by international transport with medium level of capacity fulfilment On this line section the following categories of trains are operated: - International long-distance passenger trains; - International passenger trains; - International freight transport (complete trains).
ŽSR	Maťovce - Bánovce n/Ondavou	Line section used by international transport with low level of capacity filling of ŽI. The following categories of trains are operated on this line section: - International freight transport (complete trains; - National freight transport (complete trains, single-wagon trains).
ŽSR	Bánovce n/Ondavou - Trebišov	Line section used by international transport with medium level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - National long-distance passenger trains - International freight transport (complete trains;

		- National freight transport (integrated trains, single-wagon trains).
ŽSR	Trebišov - Výh. Slivník	Line section used by international transport with medium level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International long-distance passenger trains; - National long-distance passenger trains - International freight transport (complete trains; - National freight transport (integrated trains, single-wagon trains).
ŽSR	Kysak - Košice	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - Regional passenger trains; - International freight transport (complete trains, long-distance single-wagon trains); - National freight transport (integrated trains, single-wagon trains).
ŽSR	Kysak - Prešov	Line section used by international transport with high level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - Regional passenger trains; - International freight transport (complete trains, long-distance single-wagon trains); - National freight transport (complete trains, single-wagon trains).
ŽSR	Prešov - Plaveč	Line section used by international transport with medium level of capacity utilization of ŽI. The following categories of trains are operated on this line section: - International passenger trains; - International freight transport (complete trains, single-wagon trains).
ŽSR - PL	Plaveč - Muszyna	Line section used by international traffic with a low level of capacity utilisation. The following categories of trains are operated on this line section: - International passenger trains; - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport.

ŽSR- HU	Slovenské Nové Mesto - Sátoraljaújhely	Line section used by international traffic with a low level of capacity utilisation. The following categories of trains are operated on this line section: - International passenger trains; - Regional passenger trains; - International freight transport
ŽSR - HU	Barca - Hidasnémeti	Line section used by international traffic with a medium level of capacity utilisation. The following categories of trains are operated on this line section: - International passenger trains; - International freight transport (complete trains, single-wagon trains).
ŽSR	Haniská near Košice - Barca SB 1	In passenger transport it is a line section with regional trains and in freight transport it is a line section with a high level of fulfilment of the RU capacity. The following categories of trains are operated on this line section: - Long-distance passenger trains - Regional passenger trains; - International freight transport (combined transport trains, integrated trains, long-distance single-wagon trains); - National freight transport.