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# Capacity Strategy of ŽSR for Annual Timetable 2026

Železnice Slovenskej republiky



September 2023

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## 0 History of Changes

Version	Responsible	Date	Description of change	Notice
1.0a	Bc. Jakub Kuna	25.5.2023	Document creation	
1.1	Bc. Jakub Kuna	30.06.2023	Attachment incorporation	
2.0	Bc. Jakub Kuna Ing. Jozef Dudák	30.09.2023	Finalising document	

## 0.1 Introduction

TTR (TIMETABLING AND CAPACITY REDESIGN) is a brand for "Smart Capacity Management", which aims to harmonize the conditions of allocation of railway infrastructure capacity on the European railway transport market and to increase the competitiveness of railway transport in the EU as well as in the Slovak Republic. TTR introduces new and revises existing processes for a new approach to better and more fluid planning of capacity. At the same time, the TTR project takes into account several successive time elements that are important for the effective use of railway capacity in the long-, medium- and short-term planning of the capacity, namely planning of TCR, Capacity Models, Capacity Supply, requests to the annual timetable, rolling planning, planning of train paths for the running annual timetable (so-called AD HOC) as well as the modifications of allocated capacity during the train run.

An essential part of the TTR process is the Advanced capacity planning, the first element of which is the **Capacity Strategy**. Directive 2012/34/EU of the European Parliament and of the Council sets, in Article 26, that EU Member States shall ensure that capacity allocation schemes for railway infrastructure follow the principles set down in this Directive and thus allow the infrastructure managers (hereinafter IM) to make optimum effective use of the available infrastructure capacity. In order to be able to fulfill this legal requirement, it is necessary for the ŽSR to have actual knowledge of the available capacity for the relevant annual timetables (hereafter ATT) as well as knowledge of the general capacity needs of the applicants. In the process of creating the Capacity Strategy, we complete and organize this information and establish general principles to be used further in the process of planning and allocating the capacity. This knowledge must also be shared and aligned with the relevant stakeholders (neighbouring IM's, applicants, railway undertakings, public authorities, operators of service facilities and transport associations). The Capacity Strategy is the first element of the implementation of the TTR process, on the basis of which Capacity Models will be created.

***This document was created by the IM of Slovak Republic, which is ŽSR. The document was prepared in accordance with the RNE handbook for the Capacity Strategy and is part of the National Implementation of the TTR project in the Slovak Republic.*** In the legal environment of the Slovak Republic, ŽSR is at the same time an allocation body as well as Infrastructure Manager. This ŽSR Capacity Strategy for TT 2025 was created in accordance with the processes and principles of the common international framework of the TTR project. In doing so, ŽSR supports internationally harmonized capacity planning processes within the single European railway area. This document complies with "Transitional Periods" procedures, where publication of this document is delayed from the required final TTR processes (later than 36 months before the validity date of the relevant ATT).

This Capacity Strategy of ŽSR is intended to help the railway sector to improve its competitiveness compared to other transport modes in the Slovak Republic, as well as to ensure a greater share for railways in the transport market of the Slovak Republic.

## 0.2 List of Abbreviations

Skratka	Význam
AC	Alternating current
DOZZ	Diaľkovo obsluhované zabezpečovacie zariadenie ( <i>remote controled signal&amp;safety system</i> )
EE	Electrotechnics & Energetics
ETCS	European Train Control System
ERTMS	European Rail Traffic Management System
EU	European Union
LC	Lokomotive
IA	Investment action
IS	Information system
IT	Information technologies
IAGT	Investment assignment
CRR	Complex rail reconstruction
CRT	Complex reconstruction of track
CBR	Complex bridge recostruction
CRT&R	Complex reconstruction track&rail
CS ŽSR	Capacity Strategy ŽSR
IM	Infrastructure manager
Ft	Freight traffic
NPIM	National Project Implementation Manager for TTR
Pax	Passanger traffic
SCS	Signal&control system
PIS	Prevádzkový informačný systém ( <i>Operational Information System</i> )
POO	Plán obnovy a odolnosti ( <i>Recovery and Resilience Plan</i> )
POTR	Temporary speed restriction
NS	Network statement

TT	Timetable
RFC	Rail Freight Corridor
RNE	RailNetEurope
TCR	Temporary Capacity Restrictions
TIOP	<i>Integrated passenger transport terminal</i>
PwS	Powerstation
TTP	Track condition table
TTR	TimeTabling and Capacity Redesign
S&C system	Signal and control system
RI	Railway infrastructure
tk	Track-kilometers
ŽSR	Železnice Slovenskej republiky
SROV	Súborný rozkaz o výluke ( <i>Collection of Closure orders</i> )

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Table 1: List of IA with positive effect on capacity for TT 2025.. **Chyba! Záložka nie je definovaná.**

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## 0.5 Contact List

List of affected IMs and contact information of TTRs National Implementation Managers

IM	Function	Name	Tel. number	Email adress
Železnice Slovenskej republiky	NPIM	Jozef Dudák	+421 2 2029 5071	dudak.jozef@zsr.sk
Správa železnic, státní organizace	NPIM	Richard Těhník	+420 972 244 641	tehnikr@spravazeleznic.cz
Österreichische Bundesbahnen INFRA	NPIM	Jean-Marc Hillenberg		jean-marc.hillenberg@oebb.at
Magyar Államvasutak Zrt.	NPIM	Zoltán Imre Kovács	+36 30 565 5613	kovacs.zoltan.imre@mav.hu
Polskie Linie Kolejowe S.A.	NPIM	not available		

## 0.6 Border Sections

List of border crossings with neighboring states:

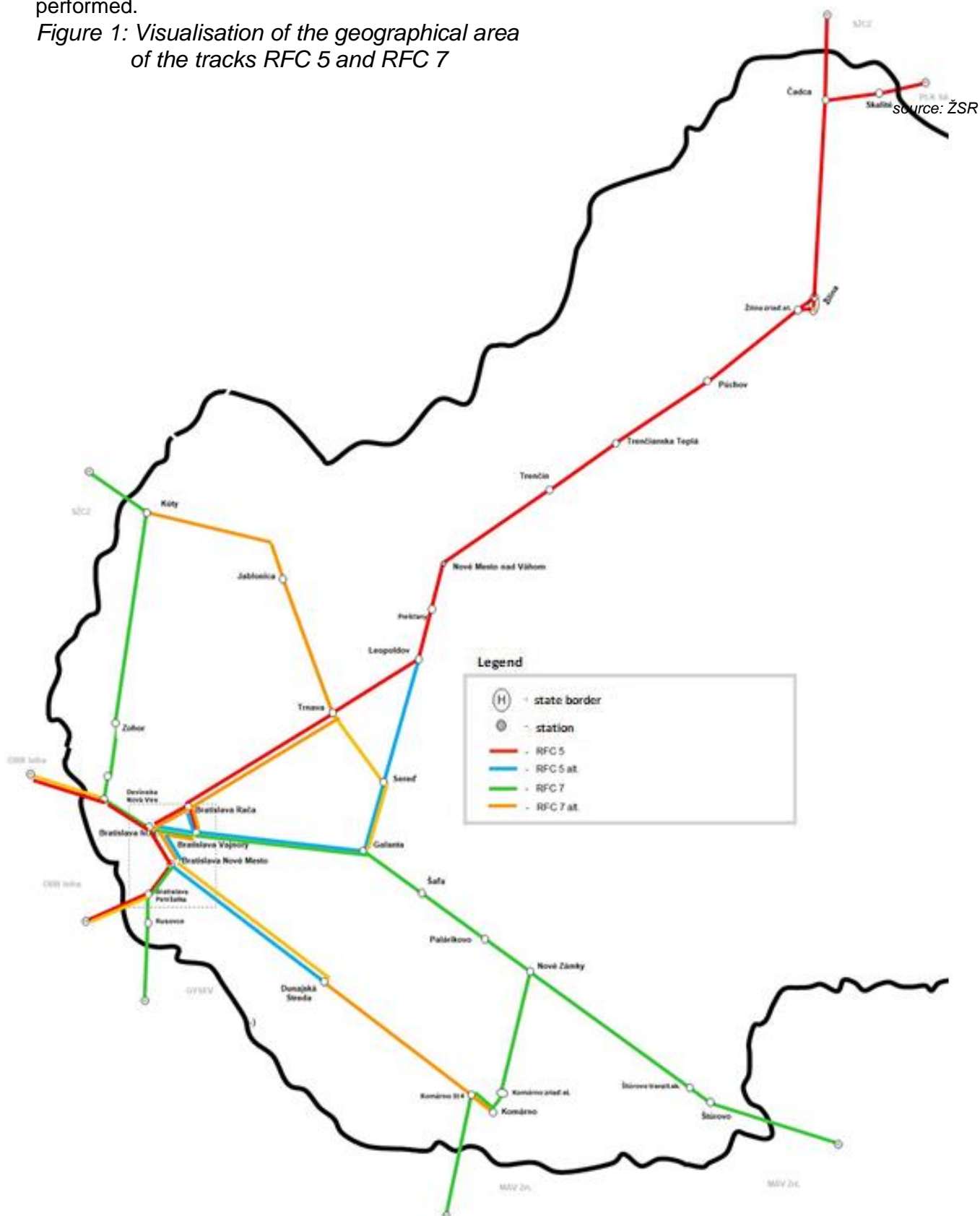
Border crossing	Neighboring state	Character of traffic
Kúty - Lanžhot	Czech republic	Pax, Ft
Devínska Nová Ves - Marchegg	Republic of Austria	Pax, Ft
Bratislava-Petržalka - Kittsee	Republic of Austria	Pax, Ft
Rusovce - Rajka	Republic of Hungary	Pax, Ft
Štúrovo - Szob	Republic of Hungary	Pax, Ft
Komárno - Komárom	Republic of Hungary	Pax, Ft
Čadca – Mosty u Jablunkova	Czech republic	Pax, Ft
Skalité – Zwardoń	Republic of Poland	Pax, Ft



## 0.7 Geographic scope for TT 2026

ŽSR created this ŽSR Capacity Strategy in the scope of track sections of the RFC5 “Baltic-Adriatic and RFC7 “Orient/East-Med (including alternative and connecting lines) as an important railway connection running north-south & west-south axis, on which a significant volume of international rail traffic is performed.

Figure 1: Visualisation of the geographical area of the tracks RFC 5 and RFC 7



### 0.7.1 Specification of geographic scope TT 2026

From the point of view of the territorial division of the Slovak Republic, the lines within the scope of the ŽSR Capacity Strategy for ATT 2025 are located in the southwestern part of the Slovak Republic, in the territories of Trnava, Bratislava, Nitra, Trenčín and Žilina regions.

### 0.7.2 General information of main lines

Main lines RFC 5									
Track	Track Section	Num.of Tracks	Length in km	Category	Vertical Load Category	P/C Profile	Traction	Highest Permitted Speed	Corridor
Devínska Nová Ves - Devínska Nová Ves št.hr.	<a href="#">(TTP 126B)</a>	1	3.62	1	C3	70/400	25kV AC, 50Hz (od km 40,140)	80	RFC 5 RFC 7 alt
Devínska Nová Ves - Bratislava hlavná stanica	<a href="#">(TTP 126A)</a>	2	12.841	1	D3/D4	70/400	25kV AC, 50Hz	140	RFC 5 RFC 7 alt
Bratislava hlavná stanica - Bratislava-Nové Mesto	<a href="#">(TTP 127G)</a>	1	5.11	1	D4	70/400	25kV AC, 50Hz	80	RFC 5 RFC 7
Bratislava-Nové Mesto - Bratislava-Petržalka - Kitsee (AT)	<a href="#">(TTP 127C)</a>	2	14.98	1	D4	80/400	25kV AC, 50Hz; Zhlavie BA-Petržalka 15kV AC, 16 2/3 Hz	60	RFC 5 RFC 7
Bratislava hl.st. - Bratislava-Rača	<a href="#">(TTP 125A)</a>	2	7.4	1	D4	70/400	25kV AC, 50Hz	160	RFC 5 RFC 7
Bratislava-Rača - Púchov	<a href="#">(TTP 125A)</a>	2	150	1	D4	99/429	25kV AC, 50Hz	160	RFC 5
Púchov - Žilina	<a href="#">(TTP 106A)</a>	2	43	1	D4	70/400	3Kv DC	160 Žilina zr.st. - Žilina 40	RFC 5

Žilina - Čadca - Mosty u Jablunkov a (CZ)	<a href="#">(TTP 106D)</a>	2	41	1	D4	70/400	3Kv DC	140 Krásno - Čadca 100; Čadca – Čadca št. hr. 80	RFC 5
Žilina zr.stanica - Budatín odb.	<a href="#">(TTP 106E)</a>	1	0.58	1	D4	70/400	3Kv DC	40	RFC 5
Čadca - Skalité Zwardoň	<a href="#">(TTP 114B)</a>	1	20	1	D4	70/400	3Kv DC	100 Skalité – Skalité št. hr. 70	RFC 5

Rerouting, alternative and connecting lines RFC 5									
Track	Track Section	Num.of Tracks	Length in km	Category	Vertical Load Category	P/C Profile	Traction	Highest Permitted Speed	Corridor
Bratislava hlavná stanica - Galanta	<a href="#">(TTP 120A)</a>	2	48,69	1A	D4	70/400	25 kV AC, 50Hz	140	RFC 5 alt. RFC 7
Galanta - Sereď	<a href="#">(TTP 128A)</a>	2	12	2	D4	80/400	25kV AC, 50Hz	100	RFC 5 alt. RFC 7 alt.
Sereď - Leopoldov	<a href="#">(TTP 128A)</a>	2	16.9	1	D4	80/400	25 kV AC, 50Hz	100	RFC 5 alt.
Bratislava- Nové Mesto - Dunajská Streda	<a href="#">(TTP 124A)</a>	1	37.31	2	C4/D4	70/400	Neelektrifik ovaná	80	RFC 5 alt. RFC7 alt.

Main line RFC 7									
Track	Track Section	Num.of Tracks	Length in km	Category	Vertical Load Category	P/C Profile	Traction	Highest Permitted Speed	Corridor
Szob (HU) – Štúrovo – Bratislava hlavná stanica	<a href="#">(TTP 120A)</a>	2	149	1A	D4	70/400	25 kV AC, 50Hz	140	RFC 7
Bratislava hlavná stanica – Kúty – Lanžhot (CZ)	<a href="#">(TTP 126A)</a>	2	74	1	D3/D4	70/400	25Kv AC, 50Hz	140	RFC 7
Devínska Nová Ves - Devínska Nová Ves št.hr.	<a href="#">(TTP 126B)</a>	1	3.62	1	C3	70/400	25 kV AC, 50Hz	80	RFC 7
Bratislava-Nové Mesto - Bratislava-Petržalka - Rusovce - Rajka (HU)	<a href="#">(TTP 127C)</a>	2; Petržalka – Rusovce 1	27	1	D4	70/400	25 kV AC, 50 Hz 15 kV AC, 16 2/3 Hz	80	RFC 7
Komárom (HU) – Komárno – Nové Zámky	<a href="#">(TTP 120B)</a>	1	33	1	D4	70/400	25 kV AC, 50Hz	100	RFC 7
Trnava – Bratislava hlavná stanica	<a href="#">(TTP 125A)</a>	2	46	1	D4	99/429 Svätý Jur – Bratislava hlavná stanica = 70/400	25 kV AC, 50Hz	160	RFC 7
Trnava – Kúty	<a href="#">(TTP 128C)</a>	1	69	2	D4	70/400	25kV AC, 50Hz	90	RFC 7

Trnava - Sered'	<a href="#">(TTP 128B)</a>	1	46	2	D4	70/400	25kV AC, 50Hz	80	RFC 7
Sered' - Galanta	<a href="#">(TTP 128A)</a>	2	12	2	D4	80/400	25kV AC, 50Hz	100	RFC 7
Bratislava hlavná stanica – Bratislava-Nové Mesto	<a href="#">(TTP 127G)</a>	1	5,11	1	D4	70/400	25kV AC, 50Hz	80	RFC 7
Dunajská Streda - Komárno	<a href="#">(TTP 124A)</a>	1	95	2	D4	70/400	Neelektrifikovaná	80	RFC 7

Rerouting, alternative and connecting lines RFC 7									
Track	Track Section	Num.of Tracks	Length in km	Category	Vertical Load Category	P/C Profile	Traction	Highest Permitted Speed	Corridor
Komárom (HU) – Komárno – Nové Zámky	<a href="#">(TTP 120B)</a>	1	33	1	D4	70/400	25 kV AC, 50Hz	100	RFC 7
Trnava – Bratislava hlavná stanica	<a href="#">(TTP 125A)</a>	2	46	1	D4	99/429 Svätý Jur – Bratislava hl. stanica = 70/400	25 kV AC, 50Hz	160	RFC 7
Trnava – Kúty	<a href="#">(TTP 128C)</a>	1	69	2	D4	70/400	25kV AC, 50Hz	90	RFC 7
Trnava – Sered'	<a href="#">(TTP 128B)</a>	1	46	2	D4	70/400	25kV AC, 50Hz	80	RFC 7

Sereď - Galanta	<a href="#">(TTP 128A)</a>	2	12	2	D4	80/400	25kV AC, 50Hz	100	RFC 7
Bratislava hlavná stanica – Bratislava-Nové Mesto	<a href="#">(TTP 127G)</a>	1	5,11	1	D4	70/400	25kV AC, 50Hz	80	RFC 7
Bratislava-Nové Mesto - Bratislava-Petržalka - Kitsee (AT)	<a href="#">(TTP 127C)</a>	2	14.98	1	D4	80/400	25kV AC, 50Hz; BA-Petržalka 15kV AC, 16 2/3 Hz	60	RFC 7

# 1 Expected Capacity for TT 2026

## 1.1 Additional Available Capacity for TT 2026

This chapter contains information on investment actions (IA) of ŽSR, which are implemented or planned to be implemented until the TT 2025 period of validity, with a positive impact on the railway capacity of RI managed by ŽSR. In the overview table below, there is also a description of the positive impact on the capacity.

*Table 1: List of IA with positive effect on capacity for TT 2026*

Name of IA	Expected timing of IA implementation	Description of positive impact
Modernization of track Devínska Nová Ves - štátna hranica SR/ČR, section Malacky - Kúty	2025 - 2028	Reducing of train travel time Modernization of railway stations and stops; Increasing the quality of the infrastructure in terms of security, interoperability, availability, reliability and efficiency; Reducing noise and atmospheric pollution; Increasing safety on railway lines by removing level crossings of rail crossings with roads and replacing them with non-level crossings (overpasses, underpasses, pedestrian underpasses); Implementation of ERTMS.
Modernization of two sections on the ČR/SR state border – Devínska Nová Ves DOZZ, GSMR, ETCS	2024 - 2026	Increasing track speed, increasing of useful track length, longer platforms, higher category of track security, interoperability, implementation of ERTMS, reliability and availability of the railway infrastructure
Bratislava ÚNS – Petržalka (mimo DŽM), rail reconstruction č. 1, 2	2025 - 2026	Continuous reconstruction of the railway superstructure on the whole line section; Safety improvement; Reduction of maintenance costs.
ŽSR, ŽST Dvory nad Žitavou, switch reconstruction č. 1,2,3,4,5,6, 7,8	2025	Removal of speed restrictions; Improvement of track parameters for safe and smooth traffic flow; Reducing maintenance costs.
Šelpice - Boleráz CRT&R, koľ.č.1	2025 - 2026	Normative parameters of railway infrastructure and achievement of standards; Increase line speed to 100km/h; Reduction of operational maintenance costs.

Name of IA	Expected timing of IA implementation	Description of positive impact
Bratislava - Nové Mesto – Bratislava ÚNS, CRT&R kol. č. 1, 2	2024 - 2026	Reconstruction of line tracks No. 1 and No. 2 in the section between Bratislava Nové Mesto railway station and Bratislava ÚNS railway station is proposed due to operational wear and tear and its main objective is to ensure long-term safety railway operation in the given section; The reconstruction will also have a positive impact on the reduction of operating costs in the following years.
ŽSR, completion of the Žilina Teplica marshalling yard and related railway infrastructure at the Žilina junction	2022 - 2025	Modernization of tracks and switches, increase of line speed on the section Žilina - Strážov - Žilina (outside) from 40 km/h. to 120 km/h, modernisation of railway bridges, modernisation of platforms, modernisation of the overhead contact line connected with the change of the electric traction system from a 3 kV DC traction system to a 25 kV, 50 Hz AC traction system, modernisation of the signalling and signalling equipment, construction of a centre for remote traffic control, removal of level crossings and level walkways and their replacement by new out-of-level crossings
Modernizácia železničného úseku Čadca - Svrčinovec - št. hranica ČR/SR	2023 - 2025	The modernization of the railway infrastructure, which will ensure an increase in track speed from 80 km/h to 120 km/h, will ensure a high-quality and developed transport infrastructure.
CRD Trnava + remote dispatching Trnava - Križovany	2025 - 2026	Increasing the number of automatic line block system sections in the Rača - Trnava section and thus increasing the capacity of the line.

Explanation of the description of the works performed on the railway infrastructure:

### **Complex reconstruction of railway infrastructure in large scale (CRR, CRT&R, CRT)**

It is usually a large-scale IA for the purpose of complex reconstruction of mainly the railway superstructure and some structures and facilities of the railway substructure (bridges, tunnels). IA of CRR consists of a continuous replacement of the original rails with replacement of fasteners and rubber pads. After the replacement of the rails, the contactless track is also restored with new ambulatory isolated contacts. Subsequently, the entire profile of the gravel bed is cleaned. At the same time, adjustment of the geometric position of the track, adjustment of the gravel bed and banquettes is carried out.

### **Modernization of tracks and railway stations:**

These are usually large-scale constructions involving the complete renewal of the railway infrastructure with an increase in the parameters of the given section of tracks. Modernization usually affects the entire infrastructure, that is, the railway superstructure and the constructions and equipment of the railway substructure (bridge structures, bridges, underpasses, tunnels) and other equipment of railways, S&C system or even building constructions.



### Complex railway bridge reconstruction (CBR)

As part of this IA of railway bridges, work is carried out with the surface treatment of the railing and supporting structure, rehabilitation of concrete surfaces (parapet, supports, pillars, etc.), replacement of insulation of the supporting structure, repair of element bridge decks of steel bridges, replacement of bridge decks, renewal of the anti-corrosion protection system, removal of vegetation and activities removing wear or damage to the object so that it can fulfill its function.

## 1.2 Reduced Available Capacity for 2026

The investment debt from previous years is reflected in the current highly worn-out technical condition of tracks, switches, security and signaling devices, fixed electric traction and high-current devices. This corresponds to the age of the individual components of the railway infrastructure, the operating load and the level of deferred maintenance **due to the absence of financial coverage**. The created investment debt represents increasing risks regarding high failure rates with the need for solutions in the form of immediate or operationally planned maintenance to eliminate suddenly occurring breakdowns, damages with full consequences for the safety, reliability and fluency of traffic. This method of ensuring the operability of the infrastructure does not solve the reduction of failure rate, maintenance of quality and extension of the lifetime of the railway superstructure. Great operational problems are caused by the significantly reduced durability of fasteners with ŽS 3 clamps, pushed out rubber washers and local muddy places. This chapter provides information on the expected negative impacts on non-TCR related RU capacity for TT 2026.

Table 2: *Estimated reduction of available capacity in TT 2026*

Name IA / IAGT	IAGT draft is defined	The project si approved by the ŽSR management in the investment plan	Financing is secured
Powerstation Vinohrady, obsolete technology (1967)	Yes	Yes	No
Powerstation Nové Zámky, obsolete technology (1969)	Yes	Yes	No
Distribution lines 6kV - replacement, Devínska Nová Ves – Bratislava uzol, obsolete cables (1982) with many connectors	Yes	Yes	No
CBR, massive vault – brick (1886) km 43,167 on Devínska Nová Ves - Bratislava-Lamač station track	No	No	No
CBR, massive vault - concrete (1885) km 145,912 v ŽST Nové Zámky	Yes	Yes	Yes
CRT&R Šelpice - Boleráz	Yes	Yes	Yes
Bratislava hlavná stanica, CRR no. 1,2	No	No	No

S&C system replacement in Nové Zámky, Strekov, Gbelce, Pribeta, Dvory nad Žitavou, Mužla	No	No	No
Obsolete rail crossings replacement on line = Nové Zámky - Štúrovo	No	No	No
ŽST Krásno nad Kysucou - ŽST Čadca - traffic technology	Yes	Yes	No

## 2 Expected Temporary Capacity Restrictions

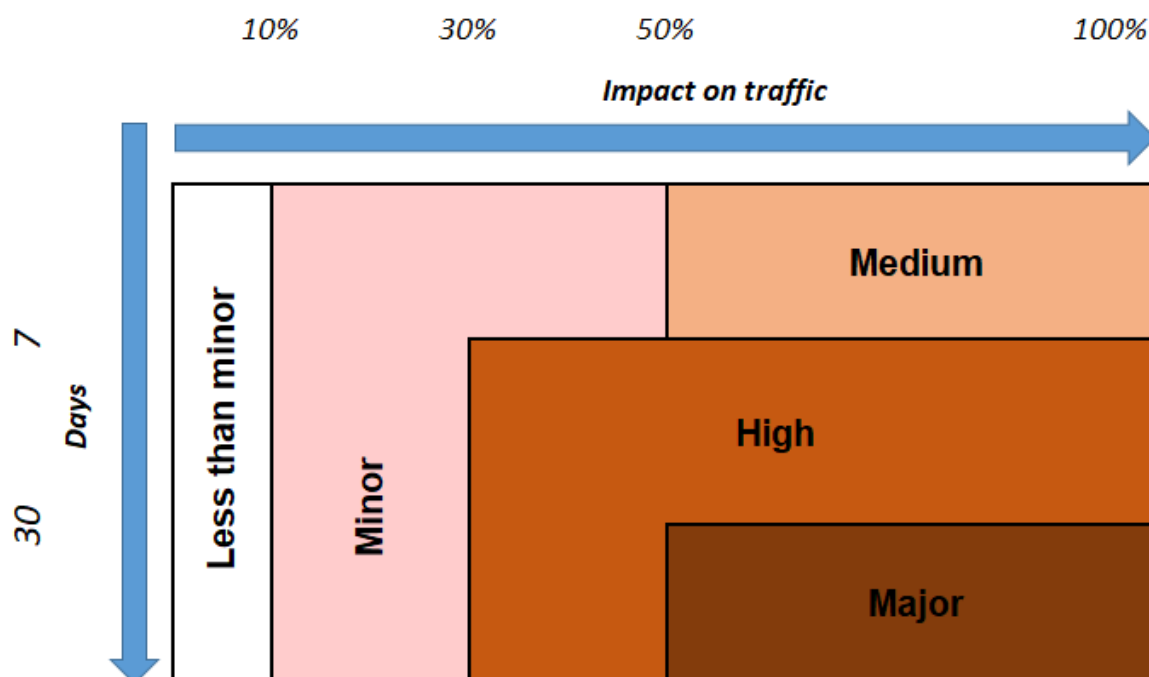
Infrastructure managers are required to proceed in accordance with EPaR Directive 34/2012/EU (Appendix VII) in the case of TCR planning. It determines the overall framework of conditions for planning the capacity of railway infrastructure, including TCR with priority to stable advanced planning, international coordination of TCR between IM's, and transparency of consultation and publication of information about TCR towards applicants.

**The publication of the TCR aims to make the upcoming restrictions more transparent and thereby help plan for the competitiveness of rail services**

Table 3: Categorization of TCR according to Annex VII of Directive 2012/34/EU

<i>TCR category</i>	<i>Duration</i>	<i>Impact on traffic (estimated cancellation, rerouting or alternative mode of transport)</i>
<b><i>TCR with (major) impact</i></b>	<i>More than 30 consecutive days</i>	<i>More than 50% volume of traffic in the given track section per day</i>
<b><i>TCR with (high) impact</i></b>	<i>More than 7 consecutive days</i>	<i>More than 30% volume of traffic in the given track section per day</i>
<b><i>TCR with (medium) impact</i></b>	<i>7 consecutive days or less</i>	<i>More than 50% volume of traffic in the given track section per day</i>
<b><i>TCR with (minor) impact</i></b>	<i>undefined</i>	<i>More than 10% volume of traffic in the given track section per day</i>

Figure 2: Graphical scope of the TCR category



## 2.1 General Principles

This chapter presents the principles of TCR planning on ŽSR lines (RFC5 and RFC 7) as well as the list of anticipated TCRs for TT 2025. The processes of creating TCRs are directly related to the elaboration of ŽSR CS, but they take place independently of the processes of elaboration ŽSR CS.

### **General principles of planning TCR :**

The process of planning, consultation and coordination of long-term planning of TCR is not established at ŽSR. As part of the proposal for new TCR processes at the ŽSR, the proposal to divide the current "Track closures Activity of the ŽSR" process into the processes of "long-term" and "continuous" TCR planning is approved as follows:

**A) „long-term“ planning activity, which includes the creation of a multiyear, three-year, two-year and annual TCR plan and activities:**

- regular creation, updating and publication of long-term TCR plans,
- TCR coordination within the expert units of ŽSR,
- coordination with neighboring IM's and members of RFC within the framework of international activities of ŽSR,
- consultation with applicants ;

**B) „continuous“ planning activity TCR; so-called „late“ TCR:**

- processing, updating of four-month/monthly TCR plans based on the long-term TCR plan and the current requirements of the Regional Directorate for limiting the rail capacity,
- internal negotiation of late TCRs with regard to sections of TCRs,
- coordination meetings with the participation of the affected parties, applicants and RUs,

- communication and mutual information/approval of TCR with neighboring IMs;

**Minor maintenance** works resulting from immediate or preventive maintenance and requiring a certain "smaller space of time" should not have a significant impact on limiting the capacity, they should be dealt with in the so-called "**Maintenance windows**", which ŽSR **will determine in advance and announce** in the form of allocation of the necessary part of capacity of the relevant line for the relevant period in the form of SROV (collection of track closure orders) before the validity date of the relevant ATT in accordance with the regulation ŽSR DP 4 Track closures activity of ŽSR. The general list of SROV for RFC5 and RFC7 lines is attached to this Capacity Strategy.

## 2.2 National Principles

**TCR coordination:** means that ŽSR covers active exchange of information regarding the TCR plan between neighboring IMs through formal communication channels. These formal communication channels include:

- open negotiations, e.g. interested parties are invited to attend an open meeting or meetings;
- written information intended for interested parties with the possibility to send comments. ŽSR during planning a TCR actively initiates communication with neighboring IMs about TCR information. TCR coordination is required if TCRs are impacted by another IM. This means that the TCR takes place on one track section, possibly also on a subsequent track section, if its impact affects traffic at the neighboring IM. In the case of continuous TCR, the goal is to perform the maximum amount of works simultaneously. TCR coordination includes the anticipated coordination of train management on alternative track sections within reroutings. TCR coordination is also required for harmonization of track closures with neighbouring IM if the same track sections are expected to be used for reroutings.

**TCR consultation:** means that ŽSR covers active process of information exchange regarding TCR between ŽSR and applicants through formal communication channels. These formal communication channels include:

- open negotiations, e.g. interested parties are invited to attend an open meeting or meetings
- written information intended for interested parties with the possibility to send comments. ŽSR actively initiates communication with applicants about information on TCR.

ŽSR, after the coordination process and before the TCR plan approval process, asks the applicants/ Rus for their opinion on the planned measures to be implemented in connection with the planned temporary restrictions on the capacity of the railway infrastructure for defined threshold values »»(affected traffic volumes defined in Annex VII EPaR Directive 2012/24/EU)

**TCRs require the publication of information in time and scope according to the specified categories and criteria.**

.

Table 4: Required schedule for coordination, consultation and publication of TCR information

TCR minor	TCR medium	TCR high	TCR major	Month(X) before validity of TT
Preliminary consultation and coordination	Consultation and coordination	Preliminary consultation with applicants Coordination with neighbouring IMs Requirements of applicants		Before X-24
		Firs publish TCR		X-24
		Consultation and coordination	Final options for decision-making consultation and coordination	X-23
				X-22
				X-21
				X-20
				X-19
			Completion of coordination	X-18
			Final consultation	X-17
				X-16
				X-15
				X-14
		Coordination completed		X-13
	Final consultation			
	Publication	Second publication of TCR		X-12
				X-11
				X-10
				X-9
				X-8
				X-7
	First information			
Consultation and coordination	X-5			
Publication	X-4			

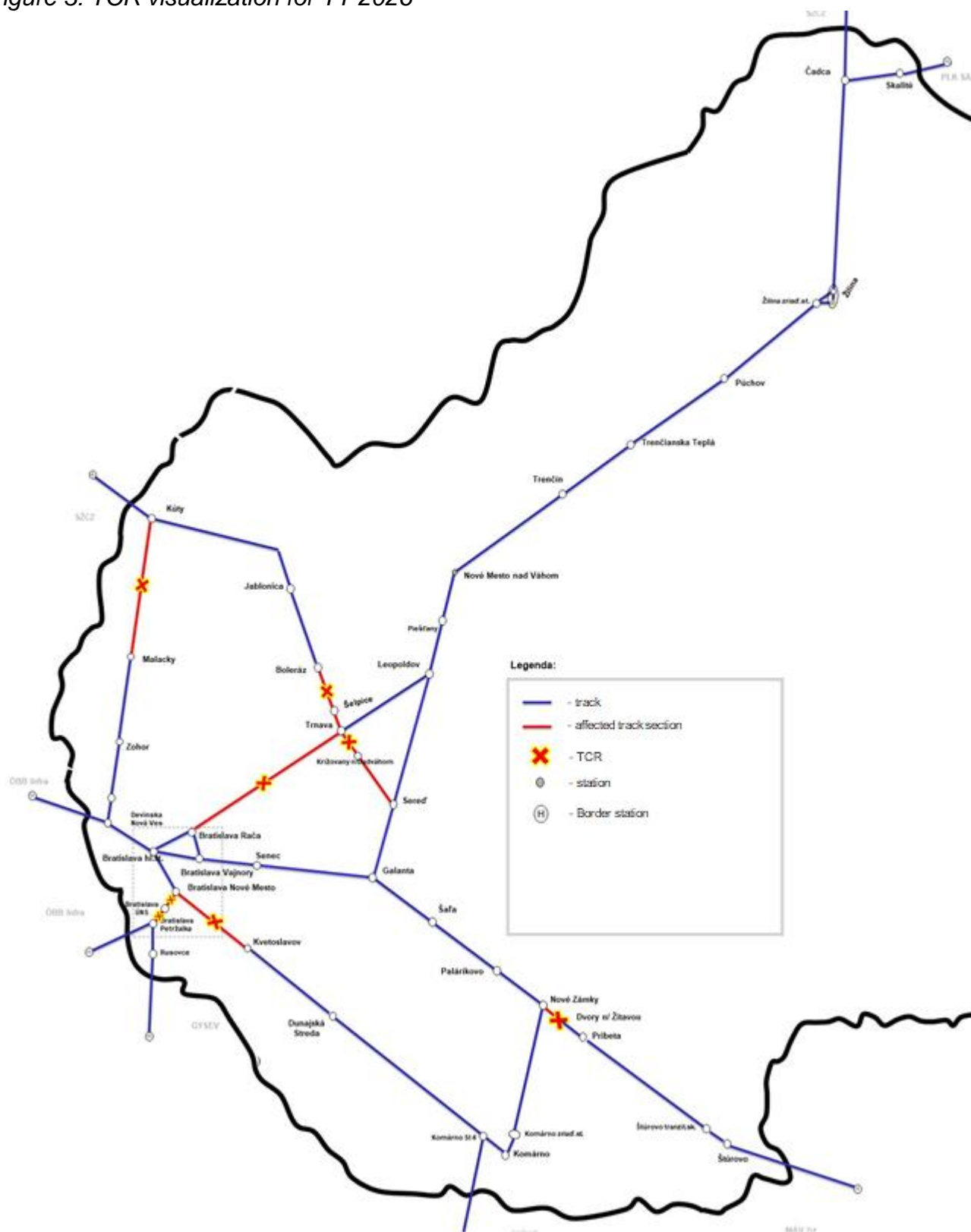
## 2.3 Expected TCR in TT 2026

In this chapter, the expected TCRs for ATT 2026 are listed. The **information** on the listed **TCRs** are **compiled from currently available information**, it is necessary to consider them as a forecast and this **may change over time**. The TCRs listed in Table 5 met the criteria for inclusion in the "high" and "major" categories. With these TCRs, it is assumed that they will have a significant impact on international traffic and will significantly affect the capacity of railway infrastructure on the respective line.

*Table 5: List of expected TCR's for TT 2026*

TCR	Draft is defined	Investment approved by the ŽSR management	Financing is secured
ŽSR, ŽST Dvory nad Žitavou, switch reconstruction No. 1,2,3,4,5,6, 7,8	Yes	Yes	Yes
Šelpice - Boleráz, CTR&R track No.1	Yes	Yes	Yes
Bratislava - Nové Mesto – Bratislava ÚNS, CTR&R track No. 1, 2	Yes	Yes	Yes
Modernization of two sections on the ČR/SR state border – Devínska Nová Ves DOZZ, ETCS	Yes	Yes	Yes
CRD Trnava + remote dispatching Trnava - Križovany + Increasing the number of AH sections between Bratislava-Rača - Trnava	Yes	Yes	Yes
Modernization of two sections on the ČR/SR state border – Devínska Nová Ves	Yes	Yes	Yes
ÚNS – Petržalka (mimo DŽM), CRR No. 1, 2	Yes	Yes	Yes
Bratislava - Kvetoslavov, Construction of a branch line. Ružinov; extension of N. Košariská station; AH N. Košariská - Kvetoslavov	Yes	Yes	Yes

Figure 3: TCR visualization for TT 2026



source: ŽSR



## 3 Traffic Flows and Traffic Planning

### 3.1 General Principles

This chapter describes the main principles of train path construction for the line sections managed by ŽSR included in this Capacity Strategy (range of RFC5 and RFC7 lines), which will be used in the planning of individual elements in the Capacity Models.

Railway infrastructure (rail track, service facility) **has its maximum capacity set**. It is the capacity of the facility, how many trains (train paths) of different categories and types can pass through the facility in different time windows. It is expressed by the number of train paths that can be constructed on a given track section for a specified time interval (e.g. 24 hours). The capacity of multi-track sections of the line is determined for each track separately. ŽSR allocates the capacity in accordance with Act no. 513/2009 Coll. Act on Railways and on Amendments of some Acts, as amended (hereinafter "Act 513/2009 Coll.") under the following conditions:

- IM is, in addition to the basic duties of Infrastructure Manager according to § 30 of Act no. 513/2009 Coll., obliged to allocate capacity to railway undertakings in a fair and non-discriminatory manner until the entire capacity of the railway infrastructure is allocated. (§ 34)
- ŽSR allocates capacity in the form of a train path from the origin station to the destination station (§ 34)
- The capacity of railway infrastructure in the form of a train path can be allocated to the applicant for the validity of one timetable on the railway network (hereinafter referred to as "the annual timetable") (§ 40).

**The conditions for** applications for the allocation of capacity are stated in relevant NS of the relevant ATT in subsection 3.2.1.

**The process of allocating capacity** in the form of a train path is specified in the relevant NS (Network statement) of the relevant ATT 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 capacity by individual segments of transport with the corresponding capacity products. In addition to **Pre-arranged paths**, which serve primarily to meet the traffic needs of applicants within predictable time and technical parameters, the relevant part of the capacity will be kept to satisfy AD HOC requests for capacity submitted during the relevant period of validity of the ATT. ŽSR in the sense of chapter 4.5. NS, has the right to **keep a capacity reserve of at least 10%** of the capacity of the relevant railway line for the purpose of allocating infrastructure capacity to additional requests **for a train path for TT 2026**.

The capacity to perform planned maintenance and renewal is taken into account when allocating infrastructure capacity to applicants.

As part of the implementation of the TTR project, a new approach is being considered, the capacity product **Rolling Planning**, when the applicant will be able to submit one request for capacity for the period of validity of several timetables (max for three TT's). The legislative framework of this activity has not yet been published.

ŽSR will try to resolve any discrepancy in the allocation of capacity with the relevant applicants through consultations. In the event that ŽSR **fails** to resolve the conflicts **through consultations** with the applicants, they **must resolve them through coordination**. The conditions for the coordination process for the allocation of capacity are stated in the relevant NS of the relevant TT in ch. 4.5.4.

**For the allocation of capacity on cross-border track sections** where is the Network interconnection of two IMs, one of this infrastructure manager is designated according to the Railway Infrastructure Interconnection Agreement, who is **responsible** for capacity planning on the given section.

**Congested infrastructure** means a section of the railway network on which, even after consultations with the applicants and after coordination, it is not possible to adequately satisfy the demand for capacity in a certain period or part of the day (§ 46).

If the coordination did not achieve a satisfactory result and the railway infrastructure was declared congested for the given period or part of the day, the infrastructure manager will apply **the following priorities** when allocating capacity to the congested infrastructure:

a) On main lines in this order:

- transport services in the public interest realized by system or tact distribution of paths,
- agreed international train paths for passenger transport implemented in the public interest,
- other agreed international train paths for passenger transport,
- agreed international train paths for freight transport,
- transport services in the public interest, which are not covered by the first and second points,
- other transport services of international passenger transport,
- other transport services of international freight transport,
- other transport services.

b) On secondary lines in this order:

- transport services in the public interest,
- passenger transport services,
- freight transport services,
- other transport services.

From the above, it follows that the division and allocation of capacity described in the TTR rules cannot be used in the event of a declaration of congested infrastructure until the time of legislative change in this area.

### **3.1.1 National Principles of cooperation with Service Facilities as well as other Strategic Sections for the needs of future TT constructions**

The service facilities of other entities that are connected to railway network managed by ŽSR have signed a contract with ŽSR on the interconnection of railways (for Service facility “ TIP Žilina” a concession contract is signed).

During the timetable creation (ATT), the operator/manager of the service facility of other entities communicates with ŽSR in a standard way through applicants ( RUs) requesting train paths. The list

of freight terminals (combined transport terminals) and service facilities of other entities is available on the ŽSR website in the section " [Railway-undertaking/Other services/Service facilities](#)"

### 3.1.2 General Principles of Creating a Capacity Strategy for Individual Track Section

When planning train transport for individual railway lines, several qualitative and quantitative indicators must be taken into account, such as technical parameters of the railway line, use of practical throughput (capacity), uneven distribution of trains during the day, the development potential of the railway line for passenger and freight transport or for international and domestic transport.

There is a different range of train traffic (intensities) in different parts of the assessed capacity. The railway lines covered by this CS TT 2026 are divided into individual track sections, which have different parameters, from the point of view of train traffic planning. These are track sections between important railway junctions (train stations). Important service facilities such as railway depots or wagon repair facilities are located in these „nodes“ (Kúty, Bratislava main station, Trnava, Bratislava Východ, Bratislava-Nové Mesto, Nové Zámky, Štúrovo, Komárno) and terminals of combined transport (Bratislava-Pálenisko, Dunajská Streda) .

The capacity allocated for AD HOC train path planning will be published in the form of an offer of timetables of average train paths, or in the form of bands. Bands for medium-term planning of capacity (TT changes) are not published. Also, maintenance windows in the form of SROV are not published, they are published in the monthly/weekly plans of maintenance closures of individual Regional Directorates. The remaining capacity after the allocation of all required train paths can then be preferentially determined for medium-term capacity plan.

*Table 6: Distribution of railway lines RFC5 and RFC 7 to track sections, according to the level of capacity saturation and operated train categories*

IM	Track section	Description of the level of capacity saturation and train categories
SŽCZ - ŽSR	Lanžhot - Kúty	A track section used by international traffic with an <b>extremely high</b> level of saturation. The following categories of train are operated on thi line section: <ul style="list-style-type: none"> <li>• international long-distance passenger trains;</li> <li>• International passenger trains;</li> <li>• Regional Passenger trains</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> </ul>
ŽSR	Kúty – Devínska Nová Ves	A track section used by international traffic with an <b>extremely high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• International regional passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport ( block trains, regional single-wagon trains).</li> </ul>

IM	Track section	Description of the level of capacity saturation and train categories
ŽSR	Devínska Nová Ves - Bratislava hl. st.	track section used by international traffic with an <b>extremely high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• International regional passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport (block trains, regional single-wagon trains).</li> </ul>
ŽSR	Kúty - Trnava	In passenger transport, this is a track section with regional trains, and in freight transport, a track section with international freight transport with a <b>low</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• Regional passenger trains;</li> <li>• International freight transport (block trains);</li> <li>• Domestic freight transport (l regional single-wagon trains).</li> </ul>
ŽSR	Bratislava hl. st. - Nové Zámky	A track section used by international traffic with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• Domestic long-distance passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport ( block trains, regional single-wagon trains);</li> </ul>
ŽSR	Nové Zámky - Komárno	In passenger transport, this is a regional (domestic) track section, and in freight transport, a track section used by international transport with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains);</li> <li>• Domestic freight transport (relation single-wagon trains).</li> </ul>
ŽSR	Nové Zámky - Štúrovo	A track section used by international traffic with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• Domestic long-distance passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport ( block trains, regional single-wagon trains).</li> </ul>

IM	Track section	Description of the level of capacity saturation and train categories
ŽSR – MÁV Zrt. (HU)	Komárno Komárom	A track section used by international traffic with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• Regional (domestic) passenger trains, common track section Komárno - Dunajská Streda;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> </ul>
ŽSR – MÁV Zrt. (HU)	Štúrovo Szob	Line section used by international traffic with a <b>low</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> </ul>
ŽSR	Trnava Galanta	In passenger transport, this is a regional (domestic) track section, and in freight transport, it is a track section used by international transport with a <b>medium</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• Regional passenger trains;</li> <li>• International freight transport ( block trains);</li> <li>• Domestic freight transport ( block trains, regional single-wagon trains).</li> </ul>
ŽSR	Bratislava hl. st. - Bratislava Nové Mesto	A track section used by international traffic with an <b>extremely high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• International regional passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport ( block trains, regional single-wagon trains).</li> </ul>
ŽSR	Bratislava Nové Mesto - Rusovce	A track section used by international traffic with an <b>extremely high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International regional passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport ( block trains, regional single-wagon trains).</li> </ul>
ŽSR – Gyse v Zrt. (HU)	Rusovce Rajka	A track section used by international traffic with a <b>medium</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• International regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance relation single-wagon trains).</li> </ul>
ŽSR	Bratislava Nové Mesto - Komárno	In passenger transport, this is a regional (domestic) track section, and in freight transport, a track section used by international transport with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section:

IM	Track section	Description of the level of capacity saturation and train categories
		<ul style="list-style-type: none"> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains);</li> <li>• Domestic freight transport block trains, regional single-wagon trains).</li> </ul>
ŽSR	Trnava - Bratislava hl. st.	<p>A track section used by international traffic with an <b>extremely high</b> level of capacity saturation. The following categories of trains are operated on this line section:</p> <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• Domestic long-distance passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport (combined transport trains, block trains, regional single-wagon trains);</li> </ul>
ŽSR – ÖBB Infra (AT)	Devínska Nová Ves - Marchegg	<p>A track section used by international traffic with a medium level of capacity saturation. The following categories of trains are operated on this line section:</p> <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• International regional passenger trains;</li> <li>• International freight transport ( block trains).</li> </ul>
ŽSR – ÖBB Infra (AT)	Bratislava-Petržalka - Kittsee (AT)	<p>A track section used by international traffic with a high level of capacity saturation. The following categories of trains are operated on this line section:</p> <ul style="list-style-type: none"> <li>• International long-distance passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport block trains, relation single-wagon trains).</li> </ul>
ŽSR	Trnava – Nové Mesto nad Váhom	<p>A track section used by international traffic with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section:</p> <ul style="list-style-type: none"> <li>• International long-distance passenger trains</li> <li>• Domestic long-distance passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport (combined transport trains, block trains, regional single-wagon trains);</li> </ul>
ŽSR	Nové Mesto nad Váhom - Púchov	<p>A track section used by international traffic with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section:</p> <ul style="list-style-type: none"> <li>• International long-distance passenger trains</li> <li>• Domestic long-distance passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport (combined transport trains, block trains, regional single-wagon trains);</li> </ul>



IM	Track section	Description of the level of capacity saturation and train categories
ŽSR	Púchov - Žilina	A track section used by international traffic with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains</li> <li>• Domestic long-distance passenger trains;</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport (combined transport trains, block trains, regional single-wagon trains);</li> </ul>
ŽSR	Sereď - Leopoldov	A track section used by international traffic with a <b>low</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport (combined transport trains, block trains, regional single-wagon trains);</li> </ul>
ŽSR	Žilina – Žilina-Teplička odchodová skupina	A track section used by international traffic with a <b>low</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport (combined transport trains, block trains, regional single-wagon trains);</li> </ul>
ŽSR	Žilina - Čadca	A track section used by international traffic with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains</li> <li>• Regional passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> <li>• Domestic freight transport (combined transport trains, block trains, regional single-wagon trains);</li> </ul>
ŽSR - SŽCZ (ČR)	Čadca – Čadca št.hr	A track section used by international traffic with a <b>high</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International long-distance passenger trains</li> <li>• Domestic long-distance passenger trains;</li> <li>• International freight transport (combined transport trains, block trains, long-distance regional single-wagon trains);</li> </ul>
ŽSR	Čadca - Skalité	A track section used by international traffic with a <b>medium</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International passenger trains</li> <li>• Regional passenger trains • Domestic freight transport (combined transport trains, block trains, regional single-wagon trains);</li> </ul>
ŽSR – PLK SA (PL)	Čadca – Skalité št.hr	A track section used by international traffic with a <b>medium</b> level of capacity saturation. The following categories of trains are operated on this line section: <ul style="list-style-type: none"> <li>• International passenger trains</li> </ul>

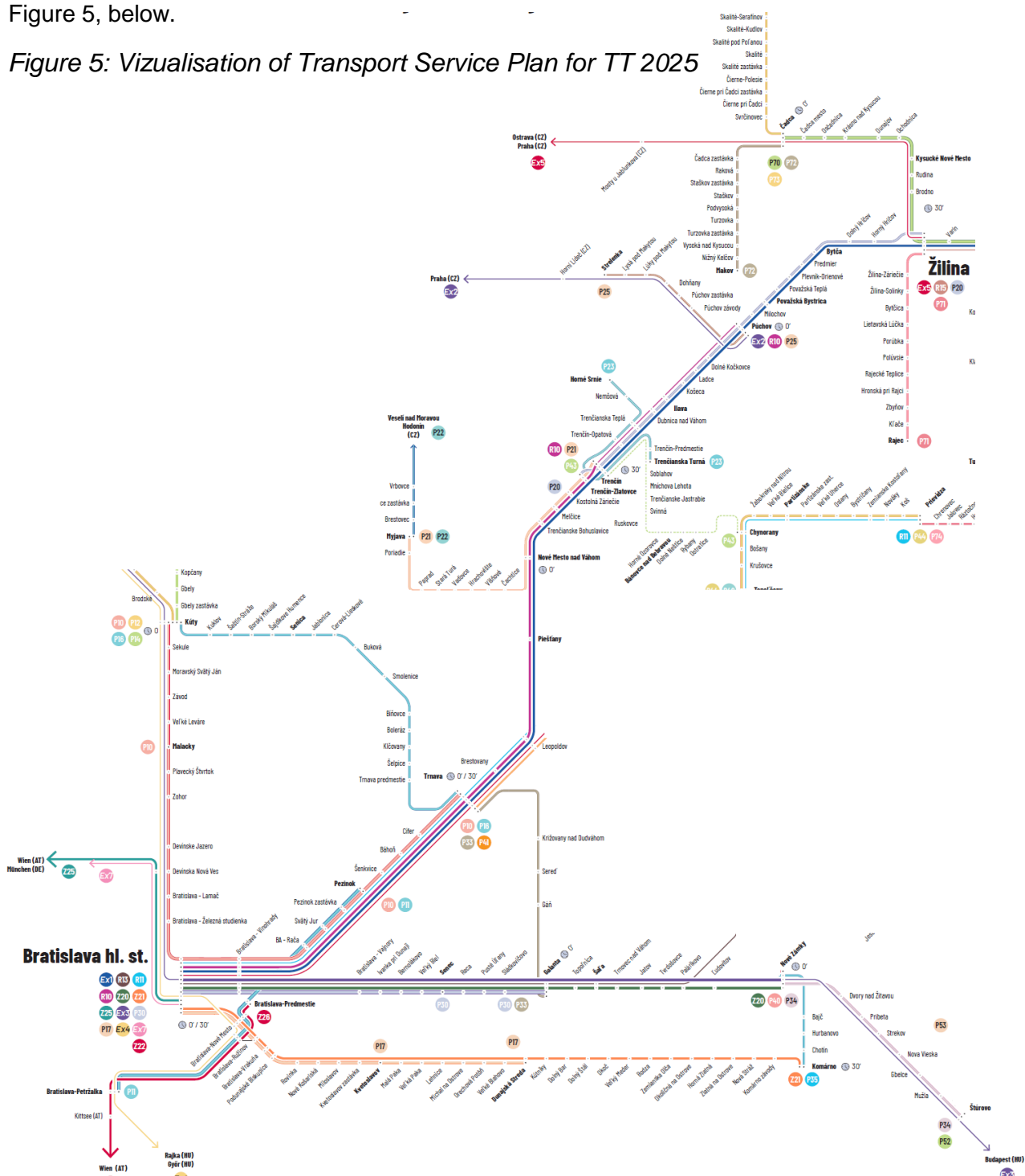
For the current level of saturation (utilization) of the capacity, the data of the “*Zošit priepustnosti tratí ŽSR GVD 2022/2023*” (Track Throughput for TT 2022/2023 workbook) was used. Visualization of the level of capacity saturation in individual sections of RFC5 and RFC 7 lines is presented in figure no. 4.





In passenger transport, various concepts of the transport service of the territory and the management of long-distance lines based on the “Transport Service Plan of the Slovak Republic” → (TSP SR) are used. A section from the TSP SR of the line routing for RFC and RFC7 is shown in Figure 5, below.

Figure 5: Vizualisation of Transport Service Plan for TT 2025



## 3.2 General Train Category on RFC5 and RFC7 Lines

### Passenger traffic

- International Pax trains:
  - Budapešť - Brno - Praha - Hamburg
  - Budapešť - Warszawa - Terespol
  - Bratislava - Zürich
  - Bratislava - Hegyeshalom
  - Košice - Bratislava - Wien (Marchegg)
  - Bratislava - Wien (Kittsee)
  - Žilina - Púchov - Praha
  - Žilina - Čadca - Ostrava
  - Žilina - Čadca - Praha
  - Žilina - Bratislava - Kúty - Praha
  - Humenné - Košice - Ostrava - Praha
  - Košice - Ostrava - Praha
  - Košice - Prešov - Ostrava - Praha
  - Prešov - Púchov - Praha
  - Čadca - Ostrava
  - Čadca - Zwardoń
- Long-distance Pax trains:
  - Nové Zámky - Galanta - Bratislava
  - Košice - Banská Bystrica - Palárikovo - Bratislava
  - Banská Bystrica - Palárikovo - Bratislava
  - Bratislava - Žilina
  - Bratislava - Žilina - Košice
  - Bratislava - Leopoldov - Prievidza
- Regional Pax trains:
  - Nové Zámky - Štúrovo
  - Nové Zámky - Galanta – Bratislava
  - Nové Zámky - Komárno
  - Trnava - Senica
  - Senica - Skalica na Slovensku
  - Trnava - Galanta
  - Trnava - Bratislava - Malacky - Kúty
  - Bratislava - Malacky
  - Pezinok - Bratislava-Petržalka
  - Senec - Bratislava-Nové Mesto
  - Bratislava - Dunajská Streda – Komárno
  - Bratislava - Kvetoslavov
  - Trnava - Leopoldov - Nitra
  - Nové Mesto nad Váhom - Trenčín
  - Trenčín - Zlatovce – Žilina
  - Trenčín - Bratislava

Čadca - Žilina  
Čadca - Martin  
Čadca - Liptovský Mikuláš  
Čadca - Skalité

*Table 7: Passenger trains - general parameters*

Parametre code	Lenght of train	Weight	Total lenght of train set	Train-set weight	Loco type	Required speed	Minimum braking %
OZSR01	284	590	265	500	VECTRON	140	148
OZSR02	79	233	-	-	671	160	182
OZSR03	156	330	137	250	ER20	120	106
OZSR04	80	197	-	-	661	120	120
OZSR05	137	284	120	200	263	100	122
OZSR06	369	720	350	630	VECTRON	160	152
OZSR07	219	400	200	490	VECTRON	160	152
OZSR08	219	300	200	390	350	160	160
OZSR09	127	264	110	180	263	120	133
OZSR10	42	81	-	-	648	100	120
OZSR11	50	51	-	-	5047	120	100
OZSR12	204	456	185	370	1116	160	197
OZSR13	28	39	-	-	813	90	45
OZSR14	106	202	-	-	660	160	111
OZSR15	197	440	180	350	350	160	57
OZSR16	256	536	240	450	361.1	160	43
OZSR17	185	378	-	-	680	140	37
OZSR18	418	720	400	630	VECTRON	120	31
OZSR19	191	382	175	300	151	140	31
NZSR20	634	2969	600	2800	131	90	23
NZSR21	634	1169	600	1000	131	90	43
NZSR22	618	890	600	800	VECTRON	100	43
NZSR24	318	924	300	900	181	90	31
NZSR25	318	1824	300	1800	181	90	36
NZSR26	653	2090	635	2000	VECTRON	100	49

### Freight traffic:

- National freight trains
- International and national block freight trains
- International and national combined trains
- International and national single-wagon freight trains

Table 8: Freight trains - general parameters

Parametre code	Train length	Train weight	Train-set length	Train-set weight	Loco type	Required speed	Minimum braking %
NZSR01	654	2084	635	2000	E186	100	80
NZSR02	620	2690	600	2600	E189	90	64
NZSR03	649	2090	630	2000	Vectron	100	80
NZSR04	594	2590	575	2500	Vectron	100	75
NZSR05	696	1585	680	1500	230	100	80
NZSR06	669	2084	650	2000	E186	90	72
NZSR07	627	1680	608	1600	ER20	100	72
NZSR08	433	1769	417	1685	242	100	84
NZSR09	416	1685	400	1600	240	100	70
NZSR10	594	1090	575	1000	240	100	70
NZSR11	594	1686	575	1600	1116	100	76
NZSR12	594	1486	575	1400	1116	100	72
NZSR13	590	1680	550	1600	230	100	70
NZSR14	590	1680	550	1600	ER20	100	71
NZSR15	740	1600	706	1428	363	90	52
NZSR16	650	1250	600	1100	363	90	60
NZSR17	595	2734	575	2500	VECTRON MS	100	60
NZSR18	595	1090	575	1000	VECTRON MS	100	60
NZSR19	514	1164	500	1100	742	60	26

Notes:

- P/C Profile is used according to the maximum value from the track;
- Traction is expressed by type of locomotive;
- The basic train category is expressed by the required speed.

Tabuľka 9: Responsible IM for the construction of TT Capacity Model and Capacity Supply on border section

Border crossing	Neighboring state	Responsible IM for TT construction
Kúty - Lanžhot	Česká republika	SŽDC
Devínska Nová Ves - Marchegg	Rakúska republika	ŽSR
Bratislava Petržalka - Kittsee	Rakúska republika	ÖBB infra (AT)
Rusovce - Rajka	Maďarská republika	ŽSR
Štúrovo – Szob	Maďarská republika	MAV Zrt. (HU)
Komárno - Komárom	Maďarská republika	ŽSR
Čadca – Mosty u Jablunkova	Česká republika	SŽDC
Skalité	Zwardoń	ŽSR

### 3.3 Traffic intensity

In this chapter, **an analysis of the approximate forecast for the demand** for capacity is processed based on current traffic flows (intensities) and their known or possible adjustments in the future. Prospective traffic intensities are based on realized traffic volumes between 2017 and 2019. We determined these years as reference. Realized traffic volumes in 2020 and 2021 during the crisis period affected by the COVID19 pandemic were significantly lower, especially in the passenger transport segment, so we did not take their extreme values into account.

Prospective traffic intensities (planned train paths) for ATT 2026 were determined from the average number of trains from the ŽSR PIS information system, from data cubes for prospective in freight transport and AD HOC trains and data of the planned number of PASSENGER trains from the IS PIS ZONE for the published ATT 2023 (after the introduction of PDO). The data is divided into three basic categories for passenger transport, freight transport and AD HOC. For the AD HOC data, we considered only freight transport. The estimated number of trains is given for the entire interstation section, if it contains more tracks (directions), the summary for all tracks is listed.

*Table 10: Traffic intensity for TT 2026 - forecast*

Track section	TT 2026		AD HOC Freight	Summary
	Pax	Freight		
Kúty - Lanžhot	30	32	21	83
Devínska Nová Ves - Kúty	88	40	12	140
Bratislava hl. st.- Devínska Nová Ves	128	42	20	190
Trnava - Kúty	26	15	9	50
Nové Zámky - Bratislava hl. st.	106	28	2	136
Nové Zámky - Komárno	30	8	6	44
Štúrovo - Nové Zámky	44	22	10	76
Komárno - Komárom	-	8	7	15
Szob - Štúrovo	20	7	18	45
Trnava - Galanta	32	11	4	47
Bratislava hl. st. - Bratislava Nové Mesto	74	8	9	91
Bratislava Nové Mesto - Rusovce	12	37	26	75
Rusovce - Rajka	12	9	12	33
Komárno - Bratislava Nové Mesto	64	10	1	75
Trnava - Bratislava hl. st.	164	17	8	189
Devínska Nová Ves - Marchegg	36	2	1	39
Trnava - Púchov	110	40	22	172

Púchov - Žilina	50	40	24	114
Žilina – Čadca	100	50	26	176
Čadca - Skalité	22	0	2	24
Leopoldov - Sered'	0	20	6	26

### 3.4 Expected Intensities in Border Sections valid for TT 2026

In table 11 below, for the purpose of harmonizing the capacity on several border sections, you can find an overview of the expected traffic intensities at common border crossings between the Czech Republic and the Slovak Republic in two sections, between Austria and the Slovak Republic in two sections, between Poland and Slovak republic in one section and between Hungary and the Slovak Republic in three sections. **The expected intensities at the border sections for ATT 2026 were coordinated with the NPIM of neighboring IM's.**

Table 11: Intensities in international traffic on border sections (number of trains per hour)

Border section	TT 2026			AD HOC
	Freight trains	Long-distance Pax	Regional Pax	Freight trains
Kúty - Lanžhot	1	1	0,5	1
Devínska Nová Ves - Marchegg	1	2	2	0
Bratislava-Petržalka - Kittsee	1,25	1	2	0,25
Rusovce - Rajka	1,5	0,5	0,5	0,33
Štúrovo - Szob	1	0,5	0	0,61
Komárno - Komárom	1	0	0	0,21
Čadca - Mosty u Jablunkova	2	1	0,5	1
Skalité - Zwardoń	0	0	0,5	0

## 4 Validation and Publication

The submitted version includes the expected intensities at the border sections, which have been coordinated with all the MI concerned.

The final version of the CS for ATT 2026 is published for the needs of the affected entities of the railway transport market of the SR (applicants, railway undertakings, Ministry of transport, Regulatory body, terminals) and approved by the Director General of the RU.

The final version of the CS for ATT 2026 will be available on the ŽSR website as well as on the RNE website in English.

### References:

- Directive 34/2012/EU (Appendix VII);
- Act No. 513/2009 Z.z. o dráhach a o zmene a doplnení niektorých zákonov v znení neskorších predpisov;
- TTR Procedures for Capacity Strategy ver. 3.0;
- National handbook for Capacity strategy in national condition ŽSR;
- Transport Service Plan in SR;
- Network statement for ATT 2024/2025;
- ŽSR Regulation DP 4 „Closure orders in Slovak republic conditions”