Capacity Strategy 2029

Finnish Transport Infrastructure Agency

15 September 2025

Finnish Transport
Infrastructure Agency

Table of contents

0 Introduction

TTR (Timetabling and Capacity Redesign) is the reform of railway capacity planning prepared in cooperation by European infrastructure managers (IMs) and railway undertakings (RUs) with the aim of improving the competitiveness of rail transport through the predictability, efficiency, and flexibility of capacity usage.

Compared to the current capacity process in Finland, the most visible reforms include abandoning timetable updates in capacity application and increasing the role of advanced planning.

The purpose of the TTR Finland project, launched at the beginning of 2022, is to create (based on the European TTR reform), a version that is suitable for Finland's conditions. The entire railway sector is involved in the project. The key objective is to build railway traffic planning into a coherent iterative process. This requires the development of track work planning, the launch of advanced planning of traffic and the development of capacity allocation processes to improve the capacity planning in the competitive railway market. With draft regulation of capacity management by the EU Commission COM(2023) 443, published July 2023, the legislative changes need to be done as well.

The TTR Finland project is divided into three different areas: advanced capacity planning; the reform of the capacity allocation process and the development of the coordination of track work and traffic. All three areas are linked to each other in some way, but the advancement of any of the areas does not depend on the progress of another area, and thus outputs can be taken to production at different times.

The Capacity Strategy is the first phase of TTR advance planning. Its preparation begins five years before the start of the timetable period in question ending with its publication three years prior to the start of the timetable period (X-36).

This Capacity Strategy has been created for the timetable year 2029. This document contains a description of the geographical scope of the strategy; predicted permanent changes in the infrastructure; the largest predicted capacity restrictions; planning principles for track work and a description of traffic flows. The content of the Capacity Strategy document follows the template by RNE (RailNetEurope).

0.1 Contact Information

We kindly ask you to send your comments concerning the Capacity Strategy to the address TTR@ftia.fi.

0.2 Geographical Scope

The Capacity Strategy covers the entire Finnish railway network, with a few exceptions. The map below shows the routes included in the Capacity Strategy. The Capacity Strategy excludes commuter traffic tracks in Helsinki area and the following low-volume lines: Raisio-Naantali, Kerava-Olli, Olli-Porvoo, Olli-Sköldvik, Toijala-Valkeakoski, Vilppula-Mänttä, Jämsä-Kaipola, Niinisalo-Parkano, Seinäjoki-Kaskinen, Vaasa-Vaskiluoto, Pännäinen-Alholma, Kokkola-Ykspihlaja, Lahti-Loviisa, Lahti-Heinola, Kouvola-Kuusankoski, Mynttilä-Ristiina, Pyhäkumpu-Pyhäsalmi, Murtomäki-Otanmäki, Murtomäki-Talvivaara, Pesiökylä-Ämmänsaari, Imatra-Imatrankoski, Joensuu-Ilomantsi, Säkäniemi-

Niirala, Huutokoski-Rantasalmi, Viinijärvi-Siilinjärvi, Vuokatti-Lahnaslampi, Vuokatti-Talvivaara, Kontiomäki-Vartius, Kemi-Ajos, and Tornio-Röyttä.

The railway network infrastructure is presented in more detail in the map service of the Network Statement[1], in open data sets, in the Railway data portal and the Network Statement's chapter 2.3 and appendices 2A and 2B[2]. Basic information on track sections is given in the Network Statement's appendix 2A. Appendix 2B describes railway traffic operating points in more detail.

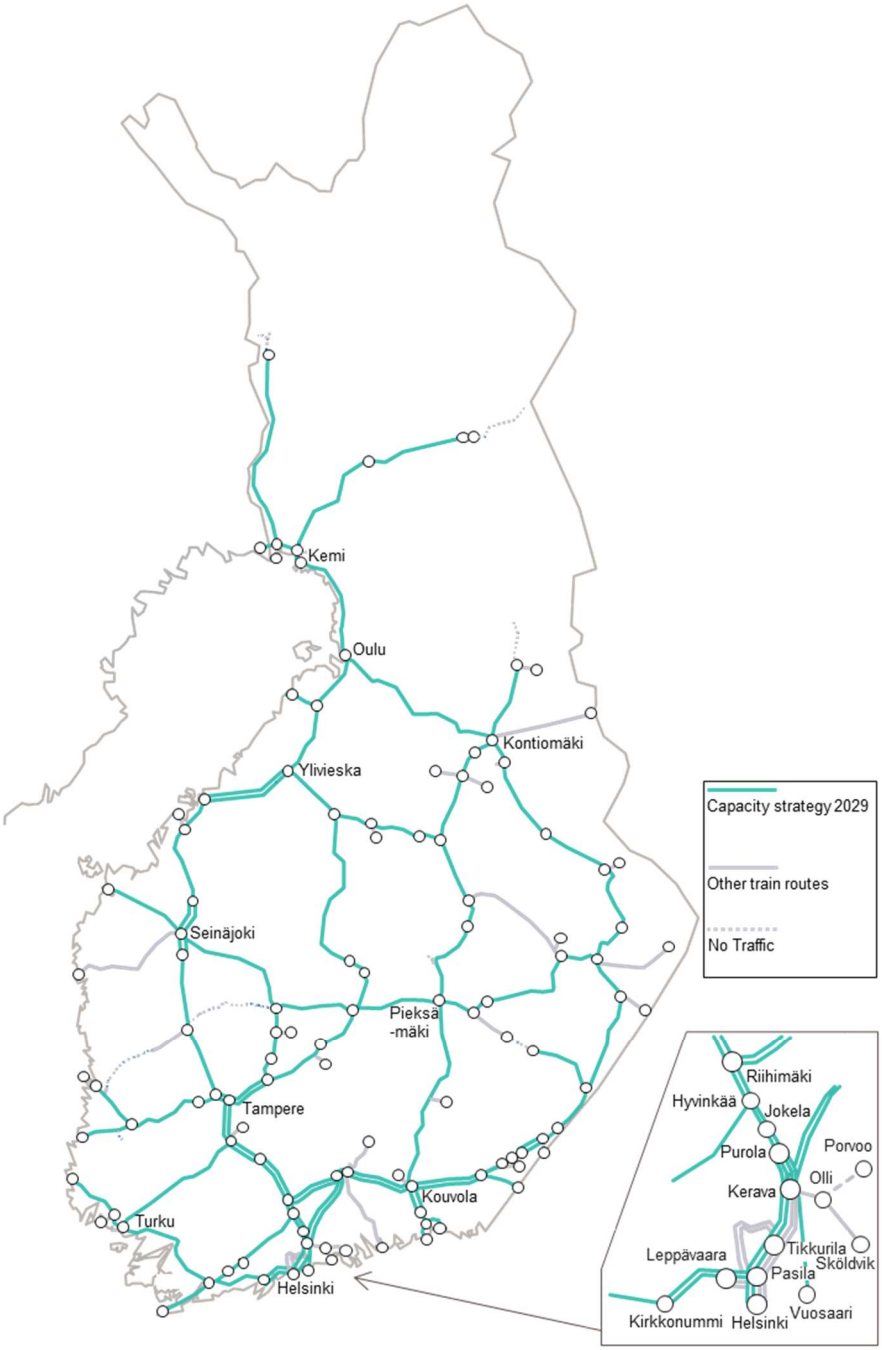

Figure 1: Geographical scope of the strategy.

[1] https://suomenvaylat.vayla.fi/theme/fi/1/326669/7197753/6?lang=en
[2] https://vayla.fi/en/service-providers/commercial-railway-transport/network-statement

0.3 List of Involved IMs

Finnish Transport Infrastructure Agency (FTIA) Finland	Content of this document.
Trafikverket Sweden	Coordination regarding cross border Tornio – Haparanda connection.

0.4 Service Facilities

The service facilities in general use in the railway network, are available in the Network Statement on the Finnish Transport Infrastructure Agency's website.

https://vayla.fi/en/service-providers/commercial-railway-transport/network-statement

1 Expected Capacity of Infrastructure in TT 2029

The purpose of this chapter is to provide an overview of the ways railway projects completed in 2025–2028 will have a permanent impact on available capacity in the timetable period 2029. This chapter describes the infrastructure changes that increase or decrease capacity in order to avoid an information break between the present (2025) and December 2028 in terms of available capacity. No projects leading to permanently reduced available capacity are expected on the Finnish rail network, but projects that increase available capacity have been identified.

1.1 Additional Available Capacity

The table below lists the projects that will increase capacity by the timetable period 2029 compared to the time of publication of this Capacity Strategy. After the table, there is a more detailed description of the items on the list concerning their impacts on capacity.

Track section	Description	Impact on capacity	Impact on train volume	Implementation decision made	Funding
Espoo rail line	Additional tracks between Leppävaara and Espoo	Late 2027	N/A	Yes	Yes
Pasila-Riihimäki phase 2	Additional tracks between Kerava and Purola	Enables increase of capacity 8/2026 onwards	Two commuter trains per hour for each direction	Yes	Yes

Table 1: Additional available capacity reached by 2029.

Espoo rail line will have four tracks between Leppävaara and Espoo in late 2027.

In the timetable period 2027, the implementation of Pasila-Riihimäki project phase 2 is at a stage where Kytömaa-Purola will have four tracks and will enable capacity to be increased on the line section. The work of the project itself will continue until 2028, so it is not expected that full benefits will be obtained from the additional tracks in 2027.

1.2 Reduced Available Capacity

No capacity is planned to be reduced from the scope of the network in this capacity strategy. However, from outside of this scope traffic and maintenance have been discontinued on track sections Olli – Porvoo and Seinäjoki – Kaskinen due to poor condition of the track. Possible improvements to these routes are being studied.

Chapter 2.2 lists the major impact track works in force in 2029, which may lead to temporary capacity reductions.

2 Temporary Capacity Restrictions (TCRs)

2.1 Principles for TCR Planning

In the planning of Temporary Capacity Restrictions, i.e., track works, the aim is to find best solutions that serve all the participants: IMs, capacity applicants, and other clients. The Finnish Transport Infrastructure Agency (FTIA) works closely with its stakeholders through various regularly held consultation meetings where all parties can comment on future track works, track work scheduling and traffic impacts and communicate their own needs. Consultation and coordination of track works is continuously being developed.

The Finnish rail network primarily consists of single-track lines which can be considered the main challenge in track work planning. Therefore, carrying out track work often leads to a total closure that prevents all train traffic in the line section. In addition, there are relatively few detour routes available in Finland, which means that a total closure often results in freight trains being cancelled and passenger trains being replaced by buses. For this reason, it is important to plan track work well in advance so that it would cause as little disruption to traffic as possible.

The following principles have been described based on the idea that they concern track work that requires a total closure.

Examples:

- TCRs should be clustered to minimize the gravity of impact and duration.
    - TCRs should be planned together with other track work in the area or along the transport chain.
    - Track works on track sections from i.e. Kerava to Oulu should be planned simultaneously.
- Instead, no TCRs shall be planned simultaneously on lines Kerava-Riihimäki and Kerava-Hakosilta or Kouvola-Joensuu and Kouvola-Kuopio.
- Due to insufficient re-routing capacity, no total closure shall be planned during peak hours if possible.

Clustering of track works can be considered one of the principles of track work planning. Track works can be clustered either geographically or timely to minimize the gravity of impact and duration. One of the aims of clustering of track work is to ensure that track works located on the same line or along the same transport chain are carried out in the same track possession if possible. This procedure aims to reduce the consecutive traffic impacts.

On certain line sections working simultaneously is not recommended because it prevents efficient train traffic due to the lack of diversionary routes. For example, attempts are made to avoid

simultaneous total closures on Kerava-Riihimäki and Kerava-Hakosilta lines and Kouvola-Joensuu and Kouvola-Kuopio line sections.

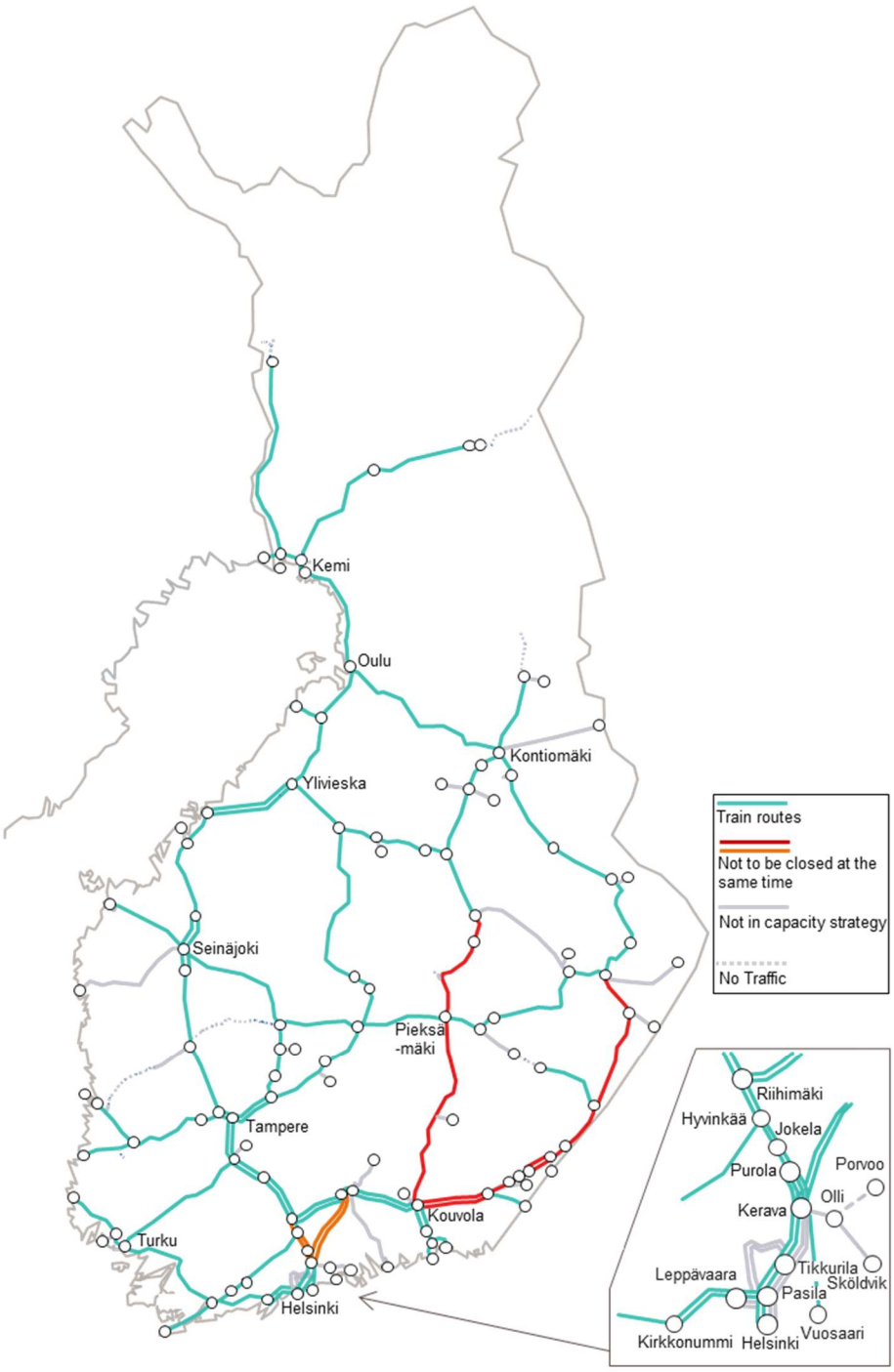

Figure 2: Example of track sections where simultaneous TCRs should not be planned in order to enable alternative routes.

One of the principles of track work planning is to schedule track work at certain times, either with consideration to a certain time of the day or the annual calendar. Efforts are made to carry out track work during low traffic to avoid traffic disruptions. In many line sections, track possessions are more easily available at night. Track works on the busiest line sections are avoided during peak hours. Occasionally, trains must be replaced with other modes of transport. However, in these cases,

arranging replacement transport and the costs arising from it are the responsibility of the railway operators.

Total closure caused by track work during, for example, Midsummer is an established practice, as passenger traffic will almost completely stop for a few days at the peak construction season. Also, factory shutdowns are taken into consideration when planning track works. The construction season being relatively short due to the Finnish climate also poses a challenge to track work planning.

The Finnish Transport Infrastructure Agency strives to respond to these coordination challenges with the help of different co-operation meetings. One of them is a biannual "Väylä-LISU" meeting which aims to form FTIA's common, in-house, understanding of track works in upcoming years well in advance. The divisions implementing track works compare and plan upcoming projects and their preliminary dates and traffic impacts so that synergy benefits can be found even before the construction work begins. Väylä-LISU can be considered the first glance to coordination between different track works as well as between traffic and track works.

A central meeting is so called "LISU"-meeting which is held four times a year. In LISU, FTIA as the infrastructure manager chairs the meeting and starts the negotiations between FTIA and stakeholders about the scheduling of track works and the possible impacts on traffic. The aim with LISU-meeting is to refine the information given out in the network statement for the upcoming year and the year after. The goal with LISU-meetings is to give an over-all picture of track works in Finland, but when it comes to more precise commenting and scheduling, the work is done in meetings called "Alue-LISU", which will be described next.

The aim with Alue-LISU is to go through all the track works in certain area in Finland. Finland is divided into four different areas, each of them have their own Alue-LISU-meeting. In bi-monthly Alue-LISU, track work information from network statement and LISU-meeting are taken into more careful discussion, and the specific scheduling and impact assessment is being made. The goal with having these Alue-LISU meetings is to give the stakeholders as well as FTIA a platform where to discuss and find the best possible alternative to everyone included. Alue-LISU concentrates in close future, next construction season. The purpose is to specify the scheduling and traffic impacts of track work, to coordinate track work and traffic and to find solutions that serve all parties as well as possible. Based on the results of the negotiations, the infrastructure manager decides on anticipated timings, track possessions and other measures impacting traffic. Alue-LISU aims to give information back to the LISU-meeting but also refine the information given there.

TCR windows also determine track work planning. The Finnish Transport Infrastructure Agency is progressing towards a new contract practice where certain time slots for TCR windows are agreed upon with the maintenance operator for the whole contract period, typically 4 years. The contract indicates that the maintenance operator receives, for example, 7 x 6 hours of total closure twice a year in spring and autumn. This point in time will be specified as the coordination process between track work and traffic progresses either in the Network Statement or at the latest in Alue-LISU-meetings, in consultation with operators and traffic planning.

2.1.1 Coordination and Consultation Process

The process of coordinating track work and traffic begins years before the start of the timetable period in question by planning of new infrastructure investments. It could be stated that the coordination between track works and traffic begin already with the preparation of the National Transport system plan by Finnish parliament for the next 12 years. The National Transport system plan provides directions for the managing, improving, and developing of our rail network in the following years.

Track works to be implemented are accumulated from different sources of funding, and this brings its own challenges to the coordination process. Most of the track work to be implemented consist of track renovating projects, where old track is being repaired or replaced, or investment projects, which are projects where new tracks are being built.

At the Finnish Transport Infrastructure Agency funding for track renovations is managed by the programming group, which programmes the funding for next three years. The programming group divides funding by themes, and there are several of these theme groups, such as bridge or tunnel theme. After the programming group's annual process and the Government budget session in the autumn, we will know the projects that will receive money for the following year and tentatively for the next three years. Coordination between these projects and traffic can begin.

In addition to FTIA's own yearly budget, cities or Centres for Economic Development, Transport and the Environment, for example, may also implement their own construction projects that have an impact on the traffic operated on the railway line, such as overpass and underpass repairs.

Investment projects receive separate funding from Parliament in the (supplementary) budget, and they are usually longer projects lasting several years and often have greater traffic impacts than track renovating projects. Once investment projects have received funding, construction must usually start as soon as possible, which means that there is little time left for the actual coordination of traffic and track work.

In other words, the process of coordinating track work and traffic must already be started before track work has implementation decision, otherwise the traffic impacts will be known to the operators too late. The procedures for the coordination of track work and traffic in use are outlines below.

Deadlines for providing notification of TCRs

In its role as the infrastructure manager, the Finnish Transport Infrastructure Agency observes the thresholds laid down in section 124 of the Rail Transport Act and the Commission Delegated Decision (EU) 2017/2075 (10, 11 and 14) when providing information on known track work and on the capacity restrictions arising from them.

TCR	Consecutive days	Impact on traffic (number of cancelled, rerouted, or replaced trains)	First publication
Major TCRs	> 30 days	> 50%	X-24
High TCRs	> 7 days	30–50%	
Medium TCRs	≤ 7 days	> 50%	X-12
Minor TCRs	not specified	< 10%	X-4

Table 2: First publication of TCRs (X-m = m months before start of TT).

Specifying information on TCRs before the start of a new timetable period

The announced capacity restrictions should be seen as an aspect guiding traffic planning. The applicant must take the restrictions into account when preparing its capacity request. Before the request for annual capacity is submitted, the infrastructure manager and the capacity applicant must jointly determine which capacity restrictions are taken into account in the request for annual capacity.

In accordance with the publication and consultation procedure for capacity restrictions laid down in the Commission Delegated Decision (EU) 2017/2075 (Annex VII(8)), the infrastructure manager must publish all capacity restrictions and the preliminary results of the applicant's consultation for the first time at least 24 months before the relevant timetable change, to the extent they are known, and for the second time in the updated format at least 12 months before the relevant timetable change. The first and second consultation rounds will be held as part of the meetings specified for the purpose and the national traffic and track work coordination meetings.

Track work affecting the timetable period that has been known to the infrastructure manager at least six months before the change of the timetable period and that will result in capacity restrictions is reported in connection with the publication of the proposal for allocating infrastructure capacity (EU 2017/2075, APPENDIX VII section (12)).

The infrastructure manager conducts negotiations with applicants for infrastructure capacity, railway undertakings, and maintenance and transport providers on the timing of track work, track possessions, speed limits and other capacity restrictions arising from the work.

Specifying TCR information during a timetable period

The allocated infrastructure capacity is available to the railway operator unless it overlaps the track possessions required for infrastructure management work. The work programme, timing of the work and the track possessions required may, however, change as the funding and planning are specified. Occasionally, the traffic impacts of the work will have to be reviewed during the timetable period in question, or infrastructure maintenance work not foreseen in the annual plan must be carried out. These situations arise because of the following factors: safe train traffic has to be ensured despite the capacity restrictions; the infrastructure manager has no influence on the timing of the restrictions; application of the time limits is not cost-efficient or causes unnecessary damage to railway asset management; or there are other situations in which all parties concerned approve the change (EU 2017/2075, Annex VII(14)).

In such cases, the infrastructure capacity allocated to railway undertakings that overlaps infrastructure management needs is not available to railway operators or the capacity restrictions affecting track work are made more specific. In that case, notification of the restrictions is provided four times a year, at the times (times of specification) indicated in the Network Statement. The times of specification are in January, March, August and December, and their purpose is to finalise the traffic impacts and scheduling of track work for the following months.

Stakeholder groups are also invited to join the planning of the work stages of rail projects with traffic impacts and, if necessary, the weekly meetings held during track work projects. These track work coordination meetings are organised throughout the railway network, always focusing on one small area at a time.

If the traffic impacts of the work will have to be specified so that the time limits referred to above cannot be observed, the infrastructure manager will discuss the matter with railway operators before making its decision. If decisions must be made at short notice, a representative of the infrastructure

manager (Fintraffic Raide Ltd's traffic planning or, outside office hours, Fintraffic Raide Ltd's Rail Traffic Management Centre) will conduct the necessary negotiations before decision-making.

Capacity allocations are defined in the RUMA system. After they have been entered in the system, the required infrastructure capacity has been allocated to track work, and railway operators cannot request or use any of the capacity at the same time.

2.2 Expected Major Impact TCRs

Line section	Description	Duration	Start	Impacts on capacity during construction	Impact on passenger and freight traffic	Implement ation decision received	Funding
Digirail: Turku-Uusikaupunki/ Toijala	Renewal of the train control system	1/2028-12/2030	Q1/2028	Full service interruptions	Train cancellations	Yes	Yes
Espoo Rail Line	Construction of additional tracks Espoo and Kauklahti	5/2023–8/2029	Q2/2023	e.g., full-service interruption 5 weeks	Passenger traffic replaced by buses between Espoo and Kauklahti	Yes	Yes
Tampere passenger railway yard	Improving the throughput capacity of the station	5/2025–5/2030	Q2/2025	Track alterations	Track alterations	Yes	Yes

Table 3: Major TCRs in 2029.

The Digirail project, train control system's renewal project, is under construction in Turku area in 2029.

For the Espoo Rail Line project (ESKA), a longer total closure between Espoo and Kauklahti lasting five weeks starting from Midsummer is known for 2029. Also shorter, 24h disruptions have been announced.

The Tampere passenger railway yard project (TAHERA) causes traffic impacts during construction, especially on the track use of passenger trains.

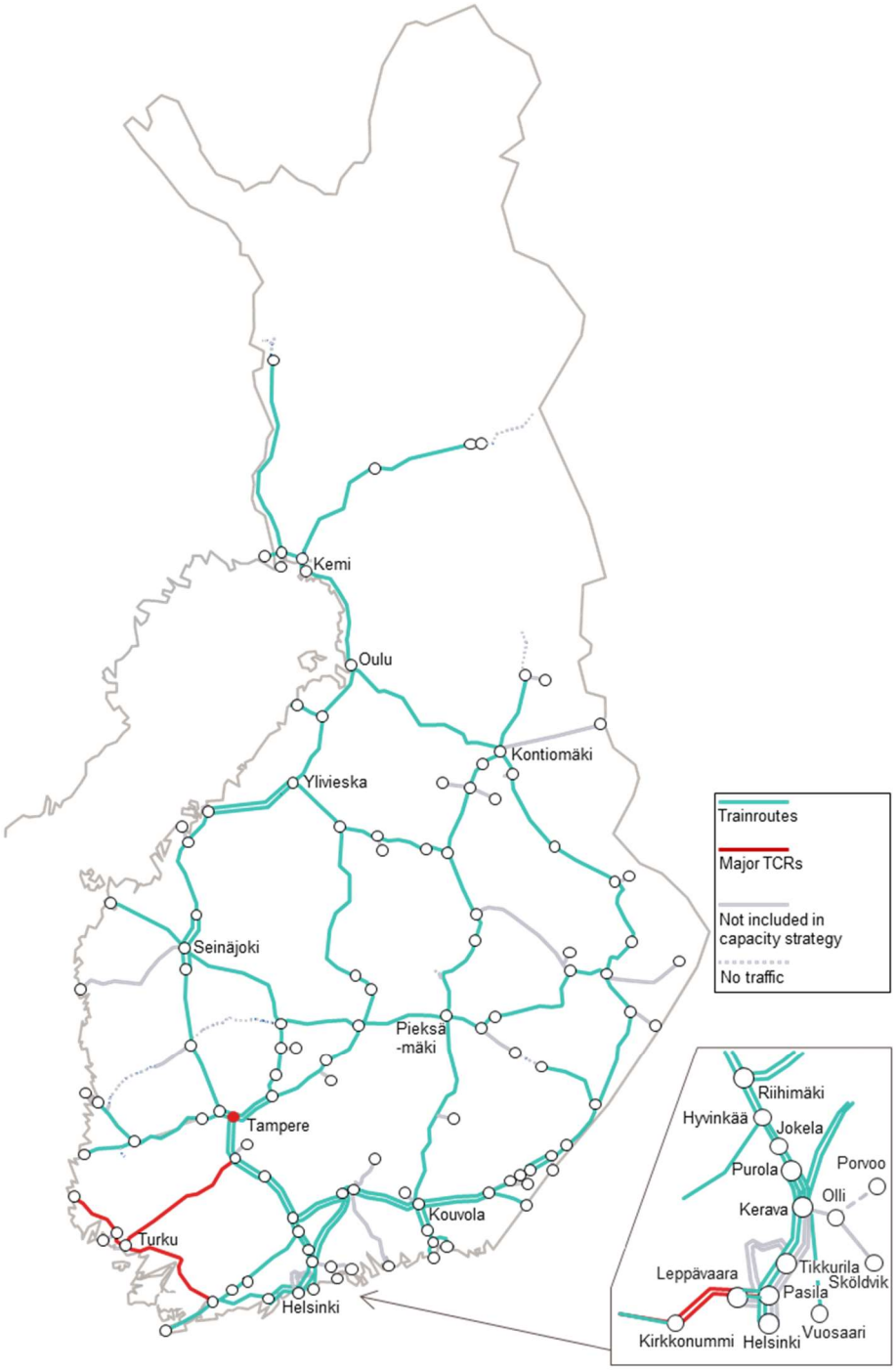

Figure 3: Major TCRs in 2029.

3 Traffic Planning Principles and Traffic Flows

3.1 Traffic Planning Principles

Train traffic is planned in accordance with the planning process described in the Network Statement. As the infrastructure manager, the Finnish Transport Infrastructure Agency FTIA is responsible for capacity allocation on the state-owned railway network. The principles on the coordination of traffic and the priorities applicable to trains in case of overload situations are published in the Network Statement. For applicants of capacity there is also a more detailed planning guideline published by FTIA in Finnish.

FTIA's capacity allocation is, in accordance with current law, based on submitted capacity requests. Currently capacity requests are submitted with full path details. Requested paths are then coordinated in the yearly capacity process.

In accordance with the TTR process and the European Commission's new proposal for a regulation on the use of rail capacity (COM(2023) 443), the FTIA is carrying out strategic capacity planning in order to fulfil its responsibility under the new legislation to prepare annual capacity allocation process.

Capacity Strategy is the first step in the strategic planning process and its purpose is to produce a longer-term vision of the development of traffic and capacity utilization for use in future planning stages.

For the subsequent planning phases and for the analysis of capacity utilization, the railway routes are divided into shorter track sections within which traffic flows are largely uniform. A capacity utilization limit (so called Intended Capacity Usage Line, ICL) has been set for each line section. The ICL is based on expert assessment and indicates the approved design value for the maximum number of trains per hour that the track section can handle under normal conditions. The limits have been calculated based on actual hourly traffic volumes and actual traffic performance with different train volumes. The limits are not absolute maximum values but can be exceeded in some hours when necessary if coordinating the trains is possible. However, going over the limit repeatedly can be expected to lead to problems in operative traffic activities. The limit is used to analyse capacity needs at later TTR planning phases, and it will serve as an advance warning in case of a critical capacity situation.

The track sections and intended capacity usage lines are listed in Table 4, with some other basic information. Table 4 shows the intended capacity usage line for off-peak hours. For a limited number of peak hours a higher number of trains may be allowed. A more detailed ICL plan with some variations for traffic peaks will be presented later in Capacity Model. The sections are combined into eleven train lines shown in figure 4 below.

In the next strategic planning phase, the Capacity Model, the track sections are used to calculate more detailed estimated hourly traffic volumes. In case of critical capacity situation, a Capacity Supply Plan can be created for critical track sections in order to guide the yearly capacity allocation process. In Capacity Model and Capacity Supply planning the pre-planned traffic volumes are divided to train categories for which hourly capacity on track sections can be pre-allocated. In FTIA's network trains will be currently divided into the following categories in strategic planning:

- Freight trains
- Passenger trains, subdivided into:
    - Long distance trains
    - Express regional trains (= Other regional trains than commuter trains)
    - Regional trains (= Commuter trains in HSL-area and M-train in Tampere)

- Locomotives

Train categories are described in more detail in Network Statement Annex 4A. Also, cooperation with service facilities is described in the Network Statement.

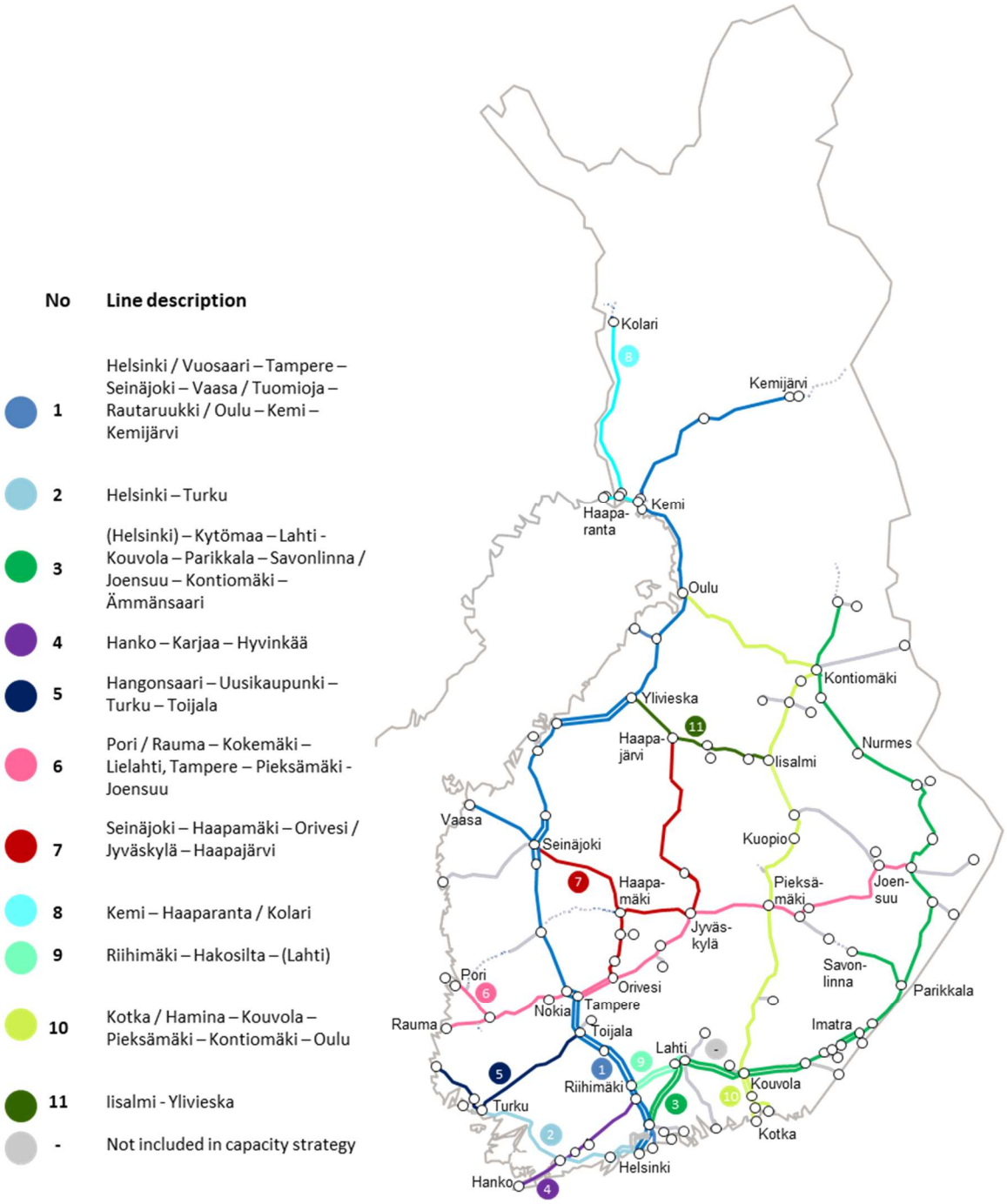

Figure 4: Train lines and track sections.

Line	Track section	T	E	ICL	Description
1. Helsinki/Vuosaari – Tampere – Seinäjoki/Vaasa – Tuomioja – Rautaruukki/Oulu – Kemi – Kemijärvi	Helsinki – Kerava	4	x	6 + 6	Main line from Helsinki to north with mostly high capacity usage. Commuter trains between Helsinki and Riihimäki and to Tampere. Long distance passenger trains from Helsinki to Tampere, Oulu and Rovaniemi. Night trains to Kolari and Kemijärvi. Freight trains from Port of Vuosaari, heavy freight traffic between Riihimäki and Oulu. From Tampere to north single-track line with some double track sections around Kokkola and Seinäjoki.
	Kerava – Vuosaari	1	x	2	
	Kerava – Purola	2	x	6 + 6	
	Purola – Hyvinkää	2	x	6 + 6	
	Hyvinkää – Riihimäki	3	x	7 + 7	
	Riihimäki – Hämeenlinna	2	x	6 + 6	
	Hämeenlinna – Toijala	2	x	6 + 6	
	Toijala – Tampere	2	x	6 + 6	
	Tampere – Lielahti	2	x	6 + 6	
	Lielahti – Parkano	1	x	4	
	Parkano – Pohjois-Louko	1	x	4	
	Pohjois-Louko – Seinäjoki	2	x	3 + 3	
	Seinäjoki – Lapua	2	x	3 + 3	
	Seinäjoki – Vaasa	1	x	2	
	Lapua – Pännäinen	1	x	4	
	Pännäinen – Kokkola	1	x	5	
	Kokkola – Ylivieska	2	x	4 + 4	
	Ylivieska – Tuomioja	1	x	4	
	Tuomioja – Oulu	1	x	4	
	Tuomioja – Rautaruukki	1	x	2	
	Oulu – Kemi	1	x	4	
	Kemi – Laurila	1	x	4	
	Laurila – Rovaniemi	1	x	4	
	Rovaniemi – Kemijärvi	1	x	3	
	Kemijärvi – Patokangas	1	x	3	
2. Helsinki – Kirkkonummi – Turku	Helsinki – Kirkkonummi	2	x	6 + 6	Line is almost completely single track. Between Helsinki and Kirkkonummi there are two tracks and from Kupittaa to Turku as well. Regional traffic until Kirkkonummi. Freight traffic only from Karjaa to Salo, low volume. Long-distance trains follow clock-face timetable.
	Kirkkonummi – Karjaa	1	x	3	
	Karjaa – Turku	1	x	2	

Line	Track section	T	E	ICL	Description
3. (Helsinki) – Kerava – Kouvola – Joensuu – Pesiökylä	Kerava – Hakosilta	2	x	3 + 3	Heavy freight volumes between Kouvola railway yard and Imatra's forest industry production facilities. Regular freight traffic north of Imatra thinning out towards Kontiomäki. Long-distance passenger trains between (Helsinki-) Kerava and Joensuu. Few regional trains between Joensuu and Nurmes.
	Hakosilta – Lahti	2	x	6 + 6	
	Lahti – Kouvola	2	x	6 + 6	
	Kouvola – Luumäki	2	x	5 + 5	
	Luumäki – Lappeenranta	1	x	4	
	Lappeenranta – Lauritsala	1	x	4	
	Lauritsala – Joutseno	1	x	4	
	Joutseno – Imatra	2	x	6 + 6	
	Imatra – Simpele	1	x	3	
	Simpele - Parikkala	1	x	3	
	Parikkala – Savonlinna	1		2	
	Parikkala – Kitee	1	x	3	
	Kitee – Joensuu	1	x	3	
	Joensuu – Uimaharju	1		2	
	Uimaharju – Lieksa	1		2	
	Lieksa-Nurmes	1		2	
	Nurmes – Vuokatti	1		1	
	Vuokatti – Kontiomäki	1		2	
	Kontiomäki – Pesiökylä	1		3	
4. Hanko – Hyvinkää	Hanko – Karjaa	1	x	3	Line with a medium level of capacity usage. Freight traffic and regional trains
	Karjaa – Kirkniemi	1	x	3	
	Kirkniemi – Lohja	1	x	3	
	Lohja – Hyvinkää	1	x	2	
5. Toijala – Turku – Hangonsaari	Toijala – Turku	1	x	3	Track section from Toijala to Turku is mixed traffic with long-distance trains and freight trains. From Turku to Hangonsaari there is only freight traffic. The line has low level of capacity saturation.
	Turku – Raisio	1		3	
	Raisio – Hangonsaari	1		1	

Line	Track section	T	E	ICL	Description
6. Pori / Rauma – Kokemäki – Lielahti, Tampere – Pieksämäki – Joensuu	Kokemäki – Rauma			3	Connection between ports in southwest and eastern parts of the country. Long distance passenger trains between Pori and Tampere and from Tampere to East. Commuter trains between Tampere and Nokia. High-capacity usage close to Tampere. Between Pieksämäki and Joensuu non-electrified lines with low capacity due to infrastructure characteristics. Few freight trains and regional trains.
	Tahkoluoto-Mäntyluoto	1	x	4	
	Pori-Mäntyluoto				
	Harjavalta-Pori	1	x	4	
	Kokemäki – Harjavalta				
	Nokia – Kokemäki	1	x	4	
	Lielahti – Nokia				
	Tampere – Orivesi	2	x	5 + 5	
	Orivesi – Jämsänkoski				
	Jämsänkoski – Jyväskylä	1	x	4	
	Jyväskylä – Pieksämäki				
	Pieksämäki – Huutokoski	1		3	
	Huutokoski – Varkaus				
	Varkaus – Viinijärvi	1		2	
	Viinijärvi – Joensuu				
7. Seinäjoki – Haapamäki – Orivesi/Jyväskylä – Haapajärvi (Haapamäen tähti)	Haapamäki – Seinäjoki	1		2	Line with low level of capacity usage. Track sections from Orivesi to Seinäjoki have regional trains, also occasional freight traffic.
	Vilppula – Haapamäki				
	Korkeakoski – Vilppula	1		3	
	Orivesi – Korkeakoski				
	Haapamäki – Jyväskylä	1		2	
	Jyväskylä – Suolahti				
	Suolahti-Äänekoski	1	x	3	
	Äänekoski – Haapajärvi				
8. Kemi – Haaparanta / Kolari	Laurila – Tornio	1	x	3	Line includes cross-border section to Sweden. Very low level of capacity usage. Note different rail gauges on Finnish and Swedish side. Both rail gauges provided on the line between Tornio and Haaparanta. Possible international traffic.
	Tornio – Haaparanta (Cross-border to Sweden)				
	Tornio – Kolari	1		1	
9. Riihimäki – Hakosilta – (Lahti)	Riihimäki – Hakosilta				Regional line with a medium level of capacity usage. Regional trains and a freight train connection between south-east and western parts of the country.

Line	Track section	T	E	ICL	Description
10. Kotka / Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu (Savon rata)	Kotka – Kymi	1	x	4	Heavy freight volumes between Port of Kotka-Hamina and Kouvola railway yard. Regional train services provided between Kouvola and Kotka. Long-distance passenger trains and frequent freight traffic on the single-track line between Kouvola and Kontiomäki. High level of capacity usage along the whole route.
	Kymi – Juurikorpi	1	x	4	
	Hamina – Juurikorpi	1	x	2	
	Juurikorpi – Inkeroinen	2	x	5 + 5	
	Inkeroinen – Kouvola	2	x	5 + 5	
	Kouvola – Pieksämäki	1	x	4	
	Pieksämäki – Kuopio	1	x	4	
	Kuopio - Siilinjärvi	1	x	4	
	Siilinjärvi – Iisalmi	1	x	3	
	Iisalmi – Murtomäki	1	x	2	
	Murtomäki – Kontiomäki	1	x	2	
	Kontiomäki – Oulu	1	x	3	
11. Iisalmi – Ylivieska	Iisalmi – Kiuruvesi	1	x	2	Regional train and freight volumes between Iisalmi and Ylivieska. Low level of capacity usage.
	Kiuruvesi – Pyhäsalmi	1	x	3	
	Pyhäsalmi – Haapajärvi	1	x	2	
	Haapajärvi – Ylivieska	1	x	2	

Table 4: Train routes and track sections.

T: Number of tracks

E: Electrified, x = yes

ICL: Intended capacity usage line for off peak hours = number of trains/hour not recommended to be exceeded.

3.2 Traffic Flows

This chapter provides an overview of traffic flows and track capacity in Finland. This overview can be utilized in later strategic planning phases to create a more detailed estimation of track capacity on different routes in 2029. However, at the moment, predicting future changes in Finnish train traffic is challenging due to external circumstances. The war in Ukraine and related economic sanctions towards Russia need to be taken into consideration when evaluating especially international traffic flows.

Therefore, numbers in this chapter are collected for the capacity model 2027 and are based on 2026 capacity application (passenger traffic) and statistical analysis of previous traffic (freight trains). These now provide the closest available estimation of the future traffic situation. In addition, new passenger transport service to Rauma is included, which is estimated to begin in 2027. In the further phases of TTR strategic planning these numbers will be updated with available information.

Together with creating the capacity strategy FTIA will also create a traffic plan, so called Base Timetables. They describe traffic on line sections on a typical busy weekday. Information on future changes is also considered. The Base Timetables are used to produce the key traffic figures for the strategy, and they will serve as baseline for studies that require traffic and infrastructure capacity data for the future network development.

The more detailed planning principles of the Base Timetables are described in the planning instructions and the TTR process description document.

For each traffic flow described, the figures below present the train types that, based on FTIA's forecasts, are expected to operate on each route between any two nodes. Capacity usage at stations is not included in the assessment.

Figure 5 provides an estimation of train numbers on different routes during a typical busy weekday based on Capacity Model 2027. Figure 6 shows typical departure and arrival minutes of passenger trains in Southern Finland's main passenger routes during weekdays on off-peak hours. Note that not all lines have hourly traffic, some have traffic every two hours, etc. Figure 7 shows an example of estimated capacity situation on each line during the busiest hours. A more detailed 24-hour estimation is described in the capacity model.

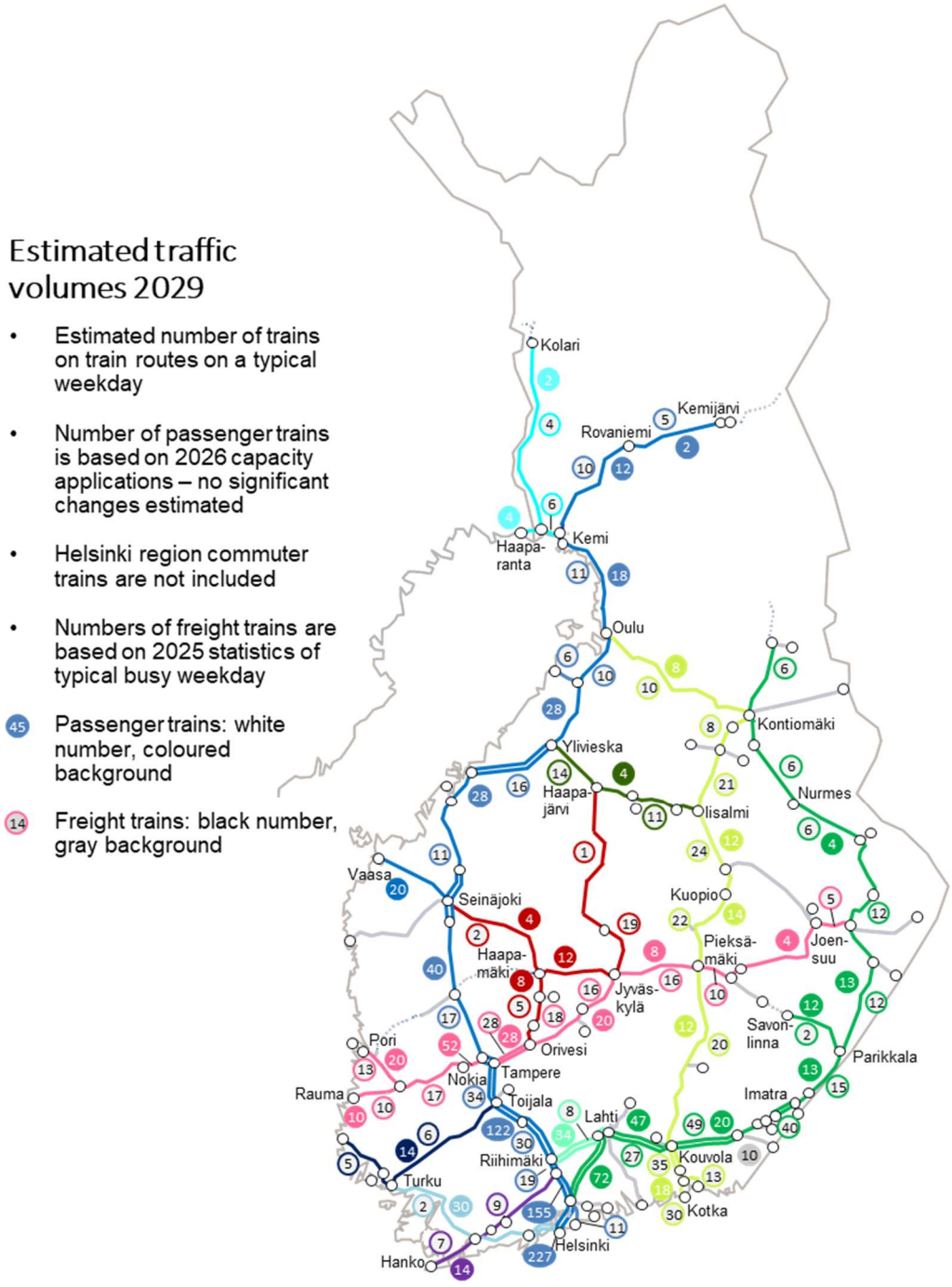

Figure 5: Estimated highest daily number of trains on an average week.

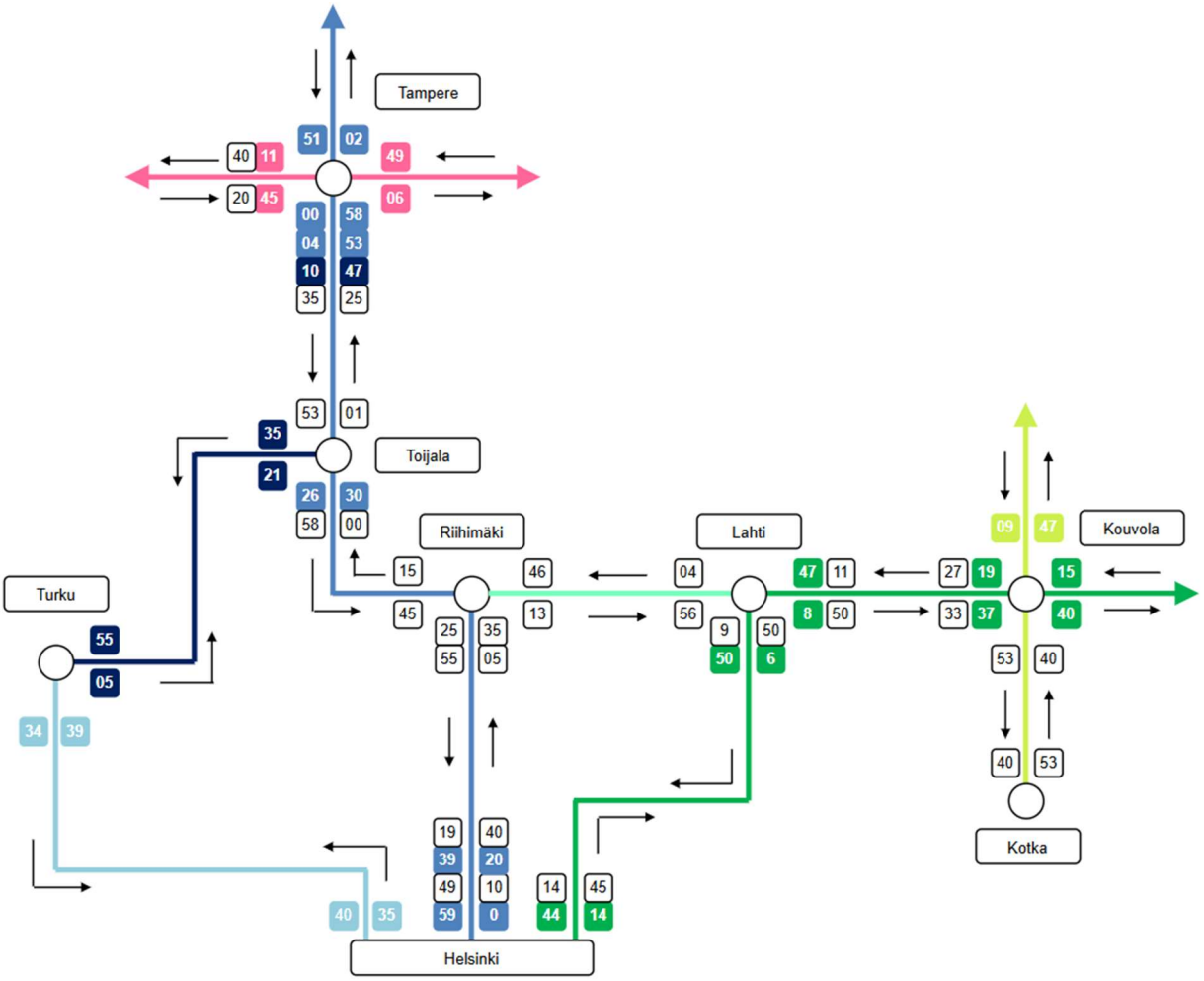

Figure 6: Typical departure and arrival minutes of passenger trains in Southern Finland main passenger routes. White number on colored background = Long distance passenger trains. Black number on white background: regional trains.

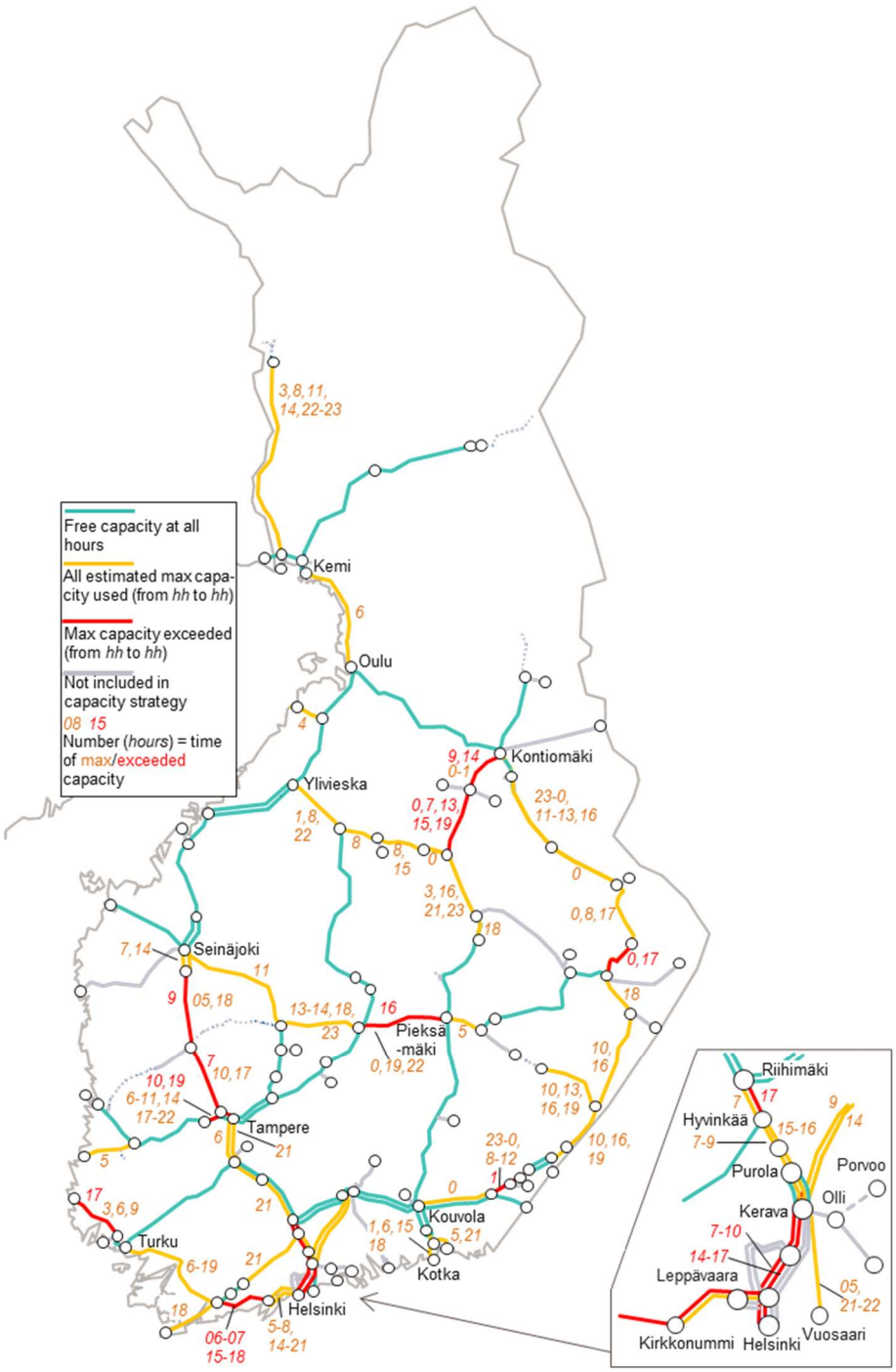

Figure 7: Estimated highest daily capacity usage 2029.

4 Validation

Finnish Capacity strategy 2029 will be approved by executive committee of Infrastructure Access, Safety, and Information department of Finnish Transport Infrastructure Agency in December 2025.

Annex 1: Information on market involvement and opinion gathering

Content of the Finnish capacity strategy for the year 2029 was discussed with Finnish capacity applicants and other relevant stakeholders in a seminar in June of 2025. Information for the Capacity Model was collected and this information, including adjustments to the intended capacity usage line (ICL), was used in Chapter 3 of this document. Information on TCR's for Chapter 2 was collected from relevant parties.

This draft version available for comments in the opinion gathering period from 15.9.2025 to 17.11.2025 on FTIA and RNE websites.

We kindly ask you to send your comments concerning the Capacity Strategy to TTR@ftia.fi.

Annex 2: Outlook to the upcoming TT years

Major track infrastructure improvements in the Finnish network during next years are listed in Chapter 2.2. Additionally, a new ERTMS-based traffic control system is being constructed. This so called Digirata-project will improve capacity especially on double-track lines. Estimated implementation schedule is shown in the picture below.

	Estimated construction time	Estimated commissioning time	Track km
1	2025–2026	2026	191
2	2028–2029	2029	451
3	2029–2031	2031	302
4	2030–2033	2033	214
5	2033–2035	2035	544
6	2034–2036	2036	1091
7	2036–2037	2037	453
8	2036–2038	2038	649
9	2037–2038	2038	376
10	2038–2039	2039	615
11	2039–2040	2040	574

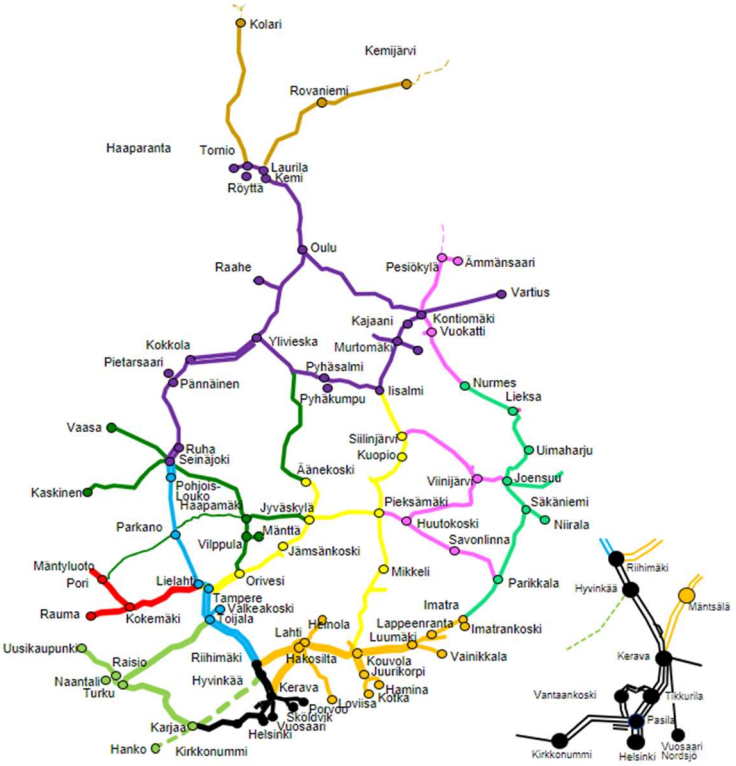

Figure: Estimated commissioning of Digirata-project.

Finnish Transport
Infrastructure Agency