

Kapasiteettimalli 2027

Capacity Model 2027

TTR Suomi - Finland

27.6.2025



Yleistä kapasiteettimallista

Introduction to Capacity Model

Kapasiteettistrategia ja -malli ovat osa yhteiseurooppalaista rautateiden kapasiteettisuunnittelun uudistusta TTR (Timetabling and Capacity Redesign), jonka tavoitteena rautatieliikenteen kilpailukyvyn parantaminen. Euroopan komissio antoi heinäkuussa 2023 ehdotuksen [ratakapasiteetin käyttöä koskevasta asetuksesta](#), jonka myötä TTR-prosessi tulee käyttöön kaikissa EU-maissa lähivuosina. Väylävirasto julkaisi ensimmäisen [kapasiteettistrategian vuodelle 2027](#) tammikuussa 2024.

Kapasiteettimalli on kapasiteettistrategiaa seuraava ratakapasiteetin ennakkosuunnitteluvaihe, ja se julkaistaan 1,5 vuotta ennen kyseisen aikataulukauden vaihdetta.

Kapasiteettimallin tarkoitus on tuoda rataverkon kapasiteetin käyttö läpinäkyvämmäksi ja tuoda esiin mahdolliset kapasiteetin käytön haasteet varhaisemmassa vaiheessa.

Kapasiteettimalli ei ole sitova päätös kapasiteetin käytöstä.

Capacity Strategy and Capacity Model are part of new European capacity management reform called TTR (Timetabling and Capacity Redesign), which aims to expand the market share of rail. In July 2023, European commission gave a proposal for new [regulation for the use of railway infrastructure capacity](#) which will be implemented in EU in upcoming years. FTIA published their first [Capacity Strategy for 2027](#) in January 2024.

The capacity model is the second TTR advanced planning instrument, which is published 1,5 years (X-18) before the scheduled timetable change.

Capacity Model describes the average traffic on a weekday. The main benefits obtained from a Capacity Model are transparency in capacity usage and the detection of potential capacity conflicts and congestions already at an early stage, allowing for more time to mitigate the situation with suitable measures.

Capacity Model is not a binding decision on capacity utilization.

Yleistä kapasiteettimallista

Introduction to Capacity Model

Kaksiraiteisilla rataosilla kapasiteetin käyttö on esitetty suunnittain, yksiraiteisilla rataosilla molemmat suunnat samassa mallissa. Kaksiraiteiset rataosat on merkitty reittikaavioihin.

Kapasiteettimallissa käytettävä kapasiteetin käyttöraja (ICL) perustuu tilastodataan ja asiantuntija-arvioon siitä, kuinka monta junaa voi saapua rataosalle kyseisen tunnin aikana. Käyttörajan määrittelyä kehitetään sidosryhmäyhteistyössä sekä tarkastellaan vuosittain myös infra- ja liikennetarkennemuutokset huomioiden.

Kapasiteetin käyttörajan ja junamäärän erotuksesta nähdään suuntaa antavasti arvioitu vapaan kapasiteetin määrä rataosalla tunneittain. Vapaa (vihreä) kapasiteetti ei takaa, että junalle olisi aina tarjolla aikataulureitti ilman tarvetta tehdä muutoksia muiden junien takia. Kapasiteetin käyttörajan voi ylittää yksittäisinä tunteina, rajan ylittäminen saattaa aiheuttaa liikennehäiriöitä.

There are separate Capacity Models for two-track sections, for single-track sections both directions are visualized in the same model. Two-tracked sections are marked in the route map.

Indented capacity line (ICL) shown in Capacity Model Charts is based on statistical data and expert judgement; how many trains can enter the track section on a certain hour. The ICL will be further developed together with the stakeholders. ICL will be revised every year and changes in infrastructure are considered.

The difference between ICL and the number of trains shows the estimated amount of free capacity on the track section hourly. ICL can be exceeded, but if during consecutive hours, it might cause traffic disruptions.

Kapasiteettimalli 2027

Capacity model 2027

Tämä dokumentti on kapasiteettimalli vuodelle 2027, joka perustuu historiadataan, eikä ole ennuste vuoden 2027 kapasiteetin käytöstä. Kapasiteettimallin pohjana ovat vuoden 2026 vuosikapasiteetissa arkipäiville haetut kauko- ja lähijunat sekä 10-12/2024 arkena ajetut tilastolliset tavarajunat ja veturit. Kapasiteettimalli kuvaa tavaraliikenteen osalta vilkkaan päivän volyymejä (90% fraktiili). Lisäksi mallia on täydennetty sidosryhmiltä saaduilla tulevaisuuden suunnitelmilla, tässä tapauksessa luonnoksella 2027 käynnistyvästä Rauman matkustajaliikenteen aikataulurakenteesta.

This document is the Capacity Model 2027. It is based on historical data, and it is not a prognosis of year 2027. Capacity model includes long distance and regional/regional express trains as they were applied for weekdays in ATT 2026 and freight trains/locomotives as they were run 10-12/2024. Capacity model describes the volumes in a heavy traffic day (90 % fractile). Additionally, model has been supplemented with information about future traffic plans given by applicants and other stakeholders, in this case Rauma passenger traffic starting in 2027.

Kapasiteettimalli 2027

Capacity model 2027

Tässä dokumentissa esitellään vuoden 2027 kapasiteettimallit. Kapasiteettimallit kuvaavat kapasiteetin käyttöä reiteittäin ja rataosittain. Reitit on kuvattu dialla 10. Lisäksi dioilla 6 – 9 on karttaesityksenä kapasiteetin yleiskuva koko rataverkolla.

Kapasiteettimallit ovat otettu kuvankaappauksina RNE:n ECMT-järjestelmästä (European Capacity Management Tool), jota olisi tarkoitus käyttää kapasiteettimallien tarkasteluun.

Junat ilmoitetaan sillä tunnilla kun ne lähtevät jommalta kummalta liikennepaikalta, tai saapuvat sille.

Vihreä alue rataosakohtaisissa taulukoissa kuvaa kapasiteettia kapasiteetin käyttörajan alapuolella.

The 2027 capacity models are described in this document. Capacity models describe capacity usage on routes and route sections. Routes used in the document are shown on slide 10. In addition, network overview of capacity usage is shown on slides 6 – 9.

The capacity models are screenshots from RNE's ECMT (European capacity management tool –system), which is meant to be used for analysing the capacity models.

The trains are running on the hour they depart, or arrive from either or location.

Green area in the track section charts describes capacity usage below capacity usage line.

Rataverkon kapasiteettitilanne 2027

Network overview 2027

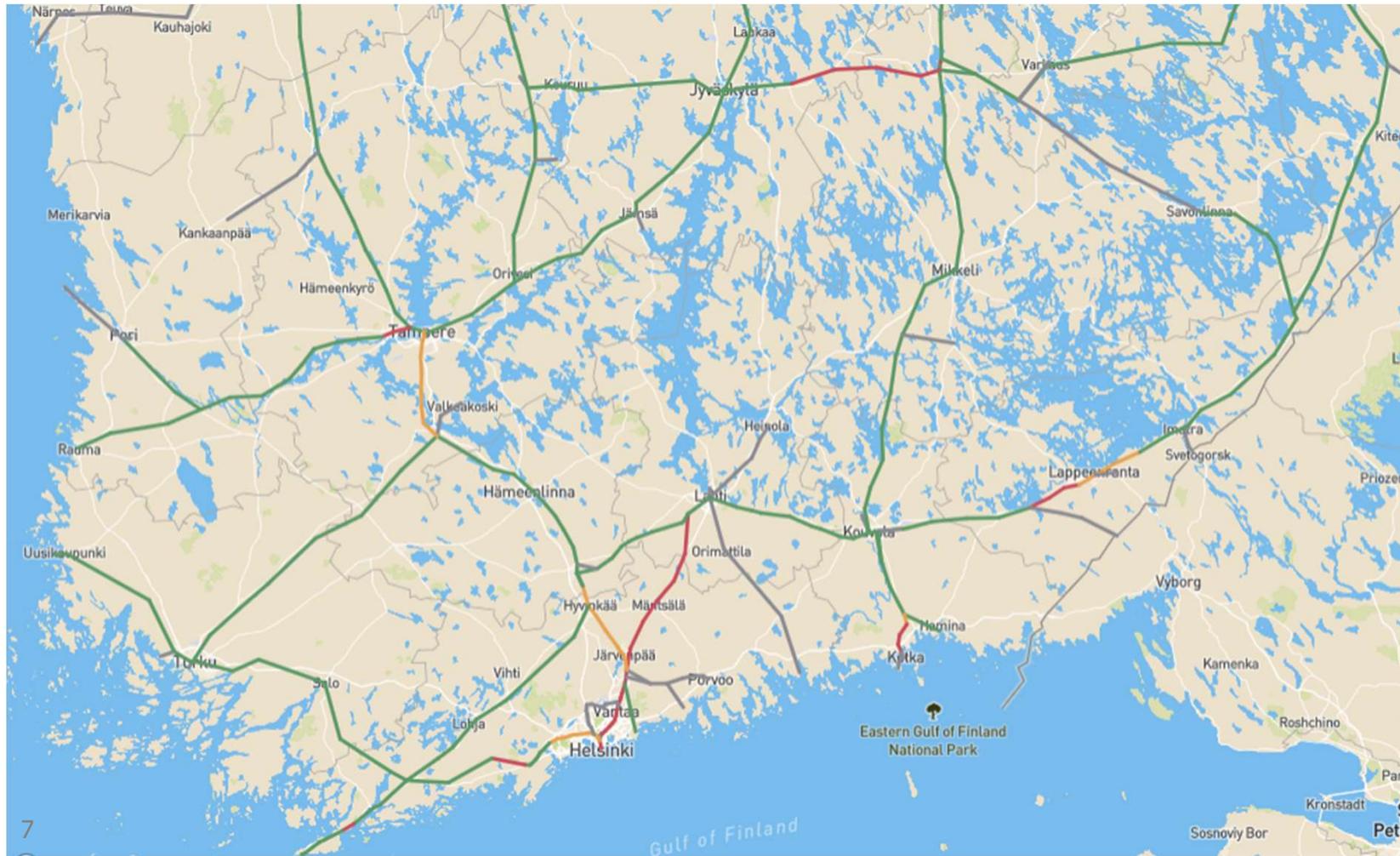
- Viereinen kartta kuvaa vuoden 2027 rataverkon kapasiteettitilannetta koko vuorokauden osalta. Kartta ei noudattele TTR Suomen rataosajakoa, vaan väritys on liikennepaikkaväleittäin.
- The map on the right side describes the capacity situation for whole day. Track sections on the map do not follow track sections used elsewhere in TTR Finland documentation, but describe capacity usage between traffic points.



Rataverkon kapasiteettitilanne/ Network overview 1/3



Finnish Transport
Infrastructure Agency



-  Free capacity at all hours.
-  Capacity used during some hours.
-  Capacity overused during some hours.
-  Not included in Capacity Model.

Rataverkon kapasiteettitilanne/ Network overview 2/3



Finnish Transport
Infrastructure Agency

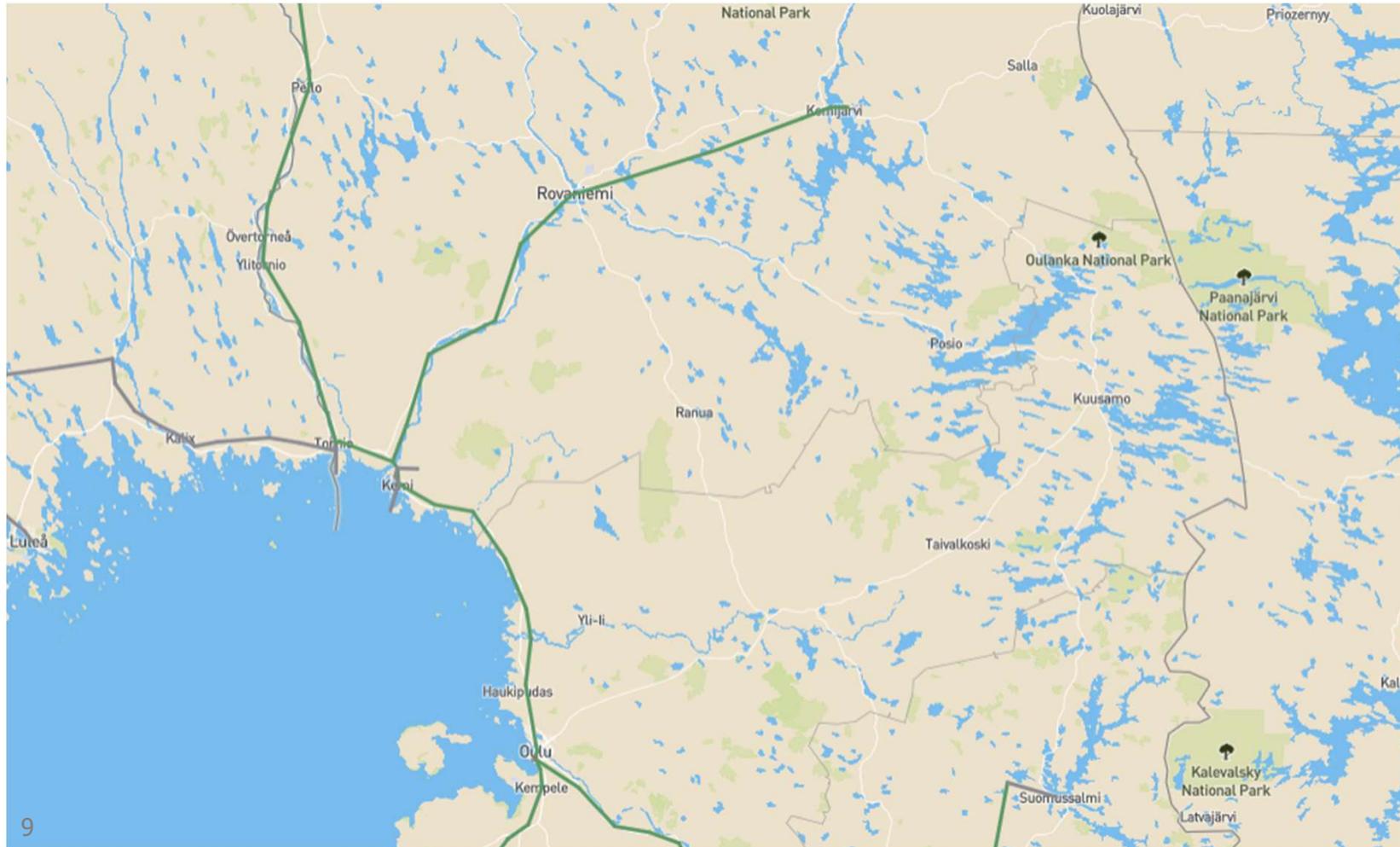


- Free capacity at all hours.
- Capacity used during some hours.
- Capacity overused during some hours.
- Not included in Capacity Model.

Rataverkon kapasiteettitilanne/ Network overview 3/3



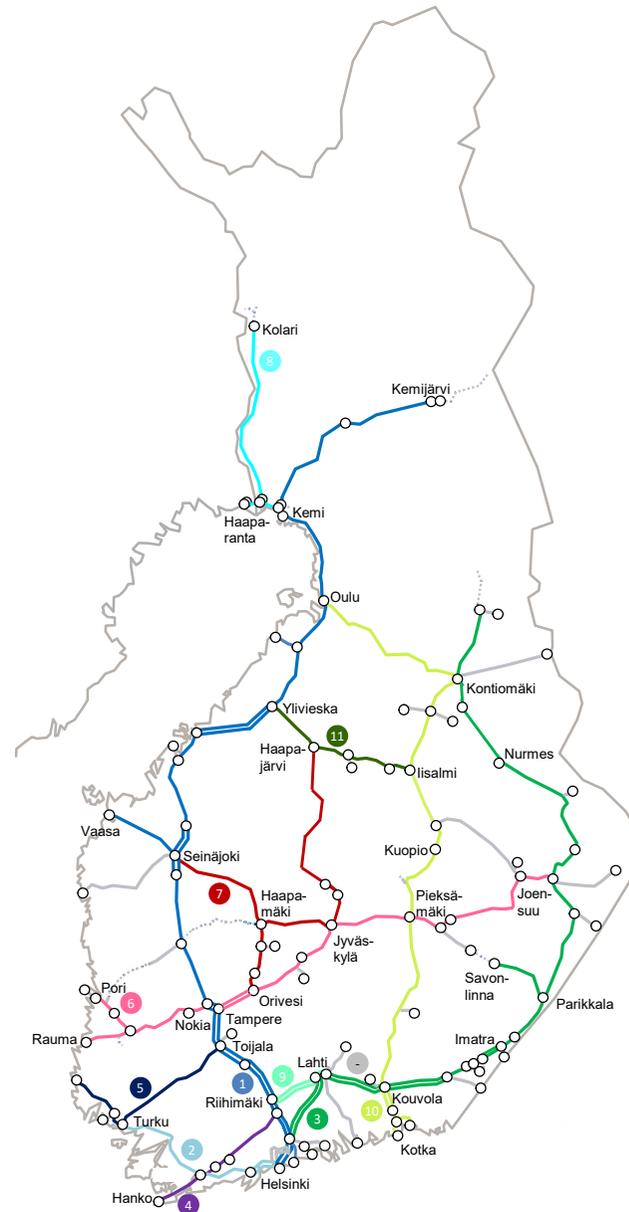
Finnish Transport
Infrastructure Agency



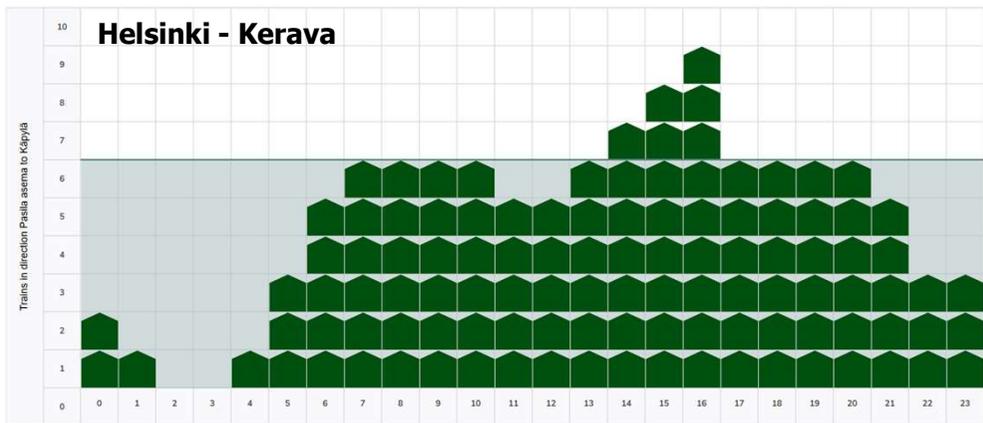
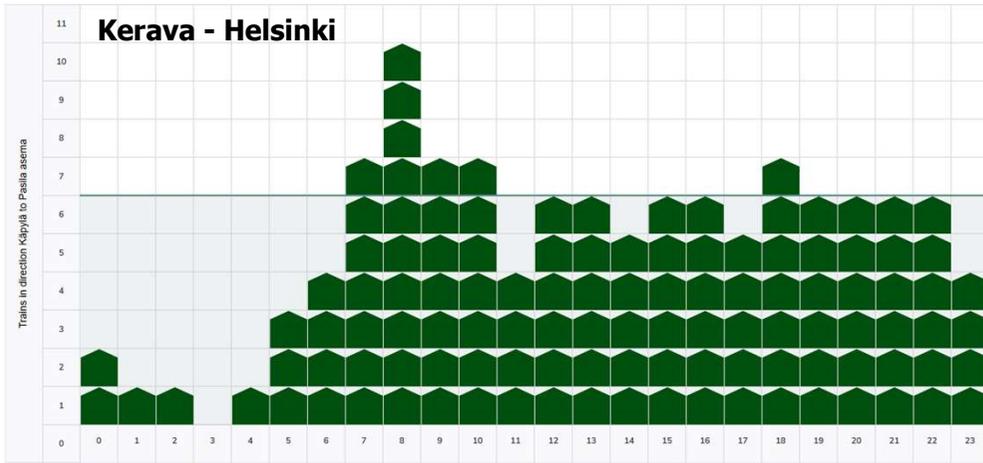
- Free capacity at all hours.
- Capacity used during some hours.
- Capacity overused during some hours.
- Not included in Capacity Model.

Reitit Routes

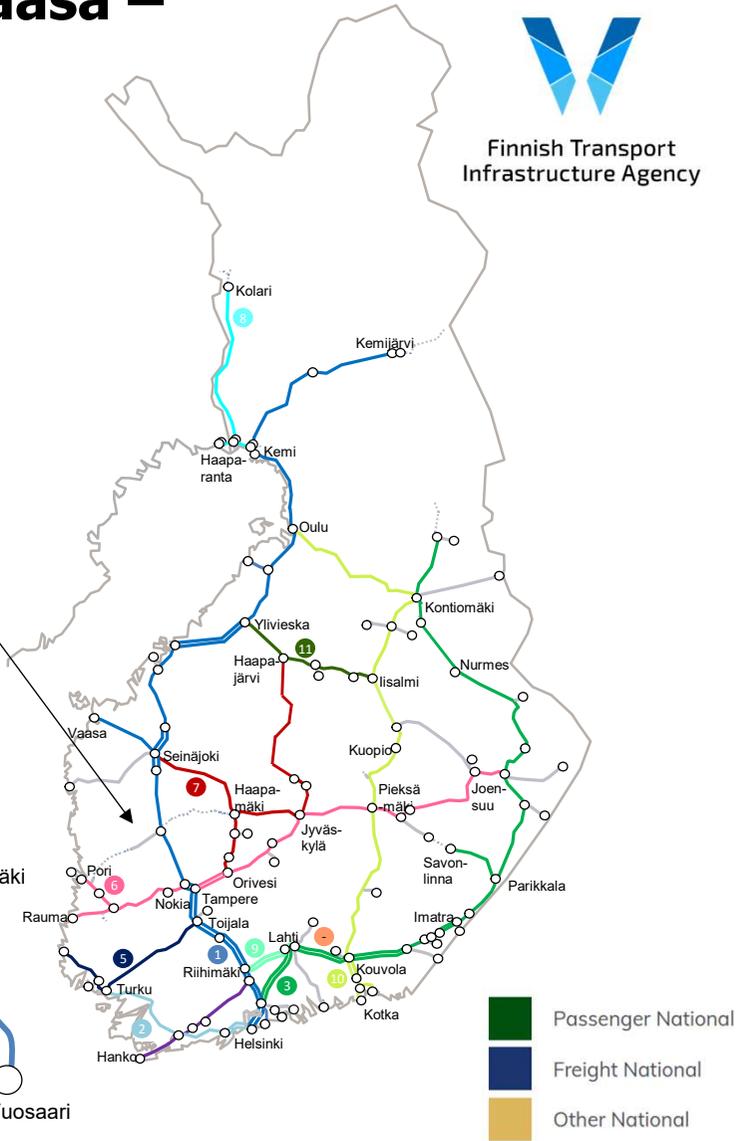
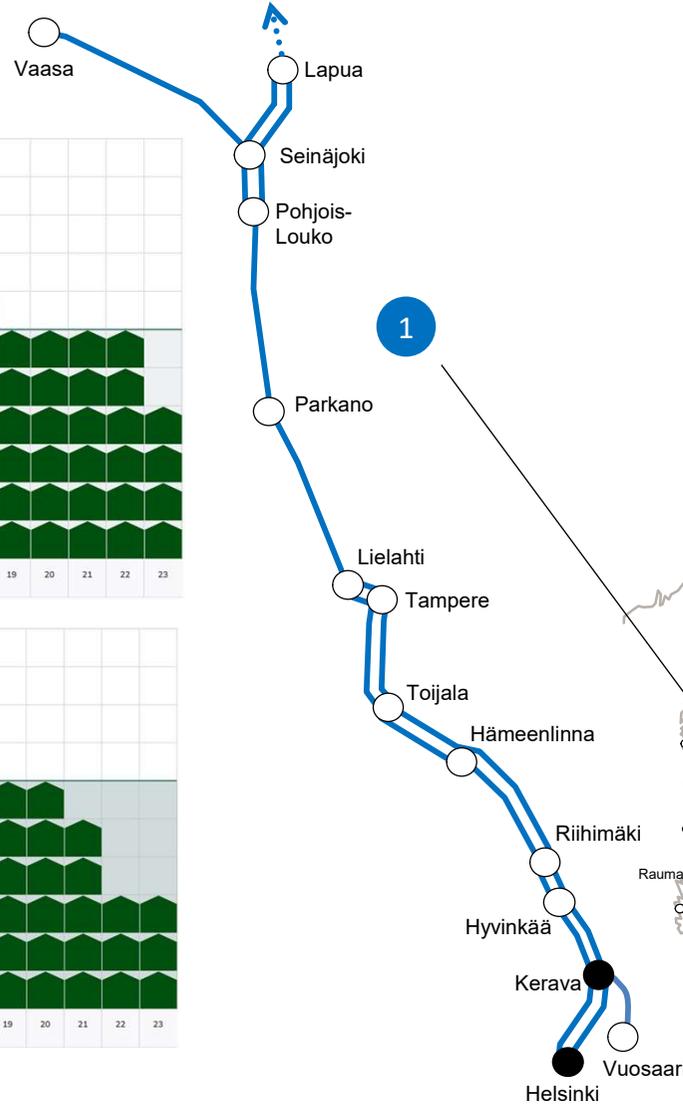
| Nro | Reitti / Route |
|-----|------------------------------------------------------------------------------------------------------|
| 1 | Helsinki / Vuosaari – Tampere – Seinäjoki – Vaasa / Tuomioja – Rautaruukki / Oulu – Kemi - Kemijärvi |
| 2 | Helsinki – Turku |
| 3 | (Helsinki) – Kytömaa – Lahti - Kouvola – Parikkala – Savonlinna / Joensuu – Kontiomäki – Ämmänsaari |
| 4 | Hyvinkää-Karjaa-Hanko |
| 5 | Toijala-Turku-Hangonsaari |
| 6 | Pori / Rauma – Kokemäki – Lielähti, Tampere – Pieksämäki - Joensuu |
| 7 | Orivesi - Haapamäki – Seinäjoki - Jyväskylä – Haapajärvi |
| 8 | (Kemi) – Laurila – Haaparanta / Kolari |
| 9 | Riihimäki – Hakosilta – (Lahti) |
| 10 | Kotka / Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu |
| 11 | Iisalmi - Ylivieska |
| - | Ei mukana / not included |



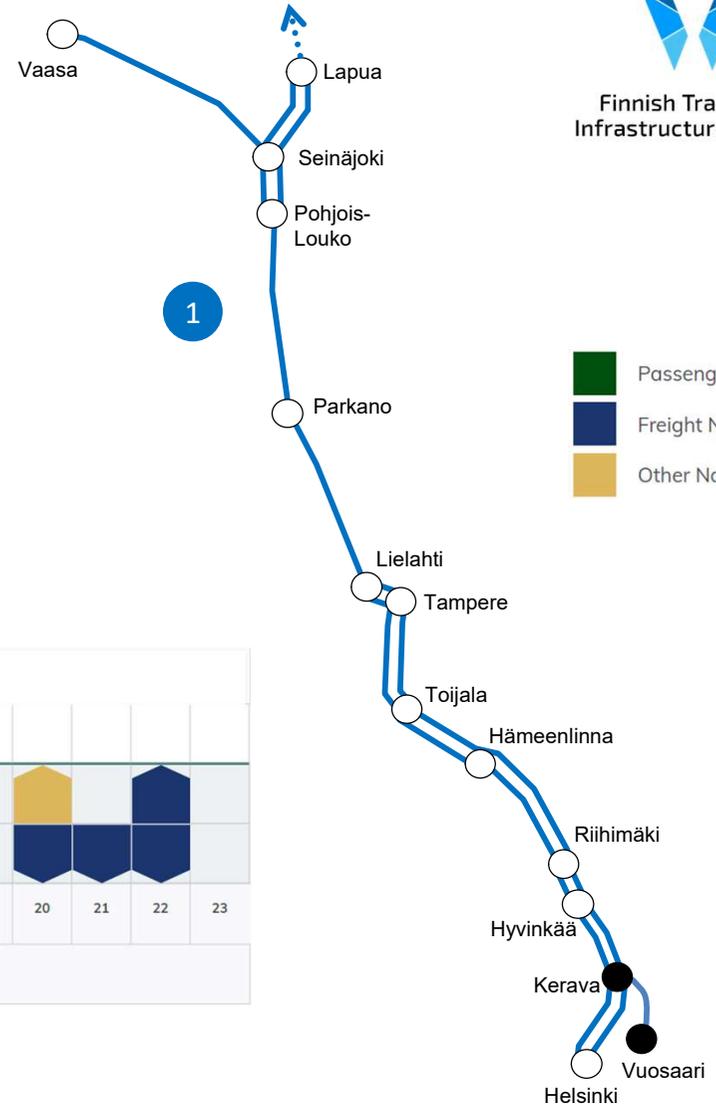
1: Helsinki/Vuosaari – Tampere – Seinäjoki – Vaasa – Oulu – Kemi – Kemijärvi



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1: Helsinki/Vuosaari – Tampere – Seinäjoki – Vaasa/ Oulu – Kemi – Kemijärvi



- Passenger National
- Freight National
- Other National

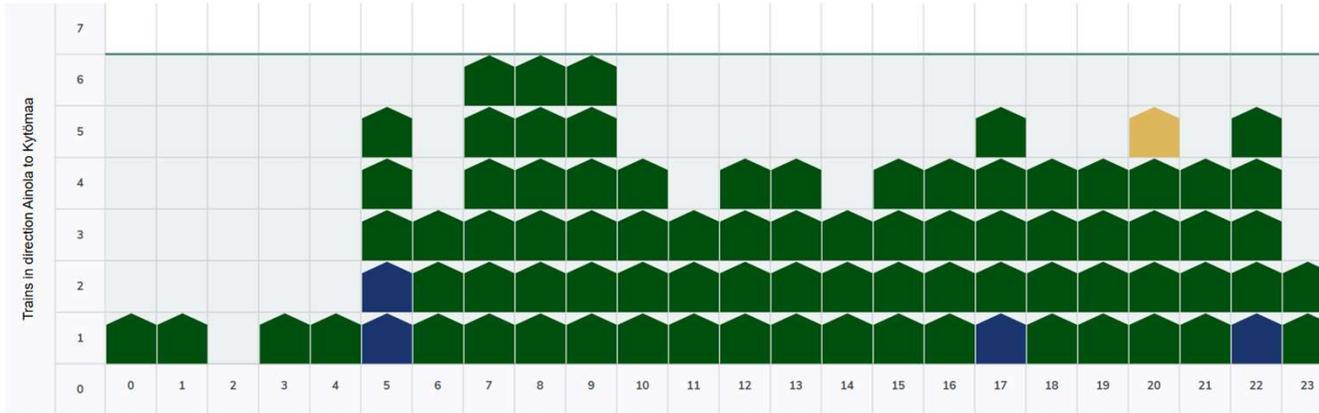
Kerava - Vuosaari



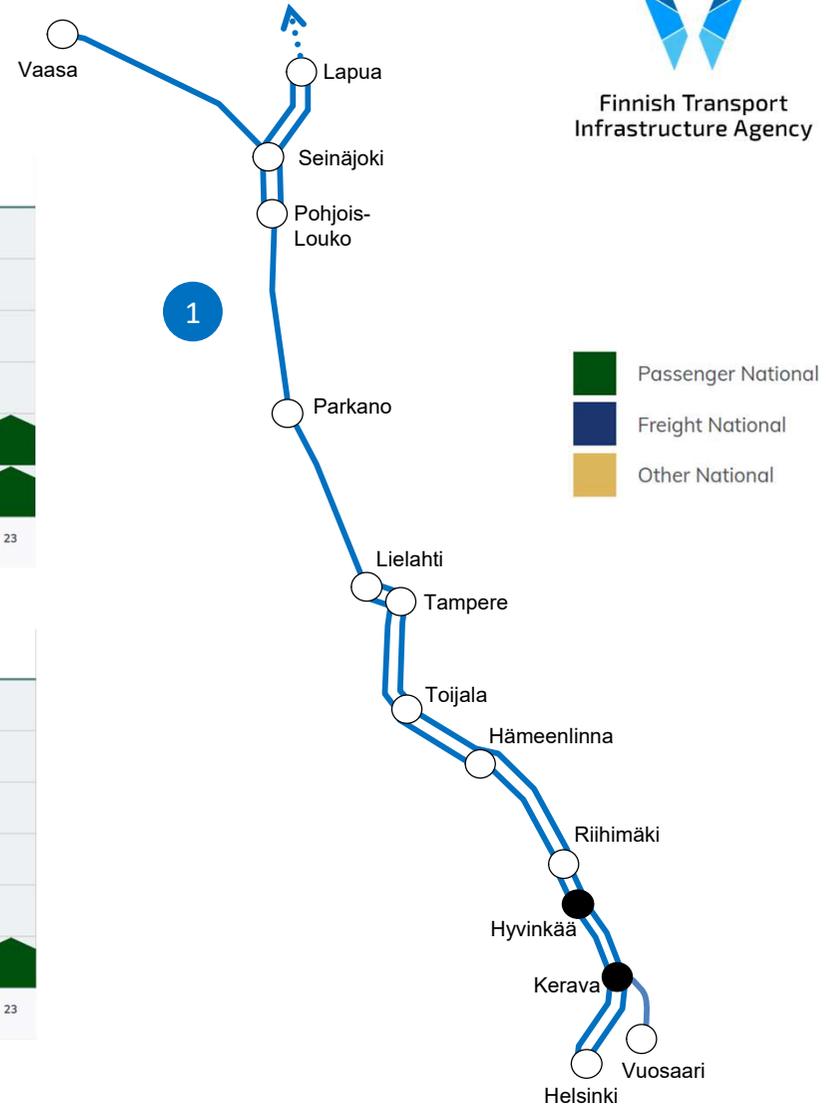
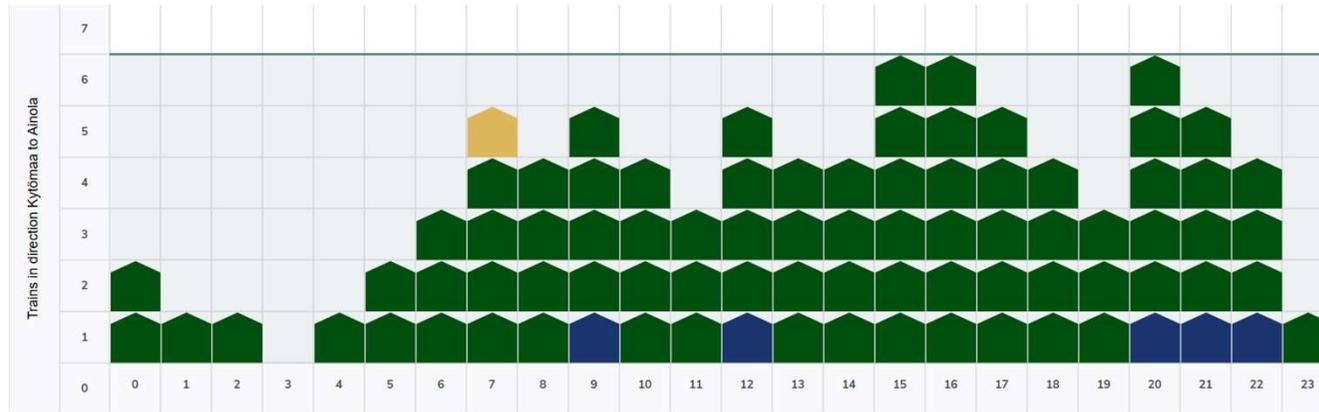
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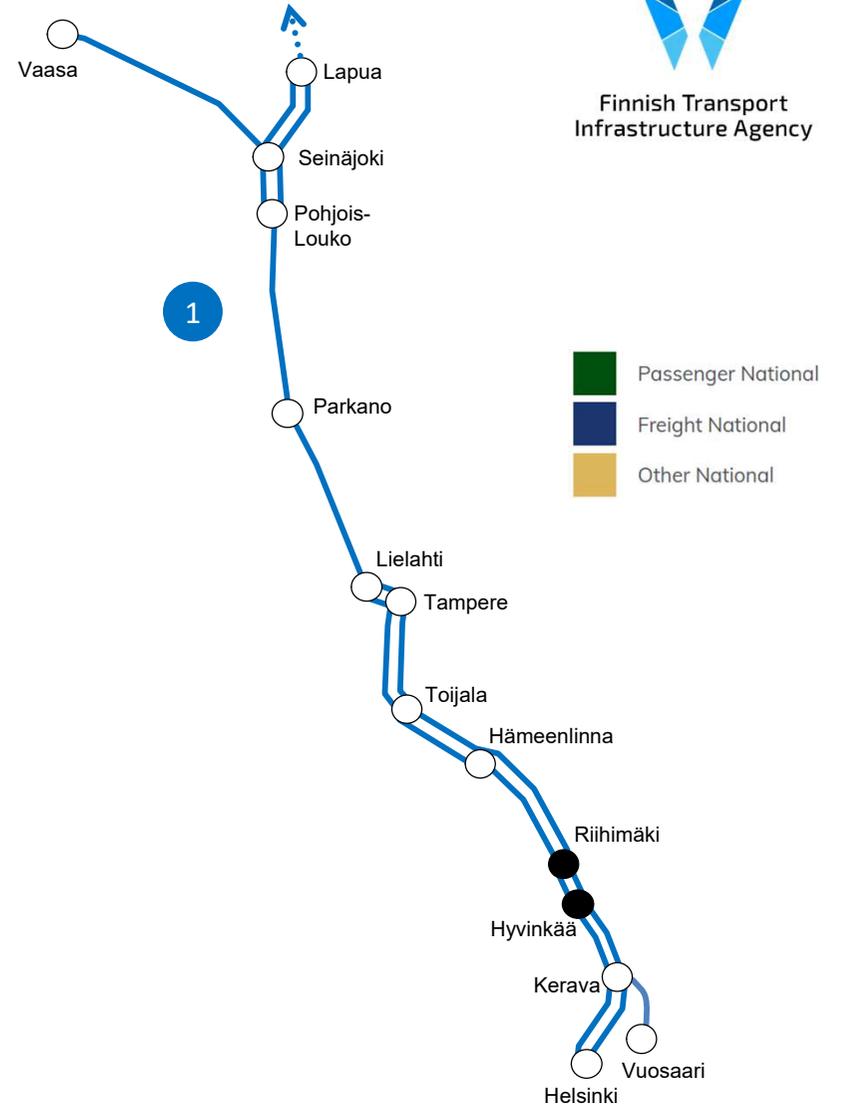
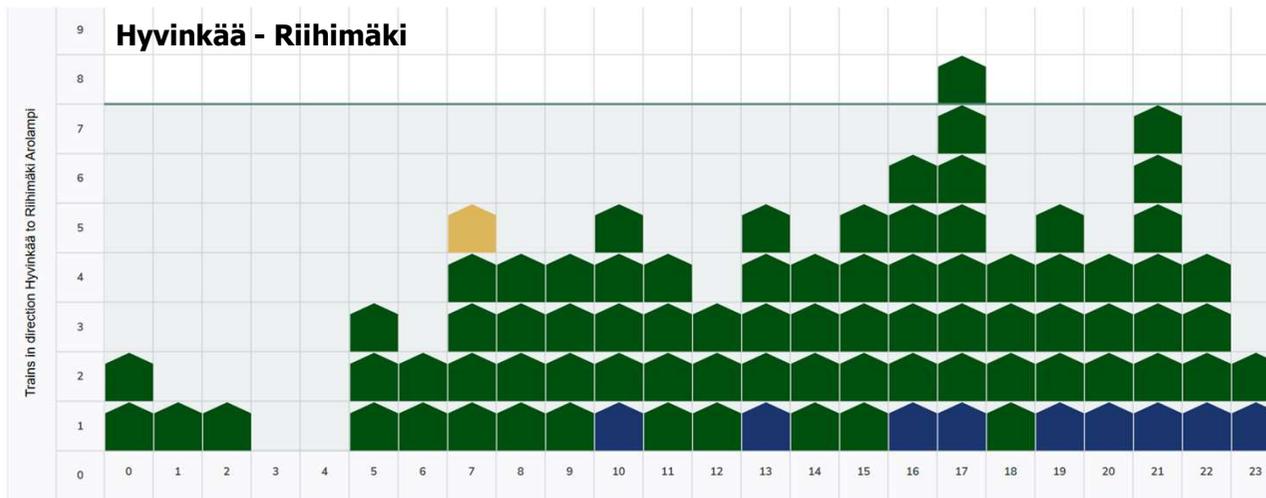
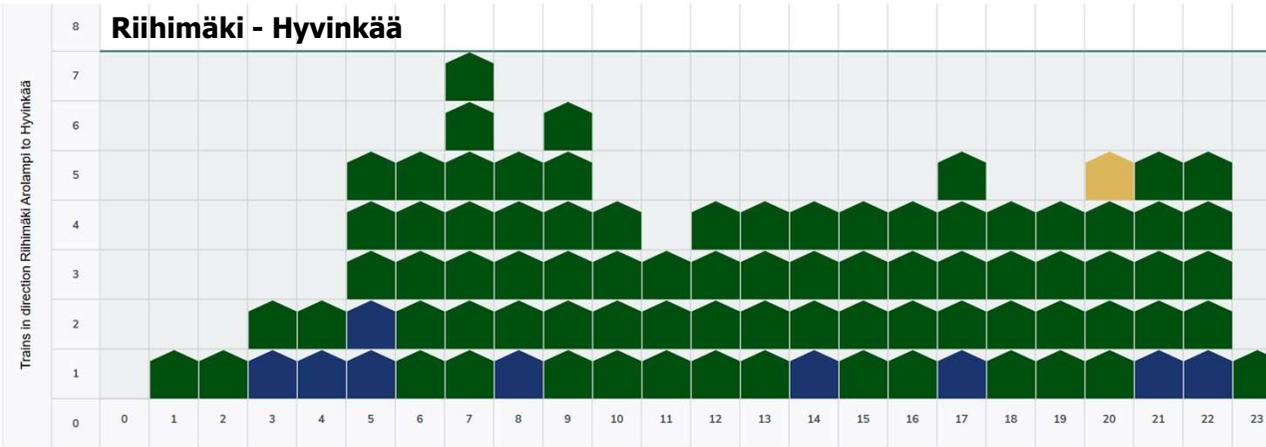
Hyvinkää - Kerava



Kerava - Hyvinkää



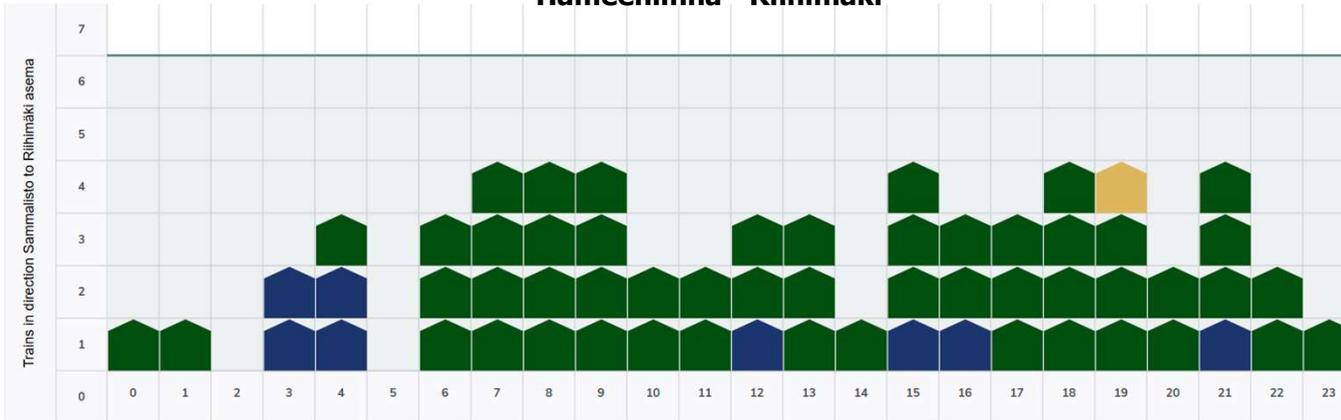
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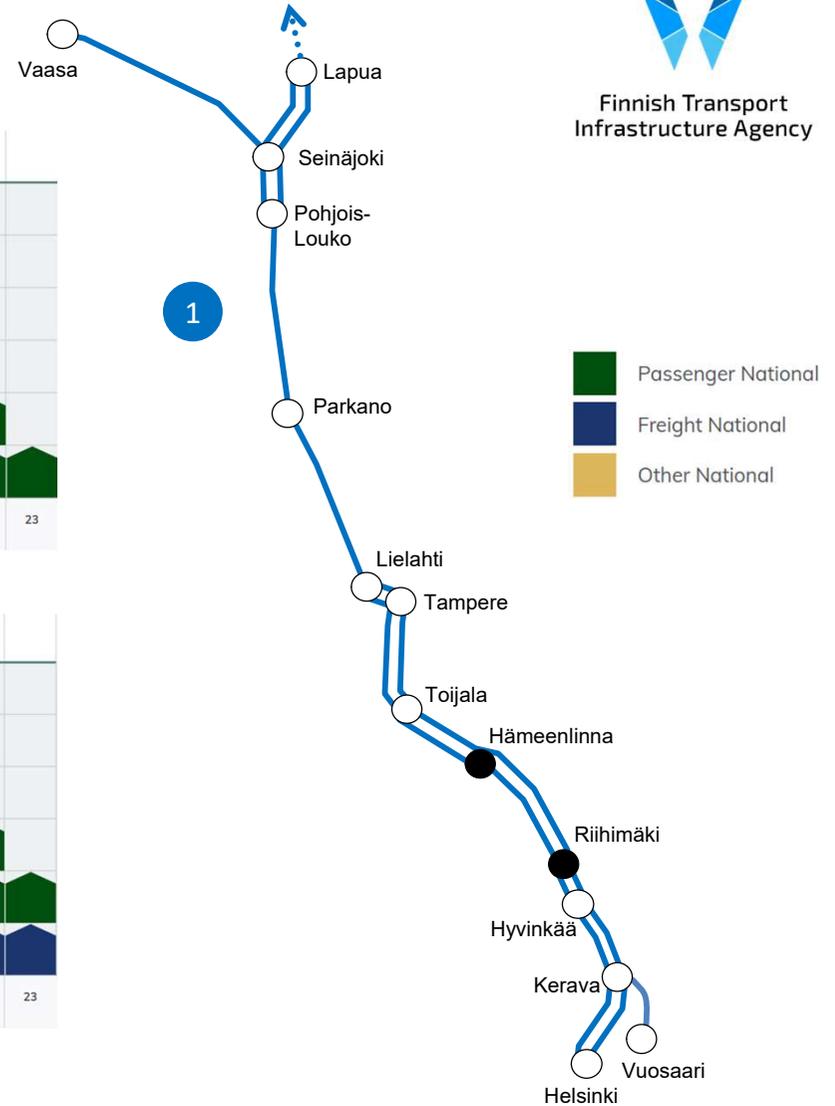
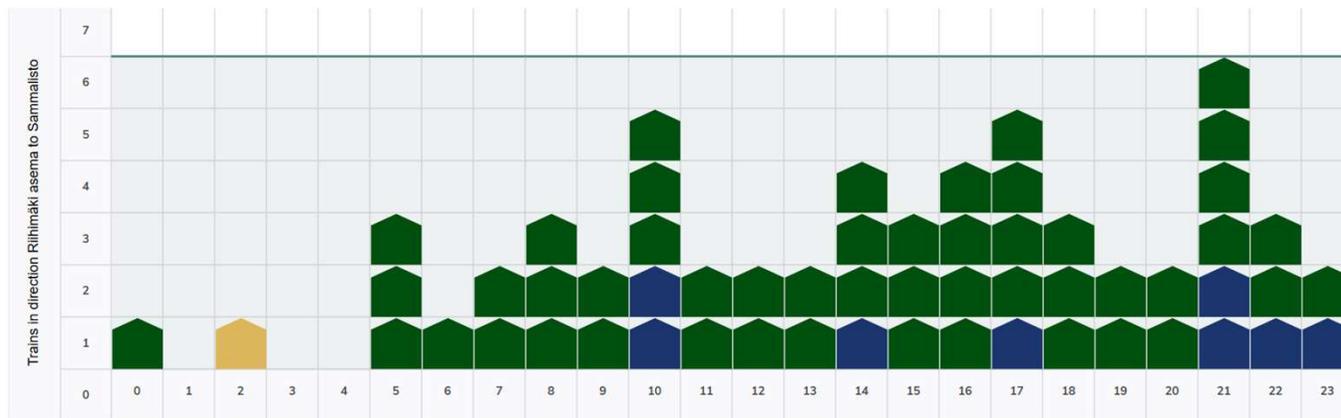
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Hämeenlinna - Riihimäki



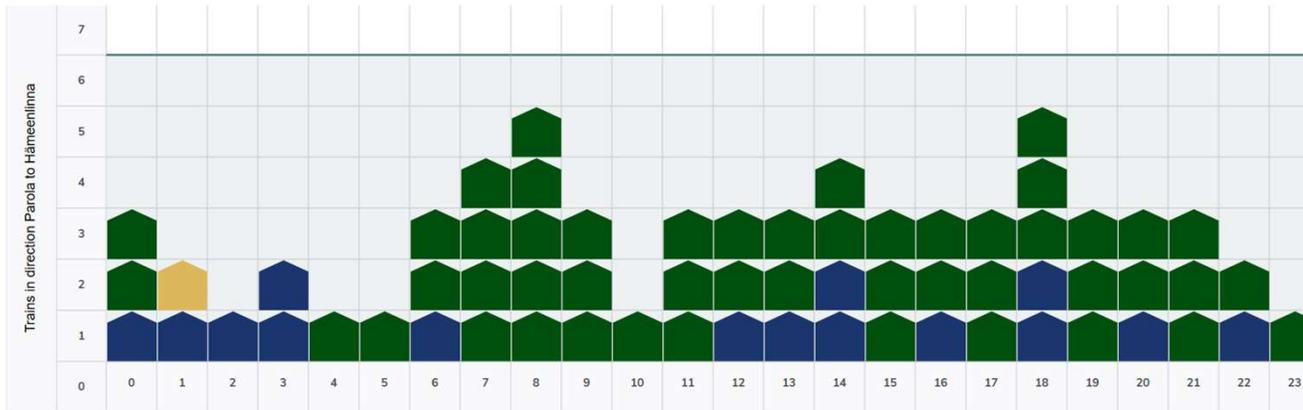
Riihimäki - Hämeenlinna



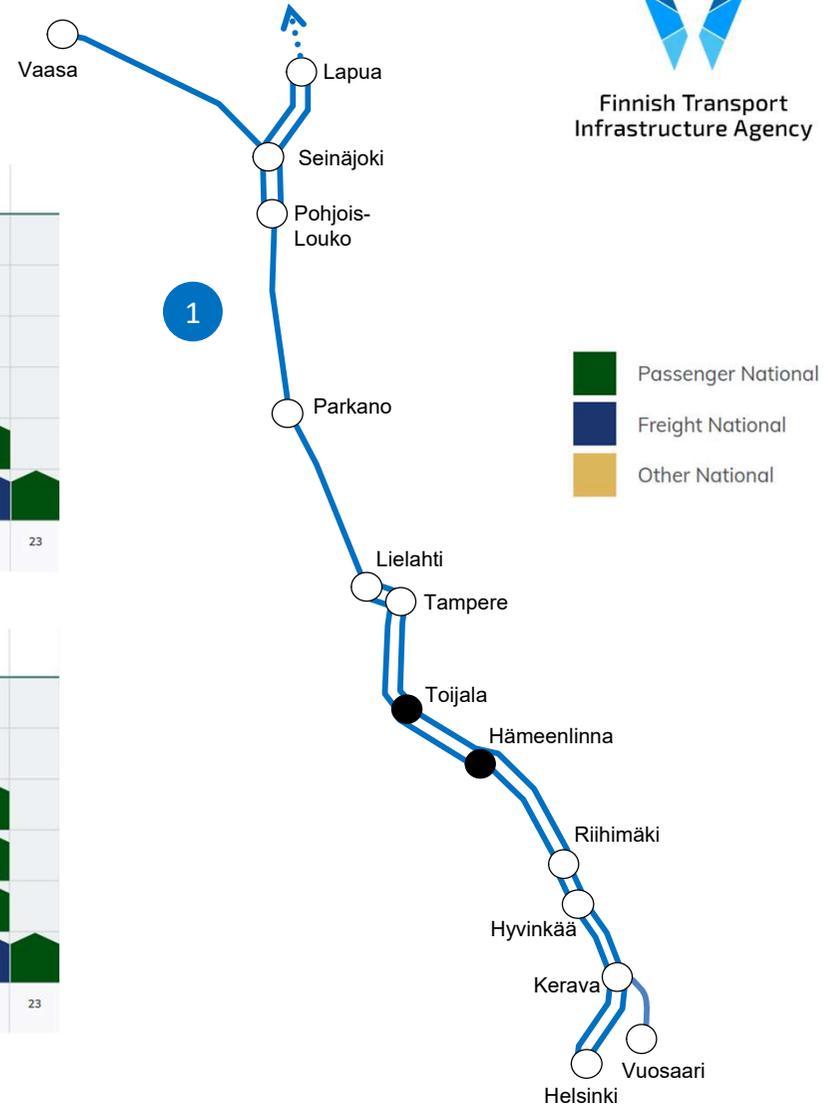
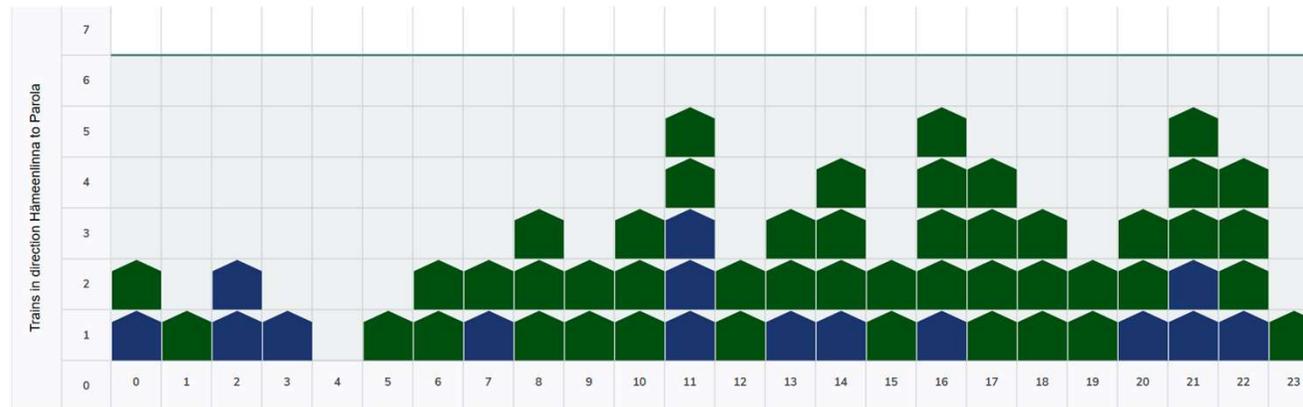
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Toijala - Hämeenlinna



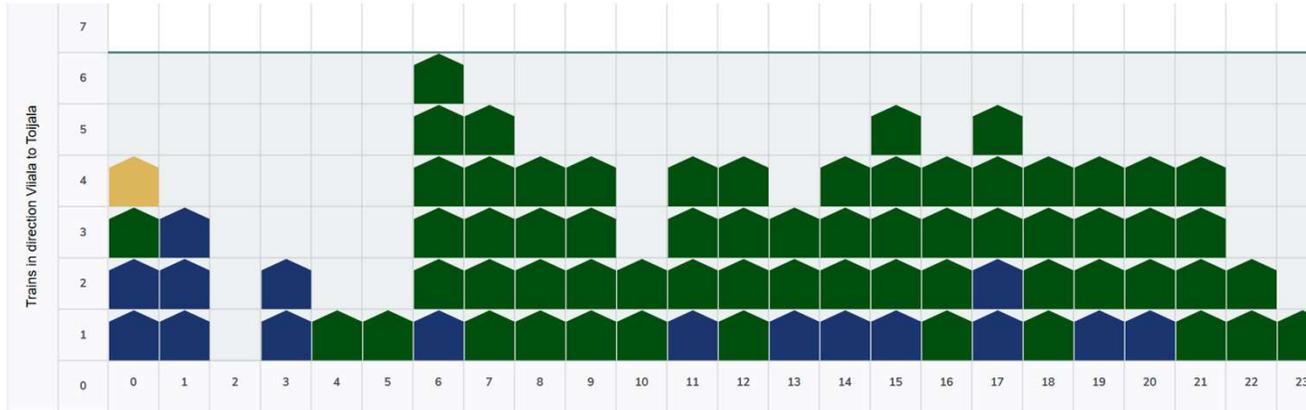
Hämeenlinna - Toijala



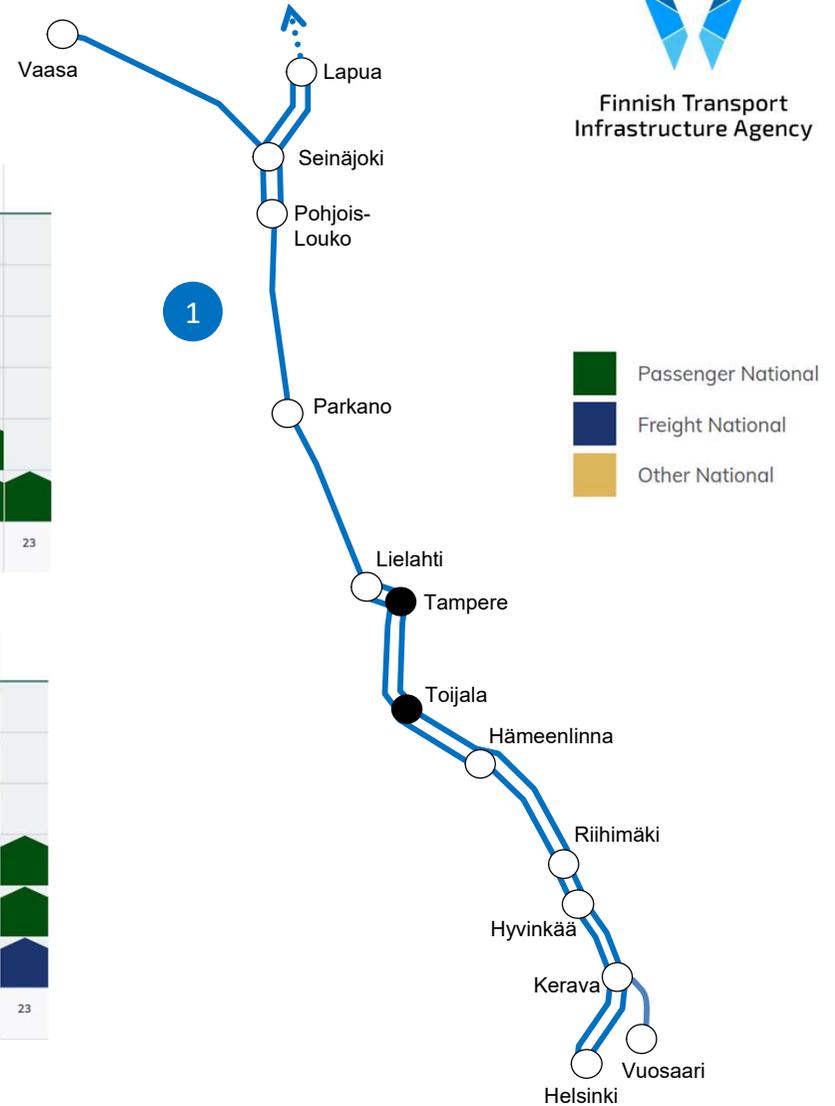
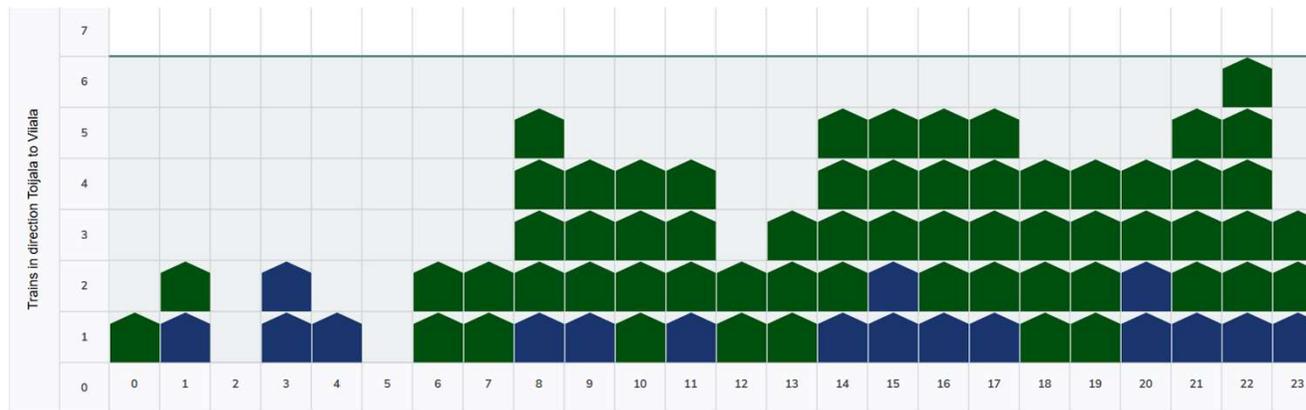
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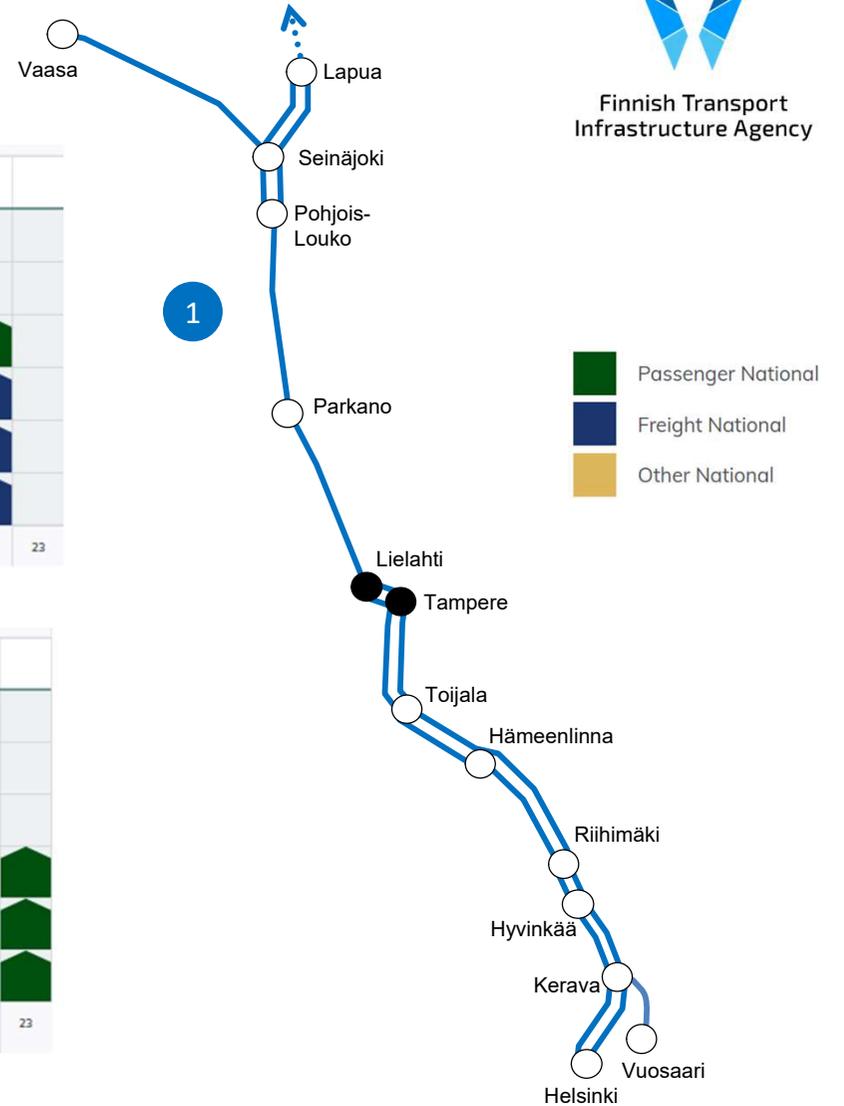
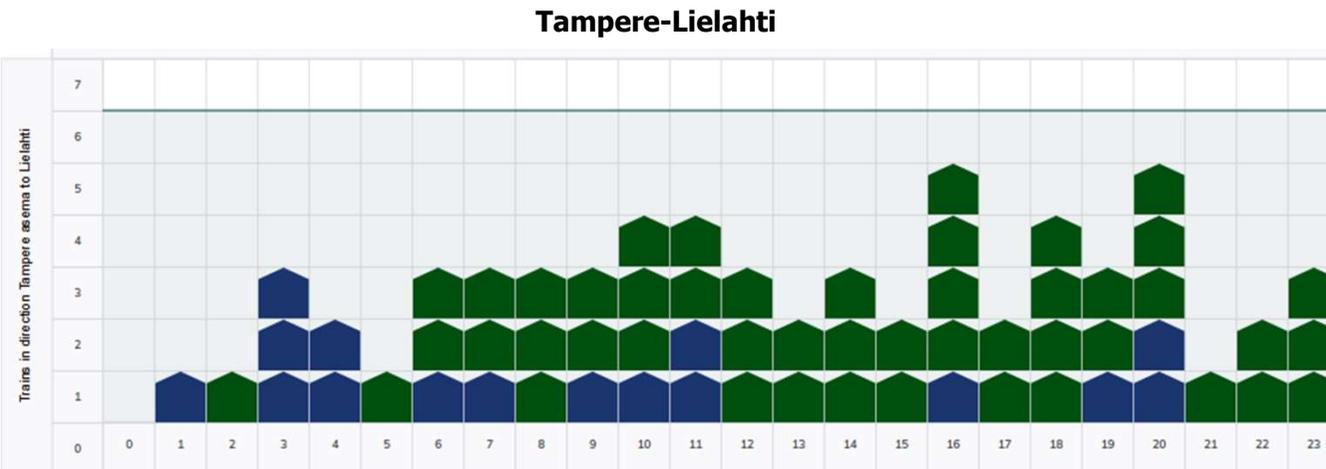
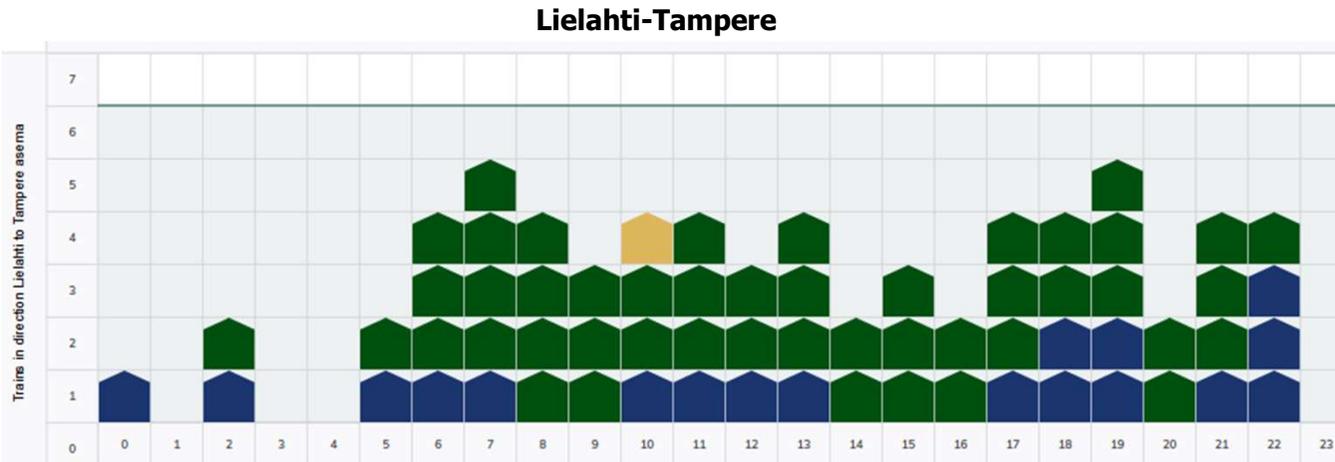
Tampere - Toijala



Toijala - Tampere



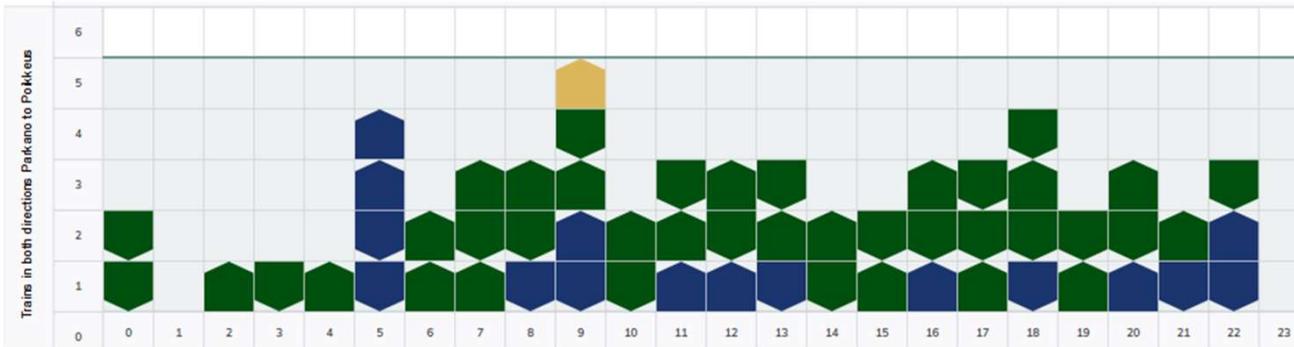
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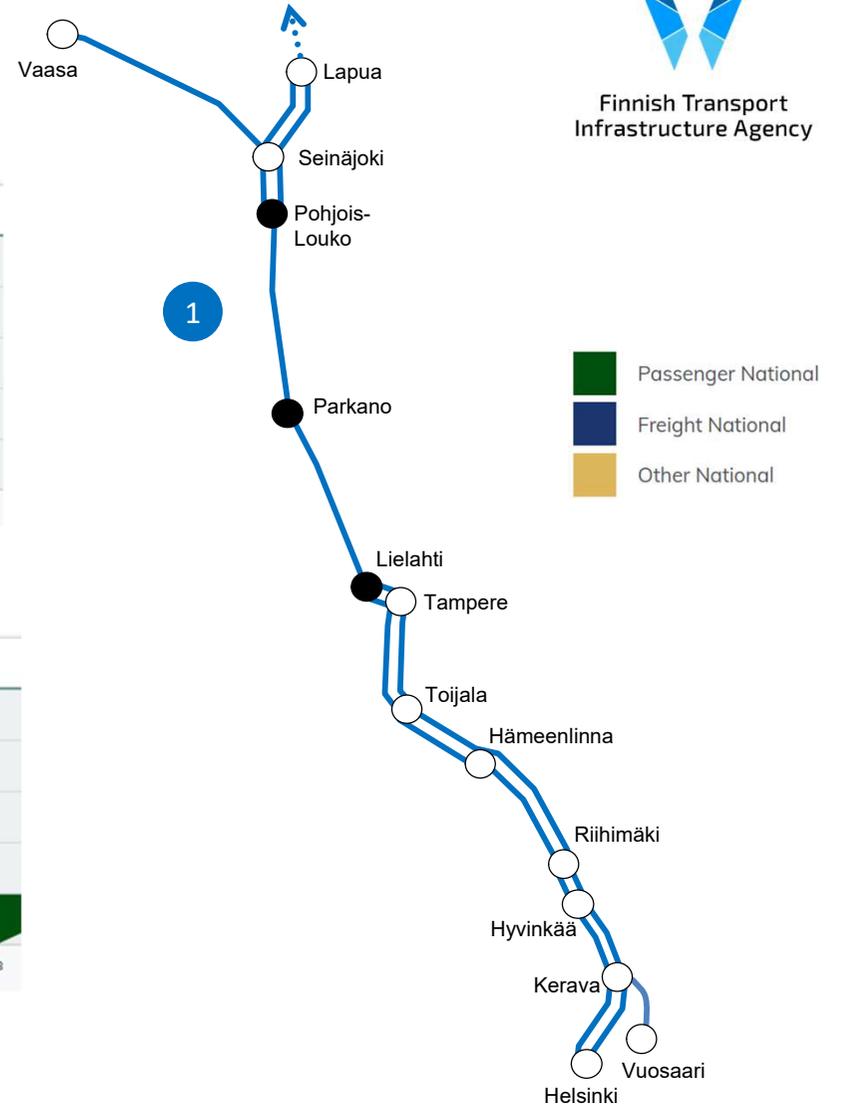
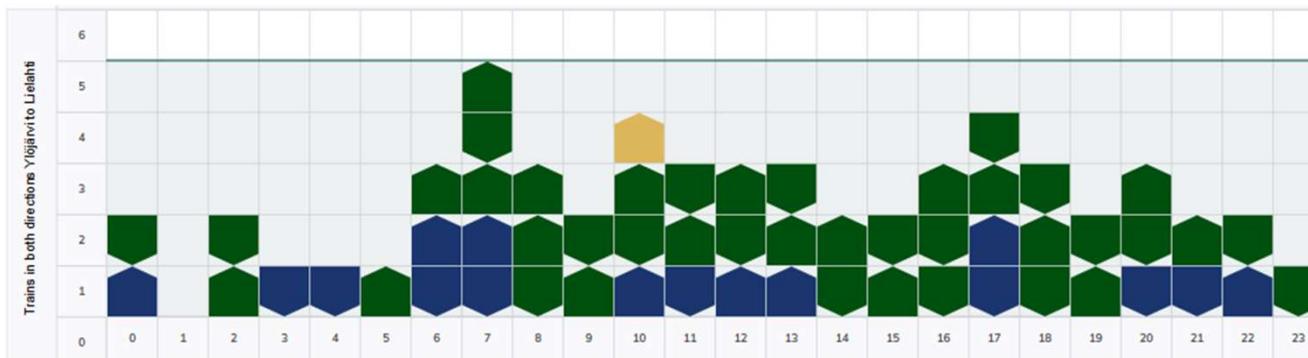
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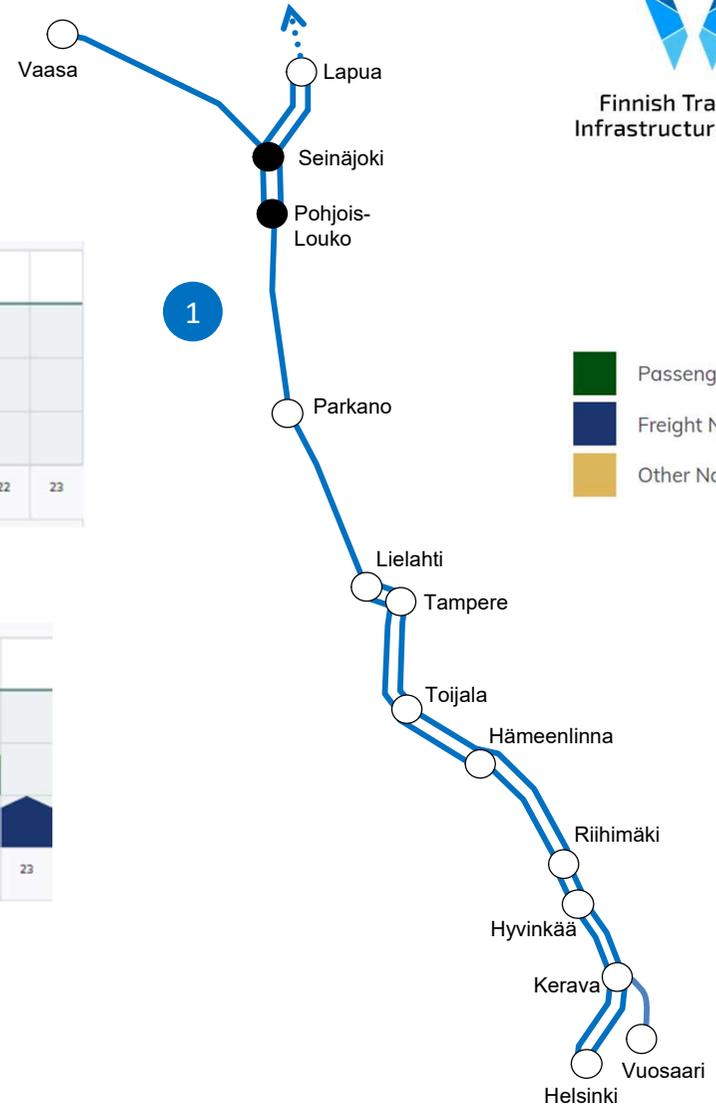
Parkano-Pohjois-Louko



Lielähti-Parkano

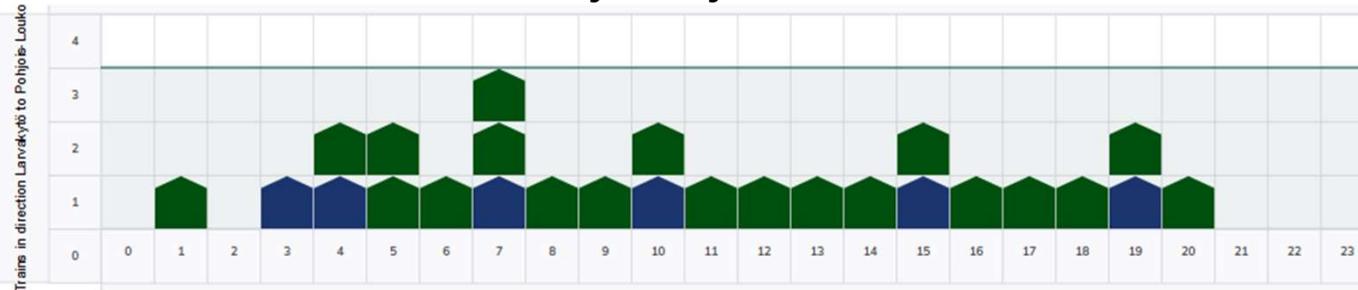


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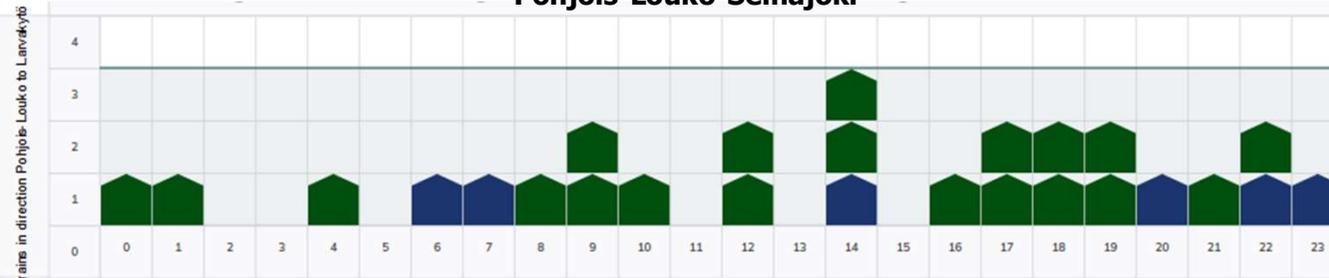


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- Freight National
- Other National

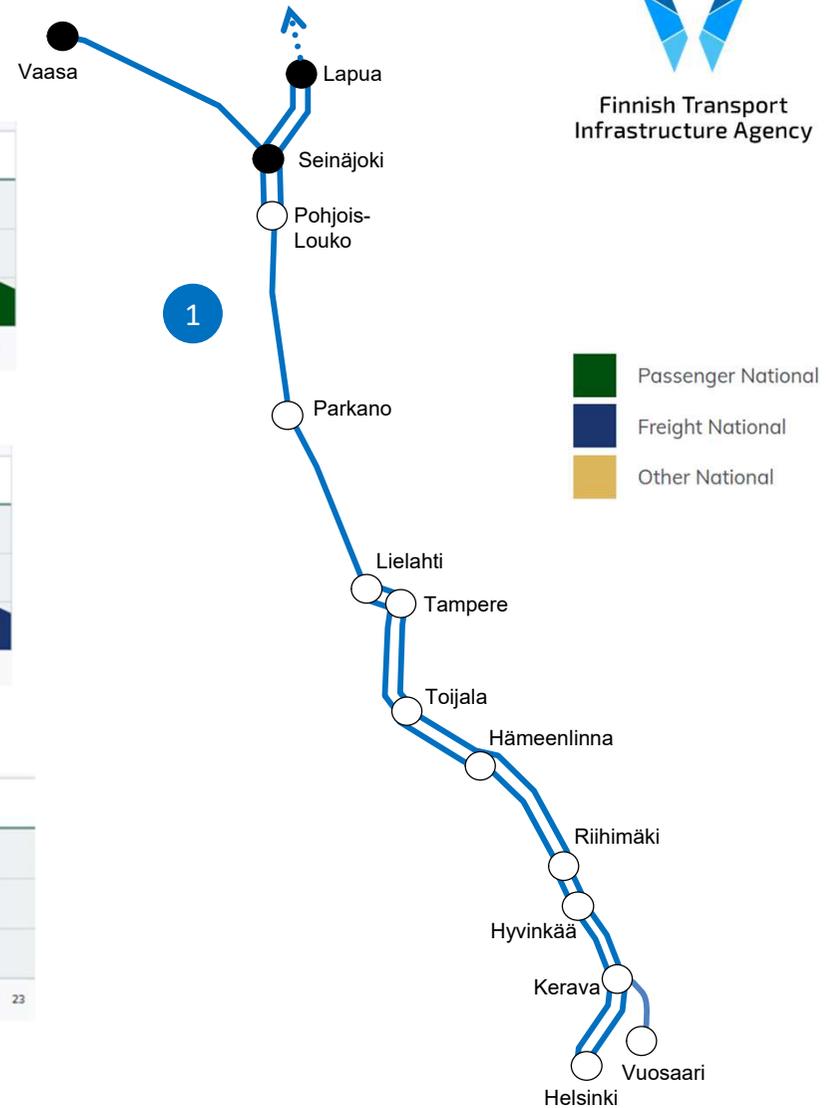
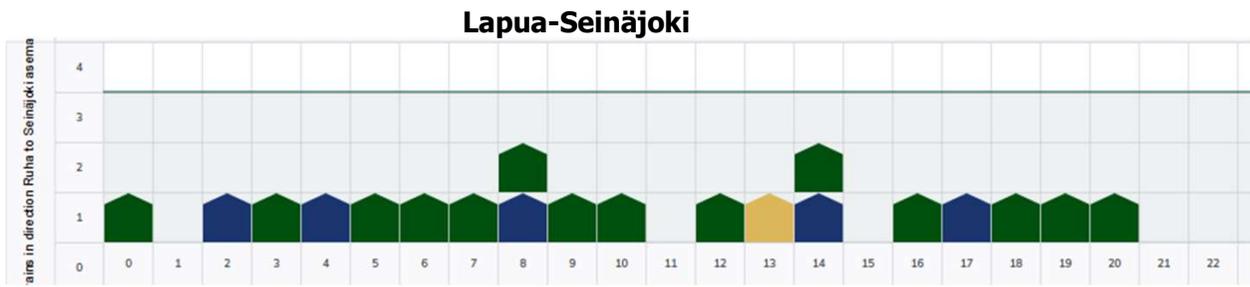
Seinäjoki-Pohjois-Louko



Pohjois-Louko-Seinäjoki

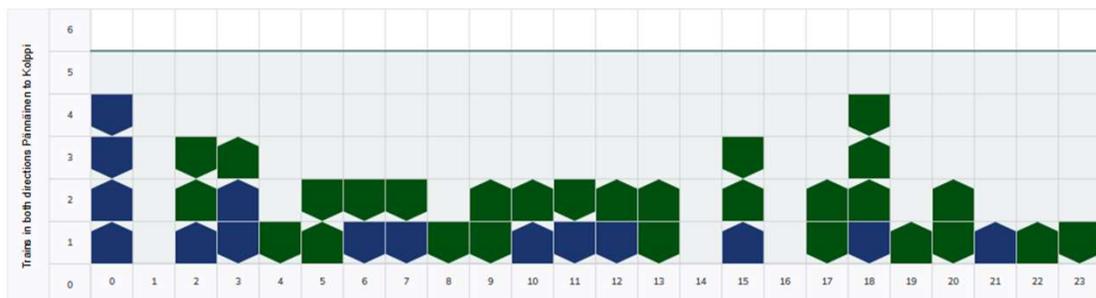


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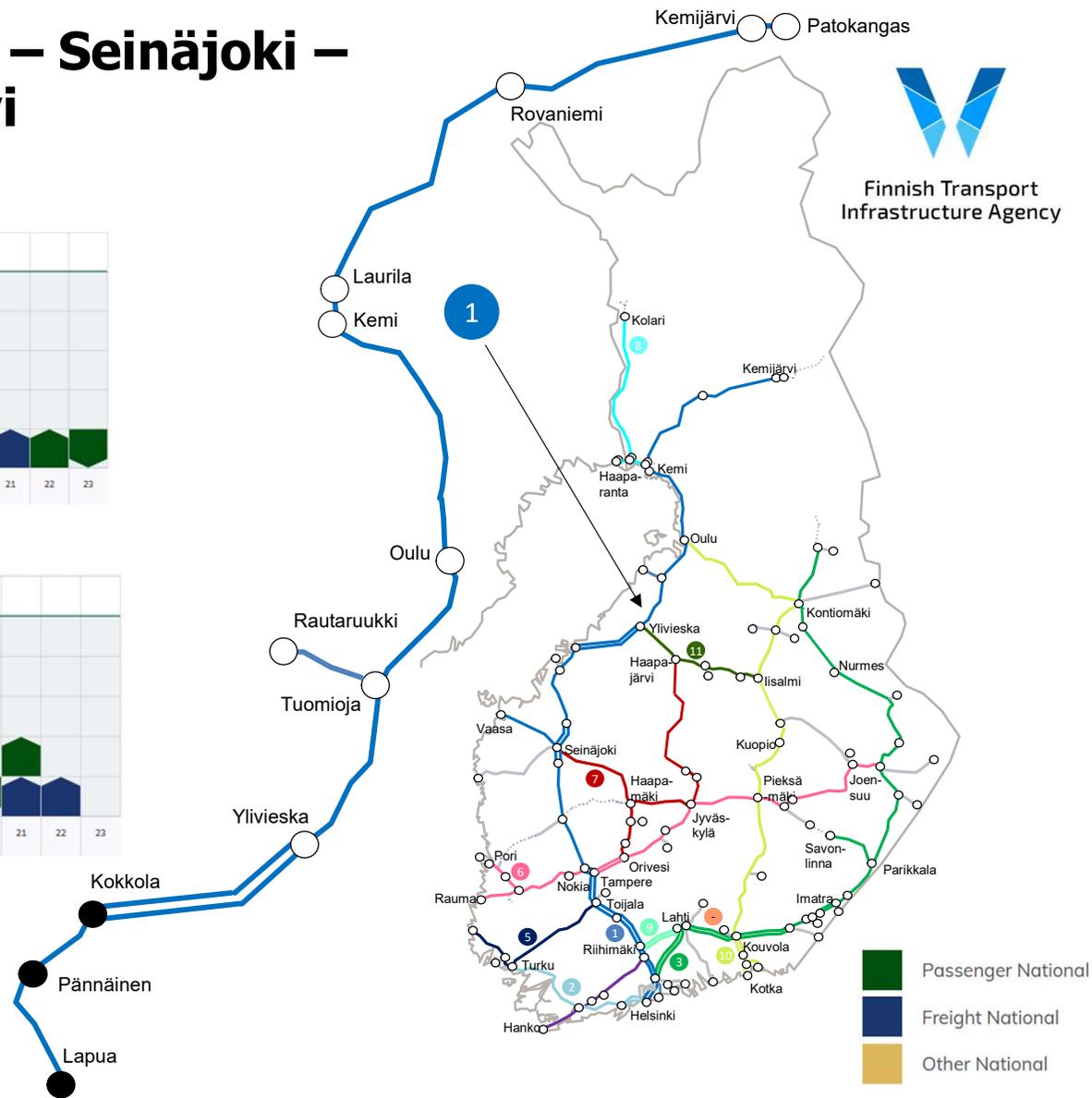
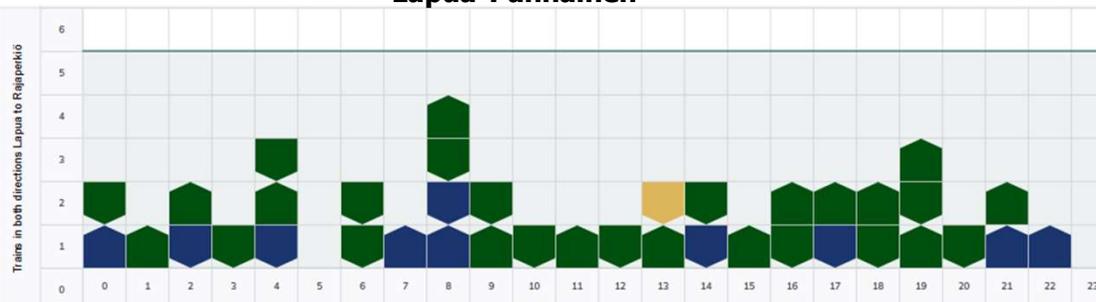


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Pännäinen-Kokkola

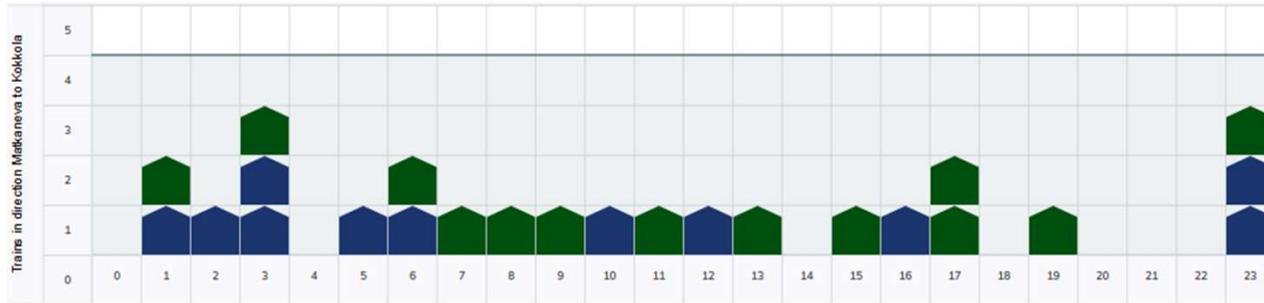


Lapua-Pännäinen

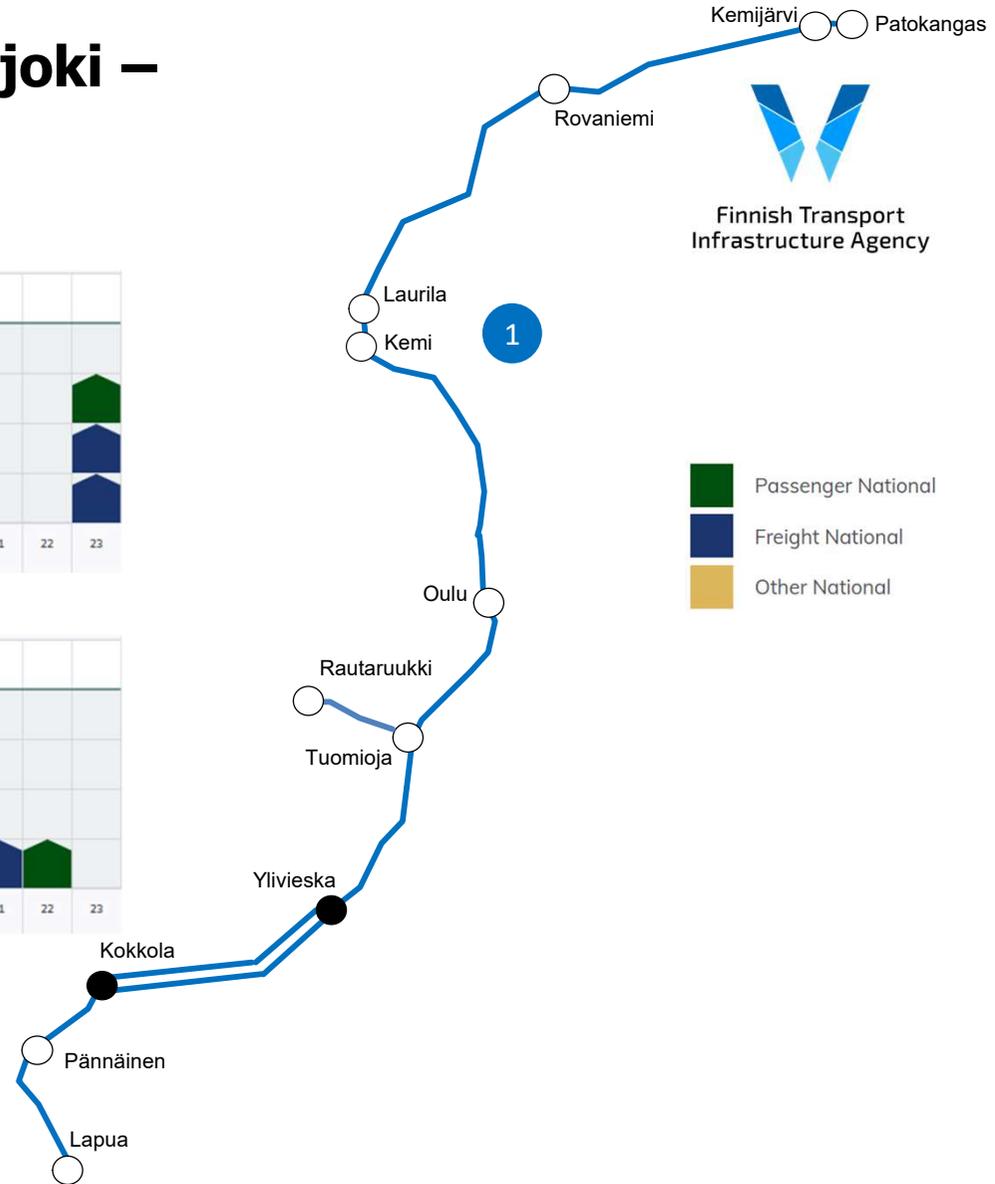
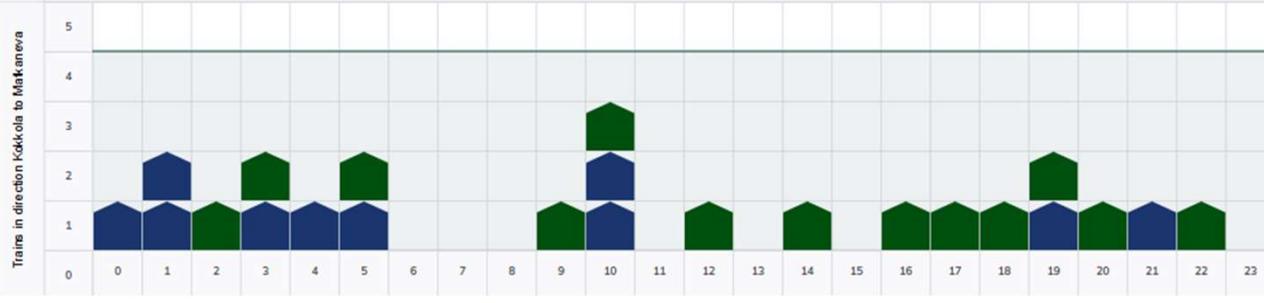


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Ylivieska-Kokkola



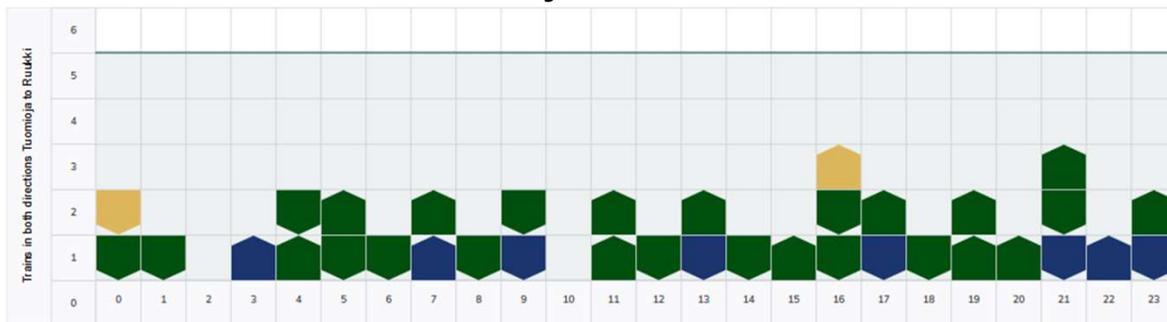
Kokkola-Ylivieska



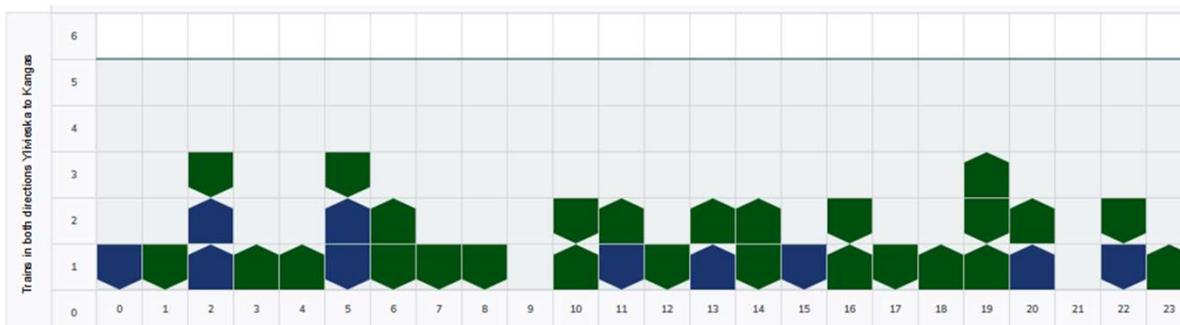
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Tuomioja-Oulu

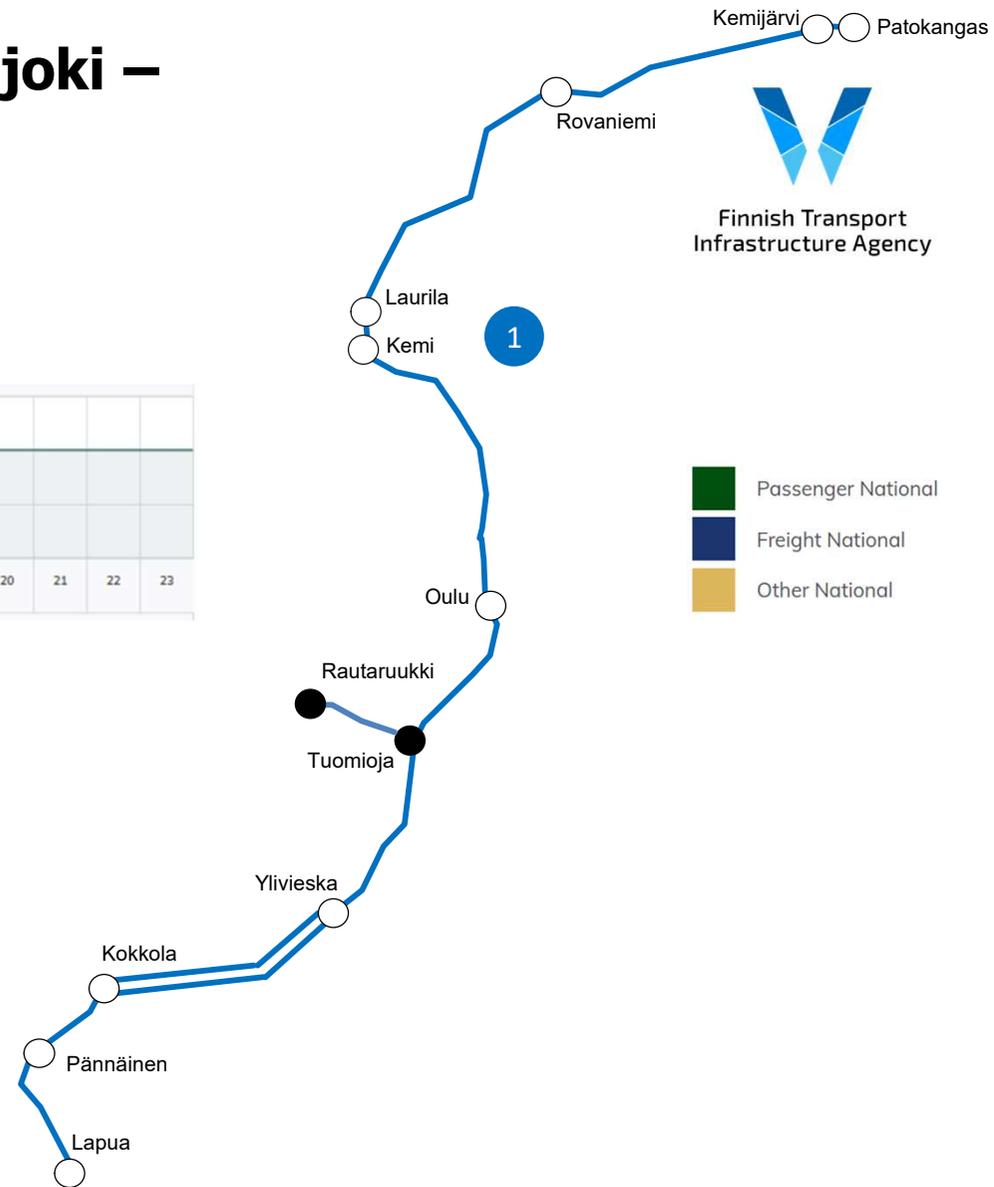
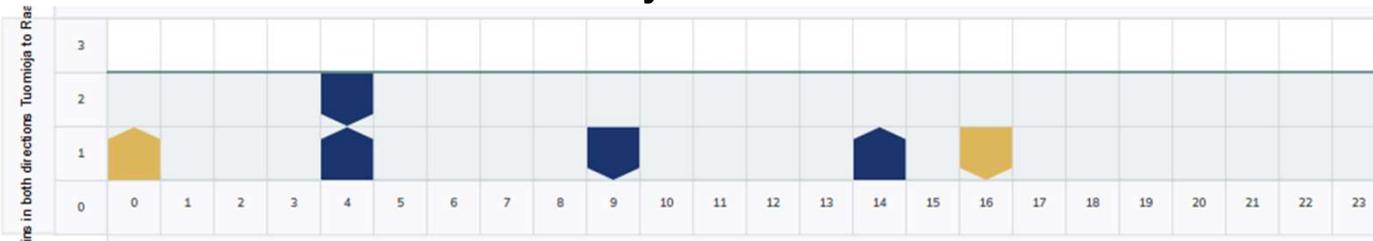


Ylivieska-Tuomioja



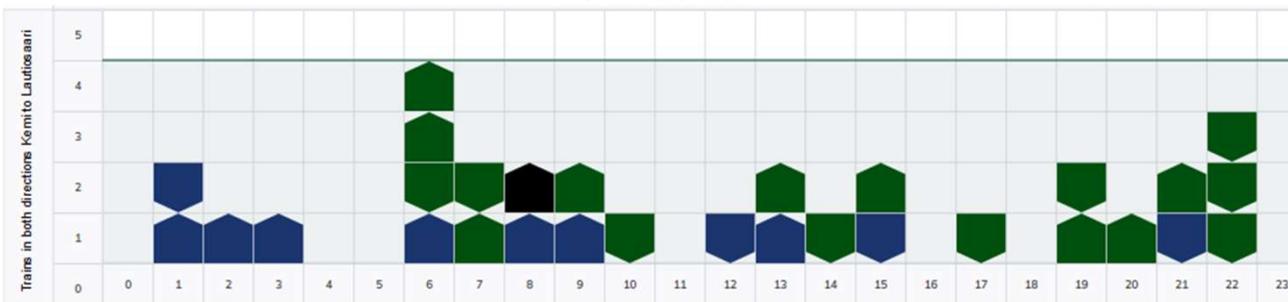
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Tuomioja-Rautaruukki

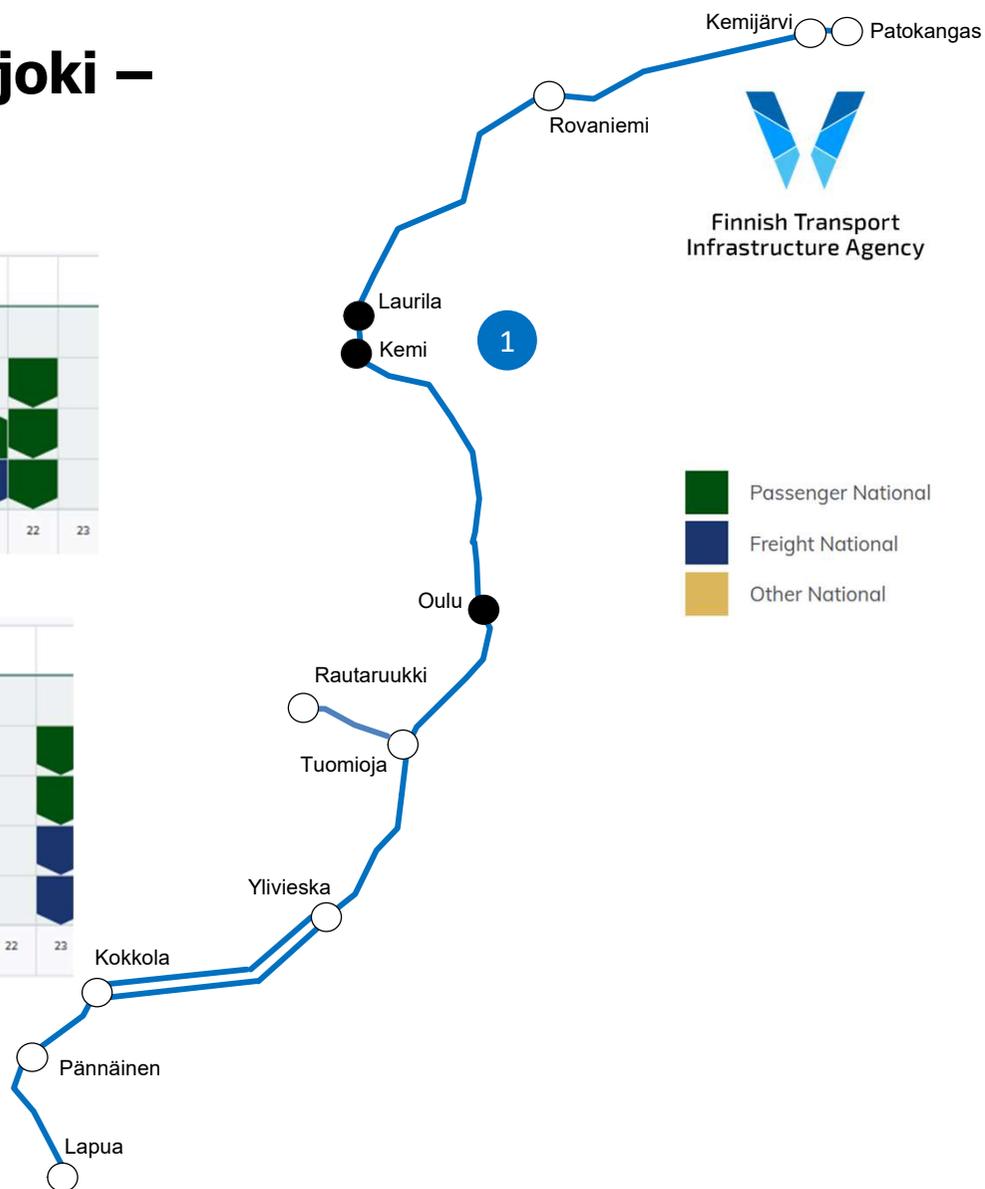
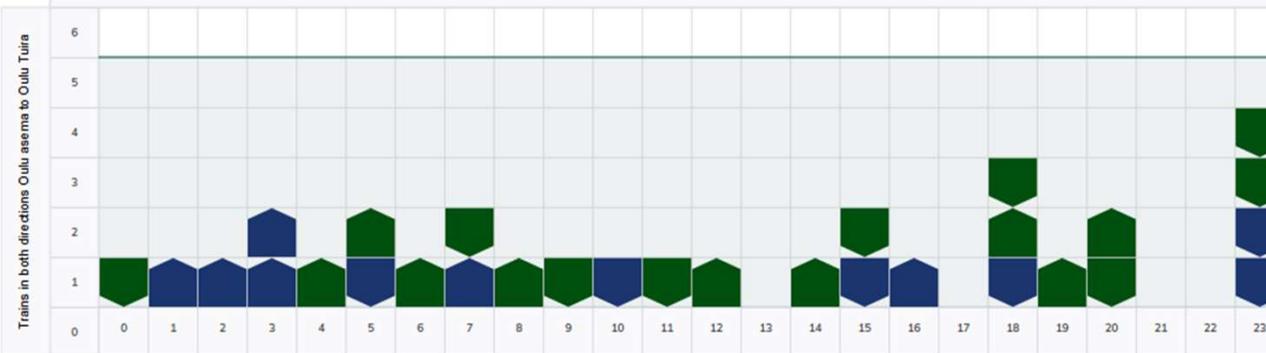


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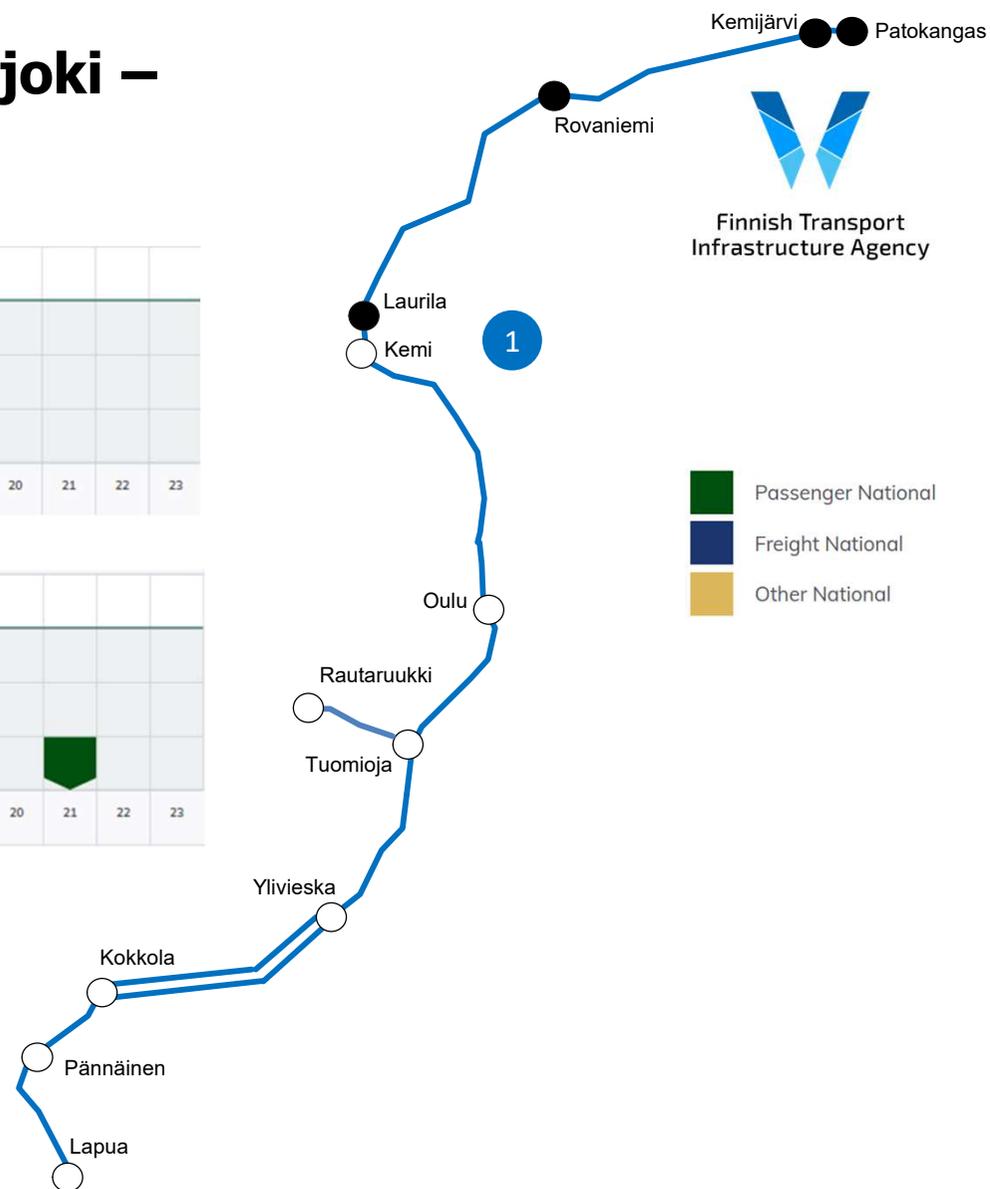
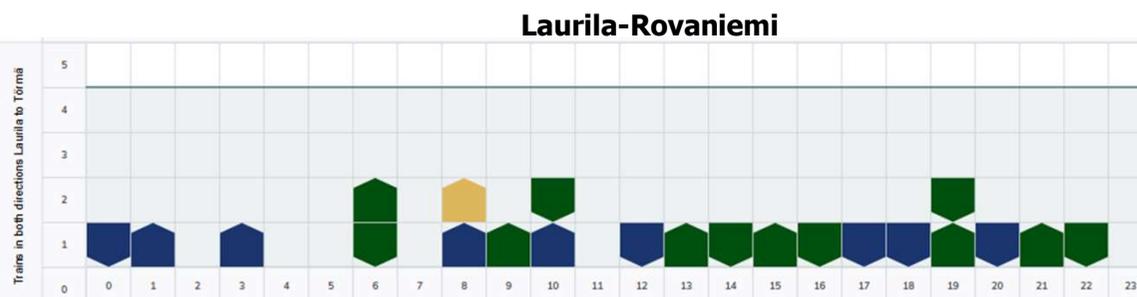
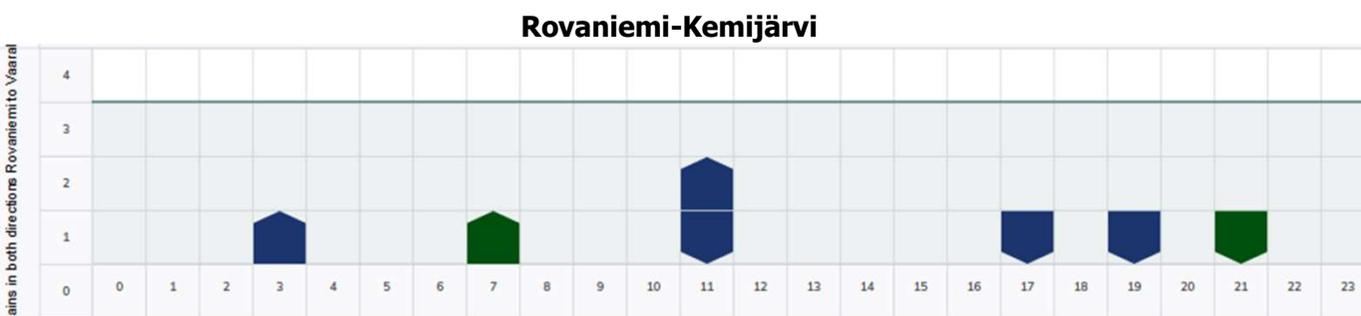
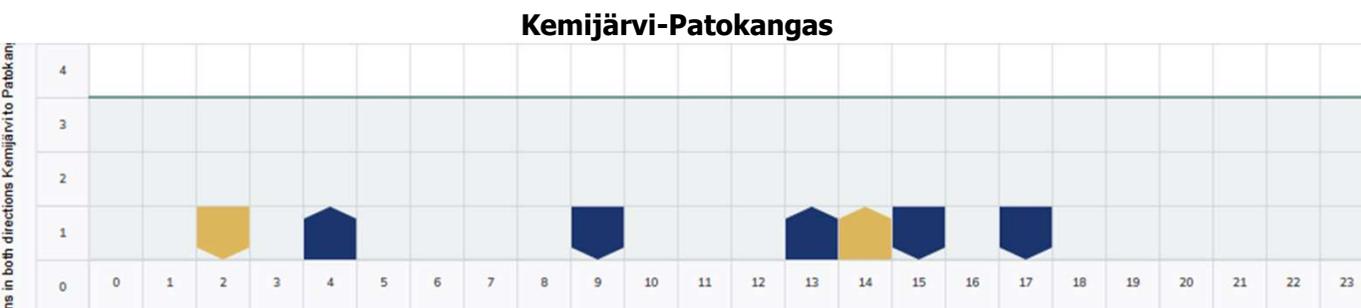
Kemi-Laurila



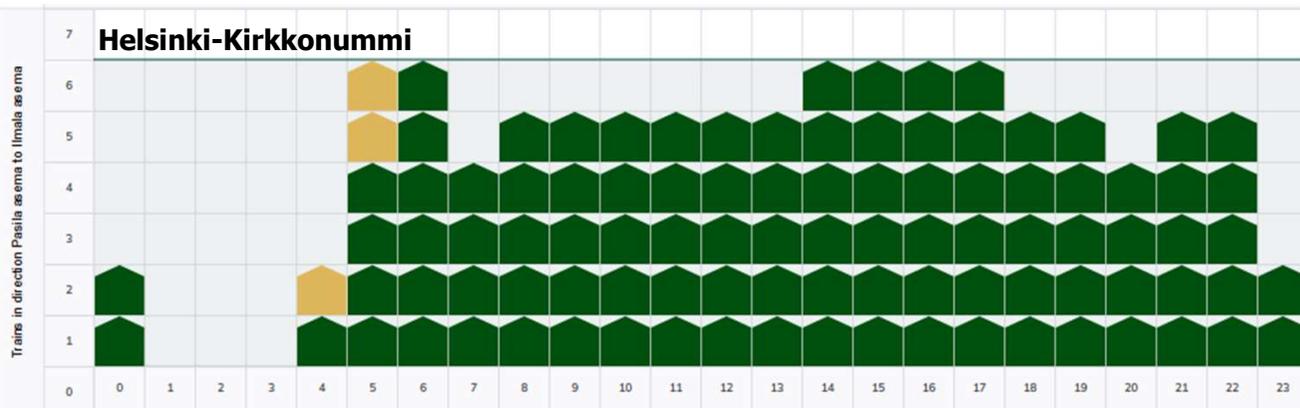
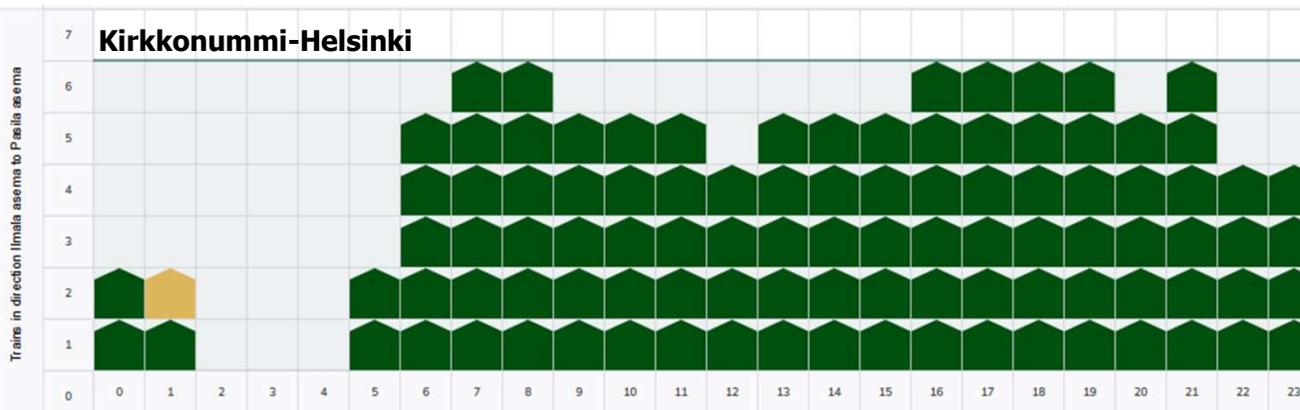
Oulu-Kemi



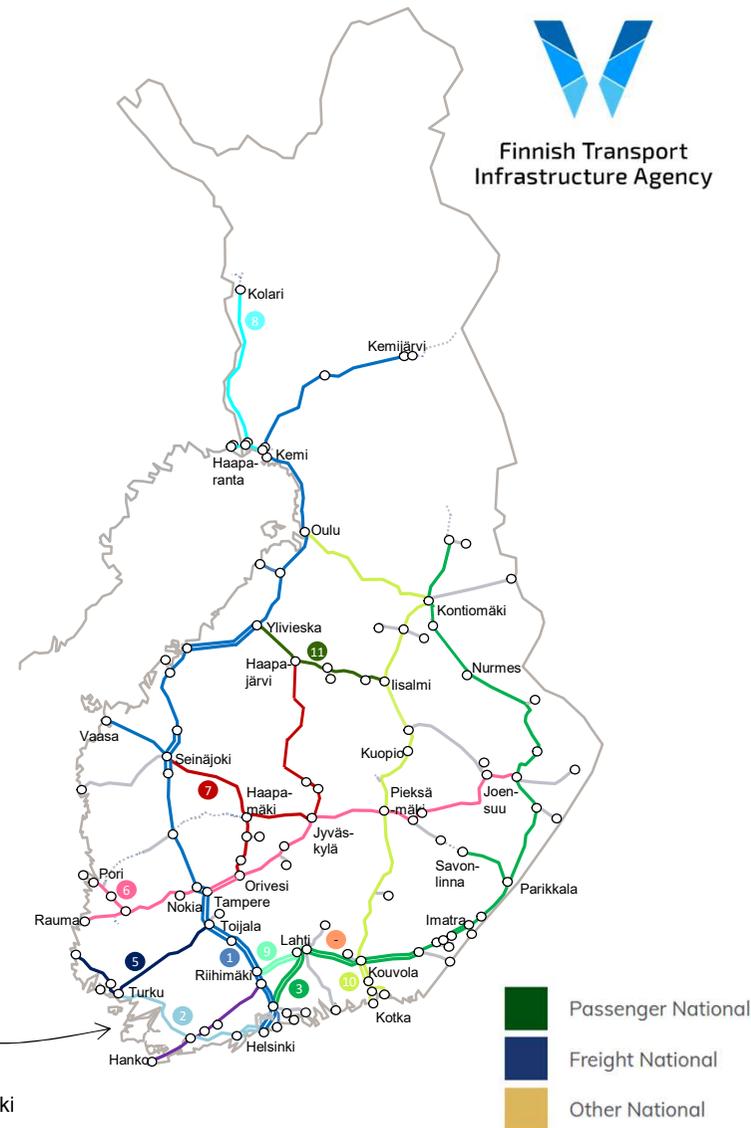
1: Helsinki/Vuosaari – Tampere – Seinäjoki – Vaasa – Oulu – Kemi – Kemijärvi



2: Helsinki – Turku

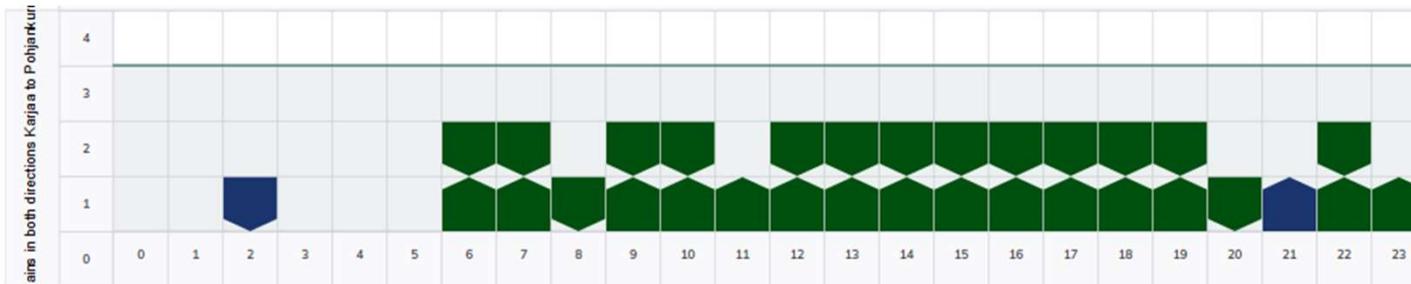


Note: Track section partially closed due to total closure between Leppävaara and Kauklahti 21.6.-26.7.2027. After the closure on a date to be determined one hourly volume between hours 6 and 22 will be shifted to tracks outside of this model.

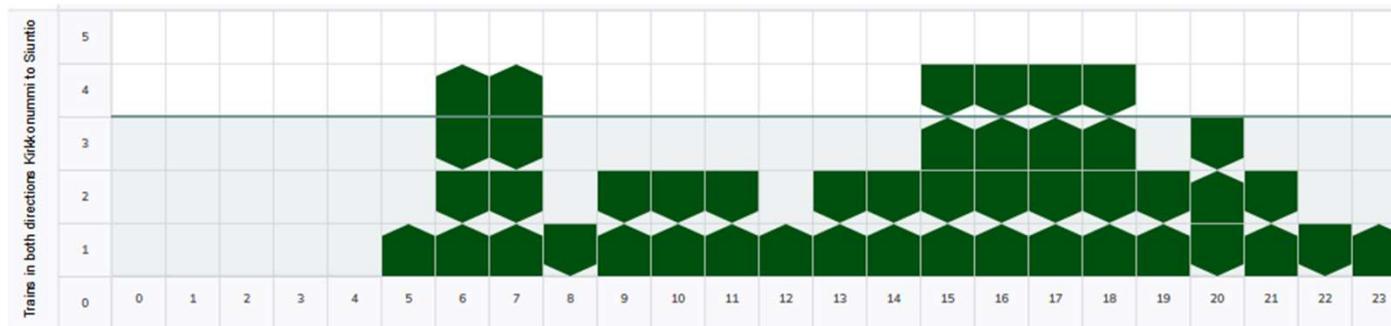


2: Helsinki – Turku

Karjaa-Turku

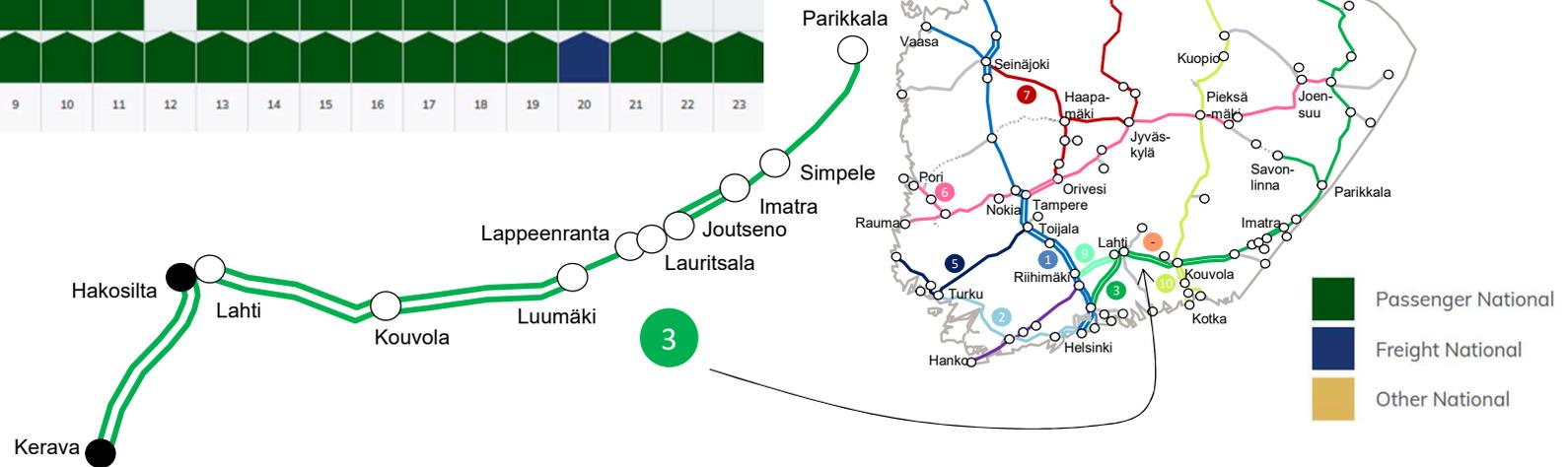
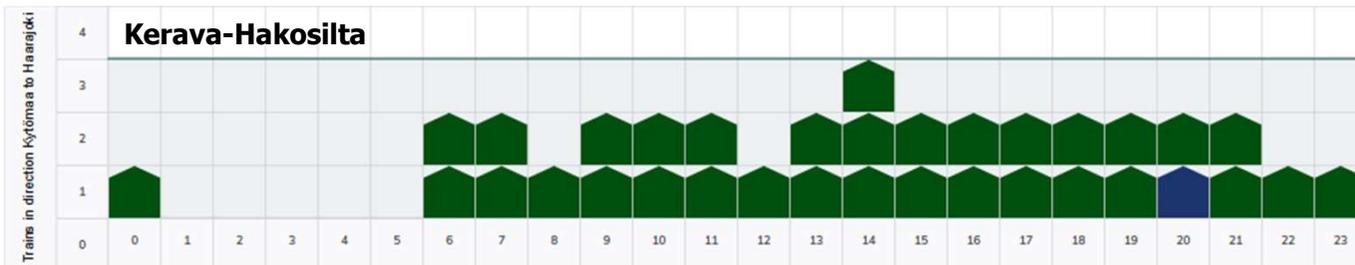
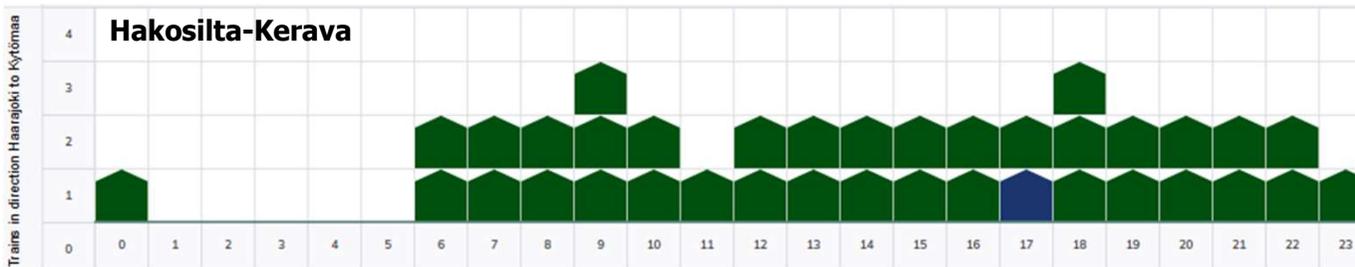


Kirkkonummi-Karjaa



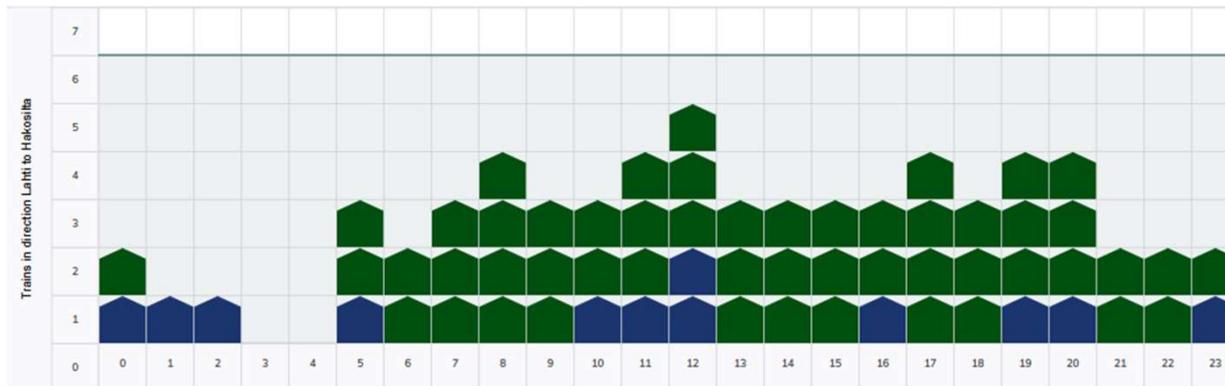
- Passenger National
- Freight National
- Other National

3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari

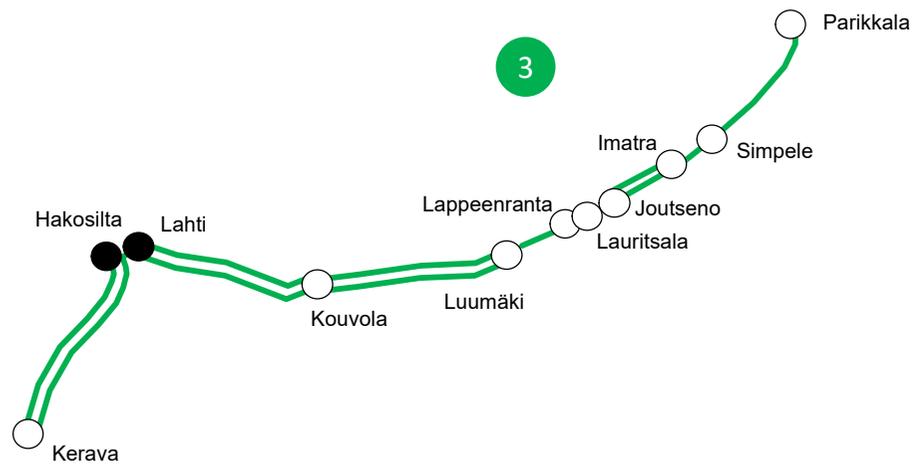
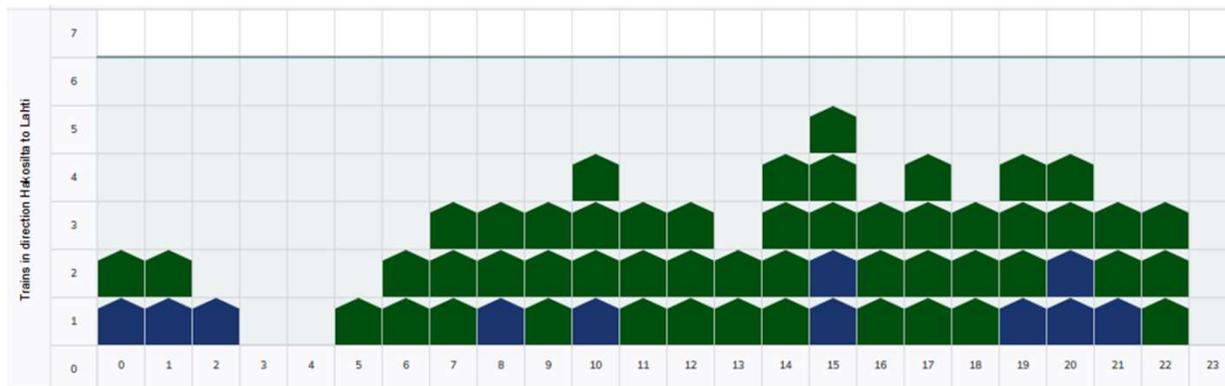


3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari

Lahti-Hakosilta



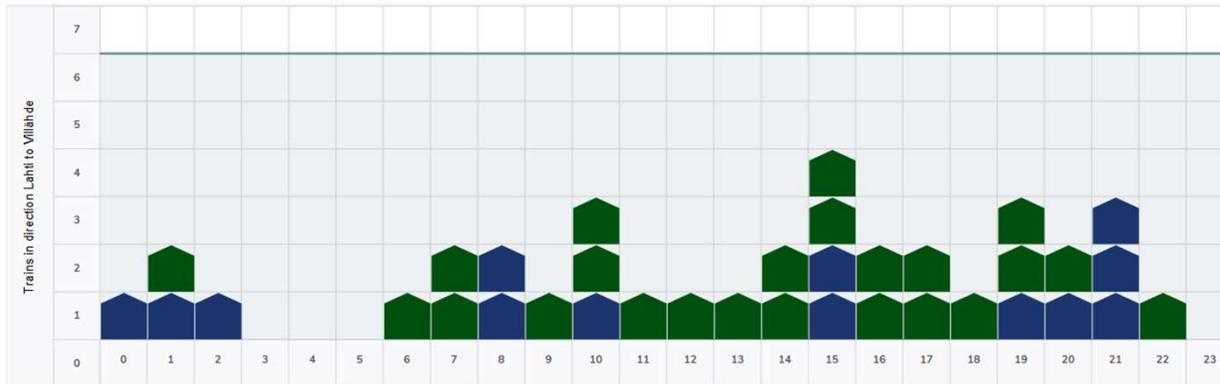
Hakosilta-Lahti



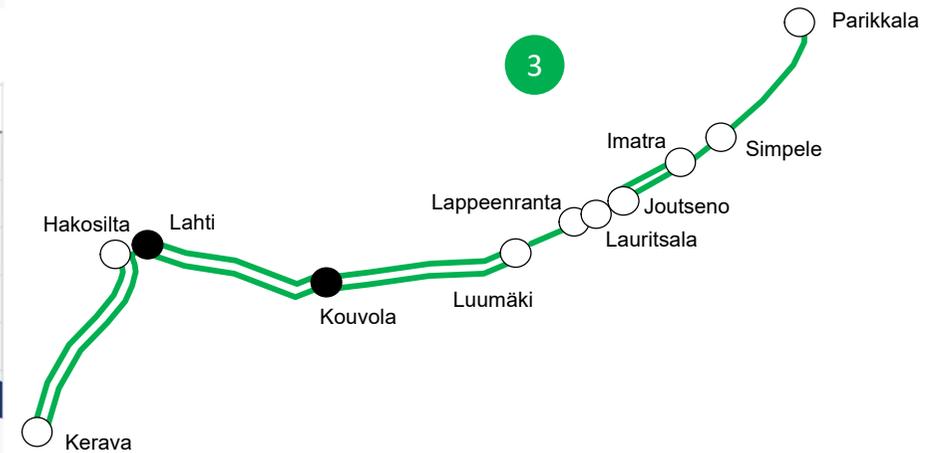
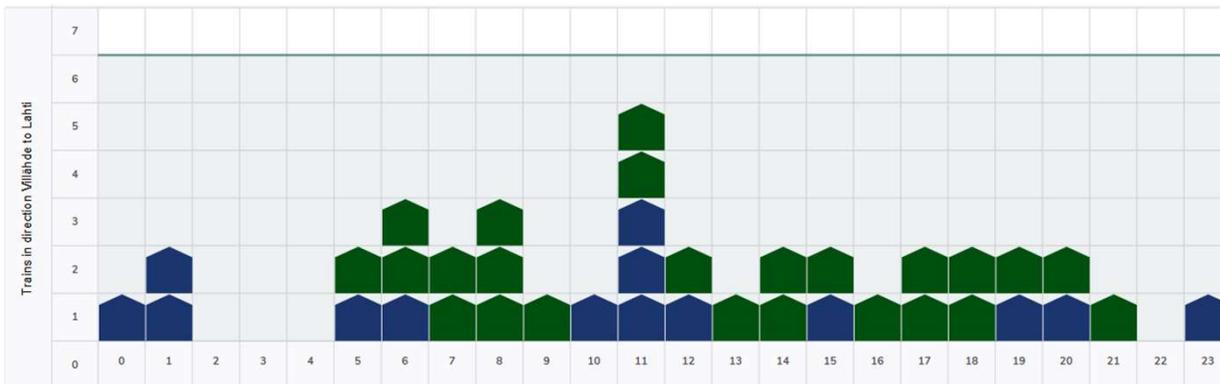
3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari



Lahti – Kouvola



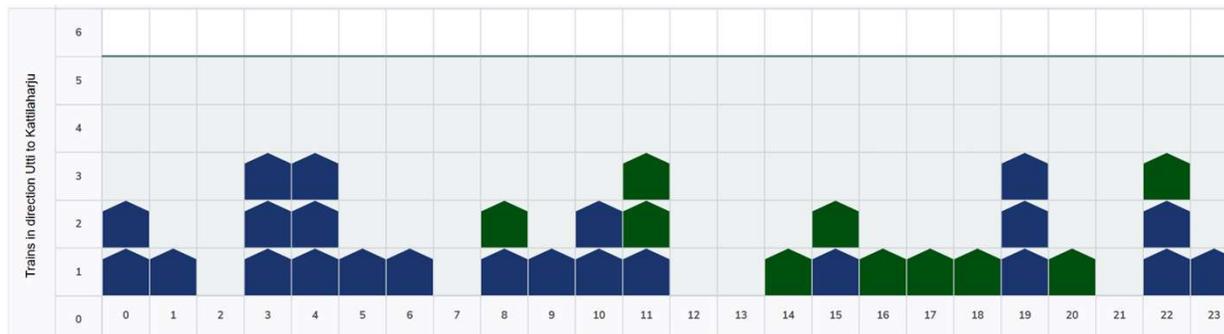
Kouvola – Lahti



3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari

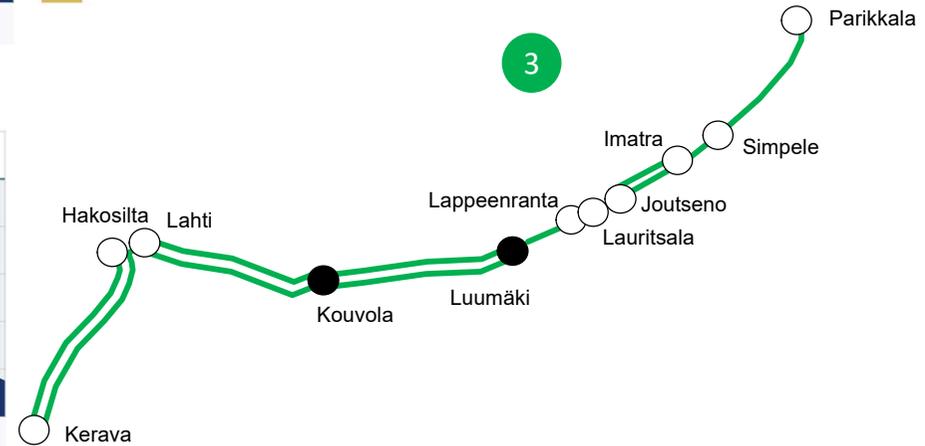
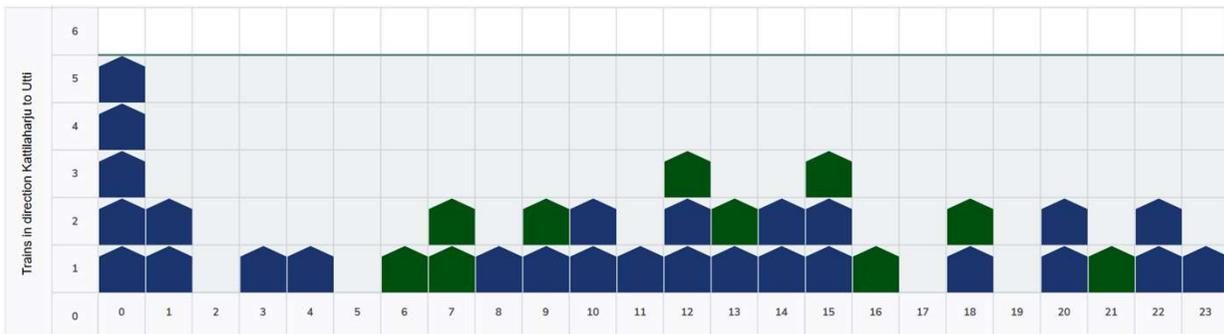


Kouvola – Luumäki



- Passenger National
- Freight National
- Other National

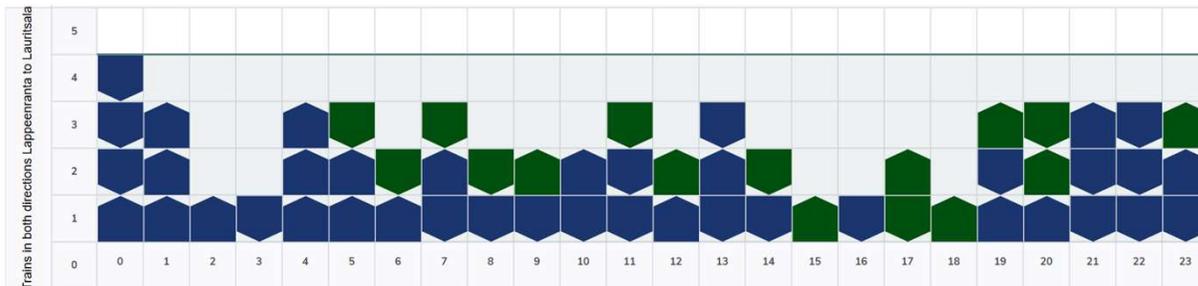
Luumäki – Kouvola



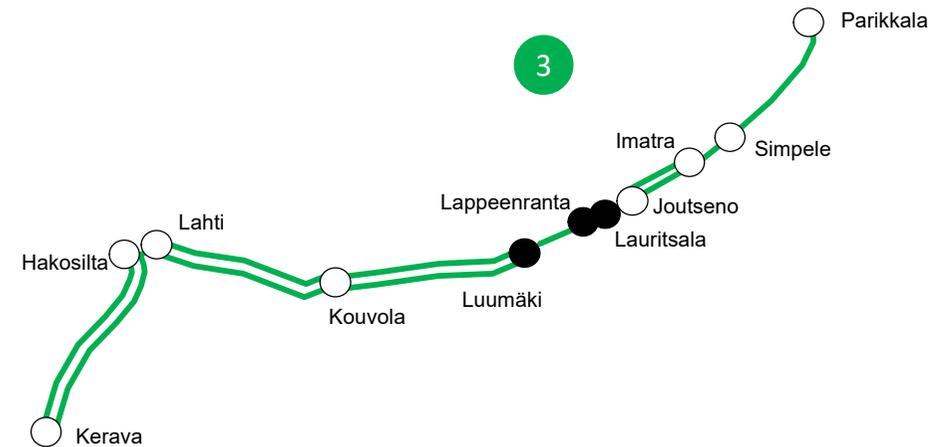
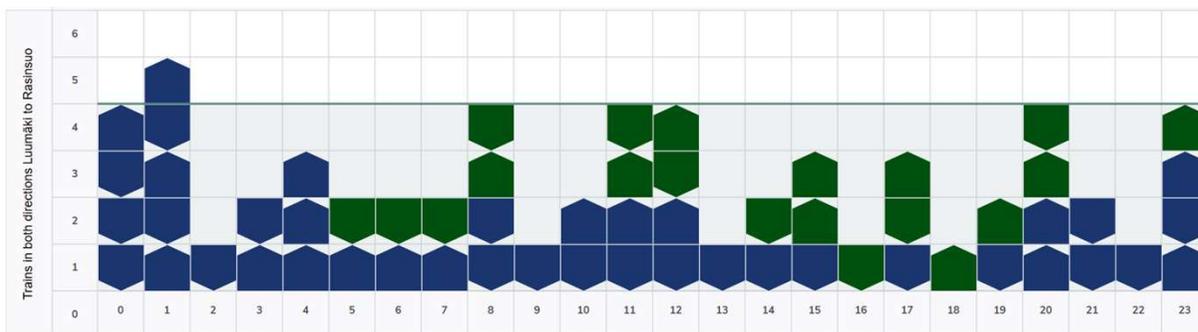
3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari



Lappeenranta – Lauritsala

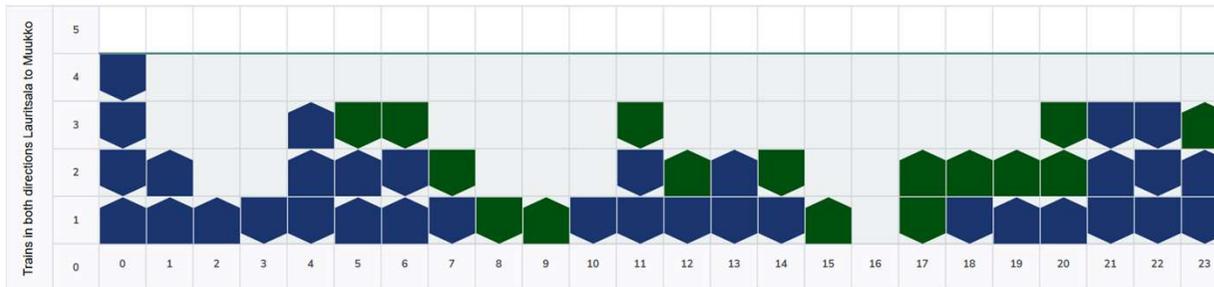


Luumäki – Lappeenranta

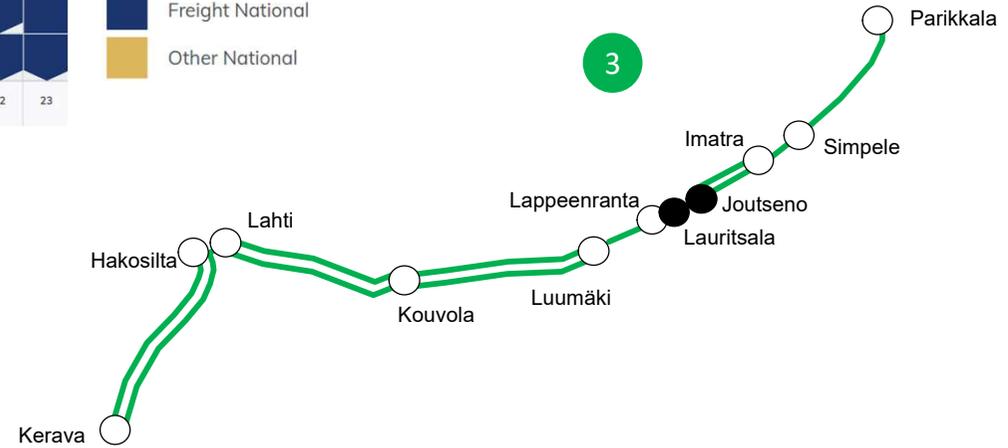


3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari

Lauritsala – Joutseno

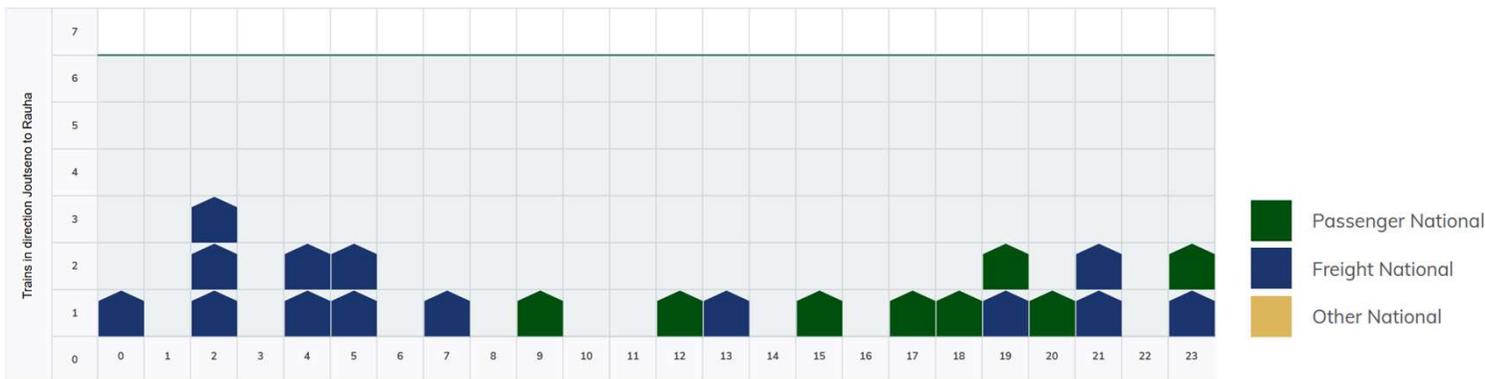


- Passenger National
- Freight National
- Other National

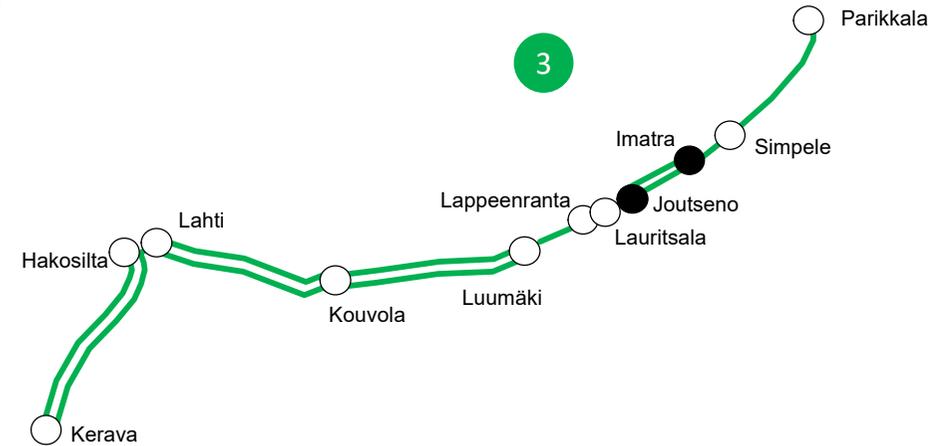
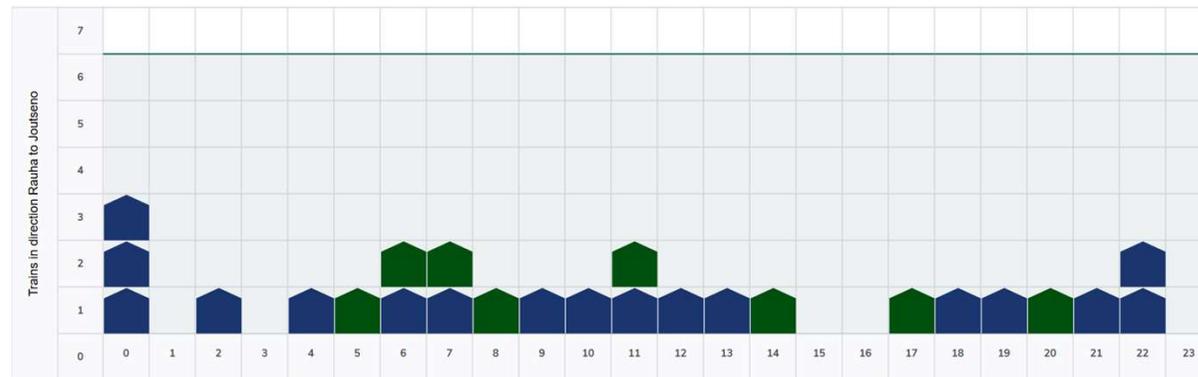


3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari

Joutseno – Imatra

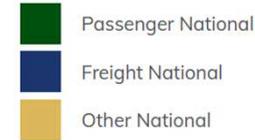
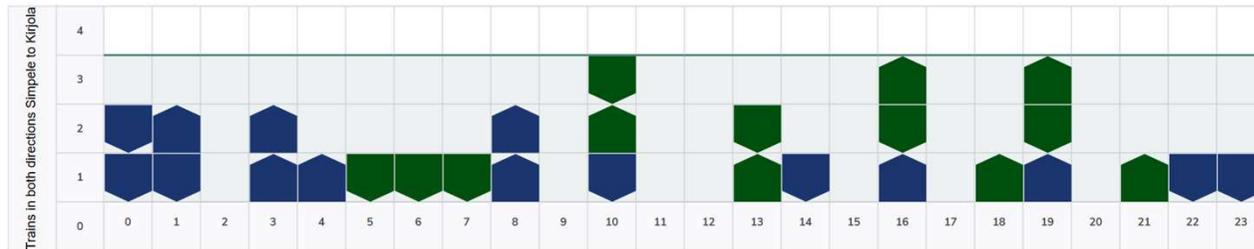


Imatra – Joutseno

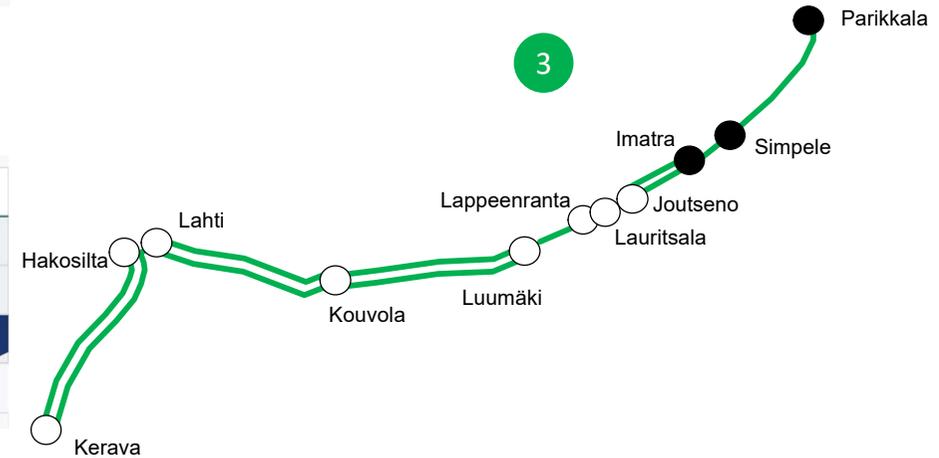
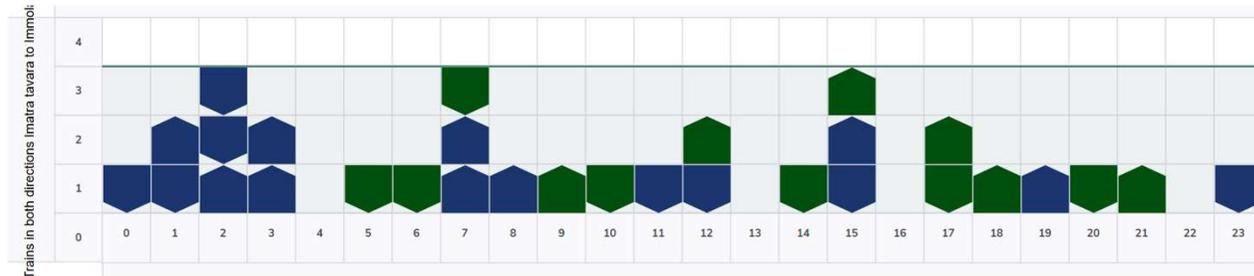


3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari

Simpele – Parikkala



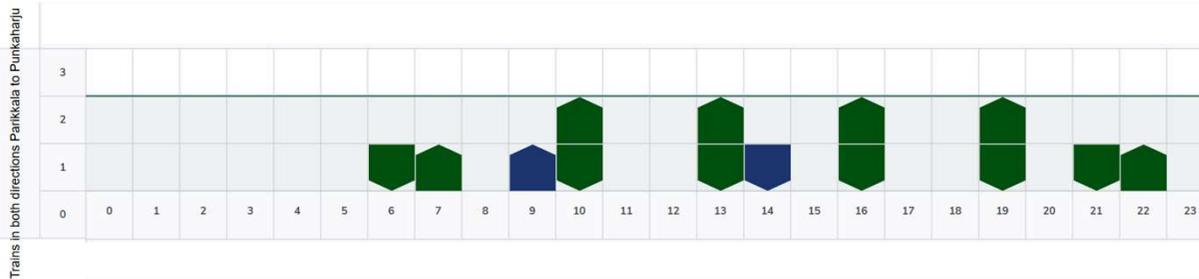
Imatra – Simpele



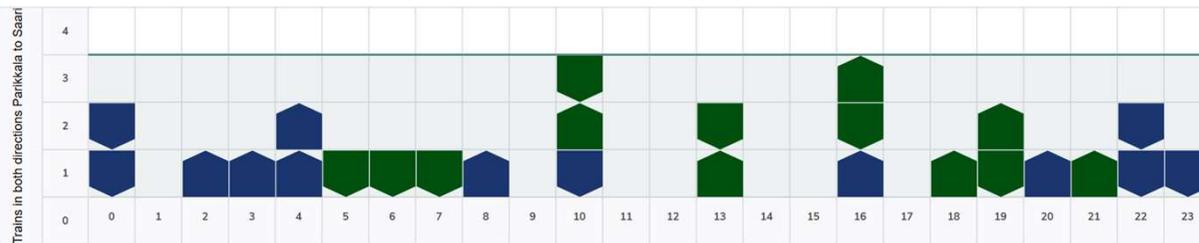
3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari



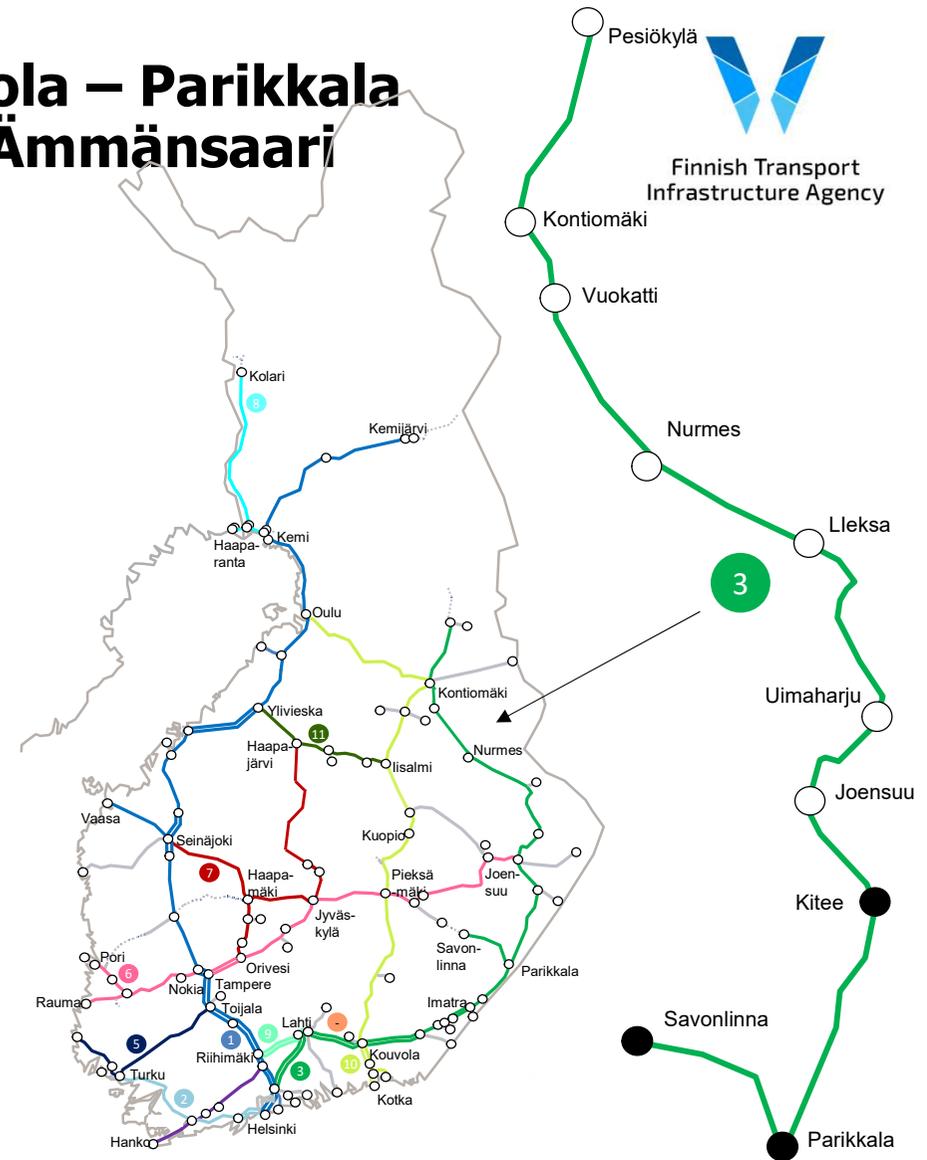
Parikkala – Savonlinna



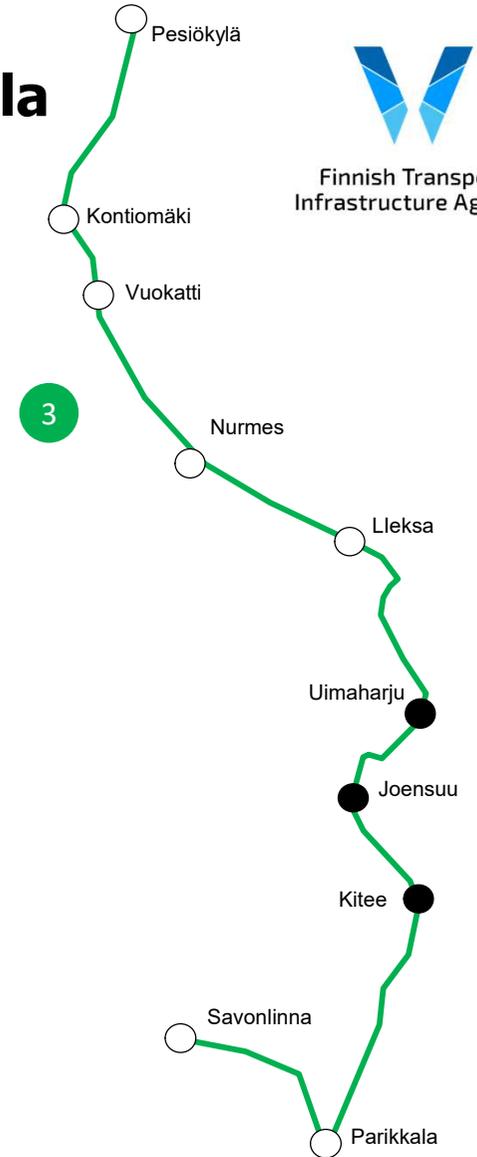
Parikkala – Kitee



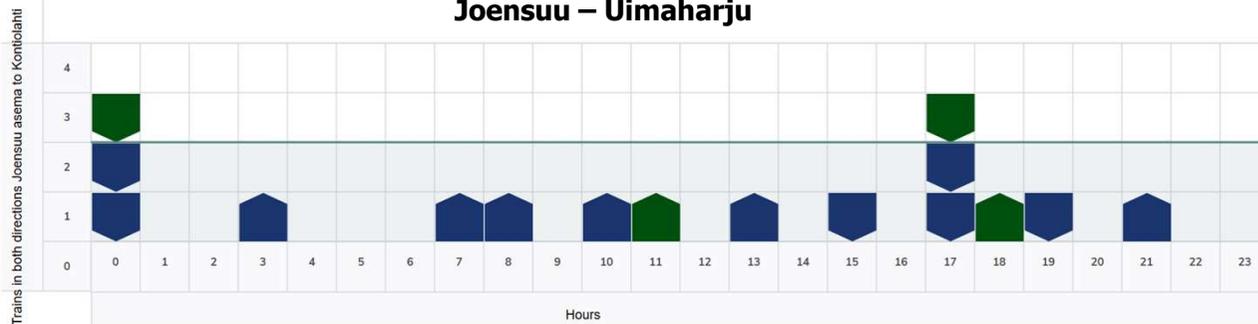
- Passenger National
- Freight National
- Other National



3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Ämmänsaari

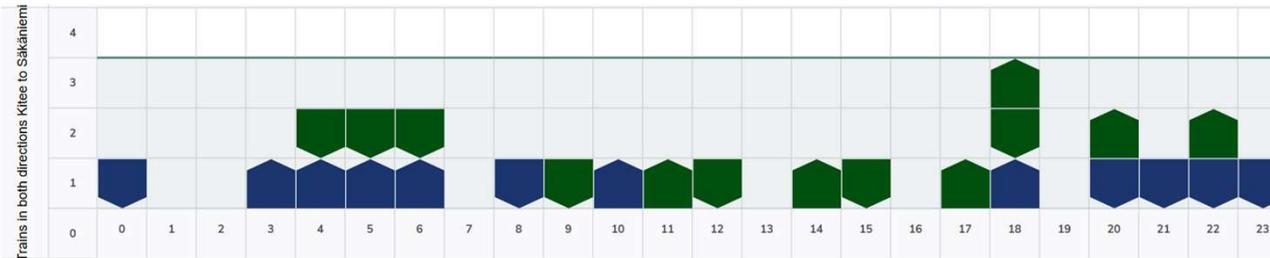


Joensuu – Uimaharju

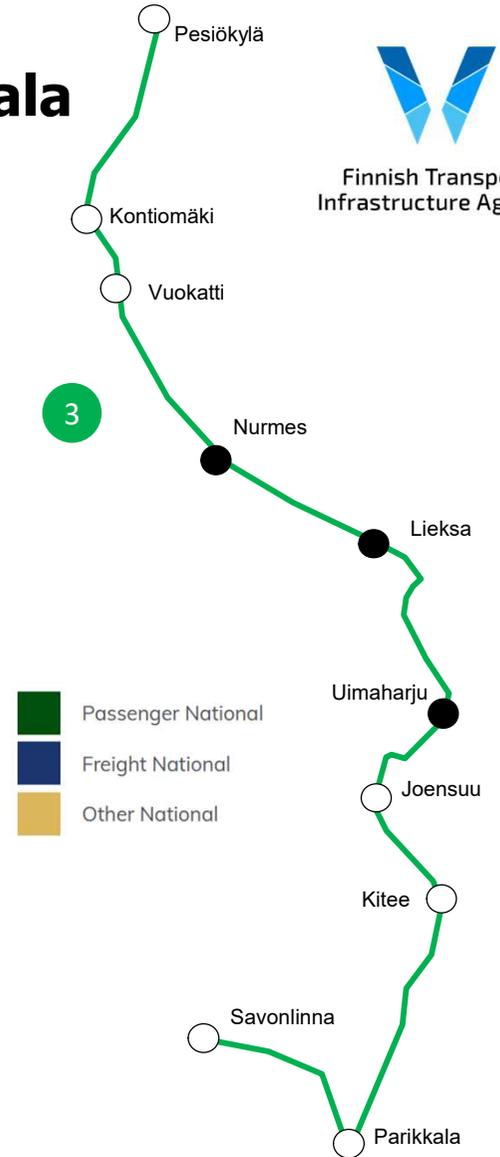
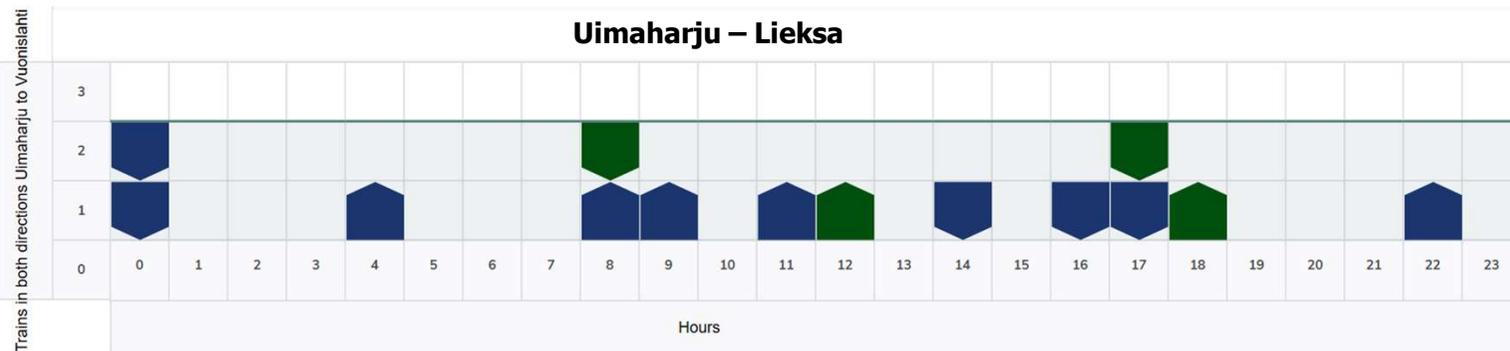
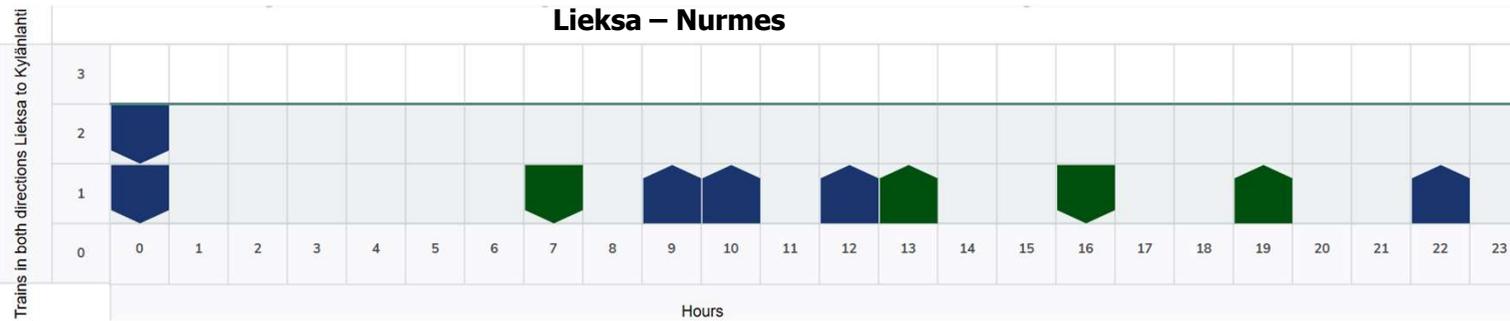


- Passenger National
- Freight National
- Other National

Kitee – Joensuu



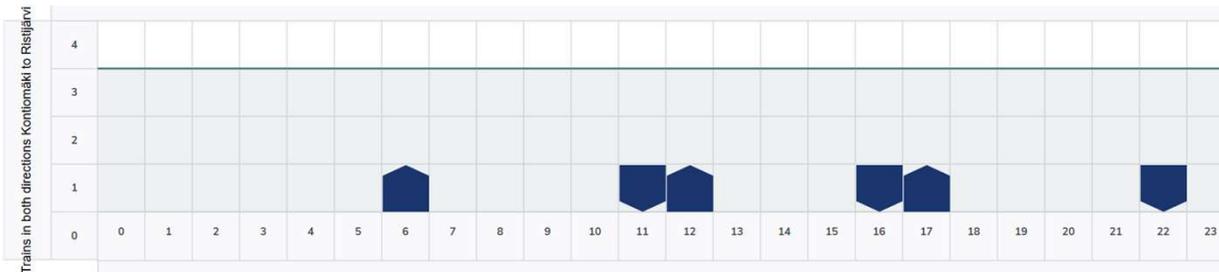
3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Pesiökylä



3: (Helsinki) – Kytömaa – Lahti – Kouvola – Parikkala – Savonlinna/Joensuu – Kontiomäki – Pesiökylä



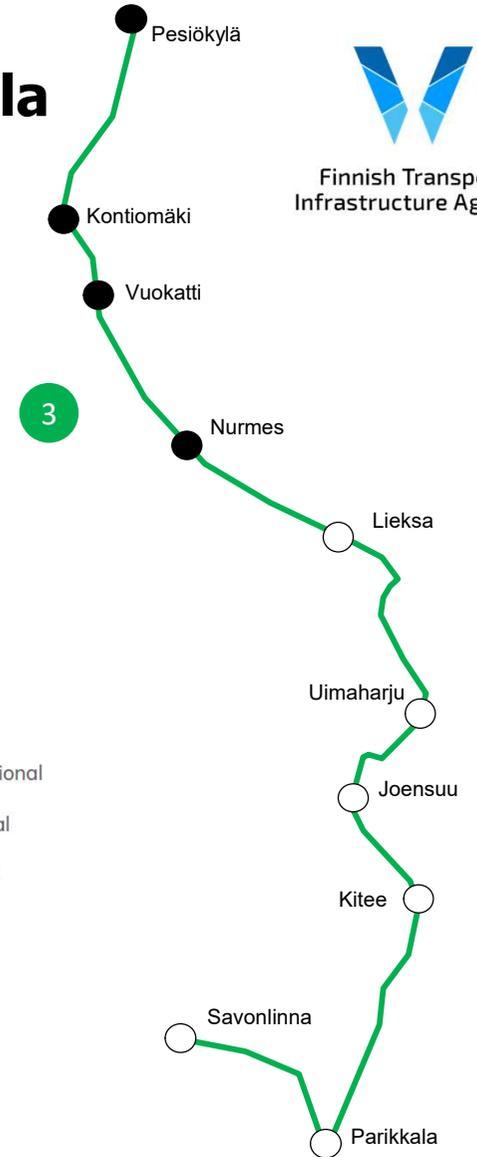
Kontiomäki – Pesiökylä



Vuokatti – Kontiomäki



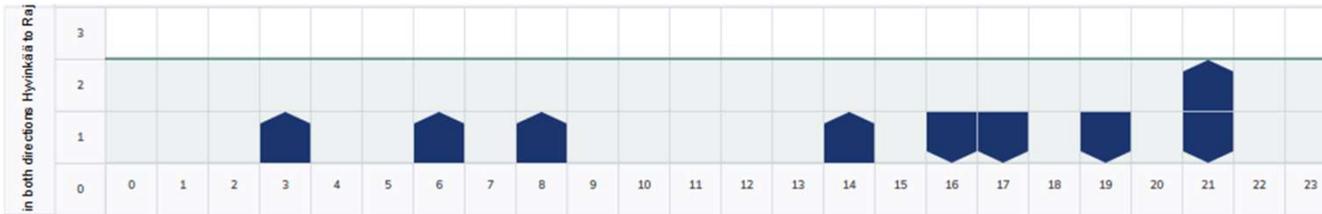
Nurmes – Vuokatti



- Passenger National
- Freight National
- Other National

4: Hyvinkää-Karjaa-Hanko

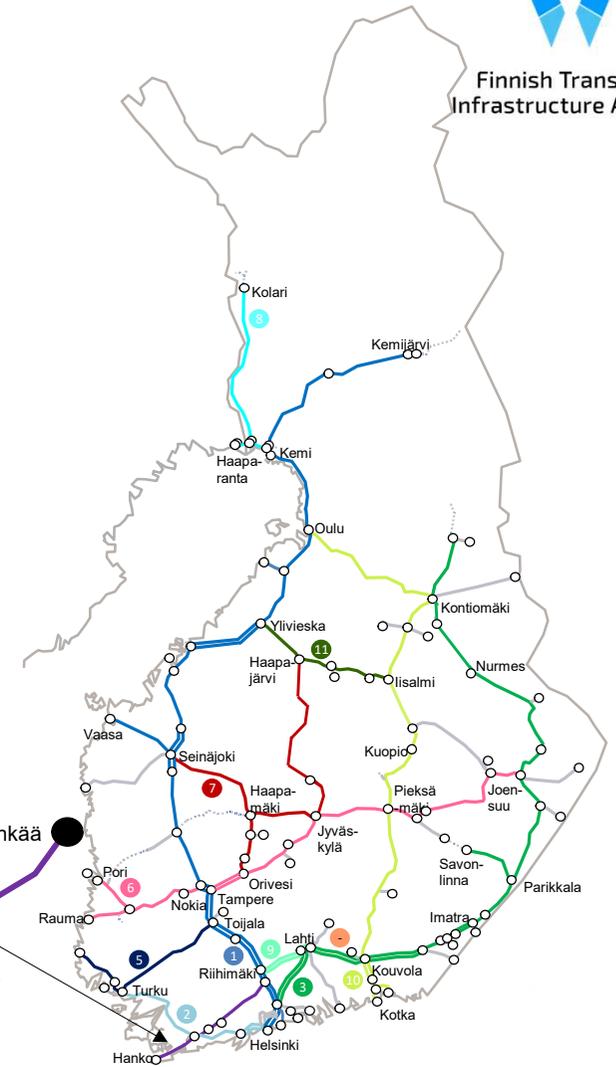
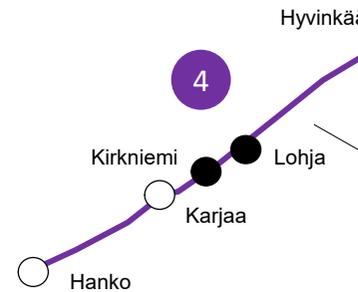
Hyvinkää-Lohja



Lohja-Kirkniemi



- Passenger National
- Freight National
- Other National



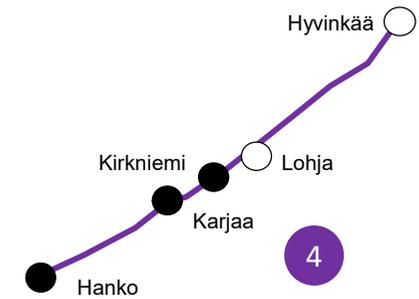
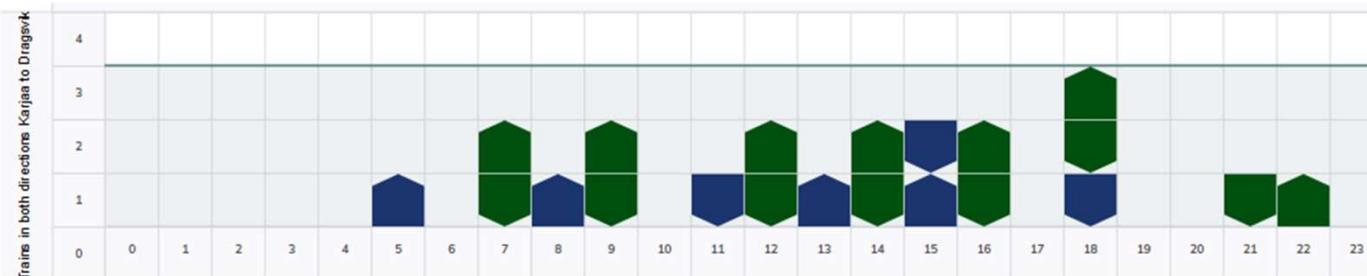
4: Hyvinkää-Karjaa-Hanko

Kirkniemi-Karjaa



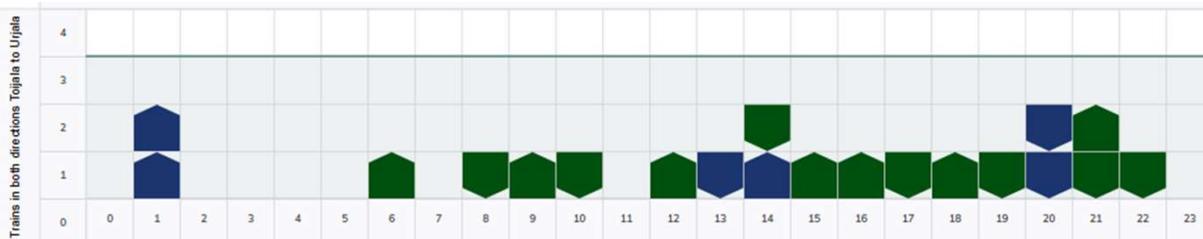
- Passenger National
- Freight National
- Other National

Karjaa-Hanko



5: Toijala-Turku-Raisio-Hangonsaari

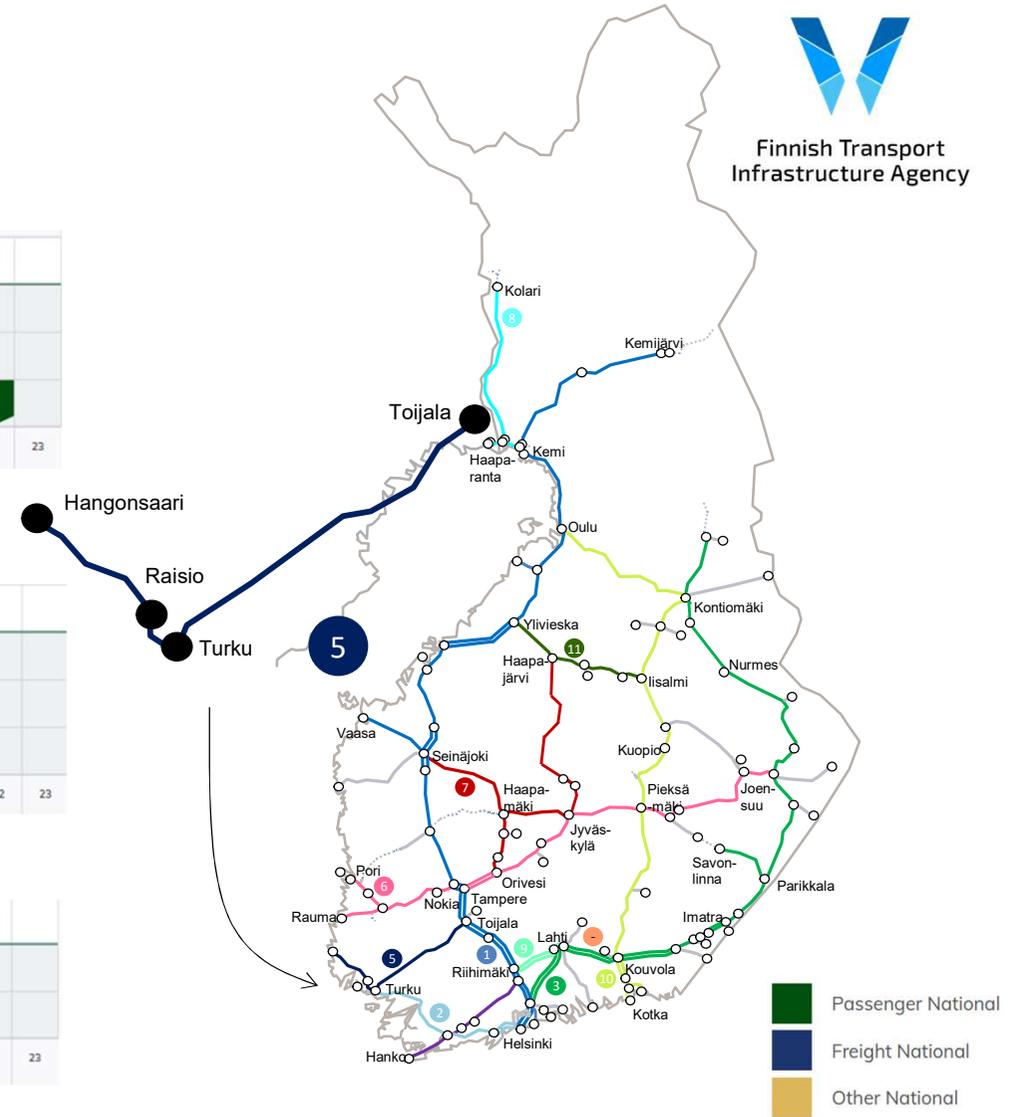
Toijala-Turku



Turku-Raisio



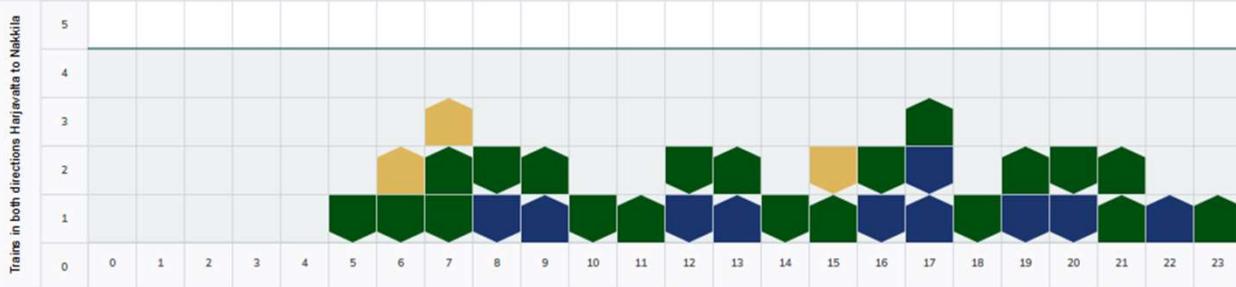
Raisio-Hangonsaari



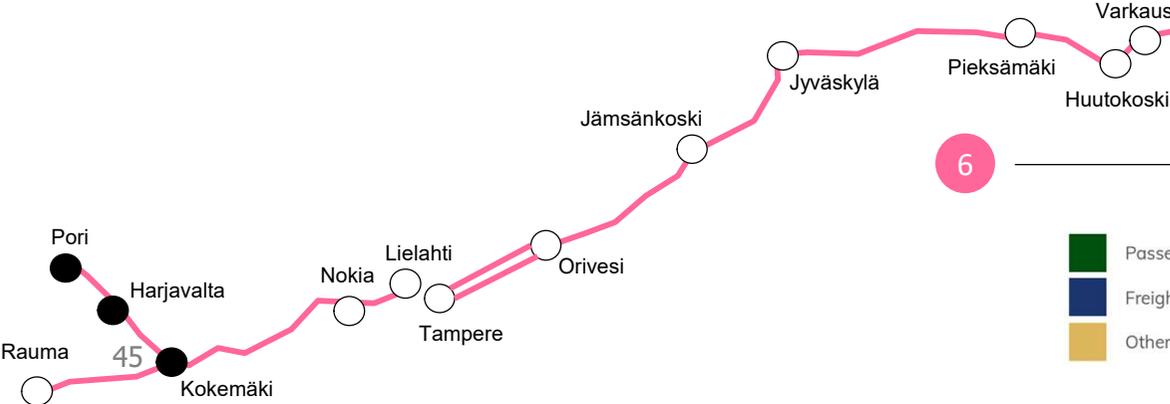
6: Pori/Rauma – Kokemäki – Lielähti – Tampere – Pieksämäki - Joensuu



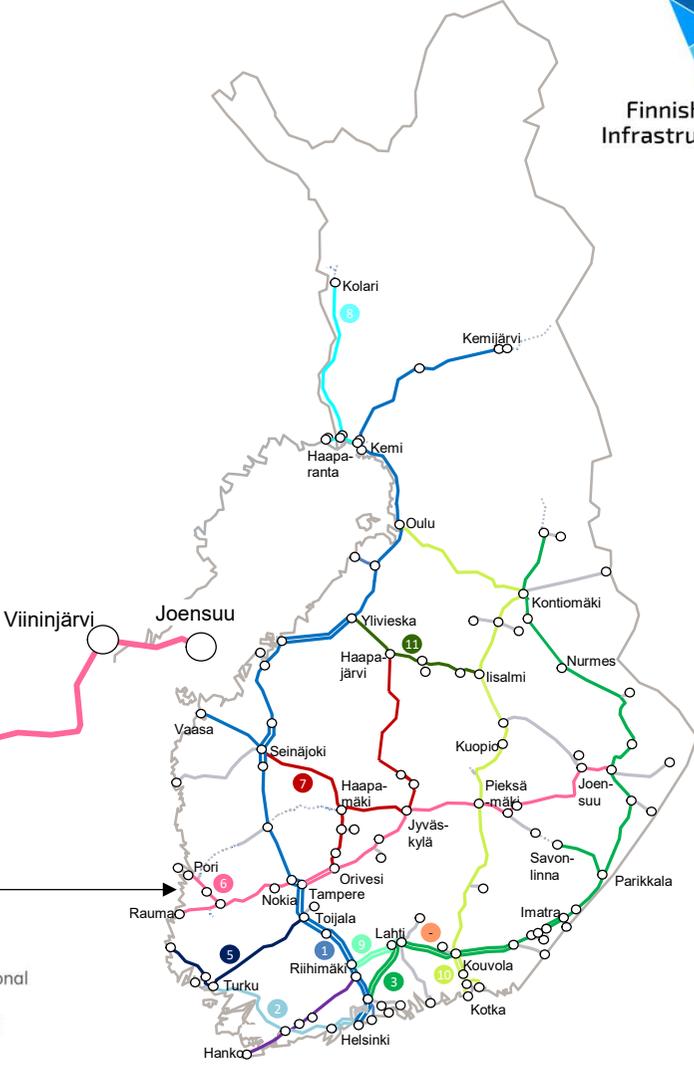
Harjavalta-Pori



Kokemäki-Harjavalta



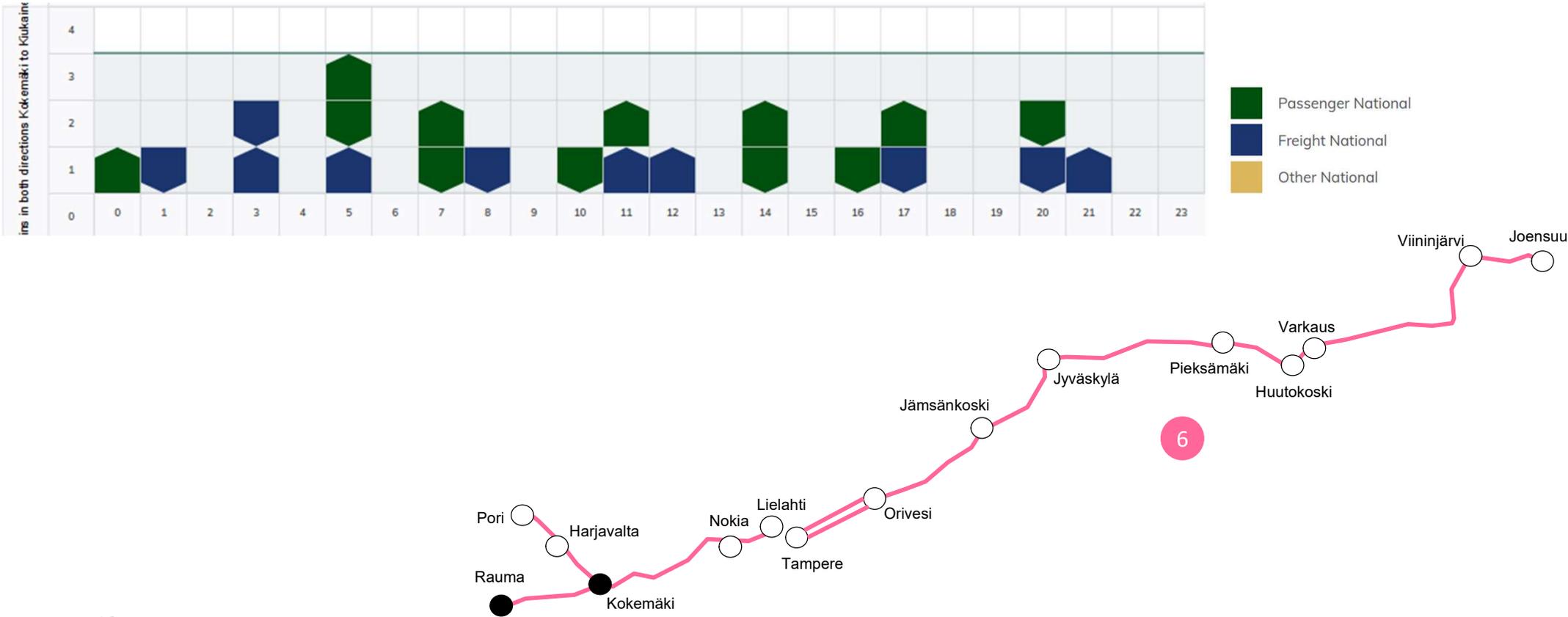
- Passenger National
- Freight National
- Other National



6: Pori/Rauma – Kokemäki – Lielähti – Tampere – Pieksämäki - Joensuu

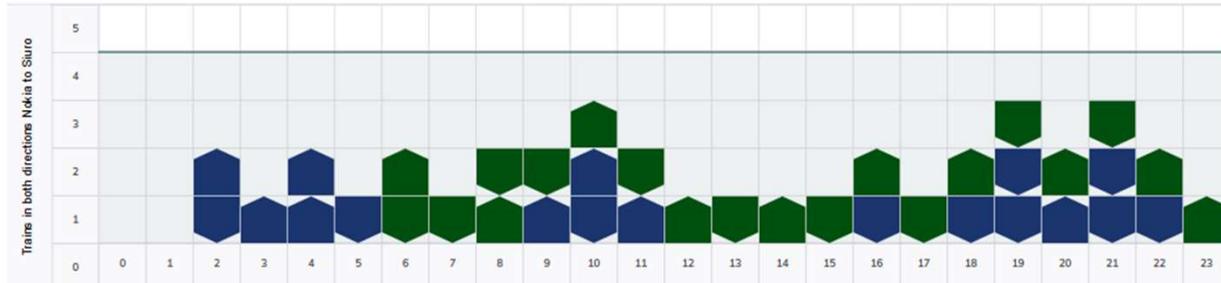


Kokemäki-Rauma

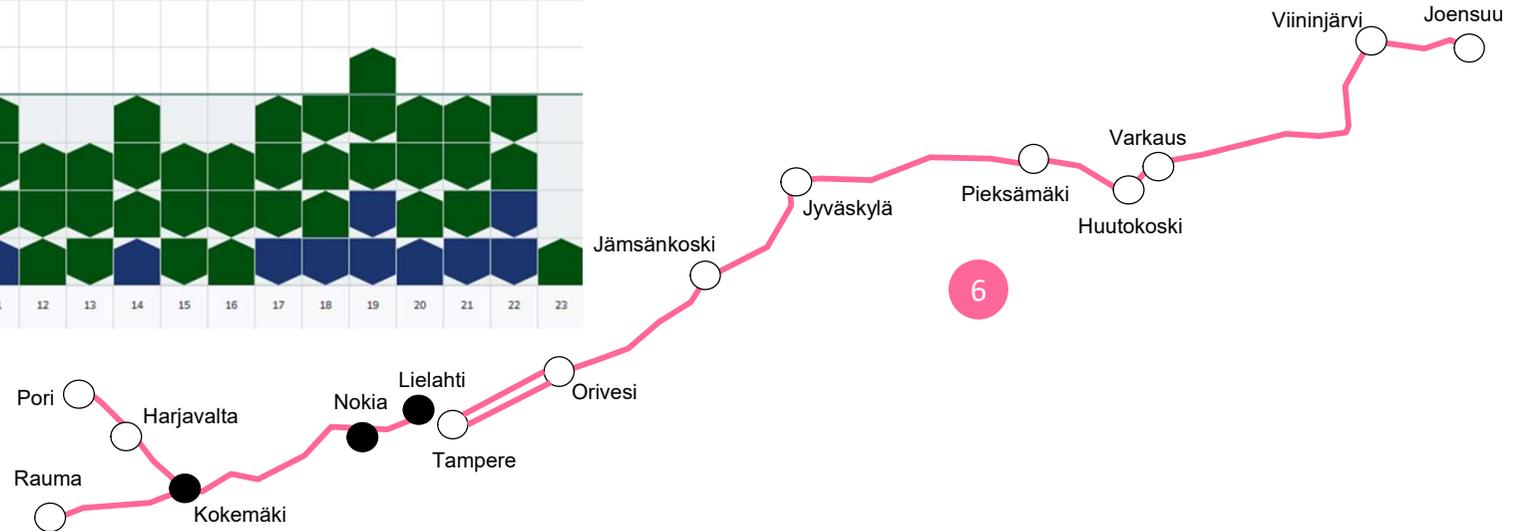
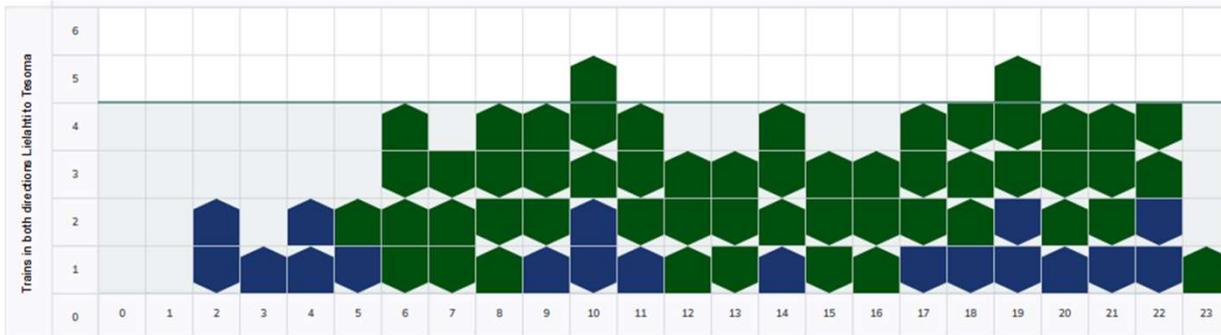


6: Pori/Rauma – Kokemäki – Lielähti – Tampere – Pieksämäki - Joensuu

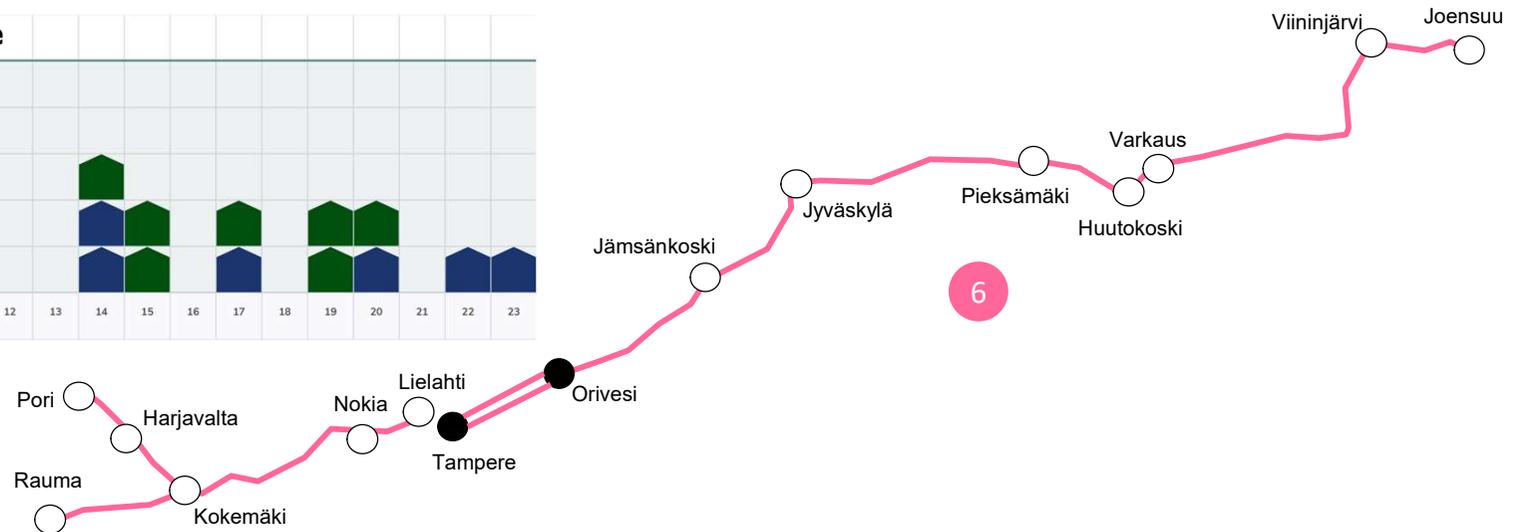
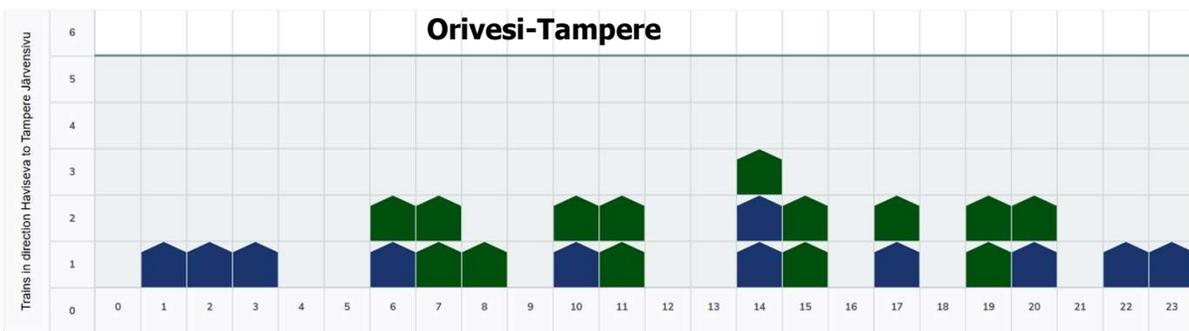
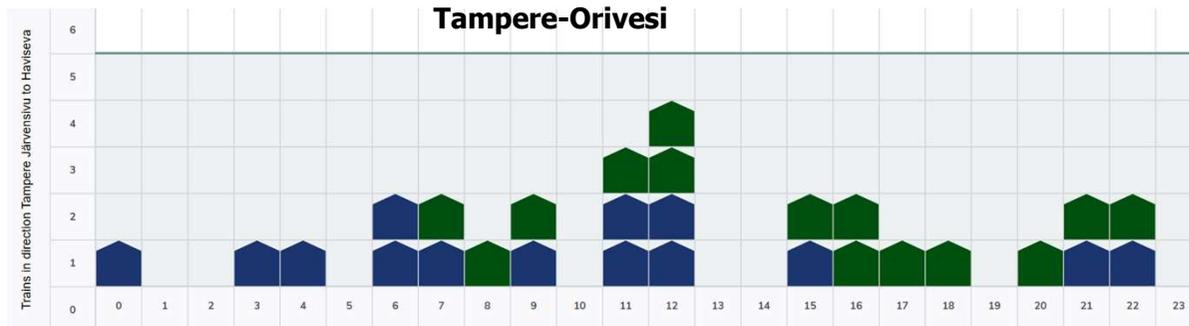
Nokia-Kokemäki



Lielähti-Nokia

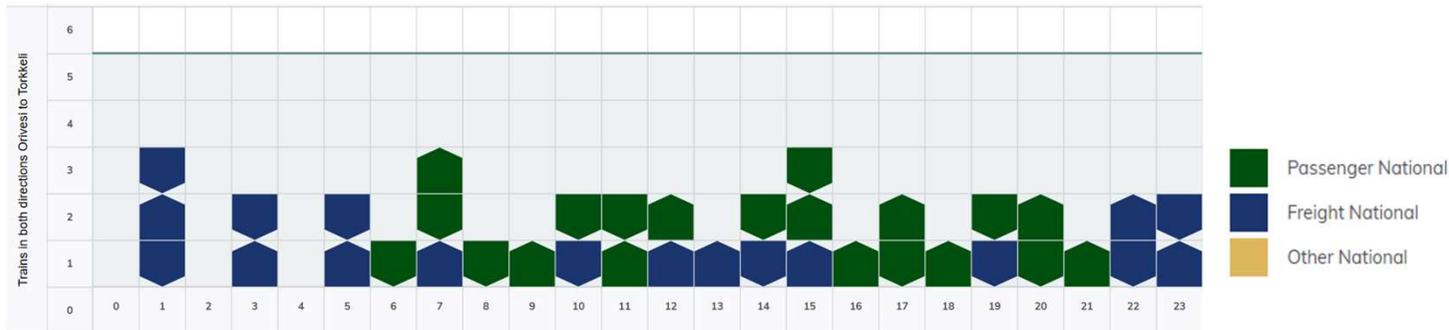


6: Pori/Rauma – Kokemäki – Lielähti – Tampere – Pieksämäki - Joensuu

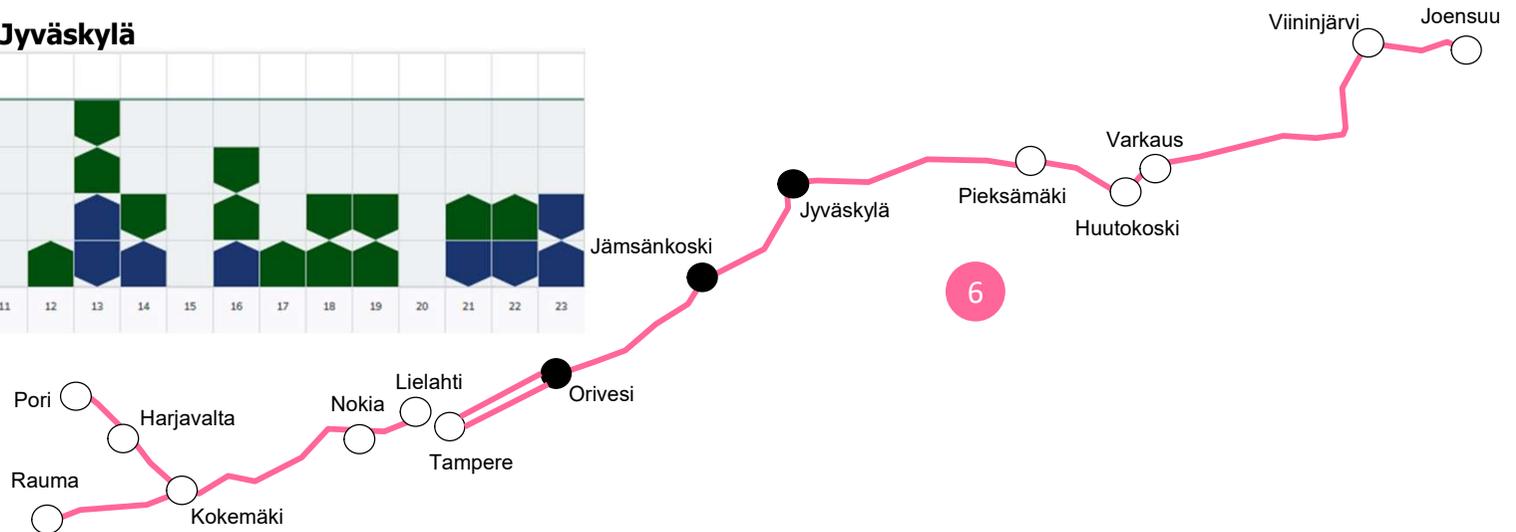
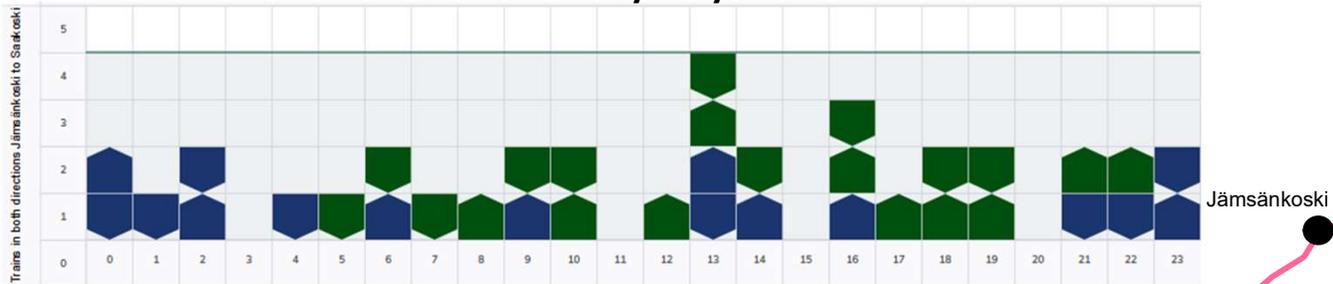


6: Pori/Rauma – Kokemäki – Lielähti – Tampere – Pieksämäki - Joensuu

Orivesi-Jämsänkoski



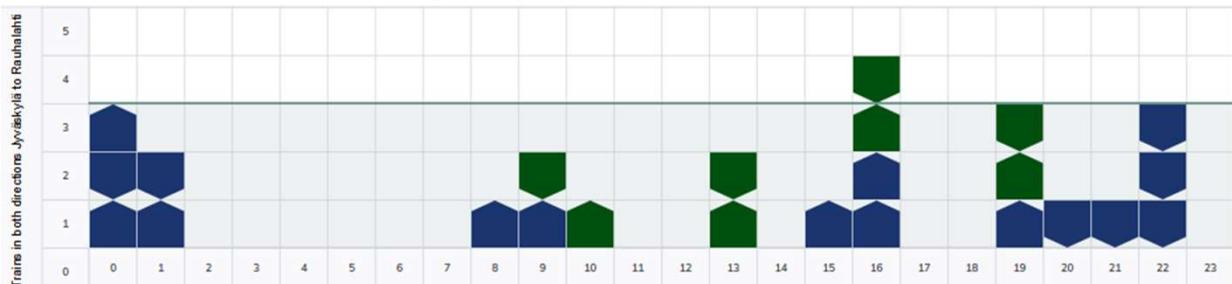
Jämsänkoski-Jyväskylä



6: Pori/Rauma – Kokemäki – Lielähti – Tampere – Pieksämäki - Joensuu

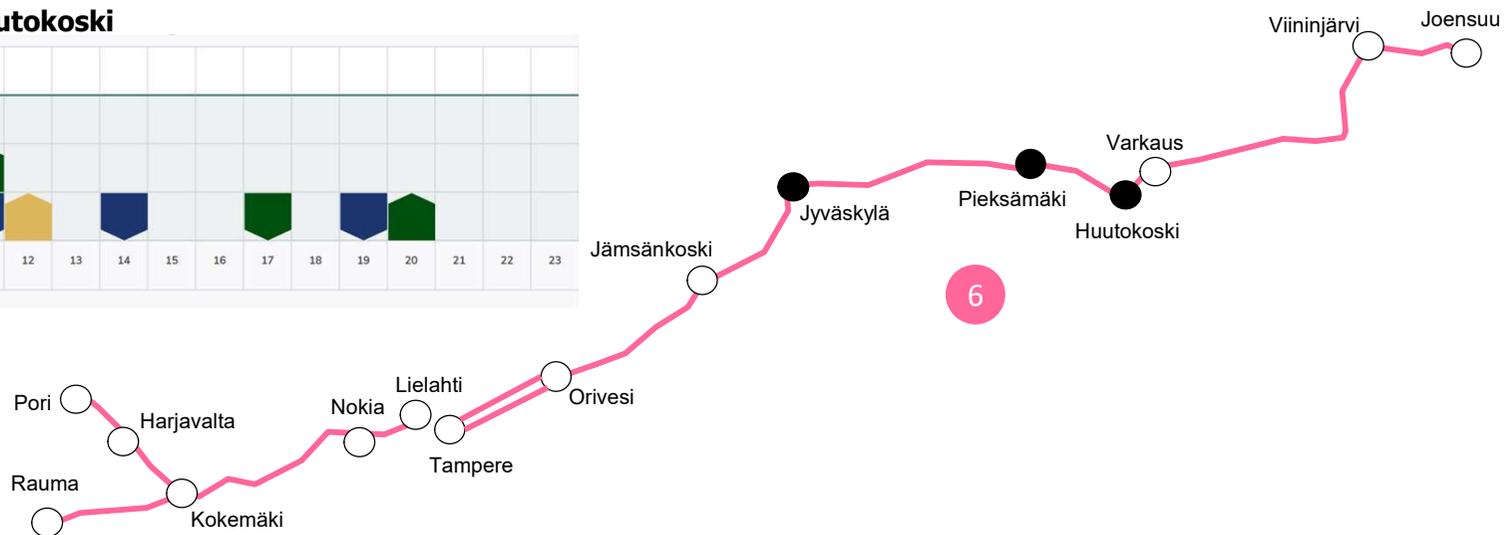
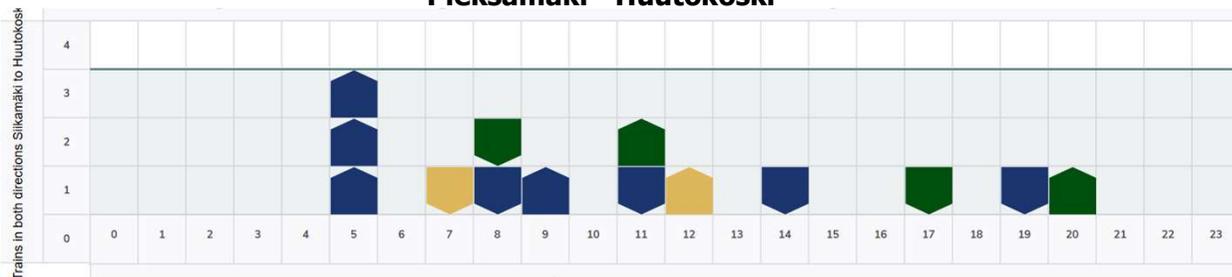


Jyväskylä-Pieksämäki



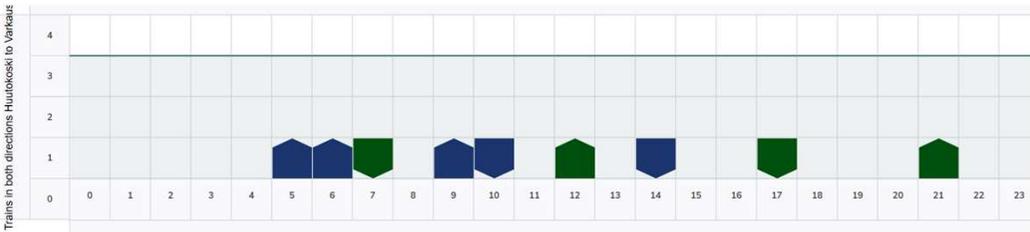
- Passenger National
- Freight National
- Other National

Pieksämäki - Huutokoski

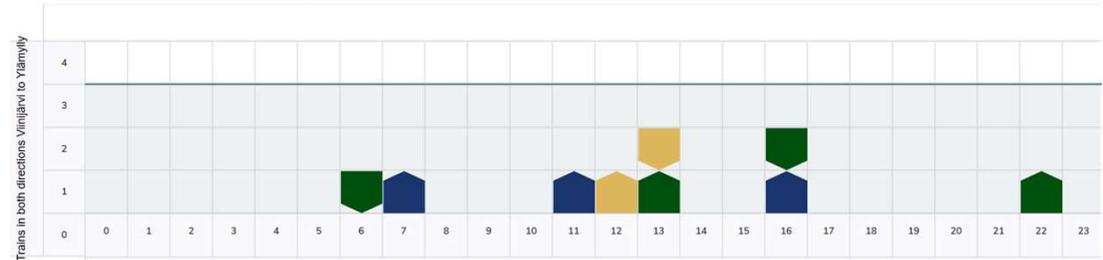


6: Pori/Rauma – Kokemäki – Lielähti – Tampere – Pieksämäki - Joensuu

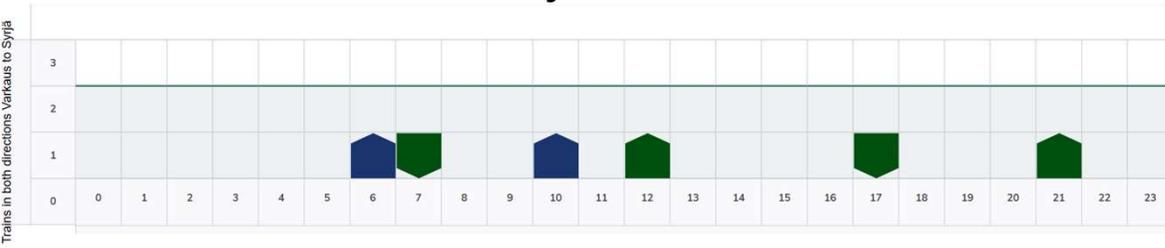
Huutokoski - Varkaus



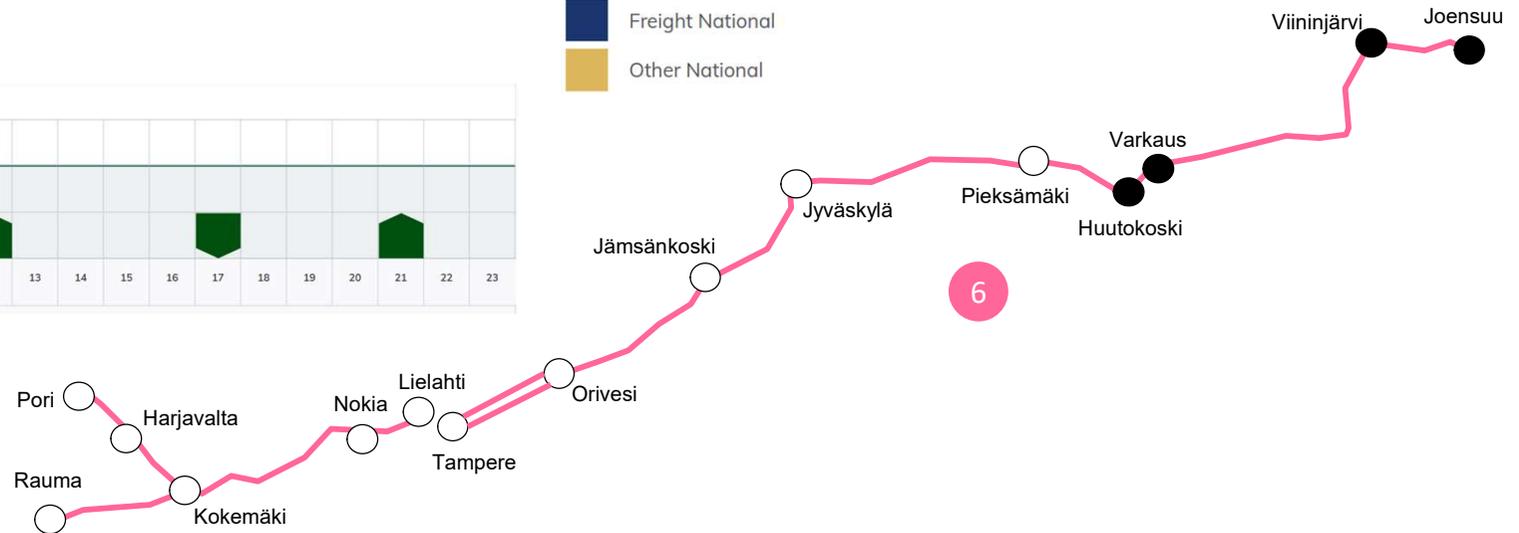
Viinijärvi - Joensuu



Varkaus - Viinijärvi



- Passenger National
- Freight National
- Other National

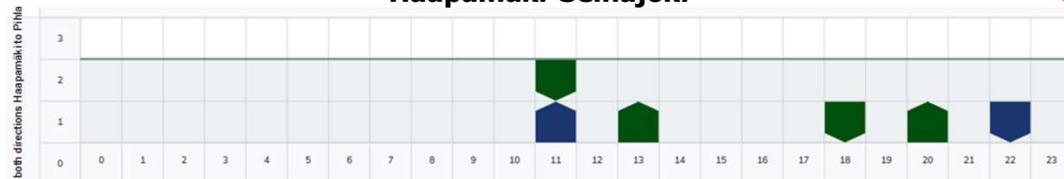


7: Orivesi - Haapamäki – Seinäjoki - Jyväskylä – Haapajärvi

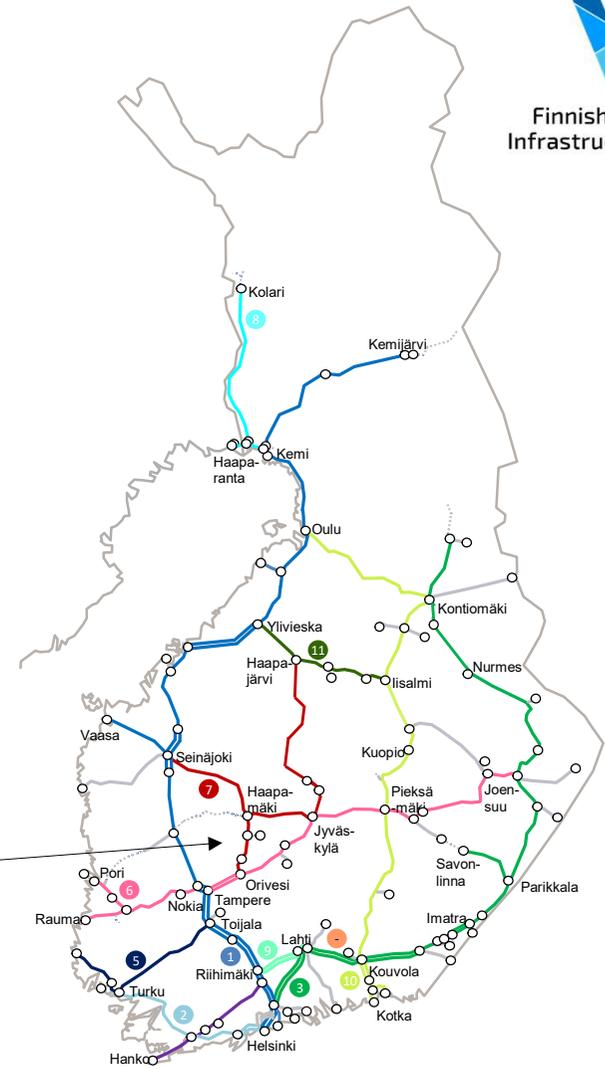
Vilppula-Haapamäki



Haapamäki-Seinäjoki

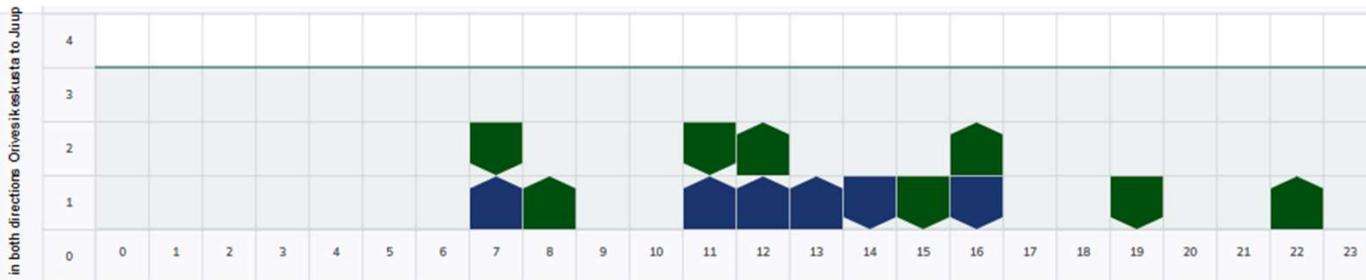


- Passenger National
- Freight National
- Other National

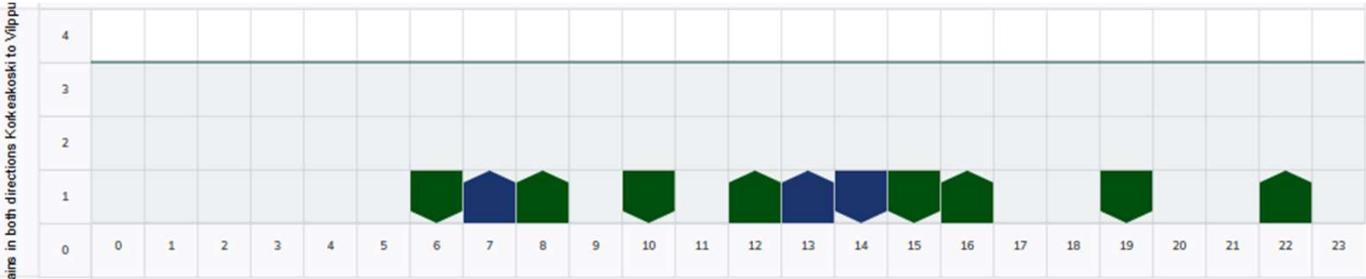


7: Orivesi - Haapamäki – Seinäjoki - Jyväskylä – Haapajärvi

Orivesi-Korkeakoski

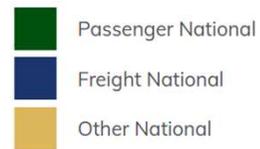
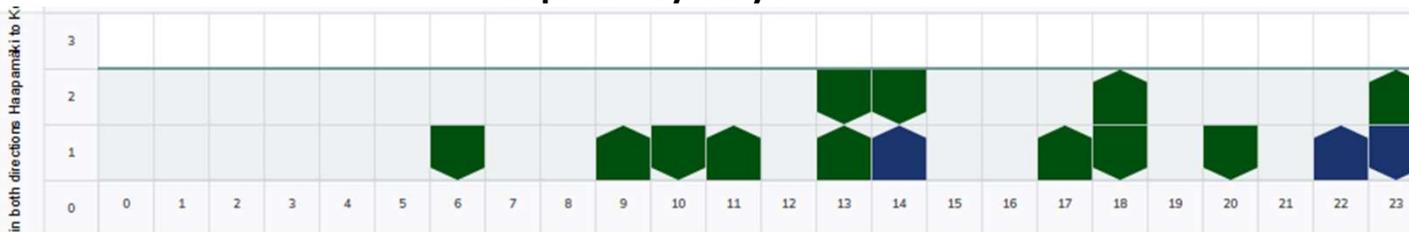


Korkeakoski-Vilppula

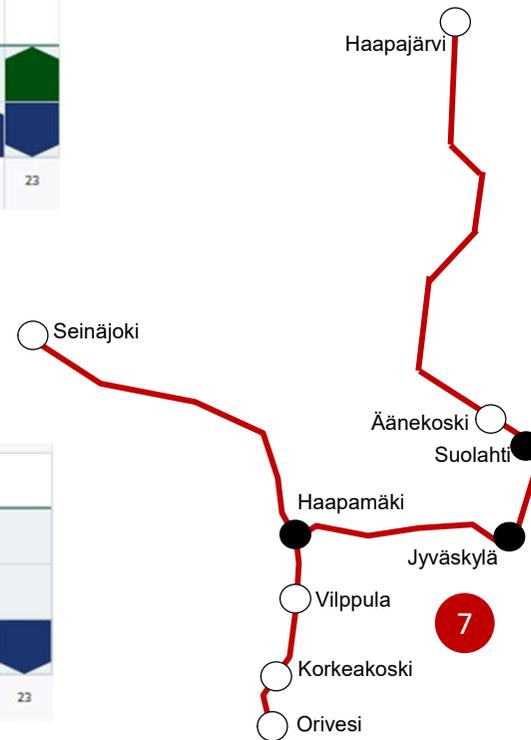


7: Orivesi - Haapamäki – Seinäjoki - Jyväskylä – Haapajärvi

Haapamäki-Jyväskylä

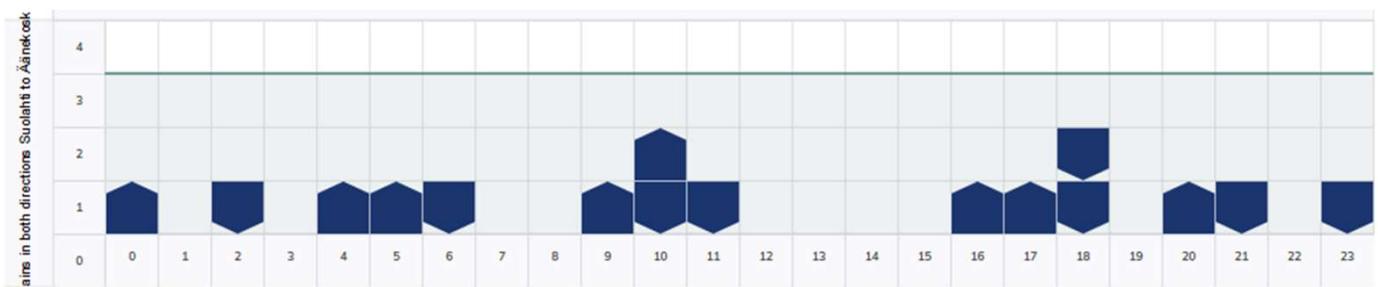


Jyväskylä-Suolahti

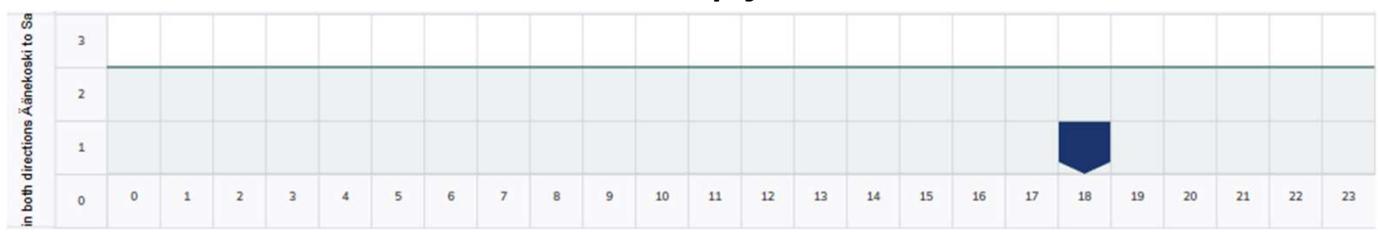


7: Orivesi - Haapamäki – Seinäjoki - Jyväskylä – Haapajärvi

Suolahti-Äänekoski



Äänekoski-Haapajärvi



8: (Kemi) – Laurila – Haaparanta/Kolari



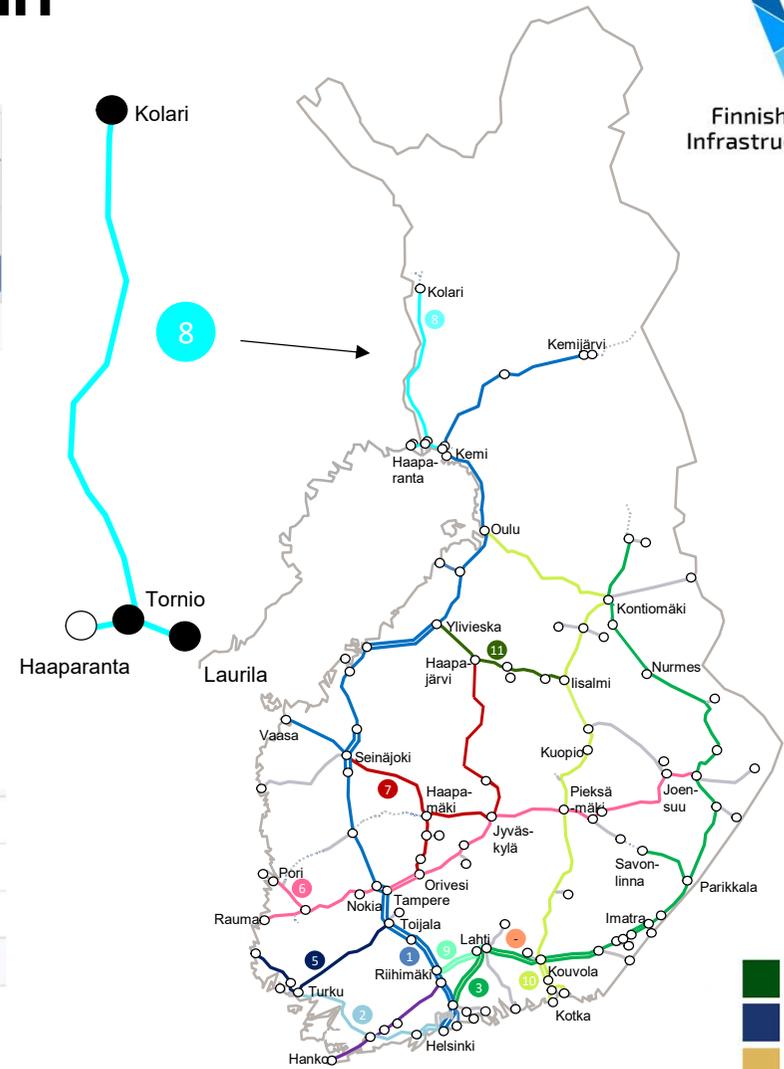
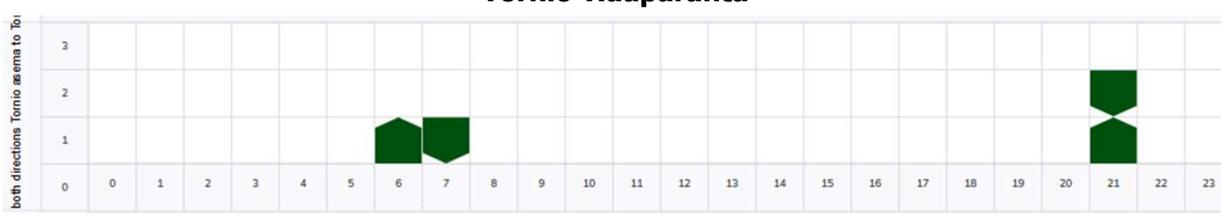
Tornio-Kolari



Laurila-Tornio



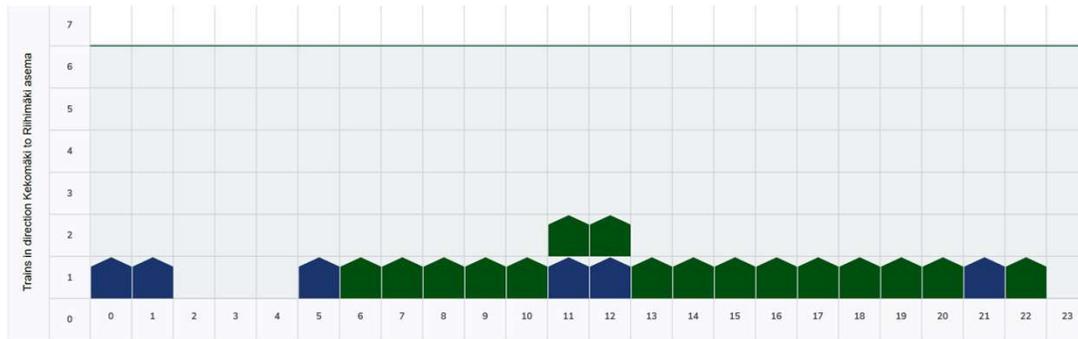
Tornio-Haaparanta



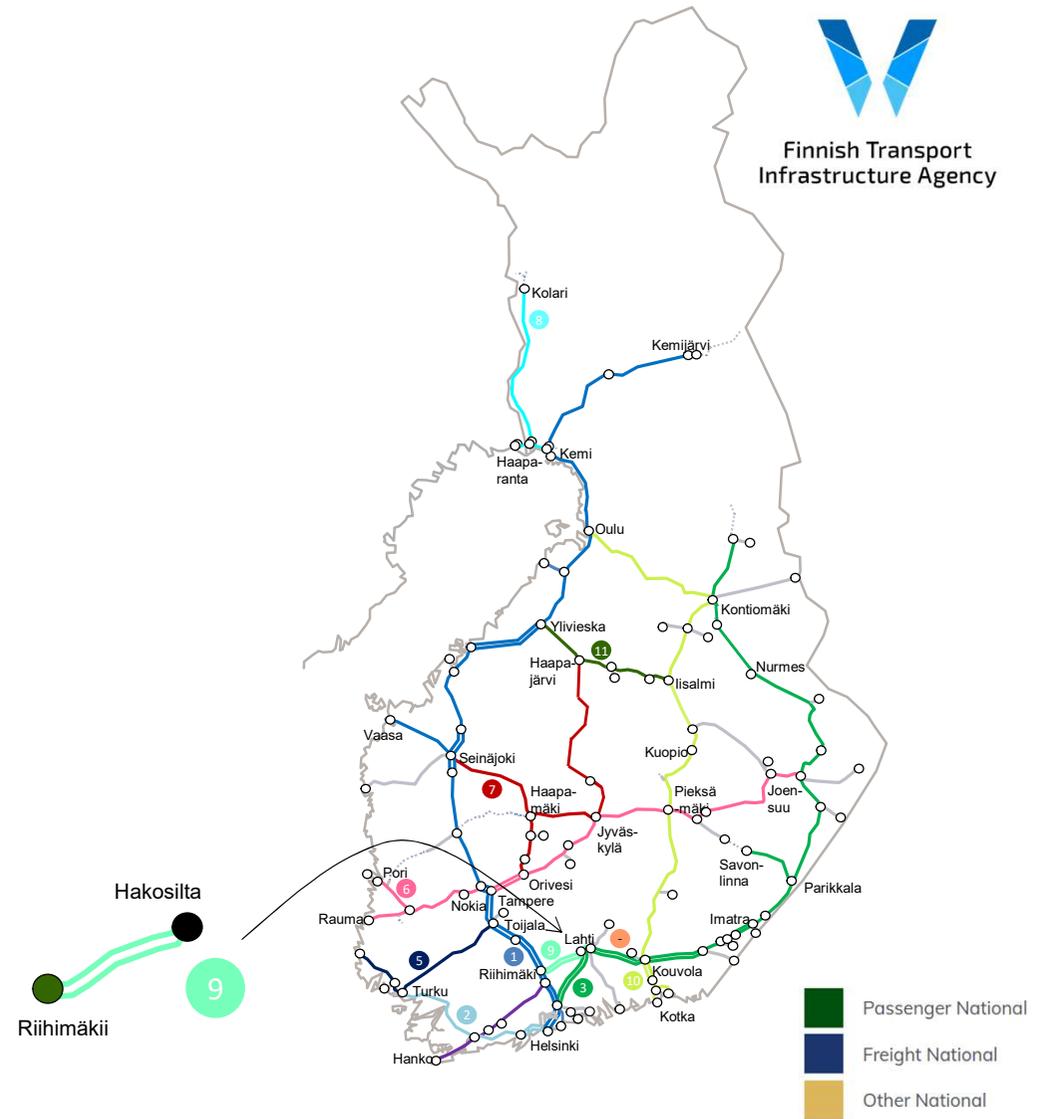
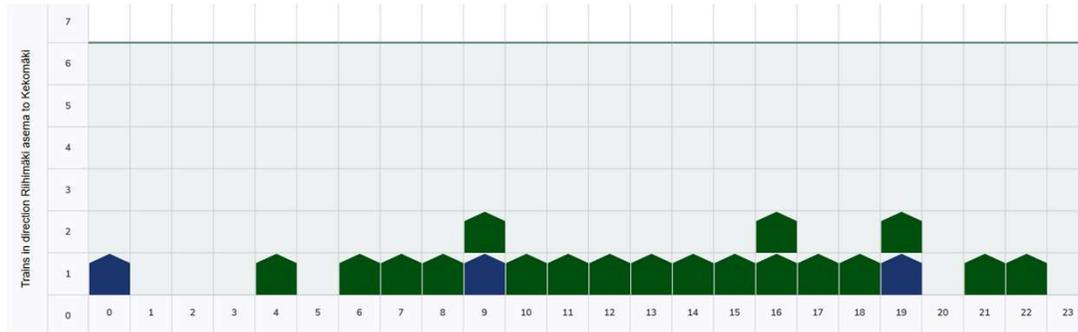
- Passenger National
- Freight National
- Other National

9: Riihimäki – Hakosilta – (Lahti)

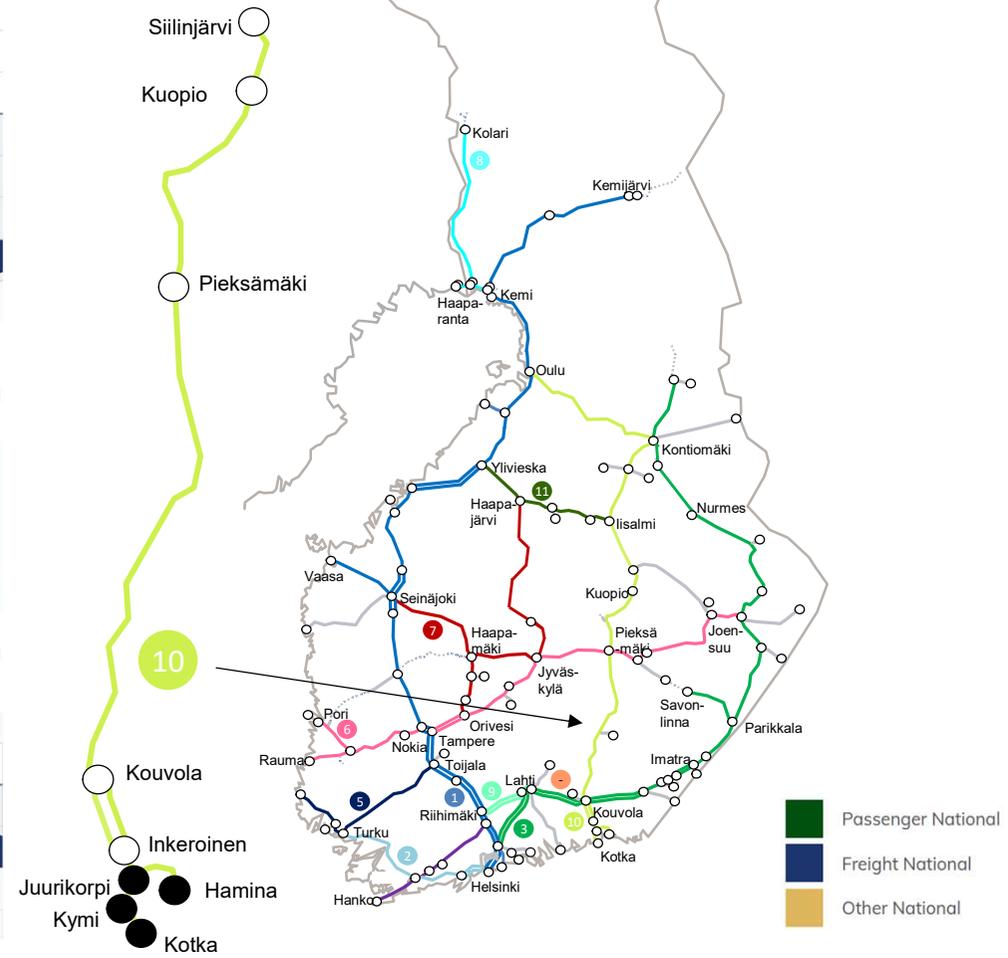
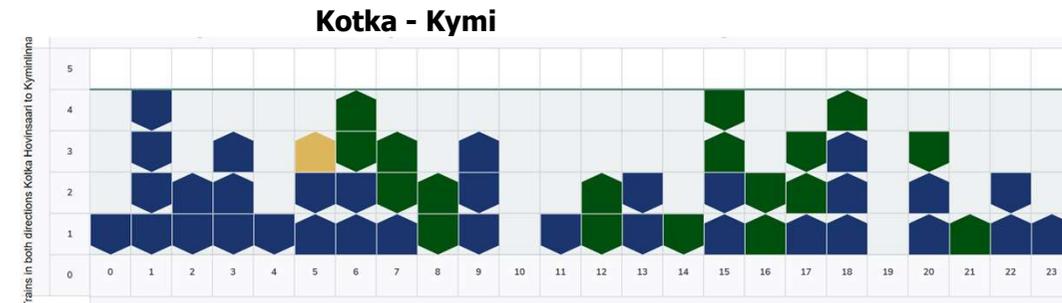
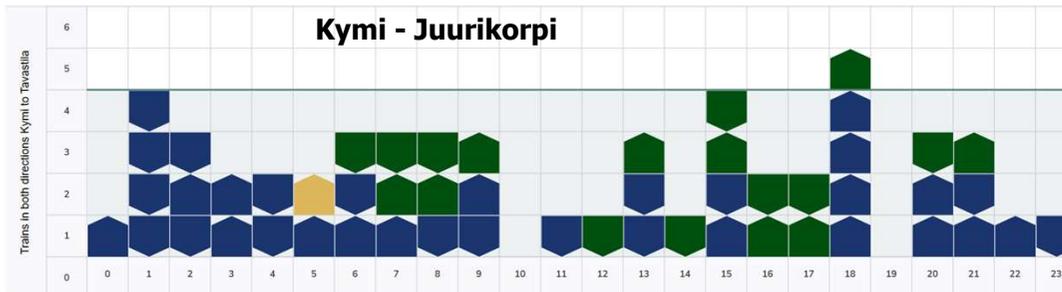
Hakosilta - Riihimäki



Riihimäki - Hakosilta

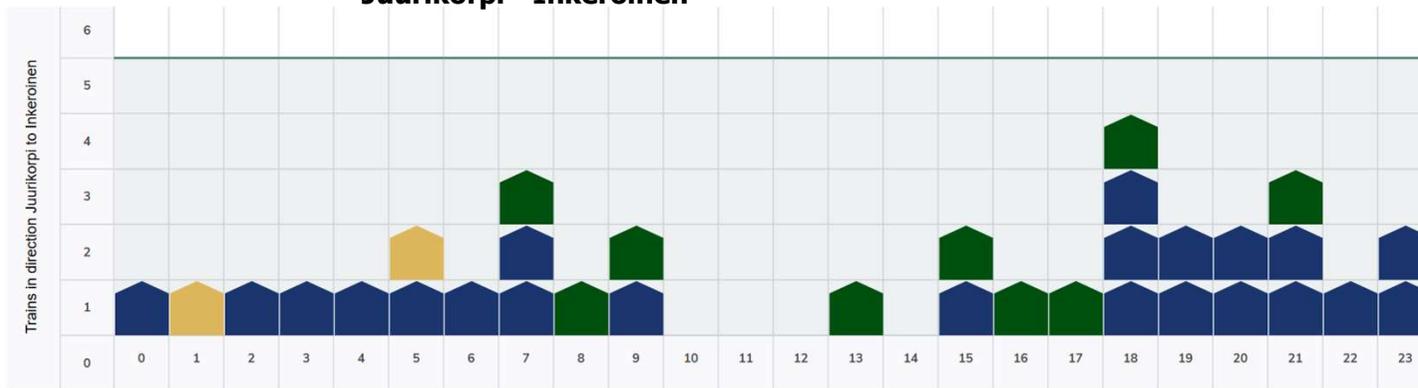


10: Kotka/Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu

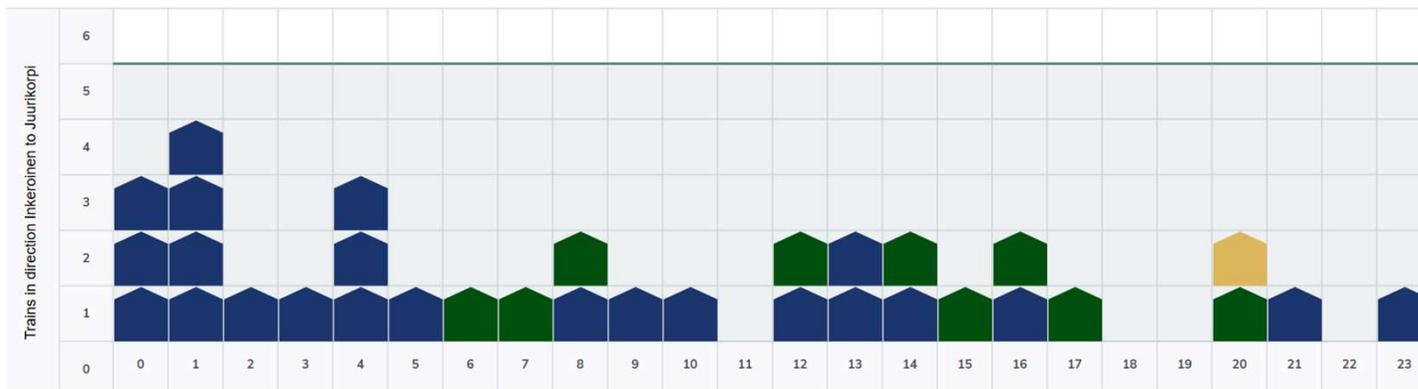


10: Kotka/Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu

Juurikorpi - Inkeroinen



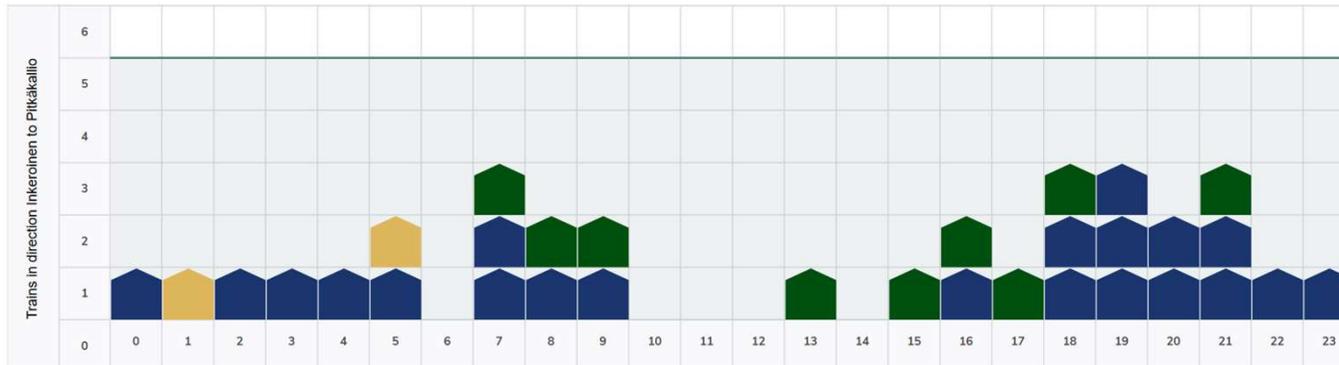
Inkeroinen - Juurikorpi



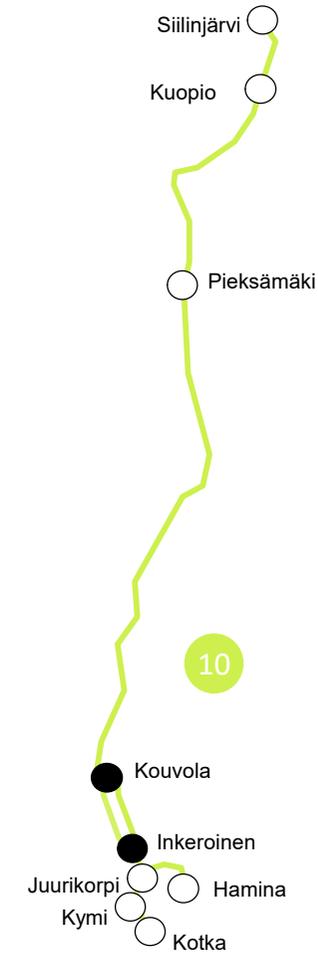
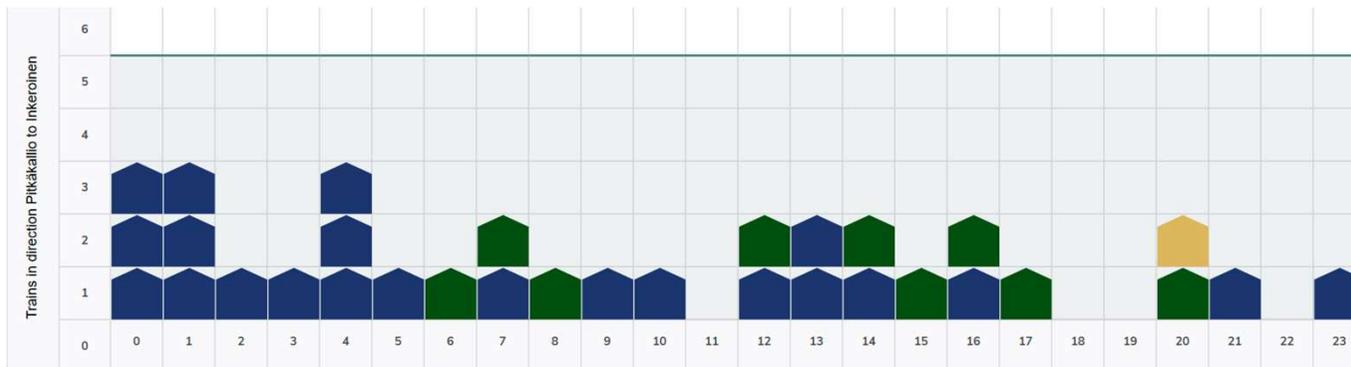
- Passenger National
- Freight National
- Other National

10: Kotka/Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu

Inkeroinen - Kouvola



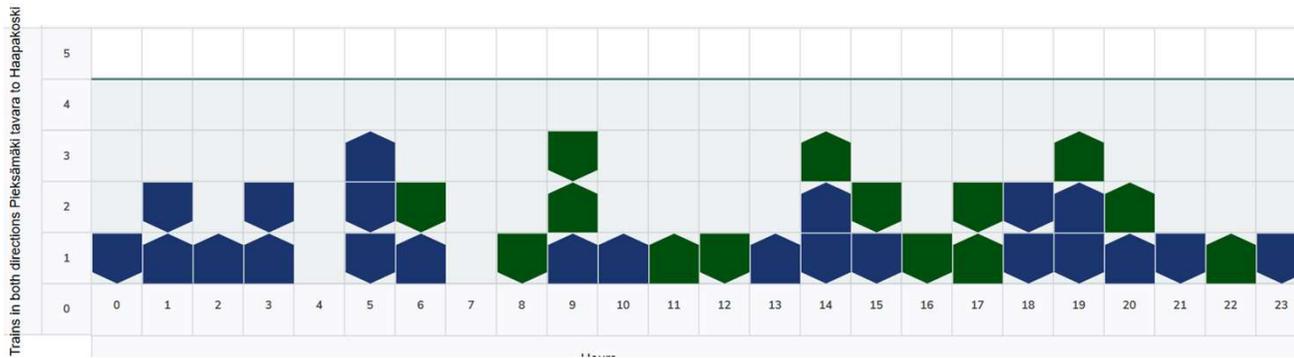
Kouvola - Inkeroinen



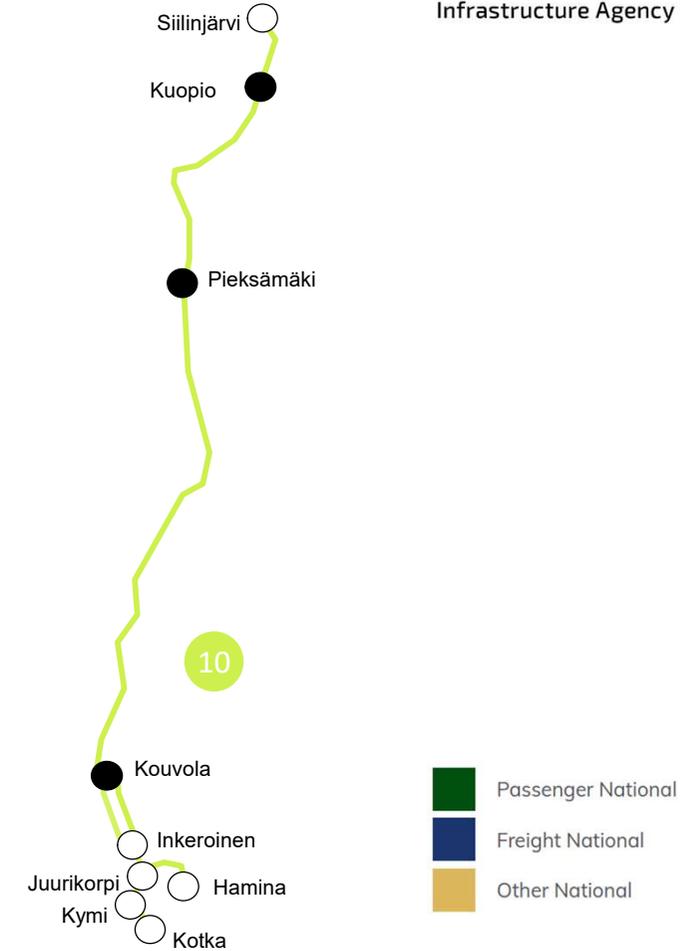
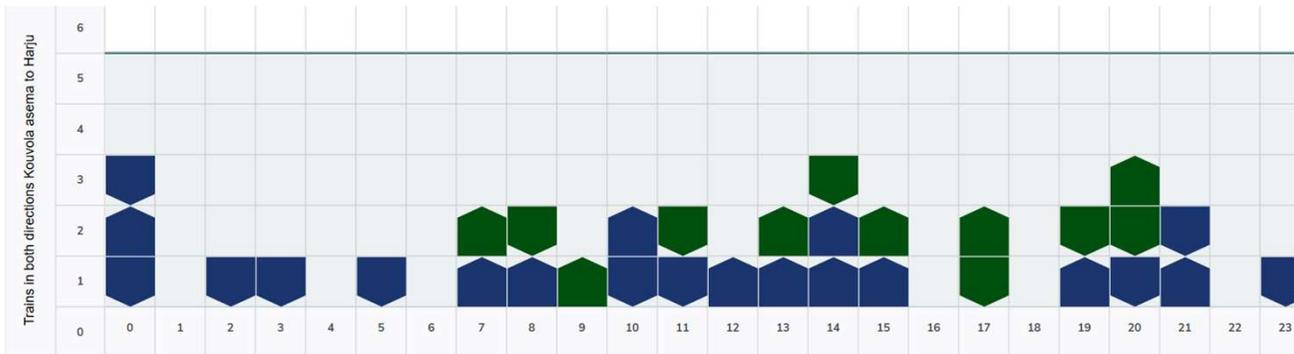
- Passenger National
- Freight National
- Other National

10: Kotka/Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu

Pieksämäki - Kuopio



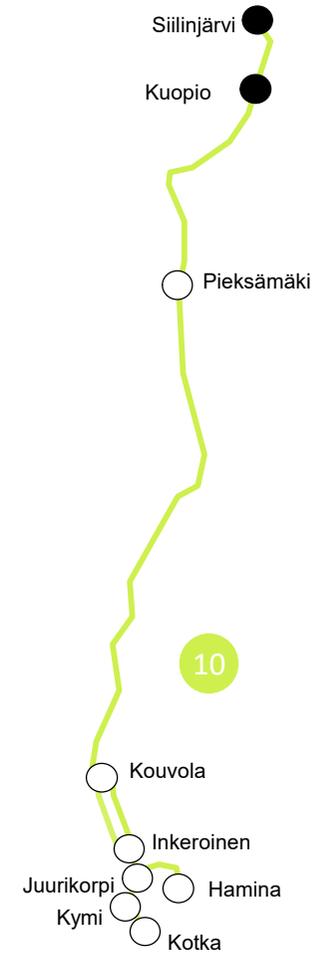
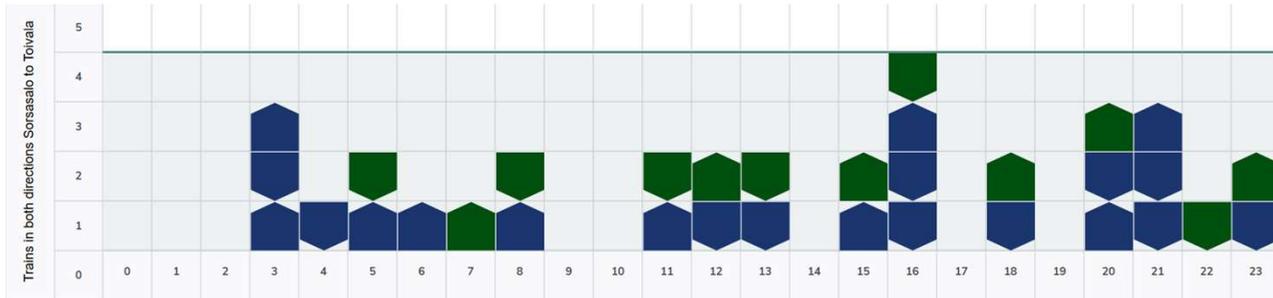
Kouvola - Pieksämäki



10: Kotka/Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu



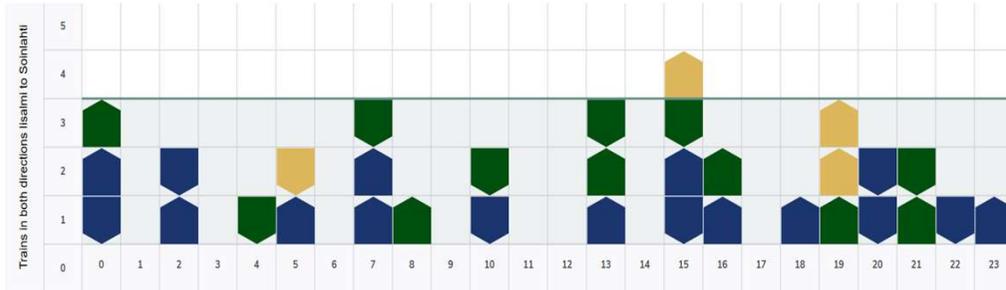
Kuopio - Siilinjärvi



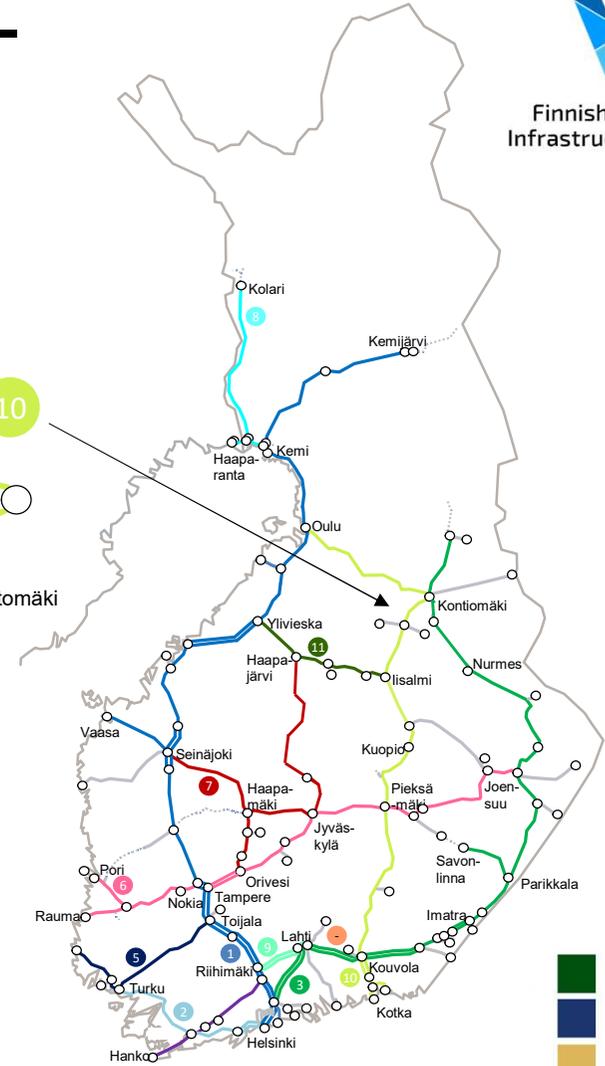
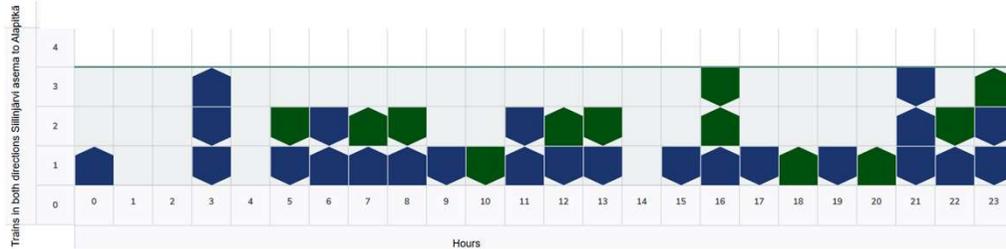
- Passenger National
- Freight National
- Other National

10: Kotka/Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu

Iisalmi - Murtomäki



Siilinjärvi - Iisalmi



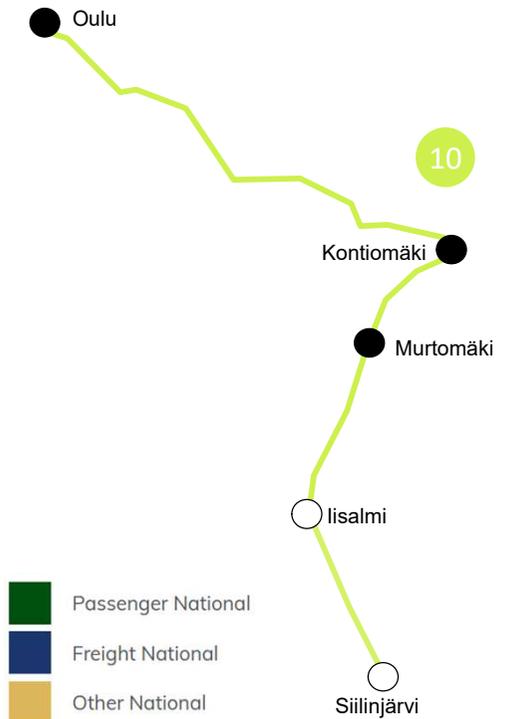
- Passenger National
- Freight National
- Other National

10: Kotka/Hamina – Kouvola – Pieksämäki – Kontiomäki – Oulu

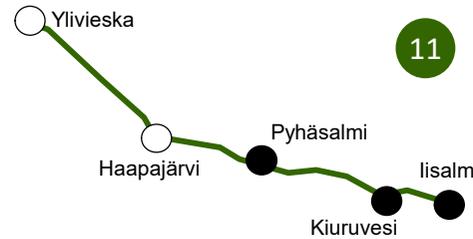
Kontiomäki-Oulu



Murtomäki - Kontiomäki



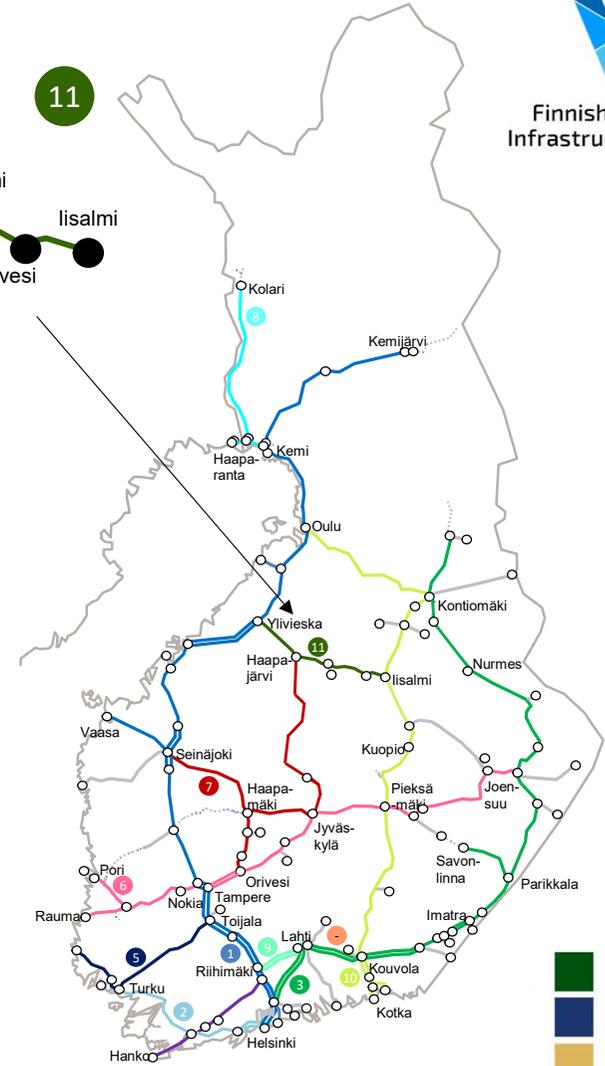
11: Iisalmi – Ylivieska



Kiuruvesi-Pyhäsalmi



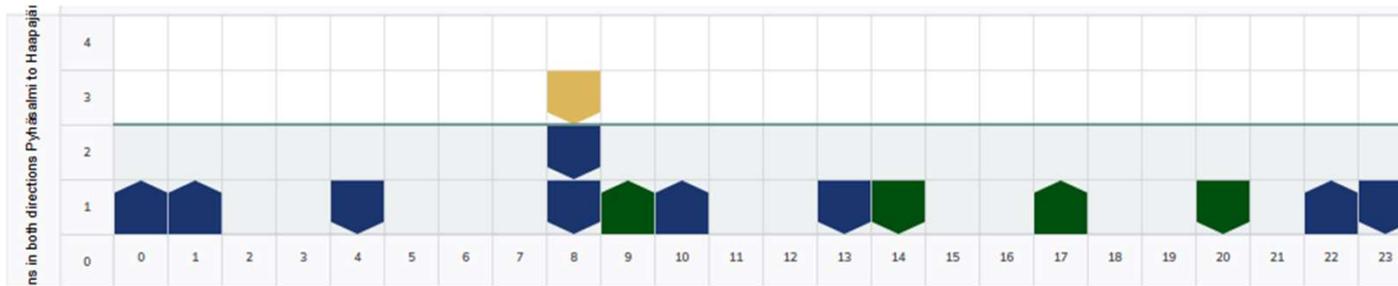
Iisalmi-Kiuruvesi



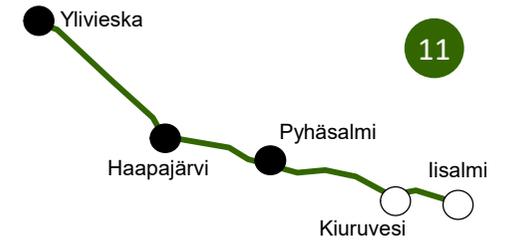
- Passenger National
- Freight National
- Other National

11: Iisalmi – Ylivieska

Pyhäsalmi-Haapajärvi



Haapajärvi-Ylivieska



- Passenger National
- Freight National
- Other National



Finnish Transport
Infrastructure Agency