



Väylävirasto
Trafikledsverket

NABL – Northern Axis Barents Link

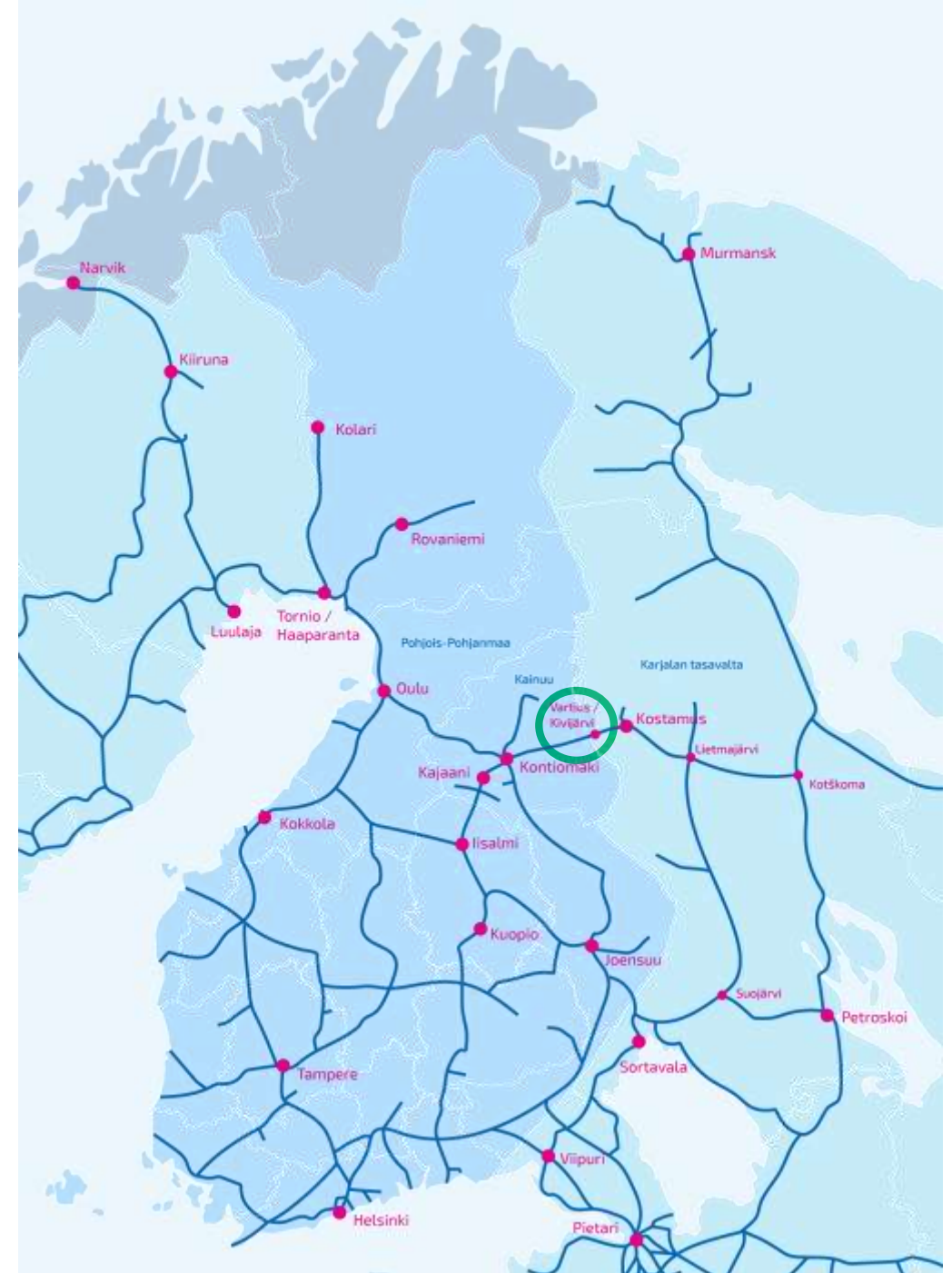
Study of the railway passenger transport passing through the Vartius/Kivijärvi border crossing point

Study of the needs for improvement on the Oulu–Kontiomäki line



Introduction 1/2

- This presentation shows two separate but intertwined studies of NABL:
- **Vartius/Kivijärvi border crossing point, the railway passenger transport:**
 - Identification of the requirements on opening the border for international passenger trains
 - Examination of the passenger potential for train operations
 - Evaluation of the feasibility of two operation scenarios



Introduction 2/2

- This presentation shows two separate but intertwined studies of NABL:
- **Oulu–Kontiomäki line, the needs for improvement:**
 - Identification of effective railway improvement projects in the area
 - Analysis of the capacity under traffic forecasts and views
 - Research of the operational and infrastructural development needs in the line



Agenda

The railway passenger transport passing through the Vartius/Kivijärvi border crossing point

1. Current traffic in Vartius/Kivijärvi area
2. Requirements for a crossborder passenger traffic
3. Potential rolling stock
4. Passenger potential
5. Summary

The needs for improvement on the Oulu–Kontiomäki line

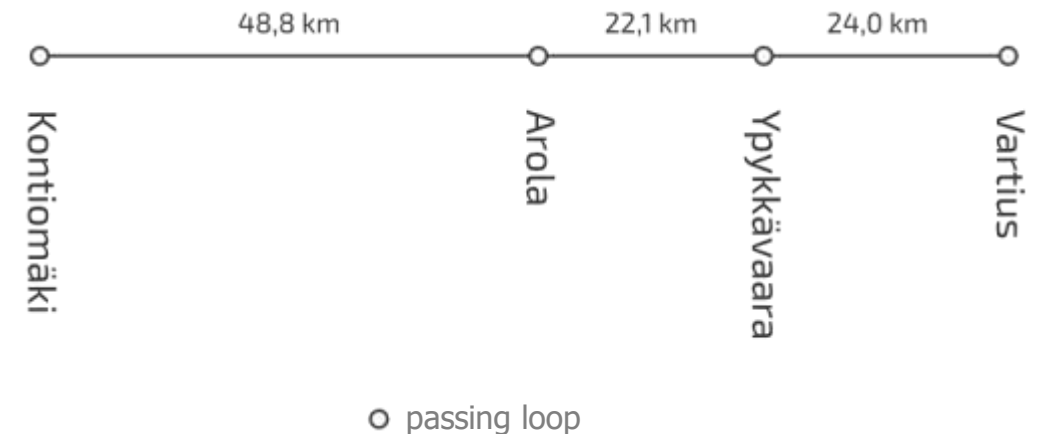
1. Oulu–Kontiomäki track section
2. Ongoing projects on Oulu–Kontiomäki line
3. Development needs and challenges
4. Suggestion for improvement steps and costs
5. Summary



The railway passenger transport passing through the Vartiuss/Kivijärvi border crossing point

1. Current traffic in Vartius/Kivijärvi area

- Currently only cargo trains on Vartius–Kontiomäki line
- Challenging line
 - One track
 - Speed limit 80 km/h
 - Hilly terrain
 - Long section blocks



Picture: Vartius–Kontiomäki track in length

2. Scenarios and official and operational requirements for a crossborder passenger traffic

- Operational requirements and passenger potential is examined under two separate scenarios

Charter services

- No scheduled regular traffic, only charter
- Train services can be arranged by commercial agents
 - Seasonal tourism potential source of demand
- Lightweight options available for border control: on-train operations are viable
- Border control could utilise existing passenger station in Kontiomäki

Regular passenger traffic

- Regularly running trains (1–3 weekly services)
- Very optimistic: needs a real demand around the year
- Vartius station would need remarkable development: platform, border control facilities etc.
- Staff resources for customs and border control are needed

3. Rolling stock and routing options

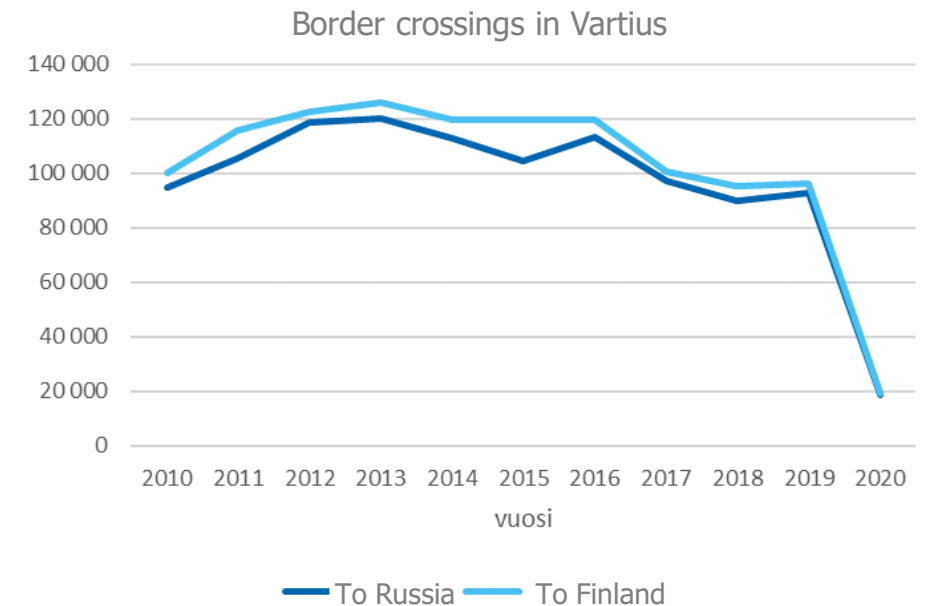
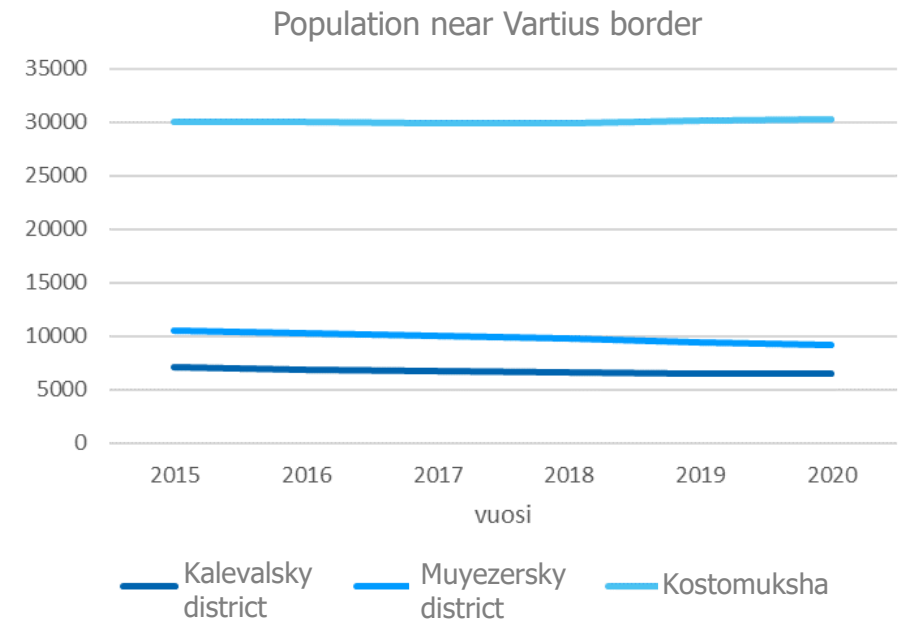
- In both operational scenarios Oulu would be the most viable destination station in Finland:
 - Enough transfer possibilities, direct connection to some tourism areas
 - Easiest option regarding maintenance of the train
- Sleeper train would serve passengers at best as trips from further from Russia are long. However, border is not open at night.
- Daytime trains could operate between Kostamus and Oulu forth and back within 24 hours.
- Operational costs would need a separate detailed examination. Passenger potential and operational scenario have a great influence on this.



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4. Passenger potential

- Population near the border does not imply enough travelling potential for passenger trains in the near future.
- It would be hard to compete with the southern route through Vainikkala on passenger flows, where population is denser (St. Petersburg area) than around the Vartius/Kivijärvi border (closest bigger town is Kostomuksha).
- Vartius road border crossing is not recognised as significant crossing point for seasonal tourism, so there are no acknowledged potential for modal shift from cars to trains.



5. Summary

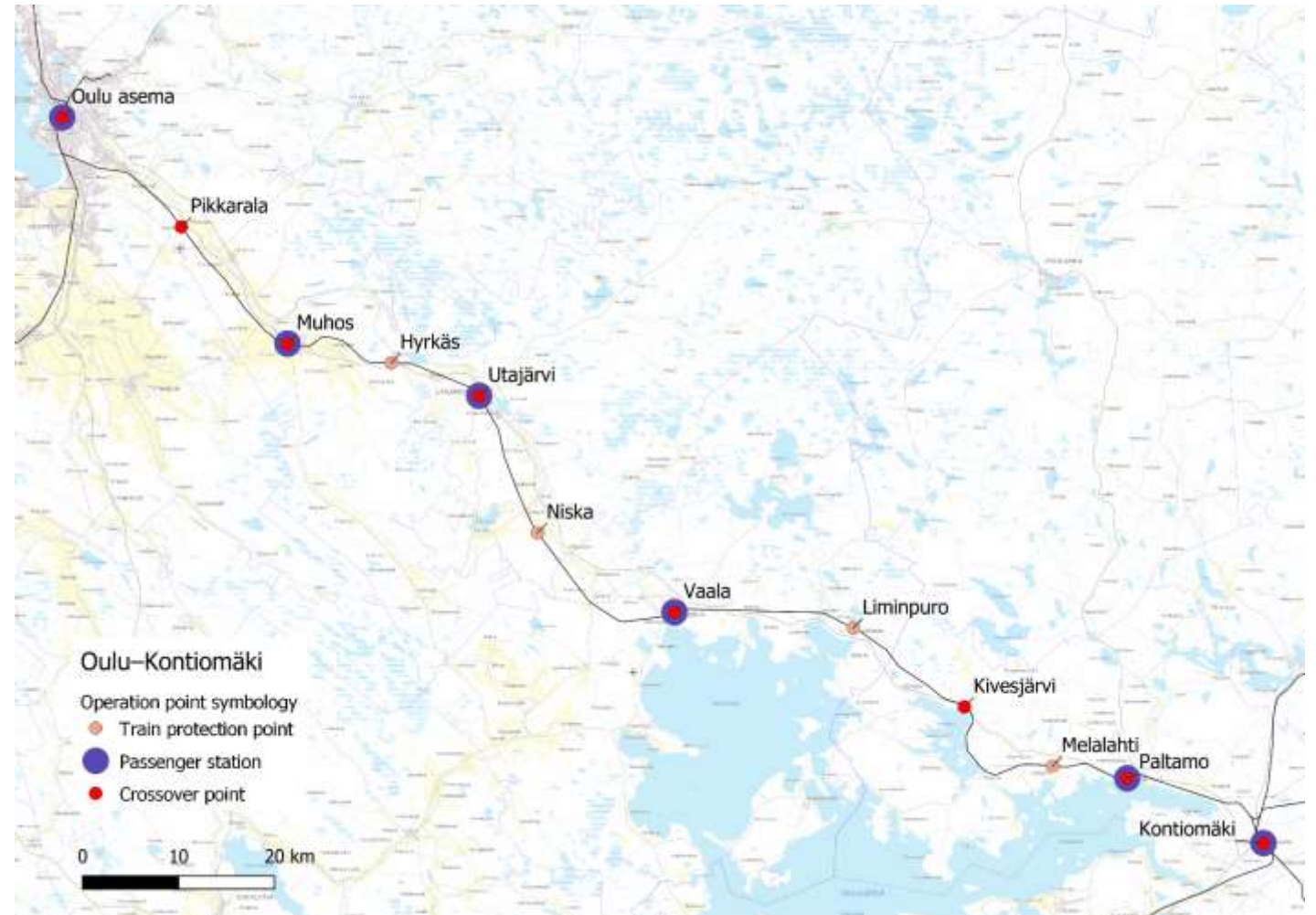
- No existing potential or demand for charter or regular passenger services
- Customer base needs to be found, remarkable changes in crossborder activity are needed to create the necessary passenger demand
- Requires strong initiative and co-operation from regional agents (traveling agents, cities, counties)



The needs for improvement on the Oulu– Kontiomäki line

1. Oulu–Kontiomäki line

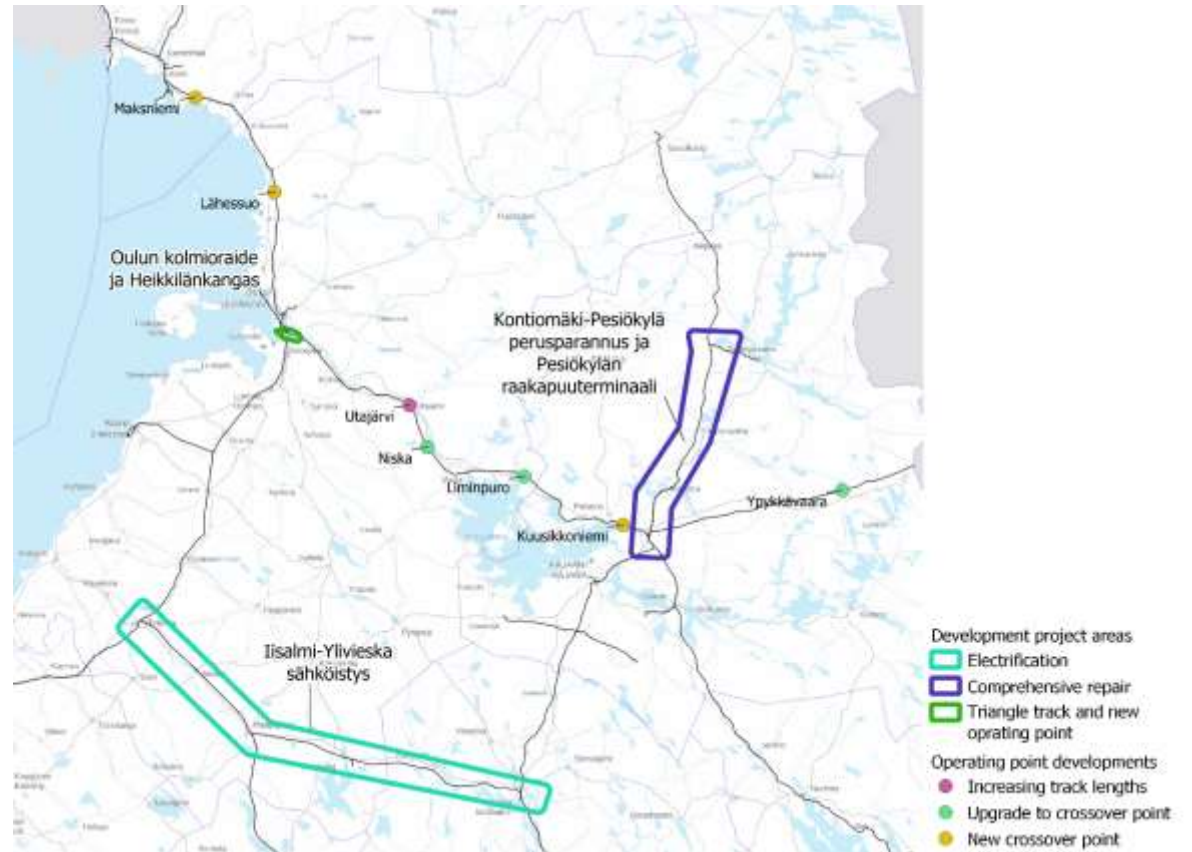
- 166 km long line with 1 track
- 6–8 daily passenger trains
 - 135 000 trips in 2019
- 9–15 daily end-to-end freight trains
- Shortage of passing loops for long freight trains
- Capacity is full in certain hours
- Major overhaul has been done in the past 10 years



2. Ongoing development projects

Projects that will affect the demand and operations in the Oulu-Kontiomäki section

- 2021–2022:
 - 4 new operating points
 - Increased track lengths + new crossover points
 - Increases the amount of passing loops for long cargo trains
- 2021–2023:
 - Electrification of Iisalmi–Ylivieska track
- Other possible developments:
 - New operating point and a triangular junction near Oulu



3. Development needs and challenges

- Passenger platform changes to allow better crossover operations
- Enough passing loops for flexibility
- Sufficient time slots for maintenance needs
- Kontiomäki station functionality
- Challenges in capacity
- Capacity management processes:
 - Freight timetables unpredictable
 - Capacity reservations are constantly higher than the actual train runs



Picture of Kontiomäki's triangular junction

4. Suggestions for improvement steps

- Passing loop in Kivesjärvi
 - Third track
 - Cost approximation 2,37 M€
 - Timetable analysis has taken into account other upcoming new passing loops in the section
- New passenger platforms to Muhos and Paltamo
 - Cost approximation 2,55 M€ per platform

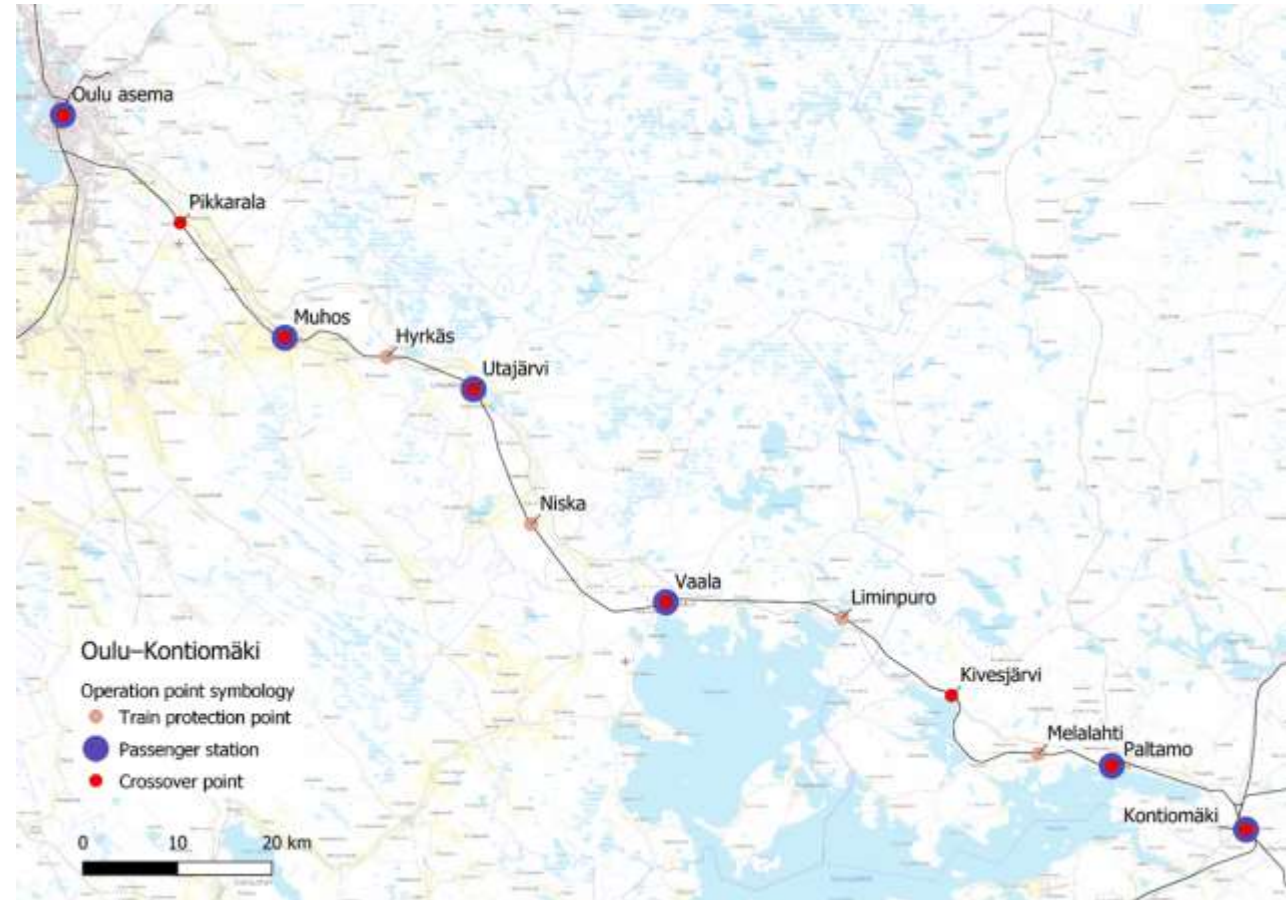


The map shows current situation. Niska, Liminpuro and Melalahti will also be crossover points in the near future

5. Summary of Oulu–Kontiomäki line

Main subjects in the future:

- Future changes (amount of trains) in Oulu–Kontiomäki create challenges in the capacity
- Suggested improvements would allow increased train runnings and make the operations of the existing trains more fluent
- Capacity management processes would need a critical review
- Notification of the long-term goal for 25 ton axle weights in all construction works





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