



*Talsinki twin city -
connecting Tallinn and
Helsinki*



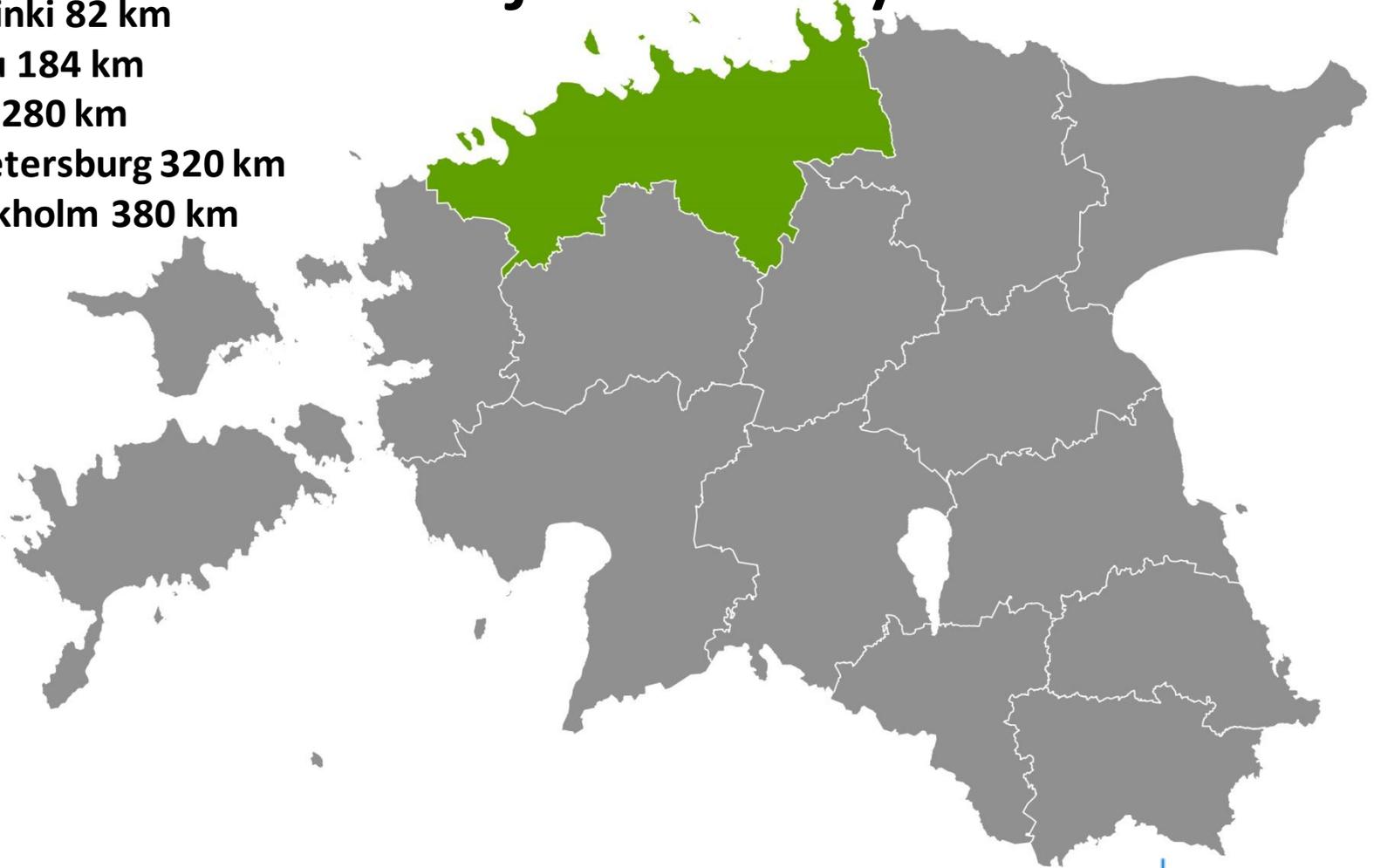
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Capital region of Estonia

Distances from Tallinn to:

- Helsinki 82 km
- Tartu 184 km
- Riga 280 km
- St Petersburg 320 km
- Stockholm 380 km

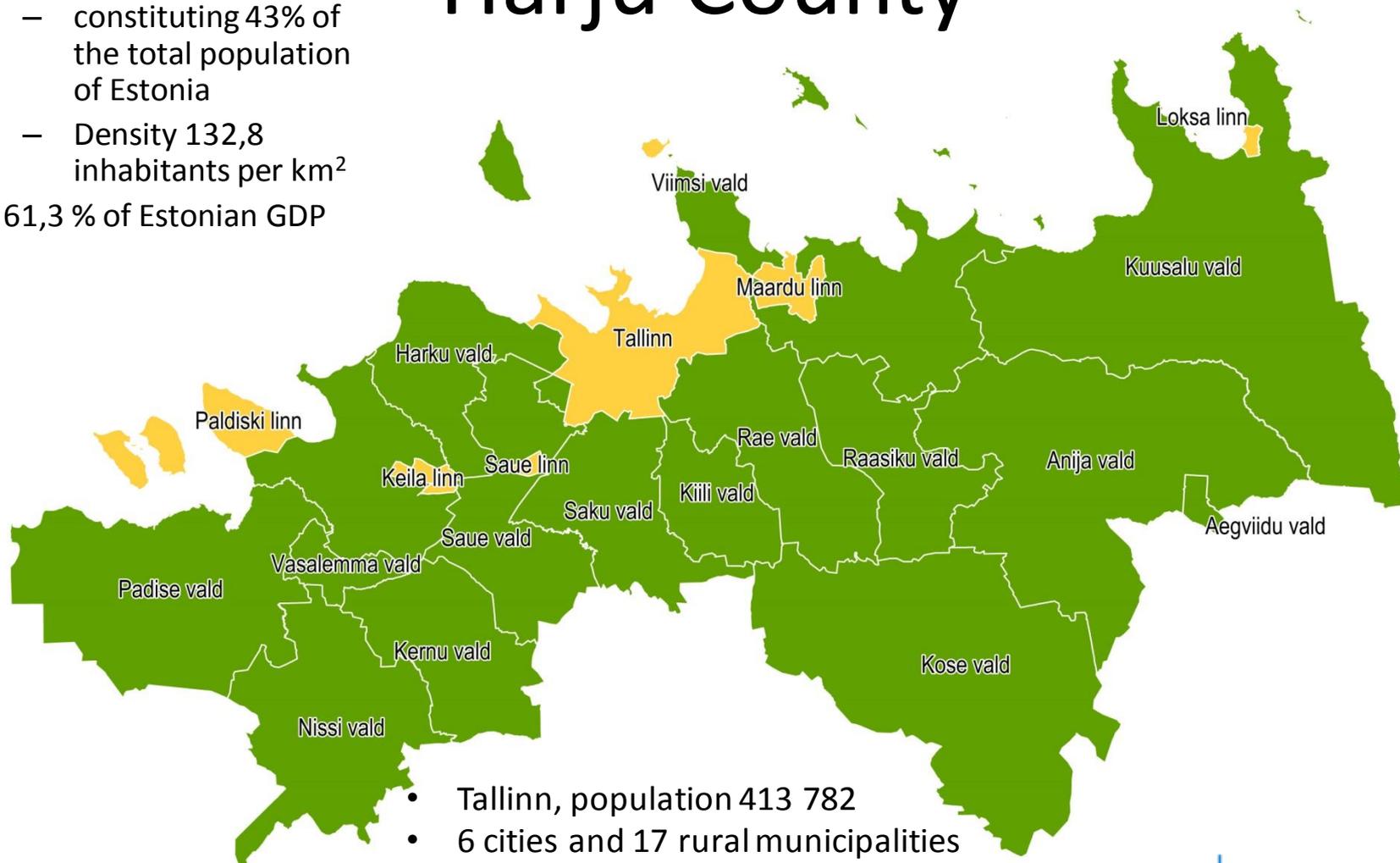
Harju County



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- Territory 4333 km²
- Population 575 601
 - constituting 43% of the total population of Estonia
 - Density 132,8 inhabitants per km²
- 61,3 % of Estonian GDP

Harju County



- Tallinn, population 413 782
- 6 cities and 17 rural municipalities
- Coast line 530 km
- 74 islands



Finnish-Estonian Transport Link Initiative



- **Anne Berner** - Finnish Minister of Transport and Communications
- **Kristen Michal** - Estonian Minister of Economy and Communications,
- **Taavi Aas** - Acting Mayor of Tallinn
- **Pekka Sauri** Acting Mayor of Helsinki
- **Ossi Savolainen** - Regional Mayor of Helsinki-Uusimaa
- **Ülle Rajasalu** - Harju County Governor



Finnish-Estonian Transport Link Initiative

- activate Estonian-Finnish cross-border cooperation
- enhanced mobility and digital interaction
- support the integration of economies
- improve common labor markets
- to establish economic, social, cultural and educational links and networks in order to intensify the mutually beneficial integration of the Finnish and Estonian societies
- twin-region of Tallinn-Helsinki has a potential of being one of the leading economic centres of Northern Europe.

- first time when two countries inter-governmentally stated the importance of twin-regional development and push together for economic complementarities and aim to lay grounds for further networks and innovation based industry.



Current affairs in Transport

- Rail Baltic planning
- Memorandum of Finnish-Estonian Transport Link Initiative
- Finnish Estonian Transport Link (FinEst Link) - full scale feasibility study and assessment on regional impact of the Talsinki fixed link
- FinEstSmartMobility - provides more fluent integration of different transport modes of this inter-city and cross-border traffic with planning and piloting of ICT-driven solutions, in order to reduce time in transportation for both passengers and cargo.
- NSB Core - improving the sustainable accessibility of the Eastern Baltic Sea Region (EBSR) to freight and passenger transport.

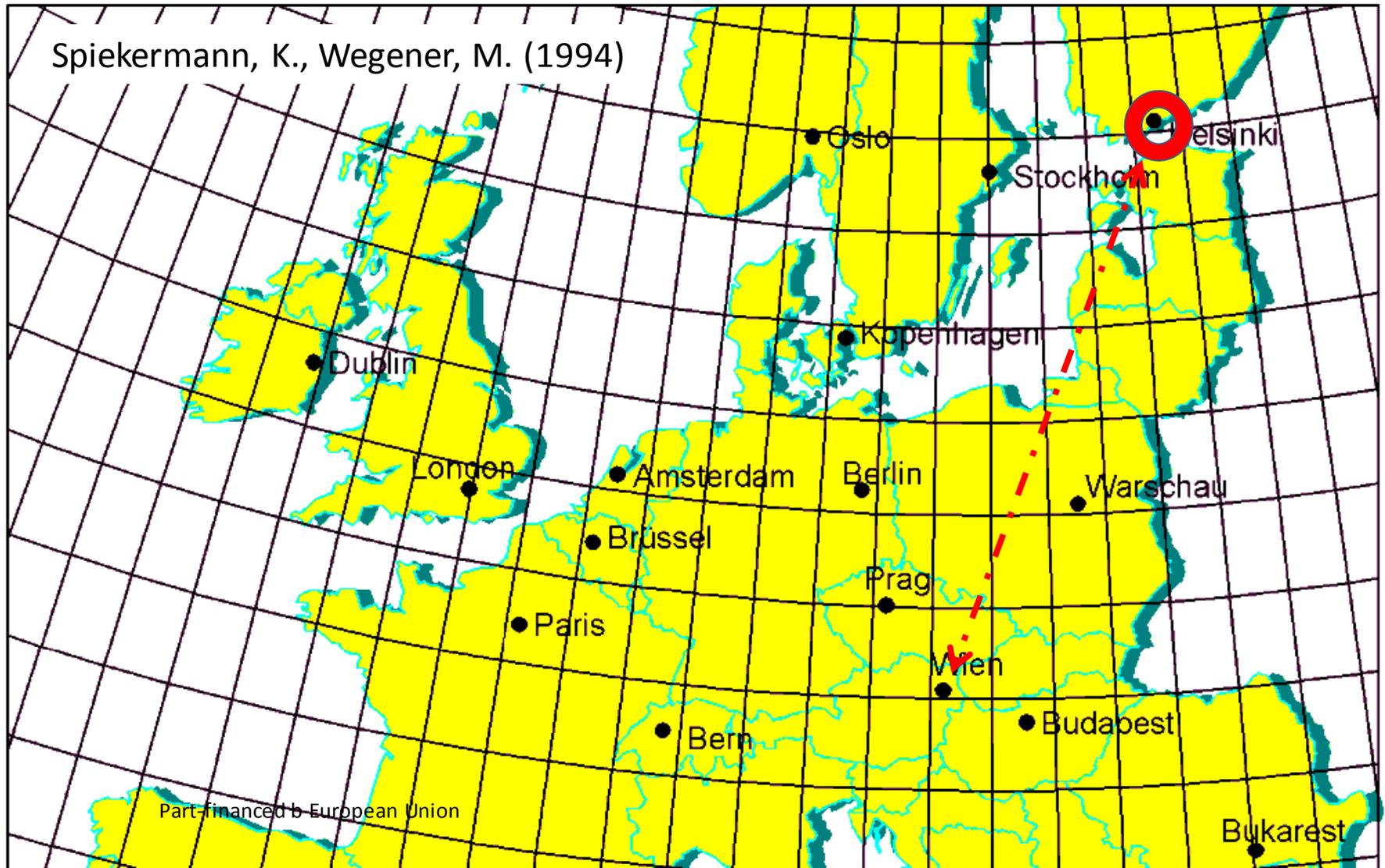


Where are we - periphery or centre?



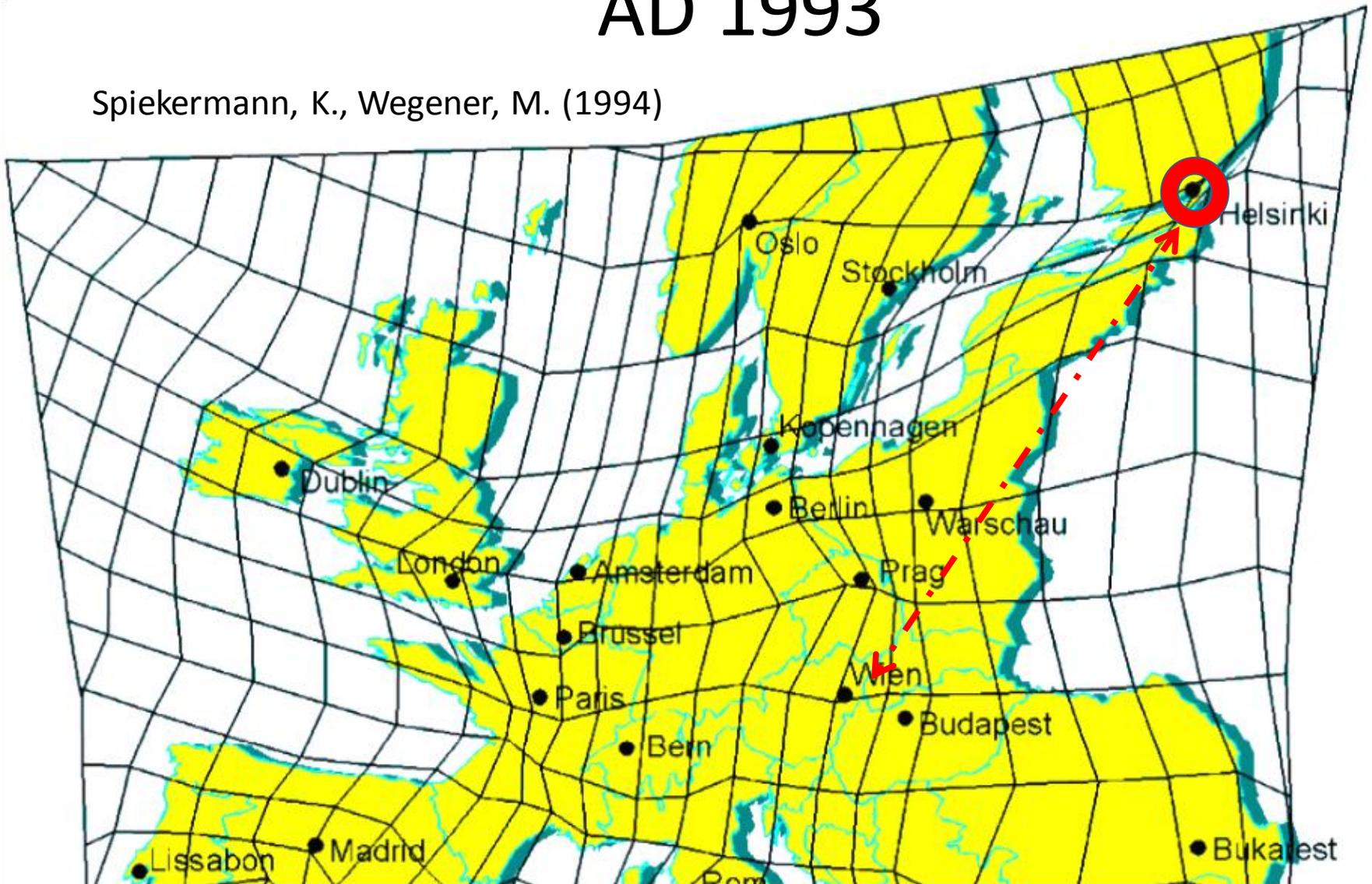
EUROPE

Time-Space



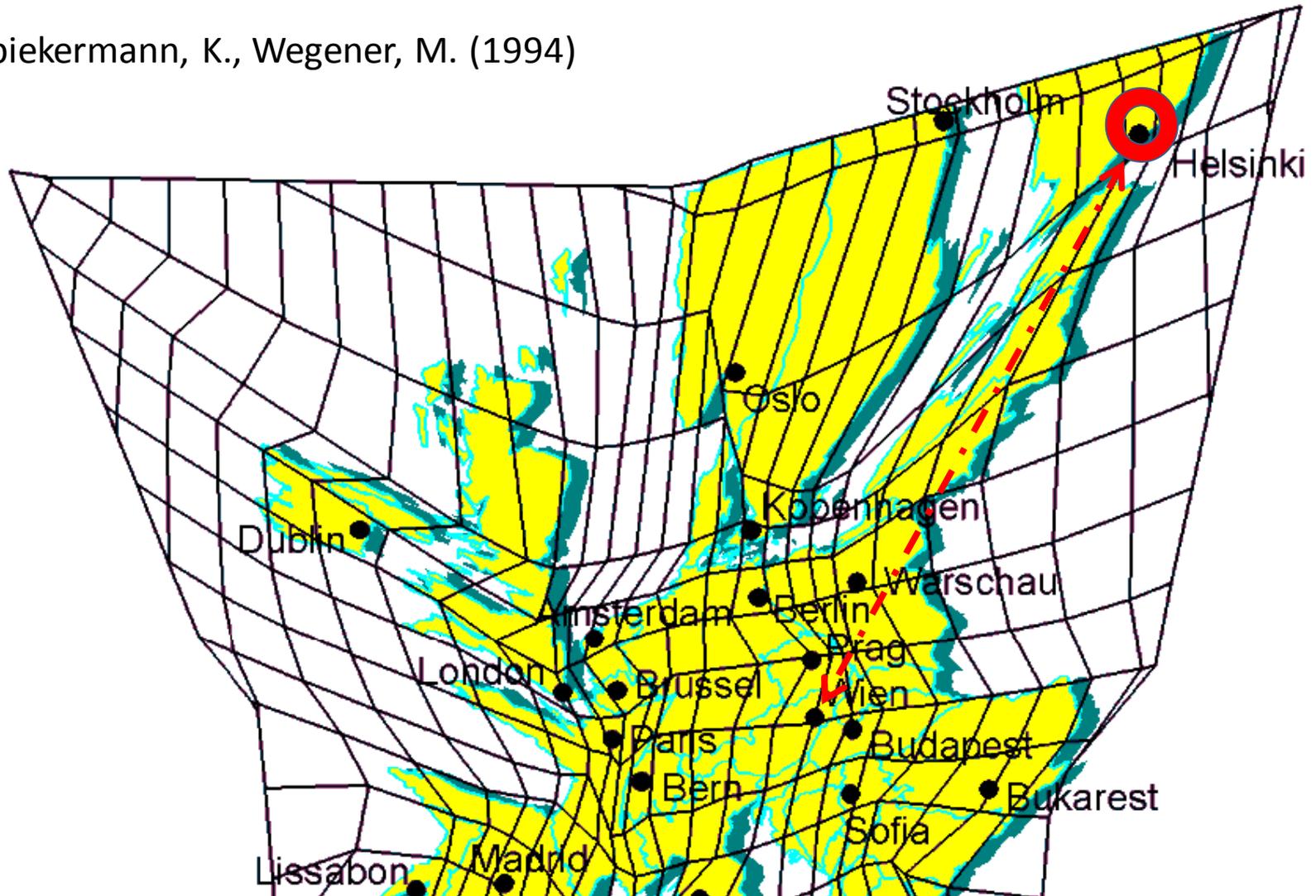
Time-Space AD 1993

Spiekermann, K., Wegener, M. (1994)



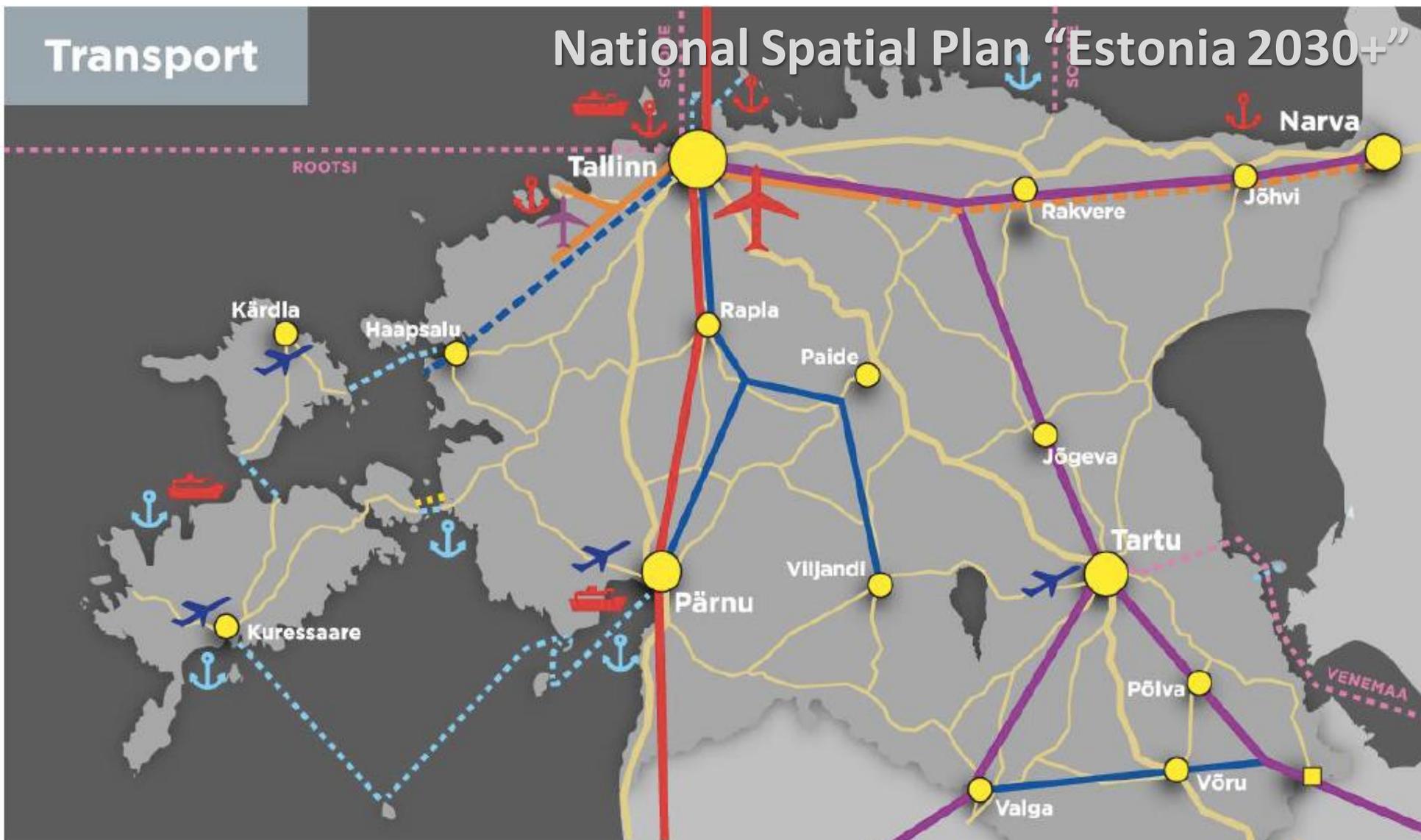
Time-Space AD 1993

Spiekermann, K., Wegener, M. (1994)



Transport

National Spatial Plan "Estonia 2030+"



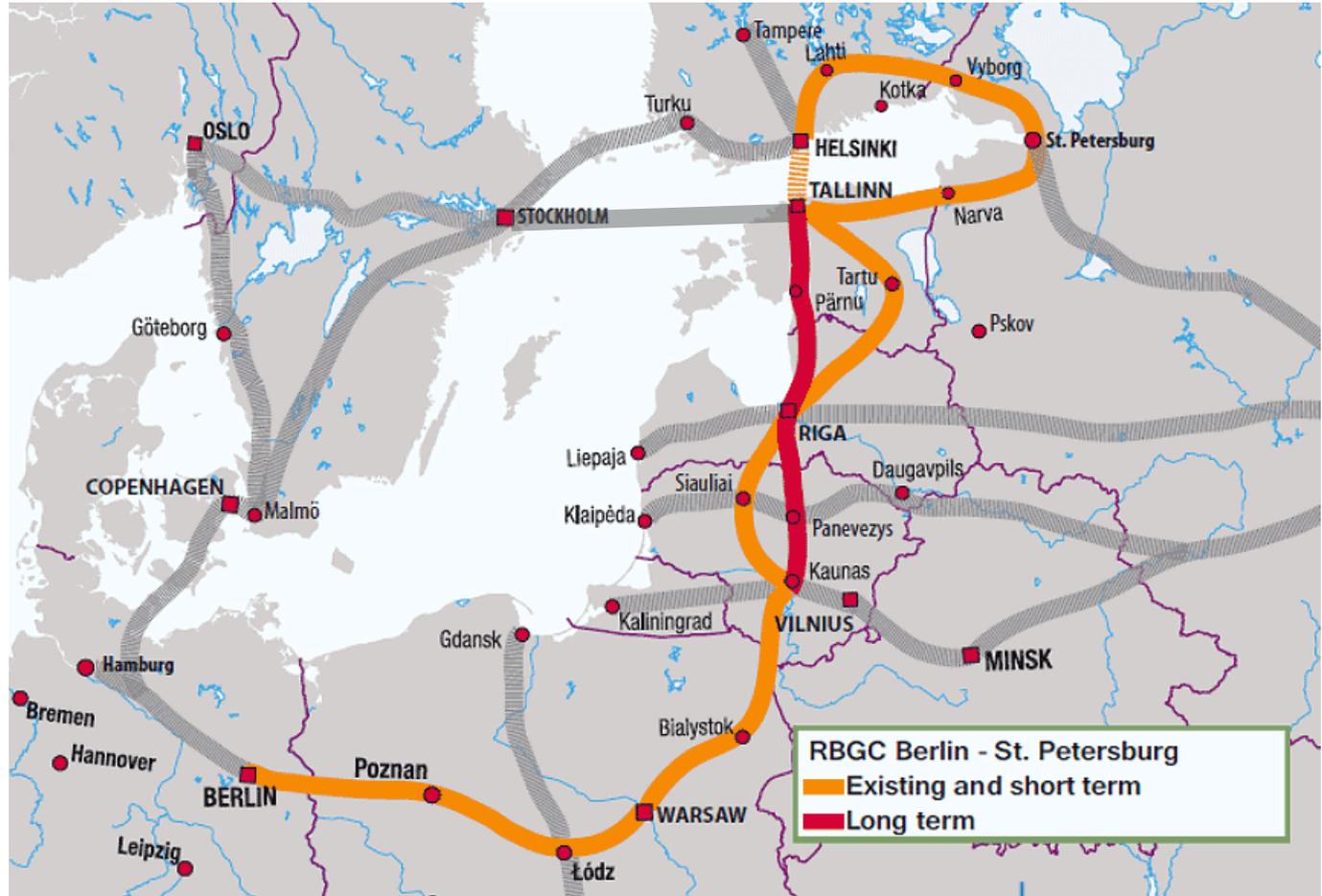
- | | | |
|----------------------------------|--------------------------|------------------------------|
| Kiire rongiühendus (240 km/h) | Rahvusvaheline lennujaam | Regulaarne reisilaevaühendus |
| Kiire rongiühendus (160 km/h) | Varulennuväli | - rahvusvahelised |
| Rongiühendus (120 km/h) | Piirkondlik lennuväli | - riigisisesed |
| Võimalik rongiühendus (120 km/h) | Linn | Kruisilaevad |
| Elektriraudtee | Piiripunkt | Transiitkaubasadam |
| Elektriraudtee pikendus | Võimalik püsiühendus | Kaubasadam |
| Maantee | | |



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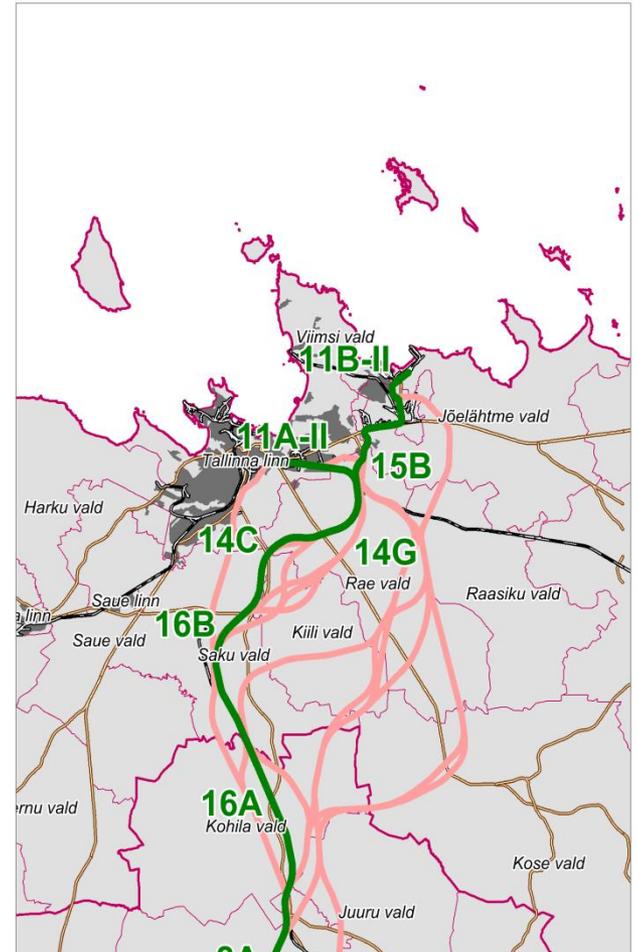
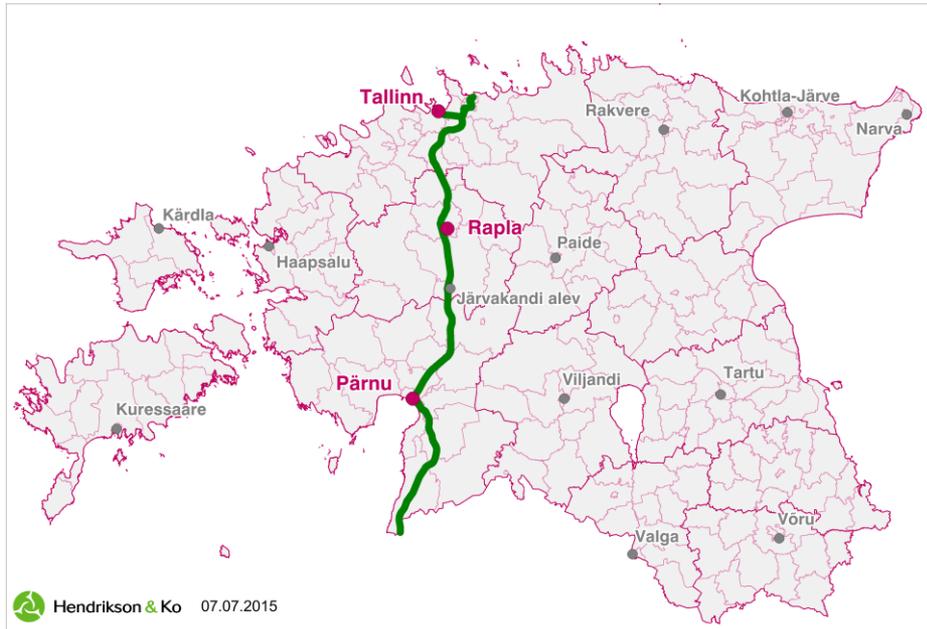
Rail Baltic

- 728 km from Tallinn to Lithuania - Poland border
- Travel time 4,1 h (little over 6 h to Warsaw)
- 1435 European gauge
- Top speed 240 km/h
- Cost 3,6 b EUR
- Operating 2025



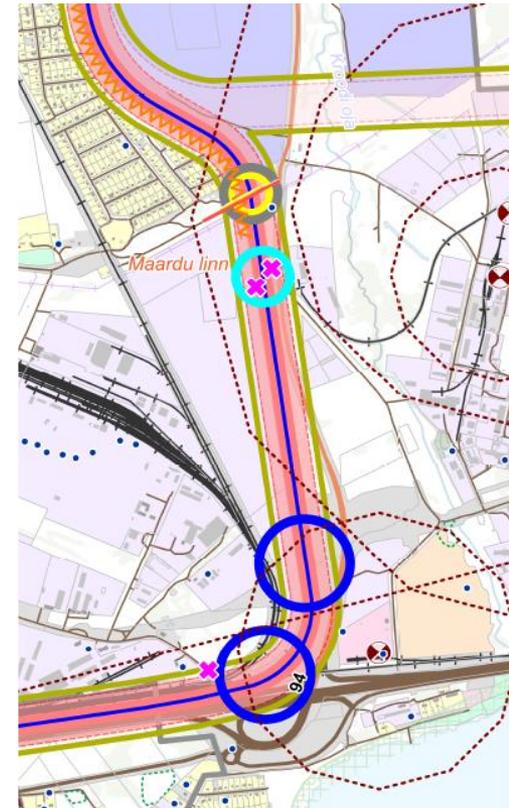
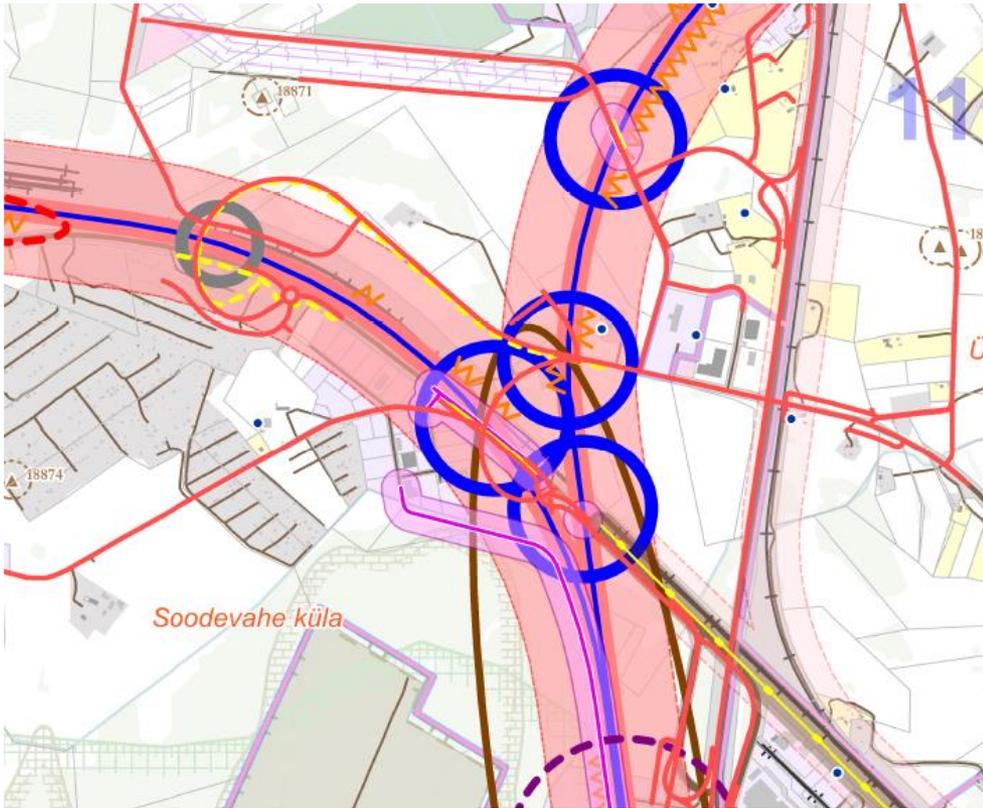
Rail Baltic

Chosen track corridor

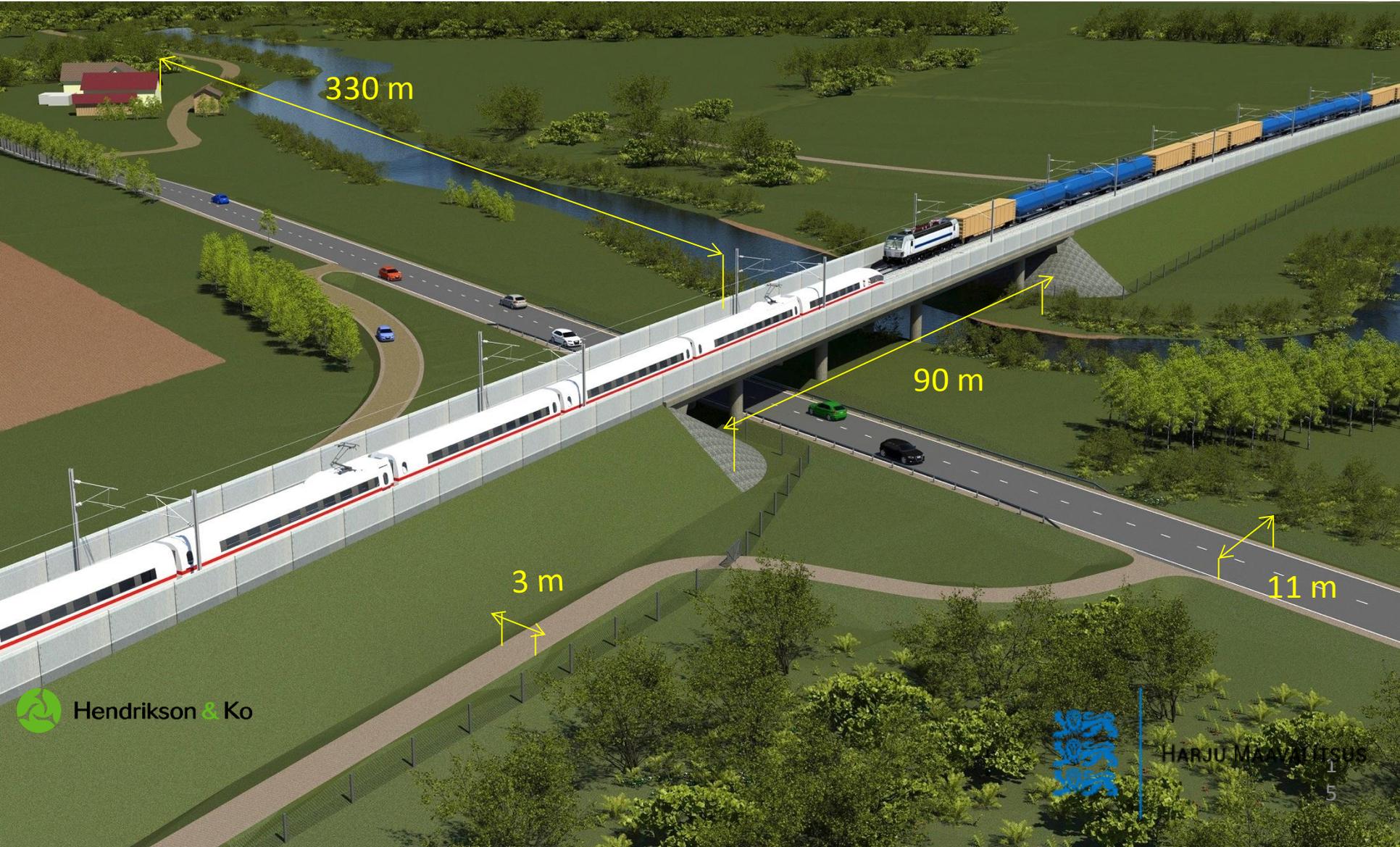


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Rail Baltic



Rail Baltic





EUSBSR
EU STRATEGY
FOR THE BALTIC
SEA REGION

SEED MONEY FACILITY

- Rail Baltic is part of North Sea-Baltic corridor in TEN-T
- Tallinn – Helsinki a missing link

TEN-T Network



Part-financed by European Union



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TALSINKI?

LARGE CITY = CENTRE FOR MODERN ECONOMY

Urban environment

Support services

Cooperation clusters

Technological
infrastructure

Business scale

Large labour pool



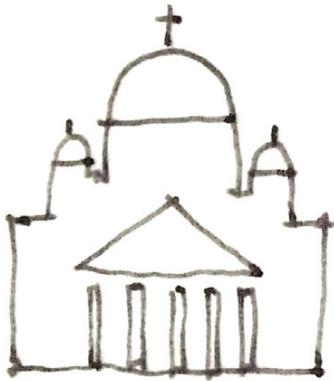
**Tallinn not
attractive to
global ideas and
talent flows**



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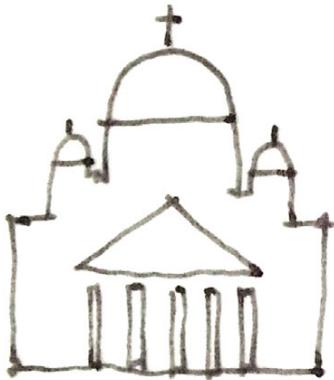
Hopes for twin city

150 min

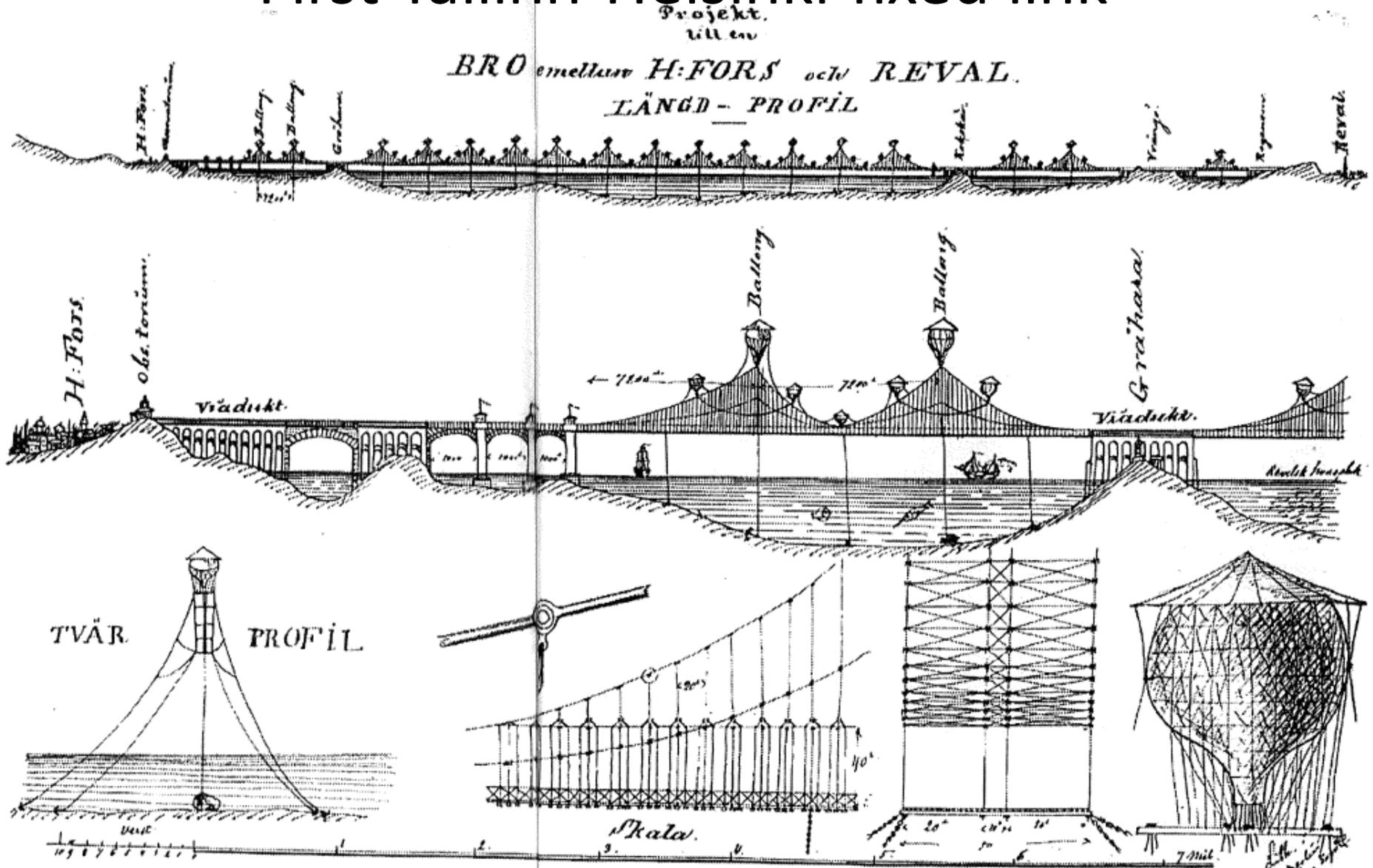


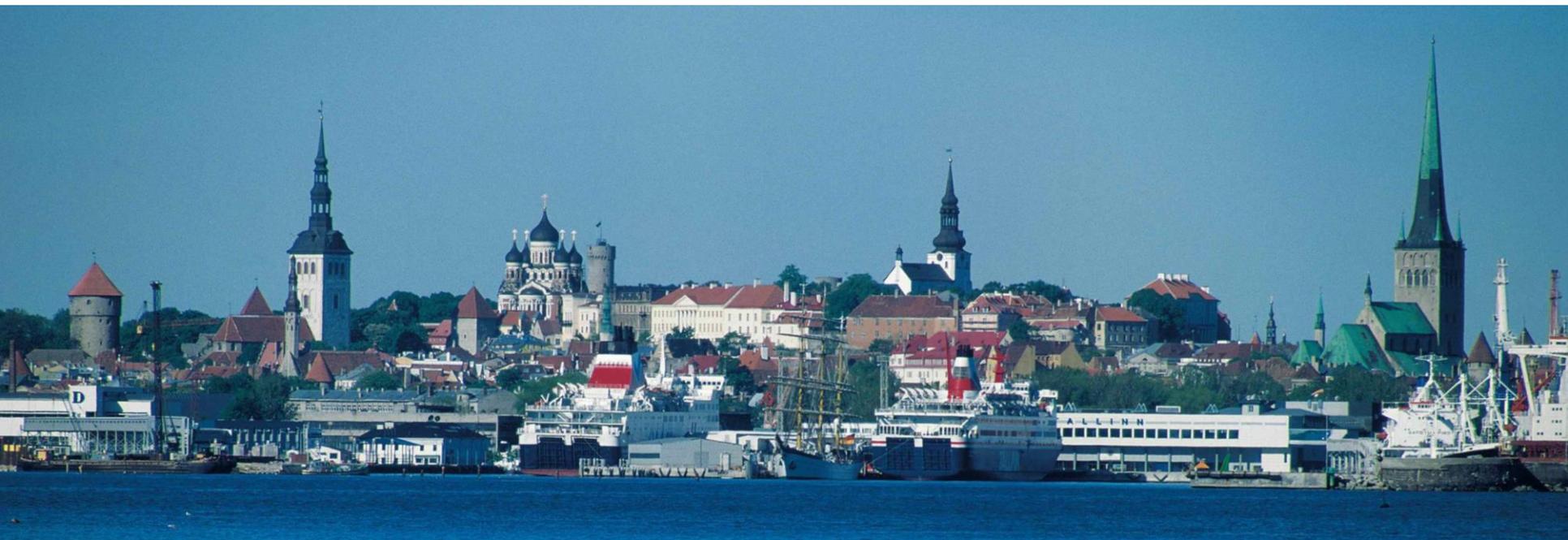
Hopes for twin city

30 min



First Tallinn-Helsinki fixed link





Project TALSINKIFIX

Pre-Feasibility study of Helsinki-Tallinn fixed link project



Part-financed by European Union



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Figures

- 8,21 M trips in 2015 between Helsinki and Tallinn (Port of Tallinn)
- 2,1 million inhabitants in facing capital regions (Uusimaa 1,59 M, Harju County 0,56 M)
- 2002-2010 seaborne cargo increased 76% from 2,28 to 4,01 m tonnes
- Unitised cargo (trucks & trailers) increased 430 % 1993-2010
- Continuous annual growth of 10% of cargo volumes on Helsinki - Tallinn route expected (HTTransplan 2012)
- Forecast 2022 (HTTransPlan 2012):
 - Increase in passenger car traffic estimated +50%
 - Increase in cargo flows +60%



EUSBSR
EU STRATEGY
FOR THE BALTIC
SEA REGION

SEED MONEY FACILITY



FERNBILT
DEVELOPMENT

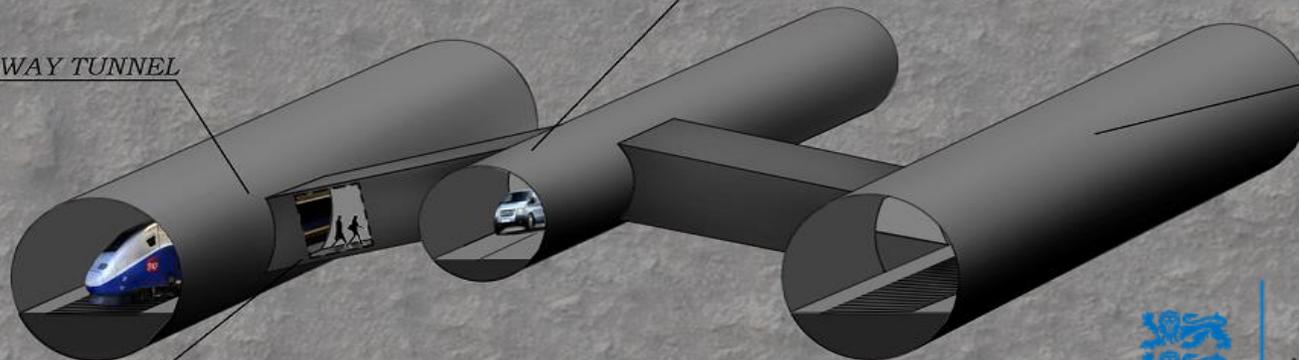
Technical solutions – basic cross section

SEABED

EXPLORATORY GALLERY
VENTILATION TUNNEL
SERVICE TUNNEL

RAILWAY TUNNEL

RAILWAY TUNNEL



Part-financed by European Union

BASEROCK

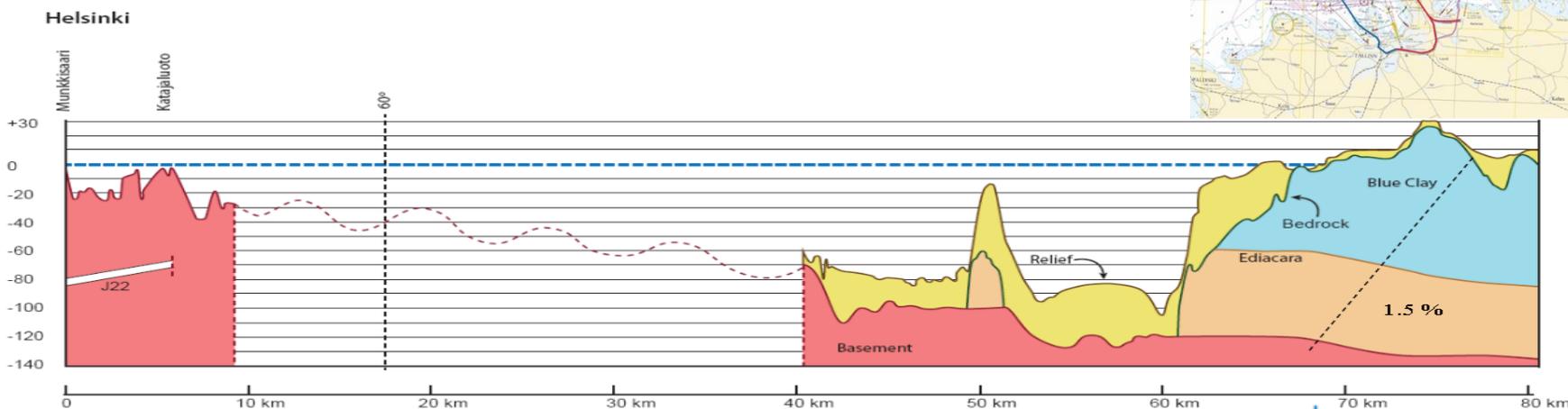
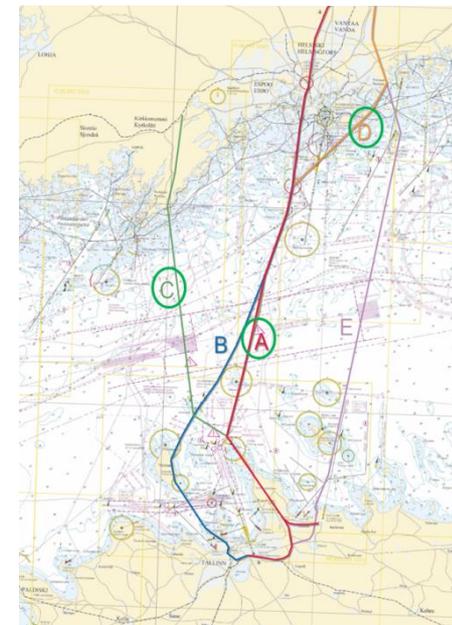


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Topographical and geological analysis

Suitable tunnel routes according geological analysis

- A. Pasila - Muuga - Ülemiste
- C. Pasila - Porkkala - Muuga - Ülemiste
- D. Vuosaari - Aegna - Muuga - Ülemiste



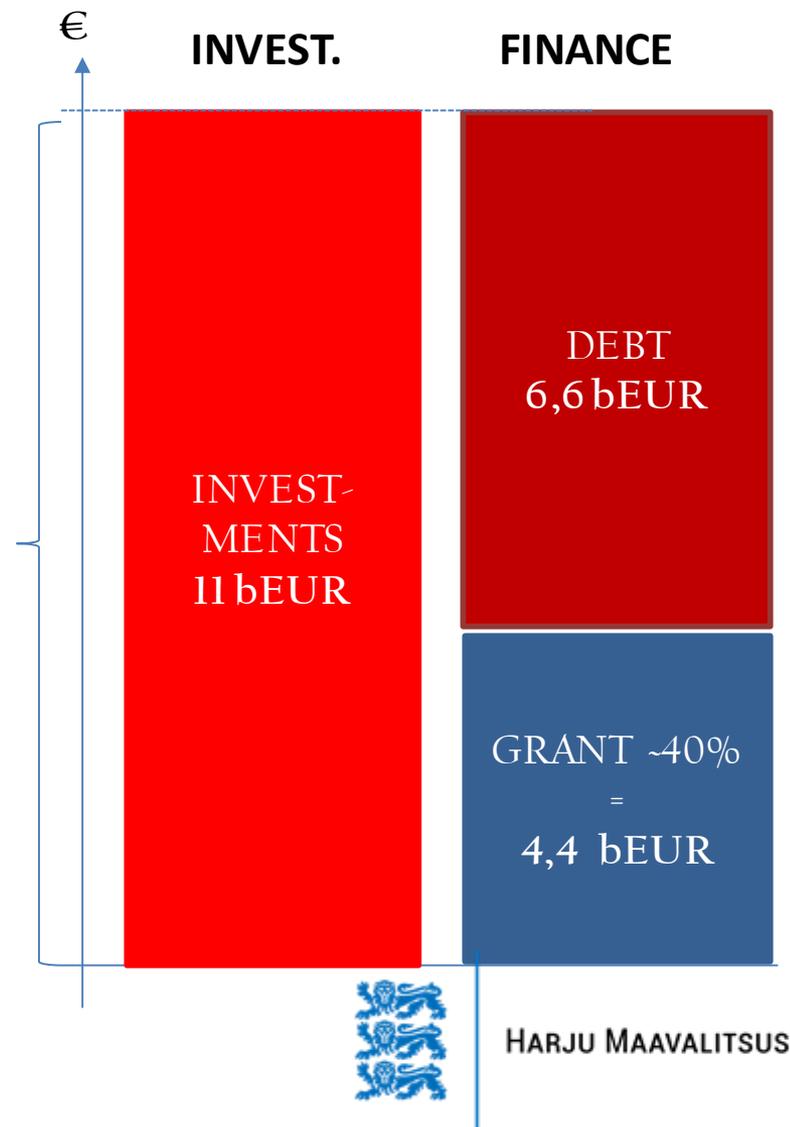
Cost estimate for Tallinn- Helsinki Fixed link

Cost types	Low price, MEUR	High price, MEUR
Tunnel with railways, 85 km	3600	4100
Surface track sections	700	1000
All technical systems, maintenance canals, security	2500	3300
Finnish cargo terminal and passenger station	200	400
Estonian cargo terminal and extension of passenger station	70	150
Rolling Stock	1000	1000
Risk reserves	1000	3000
TOTAL COST	9 - 13 billion EUR	



SEED MONEY FACILITY

- Ülemiste-Pasila railway line (90 km)
Connected to Rail Baltic.
- Services: passengers-, freight-, cars- and trucks trains.
- Passenger train travel time: up to 30 minutes
>> targeting daily commuting.
- Truck terminals at Muuga and Riihimäki.
- Connections to airport and Tampere considered in Finland.
- Investments incl. rolling stock 9-13 bEUR.
- At least 40% (EU, national funds) needed, remaining financed by debt (private equity?).

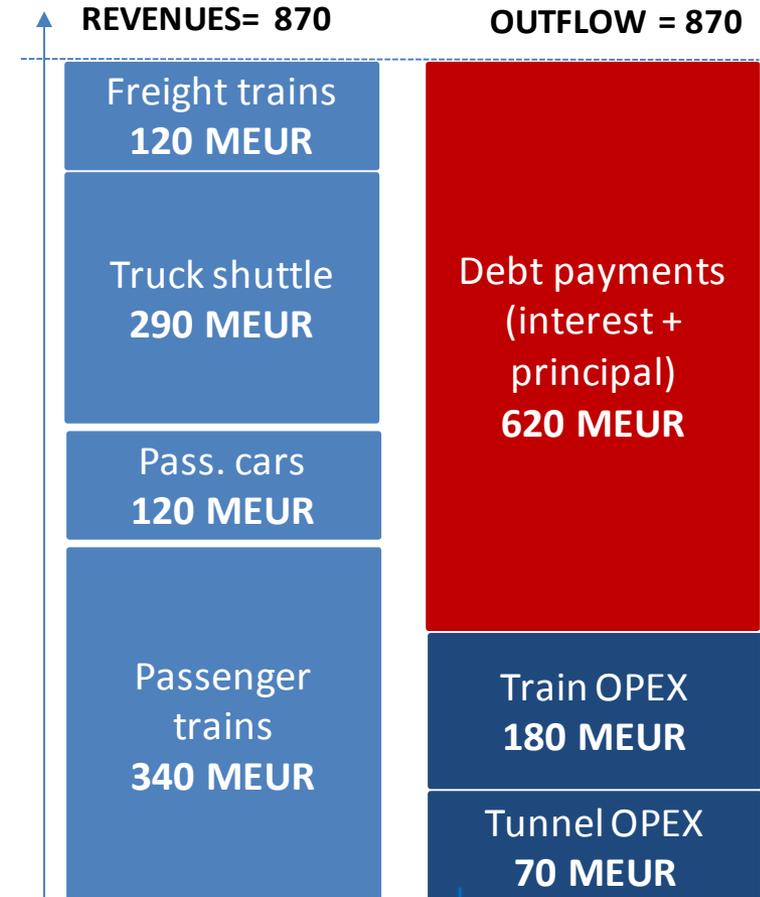


Costs and revenues

SEED MONEY FACILITY

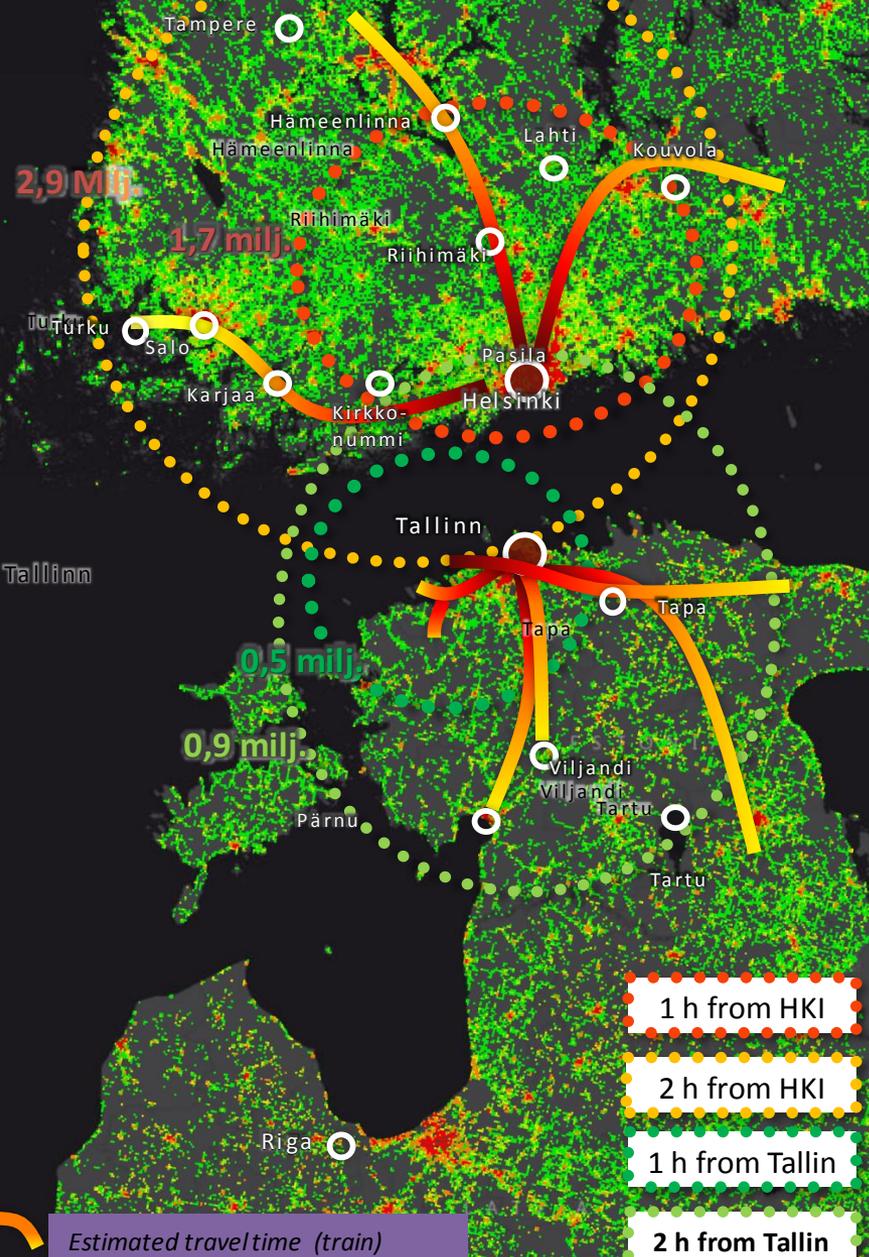
- Passengers today 7.9 million
- Tunnel passenger by 2042 (i.e. Y10):
 - 25 thousand daily commuters and 11 million trips per year
 - 5 million business and leisure trips
 - 1.3 million passenger cars
 - 8.4 million tons of cargo
- Service fees (2014 values, one way):
 - Passenger ticket: 36 EUR
 - Commuters discount 75% (Monthly card)
 - Passenger car with passengers: 70 EUR
 - Average truck: 450 EUR
- **Debt repayment period 35-40 years >>**
comparable to Öresund and Femern Belt

YEAR 10 CASH FLOWS (EXAMPLE)

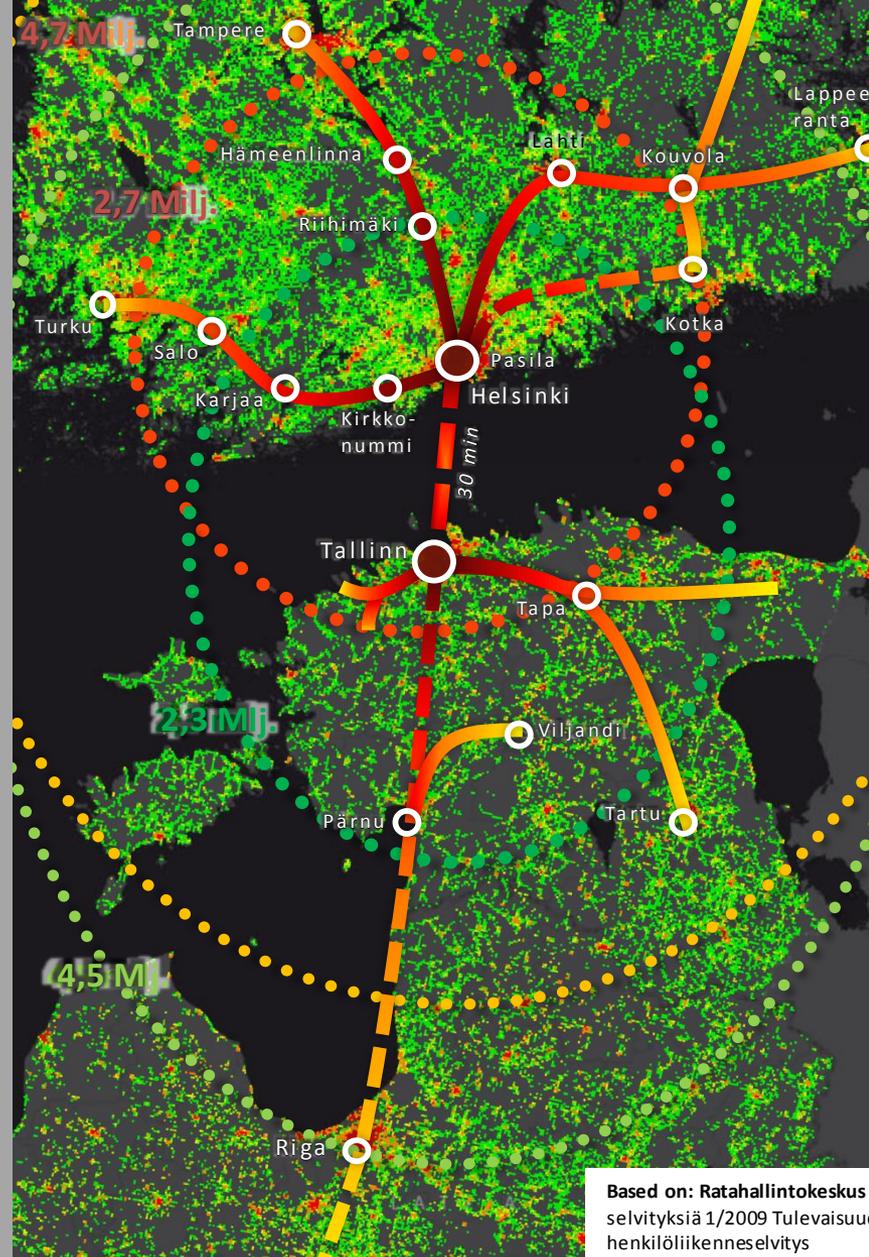


The current situation; travel time zones:

Travel time from Helsinki (Pasila) and Tallinn) 2014
(0-2 hour



The future vision - travel time zones

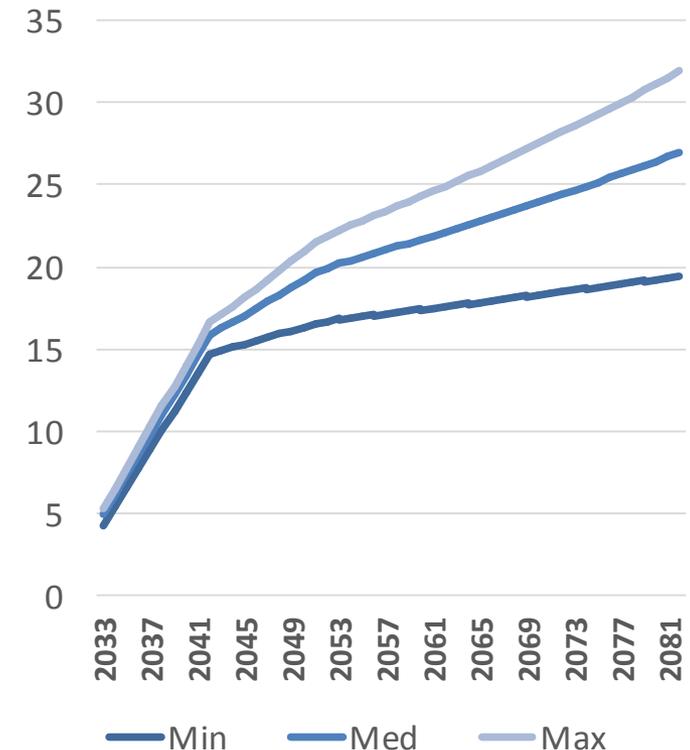


Based on: Ratahallintokeskus
selvityksiä 1/2009 Tulevaisuuden
henkilöliikenneselvitys
Rail Baltica

Economic impact

- Improved connection to Central-Europe >> 1-3% increase of Finnish GDP. Respective impact to Estonia: 0.5-1.0% (Spiekermann & Wegener 2013)
- Integrated labour market: shortage of 400 thousand in Finland by 2030 > easier access to Estonian labour or...
- ... businesses moving to Estonia and new working places here.
- Potentially >20 thousand daily commuters (comparison with Oresund).
- New investments into City areas on both side of the GOF
- With Rail Baltic the „hinterland“ for passengers up to Riga.
- Estonia/Tallinn gets fast access to Vantaa airport.
- Direct employment on construction and operating phase. Within 10y €1bn additional annual turnover to construction sector.
- **General attractiveness of twin cities, new business models**

PASSENGER FLOW (MN)



The tunnel impact



No size



Tallinn and Helsinki are linked into unified 2 + million person metropolitan area.

Increased business scale due to market integration



No cities



Urban environment with combined attractions (culture, entertainment, dining, services, retail offering) of Helsinki and Tallinn.



No capital



Increased attractiveness brings wealth into region.
Urban environment makes it much easier to attract necessary specialists into Estonia, innovation peaks.



No access



One of the best flight connections in Europe from Helsinki and Tallinn (half an hour between airports). Integrating Finland and Estonia into pan-European high speed rail transport network. Closing the Baltic Sea transport Circle.



Part-financed by European Union



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Conclusions and what next?



1. Functionality and connection to current transport systems is priority n#1
2. Rail Baltica must exist
3. Both Passengers and cargo are needed
4. Fast connections and short total travel time make Fixed Link competitive
5. Technical solution: railway tunnel with two separate rock tunnels + service tunnel
6. Cost estimate for investment is 9-13 billion euros - Financial support from public sector (from governments and EU) would be needed about 40-50 percent.
7. Remarkable economic impacts for Estonia and Finland: new investments into common metropolitan area, commuting, general attractiveness of twin cities (Copenhagen-Malmö effect), new business models, direct and undirect employment on construction and operating phase.
8. The fixed link traffic is assumed to triple in the first 10 years from 5 to 15 million trips and ferry transportation is expected to keep it's position
9. **Suggestion for next steps:**
 - **Establish joint organisation for TALSINKI project**
 - **Execute full scale feasibility study**



FinEst Link

Finnish Estonian Transport Link (FinEst Link) - full scale feasibility study and assessment on regional impact of the Talsinki fixed link. The project focuses in wider Finnish-Estonian perspective, European TEN-T perspective, transport technology development, environmental aspects and in changing socio-economic context of the emerging twin-city region.

Total Project Budget 1 296 320

Partners:

Helsinki - Uusimaa Regional Council

City of Helsinki

City of Tallinn

Harju County Government

Finnish Transport Authority

Estonian Ministry of Transportation and Communication





Thank You!

<http://harju.maavalitsus.ee/talsinkifix>

Kaarel Kose
adviser

Harju County Government

kaarel.kose@harju.maavalitsus.ee



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