Rail Baltica Global Project
Cost-Benefit Analysis

24 April 2017
AGENDA

1. What answers does the CBA provide and how they were prepared?

2. What is Rail Baltica?

3. What benefits will Rail Baltica bring?

4. Rail Baltica – more than rail infrastructure

5. Conclusive remarks
What answers does the CBA provide and how they were prepared?
To what questions the CBA does and does not provide answers?

Goal of the CBA (ToR): Analyse the economic basis for the Project

**ANSWERS**
- Is the project viable
  - Financially
  - Economically
- Is the EU funding required?
  - What is the amount of the EU funding?
- Is the infrastructure manager financially sustainable?
- What are the socio-economic benefits?

**THEREFORE**

**NO ANSWERS**
- Should Rail Baltica be constructed?
- Is this the optimal route?
- Are lower speeds feasible option?
- Is this the most profitable investment for the national budgets?
- Will there be discounts for frequent travellers?
One common Global Project approach
What is Rail Baltica?
Rail Baltica – game changer for intra-Baltic passenger travel

<table>
<thead>
<tr>
<th>Route</th>
<th>Travel time (h)</th>
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<td>125 €</td>
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* 1 h is added to reflect the additional time spent on arriving earlier to an airport to have a sufficient time for security check and boarding. In addition, 1 h also includes airplane's waiting time before take-off and after landing

** Includes the whole costs of personal car (fuel, depreciation, repairs, etc.) with average 1.45 people per car
Point-to-point and intra-Baltic passenger travel are the main users of Rail Baltica

Daily train traffic

Rail Baltica passenger flow potential (mln. passengers)

- Point-to-point: exactly between two stations
- Intra-Baltic: between EE/LV/LT
- Extra-Baltic: to/from outside the Baltics

* - Riga – RIX shuttle
Freight service has a potential to serve the direct trade, north-south and east-west flows

Daily train traffic

Tallinn

Riga

Salaspils

Kaunas

Vilnius

Kaunas - PL/LT border

9-12

10-15

10-14

22-31

22-31

10-14

22-31

Transit flows

- Finland’s trade with the rest of the EU
- Transshipments between the rest of EU and the CIS

Rail Baltica freight flow potential (mln. tonnes)

- Low Case
- Base Case
- High Case

<table>
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<th>Year</th>
<th>Low Case</th>
<th>Base Case</th>
<th>High Case</th>
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<tr>
<td>2030</td>
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<tr>
<td>2055</td>
<td>16.0</td>
<td>20.0</td>
<td>25.2</td>
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What benefits will Rail Baltica bring?
The sum of the net socio-economic benefits exceeds 16 bln €

Benefits cover all of the key stakeholder groups
- Travellers (travel time and cost savings)
- Freight shippers (travel time and cost savings)
- Railway undertakings (operating profit)
- Inhabitants around the roads, airports (local noise, air pollution)
- General public (climate change)
- The CBA considers also the socio-economic costs of the project

<table>
<thead>
<tr>
<th></th>
<th>Undiscounted</th>
<th>Discounted</th>
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<tr>
<td>Socio-economic benefits</td>
<td>17 860 M €</td>
<td>5 019 M €</td>
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<tr>
<td>Socio-economic costs</td>
<td>-1 634 M €</td>
<td>-438 M €</td>
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<tr>
<td><strong>Net socio-economic benefits</strong></td>
<td><strong>16 226 M €</strong></td>
<td><strong>4 581 M €</strong></td>
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<tr>
<td>Net financial costs*</td>
<td>-4 048 M €</td>
<td>-3 702 M €</td>
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<tr>
<td><strong>Total net socio-economic cash flows</strong></td>
<td><strong>12 178 M €</strong></td>
<td><strong>879 M €</strong></td>
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</table>

* - including adjusted CAPEX, revenues and residual value
CBA results summary

Total CAPEX = 5 788 M €

- EU co-financing rate 85%
- Funding gap 94.18%

- Economic rate of return (ERR) 6.32%
- Total operating support until the break even for the infrastructure manager 28.6 M €
- Total financing needed for renewal investments in 2048-2052 534.1 M €

Key risks

1. EU co-financing rate after 2020
2. CAPEX
3. Freight flow volume and uptake
Benefits outweigh the costs even not considering the wider benefits

Key ratios

- Undiscounted B/C: 2.8
- Discounted B/C: 1.1
- Discounted Benefits/Discounted national capital invested: 5.9

Costs: 5.8 bln €
Costs covered by the EU
Costs covered by national funds
Quantifiable Benefits: 16.2 bln €
Induced and wider impact
Rail Baltica – more than rail infrastructure
Rail Baltica’s impact goes beyond direct economic benefits

**Construction phase (2015-2025)**

- Benefits with induced effect: 20.0 BLN €
- Benefits without induced effect: 17.9 BLN €
- Locally absorbed CAPEX: 2.8 BLN €

**Operating phase (2026-2055)**

Rail Baltica acts as backbone to wider transportation and logistics industry

- 400 lives saved
  - Valued at 892 M €
  - Equivalent to average annual benefit of 30 M €
- Mitigated climate change
  - 30-40% of truck traffic shifted to railway
  - CO2 emission reduction benefits: 3.0 billion €
  - Air pollution reduction benefits: 3.3 billion €
- Time saving benefits
  - Passengers save approx. 5.3 M hours each year, the equivalent of 605 years

- ERR = 8.82%
- ERR = 6.32%

- 13,000 FTE construction jobs over construction phase
- Over 24,000 FTE indirect and induced jobs over construction phase
There is significant amount of socio-economic benefits that were not quantified

**Ability to perform services on regional level.** Expansion of markets increases export opportunities and drives economic growth simultaneously.

**Increased reliability of passenger and freight transport.** Highly reliable freight transport creates a productive supply chain.

**Increased export.** Transport infrastructure breaks down the barriers for export and higher export furtherly demands more transport infrastructure.

**Better access to study/work place.** Better access to study/work places leads to expansion of job market and wider variety of education opportunities.

**Indirect productivity effects on other business sectors.** New transport junctions increase mobility and connectivity thus creating more productive and competitive business environment

**Better tourism opportunities.** Creation of Rail Baltica will increase mobility thus increase the attractiveness of new tourism destinations.

**Higher accessibility leads to a more efficient allocation of resources.** which triggers productivity gains and stimulates growth.

**Better access to healthcare institutions** not only makes the healthcare institutions more competitive by increasing catchment area. but also gives opportunity for people to choose the best available healthcare in larger perimeter.

**Increased transport capacity.** Ability to transport large amounts of goods gives competitive advantage due to capitalization on the economies of scale.

**Induced impact of intermodal terminal infrastructure.** Due to modal shift from road and sea to Rail Baltica, the turnover of intermodal terminals is expected to increase thus creating spill over effects to local economy and companies operating in the intermodal terminal area.

**Catalytic effect on businesses located nearby rail stations.** Increased connectivity increased passenger flows in rail station areas will drive the growth of businesses located nearby.

**Better access to resource/labour market.** Rail Baltica will create a new network between the region countries thus improving access to labour markets in other region countries and to resources like raw materials. parts or products

**Increased opportunities for culture, entertainment, shopping on pan-Baltic level.** Increased connectivity via Rail Baltica will diversify culture, entertainment, and shopping habits and markets, increasing economic activity.
Conclusive remarks
Conclusive remarks

Is Rail Baltica profitable?

Profitability is different concept for railway undertakings, infrastructure manager, national government, society!

- Railway undertakings are profitable
- Infrastructure manager is financially sustainable in the long term
- National government has positive socio-economic return on the national co-investment
- Society’s benefits outweigh the costs

CBA indicates that the project provides positive outcomes for each party
Conclusive remarks (cont.)

CBA assumes that all necessary actions to ensure the capture of market potential are made.

Without EU and national public co-financing RB is not financially viable.

Biggest potential for passengers is intra-Baltic travel and direct trade with the EU for freight.

Operating financial sustainability depends on Rail Baltica’s ability to reach market potential.
Rail Baltica’s success depends on a set of crucial actions in the implementation phase

**Critical success factors to ensure/facilitate:**

- Project commercialization is the key question to be solved **before** the launch of the operations
- Intermodal terminals have sufficient capacity and service level that corresponds to the freight market requirements
- Public transport infrastructure and schedule in the urban nodes is aligned with Rail Baltica service
- Proper project management and governance structures that would facilitate successful implementation and capture of the potential benefits while keeping costs at the expected levels

**Things to keep doing:**

- Periodic surveying of mobility patterns
- Periodic review of the business case
Thank you for your attention!