





Spatial analysis survey for North Sea – Baltic corridor

(Estonia – Latvia – Lithuania section)

Activity: WP 3 "Commuting growth corridors", Activity 3.3 Version: Final Date: August, 2017

Drafted by: Riga Planning Region and "STS Consulting, Ltd."









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About NSB CoRe project

NSB CoRe (North Sea – Baltic Connector of Regions) project financed by Interreg Baltic Sea Region Programme aims to improve the sustainable accessibility of the Eastern Baltic Sea Region to freight and passenger transport.

Project contributes to the European Union TEN-T Transport Infrastructure Policy by taking its implementation to the regional and local level connecting the TEN-T core network corridor of North Sea – Baltic to its catchment area and access routes in Eastern Baltic Sea Region.

Detailed information about NSB CoRe project partnership and activities



TEN-T North Sea – Baltic core network corridor in Estonia, Latvia and Lithuania Source: TENtec Interactive Map Viewer

About spatial analysis survey

NSB CoRe project Work package 3 "Commuting growth corridors" aims to strengthen the cities and regions along the North Sea - Baltic *core network corridor* through organizing intensive links, especially in cross-border regions, access routes and services for business and labour mobility. "Commuting growth corridors" activities are focused on passenger transport issues and whole North Sea – Baltic corridor is divided in 3 sections: Finland-Estonia, Baltics, Poland-Germany. Activities for Baltics section (Estonia – Latvia – Lithuania) are aimed to investigate the spatial structure and the transport system along Tallinn – Riga – Kaunas commuting growth corridor to identify future scenarios of transport development.

Riga Planning Region as a project partner together with external experts "STS Consulting, Ltd." are implementing activities concerning North Sea – Baltic corridor Baltics section and relevant stakeholder survey took place within spatial analysis process. Aim of this questionnaire is to investigate the business needs and labour mobility along the Tallinn – Riga – Kaunas commuting growth corridor. Results will provide with common understanding of Baltics section main nodal points and connections taking into account all modes of transport (road, rail, air, water) and the needs of business travellers and commuters. Rail Baltica project is foreseen as a driving force for whole North Sea – Baltic corridor development and expected impacts of this project are also to be evaluated within survey process by analysing different stakeholder opinions from all Baltic States.



This questionnaire was disseminated to national, regional and local level stakeholders and experts in Estonia, Latvia and Lithuania connected to North Sea – Baltic corridor development issues. Results of this survey will also serve as significant input for elaboration of "Joint transnational spatial vision of the NSB CoRe corridor" elaborated by the VASAB Secretariat within NSB CoRe project Work package 4 "Spatial Planning for NSB CoRe Network Development" activities.

Spatial analysis survey's results

Spatial analysis survey was held in June-July 2017 in order to identify the opinion of stakeholders from Estonia, Latvia, Lithuania relating to the North Sea – Baltic transport corridor development in frames of the "Spatial structure and the transport system along Tallinn – Riga – Kaunas commuting growth corridor" report preparation.

Questionnaire for stakeholders was prepared by Riga Planning Region in cooperation with external expert STS Consulting SIA. Questionnaire includes survey participants' information and the standard and partially structured questions.

During planning of the survey 127 stakeholders in Estonia, Latvia and Lithuania were specified as the target audience. Survey data is reflected in <u>Table 1</u>.

Country	Number of stakeholders	Target, number	Responses, number	Difference, %	Response rate, %
Estonia	41	10	16	+ 60	39,0
Latvia	42	10	16	+ 60	38,1
Lithuania	44	10	10	-	22,7
Total	127	30	42	+ 40	33,1

Table 1. Survey data / Estonia, Latvia, Lithuania.

The total number of respondents exceeds the planned level by 40%, which is due to a more active participation in the survey of representatives from Estonia and Latvia (+ 60% each). Total survey response rate is medium due to high response rate indicators of Estonian and Latvian stakeholders

The share of the representatives of Estonia, Latvia and Lithuania participating in the survey is shown in <u>Diagram 1</u>.

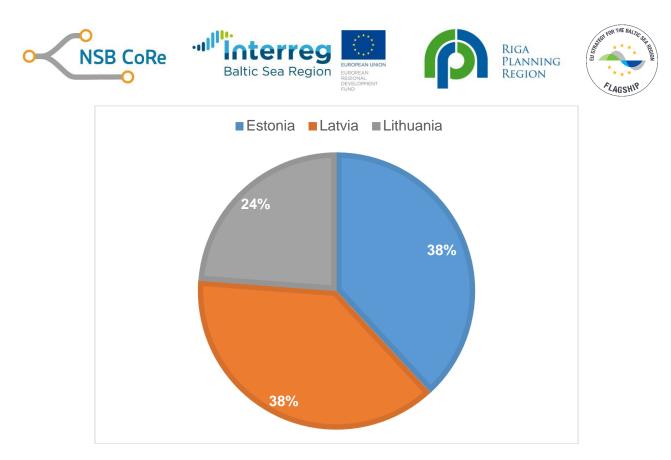


Diagram 1. Share of the representatives from the Baltic States (%)

The overall distribution of respondents by type of organization is presented in <u>Diagram 2</u> below.

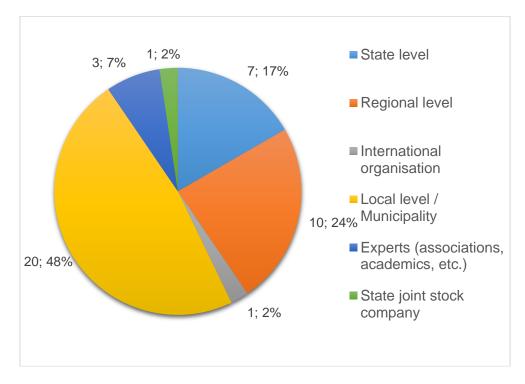


Diagram 2. Distribution of respondents by type of organization (number of representatives, %).

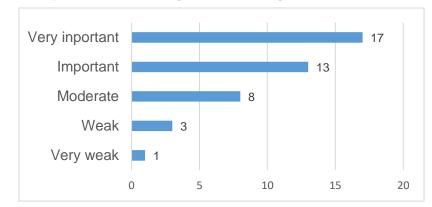


According to the general results of the survey, representatives of the Local level / Municipality were the most active group, the share of their answers was almost half (48%) of the total number. This high rate was achieved due to the responses level of the category's stakeholders from Estonia - 75% of the total number of responses, data for Latvia and Lithuania were significantly lower - 31.2% and 30.0% respectively.

The share of representatives of the Regional level category in Latvia was at the same level of 31.2%, while in Estonia and Lithuania it was lower (19% and 20%). The state level was highly represented in Lithuania - 40% of all answers, in Latvia 12.5%, and in Estonia only 6.0% of the answers. 3 experts expressed their opinion on the development of the trans-corridor corridor: 2 from Latvia and 1 from Lithuania.

Surveys' **Question 1** offered to estimate the potential benefits for respondent's country/region regarding the North Sea – Baltic corridor development aims. Answers were ranged from Very weak to Very important.

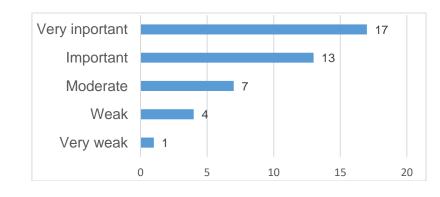
The opinions on the proposed answers were distributed as follows (diagrams below):



✓ A powerful catalyst for sustainable growth in the region

More than 71% of the total number of respondents rated this benefit above the average level (Important & Very important). And in Estonia only 56.3% stakeholders estimated the position above the average level, but in Latvia - 81.3% and in Lithuania - 80.0%. It is worth noting that the total number of respondents evaluated this benefit as Very important distributed between stakeholders as follows: Estonia - 25%, Latvia - 37.5%, Lithuania - 70.0%.

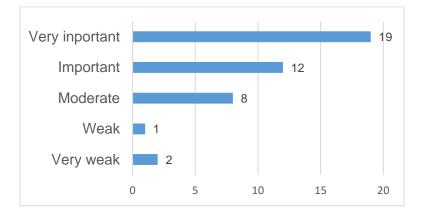
✓ A new economic corridor will emerge





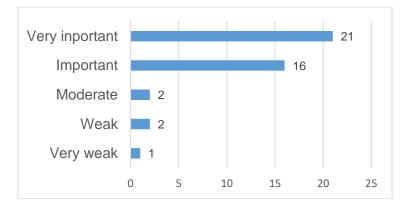
Stakeholders in general expressed their opinion on this benefit almost at the level of the previous question - also more than 71% of respondents rated the benefit above the average. In comparison with the answers to the previous question, one respondent from Estonia and one from Lithuania additionally estimated this benefit so highly, but 2 respondents from Latvia reduced their assessment.

✓ A new standard of passenger and freight mobility



The evaluation of this benefit almost turned out to be slightly higher than the previous ones - 73.8% of the respondents highly estimated its importance in the development of the country / region. The ratio of answers for the countries participating in the survey remained at the level of the previous answer.

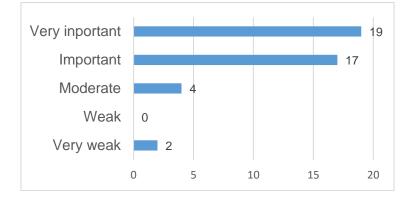
✓ New opportunities for multimodal freight logistics development



This benefit received champion ratings of stakeholders. More than 88% of survey participants identified its level as Important or Very important. For respondents from Estonia and Lithuania the figure is even higher - 93.8% and 90.0% respectively, from Latvia - 81.0%. At the same time 2 respondents from Latvia marked this benefit as Weak.

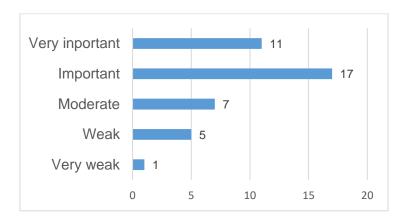


✓ New intermodal solutions for passenger



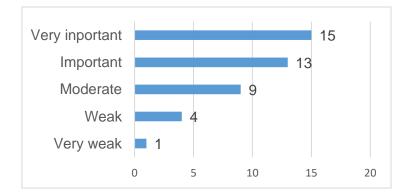
This benefit was also highly appreciated among the stakeholders: 85.7% of the respondents rated it above the average. Respondents from three countries estimated this benefit almost at the same level.

✓ Sustainable employment and educational opportunities



This benefit was marked by respondents significantly lower than the previous ones: only two thirds of them highly appreciated it. At the same time, 14.3% rated it as Weak or Very weak.

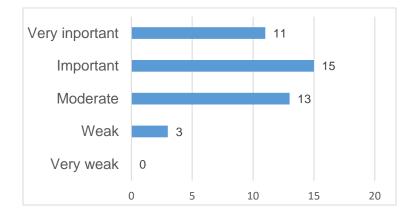
✓ An environmentally sustainable infrastructure





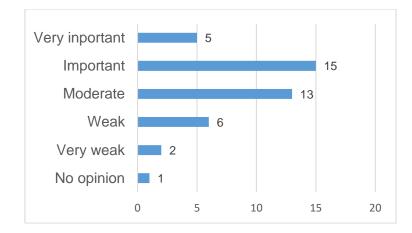
Highly appreciated this benefit, like the previous one, also 2/3 survey participants. The highest figure in this case was demonstrated by stakeholders from Latvia - 81.3%, Estonia - 62.5% and only 50% of respondents from Lithuania rated this benefit as Important or Very important.

✓ Safety and performance improvements



61.9% of the respondents gave a high rating to the benefit. At the same time, the highest percentage of stakeholders (31.0%) rated this benefit and the next benefit as Moderate.

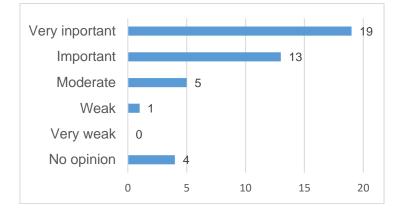
✓ A new value platform for digitalization and innovation



This benefit was determined by participants in the survey at a fairly low level. Less than half rated it above the average and 21.4% - as Weak or Very weak: 2, 3 and 3 stakeholders respectively from Estonia, Latvia and Lithuania.



✓ Integration in the European Union transport ecosystem



The final benefit of the survey' first question was highly appreciated by its participants: 76.2% identified it as Important or Very important. 9.5% of stakeholders at the moment did not form a definite opinion on this benefit.

Question 2 concerned the description of the North Sea – Baltic (NSB) corridor (Baltics section) core network and catchment areas. The answers of the survey participants were as follows, as shown in <u>Table 2</u>.

Nr.	Response variants	Number of responses	%
1.	NSB corridor's core network is territory of all Baltic states and catchment areas are neighbouring countries	10	23,8
2.	NSB corridor core network is main transport connections in each Baltic country and catchment areas are peripheral territories East and West direction from corridor	15	35,7
3.	NSB corridor core network is connections from Tallinn – Riga – Kaunas (with extension to Vilnius) and catchment areas are territories along main corridor axis	14	33,3
4.	NSB corridor core network is the territories along the corridor + the urban nodes on the corridor and the catchment area is the main transport connections in the Baltic countries that intersect with the core corridor	1	2,4
5.	NSB corridor core network is connections from Tallinn – Riga – Kaunas (with extension to Vilnius) and catchment areas are territories along main corridor axis and neighbouring countries	1	2,4
6.	NSB corridor core network is development area with high potentials in relation with comprehensive mobility solutions and catchment areas are territories surrounded main corridor axis that can be positively affected in terms of development.	1	2,4

<u>Table 2</u>. Description of the North Sea – Baltic (NSB) corridor (Baltics section) core network and catchment areas.



The first 3 answers listed in the table above were defined in the questionnaire as the basic answers, the survey participants selected a second and a third option at practically the same level. The questionnaire was supplemented by 3 variants of answers by respondents from Latvia.

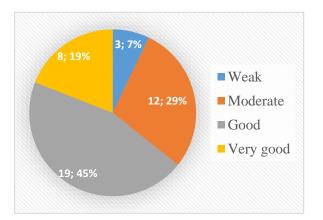
Question 3 offered to specify the current state of respondent's country/region passenger transport system by transportation modes along North Sea – Baltic corridor. Answers were ranged from Very weak to Very good. Stakeholders' responses are categorized in <u>Table 3</u>.

Transportation node	Very good	Good	Moderate	Weak	Very weak	No option
Road	4	21	14	2	1	
Rail	1	2	4	24	8	3
Maritime	4	4	11	10	9	4
Air	7	14	11	5	4	1

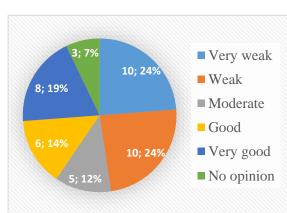
<u>Table 3</u>. Estimation of the current state of respondent's country/region passenger transport system by transportation mode.

Respondents highly appreciated road transportation node and rated low rail transportation node. 75% of the respondents from Estonia and Latvia defined as Weak and Very weak current state of rail transportation node, respondents from Lithuania were even more categorical – 80% marked low level of the transportation node. Maritime and air transportation nodes we estimated at medium level, at the same time maritime node was rated lower.

The **first part of the Question 4** asked to define passenger transport modes ensuring fast and convenient cross-border and international connections along the North Sea – Baltic corridor from respondent's country/region perspective. Answers were ranges from Very weak to Very good and are presented as follows.

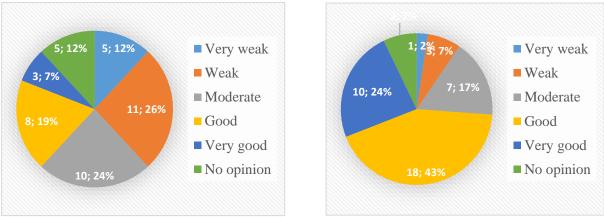


Road (number of responses, share)



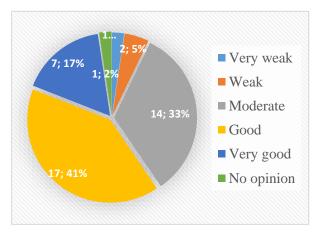
Railway (number of responses, share)



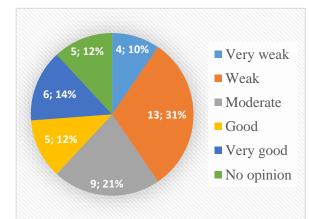


For fast and convenient cross-border and international connections along the North Sea – Baltic corridor stakeholders preferred road (64% of respondents noticed the mode as Very good and Good) and air (67% of respondents noticed also the mode as Very good and Good) passenger transport nodes. In what connection if respondents' relation to the road mode is stable (only 3 stakeholders marked as Weak and no one as Very weak), relating air transport mode 3 persons have no opinion and 4 persons defined the mode as Weak and Very weak. Responses relating rail and maritime passenger transport modes were distributed fairly well without significant peaks.

The **second part of the Question 4** offered to define passenger transport modes ensuring fast and convenient interregional connections (within respondents' country) along the North Sea – Baltic corridor from their country/region perspective. Answers were also ranges from Very weak to Very good. The responses are presented as follows.



Road (number of responses, share)

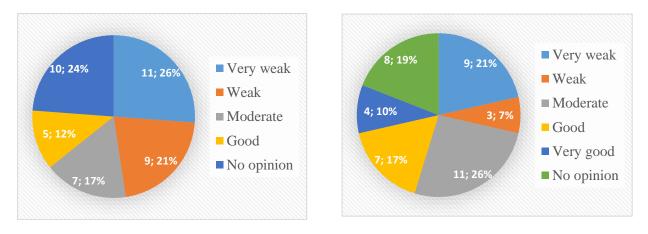


Railway (number of responses, share)



Maritime (number of responses, share)

Air (number of responses, share)



The road passenger transport mode kept its strong position in interregional connections as well as in cross-border and international connection along the North Sea – Baltic corridor. Less than 10% of survey participants mark the transport mode negatively (Weak, Very weak or no option). At the same time the air mode lost its leading position in comparison with the fist part of the question results. 20 stakeholders or 47,6% of total survey participants marked negatively the mode. The respondents were brave in their negative estimation: 71,4% of them noticed in this way the maritime mode and 52,4% - the rail mode.

Question 5 proposed to indicate the most important existing and perspective nodal points for business travellers and commuters on the North Sea – Baltic corridor **core network** in Estonia, Latvia and Lithuania. The basic nodal points were defined and stakeholders we invited to add points. Respondents' opinion is indicated in <u>Diagrams 3-5</u>.

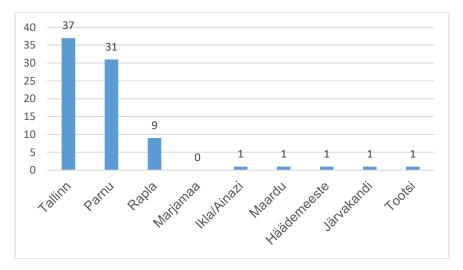


Diagram 3. The most important nodal points in Estonia (number of respondents).

In addition to the suggested points Tallinn, Parnu, Rapla and Marjamaa, 5 respondents from Estonia also indicated Ikla/Ainazi, Maardu, Häädemeeste Järvakandi and Tootsi. In total 38 responses were received.



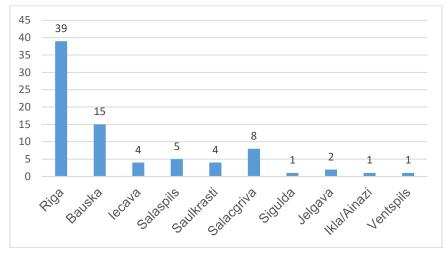


Diagram 4. The most important nodal points in Latvia (number of respondents).

In addition to the suggested points Riga, Bauska, Iecava, Salaspils, Saulkrasti and Salacgriva, 3 survey's participants from Latvia and 1 participants from Estonia added the following nodal points: Sigulda, Jelgava, Ikla/Ainazi, Ventspils. In total 39 responses were received.

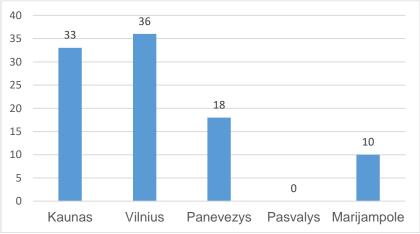


Diagram 5. The most important nodal points in Lithuania (number of respondents).

Respondent indicated only suggested nodal point Kaunas, Vilnius, Panevezys, Marijampole. In total 38 responses were received.

Question 6 asked to indicate the most important existing and perspective nodal points for business travellers and commuters on the North Sea – Baltic corridor *catchment area* in Estonia, Latvia and Lithuania. The basic nodal points were defined and stakeholders we invited to add points. Respondents' opinion is indicated in <u>Diagrams 6-8</u>.

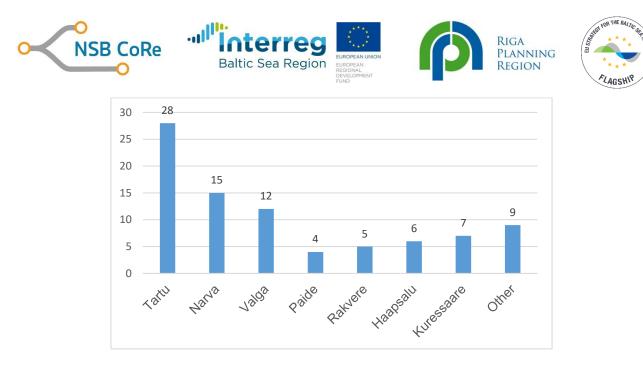


Diagram 6. The most important nodal points in Estonia (number of respondents).

In addition to the nodal points indicated in the questionnaire, such as Tartu, Narva, Valga, Paide, Rakvere, Haapsalu, Kuressaare, Estonian stakeholders defined 6 more points: Parnu (3 respondents), Keila (1), Paldiski (1), Viljandi (2), Maardu (1) and Tallinn (1). In total 32 responses were received.

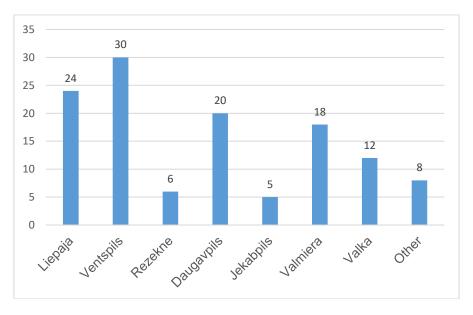


Diagram 7. The most important nodal points in Latvia (number of respondents).

In addition to the suggested nodal points Liepaja, Ventspils, Rezekne, Daugavpils, Jekabpils, Valmiera and Valka, additional points were written – Jurmala, Cesis, Sigulda, Jelgava and Pieriga region. In total 32 responses were received.

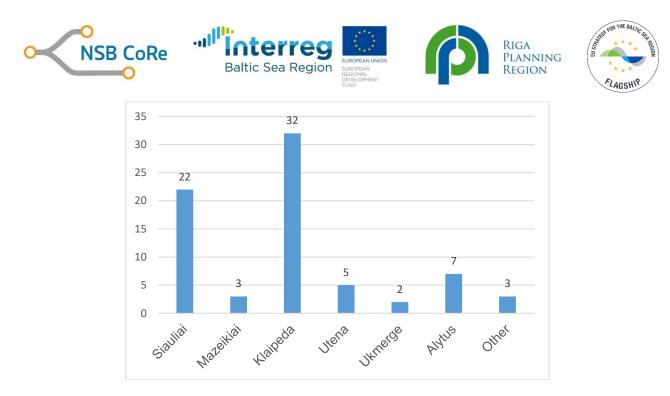
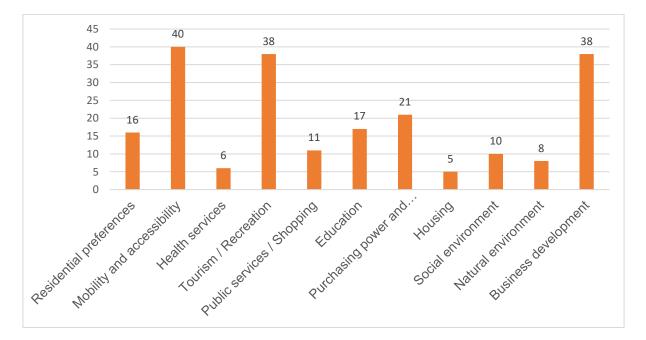


Diagram 8. The most important nodal points in Lithuania (number of respondents).

Stakeholders from Lithuania added 3 nodal points Kaunas, Vilnius and Marijampole as other ones. The suggested nodal points were Siauliai, Mazeikiai, Klaipeda, Utena, Ukmerge and Alytus. In total 32 responses were received.

Question 7 offered to characterise the relevance of the North Sea – Baltic corridor development for the improvement of life quality in respondent's country/region. The survey participants' opinion noticed in <u>Diagram 9</u>.



<u>Diagram 9</u>. The most important positions of life quality in country/region relevanced to the corridor development (number of respondents).



More than 90% of survey participants noticed 3 main positions that determine the standard of living: Mobility and accessibility, Tourism / Recreation and Business development. 50% of stakeholders mentioned Purchasing power and employment and near 40% - Residential preferences and Education.

Question 8 asked to indicate main existing functionality between the North Sea – Baltic corridor core network main cities in Estonia (Tallinn), Latvia (Riga), Lithuania (Kaunas with extension to Vilnius) and 2nd level nodes located in its surrounding area.

In Estonia for all suggested cities – Paldiski, Keila, Saue, Kehra, Maardu – as the main existing functionality more that 35% of respondents defined Labour mobility / Business relations. Only for Paldiski 19% of stakeholders marked also Tourism / Recreation as existing functionality. Another nodes took less than 10% of responses number.

Labour mobility / Business relations is important for Tukums (36%), Jelgava (33%) and Ogre (40%) in Latvia. Almost 29% of respondents noticed Education / Culture as the existing functionality for Jelgava and 52% - Tourism / Recreation for Sigulda.

Labour mobility / Business relations was noticed as the leading position for all mentioned Lithuanian cities: Jonava, Kedainiai, Elektrenai, Lentvaris, Prienai and Garliava (from 40% for Jonava till 21% for Prienai). The remaining positions are insignificant excluding Education/Culture for Kedainai (12%) and Tourism/Recreation for Prienai.

Open **Question 9** suggested to respondents to describe the examples of road and rail connections in their country/region, the current state of which poses the challenges for the integration of transport network to the corridor from the macro-regional perspectives on the North Sea – Baltic core corridor and within catchment areas.

18 stakeholders answered the open question. Respondents from all the Baltic countries noticed the examples of insufficient rail communications between countries along North Sea – Baltic transport corridor (as an example, Tallinn – Parnu – Riga), between capitals of Estonia, Latvia, Lithuania and their other cities, between central cities and the ports and on the territory of municipalities.

Some representatives of local level mentioned low quality of roads in the region and lack of rail and road infrastructure.

Respondent from Estonia (Local level) presented in more details his vision of the potential for Tallinn transport system development and better connection of Paldiski harbour with existing transport networks.

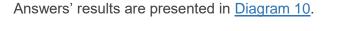
Representatives from State and International levels described their opinion more strategically. Lack of Vilnius connection with European gauge railway network, development of Kaunas and Vilnius intermodal terminals and Kaunas state sea port were in the zone of Lithuanian stakeholders' attention. Representatives of Latvia identified lack of consequent interoperabilioty among different transport modes as well as gave description of the new opportunities for the North Sea – Baltic transport corridor development due to large-scale road transport projects (such as Riga Northern Transport corridor and others) and logistics center in Salaspils project.

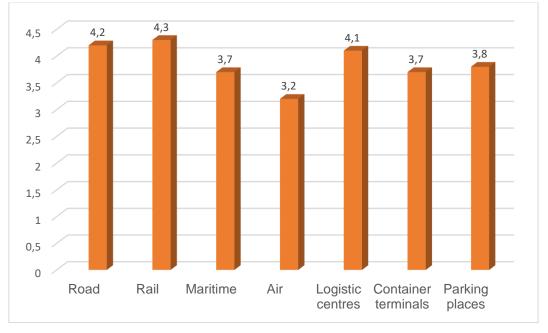


Question 10 proposed to specify respondents' country/region needs for development of cargo transportation infrastructure. Answers were ranged from Very weak to Very important. The following <u>Table 3</u> was developed for more expressive visualization of responses results.

Initial range	Very weak	Weak	Moderate	Important	Very important	No opinion
Correspondence	1	2	3	4	5	0

Table 3. Responses correspondence scheme.





<u>Diagram 10</u>. Respondents' country/region needs for cargo transportation infrastructure (average-weighted coefficient)

The largest needs for cargo infrastructure development along North Sea – Baltic transport corridor are rail and road connections improvement as well as logistic centres/hubs construction. Respondents from Estonia defined the most relevant need – rail connection – only with average-weighted coefficient 3,9, respondents from Latvia noticed coefficient 4,3 and Lithuanian stakeholders very high estimated the need – 4.9.

Question 11 asked respondents to estimate new opportunities for multimodal logistics development in their country/region. Survey participants' answers were distributed as presented in <u>Diagram 11</u>.

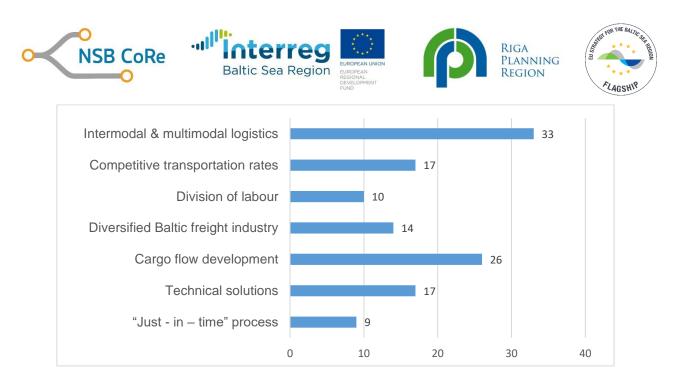
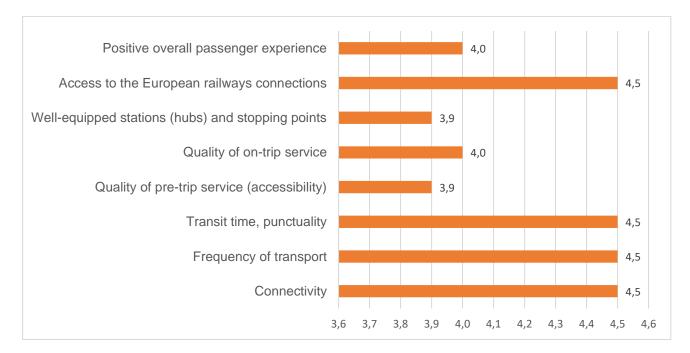


Diagram 11. New opportunities for multimodal logistics development (number of respondents).

78,6% of respondents estimated as the best new opportunity Intermodal and multimodal logistics, 62,0% stakeholders marked Cargo flow development and the third position of the list is divided by Competitive transportation rate and Technical solutions (40,5% of respondents).

Question 12 proposed to characterize aspects encouraging the passenger mobility for business travellers and commuters. Answers were ranges from Very weak to Very important. Results are presented in <u>Diagram 12</u> and data of <u>Table 3</u> above are used to improve its visualization.

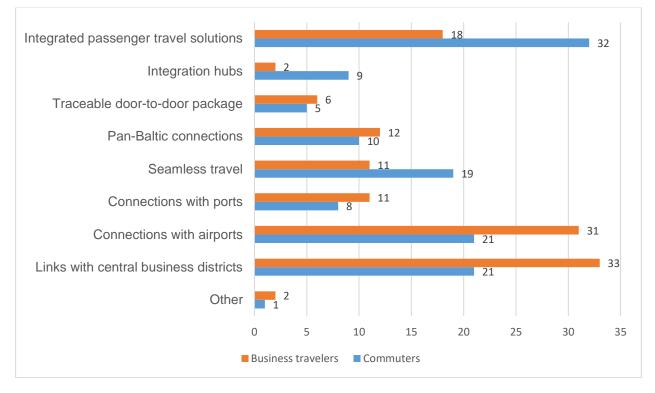


<u>Diagram 12</u>. Aspects encouraging the passenger mobility for business travellers and commuters (average-weighted coefficient).



The answers to the question were practically divided into 2 groups: 4 positions with very high average-weighted coefficient 4.5 and 4 positions with average-weighted coefficient 3.9 - 4.0. Coefficient 4.5 means that on the average respondents estimated the aspects between Important and Very important. Coefficients 3.9 - 4.0 reflect respondents'opinion on the average at Important level.

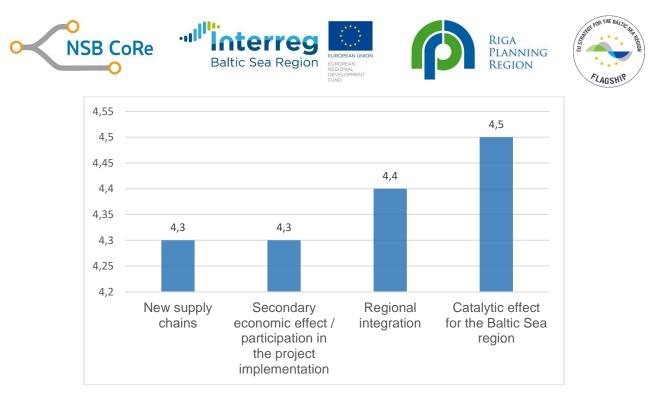
Question 13 suggested respondents to choose the most important perspective transport solutions for passenger flow development regarding business travellers and commuters. Comparative results of the responses are presented in the <u>Diagram 13</u>.



<u>Diagram 13</u>. The most important perspective transport solutions for business travellers and commuters (number of respondents).

Links with central business districts and Connections with airports are the most important positions for business travellers, 78,6% and 73,8% of respondents marked them accordingly. Integrated passenger travel solutions are not so popular (42,9% of stakeholders) among business travellers but took the first position among commuters (76,2% of respondents). The 2 leading positions for business travellers are noticed highly also by commuters: 50% of respondents for each of them. Stakeholders identify other solutions: Fast and efficient travelling and All solutions minimizing travel time for business travels and Interoperability between different transport modes for commuters.

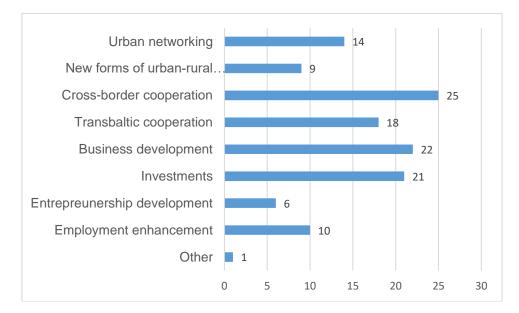
Question 14 asked stakeholders to express their opinion how Rail Baltica project will stimulate the economic development in the country/region. Answers were ranged from Very weak to Very important. Respondents' opinions are presented in <u>Diagram 14</u> taking into account answers correspondence from <u>Table 3</u>.



<u>Diagram 14</u>. Respondents' opinion on how Rail Baltica project will stimulate the economic development in the country/region (average-weighted coefficient)

All suggested answer options were highly indicated by respondents. On the average all responses were rated more that Important and Catalytic effect for the Baltic Sea region was marked even between Important and Very important. 44% of respondents from Estonia, 56% of respondents from Latvia and 30% of Lithuanian stakeholders noticed the position as Very important.

Question 15 suggested stakeholders to estimate the Rail Baltica project stimulation effect on the sustainable economic development. Survey participants' estimation is reflected in <u>Diagram 15</u>.

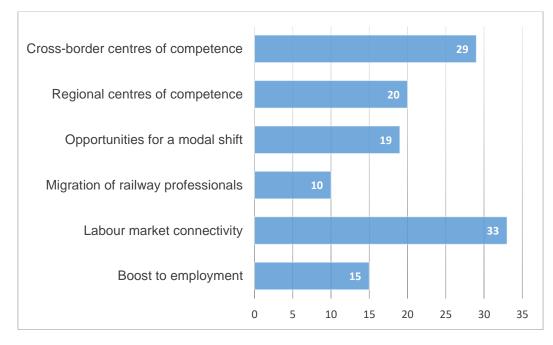


<u>Diagram 15</u>. The Rail Baltica stimulation effect on the sustainable economic development (number of responses).



Cross-border cooperation, Business development and Investments are mentioned by stakeholders as the main positions influenced by the Rail Baltica project development. In total more than 50% of respondents marked them: 59,5%, 52,4% and 50,0% of respondents accordingly. In the same time only 40,0% of stakeholders from Lithuania identified Cross-border cooperation in their responses compared to 62,5% (Estonia) and 68,9% (Latvia). Answer Mobility services was added as Other one.

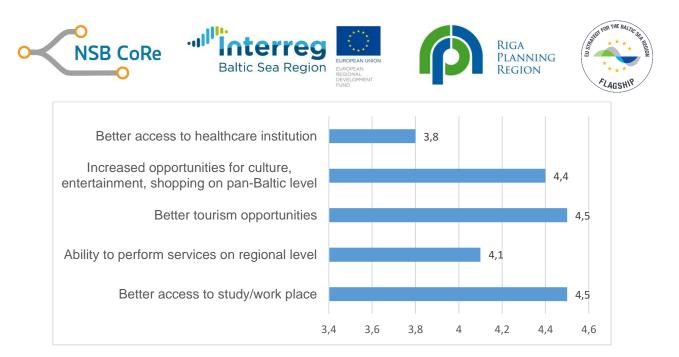
Question 16 invited to estimate the employment and educational opportunities encouraged by the Rail Baltica project development. Results are shown in <u>Diagram 16</u>.



<u>Diagram 16</u>. The employment and educational opportunities encouraged by the Rail Baltica project development (number of responses).

Labour market connectivity was mentioned by stakeholders as the most prominent opportunity. The position was identified by 90,0% of Lithuanian stakeholders and 87,5% of stakeholders from Latvia. At the same time the indicator for Estonia is much lower – only 62,5%.

Question 17 proposed to estimate main social benefits from the Rail Baltica project implementation. Answers were ranged from Very weak to Very important. Results are presented in <u>Diagram 17</u> and scheme of correspondence from <u>Table 3</u> is used.



<u>Diagram 17</u>. Social benefits from the Rail Baltica project implementation (average-weighted coefficient).

3 variants of responses Better access to study/work place, Better tourism opportunities and Increased opportunities for culture, entertainment, shopping on pan-Baltic level were estimated be stakeholders practically at the same high level: at the average between Important and Very important. Suggested response Better tourism opportunities was noticed as Important or Very important by 91% of respondents, response Better access to study/work place – by 81% of respondents and response Increased opportunities for culture, entertainment, shopping on pan-Baltic level by 76% of survey participants.

Question 18 offer to define who will benefit from the Rail Baltica project implementation. Survey participants' opinion is reflected in <u>Diagram 18</u>.

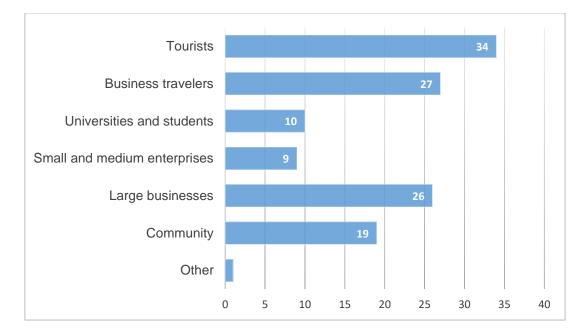
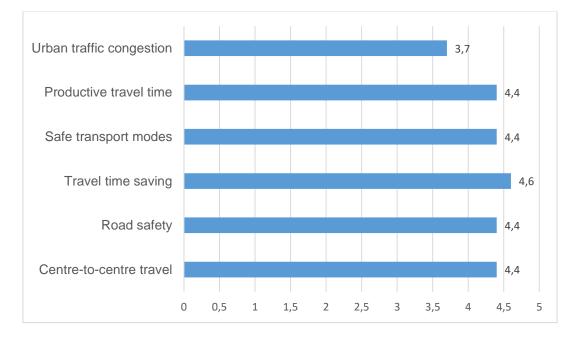


Diagram 18. The beneficiaries the Rail Baltica project implementation (number of responses).



In accordance with stakeholders's responses the main benefit will received representatives of business (Large business + Small and medium enterprises) – 35 responses, more than 83% of total stakeholders. At the second position are situated tourists – 34 responses, 81% of total amount and followed by Business travellers - 64% of total stakeholders.

Question 19 suggested to estimate how the North Sea – Baltic corridor overall development will influence the improvement of safety and performance. Answers were ranged from Very weak to Very important. Results are presented in <u>Diagram 19</u> taking into account scheme of correspondence from <u>Table 3</u>.



<u>Diagram 19</u>. Estimation of the North Sea – Baltic corridor overall development' influence on improvement of safety and performance (average-weighted coefficient)

Almost all suggested answers were very high estimated by survey participants: 5 of them were marked at the average between Important and Very important. More the 73% of stakeholders indicated these 5 responses as Important or Very important.

2 questions such as Centre-to-centre travel and Productive travel time were indicated only as Moderate and higher.

Open **Question 20** invited stakeholders to express their opinion about the NSB CoRe project project or about this questionnaire.

Respondents stressed the importance of the project and demonstrated their interest on survey results.

The concluding survey comment was - Have a successful implementation of the project!