twin-city in making:

integration scenarios for Tallinn and Helsinki capital regions

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From a Vision to Action…

The concept of “Helsinki-Tallinn transport and planning scenarios” project (in brief the H-T Transplan project) was first discussed with various stakeholders in 2009. The reasons for the need for such a project included the argumentation that tighter integration of Estonia and Finland supports the competitiveness of both countries in the Baltic Sea Region.

The development of a twin-city based on the two adjacent capitals, Helsinki and Tallinn, could serve as an important driver of regional integration between the two countries and have a significant impact on the geo-economic situation on the Eastern shore of the Baltic Sea. Regrettably, despite a number of vision documents that have been created over the years on all political levels, the region has not yet been truly developed together. Despite visionary statements, there has not been co-operation in the twin-city region in the area of spatial planning in practice. However, the decisions on large transport and infrastructure projects have direct mutual impact in the region.

More than seven million trips (mainly two-way trips) were made between Tallinn and Helsinki every year. The density of both passenger and cargo traffic is high. The Helsinki-Tallinn connections are generally considered good, yet it is not clear, whether the transport opportunities are sufficiently efficient regarding possible future developments. This would involve a future, where the number of commuters per year could double, the number of cars ferried over and cargo traffic would increase even more, while the demands of business travellers to travel speed would grow as well.

During the planning phase of the project, *Rail Baltic* railway connection to Central Europe was merely a dream project, which by today has started to take concrete shape in the form of commitments from the central governments of the countries along the transport corridor. *Rail Baltic* will further impact the tightening of logistical connections and providing a window of opportunities for the twin-city region. As Estonia and Finland have complementing interests regarding the would-be North-South transport corridor, the idea was to unite the forces to make plans together.

Altogether 14 partners representing the regional, municipal and academic stakeholders were convened together in the project in 2011, which is led by NPA Helsinki-Tallinn Euregio and the key stakeholders being the City of Helsinki, City of Tallinn, Harju County Government, Uusimaa Regional Council. The academic views are brought to the project by the researchers of Tallinn University, Aalto University, University of Turku, University of Tartu, Estonian Academy of Arts. The project is supported by 13 associated partners among which there are the relevant ministries, representatives of harbours from both sides of the Gulf, ferry companies such as Tallink Group, Eckerö Line and Viking Line.

The project has focused on integration of Helsinki-Tallinn capital regions from the point of view of better planning of transport and infrastructure in the region. During the project so far approximately 50 institutions and several hundreds of people have been involved in roundtables and focus groups representing research and planning institutions as well as the business sector with mostly logistics, transport and tourism companies. They have discussed global trends and change factors influencing transport flows and routes, the future scenarios of the region and plans related to local and regional transport systems. The discussions were directed at viewing the local problems against a wider international background. They concentrated on issues like transnational transport corridors, hubs and logistics centres influencing the development of the Baltic Sea eastern shore as a whole.

The project has resulted in a number of studies. The mobility of people between Helsinki and Tallinn has been studied by interviews of passengers in Helsinki and Tallinn ferry terminals, in ferries and Tallinn airport. People's mobility has also been studied by using mobile positioning methodologies worked out in the Department of Geography of University of Tartu. University of Turku's Centre for Maritime Studies has carried out a survey on cargo traffic on Helsinki Tallinn route. The effect of business on the mobility between Helsinki and Tallinn has been separately studied. The mapping of major Helsinki-Tallinn transport and infrastructure projects which will mutually effect the development of the region has been carried out by the planners of the cities of Helsinki and Tallinn. Four scenarios, studying possible situations, which could emerge in the region under observation due to the mutual influence of "external" (e.g. changes in the international economic situation) and "internal" (e.g. the administrative capability for strategic partnership of Helsinki and Tallinn and its focus) factors, have been made by the Futures Studies Institute of Tallinn University. These scenarios with relevant supplementary materials are presented in this publication. The assessment and evaluation of the scenarios will still be done by the coordination from Aalto University. It will integrate the results of the previous work applying elements of Territorial Impact Assessment in an interactive participatory process.

Urban planning specialists of the Estonian Academy of the Arts are developing a knowledge platform (www.talsinki.net), which would provide the planners and decision-makers, as well as the general public, with a better idea of transport and infrastructure-related projects in progress at either shore of the Gulf of Finland. It contains systematised information about the Helsinki-Tallinn region's related transport and infrastructure projects, their partners and actions, links to relevant past and present development documents and strategies and helps to notice the mutual links between the various projects. The research and knowledge platform will provide data for the planners on Helsinki-Tallinn transport connections and provide premises for a clearer and coordinated strategy on future transport development across the Finnish Gulf. Based on the scenario-analysis, a road map will be produced, which would outline the strategic projects for future development of the twin-city region, the moves necessary for their realisation and the critical aspects.

We are hopeful that the networks created via the H-T Transplan project, the improved mutual understanding of the participants and the common knowledge platform would contribute to efficient and successful regional integration activities long after the completion of the project.

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NPA Helsinki-Tallinn Euregio

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City of Helsinki,
City of Tallinn,
Harju County Government,
Uusimaa Regional Council,
Tallinn University / Institute for Futures Studies,
AaltoUniversity / School of Science and Technology,
University of Turku / Centre for Maritime Research,
University of Tartu / Institute of Ecology and Earth Sciences,
Estonian Academy of Arts / Department of Architecture,
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AS Tallink Grupp,
Eckerö Line Ab Oy,
Viking Line ABP,
Estonian Maritime Academy,
Maardu City

Twin-city: from history to future

The emergence and development of the idea

Close relations between Estonia and Finland, both in the sense of business and personal contacts, have a long history. On the other hand, one could claim that the intensity of relations which began after the restoration of Estonia's independence in 1991 is actually unprecedented (see the statistics of travel between Helsinki and Tallinn, pp. 29–30). The closeness of economic relations between Estonia and Finland was also something unique in history. While Estonia's basic economic partners in the period between the two world wars were Germany, Great Britain, Soviet Russia and Poland, the geography of economic contacts emerging after the restoration of independence is clearly oriented at the closest neighbours, Finland and Sweden.

It is quite logical that the idea of creating a twin-city/twin-region emerged in the early 1990s from this ground of rapidly developing contacts and considering the proximity of the two capitals.

An important milestone in introducing the twin-city idea within the framework of territorial integration was the publication of the book *Helsinki-Tallinna- kaksoiskaupunkti. Tarua vai totta?* in Helsinki in 1995. Several Estonian and Finnish visionaries, including the Estonian writer Jaan Kaplinski, who is considered the launcher of the term Talsinki, shared their ideas of what the twin-city prospect could mean for both countries.

The Estonian-Finnish integration could be considered initially rapid yet uneven as to its components. From the integration speed viewpoint the leaders were above all tourism (which was initially greatly related to shopping trips) and secondly contacts between companies. Other elements of integration like banking or education developed at a significantly lower rate.

The scenarios built by the Estonian Institute for Futures Studies in year 2000 viewed the future of Estonian-Finnish economic integration proceeding from two basic factors: the speed of economic convergence (i.e. the speed of closing the prices and wages gap) and the continuing of Finland's success in the world economy. The most positive outcomes were expected in case of rapid convergence occurring in the environment of Finland's continued international economic success, while the possible situation, where the convergence is very rapid even in the initial stage, Estonia quickly becomes a much more expensive country and this would be followed by a crash of Finland's economy, was considered the most dangerous for Estonia.

The same institute published in 2002 a report titled "Entrepreneurs of Tallinn and Harju county on Estonian-Finnish integration", which presented the results of interviews with representatives of Estonian business circles. The report showed the success of the Finnish enterprises' expansion to Estonia in sectors like industry, trade and construction, to a lesser degree in the services sector. The Estonian entrepreneurs had quite positive attitude towards the Finns, they recognised Finland's success, especially in technological progress, working culture and labour motivation, viewed them more like potential cooperation partners than competitors and considered Finland's continued economic success highly likely in the following period.

An important moment was the filling of the twin-city concept with more specific policy-related content. The Helsinki-based Estonian researcher Mart Saarma advanced the idea in 2001 to link the two capitals by a "science bridge". This idea was intensively addressed in the following years by the NPA Helsinki-Tallinn Euregio, which developed the ideas of Talsinki as a knowledge city and a city of knowledge and culture and attempted to contribute to these developments in various ways.

Issues related to the construction of new transport links like the southward transport corridor and the Helsinki-Tallinn tunnel have been occupying the central position among the ideas related to the development of the twin-city/twin-region.

In 2011 the Helsinki-Tallinn Euregio iniated the publication of the book "Talsingi/Hellinn" with the subtitle: "Twin-city residents are a growing engine of changes" which attempted to address the creation of the twin-city from a citizen-centred viewpoint and presented a number of visionary ideas until 2050 for making progress in this direction.

In this context the present publication presents a further move for detailing the existing integration ideas, for linking these ideas on the one hand with the objective conditions of outside environment, which are necessary for their realisation, and on the other hand, for showing, which political and institutional efforts would be needed to approach the desired goal.

Factors shaping the future of twin-region

The integration of the Helsinki and Tallinn capital regions has been progressing quite rapidly so far. However, in order to forecast the future rate and content of this process, it is necessary to specify the basic factors influencing the development and integration of the capital regions and to determine the positions regarding their changes in the period under observation. Some of the influencing factors are more global, others local in nature, some are predominantly economic, some ecological or social. They can be described as separate factors, yet in reality we are dealing with their combined effect. The influencing factors were analysed by Estonian and Finnish experts (researchers, planners and entrepreneurs), who reached the following viewpoints. We shall begin the description with the economic and mainly global factors and will conclude with the local and mostly institutional ones. The period under observation extends until 2040.

Continuing internationalisation in economy including as relations between the people and their choice of residence.

It was practical in the context of this task to differentiate between globalisation in its broader sense and the continued integration within the EU. It was presumed that internationalisation will continue in principle at both levels and this will create new opportunities as well as will bring alone the need to continue the improving of efficiency and competitiveness in Finland and Estonia.

It is necessary to emphasise that the southern direction of the inter-European economic cooperation is important for Finland not only because of Estonia, but that Finland has great opportunities for developing foreign trade relations with the emerging markets in south and southeast: Latvia and Lithuania, Poland, Slovakia, Hungary, Ukraine, the Balkan countries and Turkey. This will mean the traffic of Finland-related transit goods through Estonia.

General economic growth rate in the economic space affecting Finland and Estonia.

This growth rate, especially the growth rate in the EU, will determine the export demand and the demand for international goods traffic; indirectly also the integration opportunities of Estonia and Finland. The discussion reached the conclusion that neither the higher not the lower growth rate can be ruled out. It is necessary to be prepared for better or worse international market situation.

Geo-economic shifts and the resulting changes in foreign trade geography and transport corridors.

The increase of the significance of the Asian markets compared to the European ones was considered likely. Out of the likely emerging transport corridors, the ones related to the flow of East Asian goods to Europe (maritime, land and air transport) were considered the most promising. The opportunities opening for Finland and to some extent to Estonia in case of significant volumes of East Asian goods flowing to Estonia across the Arctic Ocean were specifically spelled out. For instance, a share of such goods could move from the port of Kirkenes in Norway southwards through Finland and Estonia. The working groups held lively debates over the issue of how much time would take the opening of this transport corridor. It was found that this could not happen very quickly as, besides the construction of new railway lines, the premises would include the construction of container carriers with ice-proof hulls, which would allow extending the navigation period in the Arctic Ocean. However, in any case the making use of this opportunity would remain within the limits of the time period under observation.

It was also considered necessary to take into account the impact of competing transport corridors under development. For example, the corridor to Germany across Scandinavia and the Baltic Sea bridges under consideration, which could capture part of the Finnish-European cargo flow or the north-south transport routes being developed in Russia.

Transformation of the content of economy and trade. Dematerialisation.

It can be observed that the development of economy is accompanied by the increasing significance of services compared to products, while the volume of raw materials per unit of end product will decline. This trend will slow down the growth of transit trade volume, at least when measured in tons. As for services, the increasing significance of professional business services was emphasised, especially in Tallinn's case.

The above trend could be counteracted to some degree by the increasing importance of the extractive industry due to the opening of new mines in Central and Northern Finland. Yet the debates led to a general position that this change would not significantly affect the Helsinki-Tallinn cooperation region, since the output of the mines would be probably exported through the Western Finnish ports in the future rather than through the Helsinki region.

Rise of energy price.

The continuing of this trend was considered highly probable and it was admitted that this would to some degree obstruct the development of the long-distance trade and transportation.

Increasing ecological restrictions.

It was quite unanimously presumed that the probably future reality would include toughening restrictions due to international environmental concerns, which would affect production and especially transport. Sulphur-related restrictions have presently hit maritime transport and reduced its competitiveness in comparison with other modes of transport. The continuation of this "discrimination" against maritime traffic was not considered very likely; it can be rather presumed that further restrictions would concern road and air transport as their pollution effect on the environment is even more harmful than that of maritime transport.

Transport technologies and the development of technologies in the related branches of transport.

The development of transport technologies in the period under observation is forecast as evolutionary rather than revolutionary. IT-based developments and improvements of logistical solutions (multimodal solutions) were considered highly important. The development of ships, trains, trucks, loading equipment different in principle from the present ones, as well as the emergence of essentially new transport technologies, are not expected, while the improvement of the vehicles' functional performance and their more efficient use can be presumed.

Regarding individual solutions, the rail ferry-based logistical option for crossing the Gulf of Finland was discussed quite extensively, as well as technological opportunities for redirection of traffic between different-gauge railways. Yet the rail ferry was considered suitable only for mass cargo/bulk goods and the massive emergence of such traffic on the Helsinki-Tallinn route was not forecast. The redirection of trains from the narrower gauge to the wider one and vice versa was considered an important technical opportunity, which would help to improve the competitiveness of the north-south transport corridor by allowing its combination with the east-west corridors.

The development of technologies related to the railway tunnel is a separate issue. However, since the possible construction of the Estonian-Finnish railway tunnel remains beyond the time horizon treated here (see the subchapter: The tunnel prospects), we shall not discuss this subject here.

Convergence between Finland and Estonia, i.e. closing the wage gap and other gaps in production input costs and standards of living.
As of now the wage and other cost gaps are still quite wide, although they have rapidly closed, especially since Estonia's EU accession. It is obvious that this convergence will continue in the EU environment, but its rate would depend on a number of factors, incl. the international economic situation. Estonia will be able to close the gap with Finland faster in a favourable economic environment.

The type and intensity of economic relations between Finland and Estonia.
This factor is quite strongly dependent on the previous one. Economic relations between Estonia and Finland are quite intensive. This is expressed by different forms like Finnish investments in Estonia and Finnish export to Estonia as intra-industrial trade, which is largely related to export production for third countries, Estonian labour employed in Finland, to a smaller degree the activities of Estonian entrepreneurs in Finland. Although there is reason to believe that economic cooperation in general will continue quite intensively, the content of this cooperation will largely depend on the speed of the convergence process. If the wage gaps and other price differences would close slowly, the low cost factor will dominate the cooperation patterns for a long time. If convergence should proceed faster, the cheapness of production factors in Estonia will no longer remain the primary motive. In order to maintain the intensity of cooperation, business models must change and be based on motives other than low cost.

Transition of vertical mobility to horizontal mobility.
Human geography differentiated between vertical mobility, which is based on people performing some specific functions in another country or region and is narrowly based, often related to wage gaps or differences in career opportunities, and horizontal mobility, which is characteristic of more equal countries, cooperation in such environment, where the purely professional and business-related mobility would be complemented by a significant share of mobility based on social intercourse, visiting friends and acquaintances etc. Although the relations between Estonians and Finns possess their friendship component, the vertical mobility type is currently clearly predominant. Yet it can be presumed that the significance of visits not directly related to work or business would increase together with further development of close relations.

Living in the neighbouring city.
At present a considerable number of Estonians are residing in Helsinki and the Helsinki region, although for many of them, living in Finland is linked to less than permanent employment, while a significantly smaller number of Finns are living in Tallinn. Tallinn is quite attractive to Finns for tourism and is also suitable for short-term residence, while long-term residence with family is primarily obstructed by the less developed social services compared to Finland.

We presume that it would be somewhat questionable to discuss a common labour area based only on commuting or remote working, at least as long as daily travel between the two cities would not become significantly faster and more convenient. Therefore the development of a real twin-city would require a greater number of people permanently residing in the capital of the neighbouring country. This applies above all to Finns in Tallinn.

The residents' changing values and priorities.
It was agreed that the rising of the standards of living would be accompanied by the residents' requirements to improving the quality and safety of the living environment. This means the drive to reduce traffic intensity and noise levels, maintaining the existing greenery in the cities etc. However, these wishes, although quite justified in principle, could cause conflicts with various

transport-related projects, incl. international ones and obstruct their realisation. This trend can become especially apparent in Tallinn's case.

Changes in the cities' use of territory.
Besides addressing the former industrial areas, we are also talking about granting new functions (residential, trade, services, entertainment) to previous territories under ports and warehouses, marshalling yards, wholesale firms etc. This will require the relocation of cargo ports and their servicing areas out of the city territory and the accompanying changes to the related logistical schemes.

In case of Helsinki and Tallinn the problem at present is posed by the fact that the ports located in the city territory are handling both passenger and cargo truck traffic (RoPax ferries). As the trucks overburden the urban transport, it is apparently necessary in perspective to separate cargo traffic from passenger traffic and to relocate the former to ports outside the city perimeter.

Creating integrated transport systems in cities.
This means transport systems, where switching between the different modes of transport would be made as convenient as possible (the development of combined public transport terminals) and which would link the air- and seaport terminals and railway stations with the city centre and the entire transport network as efficiently as possible. Implementing this principle in Tallinn would require quite large investments.

Changes in urban planning process.
This means a more open and democratic, systemic and long-term prospects-oriented urban planning process. It is quite difficult to meet all the aforementioned requirements simultaniously. Helsinki has so far made significantly greater progress in that respect than Tallinn. The question of how closely would Tallinn match the Helsinki planning culture is still quite open. One also has to consider Tallinn's limited opportunities due to the fact that only a very small share of Tallinn's territory is municipally-owned.

The EU policies and the ability of the EU to realise them.
Promoting territorial integration and supporting the construction of the related transport corridors of all-EU significance occupy a crucial position in the EU policies. In case of this (H-T Transplan) project, it is especially closely related to the EU support to the construction of the Tallinn-Berlin direct rail link (Rail Baltic). There is no reason to suspect that the EU would want to change these priorities. However, it is reasonable to wonder, whether the EU will be able to realise this policy in case the economic situation should seriously deteriorate and maintaining the EU integrity would run into serious problems.
Public sector policies supporting the integration at the national and capital city level.

Relations are positive at the Estonia-Finland and the Helsinki-Tallinn levels with top politicians and officials maintaining close and friendly contacts. Yet there have been no serious and practical moves towards promoting integration at either level with the exception of quite unequivocal support to the Rail Baltic project. The state- and capital-level statements and undertaken initiatives have not always been unequivocal either. Therefore the question of what the states and the cities could do for territorial integration will clearly require more detailed discussion and multi-variant treatment.

Integration scenarios

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From factors to scenarios

As we could see in the previous chapter, the future of the Estonian and Finnish capital regions, incl. the opportunities of their territorial integration, will depend on a rather large number of factors. In some cases their future and thus the possible impact on the region can be forecast quite clearly, while in other cases many possibilities have to be considered. Some of these factors have a very strong influence on the others, some have narrower effect, are more specific and the probability and manner of their realisation depend on the driving factors. In order to outline the possible development paths of the future it is first of all necessary to choose as the axes of scenario-building the basic factors on whose states or rather the combinations of states the future would depend to the greatest degree.

In our case we selected two main axes after a serious discussion. These are, firstly, **the expected economic growth in European economy,** and, secondly, **the motivation for and capability of cooperation of the Estonian and Finnish actors.** As actors we mean the subjects operating at the national and local government level, as well as all other significant subjects on whose activities the success of the cooperation projects would depend. The option of selecting the state and capability of the EU as one of the main axes was discussed as well, since the development and integration of the Helsinki-Tallinn region will quite greatly depend on it, especially on the EU's motivation and capability to support the realisation of large infrastructure, incl. transport-related projects (e.g. the *Rail Baltic* railway project and in the future possibly the undersea tunnel project). However, it was eventually agreed upon that the state of the EU and its ability to support such projects will depend to a very great degree on the general economic situation in the world and in Europe. Therefore it was not used as a separate axis, but the positive economic environment scenarios presumed the continued existence of the EU and the continuity of its policies.

In case of the second axis, i.e. the one dealing with possible reactions of the local actors, we singled out not only the presence of motivation and capability, but also the direction of motivation. This could be narrower (only transport projects) or wider (the forming of the twin-city). See the Figure 1.

As the figure shows, the conceptual space of the scenarios has been created by combining the two basic factors. As a result of this combination we receive four possible scenarios, which have been named, respectively, Partners in transportation, Twin-city, Failed opportunities and Alliance for new beginning. None of the scenarios emerges purely as an automatic outcome of changes in the outward environment or as a result of Estonian-Finnish joint efforts; they all reflect a certain combination of objective and subjective factors.

As for transport-related projects, the realisation of *Rail Baltic* project is presumed in two of the scenarios out of four. Regarding *Via Baltica* motorway, certain developments would take place in all scenarios. In our opinion, the tunnel project can be realised in case of a favourable scenario only after the expiry of the time period under observation. However, that the preparatory work can start during that period and in the ideal case even the construction.

It is presumed that territorial integration of Estonia and Finland and the related people's mobility would eventually increase in all scenarios, but the rate of the integration's development would vary significantly dependent in the scenario. We expect that a twin-city in the strict sense, involving the forming of a real single labour area, would be possible in case of only one scenario out of four.

External conditions: favorable
Local motivation and capability for cooperation: existing, but concentrated on transport-related projects mainly

Partners in transportation scenario

External conditions: favorable
Local motivation and capability for cooperation: strong, focus on creating efficient twin-city

Twin-city scenario

POSSIBLE FUTURES

Failed opportunities scenario

External conditions: favorable in general, but include risks
local motivation and capability for cooperation: Weak

Alliance for new beginning scenario

External conditions: unfavorable
local motivation and capability for cooperation: Strong

Figure 1. The ground logic of construction of the scenarios

All scenarios include the need to consider, besides the North-South traffic of people and goods, the parallel increasing of the East-West cargo flows and the need to relocate cargo traffic largely from the Tallinn Vanasadam-Helsinki Länsisatama route to the Muuga Port–Vuosaari Port route. However, the situations, in which the relocations would be realised, and the related problems are different in every scenario.

All scenarios have to consider the gradual rising of the cost of production input in Estonia, although its rate would again differ dependent on the scenario. One of the most important problems the authors of the scenario texts wished to emphasise is the issue of how Tallinn-Helsinki (Estonian-Finnish) business cooperation projects should developed in such an environment of rising costs in Estonia (the issue of the second wave of business models in Estonian-Finnish economic cooperation).

As for lifestyle changes, we presume that they would occur in case of all scenarios, but in somewhat different manner. The municipal governments' more active policies for broader promotion of integration could be mentioned in case of the Twin-city and the Alliance for new beginning scenarios.

Partners in Transportation scenario

Relatively positive economic climate which is predominant in international economy facilitates international trade.

The projects related to cargo transport, especially the construction of the European-gauge *Rail Baltic*, are considered the most important joint interest both on Estonian-Finnish and Tallinn-Helsinki level. Efforts will be combined to lobby those projects in the EU and the countries concerned. Regarding other possible cooperation there will be an attitude that it will develop anyway when the transport opportunities will improve.

Unlike other city planning issues, which either city will solve independently, there will be close Estonian-Finnish cooperation regarding the development of cargo transport infrastructure. It will also be forced by the need to communicate with the European Commission, to convince the latter regarding the allocation of finances for *Rail Baltic* by showing that Finnish cargo will reach the new railway as well and to suggest how it will reach there.

Cargo transportation

New opportunities opening along the North-South axis will create additional demand for cargo transport and related logistics services. The interests of participants in this business are not limited only to dealing with the trade between Estonia and Finland, they will also be directed to the two other Baltic countries, Poland as well as Ukraine and south-western countries of Europe. A new opportunity will emerge from handling the Asian cargo moving along the Arctic Sea.

Prioritising the cargo transport goals will create opposition and heated discussion on both sides of the gulf regarding the pursuits to raise the quality of living environment in the cities and improve the ecological situation. Solutions will be eventually found, but not without heated conflicts. It will be assisted by the gradually strengthening understanding in both cities that increasing cargo volumes can be handled without detracting the cities´ normal life and development if the majority of the cargo will be moved across the gulf via Vuosaari-Muuga harbours instead of the cities' centres. This will require the separation of cargo and passengers by using different vessels and routes.

People's mobility

The pattern of people's labour- and leisure-related traffic would not change significantly. The so-called vertical mobility type will be retained in case of Estonians as well as Finns dominated by some narrow reasons for travel: labour for Estonians, leisure for Finns. This traffic pattern will gradually, but slowly become more varied with the increasingly closer business cooperation. Tourism-related traffic from the third countries will increase slightly.

Urban planning

The general development of the urban space and city planning in Helsinki is more deliberate and strategic than in Tallinn. The Finns realise some important urban transportation projects, such as tram link between Länsisatama and Kamppi metro station, several metro line extensions, Kehärata (ring railway via Helsinki Airport) which unite Greater Helsinki's city space into an integral whole.

Enabling good connections between harbours' passenger terminals and airports is one of the key issues in city development policies. Tallinn suffers from lower standards of planning culture, cooperation problems between the city and the state as well as smaller financial opportunities compared to the northern neighbours. Therefore strategically reasonable but expensive solutions like construction of the rail-based urban transport system (high-speed tram line network) will be postponed to the future or only elements of comprehensive solutions will be realised. Therefore the opportunities that could be enabled in conjunction with either the rearrangement of transport and logistics, e.g. freeing the territory of Kopli railway marshalling yard for city planning goals or turning the sea-side into an open public space, cannot be quickly and sufficiently used.

Business cooperation

Business cooperation between Helsinki and Tallinn develops successfully at first. It is further accelerated by the opening of *Rail Baltic*, which will create new opportunities for logistics-related business. Businesses located in Tallinn and its neighbouring area will take over several functions of Finnish industries, including assembly of final products. The improved transport connection with Central Europe will help in that. To some extent also business services will be increased. Helsinki will benefit among other issues from closer economic relations with Latvia, Lithuania and Poland. The latter will probably become a highly important food producer in the future, while the multinationals operating in Poland may become significant manufacturers and valued cooperation partners in the engineering sector.

In the long run problems will emerge due to the decrease of differences in wages and other production costs between Estonia and Finland. A share of intra-industrial trade (subcontracting) which used to be practical due to large wage gaps and other cost differences will cease to exist. The new cooperation model characteristic to the division of tasks between two developed countries will emerge slowly. Tallinn does not have enough high-qualified labour or technological environment to start performing sophisticated and expensive production and service tasks. The significantly weaker social infrastructure and shortcomings in living environment in Tallinn compared to Finland will complicate the immigration of top-specialists and managers to Tallinn in order to overcome this bottleneck.

Summing up

By 2040 Helsinki and Tallinn will form a joint transport junction and cargo handling logistics area but not a real twin-city. Joint labour area will develop slowly. More Estonians than at present will have moved to Helsinki or its neighbourhood, the number of Finns living in Tallinn will have increased more slowly. Working weekly in another country will be a less popular solution due to the higher living standards and increased demands of the people, while daily commuting is too expensive. Twin-city will be spoken about not as a reality but rather in relation with the perspective of construction of the tunnel. This, however, will mean its realisation in the distant future, certainly after 2040.

Twin-city scenario

In a favourable (analogous to the previous scenario) economic environment a comprehensive strategy is being developed for combining transportation related projects (incl. *Rail Baltic*) with deliberate policies for improving the quality of living environment and integrating the businesses and urban environments of the two cities. The Helsinki-Tallinn integration is purposefully developed at the top level of either city's administration by a special commission. The governments of either country also promote the process.

Cargo transportation

The key directions in the development of cargo transportation and logistics are the same as described in the preceding scenario. Their realisation will take place in approximately analogous manner as well. However, more attention will be paid to the finding of suitable compromises between the demands of the transportation business and the requirements determined by the quality of urban living environment of the cities. Formation of transportation networks in both cities will take place according to a joint spatial vision, the necessary changes, incl. moving of cargo traffic from harbours in the city centre to Vuosaari and Muuga will be mutually coordinated. Distribution centres and technology parks will be developed jointly.

People's mobility

Efforts are made to facilitate mobility of people between the two cities, to enhance the mobility related to studies, as well as living and working in the neighbouring city. Modernisation of the urban transport systems, better linking of the ports and terminals with the transport network as well as adoption of the usage of the joint public transport ticket serve as good tools for realisation of such endeavours.

The present vertical mobility pattern will become significantly more horizontal in time; i.e. the travel motivations of both Finns and Estonians become more varied. The variety of jobs held in the respective countries will increase as well (unlike the current situation, where Estonians predominantly perform blue-collar and lower-level services sector functions). A significantly greater number of Finns will be working in Tallinn. Part of the commuters will find permanent residence in the job-related country, but this will not reduce the general intensity of people's mobility. The number of visits not directly related to work will increase.

The number of tourists from the third countries will go up with tourism marketing run jointly by Finland and Estonia serving as one of the reasons.

Urban planning

Tallinn will implement several methods for city planning and development of city projects which have justified themselves in Finland. Such policy directed to comprehensive development of urban environment will initially create opposition from some transport companies which have assumed that the inclusion in the international cargo transport corridors will automatically mean prioritising their interests in urban planning and development policies. However, it will become evident that it is possible with thought-out spatial planning and regulations to keep the conflicts between the requirements of transportation and urban environment under control and to minimise the negative effect of the (transit) cargo traffic on the living environment and ecology. Solutions like building a combined (bus and rail) passenger terminal of sufficient capacity, partly-underground city rail transport system, creation of the public waterfront space in case of Tallinn which justify themselves in the long run require large investments with a long payback period. Such plans will strain the city budget for a long time even if the EU structural funds can be partly used. A tax raise probably cannot be avoided either.

Business cooperation

The above mentioned policy will create good preconditions for bringing the city region's business cooperation to a new, higher value-added level which is very important especially when the wage difference between the two capitals and other production input costs have decreased. In addition to industrial cooperation which will be even more high-tech, transport and logistics business and joint tourism business, a large role is played by firms performing various professional services (*KIBS*).

Although the Helsinki- and Tallinn-based firms and their strategic alliances are mainly specialised in the international markets on narrow niche products and services rather than mass products, they are able to service the clients of these niche products/services in numerous countries and thus achieve the necessary scale economy level (mass customisation process). Multinational companies happily place functions serving the entire corporation like accounting, auditing and production of audio-video commercials etc. in their branch offices in Helsinki and Tallinn. There will be many high-qualified Finns working in Tallinn. The twin-city will be valued as a working and living environment for top specialists and managers of international companies.

Summing up

By 2040 the twin-city will be formed as a closely integrated joint labour area. The differences in the quality of social services in Helsinki and Tallinn will diminish to a large extent. Talsinki has become a considerable development centre in North-Europe which is capable of competing with Stockholm and Copenhagen. Talsinki as a twin-city will stand as a candidate for organising the next Olympic Games. The construction of the tunnel between the capitals will seem as a logical step for further integration of the city space and surrounding regions.

Failed Opportunities scenario

A favourable economic situation creates opportunities for better integration in the international cargo transport logistic systems and related large transport projects (especially *Rail Baltic*), however, due to institutional incapability and poor cooperation these opportunities cannot be realised. A number of problems will emerge; the difficulties in agreement about the exact route for the new part of the railway and solving the land usage problems quickly. The disputes with Green activists will start due to construction of the railway near the Gulf of Riga, there will be poor cooperation between the capital of Estonia and the state, intra-state lobby activities of business groups, difficulties in explaining the EU institutions the logistical schemes of providing significant volumes of Finnish cargo with access to *Rail Baltic*. Launching of the project will be delayed, resulting in the loss of the EU structural funds. Without the EU funding the direct rail link will not be possible.

Cargo transportation

The Finnish side will initiate the strategy to take the main cargo flows between Estonia and Finland away from the present Helsinki Länsisatama – Tallinn Vanasadam route to Vuosaari – Muuga harbour route. The Estonian business circles are slow to go along with the plan, preferring to continue cargo traffic on the Länsisatama-Vanasadam route and lobby for investments in the Vanasadam access roads. Such different opinions cause much confusion in the initial years.

Presuming a large cargo flow with Asia from the Arctic Sea, the Finns will conclude a railway link with Kirkenes. As the cargo transport further to south will be hampered due to the lack of suitable railway connection, this railway line will be underused and not justifying the investments made.

Both cities have lost valuable time. There will be no new direct North-South rail link. The demand for transport will grow at least initially; there will be attempts to carry cargo southward by rail over Tartu and by road along the *Via Baltica*. This exerts pressure on the logistical system, which had not undergone any modernisation in the expectation of *Rail Baltic*. The traffic situation deteriorates and conflicts between transport and environment become increasingly acute. The competitiveness of the above routes against others (maritime route from Finland to Poland and Germany; route from Finland to Germany across Sweden) will be low and they may start losing cargo in the longer perspective. Failed opportunities result in not just the loss of time and money but also a moral defeat. Estonia's image as a transit transportation country will deteriorate, worse still, Estonia will lose the belief in its capability to implement larger strategic projects, relying on short term activities of the businesses will be dominant and there will be an understanding that the Estonian public sector is inefficient and incapable of reaching any agreement. Accordingly, there is no faith in the prospects of the tunnel in the longer perspective.

People's mobility

Changes in people's mobility during the first period would not differ from those described in the first scenario (i.e. *Partners in transportation scenario*), but the emerging stagnation in the cities' development will have its effect in the second period. The failure to realise the *Rail Baltic* will somewhat curb the travel of tourists from the third countries, especially Germany, between Estonia and Finland.

Urban planning

Business cooperation between Helsinki and Tallinn will fail to form a homogenous and well-matching urban structure. This will impair the cities' competitiveness and budgetary resources. Especially Tallinn will suffer from those conditions and cannot find resources for solving the problems. Helsinki will be capable of realising its intended infrastructure projects, although with certain delay (new metro connections, the ring railway via Helsinki airport etc.).

Business cooperation

Business cooperation patterns similar to the present ones will initially continue between the Estonian and Finnish entrepreneurs, but there will be no new prospective trends. However, due to the declining differences in production input costs, the number of existing cooperation projects will start falling. The Estonian-Finnish business cooperation will stagnate.

Summing up

Both Helsinki's and Tallinn's integration with EU core areas will remain weak. The bigger role in both cities' further development will be played by the Northern Europe's internal relations and economic relations with Russia. It cannot be ruled out that both Helsinki and Tallinn will become the „suburbs" of St. Petersburg.

Alliance for New Beginning scenario

The formerly efficient development models in Estonia and Finland cease to work in the deteriorating economic environment and weakening European Union. As economic growth in the EU declines neither Tallinn nor Helsinki can hope for large export opportunities, flows of transit or increasing consumption. No one will finance large ambitious infrastructure-related projects. Both countries concentrate on cutting costs and budgets, obtaining the inevitable services cheaply and efficiently. The principle: "(Real) value for money" will prevail. Businesses will have to streamline their operations and several systems necessary for everyday life must be readjusted to the changed situation as well. People need to rearrange their accustomed lifestyles.

In the tightening budget situation, a certain localisation drive on the one hand and search for new markets and activities targeting them on the other hand would become important. Both these directions would provide opportunities for Estonian-Finnish cooperation, especially if they should be supported by efforts of the public sector.

Cargo transportation

Due to the international economic decline and the cancellation of expensive international transport projects, the opportunities of inter-European cargo transportation and logistics business will be significantly curbed. The sector can partly prevent its stagnation by handling the cargo flows related to Asia (and to some extent Russia).

Thanks to the continuing and developing cooperation between the Finnish and Estonian businesses (see the description above), the amount of local cargo, which is largely related to intra-industrial trade, will remain relatively high in the Helsinki-Tallinn ferry traffic.

The need to transfer cargo traffic from the Tallinn Vanasadam – Helsinki Länsisatama route to the Muuga Port – Vuosaari Port route will no longer be as urgent. Yet this will mean only a certain delay rather than the elimination of the necessity.

People's mobility

Some Helsinki residents, especially retirees and unemployed, would change their domicile for the less expensive environment in Tallinn. However, they will make quite frequent visits to their friends and relatives in Finland.

The desire to work in Finland will remain high in Estonia, while jobs will not be easily available in Finland; therefore the number of Estonians employed there will remain below the boom-time level of the previous decade.

A number of Finns will make use of the somewhat lower price level of the services in Estonia; this will serve as an important motive for visiting Tallinn. As business cooperation between Estonia and Finland will continue and develop as well (see next passage), passenger traffic between Tallinn and Helsinki will increase instead of declining.

Offering bed and breakfast services to visitors from the neighbouring country will increase in Tallinn as well as Helsinki. It will become a business sphere in its own rights. Demand for cheap ferry tickets will increase. However, as the onboard trade and services do not flourish, the shipping firms will find it hard to keep the ticket prices low.

Estonia will not be able to continue providing the current broad spectrum of university education. Many young Estonians leave to study in Finnish universities.

Research institutes will have to seek for ways of cutting costs as the economic situation deteriorates. Various opportunities will be related to Estonian-Finnish cooperation: the purchase of research equipment, making research subcontracts in the neighbouring country, etc. As a result, scientific contacts between the two countries ill become closer.

The economic situation will also change the spatial development of both city regions. The settlements/small towns close to the capitals, linked to them by railways, become advantageous as they allow the combining of cheaper living environment with areas of greater employment. Internal transport organisation inside the agglomerations will be reorganised, etc.

Business cooperation

The changing economic situation will have its impact on the Estonian-Finnish business cooperation, both in the production of goods and services.

The rate of closing the wage gap between the two countries will slow down. This will enable the Finns to use Estonia as a subcontract country for the goods they can still produce for the European market, for a longer period than the other scenarios would allow. The motivation would be even stronger due to the critical situation. However, will be even more important strategically that the Finnish industry will attempt to find new markets to replace the contracting European ones (East Asia, America). The increasing middle class of the East Asian countries is turning into consumers of considerable brand awareness, who are interested, besides domestic products, in high-quality and prestigious foreign goods.

If Finland should succeed in orienting towards that growing demand, it will be interested in involving Estonian firms, so as to increase its human potential and to reduce the costs in developing and producing goods and services for the new markets.

The new situation would also raise the issues of transferring some services to Tallinn or elsewhere in Estonia from the more expensive environment of Helsinki, opening the Helsinki city procurements to Estonian enterprises to a greater extent, etc. In this economic situation, the redesigning of various systems into more economical, efficient and user-friendly will become quite urgent, starting from more energy-efficient buildings and ending with improving the traffic systems. Such activities are a traditional strength of Finnish companies and the changed economic situation will mean considerable demand for such services in Finland, Estonia and numerous foreign markets. This would be complemented, for instance, by various solutions for supporting and improving the quality of life of the elderly (the so-called silver economy), health care etc. Various e-services and m-services can play a considerable role in the new services models being developed. Finnish firms will be able to use Helsinki and Tallinn for testing such solutions (the living lab principle) in their local environments (it is a significant benefit for export prospects that these environments on the opposite sides of the Gulf of Finland differ considerably) and attempt to export this know-how to both developed and developing countries.

The tourism business will face rather hard times, but one of the opportunities to retain competitiveness despite the declining demand would be offering combined Finnish-Estonian tourism routes in the international market.

New airlines from Vantaa and Tallinn airports will be opened to the destinations in Asia. The Tallinn Airport, thanks to its relatively low costs, has fine chances of becoming one of the most important East Asia-specialised cargo servicing airports in Northern Europe. Due to the difficult economic situation in Europe the aviation companies will consolidate in the air traffic market. This process will lead to more favourable conditions for increasing specialisation between airports.

It can be argued that even within the framework if this scenario, there will be opportunities for cooperation between Finnish and Estonian firms in the traditional as well as new spheres. A promising opportunity would be the combining of the Estonian small enterprises' initiative and often innovative solutions (e.g. the use of ICT) with the advanced business models and extensive contact networks of the Finns so as to jointly gain access to third countries' markets.

Urban planning

While Helsinki will be able to complete the planned strategic projects although with delays, the situation in Tallinn will be worse. Several prospective projects, e.g. the rail based public transport system will be stopped due to the lack of funding. In some cases the stopping of major projects related to the construction of traffic arteries, e.g. the north passage, could reduce conflicts with the local communities defending their parochial interests. On the other hand, it would delay the improvement of the urban environment.

Both capitals would attempt to increase the efficiency of their municipal services systems while improving their human-friendliness as well. The primary opportunities would be the detailed design of these systems, good logistics and extensive implementation of e- and m-services. Tallinn in particular would have fine premises and experience for the latter. The motivation for preferential development of public transport will increase, since although it will require certain investments, it would also result in saving on the decreasing need for new roads and crossings as well as road maintenance costs.

Summing up

Although traffic intensity between Estonia and Finland would be somewhat lower in this scenario than in case of the others, the planning and efficiency level of cooperation could actually be higher. In case of this scenario we could presume a somewhat greater progress in grassroots relations than in other scenarios. Cross-border activities at the local governments and national level would be more intensive than in the Partners in transportation and Failed opportunities scenarios, although not as intensive as in the Twin-city scenario. Business cooperation need not be limited to the existing businesses and business models, but could include new spheres better suited to the period. Provided Finland and Estonia would be able to occupy the position of one of the East Asian gateways to Europe, the Helsinki-Tallinn competitive position compared to e.g. Sweden could even improve. If the European economy should start growing again after the standstill (we presume that it would begin before 2040), Helsinki and Tallinn would be well placed to participate in it. The postponed major infrastructure project could then re-emerge, this time based on newly developed technological opportunities.

Main development parameters by different scenarios 2012–2040

	Partners in transportation	Twin-cities	Failed opportunities	The new beginning
Economic growth (long term average per year) in North European region	>3.3%	>3.3%	>3.3%	<2%
Cargo flow average growth rate between H & T regions (incl transit, excl Arctic flow)	From 2011–2020 about 9–10%, about 7–8% after 2020	Till 2020 about 9–10%, after 2020 about 7–8%	Till 2016 about 8%, after 2016 less than 5%	Less than 6%
Additional Arctic route connected cargo	About 1.0–1.5 million TEU 2030, over 70% to the South of the Gulf of Finland	About 1.0–1.5 million TEU 2030, over 70% to the South of the Gulf of Finland	Less than 0.3 million TEU	?
People's mobility (general trends)	The number of one-day visitors and tourists will increase in either direction together with the economic growth figures. Work and family ties-related mobility grows faster than work-related	The number of one-day visitors and tourists increases in either direction more than 10% per year. Work- and family ties-related mobility will increase faster.	The number of one-day visitors and tourists in either direction does not increase significantly. Work- and family ties-related mobility increases moderately.	The number of one-day visitors and tourists in either direction increases topgather with economic growth figures. Work- and family ties-related mobility increases over 10% per year.
Average growth rate of passengers by sea between Helsinki & Tallinn	About 4–5%	Till 2020 about 5%, about 7% after 2020	About 4–5% till 2016, less than 4% afterwards	4–5%
Transfer of cargo transport from Länsisatama-Vanasadam route to Vuosaari-Muuga route / decr-ng of share of RoPax fleet	Existing need, but temporary ignored because of short term economic interests	Political will to solve the problem in realistic time framework	No political will to deal with the problem in the first part of the period, no so big pressure at the second part of the period	Not very actual problem
Direct European – gauge Rail Baltic	After 2020	After 2020	No realisation	No need (too small cargo transportation demand)
Main spatial projects, connected with change of transport situation in Tallinn:				
a) opening city to the sea & completion of Põhjaväil (Northern passage)	The conflict between transportation needs and urban space quality will be solved in favour of transport interests	Balanced solution	As sc Nr 1, but even more contradictory	Solved in evolutionary way
b)Increasing density of urban space, increasing its attractiveness and quality	Thanks to economic growth and its prospects, activity of real estate dev-ment, esp. business-related, high in Tallinn. Dev-ment of urban space relatively spontaneous	Good premises thanks to business and high demand by paying residents. Dev-ment of capital city according to definite urban construction concept and in co-operation with Helsinki	Like sc. No 1, but business-related real estate development motive drops (suddenly?) at some moment.	Activity low due to money shortage, erroneous decisions can be avoided, more economical (and ecological?) solutions sought and implemented together with the Finns
Talsinki 2040 (main characterisation)	**Common transport and logistics node**	**Common labour area, real twin-city**	**?**	**Active cooperation in many fields**
Perspectives with tunnel project (after 2040)	Potential perspective	Urgent need	No perspecive	No perspective before 2050

On the use of the scenarios

The composed scenario texts can be used for the following purposes at least:

- They provide the reader with a relatively broad picture of the development opportunities faced by Estonia and Finland in the coming decades.
- The scenarios help to better understand which threats the external environment would pose and how they could obstruct the realisation of the development ambitions, as well as which mistakes of the actors could become critical in certain situations of the external environment. Knowledge of these outcomes would allow avoiding the threats or planning alternative action in case of unfavourable developments.
- The scenarios show how the actions on the Estonian and Finnish sides are logically connected, for example in case of building harbours or handling new transport flows. Knowing this would allow for better coordination of action.
- The scenarios will help to understand how specific urban development and sectoral projects would depend on the emerging conditions and how they are interconnected. For example, transport development projects would depend on urban environment development and vice versa. Knowing these facts would enable the drafting of roadmaps for projects of key importance.

Potential users of the scenarios could include regional and urban planners, specialists handling sectoral, e.g. transport-related development projects and strategic decision-makers i.e. top administrators at the capital city or national level. The Estonian or Finnish specialists or administrators could use them independently, but collegial use would be possible as well. The second option could be more efficient for the discussion of a number of issues.

A number of specialists of the Estonian and Finnish sides were already involved in the scenario-building process. The scenario drafts at their various completion stages were jointly discussed. Thus it can be argued that some cooperation experience regarding the scenarios already exists at the specialists' level. For the time being, i.e. as of late spring 2013, the scenario texts have not yet been presented to the top administrators.

Since the development planning requires the making of some wider strategic decisions before addressing specific projects, especially the decision of whether broader actions, contributing to the forming of the twin-city, should be advanced besides transport-related cooperation, the discussion of the scenarios should be moved to the highest decision-making level in the next few months. For example, they could be initially discussed with the top administrators of Helsinki and Tallinn individually and then jointly.

After the discussion of the scenarios and reaching conclusions it will be possible to select specific key programmes for the drafting of road maps, i.e. documents, allowing more detailed planning of projects by specifying their connections, basic stages, necessary premises for their realisation and main risks, which should be avoided.

We believe that the drafting of the road maps should definitely take into account the more and less positive business environment alternatives, i.e. the likelihood of the *Twin-city* and *New beginning scenarios*. Whether the positive environment option should be fully based on the conditions described in the twin-city scenario, or should the conditions be somehow adjusted, will become clear after the discussions with the city administrators.

Background for scenario-building

The tunnel prospects

The idea of the Tallinn-Helsinki tunnel dates back to the early 1990s, therefore it could be considered contemporary of the Tallinn-Helsinki twin-city idea. Essentially one of the important motives for the emergence of this idea was the explosive growth of contacts after the fall of the "iron curtain"[1], while the tunnel offers new qualitatively better opportunities for the creation of an actual twin-city environment, not just metaphorically but as an actually integrated space for living and business.

Since then the tunnel idea has regularly appeared in the Finnish media and to a somewhat smaller extent in the Estonian one. It has also reached some institutional vision documents, e.g. the 2004 paper *Visions of Railway Transport in Southern Finland in 2050.*

The tunnel hopes have been granted new energy by the success in recent years with the preparations for the project for a European-gauge direct rail link between Tallinn and Berlin, the *Rail Baltic*. It is fully justified to argue that a permanent rail link between Tallinn and Helsinki (by idea it could be a bridge as well as a tunnel) would be an organic transport link along the North-South axis, which would extend the *Rail Baltic* network to Finland.

So far, geological and geotechnical issues have largely dominated the Helsinki-Tallinn tunnel discussions. Yet the probability of the tunnel construction will depend to a great extent on its economic practicality in Europe's future, repeat, *future* geo-economic space. It is true that major transport infrastructure projects create new transport demand after their realisation, yet it is also clear that this is only possible in the presence of a definite objective potential determined by the spatial location of people and economy as well as the specialisation and cooperation patterns between countries.

In case of the Helsinki-Tallinn tunnel the multi-dimensionality of the project complicates the feasibility calculations. Its possible goal is not just the facilitation of the movement of goods and people over longer distances, e.g. from Finland to Poland or Germany, but also the promotion of more local territorial integration between the Estonian and Finnish capital city regions on the immediate shores of the Gulf of Finland. This is the very

[1] Among the other motives we should obviously mention Finland's desire to possess a non-maritime link with "Continental Europe" and Finland's impressively extensive experience in the development of tunnel building technology and the related ambitions.

reason why the Channel Tunnel between France and the UK is not a suitable comparison for the Helsinki-Tallinn tunnel.

We shall now attempt to present a brief description of the economic premises, which would make the tunnel construction justified. We use the materials produced in summer 2008 in cooperation between ASI Consult OÜ and the Estonian Institute for Futures Studies, Tallinn-Helsinki Permanent Rail Connection Preliminary Analysis, various calculations related to *Rail Baltic* and the scenarios presented in present publication.

When synthesising the results of the various analyses we can argue that the construction of the tunnel could be practical if the following complex of conditions should be realised simultaneously:

- the Tallinn-Berlin direct rail link *Rail Baltic* will be built, which would carry both passengers and cargo;
- there will be sufficient volumes of Finnish-related export and import goods in the future requiring transport southward of Estonia and Latvia, i.e. countries like Lithuania, Poland, Slovakia, Hungary, the Balkan countries, Turkey and Ukraine.
- *Rail Baltic* can be used not only for relatively short travel (e.g. Tallinn-Pärnu or Tallinn-Riga) but to a considerable extent by long-distance travellers (e.g. Tallinn-Warsaw or Tallinn – Berlin);
- East Asia-related transit goods arriving via the Arctic Ocean would be moving from Finland via the tunnel to *Rail Baltic*;
- a daily and sufficiently massive demand for passenger traffic exists within the twin-city. The volume of this demand would depend, besides the number of potential passengers, on ticket price, incl. the opportunities for subsidising the tickets for certain groups of passengers, e.g. students.

It has been claimed that the construction of the tunnel could also consider the mutual enhancement occurring between the North-South and East-West axes of transport. Our analysis shows that this enhancement could be significant for *Rail Baltic*, but not directly for the tunnel. It would be difficult to find arguments, why goods related to the St. Petersburg region, for example, should be moved to Central Europe via Helsinki and the tunnel.

Obviously, the costs of the tunnel's construction and operation would be important as well. Their calculation is currently complicated for two reasons. First, the insufficiency of information about the geological conditions of the area between Naissaar Island and Tallinn, which makes it extremely difficult to estimate the cost of the construction of one kilometre of the tunnel. Secondly, it is probable that the tunnel construction technology will develop in the future and the related costs could significantly decline. The full cost of the tunnel construction has been estimated at 7 billion euros, but this should be considered a very approximate figure.

The European Union's future willingness to support such expensive, long payback, but strategically important projects certainly matters as well The same applies to the countries' and cities' possible contribution to the project. The payback periods of such undertakings are too long for the private capital. Moreover, such issues would warrant detailed discussions after it becomes clear that the transport demand necessary for the practicality of the project exists. In our estimation, such demand can occur in case of only one of the analysed four scenarios, namely, the realisation of the Twin-city scenario. However, we do not consider the start of the tunnel construction before 2040 realistic. The tunnel cannot be ruled out in more remote future even if some other scenario should initially be realised, but in that case the general development model of the twin-city/twin region should undergo changes before the tunnel issue can become topical again.

Dynamics of passenger and freight traffic between Helsinki and Tallinn

Compiled by Ulla Tapaninen

The existing passenger and freight traffic statistics were analysed within the H-T Transplan project and a number of specialised studies of mobility and its causes were carried out. The following text attempts to provide a generalised view of the results.[1]

The questions to which this summary aims to answer are:

- How many people there are travelling between Tallinn and Helsinki? What are the characteristics of the trips (reason to travel, when and how often)?
- How much cargo there is going between Helsinki and Tallinn and what are its characteristics (mode of transport, contents, origin, destination).
- What can we say about the future of the passenger and cargo transportation between Tallinn and Helsinki?

Total number of passengers travelling

A total of 7,347 passengers were aboard the vessels traveling between Tallinn and Helsinki in 2011 (Figure 1).

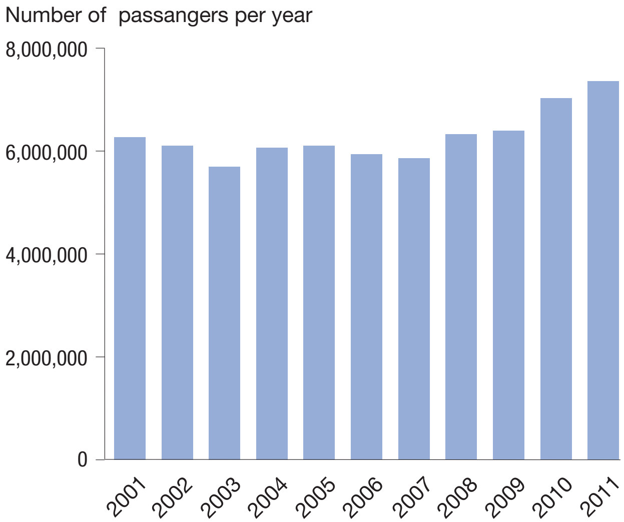

Figure 1. Sea travelers between Helsinki and Tallinn both ways (Finnish transport agency, 2012)

[1] It should be noticed that data in each study is received from different sources and various ways of collecting data has been used. Hence, the studies are not totally comparable.

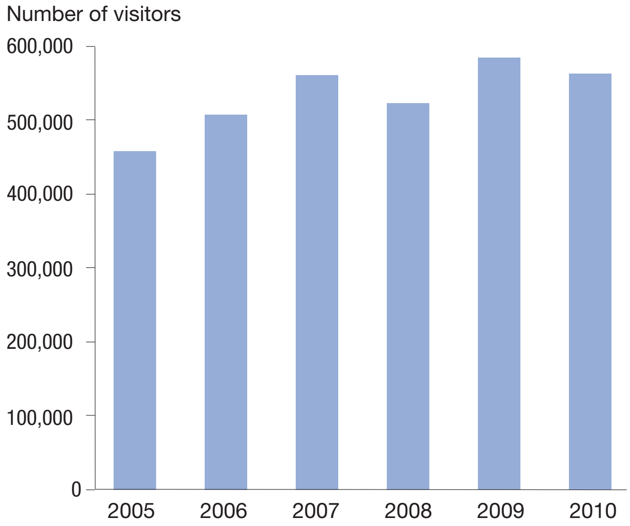

Figure 2. Number of Estonian visitors in Finland 2005–2010 (Border interview survey, 2011)

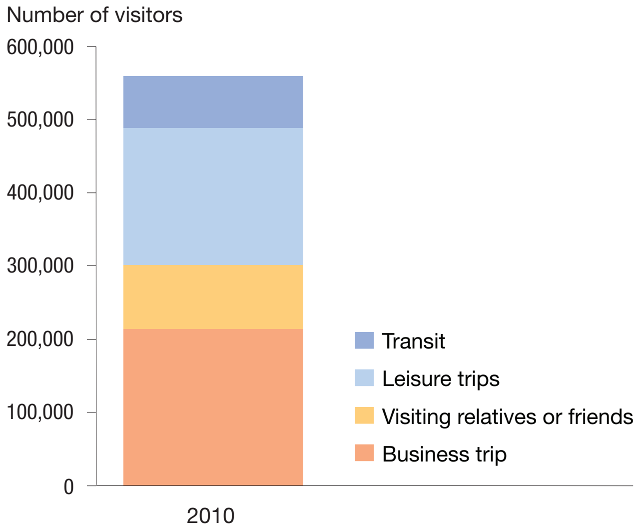

Figure 3. The main reasons for Estonian residents for coming to Finland (Finnish statistics, 2010)

This means that in practice almost every traveler was calculated twice (when leaving and coming back). There were 191,000 passengers travelling on air between Helsinki and Tallinn both ways in 2011, which makes only 3% of the sea travelers.

There had also been helicopter service between Helsinki and Tallinn. In 2004 the total volumes were over 75,000 passengers, but after a crash in 2005 the service was ceased. It was started again in 2008 but without success (Suomen kuvalehti, 2011). Finally, the service was restarted in autumn 2011.

Estonian residents visiting Finland

Based on border interview study in 2010, over half a million Estonian residents travelled to Finland (Figure 2). Out of these about 40% were on business trip, 16% were visiting friends or relatives, about 30% were on leisure trip, 13% were in transit (Figure 3). Most of the Estonian residents stay for less than a month in Finland, but quite a few for several days (Figure 4). Most of the travelers come to Finland at the beginning of the week and leave on Thursdays and Fridays (Figure 5). However, as the share of leisure travelers is also quite high the number of week-end travelers is still considerable.

Many Estonians come to Finland more than once a year, but not very frequently. Workers travel more often than other travelers (Figure 6). Based on Statistics Finland in 2011, only 13,000 permanent residents of Estonia had a permanent working place in Finland. However, this figure highly underestimates the number of workers, as many are working for Estonian companies but in Finland. The Embassy of Estonia in Finland estimated that in the beginning of 2012 over 50,000 Estonians are working in Finland, of which 32,000 are living permanently and 29,000 are just temporary workers. In addition, there are several thousands of non-registered workers.

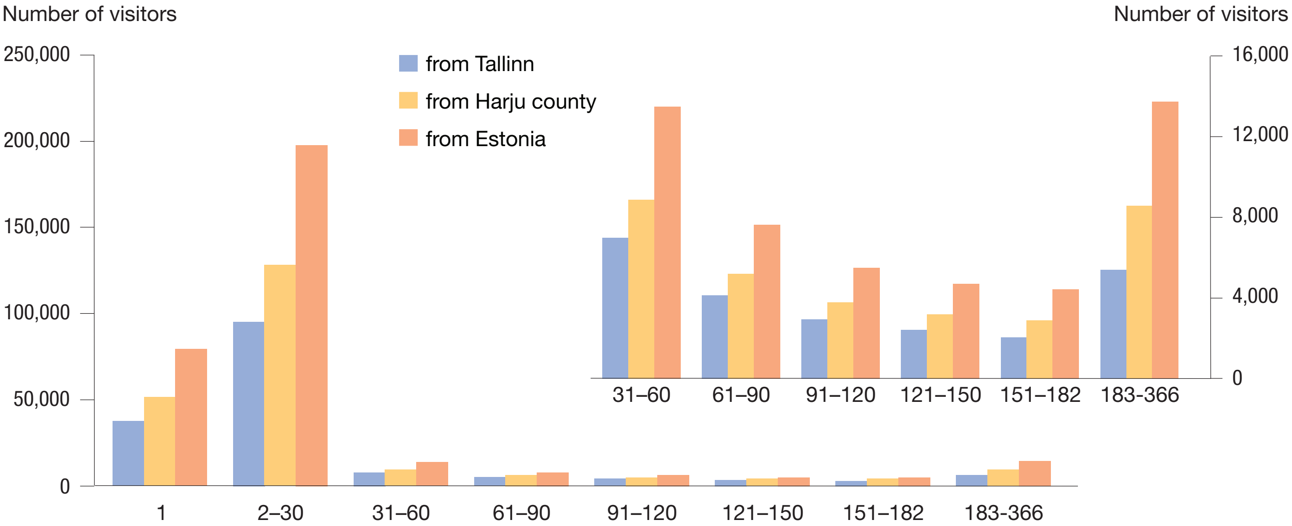

Figure 4. The travelling days of Estonians to and from Finland (University of Tartu, 2012)

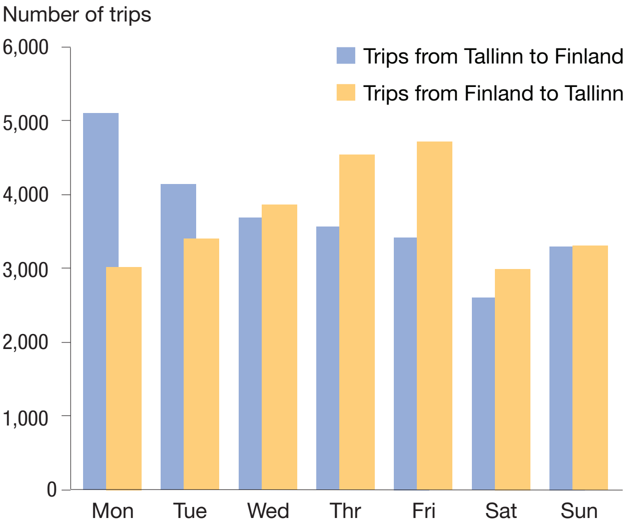

Figure 5. Number of Estonians in Finland each day (University of Tartu, 2012)

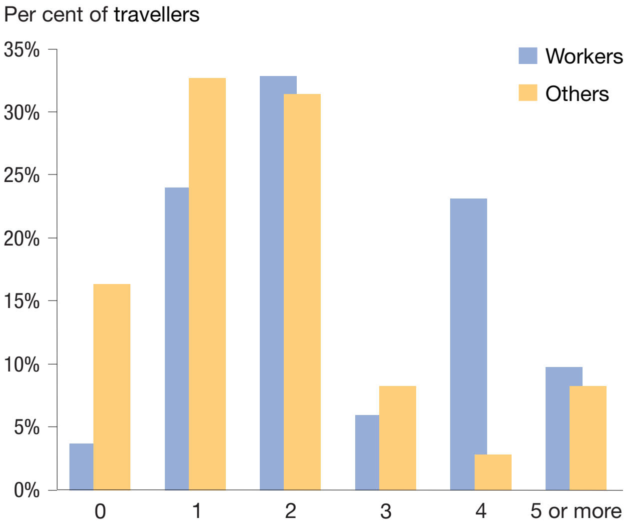

Figure 6. Frequency of travel to Finland (Innolink, 2012, preliminary results)

Most Estonians are only day travelers and do not stay overnight. The low number of hotel customers is noteworthy, Estonians stay mostly with friends or relatives. Staying in own or employer's apartment or in a hostel is also common (Figure 7).

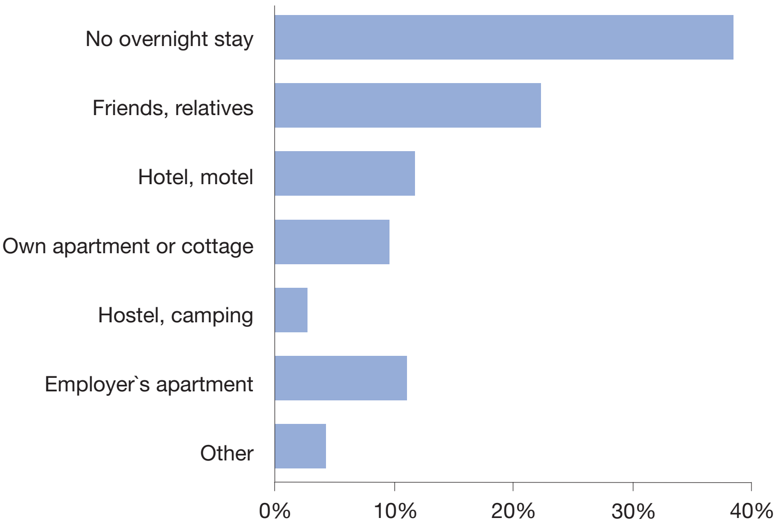

Figure 7. The type of accommodation of Estonians in Finland (Border interview Survey, Finland, 2010

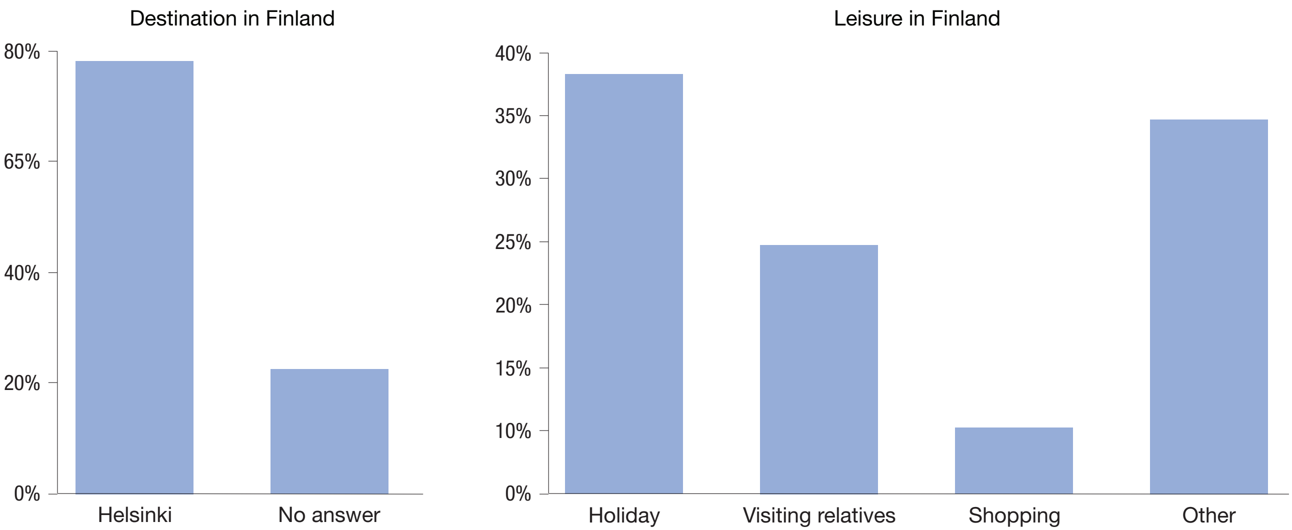

Figure 8. Leisure in Finland (Innolink, 2012, preliminary results)

Over 75% of Estonians coming to Finland for leisure stay in Helsinki. Mostly they are just for a holiday but over 20% are in Finland to visit relatives or friends (Figure 8). Amusement parks and museums are among the most popular cultural attractions for Estonian tourists (Figure 9). 68% of Estonian workers had a working place in Finland, and about 14% worked in meeting and conferences during their stay in Finland (Figure 10).

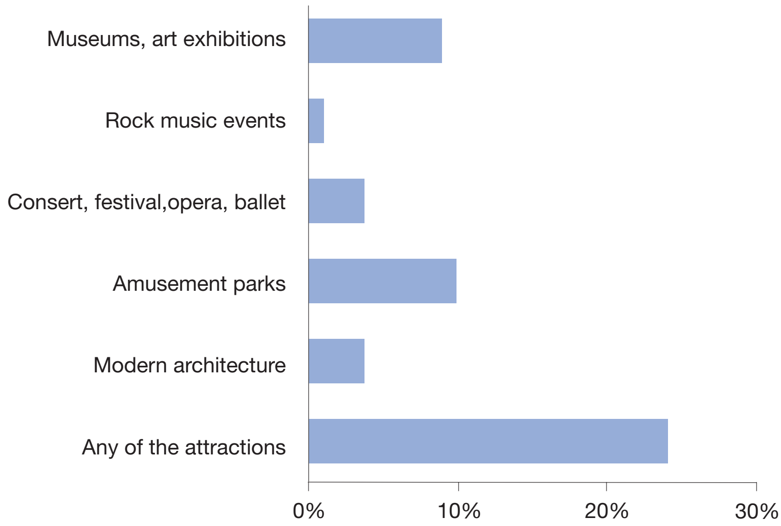

Figure 9. Visit to cultural attractions in Finland (Border interview Survey, Finland, 2010)

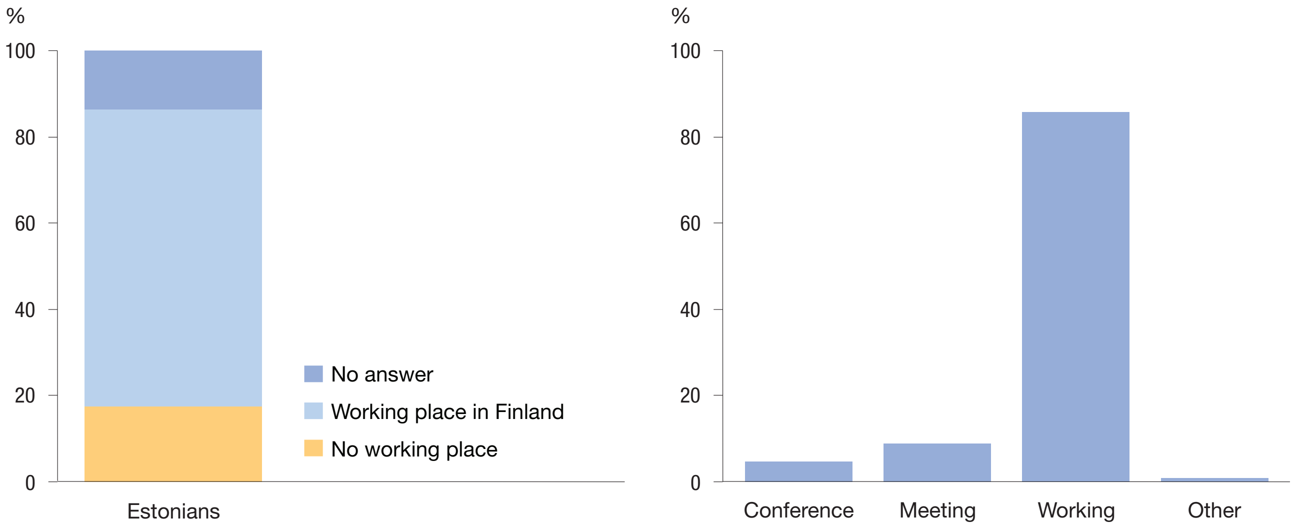

Figure 10. Estonian workers in Finland (Innolink, preliminary results, 2012)

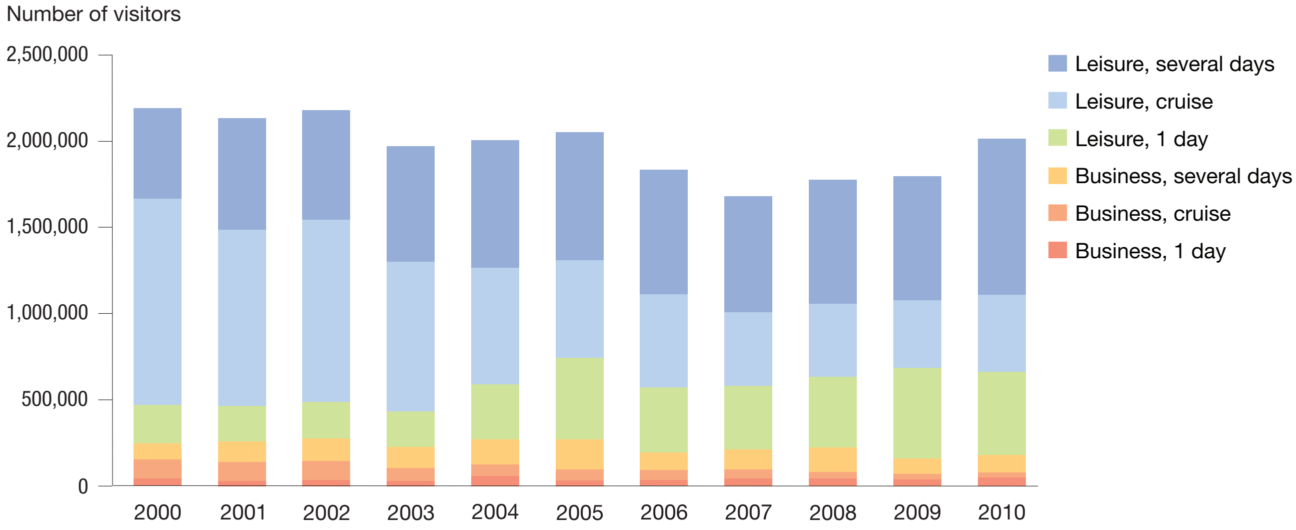

Figure 11. Finnish visitors to Estonia (Finnish Statistics, 2011)

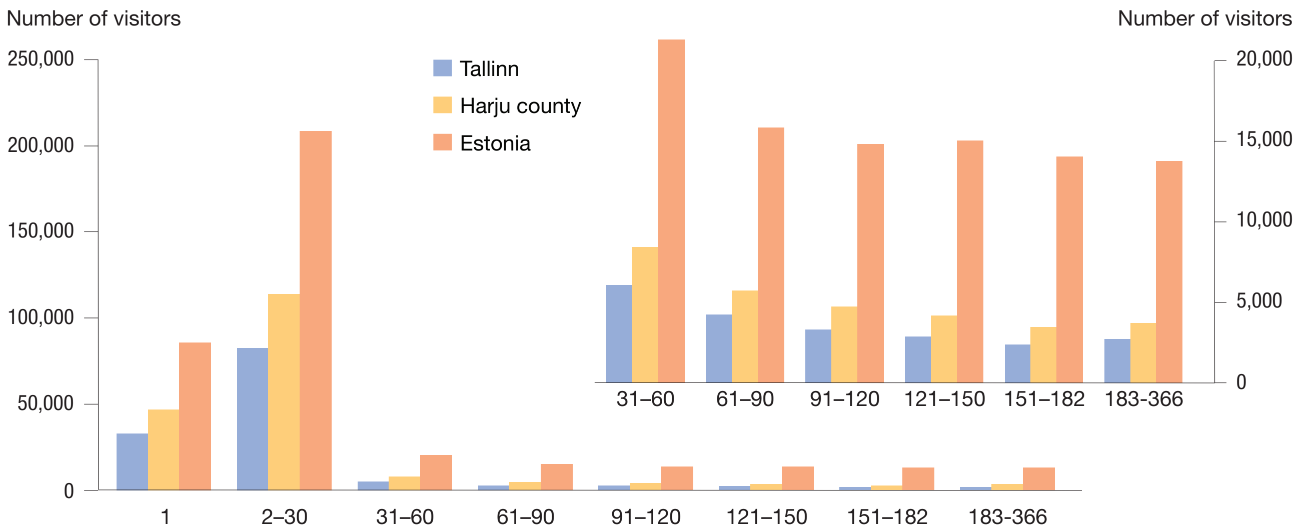

Figure 12. The travelling days of Finns to and from Estonia (University of Tartu, 2012)

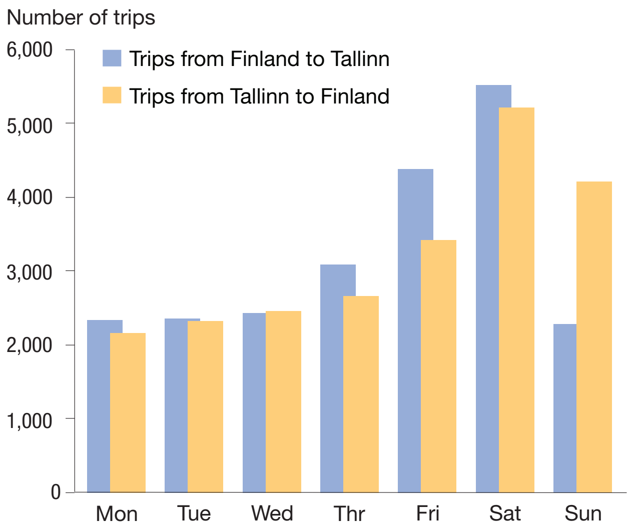

Figure 13. Number of Finnish residents in Estonia each day (University of Tartu, 2012)

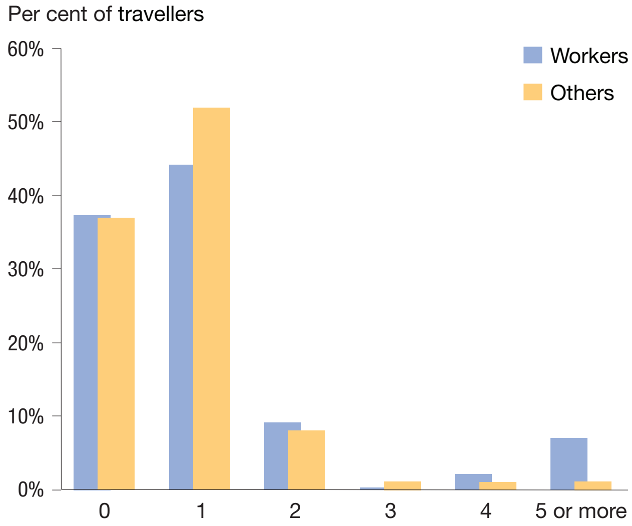

Figure 14. Travel frequency to Estonia (Innolink, 2012, preliminary results)

Finnish residents visiting Estonia

In 2010 2 million Finnish passengers travelled to Estonia of which a bit over 1 million stayed overnight. Less than 10% (185,000) of travelers are on business trip, which is only slightly less than Estonians on business in Finland (Figure 11). Finns often stay in Estonia for several days, the more days they spend in Estonia, the more likely they are to stay outside Tallinn (Figure 12). Due to the large share of leisure visitors, the travels of Finns concentrate on week-ends (Figure 13). Many Finns come to Estonia usually only once or twice a year. Workers travel more often than other travelers (Figure 14). But on the contrary to Estonians, Finns usually stay overnight in hotels (Figure 15).

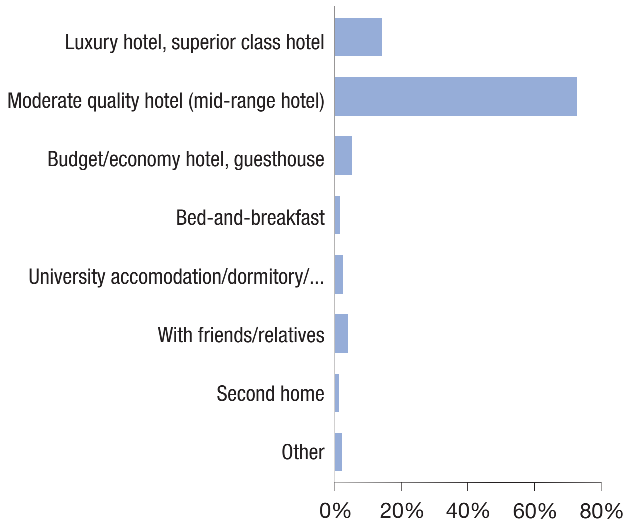

Figure 15. The type of accommodation of Finns in Estonia (TNS, 2012)

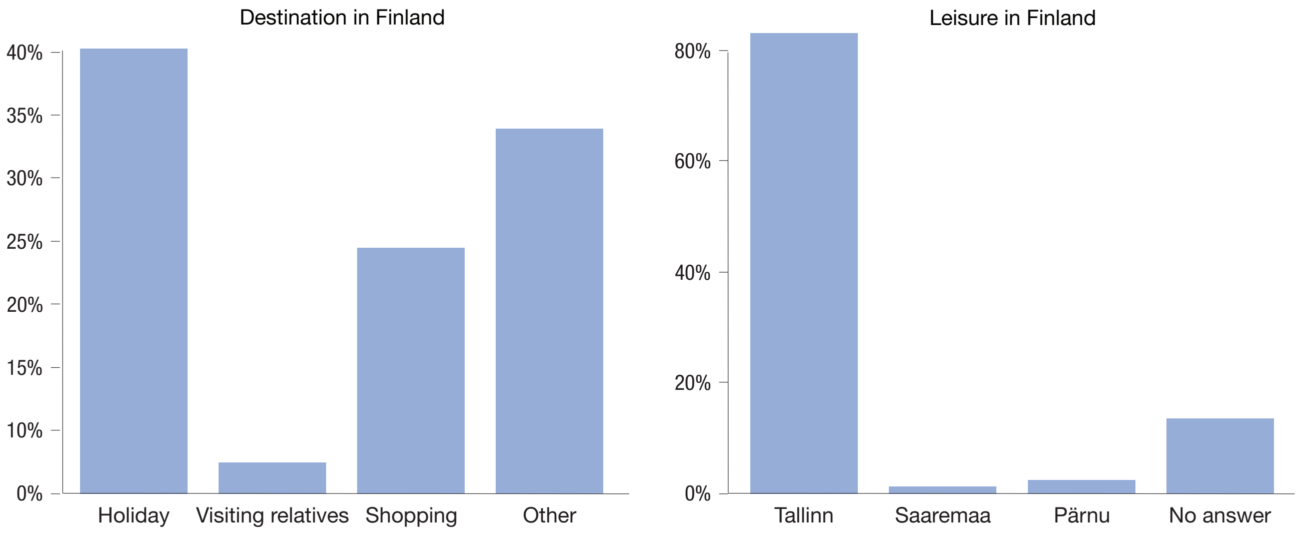

Figure 16. Leisure in Estonia (Innolink, 2012, preliminary results)

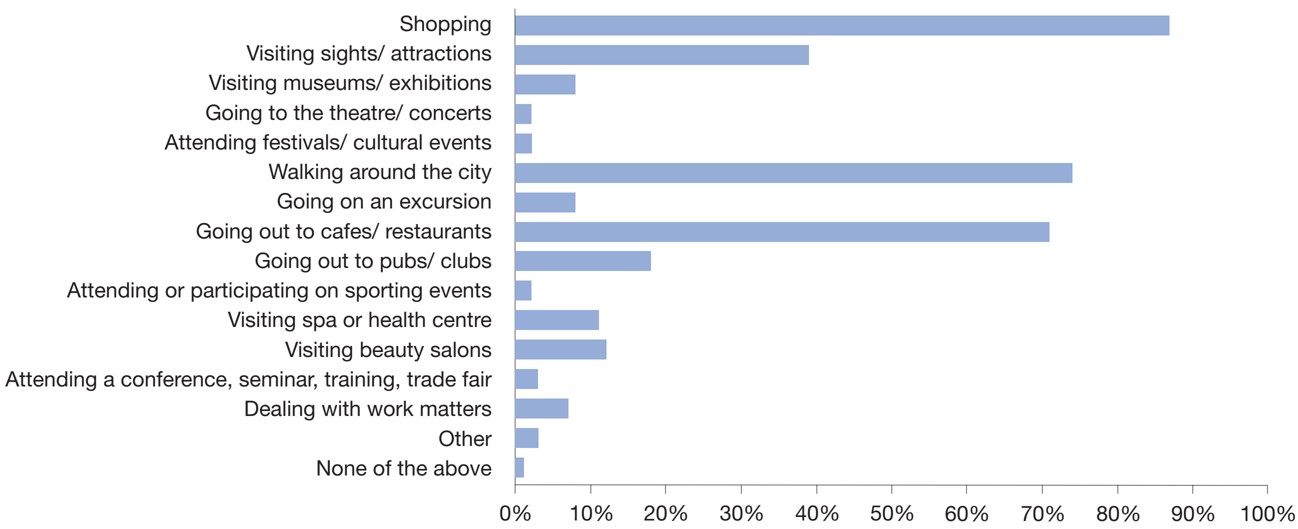

Figure 17. Activities in Tallinn (TNS, 2012)

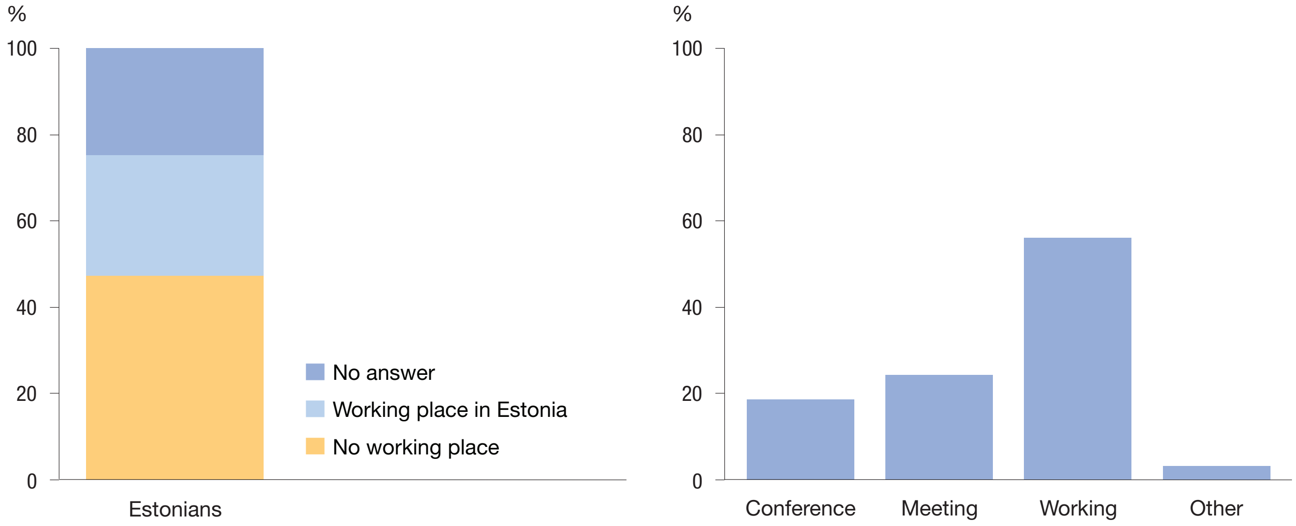

Figure 18. Working in Estonia (Innolink, 2012, preliminary results)

Most Finnish residents on leisure are only for holiday – visiting attractions and museums and walking around the city and shopping – but considerable number is also visiting relatives (Figures 16 and 17). Less than half of the Finns travelling to Estonia for work are on a meeting or a conference, others carry out more concrete working tasks and almost 30% inform that they have a working place in Estonia (Figure 18). Based on official figures of Statistics of Estonia in 2011 there were over 10,000 Finns living in Estonia of whom 2,300 were living in Tallinn, but the non-registered residents have not been included in this figure.

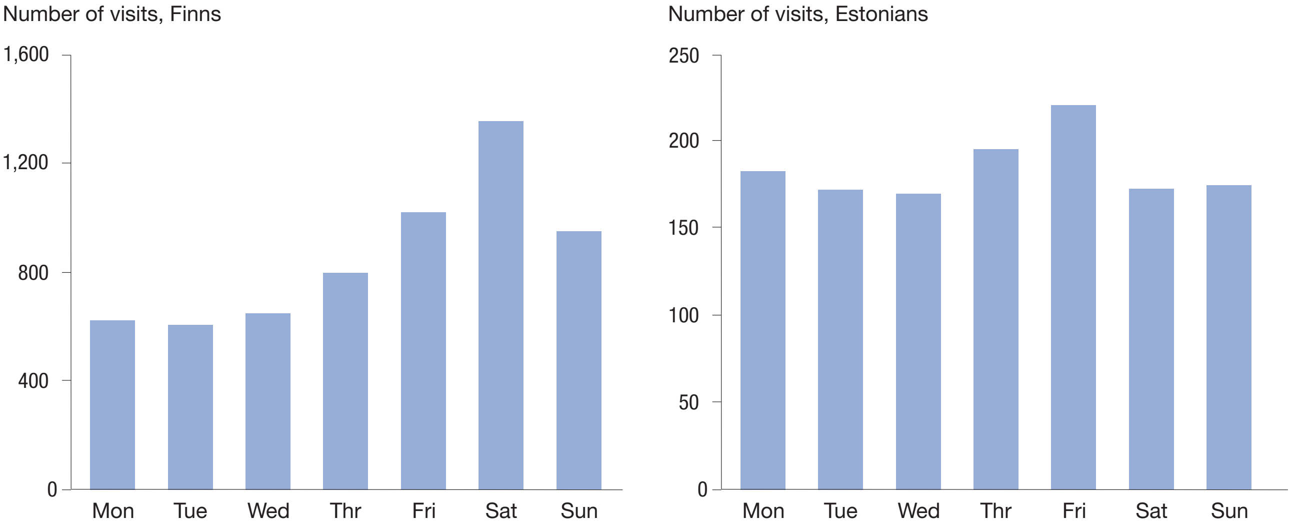

Figure 19. The travelling days of Finnish and Estonian transit passengers (University of Tartu, 2012)

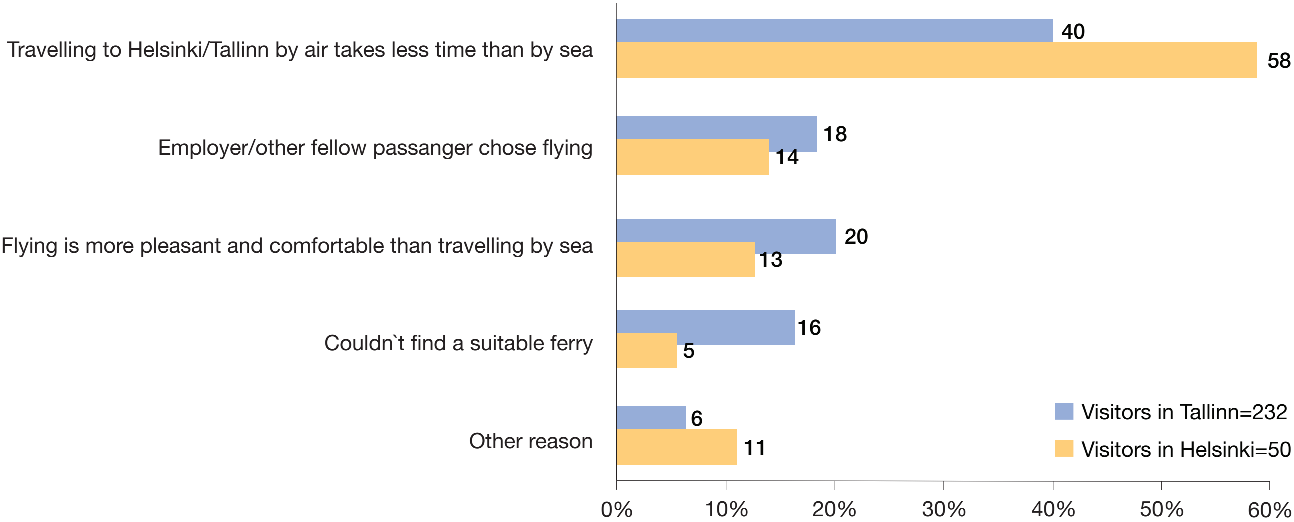

Figure 20. Reasons for travelling by air (Turu-uuringute AS, 2011)

Transit and air passengers

Estonians use Finland as a transit country mainly for air travelling, and Finns use Estonia mainly when travelling to other Baltic states and Central Europe. Surprisingly, the share of Estonian transit passengers to Finland (14%) is approximately the same as Finnish transit passengers via Estonia (13%); however, the number of Finns is – of course – several times higher. The days of the transit concentrates on week-ends for the Finns, but for Estonians the days approximately equal (Figure 19).

About 3% of travelers choose air transport instead of sea. The main reason for air travel is shorter travelling time (Figure 20). This is the case in particular for transit passengers.

Cargo transportation

Last twenty years there has been almost constant linear growth on cargo transport both ways between Helsinki and Tallinn resulting now to more than a quarter of million vehicles per year. The most common mode of transport is lorry with a driver carrying all kinds of manufactured goods (Figure 21). Since 2002 the foreign trade has remained almost on equal level, but the amount of transported tons has doubled (Figure 22). The increasing parts of the cargo are intra-industrial trade, i.e. carrying laundry from Finland to Estonia, or carrying manufactured goods for sub-assembly for another location, and transit traffic via Estonia to and from other states. Already in 2005 only 64% of trucks remained only in Estonia; the rest were travelling to other Baltic and Eastern European states (Figure 23). It has been estimated that since 2005 the share of transit traffic via Estonia to other Baltic and Eastern European states has grown a lot.

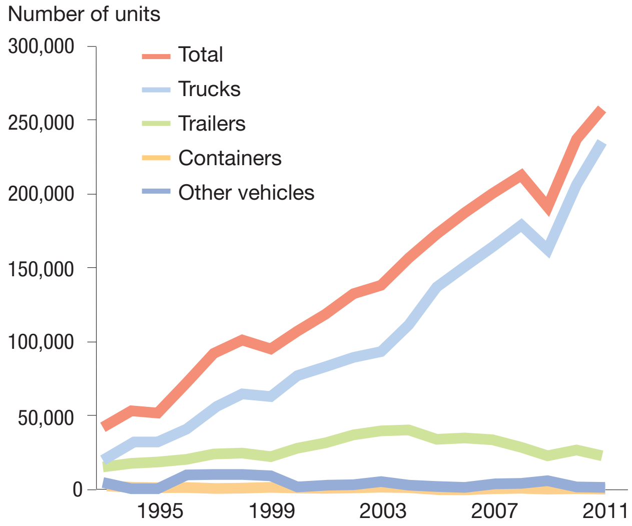

Figure 21. Transported vehicles between Helsinki and Tallinn (University of Turku, 2012)

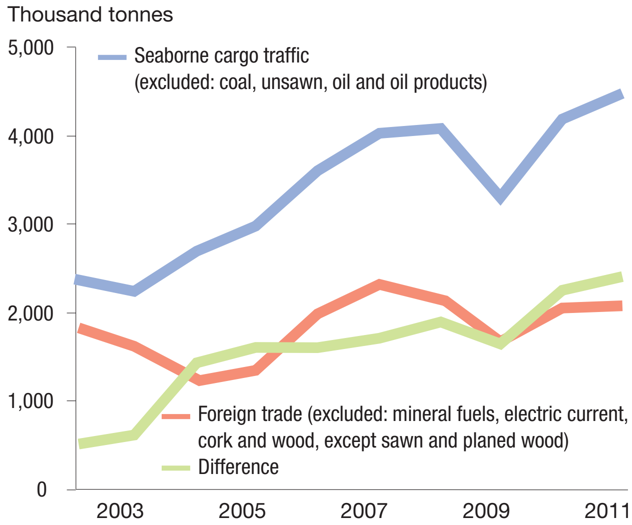

Figure 22. Comparison of Finnish-Estonian trade and seaborne cargo traffic (University of Turku, 2012)

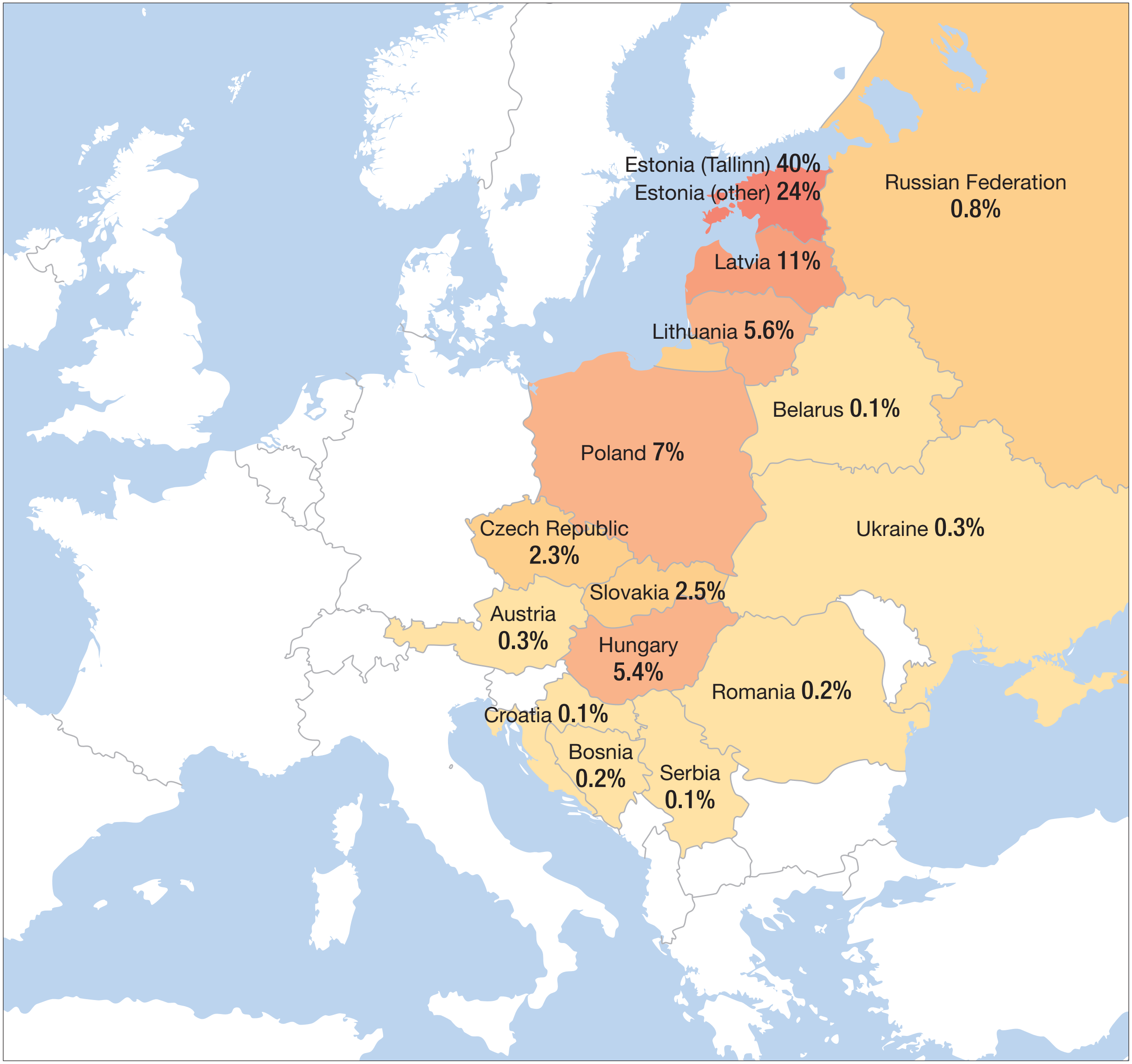

Figure 23. Destination of trucks in 2005 (Port of Helsinki, 2006)

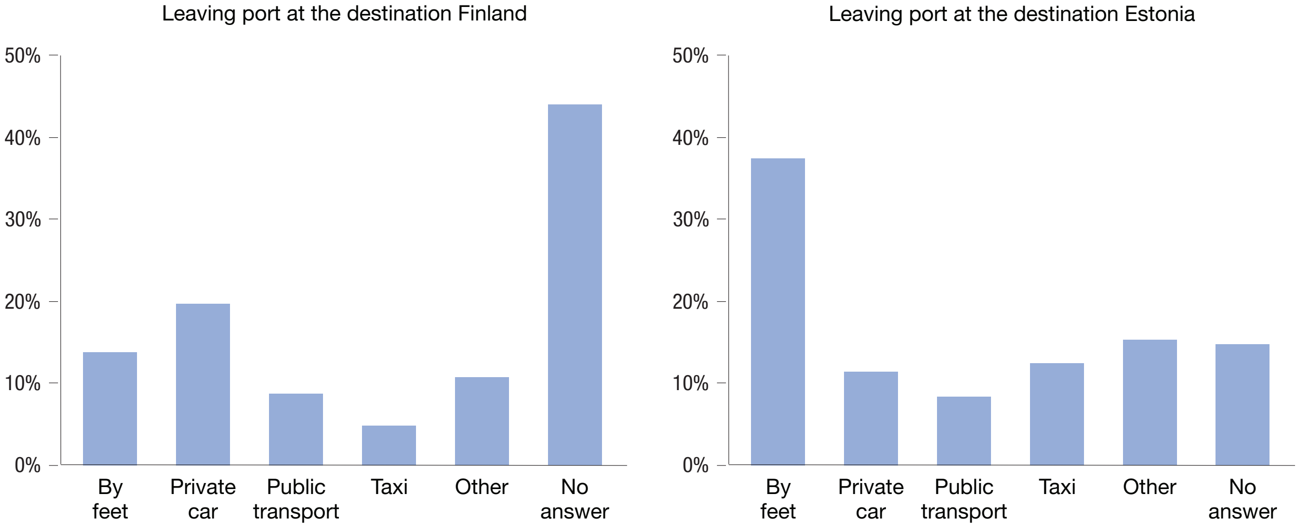

Figure 24. Working in Estonia (Innolink, 2012, preliminary results)

Passenger cars

Private car is the most common way for Estonians to access the harbor; the Finns use mainly feet but private cars and taxis are also very common. Public transportation is not popular in neither sides of the Gulf of Finland (Figure 24). When compared to any other trends the biggest growth in connection between Helsinki and Tallinn has been passenger cars that have multiplied seven times in less than 10 years (Figure 25).

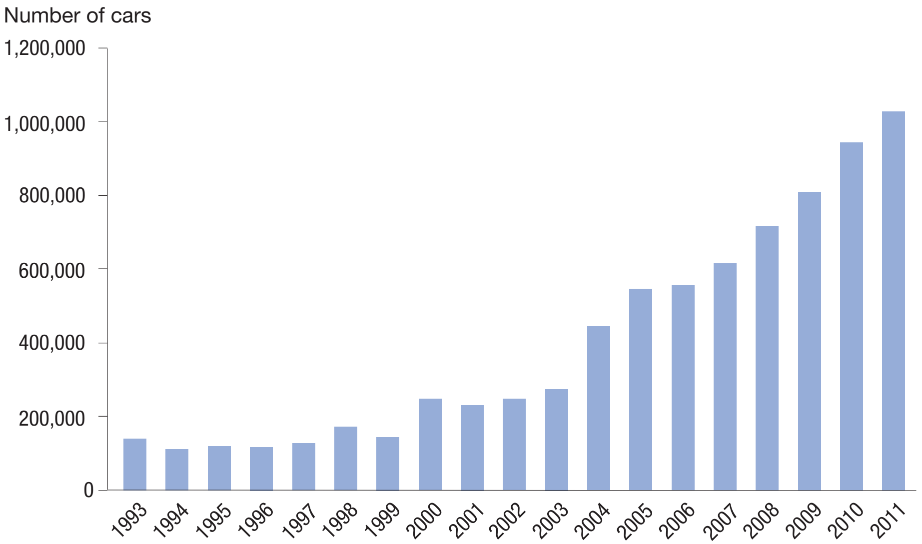

Figure 25. Number of passenger cars between Helsinki and Tallinn (University of Turku, 2012)

Business environment

Based on interview study of business environment (BDA, 2012):

- The Finnish market is still relatively closed for Estonian enterprises. Operating in Finland requires longer planning and, when it comes to potential clients, also overcoming prejudices. At times, Estonian enterprises operating in Finland are also frustrated by the Finnish labour regulations.
- In Finland, the Estonian enterprises operate in sectors similar to those in Estonia, often in slightly different ones, depending on the kind of enterprise that has been purchased there.
- For the Finnish enterprises, the Estonian market is like an extension of their home market, with the production capacity there serving other regions, too, in addition to the local consumers. Enterprises with Finnish interests have become very well integrated into the Estonian economy, operating in the same sector as in their home market.
- Estonia and Finland complement each other – the Finnish deliberateness and planning versus the Estonian readiness to take chances and experiment.
- Estonia has also helped Finnish enterprises to improve their competitive position thanks to a more favourable and more liberal business climate, a part of which is the lower cost of labour.
- As the economies integrate, the movement of people and goods will increase; the higher fares on ferries have not gone unnoticed by those using that service. Drivers are frustrated by the long drive out from the harbours in Tallinn and Helsinki.
- The various transport links (ferries, including the various ticket classes, planes, and the helicopter) meet the needs of the various consumer groups – the availability of all of them is important to the respondents.
- Integration requires “image management” at both ends – presenting Finland and Helsinki as the locations for cultural events and holidays to Estonians, and presenting Estonia as a land of positive attitudes and modern technology to Finns.

A generalisation of the above

- There are more than 7 million people travelling between Finland and Estonia; the number is increasing. The number of air travelers is under 3%. Main reason for air travel is time saving.
- Estonians travel both for leisure (incl. visiting friends and relatives) and for work almost for equal shares. Most Estonians stay in Finland more than a day, but less than a month. Only 12% of Estonians stay in a hotel, most stay with relatives, employer’s or own apartment, or it is only a day-trip.
- Half of the Finns travel only for one day, mostly on week-ends and stay overnight in hotels. About 10% of Finns are working, less than half in meetings. Many Finns come to Estonia usually only once or twice a year.
- The number of Estonians and Finns on business travel is approximately the same.
- About 14% of Estonians and Finns are in transit. Estonians are mainly going to the airport and Finns in transit continue to Baltic States.
- Cargo transport has been constantly increasing; it is mainly lorries with drivers carrying general cargo. Last 10 years the trade between Estonia and Finland is almost constant; intra-industrial trade and transit southbound are the ones increasing.
- Estonians use very much private cars; Finns travel from harbor by feet. Passenger cars on board have been increasing tremendously.
- Business cultures and circumstances differ quite much between Finland and Estonia, but the differences can be seen as a business opportunity.


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Conclusions

There are many signs of increasing social and business relationships between Finland and Estonia. There are high number of Estonians visiting friends and family in Finland and there are almost equal amount of Finns and Estonians travelling for business between the countries. The transit traffic to use Finland as a gateway to Europe by flight or Estonia as a gateway to Europe by car will remain on a considerable high level.

In addition, the reliable and fast ferry connections have made it possible for industrial and service companies to reorganize their logistics strategies, i.e. having part of the production or service on the other side of the bay, or use Estonia as a main transport gateway to Eastern Europe. Finally, Finnish companies will continue to grow in Estonia – both in number and volume – and due to small size of Estonian economy it can be estimated the Estonian companies will be expanding more and more to Finland.

It can be estimated, that the passenger traffic will continue growing, but on a moderate growth rate. However, due to tight business and family relationships the number of passenger cars are likely to continue growing as long as the level of price of travel remains low.

In addition, there are likely to be more and more cargo transport between the cities, both due to growing of Estonian and Eastern European economies and reorganization of logistics strategies of companies. There are also global drivers that may change the picture, e.g. tightening environmental regulations that may change the attractiveness of various transport modes, new transport corridors in the Northern Europe including Russian and overall economic competitiveness of Finland and Estonia.

“Thorny road to cooperation”

Merle Krigul, and Katri-Liis Lepik

Introduction

The concepts of the Helsinki-Tallinn twin-city and twin-city region have been embedded in the official rhetoric of the city and regional administrations in Estonia and Finland. Many visions, development plans, reports and presentations have been compiled. However, the progress so far has been modest compared to the ambitions spelled out in the plans. Accordingly, the authors of the article have decided to investigate its reasons.

It is generally not considered good manners to talk about barriers obstructing closer integration between neighbours. However, reticence or denial do not contribute to progress. Usually the aspect of barriers is not discussed in vis-à-vis conversations either and the different attitudes are hidden by bringing out the different working cultures which has essentially a derogatory connotation as either nation considers its culture superior to that of the other.

Triple-helix cooperation, which is topical in Finland, Estonia, and recently between Finland and Estonia, is a particularly complicated type of cooperation. Many enterprises, more in Estonia than in Finland, face problems in cooperating with the research institutions and universities of their own country. If this is compounded by the cross-border element and cultural differences, the situation becomes even more difficult.

The article addresses the barriers obstructing regional integration between Uusimaa and Harju County the way the authors have detected them from the interviews with the so-called triple-helix partners or people representing private, public and academic sectors of Estonia and Finland.

Triple-helix and Networking in Estonia and in Finland

In order to address the issue of regional integration and the reducing of regional disparities, the authors have interviewed the representatives of the three sectors from Estonia and from Finland.

The criteria for selecting the interviewees were: (a) they include experts in the studied field and had personal experience in it, (b) they represent different operative functions or areas of expertise in the field, including top managerial positions, and (c) their interests lie in Estonian-Finnish cross-border development issues. The interviewees were promised that the interviews would be confidential and that when reporting the results, the interviewees’ identities would not be linked to their statements in the interviews. The interviews were conducted from January to March 2012.

The main research questions investigated the understanding of social cohesion and its differences in Estonia and Finland, the triple-helix cooperation experiences and their barriers and the cross-border aspect in carrying out triple-helix collaboration. Cooperation across national borders in general is not only the technical inter-linkage of two or more different systems of governance. It also has to bring together different people and social systems with differing systems of values. There is a difference between the type of linkages that can be established between companies or a company and a research institution, a public institution and a company, or a public institution and a research organisation. The development processes become especially complex when the ideas offered as a result of the cooperation of various sectors become implemented with novel methods, and the services and products are to be created together with citizens/end-users. In several cases such cooperation does not tend to flourish because of horizontal cross-sectorial barriers. However, those barriers are not often spoken about and have not been investigated to the authors' knowledge in Estonia or Finland in the cross-border and cross-sectoral framework. This research provides the first stage of the exploratory work in this area trying to map the obstructions in cross-border cooperation.

Based on the research, there are visible signs of growing integration between two capital regions. More than seven million return trips are taken between Tallinn and Helsinki every year. The physical distance is short. According to the networking theory, cooperation decisions are based on human considerations – physical proximity matters. The similarity of languages also supports regional integration. The low language barrier and short distances make the sharing of competencies in different locations easier. It takes relatively little time and finances to share knowledge and people between production and development units in different locations in Finland and Estonia. According to respondents, understanding each others' language provides an important prerequisite for sharing competencies. Territorial proximity favours deeper economic integration as it is easy for people, goods and knowledge to move from one region to another.

The majority of interviewees stated that Estonia and Finland mutually complement each other. Finland is known for its long-term strategic planning as a consensus society and Estonia provides a testing ground for new ideas. In the private sector, Estonia has increased competitive advantage of Finnish companies by providing more open and favourable business climate with lower labour costs. In general, the business climate in Estonia was seen as more open by the respondents as compared to the Finnish market. Entry to the Finnish market has appeared difficult for Estonian businesses especially due to the prejudices against Estonian companies, their products and/or services, rigid regulatory frameworks and labour relations. In addition to the need for the European Union certificates, there are additional Finnish certificates that need to be obtained. The market positions have already been divided among the Finnish companies and this results in further barriers to entering the market. The Finnish subsidiaries have come to the Estonian market due to its significantly greater business freedom and the business-friendly environment. It was explained not only with the right-wing government in Estonia, but also with path-dependency which is reflected by the duration of the system and allows much less rigidity in Estonia. For example, the ID-card based, mobile and electronic services and data exchange environments between officials and citizens like X-road are very difficult to be introduced in Finland. As Finland has spent large resources on creating its systems, it is very difficult to innovate them and justify the changes to the electorate.

The Finnish companies have entered Estonian market due to the openness of the market but comparatively there have been 100 times less Estonian companies in the Finnish market in 2010 due to protectionism. However, entering of each others markets would provide added business opportunities. The Finnish society has a tendency of moving towards protectionism. The only exception is top-level research at the universities where the academics are more open-minded and welcome integration when they see that both sides can benefit from it.

The Finns tend to think of Estonia as being spoilt with ICT solutions. In Estonia it is easy to start a business and open a bank account, compared to a situation in which one needs various authorisations before being allowed to start. Registration of a new business via Internet in Estonia takes about 20 minutes. In Finland, things are moving in slow motion. Estonia was seen as more inventive and resourceful. The Finnish academic and public sector representatives considered Estonia market-oriented and entrepreneurial. However, the Finnish respondents also pointed out the downsides of it. It was brought out that the foundations of the Estonian and Finnish societies differ, as Finland is a welfare society where people can trust the society to take care of them, whereas in Estonia everyone must cope on their own. The Estonian tax environment was a subject of discussion to all respondents, as in Estonia there is a flat taxation and in Finland progressive. However, in Finland the educated people were claimed to be happy to pay high taxes as they can expect and receive services from the society in return for those taxes paid. The representatives of the business sector in Finland are expected to take social responsibility. Also university centres return the results of education and research to the society. Each academic feels the need to contribute back to the society as the taxes have been paid for their education.

The respondents from both sides of the Gulf pointed out notable differences in working cultures. The Estonian experts claimed that there are strictly regulated codes of conduct and working time for employees in Finland, both in public and private sectors and a very high minimum wage, making it impossible to provide services which require low qualifications. Trade union rules are also restrictive to the employees who do not wish to comply with these rules.

Compared to the public and research sector cooperation between Estonia and Finland, companies are definitely forerunners here. According to respondents, Finland is nowadays going too far on striving for the competitive edge, as very high-level research is demanded even in the areas where it is unsuitable, e.g. in all areas of the social sciences. Peer-reviewed academic articles from accountants are required, for example. Hence, the universities in Finland have taken more globally competitive goals and are targeting big markets like China, India, Japan and Brazil. However, respondents believed that the cross-border cooperation would deepen due to the increase in the serious common problems.

Regarding the research environment, around 2005–2007 there was extensive discussion in Finland about universities’ third role in the society or dealing with rural development aspects. In relations with the university reform in Finland such third role has been dropped and replaced by urban as well as global issues. One of the clear examples of close cooperation between public and research sector in Finland was the establishment of urban professorships at Helsinki University by the City of Helsinki. Tallinn has failed to initiate corresponding activities so far.

Regarding interrelations with the public sector, respondents from the business sector pointed out the inability of the local governments to actively help businesses. Local governments also lack direct interest in investing in the living environment for the benefit of businesses, since it would be returned only in a very indirect manner through income tax of employees. This statement was prevalent on the Estonian side. There are more traditions and options in Finland by which the state creates opportunities for promoting businesses.

The respondents expressed insecurity relating to the legislation in Estonia as it may change suddenly and without a wider discussion. This creates an insecure situation due to which it is beneficial to have alternative sources of income (e.g., from Finland).

The respondents believe that both countries need a reputation campaign. The campaign should introduce the scientific and technological achievements of both countries, as the decision-making is based on perceptions even in knowledge intensive companies

Conclusions

Signs of regional integration between Finland and Estonia are apparent: in addition to spatial proximity, positive earlier experience, knowledge of each other, and successful past cooperation matter. This kind of setting is more difficult to have in cross-border cooperation with partners from different countries, as questions about the amount of contributions by the partners and the sharing of eventual results occurs more sharply. Still, the triple helix cooperation and cross-border (triple helix) cooperation face obstructions.

It became evident that the Estonian society is considerably more open to the representatives of Finland than Finland is to Estonians. In Finland, the problems lie in reclusion, division of the market, labour relations and prejudices against the Estonian operators and their products/services. A large number of barriers were identified which can be grouped into: (a) disparities in the society (welfare society and strong trade unions in Finland versus market-orientation and flexible employment rules in Estonia; (b) disparities in services (well developed and innovative ICT sector, but cheap labour force and services in Estonia versus inflexible systems and expensive labour force in Finland); (c) mental barriers (mistrust from the Finnish side versus flexibility from the Estonian side); (d) different working cultures (rigid, well-planned, long-term decision-making in Finland versus hectic, fast and irregular plans and their implementation in Estonia; (e) differences in legal environments.

Since the low levels of joint marketing were pointed out, cross-border inter-sectoral cooperation could be based on win-win principles. One of the options could be that the Estonian and Finnish institutions form bodies to conquer markets of scale.

Cross-border knowledge sharing might accelerate the diminishing of cross-border disparities and the progress of regional integration. An important trend to consider is the enhancement of innovation and change by the public sector: innovation in the public sector itself and the enterprises belonging to it. Knowledge intensive services could be designed not only for resolving current problems, but also for the restructuring of sectors. However, the ways of overcoming the identified barriers should be a subject for further research.