TransBaltic

Towards an integrated transport system in the Baltic Sea Region

TRANSBALTIC POLICY REPORT 2010

Project part-financed
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Baltic Sea Region
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REGION SKÅNE

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Introduction

The overall objective of TransBaltic is to provide regional level incentives for the creation of a comprehensive multimodal transport system in the BSR. This is to be achieved by means of joint transport development measures and jointly implemented business concepts.

As underlined in the European Union Strategy for the Baltic Sea Region, appropriate public policy response is needed to increase the accessibility of territories and the quality of connections, and to master the increasing flows in and across the Region. TransBaltic is going to contribute to the implementation of the EU Baltic Sea Strategy by adding a sustainable regional development dimension to the harmonisation actions, which are planned by the national transport ministries. Furthermore, the project will demonstrate such solutions for the EU transport and cohesion policies, which respect the specificity of the Baltic Sea Region and the need for its economic, social and territorial cohesion.

TransBaltic, as one of few transnational projects so far, has been granted a strategic status by the authorities of the Baltic Sea Region Programme 2007-2013. In that way the decision-makers acknowledged the role of TransBaltic in fostering the sustainable development of the Region, the project's wide geographical coverage, the deep focus on implementation and the strong political backup at the national level.

With this policy report, we intend to provide evidence and raise awareness of future developments among politicians, officials and private enterprises active in the area of transport and logistics. In that way we wish to inspire them for taking up relevant policy actions.

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CHAPTER 1 Turbulent passage to the upturn trend

AS emphasised at the 2009 conference of the International Transport Forum (ITF), the global economic downturn has placed severe constraints on many manufacturers, transport operators and facilities. This, in turn, has created consequences for the many millions who work in, and depend on the transport sector.

One reason argued by the ITF for the big impact of the economic downturn on trade is the geographical fragmentation of production processes (OECD 2009). Globalisation of production has been facilitated by transport and it has intensified the volatility of trade and of transport flows. Transport is therefore increasingly exposed to macroeconomic risk.

The Key Transport Statistics report issued by the OECD (OECD 2009) estimates that in 2009 the world GDP fell by 2.3%, compared with the previous year. The GDP of the European Union declined by 4.2%, while in the United States and Russia it dropped 2.4% and 7.9%, respectively.

Triggered by the economic downturn, the volumes traded worldwide diminished by 12%. In the EU, the intensity of rail and road traffic (measured in tonne-km) decreased by 23% and 21%, respectively (based on preliminary data). On the seas, the world container traffic was worst hurt; falling by 26% as over 6 million TEUs were withdrawn in the time span of one year due to overcapacity (Mijland 2010, Wray 2010). As of 1 January 2010, 581 container ships (almost 12% of the world's fleet capacity) were put on hold (Landa 2010).

Fig. 1: 'The ghost fleet' of the idle container ships near Singapore. The biggest gathering of vessels in maritime history.

Source: Daily Mail online (28 September 2009), www.dailymail.co.uk

The BDF State of the Region Report 2010 (BDF 2010b) takes note that the Baltic Sea Region had until 2008 grown at rates close to the global average, significantly above the level of the North American and the Western European economies. Then in 2009, it experienced a much more dramatic drop then other world regions. Within the Baltic Sea Region, Poland was the only country with positive growth. Norway followed with a moderate decline. The Baltic countries saw GDP drop by around 15%-20%, with the rest of the Region losing by 5% to 10%.

In 2009 container volumes in the Nordic/Baltic region faced a decline of about 20% (Wray 2010). This hit particularly the markets of the countries with a remarkable role of transit traffic. In Finland, container volumes (in TEUs) collapsed by 31% compared with 2008, while transit traffic (in tonnes) fell by 25%. The ports of Kotka and Hamina, which in over one third of the capacity serve Russian trade, suffered the loss of between 40 and 50% of the container volumes. In effect, the port of Kotka lost supremacy in container turnover to Helsinki (Saurama 2010).

The economic downturn brings a threat to degrade the Region's position on international markets. The recorded fall in export volumes is over the figures that would result purely from the reduction in trade due to global trends and seems more prolonged than for other exporting countries (BDF 2010b).

A slight recovery in the global economy observed in early 2010 provokes a question whether it may soon return to a sustainable development path and whether a business-as-usual scenario in trade flows is likely to occur. In that context, several challenges have been identified by a number of international gatherings (e.g. International Transport Forum, Baltic Development Forum, Baltic Ports Organisation) to steer the policy-making agenda in the forthcoming years.
Among them are:

- Diversified recovery rate, slow in advanced economies, notably in Europe, and fast in emerging economies, which has led to resurgence of capital flows to the latter;
- Current demographic and economic tendencies, such as: the increase in global population, continued trend toward urbanisation or ageing of the population, which altogether will exert significant pressure on the transport networks;
- Increasing energy use and CO2 emissions from the transport sector vis-à-vis the dilemma of maintaining and improving mobility as the basic service provided by transport;

Fig.2: Economic growth in the Baltic Sea Region countries in 2009. Areas are deformed in proportion to the growth rates.

Source: own processing based on BDF (2010b)

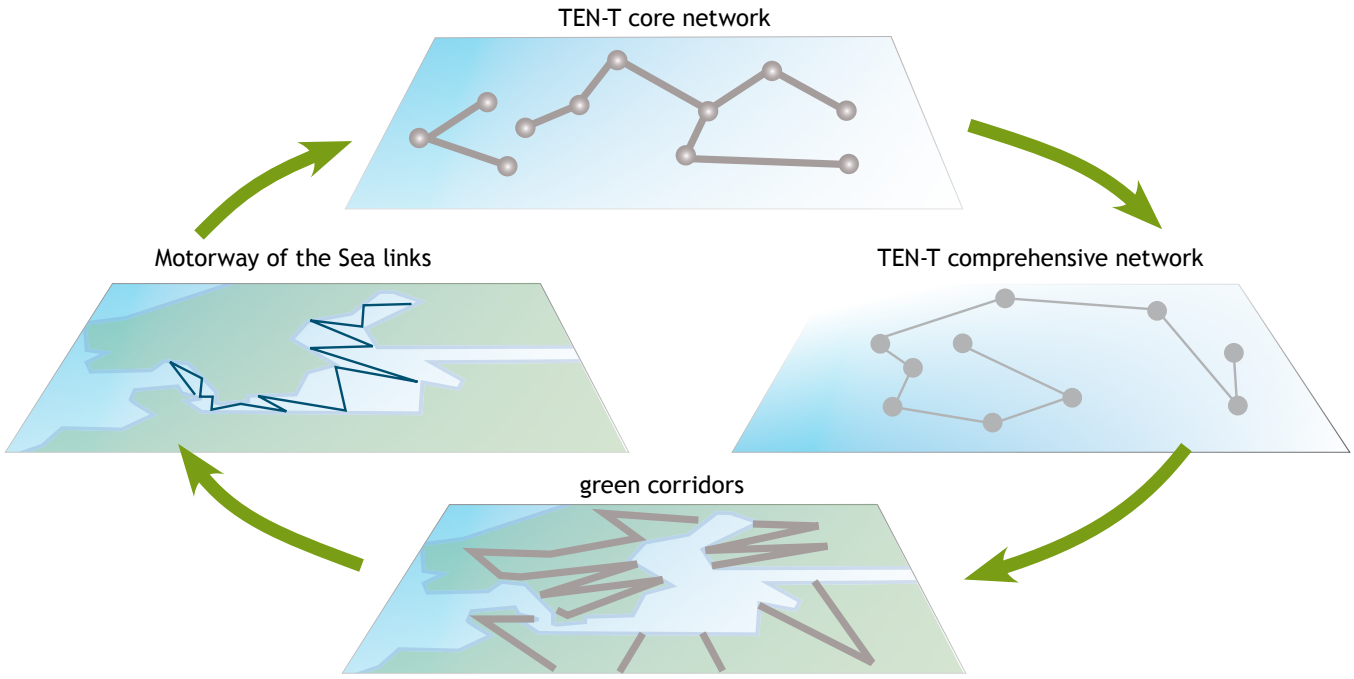
- Consolidation processes in the global logistics sector, with emergence of new global 'mega players', for whom transport operation itself will no longer be the major part of the turnover;
- Rising energy prices and environmental factors, which could lead to an increased demand for short sea shipping and intermodal transport;
- Growing pressure on the public authorities for better international cooperation in addressing legislative and regulatory barriers in intermodal transport and in coordination of infrastructure investment programmes;
- Unreliable forecasts that relied on trade patterns in the pre-downturn circumstances.

A turbulent passage to the upturn trend requires committed leadership and collaborative action. For the Baltic Sea Region it means a systemic policy response that will make the transport infrastructure, facilities and workforce better cope with the global trade competition.

The following chapter reviews current transport policies and initiatives at various governance levels that set a scene for architecting the future transport system in the Baltic Sea Region.

CHAPTER 2 Policies in the stage of transition

An integrated system.
The vision of transport by the European Commission



The Commission has launched a process of developing a new transport agenda to replace the old one (White Paper 2001), which reached the end of the ten-year validity period. As stated in the introductory communication (Communication on the Future on Transport, adopted by the Commission on 17th June 2009), the complexity of the transport system makes any EU intervention in the transport sector to be based on a long-term vision for the sustainable mobility of people and goods.

As emphasised in the aforementioned Communication, the future transport system of the European Union should provide efficient travel and freight solutions, and better address environmental and climate change challenges. In effect, two essential objectives will be fulfilled: the mobility needs of citizens and businesses, and economic competitiveness of the European Union. Another role of the system is related with its performance outside the EU borders, as the new technological and organisational solutions in transport could be exported and/or applied in other countries.

In order to meet the above objectives, the future transport system ought to reveal particular features. It needs to be more environmentally sustainable than today, use advanced technology, offer quality public services and quality jobs, be more efficient by smart pricing, and – finally - improve accessibility through sound land planning and location decisions (European Commission 2009a).

The communication paper sets directions for the transport policies to accomplish the designed vision. One of them would be to upgrade and expand the infrastructure from largely separated modal networks, where even within modes there is a lack of integration between countries - towards a single, integrated transport network. Such an optimisation requires that the strengths of each mode are well exploited in combination (co-modality). Furthermore, particular

attention should be placed on network nodes, which connect individual modes of transport and where there is a potential for consolidation of passenger and freight flows. This is the case of urban areas and intersections of high volume corridors.

Emergence of an integrated European transport system will be supported by the reviewed TEN-T policy. The process, launched in February 2009 with the publishing of the Green Paper on the future development of the trans-European transport network (European Commission, 2009c), features an innovative planning approach. In line with the most preferred option, the future TEN-T network shall be composed of two layers – 'core network' and 'comprehensive network'.

The **comprehensive network** will constitute a basic layer of the TEN-T. It should enable co-modal services for passengers and freight on the whole EU territory. Therefore, it should integrate current rail, road, inland waterways, ports and airports networks from all EU regions.

The future comprehensive network will be based on the current layout of TEN-T links. To ensure homogeneous network planning and the interconnection of national networks, it may see new elements such as dead ends, isolated links or missing links and nodes in the present set-up, especially in the new Member States.

The **core network** will overlay the comprehensive network and contain axes and nodes of strategic importance for transport flows within the internal EU market and between the EU, its neighbours and other parts of the world. It will thus be directly supporting social, economic and territorial cohesion of the European Union.

The core network will cover all modes of transport. It should not be understood as a network that covers only the geographical core of the Community, but rather as the part of the TEN-T, which would see concentration of various financial and non-financial instruments. For maximum continuity, the current priority projects will form a key part of the core network.

Technical parameters of the core network will depend on the intended function, traffic volumes and operational aspects, such as the required level of service and the goal of creating homogeneous conditions along an axis.

Internally, the core network will be built of two categories of nodes. The main nodes will include large urban centres (e.g. capitals of the Member States and other cities or agglomerations of supra-regional importance in administration, economy, social and cultural life and transport) and transport hubs (gateway ports, intercontinental hub ports and airports, connecting the EU with the outside world, and the most important inland ports and freight terminals). The intermediate nodes will encompass smaller or less important cities, airports, freight terminals etc., which will be given specific functions after integration in the network.

The core network is deemed to assume geometrical shape, as it will be stretched as directly as possible along corridors conveying important long-distance or international (potential) traffic flows. Deviations from that ideal shape will be allowed in order to meet traffic needs, whenever economically viable and with environmental aspects taken into account. In practice, detours will be necessary:

- to include intermediate nodes, if justified by corresponding benefits greater than disadvantages,
- to follow, as far as possible, infrastructure that already exists or is being implemented,
- to allow bundling of traffic flows in order to increase efficiency and sustainability,
- to allow the splitting of passenger and freight flows when justified, and
- to bypass unavoidable natural obstacles, settlement areas and vulnerable and environmentally sensitive areas.

The core network will also include intelligent transport systems (ITS) and will be open for further infrastructural elements, which will be needed to achieve various policy objectives in transport and other sectors.

Integration of modal networks is a policy area, which can make use of specific initiatives, so far kept separate in the transport policy domain. While dedicated rail freight corridors are already decided for assimilation in the new TEN-T network, **the concept of green corridors has not been yet adequately absorbed in the policy planning process.**

With the purpose to optimise transport chains, remove bottlenecks, reduce congestion and environmental pollution, an interest in the green corridors concept is placed on long distance routes with a concentration of freight traffic between major hubs. As stated in the Freight Transport Logistics Action Plan (European Commission, 2007), green corridors shall demonstrate a number of distinctive features, such as:

- low impacts on the human and natural environment, including safety and security issues as well as energy efficiency;
- complementarity of services offered by short sea shipping, rail, inland waterways and road transport modes to enable an optimal and sustainable utilisation of resources (principle of co-modality);
- presence of adequate transhipment facilities at strategic locations (such as seaports, inland ports, marshalling yards and other relevant logistics sites) and supply points (biofuels and other forms of green propulsion);
- harmonised system of rules developed from a customer perspective, with openness for all actors interested in the corridor services;
- platform for innovation and testing polygon for new transport technologies and intelligent transport applications.

The **Motorways of the Sea** is another policy area aiming to bring more sustainability and commercial efficiency to logistics chains in Europe. Affirmed by the revised TEN-T guidelines from 2004, the Motorways of the Sea have become an integral component of the transport infrastructure.

Evolving from an original setup of four EU Motorways of the Sea, the ultimate trans-European network of sea motorways is meant to concentrate freight flows on sea-based logistical routes and fully exploit the potential of intra-European short sea shipping. The network should encompass both facilities and infrastructure on existing and newly established connections between eligible pairs of ports in two different Member States. The characteristic elements include: port facilities, electronic logistics management systems, safety, security, administrative and customs procedures as well as infrastructure for direct land and sea access, with equipment ensuring year-round navigability.

The added value of the Motorways of the Sea is perceived in stimulating modal shift in the transport of goods between Member States, which acts in favour of reducing road congestion. This, however, requires a fuller use of the potential in rail and inland waterway, as part of an integrated transport chain. Also, a vital asset of that policy is seen in improving access to peripheral and island regions of the EU, thus in increasing territorial cohesion.

Apart from the network considerations, the architecture for the future transport system of the European Union comprises a number of **other measures**. Among them are:

- ICT solutions (to support better management and integration of transport flows),
- legislative framework (to promote further market opening and fostering competition in transport),
- funding issues (to find resources for sustainable transport, including internalisation of external costs of transport),
- behaviour (to educate, inform and involve broader public),
- governance (to develop effective and coordinated action of different actors involved at various levels of government in order to avoid conflicting approaches),

- external dimension (to raise awareness of EU transport policy internationally and to ensure further integration with neighbouring countries).

More detailed information on the policies shaping the above measures is available in the TransBaltic inventory report (Eide 2010).

Integrated transport system in the diversified European territory

The European Commission's Green Paper on Territorial Cohesion, issued in 2008, takes up an issue of a rich territorial diversity of the European Union. It argues that in a globalising and interrelated world economy, the competitiveness and prosperity of various places in the EU depend on the capacity of the people and businesses located there both to make the best use of the potential of such places and to build links with other territories. To meet the objective of the harmonious development of the whole EU area by exploiting these local potentials and connecting them across the space is at the heart of the EU **territorial cohesion policy**.

Transport is listed among those sector policies that bear a specific territorial impact. The document of the Territorial Agenda of the European Union (2007) emphasises that mobility and accessibility are key pre-requisites for economic development in all regions of the EU. **To meet the requirements for mobility in a polycentric European territory, it is important to secure integrated and sustainable development of multimodal transport systems.**

At the same time, however, any policy dedicated to the shaping of integrated multimodal transport systems has obvious implications for territorial cohesion. On one hand, it improves connections to and within less developed regions, on the other – it affects the location of economic activity and the pattern of settlements. Further, it will always address specific territorial problems, like an uneven distribution of transport infrastructure and facilities (e.g. primary road and rail links, terminals etc.) or access to services (e.g. public transport). Several problems of that kind exceed limits of particular sectors and do not respect administrative boundaries; hence they require an integrated approach and cooperative response from various authorities and stakeholders.

The currently debated EU Cohesion Policy (whereof the territorial cohesion is a part, on par with economic and social cohesion) pursues a new paradigm of a **place-based approach**. Such an approach is given ground in the Barca's report (2009) and manifests itself in three particular features:

- local specificity of natural and institutional resources as well as of individual preferences and knowledge,
- the role played by the material and immaterial linkages between places, and
- the resulting need for interventions to be tailored to specific places.

A **place-based development policy** can therefore be defined as a long-term set of actions whose objective is to reduce persistent inefficiency (underutilisation of the potential) and inequality (share of people below a given standard of well-being) in specific places. Such a policy should lead to the production of place-tailored public goods and services, based on local preferences and knowledge, with linkages established with other places. This production shall be accomplished in a participatory process with an installed system of multilevel governance.

In other words, the place-based policy shall demonstrate a distinct local dimension, which ensures that actions are designed and implemented with local knowledge.

Transport policy vs. cohesion policy. Test case of the EU Baltic Sea Strategy

This macroregional and multi-sectoral strategy (European Commission, 2009b) is a pioneering policy act, first of its kind in the EU history. It provides an integrated framework that allows the European Union and Member States to address those challenges for the sustainable development of the whole Baltic Sea Region territory, which require coordination of appropriate policies and joint action.

As underlined in the document, the Strategy is an ideal case of for the application of a territorial cohesion approach. First, it is justified by the character of the Baltic Sea Region as a functional area - that is as an area covering many administrative regions but with shared territorial challenges. Second, it concerns mutually interlinked issues, such as: environment, innovation, accessibility, and safety and security. Third, the complexity of problems requires a common strategic vision to guide future territorial development of the Baltic Sea Region and calls for a joint implementation as no single stakeholder can apply the range of measures necessary to confront the challenges and exploit the opportunities. Testing of this macroregional approach may thus help develop an innovative policy instrument at the EU level to more effectively coordinate territorial and sectoral policies.

The associated Action Plan, of indicative character, is organised around four thematic pillars and contains a number of so called priority areas and actions, which will be implemented by the involved actors, such as the European Union, Member States, regions, pan-Baltic organisations, financing institutions and non-governmental bodies. One of those priority areas relates to the improvement of internal and external transport links (Priority Area 11, PA 11).

Main challenge for the future transport development in the Baltic Sea Region is perceived, by the Strategy makers, in reduction of its remoteness. This requires better links within the region in order to overcome the infrastructure shortfalls of the eastern and south-eastern parts as well as better connections to Russia, the Black Sea and the Mediterranean regions. In prospect, this might further increase the region's potential as an EU's gateway to Asia.

The primary strategic action taken up in PA 11 is to *'Coordinate national transport policies and infrastructure investments'*. The agenda contains a number of specific issues contributing to the better accessibility of the Baltic Sea Region, such as: timely completion of the agreed TEN-T priority projects, interoperability of transport systems, icebreaking, co-modality, user charging schemes, transport research and development, new solutions in particular in traffic management systems, promotion of inland waterway and estuary navigation etc. Among them are also soft measures, which relate to the sharing of best practices or formulation of joint position on the EU transport policy-making processes.

The priority area features also a few cooperative actions, which signal a need for enhanced collaboration between Member States and stakeholders. They revolve around a removal of infrastructural and non-infrastructural bottlenecks for major transport connections (e.g. in connection to Russia and other neighbouring countries), and for intermodal transport in the whole Baltic Sea Region (with focus on short sea shipping).

The document lists some specific directions of joint actions (so called flagship projects) and leaves room for further initiatives. One of them, as proposed by Sweden, is to make a joint study in order to achieve better prerequisites for national long-term infrastructure planning in the Baltic Sea Region.

The **Baltic Transport Outlook** aims to describe the current transport flows used by all transport modes in the Baltic Sea Region, infrastructure status, bottlenecks, and to develop forecasts until year 2030. The study would also identify infrastructure gaps, which are important for the whole Region, and suggest

relevant measures to eliminate them. The geographical scope of the study is determined by the membership of the stakeholders in the Council of the Baltic Sea States (that is with North-West Russia but without Belarus). Results are expected to be delivered in autumn 2011.

The Baltic Transport Outlook, in intention of the Swedish Ministry of Enterprise, Energy and Communications, should contribute to a joint awareness of future challenges and potentials for the transport system in the Region, better and similar planning systems throughout the Region, and to better knowledge exchange of national and regional transport systems.

However, both the Baltic Transport Outlook and some other current and future initiatives stemming from the EU Baltic Sea Strategy in PA 11 (investigation for optional new connections to the East and Far East in the context of the BSR as a gateway to Asia, practical implementation of the Green Corridor concept or development of the Baltic Motorways of the Seas network) are challenged by their geographical scale and multi-sector dimension. **They, hence, may become a good polygon for streamlining the transport policy with the cohesion policy within the framework of the Strategy.**

First aspect in the context of streamlining relates to the geographical scale. In order to become relevant and meaningful for the whole functional area of the Baltic Sea Region, the above initiatives need to encompass not only the Member States but also territories of the neighbouring countries, and especially Russia and Belarus. The Northern Dimension Partnership on Transport and Logistics, in the state of formation, may become a right forum to identify interests of these countries in pursuing such initiatives.

Second aspect dwells on the territorial impact, which those initiatives are likely to exert, and therefore points at their contribution to the territorial cohesion of the Baltic Sea Region. In the spirit of the place-based development policy, their implementation approach should include the perspective of the sustainable regional development and employ a participatory process, with applied competence of local (pan-Baltic) stakeholders.

An overview of pan-Baltic transport integration efforts preceding the emergence of the EU Baltic Sea Strategy is presented in the next chapter.

An integrated transport system - heritage of the pan-Baltic cooperation networks

Stage 1: Segmented efforts of cooperation networks (1992-2005)

The period of 1992-2005 saw the building up of common knowledge and running a dialogue on joint transport development priorities in the Baltic Sea Region. A primary role in that respect was assumed by the **intergovernmental organisations**, which through an analytical process developed several postulative guidelines and pilot actions.

The cooperating four intergovernmental networks - Council of the Baltic Sea States (CBSS), Baltic 21, VASAB 2010 and HELCOM - developed mutual inspirations seen in ministerial declarations where several references to the other 'cooperatives of the states' were placed. Yet, those actions, notwithstanding their contribution to the joint thinking about the transport development in the Region, revealed three particular weaknesses:

- disinterest of main stakeholders in further strategic cooperation because of conviction that after the EU enlargement all priority issues may be resolved bilaterally between each Member State and the European Commission through dedicated programmes and funds;
- lack of a comprehensive approach to the transport development in the Baltic Sea Region - both in terms of the geographical area and relevant topics, resulting in certain segmentation of efforts;

- weak dialogue with non-governmental organisations interested in pursuing their own priorities in the field of transport development.

An example of the latter is an initiative named 'Triple Trade in Ten Years' and formulated by the Baltic Sea Chamber of Commerce Association (BCCA). In the report (BCCA 2003), the Association pointed at a huge untapped potential in Baltic Sea trade that may be tripled in the following ten year's period. The identified focal areas (seeing trade as a positive factor to promote wealth and freedom; involving Russia; free movement of labour, capital, services and products on the internal market; and improving the infrastructure) would, according to the BCCA, require preparation of a White Paper on Transportation in the Baltic Sea Region, to which the Association was ready to commit themselves.

That particular initiative was, regretfully, not farther echoed in the pan-Baltic transport planning process, likewise so called Round Table Meetings (2003-2005) organised by the Baltic Development Forum. Results of altogether seven events attended by business executives from a large number of private companies were summarised in a thematic report (BDF 2005). The report contains private sector priorities for development of the transport sector and infrastructure in the Baltic Sea Region, which are groped into five themes, namely: (1) Visions for regional transport infrastructure and the role of public private partnerships, (2) Motorways of the Baltic Sea, (3) Need, value and importance of promotion of demand driven air transport networks, (4) Need, value and importance of promotion of the 'Baltic Sea Region of Modern Freight Intermodality' and (5) Development of a fast track harmonisation pilot programme.

With somewhat hibernated work on the comprehensive transport development policies in the Baltic Sea Region at the state level between 2006 and 2008, the initiative was assumed by the regional authorities gathered in the pan-Baltic organisations.

Stage 2: Framework for the Baltic Sea Region multimodal transport strategy (2006-2008)

In late 2005 the Steering Committee of the BSR Interreg IIIB Neighbourhood Programme granted funding to the **InterBaltic project**, initiated by the Baltic Sea Commission of the CPMR. The project gathered 43 partners from 10 countries and was dedicated to provision of recommendations to private and public decision-makers at regional, national and international level – on building up efficient intermodal transport systems, able to cope with the future cargo flows.

InterBaltic, inter alia, produced a **framework for the Baltic Sea Region masterplan**, which contains common transport strategy recommendations. The document comprises project findings and resulting recommendations in the following fields:

- Axes and corridors, including Euro-Asian transport connections, seen in the context of the EU transport policy developments,
- Motorways of the Baltic Sea,
- Horizontal measures, with emphasis on development needs in the EU – Russia logistics, border crossings, dry ports and information support for cooperation between the countries,
- Cooperation structures and implementation mechanisms.

Parallel to the implementation of InterBaltic, the working group on transport of the Baltic Sea States Subregional Co-operation (**BSSSC**) developed a survey of the transport planning situation in the area, with the purpose to identify common grounds as well as possible points of conflict. This process was then continued towards a more detailed **framework for a BSR multimodal transport strategy.** The document (BSSSC 2006) features:

- Rationale for the multimodal transport strategy;
- Vision for the transport system in the Baltic Sea Region as the world's most effective and sustainable;
- Strategy components: (1) New and more efficient technologies for the transfer of goods and passengers, (2) Transport network investments improving connectivity and accessibility of the territories and systems, and (3) Harmonisation of policy actions between and across various governance levels in the BSR.

The framework document dwells on the observed tendencies of fast growing east-west flows in the Region and an opportunity to absorb future transport growth through maritime services. If added to already voluminous north-south figures, such a circumstance constitutes a high potential to transform the BSR to a gateway region in serving freight and passengers traffic.

The findings of the InterBaltic project and the essence of the strategy framework document - as regards the description of challenges and measures to improve internal and external accessibility of the Region and to overcome high segmentation of its transport networks - were reflected in the document of the Baltic Sea Region Programme 2007-2013 (BSR Programme 2007). Equally important contribution to the programming work in that respect was given by VASAB, which in 2006 produced a policy document called 'Connecting Potentials' (VASAB 2006). The document reckoned transport among the factors, which contribute to the better connection of socio-economic potentials of individual territories of the Region.

Stage 3: EU Baltic Sea Strategy and TransBaltic. Where top-down and bottom-up policies meet

Over 15-years' long experience of transport governance processes in the Baltic Sea Region clearly points at three necessary factors for streamlining the top-down and bottom-up policies. These are:

- the **leadership** – manifesting itself in an active approach of both the national and the regional level to working with priority issues;
- the **political commitment** – which implies existence of a political framework to run a dialogue on priority issues, as exemplified by the EU Strategy for the Baltic Sea Region; and
- the **operational instrument** – in form of the programmes (e.g. Baltic Sea Region Programme 2007-2013) developed under the territorial cooperation objective of the EU Cohesion Policy, as a follow-up to the cross-border, transnational and interregional programmes under the Interreg Community Initiative in the period of 2000-2006.

All these elements are visible in the present stage of the pan-Baltic transport governance. A good cooperation climate is clearly facilitated by the very profile of the EU Baltic Sea Strategy, the rationale of which was based on the already existing documentation. In that way, the motives for joint actions in the transport section (PA 11) follow the storyline of the previous systemic efforts.

The **TransBaltic project** is a direct follow-up to the regional level initiatives towards pan-Baltic transport development in the period of 2006-2008. It can also be regarded as a coordinated response from the regional authorities to the challenges posed by the transport chapter of the EU Strategy for the Baltic Sea Region.

TransBaltic wishes to complement actions taken by the national authorities within the framework of the EU Baltic Sea Strategy. The action plan, seen as one of the project's final products, will contain measures, which

will address internal connectivity, interoperability and intermodality constraints of the Baltic Sea Region from the sustainable regional development perspective. The plan will also feature regional preparedness measures for the increasing intercontinental transport flows. These measures will serve to unlock investments for the better external accessibility of the Region.

TransBaltic will pay special attention to the territorial dimension of such transport development concepts brought forward under the EU Baltic Sea Strategy as: the green corridors, the network of the Baltic Sea Motorways, the Northern Axis or the gateway role of the Baltic Sea Region in the trade exchange with Asia. In that sense, the project will endeavour to practically demonstrate the benefits of streamlining the transport policy with the cohesion policy under one political framework.

A practical example of a harmonised pattern of cooperation in that respect is the mutual relation between TransBaltic and the Baltic Transport Outlook.

While being an intergovernmental action supervised by the national transport ministries of the CBSS countries, the Baltic Transport Outlook is planned to be carried out through a participatory approach with relevant national, regional and local stakeholders. As claimed by the study initiators, that is a prerequisite for successful future implementation of the results in national planning processes. Among the synergetic actions identified by the Swedish Ministry is also the TransBaltic project.

In the part dedicated to traffic analyses TransBaltic well corresponds to the Baltic Transport Outlook initiative.

First, TransBaltic will take into account additional corridors and axes to the ones selected in the Baltic Transport Outlook taking into account their importance for the sustainable growth of the whole Baltic Sea Region. Provided the same modelling methodology is chosen, this synergetic action will result in a fuller geography of current and predicted transport corridor flows in the Region.

Second, TransBaltic will come up with some specific scenarios with subregional aspects, which will result from the foresight debates (see Chapter 4). These specific scenarios will supplement the general scenarios to be processed in the Baltic Transport Outlook and will contribute to a much broader policy-making base for joint transport planning in the Region.

Third, a longer lifetime of TransBaltic will enable promoting results of traffic flow analyses in the Baltic Transport Outlook at various regional fora and thereby better harmonise them with the expectations of different subregions.

This interlinked array of the leadership, political commitment at the national and regional level, and the organisational framework induced by the European Commission will have to prove its value.

Among the most important challenges for the transport development governance in the Region will be:

- **effectiveness of complementary efforts from the national and regional tiers of the EU countries to harmonise transport infrastructure planning in the Region;**
- **involvement of Russian and Belarusian decision-makers in the implementation of transport development actions stemming from the Strategy (envisaged through the newly emerging Northern Dimension Transport and Logistics Partnership and direct cooperation);**
- **reception of results in the business sector dealing with transport and logistics in the Baltic Sea Region.**

CHAPTER 3 The integrated transport system in the Baltic Sea Region – approaching a place-based vision

The latest Commission guidelines sketch the future transport system of the European Union by presenting its purpose and functions (European Commission 2009a). The question, however, remains, to what extent that vision can be territorialised – that is adjusted to the specificity of the Baltic Sea Region.

As underlined by the participants in the 2010 International Transport Forum, visions on what the transport system could or should look like in the future, help guide innovation as they determine direction of the needed changes. Such visions can be developed in cooperation between decision-makers, stakeholders, and the public.

In case of the Baltic Sea Region, the recent downturn trends in the economy and the resulting loss of market share in global trade could herald a more permanent loss of position versus Asia (BDF 2010). Such developments even stronger urge for defining or re-defining the future role of the Baltic Sea Region in conveying internal and intercontinental transport flows.

Both in the transport section of the EU Baltic Sea Strategy and the reports by the pan-Baltic organisations at the regional level, references were given to the gateway function of the Baltic Sea Region. Further details on the elements, the transport system of the BSR should contain in order to fulfil such a function, are presented in the BSSSC document (BSSSC 2006, p.5):

- network of European and transnational multimodal transport corridors, which improve external accessibility to and from the Region,
- cross-border sections of national networks, which facilitate interoperability of transport solutions existent in the neighbouring countries,

- inter-regional and regional transport links, which improve access from the European and transnational corridors to local and regional production areas and customer markets,
- ports and airports acting as interfaces between land, sea and air transport modes, well connected with their respective hinterlands,
- network of inland waterways as a part of intermodal transport,
- facilities enabling interoperability between modes of transport, with emphasis to railroads and short sea routes,
- efficient local and regional public transportation, contributing to better mobility within commuting areas and to more compact settlement structures,
- innovative solutions in logistics, especially in port and airport operations, and in traffic monitoring systems,
- platforms for cooperation between public administration, research and business sector built to identify potentials and pave the way for future investments in intermodal services,
- harmonised policy interrelations between various administrations dealing with transport planning.

The above projection of the future transport system in the Baltic Sea Region needs validation and updating to the current circumstances. It may be regarded an input to one shared framework, which consolidates several existing visions, masterplans and strategic concepts at the pan-Baltic level. To accomplish that, **a concertation process is required that would involve BSR stakeholders in the joint thinking about an optimum performance of the Region's transport system** - in the context of the sustainable regional development and the transport gateway function.

In that direction, the TransBaltic project invited experts and decision-makers from research, industry, governments and society for discussion on natural, socio-economic and regulative processes on the European and global arenas, which may affect the development of an integrated transport system in the Baltic Sea Region. The series of foresight debates, organised by the project in March-May 2010 in five locations around the Baltic Sea, concentrated upon an issue where the transport and cohesion policies intersect – **the future geography of freight flows.**

CHAPTER 4 The future geography of freight flows in the Baltic Sea Region

The current European-wide discussion on the future orientation of the transport and cohesion policies and the observed climate change tendencies are expected to bring significant consequences for the transport patterns in the Baltic Sea Region. They will also put in question the sustainable regional development of the area. It is predicted that by the year 2030 the Region may see considerable changes in the territorial distribution of freight flows, which would set a scene anew for discussion on connectivity and accessibility of the territories around the Baltic Sea.

The new geography of freight flows in the Baltic Sea Region results from several scenarios, which take into account global trends (megatrends), emerging trends and so called 'wild cards' (unpredictable events with high impact). The following table provides a summary of such factors used in constructing the future scenarios in the transport and mobility sphere.

	MEGATRENDS	SEEDS (EMERGING TRENDS)	WILD CARDS
DEMOGRAPHY AND SETTLEMENT PATTERNS	• World population growth • Ageing • Labour migration (south to north) vs. retirement migration (north to south) • Increasing urbanisation with more and bigger megacities • Urban sprawl and anonymity	• Compact and low-energy developments with high sense of community • Sustainable zero-carbon districts, towns and cities (e.g. Masdar in the United Arab Emirates)	• Pandemics • Mass migrations
SOCIETY	• Multicultural environments • Cosmopolitanism, individualism and consumptionism • Lifelong learning and social inclusion • Networked societies • Health- and fit-style with supporting industries (food, tourism, wellness, pharmacy, biotech)	• Environmental values (green consumerism) • 'Forever young' lifestyle (collagens, implants, gene therapies) • 'Slow fashion' (slow cities, slow food) • Robots in everyday life • Tele-presence and teleworking • Social communities in cyberspace (e.g. Facebook)	• Nanotech-organic life • Cyborgisation • Social interactions retreated to cyberspace • End of intergenerational solidarity

Tab. 1: The spectrum of trends and wild cards in global, European and pan-Baltic transport development scenarios

Source: Tetraplan (2010), Dennis and Urry (2009), amended

	MEGATRENDS	SEEDS (EMERGING TRENDS)	WILD CARDS
INFORMATION TECHNOLOGIES	• Exponentially growing data storage and transfer capacity • Worldwide IT industry • Digitalisation of life with convergence of information technologies, telecommunication, consumer electronics, and entertainment	• Artificial intelligence • Nanotechnologies	• Virtualisation of real world • Brain downloading • Intelligent / self-learning/ self-conscious machines • DNA computers • Internet breakdown
ECONOMY	• Transition from the local economy of places to the global economy of flows • Transition from hierarchies to networks • Transition from labour mobility to capital mobility • Third age services (for elderly people)	• China as a new global superpower • New middle class in BRIC countries (Brazil, Russia, India, China)	• Retrenchment from globalisation • Global economic / financial collapse
ENERGY	• Diversification of energy sources, renewables • Decentralisation of energy production • Sustainable and safer nuclear energy	• New energy experiments • Superconductors	• Low-cost mass production of nuclear fusion fuel and hydrogen energy • Sky-high oil prices • Energy resource conflicts
MOBILITY	• The car as 'civilisation' • Growing mobility of the societies • Increasing long distance commuting and travelling • Intelligent vehicles • Normalisation and miniaturisation of freight transport	• Personalised public transport • Car-sharing systems • Electric vehicles • Higher capacity and faster passenger transport vehicles	• Teleportation • Space travel

	MEGATRENDS	SEEDS (EMERGING TRENDS)	WILD CARDS
ENVIRONMENT	• Eco-consciousness • Growth of environmental industries • Climate change	• Consumption of locally produced commodities and services • New technologies and facilities minimising environmental impacts (e.g. carbon sequestration)	• Eco-terrorism • Retreat from eco-fashion • Global catastrophes (e.g. reversed/declined Gulf Stream flow) • Artificial food
GOVERNANCE	• Glocalisation ('think globally, act locally') • Mistrust for corporations and politicians • Reduced investing capacity of the public sector	• New traffic management policies • Suppression measures, video surveillance and control	• Worldwide military conflicts • Collapse of democracy • Religious fanaticism

Win-lose outcome of cohesion and competitiveness scenarios

One of such relevant scenario sets has been developed within the framework of the ESPON Programme. That particular programme is an EU instrument (co-financed by the European Regional Development Fund), which promotes applied research and studies on territorial processes and the development of the EU regions as a support for policy development (full name: the European Observation Network for Territorial Development and Cohesion).

The project on 'Spatial Scenarios and Orientations in relation to the European Spatial Development Perspective and Cohesion Policy' (ESPON 2006) analysed major contemporary trends and driving forces shaping European regions and drew a number of recommendations to help European regions prepare and adapt to these challenges. For that reason, it sketched a number of scenarios for the future territorial development of Europe with a time horizon of 2030. Among them was one integrated baseline scenario showing the probable evolution of the European territory in a situation of no major changes as well as two prospective policy scenarios to explore the effects of EU policy. In the cohesion-oriented scenario the goal of social, economic and territorial cohesion was given top priority in shaping the policies, while in the competitiveness-oriented scenario the overall global competitiveness of the European economy became the major objective for the relevant policies.

The **baseline scenario** foresees further east-west convergence processes and concentration of growth in metropolitan regions. In effect, socio-economic divides between the old and new Member States will decrease, while the disparities between metropoles and peripheral rural regions are expected to be even more acute. The completed infrastructure investments will widen the radius of high accessibility areas in Europe, particularly through better connections between major cities.

The snapshot of 2030 (Fig. 3) shows further concentration of economic flows and activities in the Pentagon area (that is in the territory spreading between London, Paris, Milan, Munich and Hamburg), and even its expansion along main transport corridors in direction of some major European cities (among them: Copenhagen, Stockholm, Oslo, Berlin and Warsaw). Differences

in global accessibility between the extended Pentagon and peripheral areas remain significant by 2030 and are accentuated by the strong increase in the cost of transport (because of oil prices). Outside the wider Pentagon area, the level of economic development is more modest (except for a few large metropolitan areas and some tourist regions), with several rural and old industrial regions exposed to the risk of economic decline. The most severely affected areas lie in central and Eastern Europe, including Latvia, Lithuania and eastern Polish provinces. In less densely populated areas railways are in many cases replaced by road transport due to improvements in regional and local roads. Noteworthy is also a slow but steady decline in the northern part of the Baltic Sea Region, especially in the areas far from small and medium-sized urban centres. The continuous increase of oil prices has negatively affected the accessibility of this area.

The **cohesion scenario** ('Danube Europe') drives at fuller integration of various parts of Europe and provision of adequate living conditions in all EU regions. The high growth rates of the new Member States will prevail, with less pronounced dominance of metropolitan areas in comparison with the baseline scenario.

In the cohesion scenario, significant financial resources from the ERDF and Cohesion Funds are earmarked for the less developed regions. A main priority is the development of efficient transport infrastructure on major corridors in the new Member States as well as between the new and old Member States. A difference with the baseline scenario is that, in addition to major corridors, support is also given to a number of strategic regional transport axes, in order to connect as many medium-sized and small towns as possible to the trunk networks. The cohesion scenario pays also greater attention to a better balance of transport modes and promotes efficient railway and waterway systems. In the countries of Central and Eastern Europe, obsolete railway systems are being modernised, in order to limit the growth of road and motorway traffic, a policy which takes also into account the constraints of oil price and oil supply. Also, the rail investment pattern shows the construction of high speed train lines.

The snapshot of 2030 (Fig. 3) reveals that the Pentagon area of concentration of flows and activities has a much wider reach than in the baseline scenario, and includes a larger number of cities in the close peripheries. Another difference is the emergence of several peripheral growth areas. The number of areas at risk of decline and marginalisation is comparable to that prevailing in the baseline scenario, but their size is reduced and intensity lower. Differences in accessibility between the wider Pentagon and peripheral areas have been somewhat reduced thanks to transport investments in favour of peripheral regions, but the impact of high energy price on transport costs is detrimental for remote regions.

In relative terms, the cohesion scenario brings substantial benefits for the less populated Nordic regions and the southern shore of the Baltic Sea (Poland and the Baltic States) as it stimulates economic improvements much over the baseline scenario and the European average. It has, in turn, a slightly negative impact on the Nordic capital regions and other metropolitan areas in the Baltic Sea Region, except for the Kaliningrad enclave. In effect, the significant smoothing of the East-West divide has been observed. With respect to the baseline scenario, disparities between East and West and between cities and countryside have decreased, while the lack of further enlargement processes has deepened divides between the EU and its neighbours.

The **competitiveness scenario** ('Rhine-Rhone Europe') is based on the assumption that the EU policies are significantly reshaped because of disappointing results in the implementation of the Lisbon Strategy during the period 2000-2005. The EU budget is reduced and EU expenditures targeted towards R&D, education, ICT and strategic external accessibility are included in structural policies. The policy support is thus granted to the strongest regions that have the best chance for competing at a global scale.

Baseline scenario
(Final image 2130)

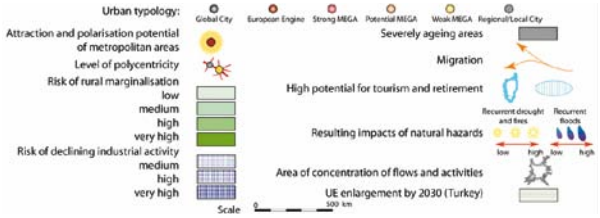
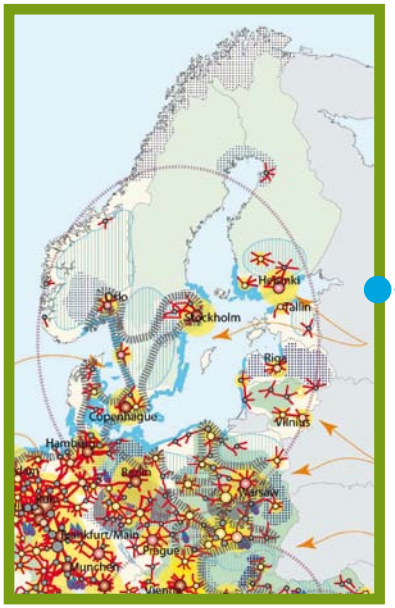
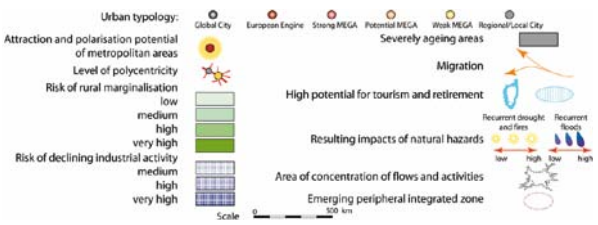


Fig 3: The Baltic Sea Region AD 2030 in the three territorial development scenarios by ESPON

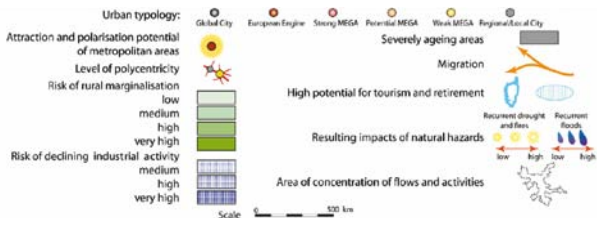
Source: ESPON (2006)

Danubian Europe
(cohesion-oriented scenario - final image 2030)





Rhine-Rhone Europe
(competetiveness-oriented scenarion - final image 2030)



Significant EU resources (much more than in the baseline scenario) are injected in the TEN-T and into research and technological development, in order to counteract the progressing oil depletion and the related price increase of fuel. A large variety of applications in the sphere of Intelligent Transport Systems are developed and implemented to increase transport efficiency, reliability and security, to optimise the use of infrastructure and to satisfy mobility needs. Transport flows are systematically accompanied by traffic information systems, both for the transport of goods and persons. As in the baseline scenario, the increasing energy prices remain a major constraint in the transport sector. The further development of high-speed train networks and the availability of substitution fuels make it possible to ensure the level of long-distance mobility necessary to maintain robust economic growth.

Transport investments are decided according to market demand, with priority given to links between economically strong metropolitan areas as this would produce the most added values. In most European regions, the volume of investments in rail infrastructure is lower, especially in the rural areas.

Not only is the nature of transport flows changing, but also their spatial distribution in relation to further EU enlargements. In the wider integrated Europe of the 2030s, long-distance transport flows are much more significant than they were in the early 2000s in a more limited European space, and more and more countries are affected by transit flows.

The snapshot of 2030 (Fig. 3) demonstrates a very deep and limited concentration of growth in the Pentagon area in general and in metropolitan areas in particular, which deepens the East-West divide. The aggregated growth in the total economy is larger than in the baseline scenario but shows sharper core-periphery pattern as transport policies have favoured the development of corridors between large metropolitan areas. The trend towards 'urban crowding' results in a strain on the transport policies in the Nordic capital regions, while the northern periphery area and certain parts of Poland and the Baltic States see the essential basic services no longer automatically provided due to population decline.

This comprehensive setting of the territorial development futures, unfolding along alternative scenarios, provides a relevant rationale for TransBaltic actions. **As the scenarios offer no win-win situation, an appropriate policy mix is required to - at the same time - boost the development potentials of individual territories and compensate their uneven competitiveness standings through cohesion-oriented measures.** To gain on efficiency, that policy mix needs to be adjusted to specificities of the territories in meso- and micro-scale.

Having its main interest area in transport and regional development, the TransBaltic project does not attempt to duplicate existent descriptive and quantifiable scenarios in those two fields for Europe in general and for the Baltic Sea Region in particular. Examples of such are: the set of BSR integration scenarios developed by SIDA (2009) and European mobility scenarios worked out in the TRANSVISIONS project (Tetraplan 2009). Alongside the ESPON work the findings of such initiatives (and especially the recommended policy instruments) will be taken into account upon discourse on methods to create an optimum path towards the integrated multimodal transport system in the Baltic Sea Region.

At this stage, however, TransBaltic has decided to employ three specific scenarios, which may appear in effect of natural, socio-economic and regulative processes. Those scenarios relate to the shared ground of the transport and regional development policies, namely: the territorial distribution of the flows. The first one depicts a continuation of the current trend, in a form of a baseline scenario. It thus projects the situation when all major transport infrastructure projects included in the medium- and long-term national investment plans of the BSR countries and adjacent countries responsible for the generation of intercontinental traffic (e.g. China, India, Ukraine and Central Asian

republics) are completed. The other two are exclusively designed within the project and look upon the interplay of normative and market-led developments. In that sense, they somewhat adhere to the wider cohesion and competitiveness scenarios worked out in the ESPON Programme.

Those two scenarios were subjected to open discussion in foresight debates organised by TransBaltic in five different locations around the Baltic Sea in the period of March-May 2010 (Tetraplan 2010). The process was then complemented with an online survey distributed to transport and logistics stakeholders with particular hypotheses resulting from the project analyses.

The following sub-chapters give an overview of the two scenarios and reflect on implications of the futures foreseen for the transport and regional development policies in the Baltic Sea Region.

The green scenario

In the project assumption, the green scenario outlines the situation when the European Union regulations and rules of the neighbouring countries have laid ground for developing a network of green multimodal transport corridors in the Baltic Sea Region as a means to make it more coherent. This scenario is hence of normative character and in particular way explores the cohesion path as worked out in the ESPON 3.2 project.

The scenario originates from the ongoing (late 2010) TEN-T policy review and discourse on the role of the future Trans-European Transport Network in the broader EU transport policy and – at the higher level - the comprehensive 'Europe 2020' strategy. Already at the stage of notional work (TEN-T policy review expert groups) the green corridors were repeatedly quoted as an integrated transport concept where all surface

transport modes complement each other to reduce the environmental impact and improve energy efficiency from transport. Thus, the concept contributes to the need of internalising external costs of transport, which means that transport users will be obliged to pay for the 'hidden' costs generated by transport (such as air pollution, noise, congestion or accidents).

Apart from specific functional aspects (see Chapter 2) the elaborated concept of green corridors entailed also some territorial issues. As stated in the final report of expert group dealing with integration of transport policy into TEN-T planning, the development of green corridors within the core network should be strongly encouraged. In that respect, all TEN-T links belonging to the core network shall strive to become green corridors according to the criteria and indicators to be developed in due course. Further, Motorways of the Sea can become part of green corridors when complying with the criteria laid down for that concept (European Commission 2010b). This geographical element of the green corridors was often referred to in the public consultation process launched afterwards by the European Commission in legitimising the worked out TEN-T modification proposals.

The observed direction of this discourse leads to some **hypotheses on the future architecture of the green corridors in the Baltic Sea Region:**

1. On account of the Region' specific geographic features and development needs, future green corridors in the BSR will fully demonstrate multimodal features, with integrated road, rail and short sea shipping links (in accordance with the principle of co-modality).
2. The BSR green corridors will contain both land and maritime sections, thus spanning various components of the EU transport policy (TEN-T and Motorways of the Sea, respectively).
3. The BSR green corridors should ideally form a network spread over the territory of the whole Region. Emergence of such network should be facilitated by harmonisation measures in national and regional transport planning as stipulated by the EU Baltic Sea Strategy and lifted up by the running transnational cooperation projects (including TransBaltic).
4. The future network of the BSR green corridors will be a subject of intervention by both transport and regional development policies. Individual corridors will be managed by public-private consortia that will introduce mechanisms to administer, monitor and steer the performance quality of infrastructure and services offered in the corridor.

A governance path to the above visionary scheme of the green corridors in the Baltic Sea Region should, in the view of the audience of the TransBaltic foresight debates, consider three particular aspects: (1) investments, (2) harmonisation, and (3) stimulation of business models.

The investment policies within the framework of the green corridor concept ought to bear in mind the last mile infrastructure to the strategic nodes (ports and inland logistics terminals). Also, they will have to ensure availability of open access terminals located close to the market. Harmonisation measures, in turn, will have to enhance the functionality of the introduced system through certification, product labelling of terminals and particular services, and through common cargo safety standards - the latter being of acute significance in relation between the EU and Russia. The stimulation of business models, on the other hand, will have to balance the market-driven approaches with consumer needs. A feasible incentive to the creation of green corridor business models would be – as raised by some participants - regulations imposing green measures or installing charges on non-green corridors.

As underlined, indispensable for the feasibility of the green scenario is active and reasonable action of the public administration in enforcing, encouraging and bridging system failures, while keeping a sound balance between imposed obligations and fair competition. Here, a level-playing field must be maintained for all

market actors, irrespective of the transport sector they operate in.

Overall, implementation of the green scenario is deemed not be bring essential shifts in routing, so the future system will still be based on existing nodes and corridors. However, as the green corridors will be developed on the routes with the highest volumes of freight flows, **the scenario may imply centralisation and concentration processes, with fewer transit arteries crossing the Baltic Sea Region and bigger, multifunctional ports.**

The trajectory to the above vision of the green corridors in the Baltic Sea Region may, however, from the very outset encounter some threats, signalled by participants in the TransBaltic foresight debates. Among them are:

- risk of negative response from the transport operators to new service obligations related with greening of the corridors, which may counteract co-modal efforts and result in redirecting of long-distance flows to non-green corridors;
- lack of coordinated policy support, leadership and stakeholder involvement across the borders of the Baltic Sea Region in overcoming economic, regulative, administrative and technical barriers to the development of co-modal business models (emphasised also in the BDF Report 2010);
- no extension of the green corridor concept to Russia, which would result in a mismatch of 'green' and 'usual' regulations on the corridors connecting the European Union with customers and suppliers in neighbouring countries. This, in consequence, would affect the reliability of logistics chains;
- no education and promotion measures to spread local success story examples on greening of the corridors across the Baltic Sea Region and to boost consumer preference to green-labelled products;
- need to provide equal operation standards in eastern and western parts of the BSR by means of adequate level and profile of infrastructure investments. In that respect, particular efforts should be dedicated to elimination of bottlenecks at the border crossings with non-EU countries (with particular focus on customs procedures).

Of particular importance is uncertainty whether green corridors may develop in the hinterlands of the new EU Member States and Russia. Whereas in the old Member States of the Baltic Sea Region the governments and business operators openly declare their willingness to introduce green transport solutions, **it might be likely that Poland, the three Baltic States and the Russian Federation would like to first satisfy their needs for high-capacity transport infrastructure - at the expense of investing in green transport technologies. In consequence, the BSR could see emergence of a *new territorial East-West divide*.**

Probability of such a threat was consulted with the stakeholders responding to the TransBaltic online survey. The overwhelming majority were of opinion that the new Member States and Russia would very likely prioritise the costly construction and expansion of conventional infrastructure - in order to raise technical standards, improve direct connectivity to main European markets and thereby to increase competitiveness

of their national economies. More than in the western part of the BSR, the decision-makers were felt reluctant to follow environmental needs, while the transport enterprises were rather engaged in an economic survival game. Consequently, development of intermodal connections or investing in environmentally friendly technologies would not be met with sufficient human and monetary resources. It was also underlined that green transport technologies are expensive and more affordable for technically advanced countries.

Nonetheless, the respondents pointed out a few solutions mitigating that threat. In their view, the new Member States and Russia could be attracted to participate in green transport activities in case the technologies are provided on reasonable financial conditions. A well-targeted awareness raising campaign should play a vital role in changing the mindsets of relevant decision-makers and stakeholders towards economic benefits from the leaping over old technologies and applying the greener new ones. Also, the threat could be avoided by means of deeper international cooperation in the inception process of particular green corridors. The dilemma of a corridor efficiency (high capacity) and greenness could be minimised if the development is based on (1) a common strategic vision along the green corridor, which foresees the application of new technologies and (2) an effectively functioning corridor management body.

Actions planned by TransBaltic:

- to further verify the probability of the new East-West divide induced by the implementation of the green
- to examine readiness to launch institutionalised cooperation and to apply steering mechanisms for potential green corridors in various parts of the BSR
- to discuss pre-requisites for introducing the green corridor concept in Russia and other countries generating intercontinental freight flows to and from the Baltic Sea Region

The Barents scenario

The other of the analysed trajectories, ultimately named the Barents scenario, entails that the **gradual opening of the Northern Sea Route along the Russian Arctic coast and transport investments on the European-Asian landbridge may provide new opportunities for intercontinental cargo flows.** Such circumstances may privilege the Barents Area to capture intercontinental traffic from the saturated road/rail network in the southern part of the Baltic Sea Region. In relation to the ESPON 3.2 project, this scenario is more of competitive character and accentuates the choices of market operators in shaping optimum logistics chains.

The Barents scenario has its origin in an expected boost of intercontinental trade (North America – European Union – Russia and the Far East countries) on a number of shorter alternatives to the conventional shipping route through the Suez Canal and ports in Western Europe. Its original rationale lies in a projected situation when the ice-free waters of the Arctic Sea have enabled summer season navigation to compete on equal footing with other intercontinental routes.

The probability of such a natural development was presented by researchers at the TransBaltic Conference 2010 (Malmö, 15-16 March 2010) and vividly discussed in the foresight process later on. The scientific investigation heralds a navigation season along the Siberian shores to reach about 4-5 months by the end of the 21st century. Already in 2030, this passage may become competitive to the route via the Suez Canal due to significantly reduced expenses for icebreaker escort and ice reinforcement for cargo ships, diminished risks and shorter mean shipping time. In comparison between these two routes, not only is the Northern

Sea Route shorter in distance and the passage time in optimum conditions, but additionally, by the end of the 21st century it may boast a 15% lower year-round transit cost for commodities shipped from Western Europe to the Far East. Further, the capacity of the Suez Canal may reach the limits already by 2050 (Semenov et al, 2010; Verny, 2010).

In the foresight process, the research speculations were met with rather negative prospects on the Northern Sea Route unfolding as a viable alternative on its own to the traditional maritime shipping route before the end of the century. In the view of the audience, profitability of the route would depend on substantial investments in the fleet, harbours and land-side connections. This would require earmarking of very significant budgets for building and maintenance of the infrastructure, which the governments alone may not be able to commit. To function properly, the route must also await ripe technical development in maritime logistics, shipbuilding and road/rail facilities construction – the latter to cope with thawing of the permafrost.

Another concern relates to the impact of the political factors in Russia and high probability of administrative steering of the flows along the Northern Sea Route by means of some fiscal instruments (e.g. tools) and preferences given to selected group of operators. Also, some arguments were raised against the profitability of the route for containerised traffic due to absence of stopover ports on the way.

In effect, the Northern Sea Route is widely believed to primarily serve exports of Russian crude oil and other raw material resources in Siberia and territorial waters of the Arctic Sea to Western Europe and the United States. One of the already running logistics solutions in that respect (operational since 2008) is the shipment of petroleum from the Varandey oil loading terminal, which is located in the Nenets Autonomous Okrug some 23 km offshore in the Pechora Bay and which is connected by pipelines with the nearby Yuzhno-Khilchuyu field. The crude oil is transported by ice class shuttle

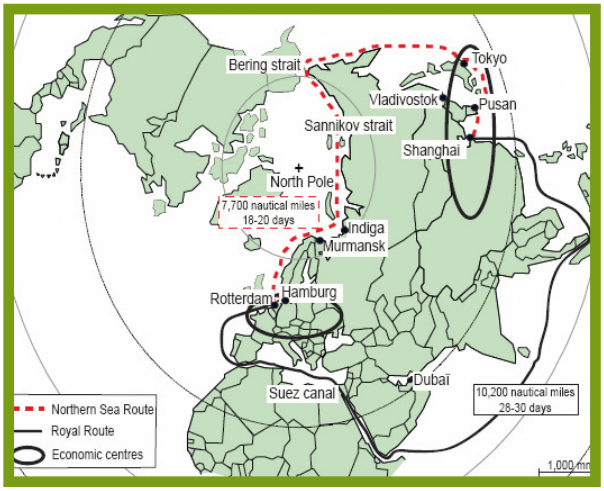


Fig. 4: The Northern Sea Route vs. the Royal Route through the Suez Canal

Source: Verny (2010)

tankers to the floating oil terminal Belokamenka in the Murmansk Bay and then reloaded to ocean tankers penetrating the market. Recently, it has been planned to carry out a first major oil shipment from the Varandey terminal eastwards along the Northern Sea Route to Japan (BarentsObserver.com, 14 July 2010). If the political climate allows, the route may become open to some foreign operators. This direction is already in the strategic plans and decision of some mining companies in the Barents Area, interested in shipping ore or metallurgical products to the markets in Asia (BarentsObserver.com, 21 July 2010).

Fig. 5: The Varandey oil loading terminal

Source: BarentsObserver.com

Despite being perceived by some observers as an already established new sea highway between Europe and Asia (BarentsObserver.com, 2 September 2010), **the Northern Sea Route alone will – in the nearest future – play rather limited role in the transport system of the Baltic Sea Region, being a route for a top-down regulated traffic of bulk cargo. However, in combination with some other developing options, it may affect the future orientation of transport and the function of the Baltic Sea Region in serving internal and intercontinental flows.**

The growing middle class in Russia and the latest tendency of reallocating low-cost production from the Chinese coastal areas to the north-west interior speak for considering landbridge connections to become real intercontinental alternatives. The analyses of different Euro-Asian routes (see Fig. 6) shows good transit development prospects for the northern corridor of the Trans-Asian railway (which connects to the Trans-Siberian railway) and the 10,000-km long Western Europe–West China motorway corridor (Shcherbanin 2010). These trunk connections link the Xinjiang Uyghur Autonomous Region (XUAR) of China through Kazakhstan and Russia with the European Union.

With the completed impressive infrastructural programme (new border roads, railways and a network of logistics centres), the XUAR region may become a freight gateway, which receives consumer goods from inland China and distributes them to Central Asia, Russia and Europe. It is estimated that the delivery time of shipped goods by rail from China through XUAR via Kazakhstan to western parts of Russia will take about ten days – one fifth of the journey time by sea (Shcherbanin 2010). This target is even more probable with ambitious transport development plans by the Kazakh government.

However, in the international dimension, the landbridge connections face severe barriers in fulfilling their transit potential. Physical barriers are associated with the poor state of road infrastructure, obsolete rolling stock, which prevents any increase in transportation speeds and volumes, and a low throughput capacity of border crossing points and logistics centres. Non-physical barriers, in turn, feature cumbersome permit systems, unreasonable delays in crossing borders, various charges and additional taxes imposed by regulatory and local authorities, scheduled and spot-check inspections of cargo weight, etc. In addition to existing several transhipment points, the non-physical barriers are regarded the most significant obstacle to the development of intermodal transport services along the landbridge connections and therefore the routes themselves cannot pose serious competition to the maritime links. Impact of such administrative and regulative barriers also suffocates the growth of the containerised traffic on the Trans-Siberian Railway (Shcherbanin 2010, Vinokurov et al, 2009).

Notwithstanding the transit capacity constraints, the Euro-Asian landbridge connections may convey sufficient cargo volumes in the year 2030 perspective to ignite fierce competition for containerised freight on the eastern shore of the Baltic Sea. This competitive relation will emerge not only between individual eastern Baltic ports but also between the Baltic Sea Region and other macroregions (e.g. Mediterranean area or Central Europe). Of special interest in that respect is a **possible development path, which will see the rerouting of transit cargo to the Barents Area and its local ports.**

The key factor in making this path feasible is the political agenda in Russia. The current doctrine makes the domestic Russian cargo be shipped through the domestic ports and the transit cargo through the harbours of the three Baltic States, where Russian companies invest in the port and terminal facilities. However, environmental and traffic capacity problems may, in the course of time, put thresholds on the sea transportation via the Danish Straits. Accordingly, the potential of the Barents Sea alternative may grow.

The planned investments in rail infrastructure (Belkomur) connecting the Trans-Siberian Railway to the port of Arkhangelsk and in the ports of Arkhan-

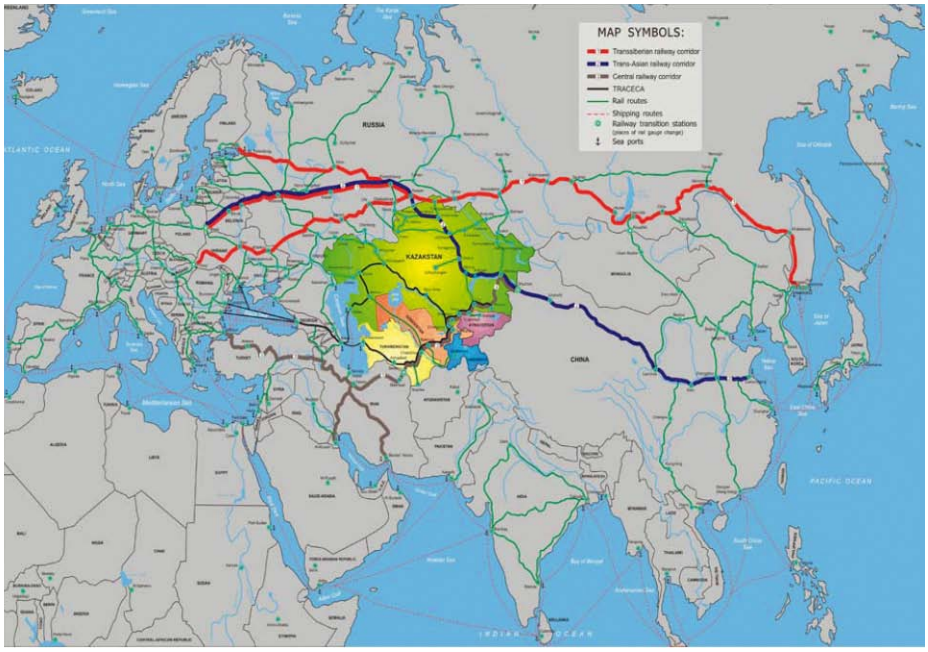


Fig. 6: The most important Euro-Asian rail transport links

Source: Shcherbanin (2010)

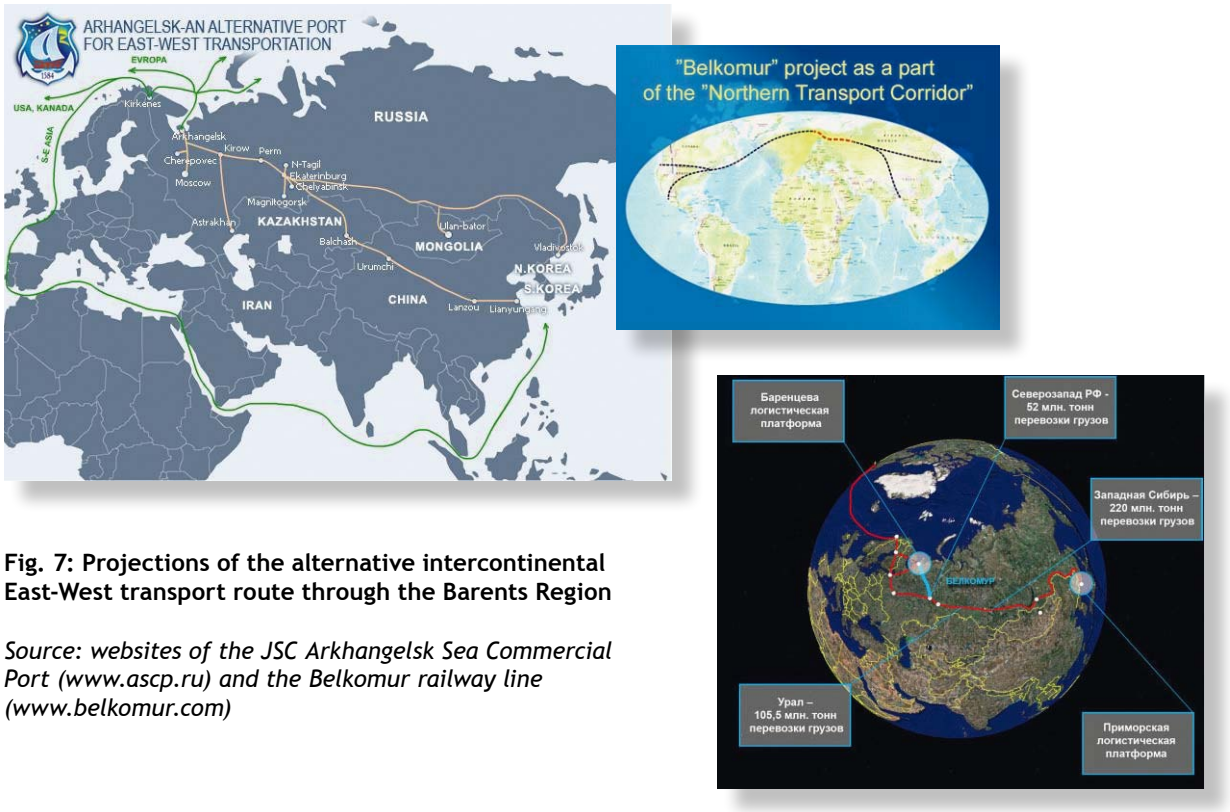


Fig. 7: Projections of the alternative intercontinental East-West transport route through the Barents Region

Source: websites of the JSC Arkhangelsk Sea Commercial Port (www.ascp.ru) and the Belkomur railway line (www.belkomur.com)

gelsk and Murmansk may attract the global cargo and reconfigure the scene of the flows. This could result in a changed priority transport orientation of the Barents Region from serving north-southbound raw minerals traffic between production and processing areas - to managing east-west intercontinental flows (see Fig. 7). Also, some ports on the Barents Sea (e.g. Murmansk) may turn into intercontinental freight hubs.

As mentioned before, the Northern Sea Route and the landbridge connections may complement one another. If gradually deployed, they may affect the global transport patterns and pose new connectivity and accessibility challenges for the Baltic Sea Region. As stated by the foresight audience, with the growing purchasing power of the Russian middle class the European centre of gravity would move eastwards. But as the Barents Region may bloom, the hubs on the Baltic Sea may not necessarily emerge, despite ambitions of several ports, and some of them (e.g. in Central Baltic area) may have to find new niches and develop hinterland connections.

Overall, the future routing (oceanic shipping, Northern Sea Route and landbridge connections) will be influenced by the location of production and consumption areas. The linkage pattern between those areas will probably be determined by price, time, safety and reliability factors under mixed regulative/free market conditions. Political decisions will play important role in that regard as the fulfilment of the Barents scenario will to a large extent be dependant on the future socio-economic profile of the Barents Region (e.g. availability of qualified labour to process the raw materials on the pot instead of transporting them southwards).

Actions planned by TransBaltic:

- to verify the likelihood of the Barents scenario by investigating transport infrastructure strategies and investment plans bringing the intercontinental flows closer to the Barents Region
- to obtain deeper knowledge on the state and prospects of available infrastructure enabling the navigation on the Northern Sea Route
- to further examine the capacity of landbridge connections for transiting the containerised cargo to the EU in general, and to the Baltic Sea Region in particular

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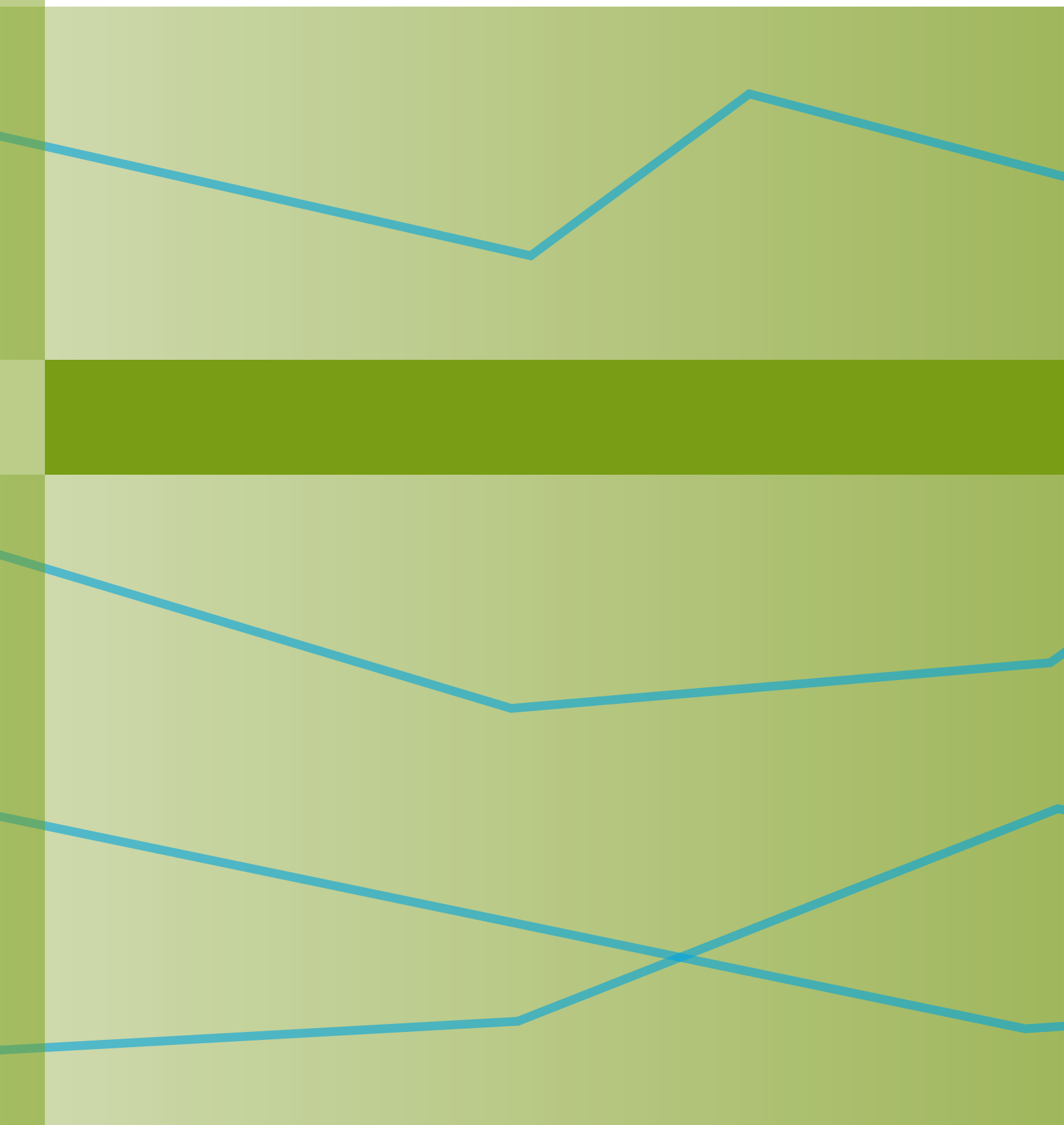

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