INTERNATIONAL FUTURES PROGRAMME

TRANSCONTINENTAL INFRASTRUCTURE NEEDS TO 2030/2050

“HIGH NORTH”/BARENTS AREA CASE STUDY

HELSINKI WORKSHOP
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FINAL REPORT

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CHAPTER 1
INTRODUCTION

OECD’s Infrastructure Needs to 2030/2050 Project

The OECD’s Infrastructure Needs to 2030/2050 Project is bringing together experts from the public and private sector to take stock of the long-term opportunities and challenges facing macro gateway and corridor infrastructure (ports, airports, rail corridors, oil and gas pipelines etc.).

The intention is to propose a set of policy options to enhance the contribution of these infrastructures to economic and social development at home and abroad in the years to come.

The Project follows on from the work undertaken in the OECD’s Infrastructure to 2030 Report and focuses on gateways, hubs and corridors which were not encompassed in the earlier report.

The objectives include identifying projections and scenarios to 2015/2030/2050, opportunities and challenges facing gateways and hubs, assessing future infrastructure needs and financing models, drawing conclusions and identifying policy options for improved gateway and corridor infrastructure in future.

The Project Description includes five work modules that outline the scope and content of the work in more detail.

The Steering Group and OECD International Futures Programme team are managing the project, which is being undertaken in consultation with the OECD/International Transport Forum and Joint Transport Research Centre and with the participation of OECD in-house and external experts as appropriate.

The Steering Group includes representatives from: OECD Ministries of transport, mobility and public works, environment and energy, sustainable development and the sea – as well as from other departments and agencies; non-OECD members (Chinese Taipei and India), international organisations (EC, EIB) and private enterprise.

The “High North”/Barents Area workshop explored the future opportunities and challenges facing the Finnish and Swedish regions and the other countries in this area. The “High North”/Barents Area was chosen as a principal target for a Case Study Workshop, following discussions with the Project Steering Group members.
Helsinki Workshop

The Helsinki Workshop was organised jointly by the OECD, the Finnish Ministry for Transport and Communications the Swedish Transport Administration.

The Workshop was held on 3 May 2010, hosted by the Finnish Ministry on its premises and attended by 14 participants (see Annex A).

The purpose of the Workshop was to allow the OECD project to focus on the:

- Current situation in Europe’s “High North”/Barents Sea Area and its transport infrastructure.
- The short to medium-term outlook and transport requirements (including cross-border transport) related to resources developments.
- The possible longer term outlook for the Area, taking into account not only resources and other planned developments, but also potential international and transit freight transport across the Area.
- Implications for possible infrastructure needs in the short-medium and long term.
- Opportunities and challenges associated with the planning and development of the infrastructure and the business models that might deliver the infrastructure funding required.
- Possible infrastructure contributions to future CO\textsubscript{2} reductions and to “Green Growth” strategies.

An Outlook paper prepared by the OECD’s International Futures Programme outlines the expected global outlook for economic growth, trade and development; the European Region outlook; and other important developments bearing on Europe and its “High North”/Barents Area – including maritime developments such as possible new trade routes. This paper is being circulated separately.

It should be noted the IFP paper draws on reports prepared by other responsible bodies: e.g. IMF, World Bank and International Energy agency on economic aspects; UNCTAD, IMO etc on maritime aspects; and independent experts. These source documents were often prepared before or during the Global Financial Crisis. For this reason, their projections need to be treated with some caution.

Workshop Report

The first part of the Report outlines the OECD project and expectations for the Workshop.

The second part of the Workshop Report provides some insights on the current situation in the “High North” Barents Area, expected developments in the countries involved.

The third part of the Workshop Report focuses on the Opportunities and Challenges facing the port.

The Appendices provide some further details on aspects of interest.
CHAPTER 2
OVERVIEW AND INTERESTS

1. **Introduction**

   Europe’s “High North”/Barents Area encompasses the areas of Sweden and Finland between the Baltic Sea and the Barents Sea to the north of the European continent.

   The following map shows the Scandinavian countries – and in particular Sweden borders with Norway and Finland’s border with the Russian Federation. The “High North”/Barents area encompasses the northern borders between Norway, Sweden, Finland and Russia through to the Barents Sea.

   ![Map of Europe's High North/Barents Area](http://www.lib.utexas.edu/maps/europe.html)

   *Source: The Perry-Castañeda Library Map Collection website: http://www.lib.utexas.edu/maps/europe.html*
Country and Institutional Interest

There are many organisations and a number of countries with clear interests in the “High North”/Barents Area – as well as the range of issues that would need to be addressed before proceeding with significant additional development in future.

The following list of potential issues and interests was prepared after participation in various meetings, conferences and workshops (including in Brussels) related to this area, its numerous possible developments and the quite large number of projects under consideration.

The list below notes the potential country and organisational interests as well as the way in which those interests were expressed recently, in the lead up to the Helsinki Workshop. It also notes the report or location where the interests were declared.

European interests:

- European Commission: TEN-T improvements and Northern Axis links (with Russia etc) (Northern Dimension report)

Finnish interests:

- Finland: changed trade flows from increasing use of Northern Sea Route for shipping; exploitation of natural resources on Finland’s Swedish and Russian borders; security of access to natural resources for Finland and Europe more generally; Shtokman gas field and possible rail connection from Murmansk to Finland; possible maritime trade route via Narvik to East-Coast of North America.

Swedish Interests:

- Sweden, PM’s office: VASAB (Visions and Strategies around Baltic) – inefficient connections across the borders (TransBaltic Conference, Malmö).
- Sweden, SRA: Improve connections with Russia and other neighbouring countries. Also options for other projects such as: Bothnian corridor (SWE, FIN) with connections to EU/Russia’s Northern Axis; links to Barents Region (TransBaltic Conference, Malmö).

Norwegian Interests

- Norway: Reported interest in new trade route from Asia across Russia, Finland and Sweden to Norway (either Narvik or another northern port).
International Organisation Interests

- Baltic Sea Commission: Administrative bottlenecks at EU external borders, Russian growth, potential gateway to Asia (TransBaltic Conference, Malmö).
- Arctic Sea Commission.
- Other?

Countries outside Europe

- Russia: known interest in Trans-Siberian rail improvements and improved land transport connections from China to Moscow and Europe (possibly with Chinese assistance).
- China: expected interest in Trans-Siberian rail improvements and improved land transport connections from China to Moscow and Europe (in co-operation with Russia).

The TransBaltic Conference in Malmo also highlighted other major studies under way that could impact on the TransBaltic region more generally, including the:

- **TransBaltic** project – Baltic Sea region, north and east.
- **EWTC II** project – East West transport corridor to the Baltic Sea Region.
- **Scandria** project being undertaken by Berlin-Brandenburg Lande. This Scandinavia/Adriatic project is looking at North-South connections from Scandinavian countries to the Adriatic Sea via Berlin and then either Munich or Vienna to Venice/Trieste.

Relevant strategy work under way includes: the EU Strategy for the Baltic Sea Region (BSR; EU “Green corridors” (EC Conference in December 2009); EC “Northern Dimension”, Eastern Dimension (current and future role of Russia); “Maritime Dimension”.

Presentations at the Helsinki Workshop

The Workshop and the material circulated allowed the diverse interests outlined above to be explored more fully. The presentations provided an opportunity for the Workshop to focus on a few important projects.

The discussions that followed opened the door to discuss such matters as potential implications for traffic and cargo movements, potential investment requirements, the existence of a business case, how the projects would be funded, what their contribution (if any) would be to “green growth”, and what kind of international co-operation would be required.
CHAPTER 3
GLOBAL AND REGIONAL OUTLOOK

Global Outlook

*Global Projections* anticipate continued global population growth for the period to 2050, with growth rates decreasing over time. Global GDP is expected to increase 30% from 2007 to 2015 and could double over the period from 2007 to 2030. By 2050, global GDP could grow to over three times its 2007 level. GDP per capita is expected to increase around 15% from 2007 to 2015, close to 60% by 2030 and around 140% over the period to 2050. The largest absolute increases in GDP per capita are likely to be in OECD developed countries – but the fastest growth rates will be in developing countries.

*Projections for Asia*

By 2030, GDP in China could increase to well over 3 times its 2007 level – while in India it could increase to 3 times its 2007 level. By 2050, whereas global GDP could grow to over three times its 2007 level, GDP in China and India could increase to around eight times 2007 levels. GDP per capita could increase to levels over seven times higher in China and over 5.5 times higher in India, over the period 2005-2050.

Regional Outlook

*Projections for Europe* anticipate a slowing in population growth over the period to 2050. GDP is expected to grow, but more slowly than previously: i.e. less than 10% from 2007 to 2015; around 40% over the period from 2007 to 2030; and a little over 60% from 2007 to 2050. In combination, these trends will contribute to continuing increases in GDP and GDP per capita for Europe as a whole and in most European countries.

*Projections for other Regions.* Higher growth than historic trends is expected in Turkey and in developing countries in other Regions, including the Middle East, Latin America and Africa.

*Impacts on Trade and Transport.* The global and regional increases in population levels and economic activity are likely to be associated with increasing trade and trade-related transport requirements. The largest increases are expected in intra-Asia trade and transport and on the major trade routes Asia/US and Asia/Europe. Trade and trade-related transport growth is also expected in other regions, including the Middle East/Turkey, Latin America and Africa.

For the *European Union*, the expected growth is fragile and the outlook is patchy in the short term. However, the positive global growth in the short term and the stronger regional outlook in the medium to longer term can be expected to make positive contributions to the overall levels of trade and maritime transport to and from the EU – and to increasing growth in maritime volumes handled by the N-W European ports in particular.
Implications of possible new trade routes and expected infrastructure developments inside and outside Europe

The OECD presentations highlighted a number of possible changes in trade routes and other expected maritime developments raised in discussions. Significant changes in prospect in the short term include:

- European Union TEN-T rail, road and waterway projects to be completed by 2015.
- Panama Canal enlargement – expected to be complete by 2014.
- Larger container vessels (10 000-12 500 TEUs) currently being delivered – and on order.
- Increasing liner shipping services from Asia/South Asia to Europe/North America via the Suez Canal.

Possible important changes in the medium term to 2030 would include:

- Improved land transport connections between Asia and Europe, including possible upgrading of Russian, Trans-Siberian and Trans-Asian rail links (as proposed by UN ESCAP and other parties).

In the longer term (to 2050), new trade route possibilities could include:

- Opening of the Northern Sea Passage for up to 3 months p.a. – and/or the Northwest Passage.

All of these developments could be expected to have some impact on the European Region. The possible changes in trade routes in the medium term – i.e. improved transport connections between Asia and Europe – could have significant impacts on the “High North”. In the longer term, the expected opening of the Northern Sea passage for longer periods each year could also lead to some additional development opportunities in the “High North”. These aspects are explored further in the following sections.
CHAPTER 4
PROSPECTIVE DEVELOPMENTS IN THE “HIGH NORTH”/BARENTS AREA

There are many prospective developments under consideration in the “High North”/Barents Area. There are also some significant differences in timings, infrastructure requirements and prospects of the options under discussion. Some of these developments are likely to go ahead in the short-medium term. Others depend on developments elsewhere that might become possible in the longer term.

The Workshop focussed on the more likely developments that are being considered for the short to medium term – and explored the possible options that could become available in the longer term.

Short to Medium Term

In the short to medium term:

- Resources developments seem likely to go ahead in a number of locations in Sweden and Finland, requiring rail (and possibly road) improvements and new rail track in these countries. Some linking to ports could be required

- Improved international rail (and road) connections seem to be in prospect in the medium term, in particular with Russia. Most of the existing infrastructure forms part of national transport plans – and there are deficiencies in international and regional connections in some locations (e.g. from resources to processing facilities and across borders to ports in adjacent countries).

Longer Term

In the longer term, the possibilities are broader scale but many of the options are more problematic:

- The Bothnian Corridor possibilities could require a significant upgrading of existing infrastructure on one or both sides of the Bothnian Sea. Quite significant funding would be required and the business case does not seem to have been made.

- Improved northern East-West connections across Finland and Sweden to Narvik would depend to a large extent on demand to and from the Russian end – and probably depend on Norway making a significant funding contribution as well.
• In turn, Russian demand and flows probably depend on someone (else) – or a huge Joint Venture – tackling the Trans-Siberian railway improvements required (with its massive funding requirements and challenging weather conditions).

• The Northern Sea Route is likely to be open for longer in future as a result of the contraction in the area of the Arctic ice cap. This would raise prospects for faster and lower cost maritime transport between Asia and Northern Europe. However, by 2030, it is expected that the Northern Sea Route would only be open for an extra month or so a year – i.e. less than 3 months in total per annum.
CHAPTER 5
RESOURCE DEVELOPMENT PROSPECTS – TRANSPORT INFRASTRUCTURE NEEDS

There is increasing focus in Europe on resources development. The EC’s paper on its “The Raw Materials Initiative” says that: “Securing reliable and undistorted access to raw materials is increasingly becoming an important factor for the EU’s competitiveness and, hence, crucial to the success of the Lisbon Partnership for growth and jobs”. The graphic below highlights the most important categories of resources and their geographic locations in the EU (Finland and Sweden), Norway and Russia.

Source: TransBaltic presentation, Sara Jacobsson, TransBaltic project at Helsinki Workshop.

Mining

The Finland/Sweden region is the major producer of iron ore in Europe. As the raw material prices have risen, new mines are being developed. In 2009, a new world-class nickel mine started production. Very large new iron mines are under development on both sides of the Swedish-Finnish border. Big iron mines are already operating on the Russian side. Mines for rare ores are also being developed, such as iridium and lithium, which is important material for the variety of batteries.

Existing Iron Ore operations

On the Swedish side, there is a large existing iron ore mine at Kiruna, from which the ore is shipped by rail in two directions: north-west to Narvik, with approx 16 MT shipped in this direction;
south to Lulea, with approx. 5 MT shipped in this direction. These are two legs of the same railway. It’s a very efficient operation and there are no problems.

On the Finnish side, there is a big steel mill in Raahe, which is a port city. Iron ore is shipped throughout the year from Lulea (SWE) to Raahe (FIN).

**New Iron Ore Developments**

New mines are starting to be developed in Pajala (SWE) and Kolari (FIN), adjacent areas of Sweden and Finland which are part of the same iron ore deposit (which spans the border). An existing railway runs along the Finnish side of the border.

On the Swedish side, the new mine is starting to be developed in Pajala. The plan is to build a rail bridge across the border/river to connect the Swedish mine to the Finnish rail line at Kolari.

*Source: Bothnian Corridor, Resources for Europe, presentation by Pentii Hämäläinen, Vilnius, 6-7 December 2010.*

In Finland, the mine on the Finnish side of the border will be located at Kolari. The railway on the Finnish side will need to be upgraded to the capacity and standard required to connect to the Baltic ports.

Several Baltic ports in Finland are possible rail destinations for the iron ore from this joint iron ore deposit. These are: Kemi (the port most likely to be favoured; Oulu (may be difficult); Raahe may be an option.
There is a possible Baltic port on the Swedish side as well: Luleå (which already has an iron ore exporting terminal) but there is a rail gauge problem. A change of gauge would be required at the Swedish/Finnish border. (The solution could be to use unit trains with wagons with changeable axle sets, since this border has already the facility for changing axle widths of trains.) The timetable: it is expected iron ore could be shipped in the next few years. [Source: Personal communication, Martti Miettinen (Transys Ltd).]

Planned improvements of transportation links of the Pajala/Kolari mine (Tapuli/Sahavaara/Hannukainen/ Rautuvaara) and the Savukoski mine (Sokli) are shown below:

![Transportation links map]

Source: Martti Miettinen, Consultant, Finland.

Translation of the legend:


Finland’s Guidelines for Transport Policy and Network Development 2008 noted that:

Launching of mining operations at several locations in northern and eastern Finland is under study or under preparation. If these projects are implemented, they will have a significant employment effects particularly in areas where the creation of new jobs is a challenging task. For example, Talvivaara, Suhanko, Kolari, Kevitsa, Suurkuusikko, Solki, Pampalo and Kylynlähti mining projects are under consideration. If implemented, these mining projects will significantly change the flow of goods, and in this case the investment needs in the railway network must be reconsidered. New mining activities will also generate additional traffic volumes to ports in northern Finland. The railway network should be developed systematically and comprehensively for securing the competitiveness of rail transport.

The different mine projects and road and rail track investments possibly required in Finland are set out below:

**Sweden**

Sweden has significant iron ore deposits in the mining district in northern Sweden, in the vicinity of the mining towns of Gällivare and Kiruna.

*Kiruna* is reported to be the largest and most modern underground iron ore mine of the world. Open pit mining started in the 1890s; underground mining started in the 1960s; workers were laid off when steel markets declined in 1970; and the mine re-opened when markets recovered in 1990. The original reserve at Kiruna has been estimated at some 1,800Mt. At the end of 2008, one estimate of the proven reserve at the mine was 602Mt grading 48.5% iron, with probable reserves of 82Mt at 46.7% iron. Measured, indicated and inferred resources add a further 328Mt-plus to the inventory, with exploration continuing to identify further resources at depth.

The Malmberget (ore mountain) iron ore mine located at Gällivare is 75 km from Kiruna. It contains some 20 ore bodies spread over an underground area of about 5 by 2.5 km. Seven are currently being exploited. Mining began in 1892 and since then over 350Mt of ore have been won.

**Oil and gas**

There are very significant oil and gas reserves in the Barents Sea Area. Most are on the Russian side of the border. Some lie in disputed zones.

*Natural Gas Resources in North-West Russia*

The potential Barents Sea natural gas resources are estimated at 10,000 bcm. The Shtockmanovskoye natural gas and condensate field is the largest to date. Its estimated recoverable reserves are 2,500 bcm and the potential annual production capacity is
The licence for the Shtockmanovskoye field is held by JSC Rooshelf and a few western companies (Conoco, Total, Norsk Hydro, and Nestle) are participating in the ongoing studies to exploit these reserves.

Source: Arctic Centre, University of Lapland.

**Oil Resources in North-West Russia**

The Timan-Pechora oil and gas region has estimated total oil resources of over 4 800 million tons, of which over 1 400 tons is estimated to be recoverable. The Republic of Komi has 520 million tons of oil resources. Perhaps the most significant deposit found in the Pechora Sea is the Prirazlomnoye oil field, with estimated reserves of 52-62 million tons. The licence for the development of this field is held by JSC Rooshelf and the Australian company BHP is participating in the development of this field. The exploration of the Barents Sea’s oil resources is still at an early stage.

Source: Arctic Centre, University of Lapland.

**Oil and Forestry Resources in Finland and Sweden**

Finland produced around 8 700 barrels of oil per day in 2009 and was ranked 86th globally (US CIA). Its production was significantly less than its national consumption, at around 206 000 bbl/day (2009 estimate).

Sweden produced around 4,800 barrels per day in 2009 and was ranked 94th globally in 2009 (US CIA). Current production is less than its current consumption (around 328 000 bbl/day). Sweden also has Alum Shale deposits that were recognised as a source of fossil energy over one hundred years ago. Reserves are large but production of oil ceased in 1966 owing to the availability of cheaper supplies of crude petroleum.

In relation to forestry industries, Finland’s Guidelines for Transport Policy and Network Development 2008 noted that:

Cost-efficient logistics and a functional transport infrastructure are important competitive factors for the Finnish forest industry. The functionality of logistics is directly reflected in the industry’s production development, employment and investments. Because of the large volumes involved, the forest industry’s logistics systems are demanding and complex. Predictability of the operating environment makes it easier to develop the systems and make any changes required.

Russian export duties on timber pose an acute threat to the Finnish forest industry’s raw material supply. All measures to secure a replacement supply of domestic wood raw material are therefore urgent. According to the goal set in the government programme, the felling of domestic timber should be increased by 10-15 million cubic metres per year in a sustainable way. Increasing the supply of domestic timber requires measures to be taken in a variety of parts of the transport network: the condition of private roads and forest roads should be improved, and the network of minor roads, and some low-volume railway lines, should be upgraded. Other measures for developing the transport network that are important to the forest industry include the upgrading of sections of main roads which are old and liable to cause accidents, and increasing the load-bearing capacity of some main railway lines.
Fisheries

Fisheries are important in the “High North”. Norway is the second largest exporter in the world. Significant volumes of seafood are being transported from ports in Norway to Sweden and beyond. Experience shows that the further north the product is being handled, the more important fast transport becomes. It would be desirable from the viewpoint of the product being transported for there to be a fast freight train. However, the volumes being handled have not been sufficient to date. At present, the volumes being collected from individual Norwegian villages for transport to other regions are often at levels that mean they are well suited to truck transport. Given the current scale of fishing operations, it would be difficult for a number of villages to gather enough produce to fill a train. There would therefore need to be an increase in scale before rail transport could be expected to play a bigger role.

The Workshop also heard of increased difficulties for road transport of seafood. For travel across the Baltic on route to destinations beyond, ferries had provided good services for many years. However, this has changed from the time Duty Free Shopping across borders lost its attraction, which led to some of the vehicle ferry services being discontinued. The seafood and truck volumes are not sufficiently high to make the reactivation of ferry services likely. In this case as well, the volumes being transported are not high enough to justify any alternative form of Baltic Sea crossing.

TEN-T and other Infrastructure projects

The Northern Transport Axis plan by the EC’s High Level Group in its 2005 report is shown below.
There are some major deficiencies in the transport networks available to meet the resources and other developments under consideration. In common with other European countries, Sweden has standard gauge rail track. However, the rail gauge in Finland and Russia is broad gauge. Change of gauge is therefore required at four border points between Sweden and Finland’s rail services; one in the “High North” and the other three in the vicinity of the Baltic Sea. “Change of gauge” systems have been tried but no solution has been found given the winter conditions. A further problem is that Finland is missing one important piece of double track rail.

**Nordic Triangle Improvements**

The Nordic Triangle connecting the capital cities of the Nordic countries is one of the EU priority projects. In Finland, the Nordic Triangle includes the road and railway connection from Turku through Helsinki to the Russian border (Vaalimaa/Vainikkala). The deadline for completing each priority project is set out in the TEN decision. The Nordic Triangle projects in Finland should be completed before 2015. The Motorway of the Baltic Sea project is also one of the priority projects of the TEN transport network.


**Bothnian Corridor Improvements**

Different parties have been pushing for development of the Bothnian Corridor as an infrastructure priority and there was some support at the Workshop for doing so.

*Source*: Bothnian Corridor, Economic Artery of Northern Europe.

On the Finnish side, a decision has been made to undertake a study of rail improvements in the Bothnian Corridor, with first results expected to be available in September.
However, the Workshop was advised that, on the Swedish side, improvement of the Northern Bothnia railway – which could require an investment of up to 2.5 billion euros – was not included in Sweden’s planned investment to 2020. The Harapanda improvements favoured by some parties are therefore un-funded.

The Workshop clarified that while there are many possible sources of funding, there was no prospect of any EU Regional Development financing.

**Cross Border Freight Carriage – Norway-Sweden-Finland-Russia**

The current patterns of rail freight carriage in Sweden, Finland and Russia are shown in the graphic below. There is significant and growing cross-border rail freight carriage between Finland and Russia. The graphic also shows the high current volume of cross-border traffic between Sweden and Norway/the North Sea.

**Possible Cross Border Infrastructure between Finland and Russia**

Finland’s Guidelines for Transport Policy and Network Development 2008 noted, in relation to Transit Traffic between Russia and Finland, that:

One of Finland’s strengths lies in its good transport connections to the east. Transit traffic through Finland to Russia is growing rapidly. Russia is the fourth most important country for Finnish exports. The value of transit traffic through Finland to Russia is, however, almost four times higher than the value of Finland’s own exports to Russia. According to a study by Sitra, the Finnish Innovation Fund, the transit traffic sector employs about 4 000 people in Finland, for example, in cargo handling, warehousing, shipping and transport operations. Finnish logistics service companies’ annual revenues from transit traffic amount to over 300 million euros.

Transport times should be made more predictable, as ever-better punctuality is expected from shipments. Border-crossing formalities at the Russian border make the prediction of journey times more difficult, especially for international road freight. It is intended that there will be a changeover to electronically transmitted customs documents for transport between the EU and Russia at the beginning of 2009. This would make customs clearance more efficient, speed up border crossings and reduce the length of queues at border stations in south-eastern Finland by about 20 kilometres.

Finland’s Guidelines give some attention to the Finland – Russia Transit Corridor:

Finland’s connections to European destinations are better than those of its neighbours in the Baltic area. The Finnish and Russian railways have the same rail gauge and there is a good connection from Finland to the Far East along the Trans-Siberian railway. The great advantage of this rail connection is the speed of transport service it offers. Total travel time by rail is an average of 16 days, whereas the sea voyage takes twice as long.
They also focus on Development of *Transit Routes* from the Barents Area and north-eastern Russia.

The development of transit routes from the Barents Area and north-eastern Russia, for example, to the ports of the Gulf of Bothnia creates possibilities for industrial development in northern areas of Finland.

About 10 million tonnes of cargo per year are transported on the Murmansk-St. Petersburg railway line. This line primarily serves heavy industry, but it also carries large volumes of oil. The new Lietmajärvi-Kotshkoma rail connection reduces the distance from Murmansk and Arkhangelsk areas to the ports of the Gulf of Bothnia by over 500 kilometres and provides new opportunities for benefitting from transit traffic in Finland. The line is not yet in commercial use…. In this context, studies are also being made as to how the interconnection of the Finnish and Russian railway networks in the north at Salla-Alakurtti would affect transport flows and regional development.

CHAPTER 6
INTERNATIONAL TRANSIT – LONG DISTANCE CORRIDORS

Europe/Asia Trade Growth

There has been some degree of interest for quite a long time in the prospect that improved international rail services would facilitate international freight transit over the long distances between Asia and Europe. A 2006 ECMT report summed up the underlying demand as follows:

The growth in trade between Europe and Asia and the consequences for transport

Trends in trade between Europe and Asia and the consequences for transport very clearly show that trade between the two continents has accelerated sharply in recent years, partly as a result of the development of Eastern Asian countries, chiefly China, but also as a result of the emergence of the economies of Russia and the countries of Central Asia. ….

The observed growth in trade has been seen equally in energy products (gas and oil), which play a key role in exports by CIS countries, raw materials and intermediate products (cement, steel, timber) boosted by major construction programmes, manufactured products and assembly parts…. It has produced strong, highly diversified and in many cases sophisticated demand for international transport, with heavy logistical constraints.

One of the main effects of the development of trade between Europe and Asia has been the faster growth of maritime container traffic, at rates in the order of 6% per year. This phenomenon has been accompanied by the use of steadily larger vessels and by rates that have fallen to extremely low levels (less than USD 700 per TEU from Europe to Asia).

The available projections suggest that the trend recorded since the early 2000s could continue over a 15 to 20-year timeframe, even if it declines a little. Against a backdrop of internationalisation and globalisation, trade flows between Europe and Asia, including energy products, raw materials and intermediate products, as well as high value-added products, signals the possibility of a stronger demand on major routes linking the two continents should not be ruled out…..

Source: Transport Links between Europe and Asia, ECMT, OECD 2006,
Overall, an analysis of the current Europe-Asia trade points towards two factors that militate in favour of the diversification of routes and the opening up of new land routes between Europe and Asia or, in some cases, the revival of old trade routes such as the Silk Road and the Trans-Siberian route:

– Maritime transport’s virtual monopoly on trade between Europe and Asia is causing increasing problems in land access to sea ports, all the more so since the push for productivity gains tends to reduce the number of such ports. As well as the concentration of maritime traffic along with obligatory points of passage on routes between maritime hubs where shipping traffic concentrates and poses a serious safety problem (risk of pollution following accidents) and a serious security problem (vulnerability to attack).

– The growth in traffic between continental countries, particularly in Central Asia, along the Europe-Asia land routes. Besides trade along the Europe-Asia corridors, trade within the region itself is beginning to develop rapidly, reinforcing the necessity to improve the corridors as a source of development for the countries concerned. For example, it is worth noting that imports to China from other Asian economies accounted for more than half of the former country’s total imports in 2003.

Source: Transport Links between Europe and Asia, ECMT, OECD 2006.

Transcontinental Transit Route: Asia/Europe

The Russian part of the Helsinki-St. Petersburg-Moscow transport corridor and the connection from Narvik in Norway through Sweden and Finland to Russia and further on to the Far East are part of the network of the most important connections from the EU to its neighbouring countries.


There has already been some operational interest in this transcontinental corridor, as reported below.

The Union International des Chemins de Fer (UIC) investigated a possible Narvik/Russia/Asia routing in the late 1990s and actively promoted one from 2001. Shipping services from Asia typically take around [22-24] days to reach the North-West European ports. The UIC wanted to see rail transport services developed that would take less than 11 days and therefore be competitive (at least on a time basis) with maritime services between Asia and Europe via the Suez Canal. The UIC has been more reserved in its support for the route since then.

Separately, in January 2008, Deutsch Bundesbahn (DB), together with a consortium of railway operators on the route, undertook an operational trial over trans-Asian sections from Beijing in China via the Trans-Siberian Railway and Moscow to Hamburg in Germany, completing the 10 000 km trip in only 15 days. While the travel time was good, the freight costs were apparently twice the sea freight rates. Regular services were contemplated to meet existing demand.

Longer term

The opportunities for international rail transport and transit traffic between Asia and Europe could be far greater than the limited operations that have been trialled to date. The impacts could go
well beyond what could be achieved by improving border crossings and optimising existing operations.

In recent years, Norway, Sweden, Finland, Russia and some countries beyond (including China) have given further consideration to the longer term prospects of a rail connection between the Norwegian coast (at Narvik or another location) and the Russian Federation – via the “High North”/Barents Area of Europe – in conjunction with improved overland connections between Russia and Asia.

Some parties have also been interested in the additional opportunities such a rail freight connection would offer for improved land transport services between Asia and Europe to be connected to maritime services from Norway to the East Coast of North America. This would offer prospects of reduced travel times between Asia and the East Coast of North America as well as Europe. Of course, if this were technically feasible and financially viable, the overall demand along the transcontinental rail route could be even greater. However, an Asia-Europe rail routing would have to overcome many significant challenges. The maximum freight container volumes that could be handled along the route from Asia to Europe would probably be in the range 0.5 to 1 million TEUs per annum. Such volumes would be a very significant increase on anything achievable at present. However, they would still be relatively small by comparison with current maritime volumes on Asia to Europe sea routes that total around 20 million TEUs per annum.

Nevertheless, the land transport options have attracted recurrent interest. From the viewpoint of Asia-Europe transit traffic, although the volumes would not comparable to maritime volumes, they could still be of interest to certain users in locations (such as inland origins and destinations) where direct rail services could have some comparative advantage in convenience, even if not on price. Clearly improved Asia – Europe land transport could better serve countries located along the rail line.

Possible Northern East-West (N.E.W.) Connections

There are several possible Asia-Europe rail corridor routings that could deliver significant transport volumes via Russia to the European “High North” border. Perhaps the most ambitious of the many possible longer term options canvassed would be the so called Northern East-West (N.E.W.) route.
A graphic and description of this possible N.E.W. routing – which would provide improved services between Asia and Europe and maritime connections to the East Coast of the US as well – are set out below.

This planned corridor would connect the Far East with Northern Europe via the Trans-Siberian railroad, and the North American East Coast beyond by seagoing vessels from the North Norwegian harbour port of Narvik, chosen for its railway connection with Sweden/Finland and its year-round ice-free harbour. The connections with the Far East would be conducted via three main routes (see figure):

a) The Russian Trans-Siberian railroad main line to Vladivostok and beyond via Vostochny Port to Japan, as well as to South Korea via the recently reopened railway link through North Korea.

b) To Northeast China and Beijing; branching off from the Trans-Siberian main line at Ulan Ude, Russia to continue southeast via Inner Mongolia.

c) To Western China and beyond to Southern China; branching off from the Trans-Siberian main line already at Yekaterinburg by the Urals, continuing southeast via Kazakhstan.


The Narvik NEW-link seems to have begun as a project vision in Norway driven by regional authorities (Norland county) and industries. Their immediate interest is understood to have related to speed/cost of transport of Norwegian fish to St. Petersburg and other areas in Russia. There was also interest in the longer run in the possibility of the transport chain link thus created linking up with the inland network to China. If it did, it could possibly become part of a transport corridor that extended
from China via Russia, Finland and Sweden to the North American east coast. If the gateway port in Norway were to be Narvik, the main elements in the port and rail infrastructure required would already be in place.

The idea of such a route has been around for a while but with limited pressure from commercial interests, there was rather limited activity and little development of the project concept. However there have been some high level discussions recently which have raised the prospects of some wider interest amongst the countries that would need to be involved.

Note: A major Declaration of Interest in improving transport in the Baltic Region was released on 17 June (i.e. since the draft Report was prepared). Extracts are provided below.

The Haparanda Declaration – 17 June 2010

The Ministers and High Level Representatives of Sweden, Iceland, Norway, Finland, Estonia, Latvia, Lithuania, Poland, Germany, Denmark, Russia and China

GATHERED under the midnight sun in Haparanda on 16 and 17 June 2010.

WELCOMING the establishment of the Northern Dimension Partnership on Transport and Logistics and the recent signing of an Agreement on the Secretariat of this Partnership; NOTING that Parties to the Partnership are the European Commission, Ministries responsible for transport, infrastructure and logistics of Norway, Russia, Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Sweden and Belarus; WISHING to contribute to the work on the revision of the TEN-T guidelines,

DISCUSSING the new EU 2020 strategy and TAKING NOTE of the obvious links between this strategy and the EU Strategy for the Baltic Sea Region; EXPRESSING their view that the Baltic Sea Region has a unique opportunity to link national growth initiatives and European endeavours in a regional context and thereby improve the economic growth opportunities to all citizens as well as trade and industry,

The Declaration concluded as follows:

The Ministers and High Level Representatives of the participating countries DECLARED

1. To commit to continued co-operation in the field of transport and infrastructure in order to contribute to improved competitiveness of the Baltic Sea Region and the European Union.

2. To commit to the existing TEN-T Priority Projects in the region, which are seen as an essential part of the future TEN-T core network.

3. That progress on Green Corridors must stay high on the agenda for both the Baltic transport area and the entire EU in a streamlined process and with a focus on structural reform of regulations and management so that results can be delivered in practice. Required ingredients for success include co-ordinated political support and stakeholder involvement.

4. The need to support the development of better connections between the Baltic Sea Region and other regions within the European Union, bearing in mind the particular importance of high-capacity multimodal ports and efficient hinterland connections.

5. The need to further discuss how the Baltic Sea Region can strengthen co-operation with East Asia and how the region can serve as a gateway between the European Union and East Asia.

As noted earlier, the maximum rail freight container volumes that could be feasible without absolutely massive investment in the inland Asia-Europe rail system would probably be in the range of
0.5 to 1 million TEUs per annum. It seems likely that even such volumes would be too large for Narvik to handle. Other ports in Norway and ports in other countries – such as the port of Murmansk on the Russian side – could be seen as potential competitors in such an Asian-Europe and beyond transport chain.

While such a project could be of regional interest, given the importance of it being financially viable, it would need to be strongly supported by commercial interests and potential users – and this has not really been the case to date. Nevertheless, the authorities have a role to play in contributing to the level of international co-operation necessary to ensure the possibilities are explored, the opportunities and challenges identified and sufficient analytical work is undertaken to assess the real prospects.

Northern Sea Route

The Northern Sea Route is the term used to describe the northern maritime route from Asia to Europe that is open for part of the year due to the shrinking of the Arctic Sea Ice cap. The Northern Sea Route involves travel via the Arctic Sea, north of the European/Asian land mass. The overall area of the Arctic Sea Ice has reduced by around 40% since 1978. At present, the Northern Sea Route is open to navigation without an ice breaker for around one and a half months a year.

A presentation to the TransBaltic Conference in Malmo, March 2010 by a Russian scientist advised the results of modelling of expected changes in the sea ice area in future. The model reflected the IPCC’s Climate Change scenarios and explored the future changes in sea ice based on the alternative global temperature changes the IPCC is expecting under the different scenarios. The Russian modelling predicted that the Northern Sea Route would be open for longer than at present – but less than three months by 2030 – and could be open 4-5 months a year by end of the 21st century.

For periods when the Northern Sea Route is open, it would provide a much shorter maritime route between China and Western Europe than the current main shipping route via the Indian Ocean and the Suez Canal. The distance involved would be around 12,000 km compared with around 22,000 km via the Suez. Based on typical ship speeds, the transit times involved would be around 12 days compared with at least 22 days via the Suez Canal.

The Malmo Conference highlighted that the shorter distances and faster travel times by themselves could make the Northern Sea Route a relatively attractive option for the short period it is expected to be open each year. However, just how attractive an option it would be in reality would depend on other factors, considered further below.
CHAPTER 7
OPPORTUNITIES AND CHALLENGES

Global and regional outlook

The global and regional projections anticipate recovery over the period to 2015 and continued economic growth over the period to 2030 and beyond. Steady GDP per capita growth is expected in the European region. Faster growth is expected in Eastern Europe but GDP per capita levels will remain highest in western European countries.

Faster economic growth is anticipated in resource rich countries including Russia. Russia’s GDP per capita is expected to increase quite quickly, partly due to resources development in future and partly to the reduction expected in population levels in Russia. Countries in Asia (China), South Asia (India) and South East Asia are expected to be amongst the developing countries with the fastest GDP per capita growth rates. Trade and related transport growth is expected to increase strongly within the Asian region and between Asia and the largest markets, in particular Europe and North America.

All of these developments can be expected to have some impact on the European Region. The outlook for the “High North”/Barents Area in particular will be affected by such future developments relating to Europe generally as well as by factors specific to the Area itself and the countries involved.

Opportunities

In the short term, the greatest opportunities for the “High North” area are likely to be those related to growth and development in the immediate region. These include development of abundant natural resources as well as increasing demand associated with strong growth in nearby countries – including Russia.

In the medium term, the possible changes in cross-border trade and trade routes could have significant impacts on the “High North”. Improved cross-border transport networks are likely to reduce costs and improve regional efficiency and competitiveness.

In the longer term, there is likely to be increased demand and possible opportunities for improved rail transport connections between Asia and Europe. The expected opening of the Northern Sea passage for a little longer period each year could also lead to some additional trade and development opportunities. These aspects are explored further in the following sections.

Challenges

Despite the positive outlook, there are important risks and uncertainties that could affect the “High North”. For example, there could be:

- considerable divergence in economic growth amongst developed and developing countries;
- significant changes in the list of developing and developed countries which will be the EU’s biggest trading partners;
• a reduction in the traditionally high elasticity of trade and transport demand with respect to economic growth;

• major policy changes and measures associated with key strategies such as low carbon economies, reducing CO₂ emissions and pursuing “green growth” policies that could impact on demand.

There are also the ever-present risks of global shocks, conflicts and disasters that could affect the global and regional GDP projections, with unknown timings. Taken together, the risks and possible scenarios suggest there is heightened level of uncertainty in the global and regional outlook, with possible consequences for Europe generally (including the “High North”).

**Resources development and related infrastructure needs**

**Resources Development**

The EC’s *Raw Materials Initiative* [2009] supports “securing reliable and undistorted access to raw materials as an important factor in the EU’s competitiveness”. In terms of the actions required, the EC Report focuses on:

- First pillar: Access to raw materials on world markets at undistorted conditions
- Second pillar: Foster sustainable supply of raw materials from European sources
- Third pillar: Reduce the EU’s consumption of primary raw materials

**Opportunities**

The “High North”/Barents Area is relatively resource rich and relatively under-developed. There are clearly prospects for the securing of reliable and undistorted access to additional raw materials.

In the mining sector, there are already well established iron ore mine(s) and the region is the major producer of iron ore in Europe. Very large new mines are under development on both sides of the Swedish-Finnish border. There are big mines on the Russian side. Mines for rare ores are also being developed, such as for iridium and lithium (which is important for batteries).

The development of new mines in the “High North” means there are likely to be requirements for new and extended rail track and bulk ore rail freight services in both Sweden and Finland. This would place additional demands on existing infrastructure and also require new infrastructure. Meeting these needs would allow the ore to be moved efficiently and reliably to processing plants, ports and final destinations.

In the forestry sector, Russian export duties on timber led to policy support for domestic sources of supply in Finland and a target for the felling of domestic timber that was “increased to 10-15 million cubic metres per year, in a sustainable way”. Increasing the supply of domestic timber requires appropriate measures to be taken in a variety of parts of the transport networks in Finland and Sweden e.g.: the condition of private roads and forest roads may need to be improved, and the network of minor roads, and some low-volume railway lines, may need to be upgraded.
Other resource developments seem likely to go ahead in a number of additional locations in the short term. Many of these could also create opportunities for extension and improvement of rail tracks and the need for some road improvements as well, where financially viable.

Challenges

Resource developments raise many challenges for infrastructure providers. Firstly, the producers and their mines are subject to the vagaries of the international markets. Mines that are expected to be viable when demand and commodity prices are high may be mothballed when demand and/or commodity prices fall. Viability can also be affected by decisions taken by other miners which change production levels in other countries around the world – and lead to changes in the global demand/supply balance. These factors emphasise the importance of close consultation with the mining companies. From an infrastructure providers’ viewpoint, it will also be important to give careful consideration to the demand and risks involved in each case.

The different presentations to the Workshop suggested that “policy push” was a driving force behind a lot of the infrastructure improvements under consideration at present. The specific needs of the mining industry in terms of rail track extensions and capacity improvements need to be further clarified. The costs of the rail improvement options proposed were identified in some cases. However, there was no equivalent advice on the revenues that the infrastructure investments would be likely to generate. In other words, most of the resource-related transport improvements options under consideration did not appear to be supported at this stage by robust “business cases” grounded in clear advice from the industry. Such “business cases” also need to take into account the risks rail infrastructure providers would face.

The Workshop included presentations on the possible infrastructure improvements in the Barents Link/Bothnian Corridor and in the Arctic Railway between Rovaniemi and Kirkenes.

The Barents Link presentation highlighted the Barents Link road and rail corridor which connects the Tornio – Haaparanta border crossing and The Bothnian Arc to the North West Russian traffic net. As the corridor has a border crossing in Kainuu, the Joint Authority of the Kainuu Region has had a great interest and an important role in the co-operation needed to develop the corridor. The Barents Link is seen as a part of N.E.W. Transport Corridor (see earlier).

The Arctic Railway presentation highlighted that the existing railway network is not very extensive in the North Calotte area. The railway network in Finland extends to Kolari in western Lapland and to Rovaniemi-Kemijärvi-Salla line in eastern Lapland; in Russia to Murmansk and Nikel. A railway connection is planned between Kirkenes and Nikel. However, the main part of Lapland and the whole northern part of Norway (north of Sweden and Finland) do not have a railway network and railway connections. Estimates of construction costs were in the order of 500 million euros to 1 billion euros in Finland; and 400-800 million euros in Norway.

Before decisions can be taken on the Arctic rail and other resource-related options, it will be important to establish clearly – and confirm – the individual and aggregate needs of the mining industry in the short term for the rail track extensions and improvements outlined. It will also be important to establish whether the individual miners and the industry will be prepared to pay for all the improvements they identify as best able to meet their freight transport requirements. Once benefit-cost evaluations have been undertaken and the financial viability of the options has been established, it should be easier to assess the overall level of infrastructure needs and identify the priorities.
Of course, final conclusions on the timing and staging of the priority rail projects including in the Bothnian corridor will still depend on the business case, funding availability and financing options – as well as on the willingness of the resources companies to meet their shares of the costs involved.

**Resources development infrastructure – business models**

*Traditional Infrastructure Funding*

In Europe, the transport (road, rail and port) infrastructure required to support major resources projects has generally been funded by the national governments concerned. The funds for the investments required most often have been raised from tax and other revenues – or via national government borrowings. They have generally been provided to the transport sector via national annual budget allocations. Most often, the country’s transport authorities (road, rail and port) have then planned and built the infrastructure required.

Once resource companies begin to operate profitably, governments receive company and other tax revenue streams that can be expected to meet a share of the upfront infrastructure costs incurred. Treasury coffers are generally replenished by user charges for freight rail services and taxes imposed on road transport.

Traditional funding approaches to transport infrastructure investment ensure a steady if somewhat limited source of funds will be available for infrastructure investment – generally sufficient to fund the highest priority infrastructure projects but not all the worthwhile projects proposed. They also result in governments accepting the project and demand risks associated with greenfields projects. These have generally been limited by comparison with overall infrastructure networks and relatively manageable.

The advent of the EU led to co-ordinated EU and national funding for the priority TEN-T projects and the availability of some funding for approved regional development projects. But it has not changed the traditional infrastructure funding approaches and models adopted in many countries.

Transport infrastructure funding in the “High North”/Barents Area seems to have been provided in accordance with the traditional approaches, as outlined above – and is still being provided the same way. Infrastructure funding is provided via national budgets in Sweden and Finland. Rail operators in Sweden and Finland are government owned [confirm]. They own the rail track, signalling equipment, rolling stock and other infrastructure used in rail operations. Funding for rail infrastructure investments needed by *resources developments* is treated the same way as other projects i.e. via government budget allocations.

*“High North” Resources – Infrastructure Business Models*

There are many resources developments under consideration in the “High North”/Barents Area. As discussed already, there is a need for clarification of the infrastructure needs, priorities and risks involved, before further detailed consideration can be given to funding. It is possible that all needs can continue to be met using traditional funding approaches. However, given the likelihood that alternative calls on the budget could reduce the levels of funding available, consideration may need to be given to possible alternative funding approaches. Some of the opportunities and challenges are set out below.
Opportunities

International experience suggests decisions on resources-related transport infrastructure improvements are increasingly likely to be taken on a commercial basis – i.e. in the expectation that the industries involved will meet the full costs of the infrastructure improvements and services they need. Such approaches could become important in the “High North” too if the resources-related infrastructure needed cannot be funded by public sector providers (e.g. government-owned freight rail operators).

In some countries, resource companies themselves sometimes assume responsibility for providing the transport infrastructure and services they require. In Australia, for example, there are numerous examples of the large iron ore miners building their own railways (and ports), ensuring the low freight costs and reliability (and the high levels of port productivity) they require for international competitiveness. They may decide doing so is preferable to putting the mining projects on hold due to inadequate existing infrastructure and government funding restrictions. In a similar way, there are also numerous examples in Australia (in Tasmania) of forest logging industries being charged the full costs of the use of the public road infrastructure by logging trucks, via “mass-distance” charging regimes specific to the forestry industry’s logging truck operations.

In Europe, under the EC’s rail freight liberalisation package, it would seem likely that greater competition could lead to innovative approaches to infrastructure development and competitive offerings of rail freight services becoming more commonplace in future.

In this context as well, “High North”/Barents Area Region could find it useful to give alternative infrastructure funding approaches and models some further consideration.

More commercial terms – and even allowing the transport infrastructure required by resource developments to be funded by the resource companies themselves – could be particularly valuable. Alternative funding approaches may in fact allow some resources developments to proceed that would otherwise be hampered or blocked by limited public funding.

Cross border traffic – infrastructure needs

Short to medium term

Many countries, regions and organisations are interested in the short term prospects for international traffic between the “High North”/Barents Area and its neighbours, particularly Russia and Norway.

Opportunities

It seems certain there will be increasing demand for cross border traffic in the short term between the “High North” Barents Area and Norway – on one side – and the Russian Federation on the other side. There is already a high freight volume on the Sweden to Narvik, Norway rail track. Volumes are expected to increase more broadly in the medium term between Sweden/Finland and the Russian Federation.

In most cases, the existing road and rail infrastructure was developed on the basis of national plans and intended to meet national requirements. In common with many other regions, relatively less attention has been given to the cross-border infrastructure needed to meet the growing levels of infrastructure needs.
international demand, particularly between the “High North”/Barents area of Europe and the Russian Federation.

The European Commission’s High Level Group Report on Networks for Peace and Development (November 2005) anticipated significant growth in demand along five major axes, one of which is “the Northern Axis”. The Report noted that:

The Northern Axis connects the northern EU with Norway on one hand and with Belarus and Russia on the other. A connection to the Barents region linking Norway and Sweden with Russia is also foreseen. The alignment of these connections [includes]:

Multimodal connection St. Petersburg/Vartius/Tornio/Haparanda/Narvik.

![Northern Axis - Barents Link project](image)

Figure 5: The Northern Axis. Unpublished illustration, courtesy of the Russia Forum presentation.

**Challenges**

The prospects of improved Northern East-West connections across Finland and Sweden to Norway (e.g. Narvik or another location nearby) would depend to a large extent on demand to and from the Russian side of the border. They would also probably depend on Norway being prepared to make a significant funding contribution as well.

The potential transport flows from the Russian side of the border would depend on origin-destination flows between Norway, the “High North” of Europe and Russia.
**Longer Term**

**Possible Northern East-West (N.E.W.) Route Corridor**

As noted earlier, there are several possible Asia-Europe rail corridor routings that could deliver significant transport volumes via Russia to the European “High North” border. Perhaps the most ambitious of the many possible longer term options canvassed would be the so called Northern East-West (N.E.W.) route.

The connections with the Far East would be conducted via three main routes:

a) The Russian Trans-Siberian railroad main line to Vladivostok and beyond via Vostochny Port to Japan, as well as to South Korea via the recently reopened railway link through North Korea.

b) To Northeast China and Beijing; branching off from the Trans-Siberian main line at Ulan Ude, Russia to continue southeast via Inner Mongolia.

c) To Western China and beyond to Southern China; branching off from the Trans-Siberian main line already at Yekaterinburg by the Urals, continuing southeast via Kazakhstan.

Such a corridor could also offer direct shipping connections to the East Coast of North America via a northern Norwegian port – e.g. Narvik with its existing railway connection with Sweden/Finland and its year-round ice-free harbour; or a new gateway port nearby.

● **Opportunities**

In the longer term, international cross border and transit demand and rail freight flows across the “High North” Barents Area of Europe will depend to a large extent on the quality, efficiency and competitiveness of the rail freight services across Russia and from centres of economic activity beyond Russia (e.g. China).

Clearly, there would be huge challenges in developing high quality rail services along a Europe/Russia/China corridor, given the geographic scale involved. The corridor would be around 10 000 km long. It would cross many less developed regions where there could be safety and security issues. However, there has already been some operational interest, as reported earlier.

● **Challenges**

In future, there would be formidable technical and practical climate challenges too, given the adverse weather and the extreme winter conditions that could be expected over parts of the route for extended periods every year. Complex operational challenges would need to be addressed, given the large number of different countries to be crossed, the operational barriers (e.g. the different rail gauges and signaling systems involved) and the different train safety regulations administered by each country’s rail authorities.

Existing cross-border practices would need to be reformed and made highly efficient – and the corruption prevalent at many border crossings would have to be eliminated.
Importantly, operators would have to be able to guarantee the safety and security of their personnel and their rail freight cargoes as well – which would be in isolated locations for long periods and difficult to protect from pillaging or attack.

Finally, there is the question mark over how such a project could be organised and financed. The users would be widely spread around the world and the beneficiaries even more diverse, meaning many of the governments involved would be far removed from the users and beneficiaries of the improved transit services. There also would be considerable demand risks associated with a transcontinental project of this scale, as well as formidable financing and other project risks.

Clearly, there would need to be exceptionally good organisational arrangements and levels of co-ordination and co-operation. There would also need to be a strong and well supported proponent able to make the business case, co-ordinate the actions required and win the support of the many countries, governments and stakeholders involved.

Importantly, there would need to be evidence of really strong business interest and support for the project, given the importance of future revenues as well as up-front project costs for viability. To date, there does not seem to have been the really strong interest from the private sector that would be needed.

**Northern Sea Route**

As noted earlier, the Northern Sea Route is the term used to describe the northern maritime route from Asia to Europe that is open for part of the year due to the shrinking of the Arctic Sea Ice cap. The Northern Sea Route involves travel via the Arctic Sea, north of the European/Asian land mass. The overall area of the Arctic Sea Ice has reduced by around 40% since 1978. At present, the Northern Sea Route is open to navigation without an ice breaker for around one and a half months a year.

Russian modelling presented at the TransBaltic Conference, Malmo in March 2010 based on IPCC’s global temperature modelling predicted that the Northern Sea Route would be open for longer than at present but still less than three months a year by 2030 – and could be open 4-5 months by end of the 21st century.

- **Opportunities**

For periods when the Northern Sea Route is open, it would provide a much shorter maritime route between China and Western Europe than the current main shipping route via the Indian Ocean and the Suez Canal. The distance involved would be around 12 000 km compared with around 22 000 km via the Suez. Based on typical ship speeds, the transit times involved would be around 12 days compared with at least 22 days via the Suez Canal.
Challenges

The Malmo Conference highlighted that the shorter distances and faster travel times by themselves could make the Northern Sea Route a relatively attractive option for the short period it is expected to be open each year. However, just how attractive an option it would be in reality would depend on other factors e.g.:

- The special vessel standards needed for shipping operating in Arctic water and related costs.
- The costs and financial viability of developing and maintaining high capacity infrastructure that could only be fully used for short periods each year – including port and port container handling and inland rail transport infrastructure with sufficient capacity to handle the volumes of containers involved.
- Sufficient capacity on the main and other routes would be required to handle the full demand and volumes for the many months each year when the Northern Sea Route is closed.
- The possibility that infrastructure operators on the main routes could consider discounting prices selectively while the Northern Sea Route was open – making the Northern route less financially attractive and therefore a higher financial risk.

Transcontinental infrastructure – business models

Over the last decade, there has been recurrent interest in the feasibility of transcontinental rail services between Asia and Europe. Relatively little seems to have been said about possible funding and financing and business models. There does not seem to have been any rigorous analysis of the options available. Therefore it is not possible to draw conclusions at present about the prospects for a transcontinental rail project between Asia and Europe.

Given the recent trials, however, where the rail freight costs were apparently around twice as high as maritime alternatives, and the improvements that would be required, there would not appear to realistic prospects of success in the short-medium term or the foreseeable future.

However, there may still be prospects in the long term. This is reinforced by the recent Haparanda Declaration of 17 June 2010 (see Annex B). The fact that there have been recent government-to-government discussions – and that these discussions are ongoing – suggests it is best to keep an open mind.

It is therefore interesting to speculate how such a project could be organised, if it were to proceed – and to give some thought to the sort of business model that could be needed to make it work.

Transcontinental Transit Traffic – business models

In organisational terms, it would be difficult indeed with a continuation of individual responsibilities to secure the necessary participation of all the governments involved and to coordinate their rail operators and infrastructure providers sufficiently to achieve the unified outcomes required.

An alternative approach could be to make use of an Inter-governmental Framework similar to that adopted for the Nabucco Gas Pipeline. Partnership Agreements between the commercial parties involved (along the lines of the inter-governmental partnership arrangements in the Nabucco project)
could also be a useful addition to the approach. (Further details on the Nabucco Gas Pipeline project are provided in the Istanbul Workshop report.)

A huge Joint Venture structured along these lines could help secure the support and participation required and offer the potential to raise the funding and co-ordinate the activities required. For this to be a prospect, there would need to be an effective Project Proponent who could devote the time and resources required to gathering the necessary support from all the governments and organisations involved. Depending on the structure of the Joint Venture, some individual elements could perhaps be undertaken on a PPP basis. However, no detailed consideration can be given to the corridor until the prospects have been assessed realistically.

**Opportunities**

A detailed evaluation of the project would be required with sufficient work on the prospective demand, the infrastructure costs, and the likely operating and other costs – and of course the potential revenues. A robust business case would be vital in providing the analytical underpinnings and justification for such a huge transcontinental rail project as well as capturing the wider support that would be required.

Careful consideration would need to be given to demand, construction, operational and other risks such as safety and security – and the actions required to deal with them adequately. If a project could pass all the hurdles this would involve, it would be possible to see whether the business case for an extension across the “High North”/Barents Area of Europe could be robust enough to attract wider interest and support.

The individual rail operators in Sweden, Finland and Norway are government owned. In the Russian Federation, RZD has been established as a fully government owned business enterprise. Operators in other countries crossed by Trans-Siberian and Trans-Asian routes will probably be structured along similar lines. Given the diversity of interests, there would have to be major question marks not only over the organisational arrangements, but also the overall project funding and the financing of individual elements.

**Challenges**

On the financing side, following the recession, most governments will be facing increasing difficulties in financing all the national infrastructure necessary for their own populations. These difficulties can be expected to increase due to increasing demands from other sectors such as health and social security and the increasing needs of ageing populations. Individually, some of the countries that would have to be centrally involved could face particular difficulties.

Many of the other countries that would need to be involved would probably face similar difficulties raising the funds needed for a high volume rail freight transit facility crossing their territories. All governments and other parties probably would be concerned about the considerable demand, financing and other project risks associated with such a major long-term project.

**Institutional arrangements – involvement and co-ordination of stakeholders**

One of the questions raised in all case studies is whether the institutional arrangements provide the capacity and flexibility required – and whether any improvements are required in the involvement, co-operation and co-ordination of stakeholders across the region.
European Union Policy Frameworks and Structures

The European Union provides the policy and regulatory frameworks that EU members need to support cross border infrastructure investments between EU member countries.

Different regulatory frameworks and institutional arrangements are needed at an international level to facilitate cross border infrastructure investments between EU members and neighbouring countries such as Norway. Special arrangements are needed to deal with cross border infrastructure investments between the EU members and the Russian Federation.

Northern Region Institutional Structures

Historically, there was a complete separation between Europe and Russia and relatively little contact between their authorities for a long time. A number of steps have been taken recently to increase contact, improve co-operation and develop a more robust regional approach. The recent history of the Institutional arrangements between the EU and other countries in the Northern Region is set out below:

The Northern Dimension Policy

The Northern Dimension (ND) policy was elaborated in 1999 with the participation of Norway, Iceland, EU Member States and the Russian Federation. Geographically the ND focuses increasingly on northwest Russia, Kaliningrad, the Baltic and the Barents Seas, the Arctic and Sub-Arctic areas. The main objectives of the policy are to provide a common framework for the promotion of dialogue and concrete co-operation, strengthen stability and well-being, intensify economic co-operation, and promote economic integration, competitiveness and sustainable development in Northern Europe.

Apart from the major partners, the other stakeholders are: the Council of the Baltic Sea States (CBSS), the Barents Euro Arctic Council (BEAC), the Arctic Council (AC), the Nordic Council of Ministers (NCM), international financial institutions, such as the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB) and the Nordic Investment Bank (NIB); NGOs, trade unions etc. Canada and the United States perform the roles of the observers.

The renewed ND policy was launched at Helsinki Summit in November 2006. As a result, the co-operation among the actors in the region was intensified substantially. At the political level the new ND Political Declaration and ND Policy Framework Document were adopted to substitute the Action Plans of 2000-2003 and 2004-2006. The two main characteristics of the renewed policy are: 1) the co-ownership of EU, Iceland, Norway and Russia and 2) the strong link between the ND policy and the four EU/Russia Common Spaces, agreed in 2004 and specified in Road Maps adopted in 2005.

In order to facilitate the project implementation within the framework of the ND policy, the following partnerships were created: the Northern Dimension Environmental Partnership (NDEP) and the Northern Dimension Partnership in Public Health and Social Wellbeing (NDPHS). In October 2008 the decision to establish the ND Partnership on Transport and Logistics was taken.


At a European level, as outlined above, there are now well established institutional arrangements in place. The Northern Development Policy has been widely considered. There are well developed consultation arrangements with the very many stakeholders that have an interest in the ongoing work and outcomes.

In terms of transport structures, the Northern Development Partnership on Transport and Logistics (NDPTL) is currently at the organising stage. There has not been any possibility to address the question of the ND network in the Partnership. Therefore the starting point is the Northern Transport Axis as defined by the HLG in its 2005 report.
TransBaltic Partnership

The TransBaltic presentation highlighted that the TranBaltic project has attracted 21 partners from nine countries, including the regional authorities of:

- Skåne (SE), Västerbotten (SE), Blekinge (SE), Västra Götaland (SE), Stockholm (SE), Lahti (FI), Pomorskie (PL), Warminsko-Mazurskie (PL), Sjælland (DK), Vest Agder (NO), Eastern Norway County Network (NO) as well as specific partners (transport and logistic associations, transport administration, universities and research organisations).

There are also 29 associated and supporting organisations participating in the TransBaltic work, including:

- national transport ministries of: Lithuania, Estonia, Norway, Sweden, Poland, Germany and Belarus + Finnish Maritime Administration;
- eight organisations from Russia, with Kaliningrad Region, City of Sankt Petersburg, North-West Association of the Eleven Federal Subjects of the Russian Federation;
- seven pan-Baltic organisations

Source: Sara Jacobsson, Workshop presentation on the TransBaltic Project.

Stakeholder Involvement, Co-ordination and Co-operation

The level of stakeholder involvement in the “High North”/Barents Area projects under consideration is an important indicator of the way in which stakeholder co-ordination and involvement is working generally. Some insights are available from the following examples.

The TransBaltic Conference held in Malmo in March 2010 provided one indication of the extent of participation and how the arrangements are working. There was good attendance with a diverse group of stakeholders present. The European Commission was represented and diverse national participation as well with quite wide participation from Sweden and some participation from other countries to the east, including Germany and Poland. One of the presenters was Russian. There were a number of private sector participants as well. Surprisingly, there was limited attendance from Norway or Finnish authorities and organisations.

The group that attended the project’s Helsinki Workshop came from Finland and Sweden. There were no participants from Norway or the Russian Federation but there was discussion of the Russian position and expected views based on contributions from participants with considerable Russian experience. The Workshop group seemed to really appreciate the opportunity the Workshop provided to increase their direct contacts and co-operation on regional issues and exchange views on cross-border developments.

These limited examples support the general perception that the countries involved are in fairly regular contact but recognise the importance and appreciate the opportunities to work more closely together. Collectively, the organisations involved appear to be well aware of the importance of more co-ordinated regional approaches and the need for adequate stakeholder involvement. However, these examples also illustrated the difficulties in gathering all the key stakeholders from the different countries that have a direct interest in important regional matters under discussion.
Resources development

- Opportunities

In relation to resources developments and related infrastructure requirements, the issues clearly are not purely national. There are important regional and cross border aspects that need to be considered on a regional basis, in consultation with the appropriate stakeholders in each case.

The infrastructure that future resources developments will require is currently under consideration. However, there is an opportunity and a real need for it to be planned consistently on a regional basis. As the work progresses, there will need to be closer co-operation and co-ordination between Sweden and Finland and there will need to be a clearer focus on industry requirements for which industry is willing to pay. There will also need to be close co-operation with Norway and Russia on cross-border infrastructure requirements, timings and responsibilities including funding.

Consideration could possibly be given to setting up a joint project team with Swedish and Finnish (and possibly wider) participation that can assess the proposals and put forward recommendations to (both) governments for consideration.

- Challenges

The largest institutional challenges would appear likely to relate to the diversity of regional and organisational interests and the greater regional co-ordination required. One of the major challenges will be to identify and facilitate strong government/industry proponents who can clarify the real needs with the support of a rigorous business case and push and garner support for the outcomes required.

A second important challenge will be to ensure adequate industry and stakeholder involvement – particularly from the mining and forestry industries but also from downstream industries. There may be difficulties in obtaining industry input to the identification of the best projects – and the logistics input needed for assessments of the priorities. Greater contact with Norway and the Russian Federation may be difficult to sustain on cross border developments and infrastructure requirements. Co-ordination will also be needed in respect of the roles of the governments as operators for ports used by the mining sector and as facilitators of cross-border ore processing and clearance of the products being transported.

How can infrastructure investment best contribute to “green growth” in particular?

What is Green Growth?

Growing concerns about the environmental unsustainability of past economic growth patterns and increased awareness of a potential future climate crisis have made it clear that the environment and the economy can no longer be considered in isolation. At the same time, the financial and economic crisis has provided the opportunity for policy interventions aimed at encouraging recovery and renewed growth on more environmentally and socially sustainable grounds.

Within this context, green growth is gaining support as a way to pursue economic growth and development, while preventing environmental degradation, biodiversity loss and unsustainable natural resource use. It builds on existing sustainable development initiatives in many countries and aims at identifying cleaner sources of growth, including seizing the opportunities to develop new green industries, jobs and technologies, while also managing the structural changes associated with the transition to a greener economy.
At the OECD Ministerial Meeting in 2009, Ministers of 34 countries decided to develop a Green Growth Strategy. The mandate was clear: growth can – and should – go hand-in-hand with green.

In this context, central questions for the project’s case study work are: How are “climate change”, “low carbon” and “green growth”-related policy objectives and measures likely to affect key gateways hubs? How can infrastructure investment best contribute to “green growth” in particular?

**Contributions to Green growth**

1. **Planning and Development Stages**

   The first ways in which infrastructure investment can contribute to Green Growth appear during planning and development stages. The proponents need to ensure that the investments are well chosen in the context of new policy settings that seek cleaner sources of growth. They also need to ensure that the developments are undertaken in ways that minimise adverse environmental impacts and promote new green industries, jobs and technologies.

2. **Contributions during operations and use**

   The second way in which infrastructure can be expected to contribute to green growth relates to the contributions it will make during the infrastructure’s operations and use. Given the long expected life of most infrastructure, there may be scope for users – and their use of the infrastructure – to make very significant contributions to the greener outcomes required.

   - **Opportunities**

     One of the priorities has been to reduce energy use and CO₂ emissions of the transport vessels and vehicles using the infrastructure facilities.

     In relation to inland transport, it is important to promote greater use of more environmentally friendly modes. The intention should be to increase the use of maritime transport internationally in combination with inland water and rail modes, given they offer the prospect of reduced CO₂ emissions (given currently available technologies) by comparison with road transport. This could result in significant contributions to “green growth” strategies.

   - **Challenges**

     Given the current policy focus on reducing CO₂ emissions and moving to low carbon economies, new policy settings and paradigms might apply in future. Policy measures could include for example more effective emissions trading schemes and carbon tax regimes that apply to all transport modes. The expectation is that future maritime and inland transport outcomes will be shaped more by such developments and measures in future – and spurred on by “Green Growth” priorities.

     Under such an outlook, it is likely that the trade and transport patterns will be shaped more by the need to reduce CO₂ emissions, conserve non-renewable fuels and increase the contribution of infrastructure investment and use to Green Growth than has been the case to date.

     For long distance, Asia-Europe transport routes, maritime transport with its much shorter inland connections to port hinterlands will offer lower CO₂ emissions than land transport alternatives. This suggests any transcontinental project will not be able to gather support on these grounds alone.
A more likely rationale is that improved land transport connections between Asia and Europe are required in their own right, by the trade and development needs of inland regions and landlocked countries along the route. Development of improved rail infrastructure and services could therefore proceed for these reasons alone.

In this context, the interesting question would then be raised on the best connections at the Europe end. Here the choice would be between services connecting directly into the main European transport networks; and a new route that provides the necessary priority and reliability to the transit traffic – and protects the existing networks from the additional volumes and congestion involved. It may be possible to make the case, in this context, for a “greener” routing that avoids existing highly developed areas.

Clearly, the main immediate challenges in this area are to communicate expectations effectively and to manage the processes carefully to achieve the improvements required. However, it is clear there could be greater challenges for a major transcontinental rail transit route developed in the longer term, despite all the efforts that might be made then to reduce CO$_2$ emissions, protect the environment and make valuable contributions to green growth.
CHAPTER 8
FINAL REMARKS

An overall, more unified vision for a more integrated “High North” region seems to be in prospect, involving not only Sweden and Finland but also Norway – and in due course Russia as well. At the same time, there are many different, alternative projects under consideration. There needs to be a more co-ordinated Regional vision for the future against which future infrastructure options can be assessed. Developing one will take considerable consultation and co-ordination, careful analysis and finally some hard decisions on the prospects and priorities.

**Resource development and related infrastructure**

There are many resource developments under consideration in the “High North”/Barents Area, including iron ore and other mines, ore processing and metal production, forestry logging and timber products and seafood distribution.

Resource developments raise many challenges for infrastructure providers. The producers and their mines are subject to the vagaries of the international markets. Mines that are expected to be viable when demand and commodity prices are high may be mothballed when demand and/or commodity prices fall. Viability can also be affected by decisions on production levels in other countries that lead to changes in the global demand/supply balance. From an infrastructure providers’ viewpoint, it will also be important to give careful consideration to the demand and risks involved in each case.

At present, the infrastructure priorities needed to meet the proposed resources developments are not really clear. There is therefore a need for clarification of the infrastructure needs and priorities, based on robust business cases. It will be important for these assessments to be strongly grounded in industry needs and take into account the willingness of the industry to pay for the infrastructure and services they require.

Once this is done, consideration can be given to funding availability and adequacy. It is possible that all needs can continue to be met using traditional government funding approaches. However, given the likelihood that alternative calls on government budgets will reduce the levels of infrastructure funding available in future, consideration may need to be given to possible alternative funding approaches.

More commercial terms – and even allowing the transport infrastructure required by resource developments to be funded by the resource companies themselves – could be particularly valuable. Alternative funding approaches may in fact allow some resources developments to proceed that would otherwise be hampered or blocked by limited public funding.

**Institutional challenges**

The largest institutional challenges would appear likely to relate to the diversity of regional and organisational interests and the greater regional co-ordination required. Given this diversity, strong government/industry proponents will be required to clarify the real needs and priorities and – supported by rigorous business cases – to garner support for the outcomes required.
A second important challenge will be to ensure adequate industry and stakeholder involvement during deliberative stages – particularly from the mining and forestry industries but also from downstream manufacturing and other industries. Industry input will be crucial in the identification of the best projects and logistics input will be important to the assessments of the priorities.

There will also need to be greater contact with Norway and the Russian Federation as well on mining developments and possible cross border infrastructure requirements. This wider co-ordination will help resolve Finland and Russia’s possible joint interest in cross-border processing – as well as the roles of all four countries in the regional plans needed for the resources developments, and as operators of the ports used by the mining and other resources sectors.

**Longer Term Changes – Trade Routes and Transport**

Possible changes in trade and transport demand along key trade routes could lead in the longer term to improved inland transport between Asia and Europe. The Haparanda Declaration on 17 June 2010 has given the prospects a boost. Improved transcontinental infrastructure on this scale could have significant impacts on the “High North”.

In the longer term, the expected opening of the Northern Sea passage for longer periods each year (around 2-3 months by 2030) could also have some important impacts in the “High North”.

There does not yet seem to have been any rigorous analysis of the options available at present, so the possibilities are conceptual only. Therefore it is not possible to draw conclusions at present about the prospects for a transcontinental rail project between Asia and Europe.

Nevertheless, it is interesting to speculate how such a project could be organised, if it were to proceed – and to give some thought to the sort of business model that could be needed to make it work.

**Organisational Challenges**

In organisational terms, it would be difficult indeed to contemplate a major transcontinental infrastructure project to improve Asia-Europe rail services with a continuation of individual responsibilities to secure the necessary participation of all the governments involved and to co-ordinate their rail operators and infrastructure providers sufficiently to achieve the unified outcomes required.

An alternative approach could be to make use of an Inter-governmental Framework similar to that adopted for the Nabucco Gas Pipeline. Partnership Agreements between the commercial parties involved (along the lines of the Nabucco projects inter-governmental partnership arrangements) could also be a useful addition to the approach.

[Further details on the Nabucco gas pipeline project are provided in the Istanbul Workshop report].

A huge Joint Venture structured along these lines could help secure the support and participation required offered the potential to raise the funding and co-ordinate the activities required. For this to be a prospect, there would need to be an effective Project Proponent which could devote the time and resources required to gather the necessary support from all the governments and organisations that would need to be involved. Depending on the structure of the Joint Venture, individual elements could perhaps be undertaken on a PPP basis.
ANNEX A
HELSINKI WORKSHOP – LIST OF PARTICIPANTS

Taneli ANTIKAINEN, Finnish Transport Agency
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Risto MURTO, Finnish Ministry for Transport and Communications
Jukka SIREN, Ramboll
Barrie STEVENS, Organisation for Economic Co-operation and Development
John WHITE, Organisation for Economic Co-operation and Development
Hamid ZARGHAMPOUR, Swedish Transport Administration
The Haparanda Declaration

The Ministers and High Level Representatives of Sweden, Iceland, Norway, Finland, Estonia, Latvia, Lithuania, Poland, Germany, Denmark, Russia and China

GATHERED under the midnight sun in Haparanda on 16 and 17 June 2010.

WELCOMING the establishment of the Northern Dimension Partnership on Transport and Logistics and the recent signing of an Agreement on the Secretariat of this Partnership; NOTING that Parties to the Partnership are the European Commission, Ministries responsible for transport, infrastructure and logistics of Norway, Russia, Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Sweden and Belarus; WISHING to contribute to the work on the revision of the TEN-T guidelines,

DISCUSSING the new EU 2020 strategy and TAKING NOTE of the obvious links between this strategy and the EU Strategy for the Baltic Sea Region; EXPRESSING their view that the Baltic Sea Region has a unique opportunity to link national growth initiatives and European endeavours in a regional context and thereby improve the economic growth opportunities to all citizens as well as trade and industry,

STRESSING the fact that the Baltic Sea Region today accounts for significant parts of Europe’s natural resources and HIGHLIGHTING the importance of an integrated, sustainable, efficient and environmentally sound network of transport infrastructure in the Baltic Sea Region to bring these resources to a wider European and Global market

TAKING NOTE of the Baltic Sea Strategy as a recognition of the importance of cooperation across borders, i.e. in the field of transport to address the specific challenges and possibilities of this part of Europe, and WELCOMING the Baltic Transport Outlook study that will
provide a joint analysis on how to strengthen the cross border cooperation on accessibility and infrastructure planning in the entire Baltic Sea Region.

EMPHASIZING how the political changes around the Baltic Sea, coupled with the enlargement of the European Union, have led to significant growth in the trade flows in the region as well as new trade patterns.

TAKING NOTE of the Presidency conclusions in December 2009 from the Swedish Presidency regarding the Future European Transport Policy.

STRESSING the need of transport accessibility in the region and NOTICING the still existing bottlenecks, which affect negatively the efficiency of the transport system.

DISCUSSING the challenges for the EU Member States regarding the need for a well functioning transport system within the Union as well as in and with its neighbours, in order to ensure a positive development for trade and industry EU wide; TAKING NOTE of the importance of the TEN network in this regard;

EXPRESSING their joint support for the future TEN-T as a dual layer structure consisting of a comprehensive network and a core network;

WELCOMING the Chinese initiative to set up a Working group exploring the possibilities for freight traffic by rail between East Asia and the Baltic Sea Region and the first Working group meeting successfully held in China in January 2010, WELCOMING Russia’s offer to host the next meeting in the Working group in the autumn of 2010 and ENCOURAGING the European Commission as well as the whole Baltic Sea Region to get involved in this cooperation.

The Ministers and High Level Representatives of the participating countries DECLARED

1. to commit to continued cooperation in the field of transport and infrastructure in order to contribute to improved competitiveness of the Baltic Sea Region and the European Union.

2. to commit to the existing TEN-T Priority Projects in the region, which are seen as an essential part of the future TEN-T core network.

3. that progress on Green Corridors must stay high on the agenda for both the Baltic transport area and the entire EU in a streamlined process and with a focus on structural reform of regulations and management so that results can be delivered in practice. Required ingredients for success include coordinated political support and stakeholder involvement.
4. the need to support the development of better connections between the Baltic Sea Region and other regions within the European Union, bearing in mind the particular importance of high-capacity multimodal ports and efficient hinterland connections.

5. the need to further discuss how the Baltic Sea Region can strengthen cooperation with East Asia and how the region can serve as a gateway between the European Union and East Asia.