



Extension of the Baltic-Adriatic Corridor from Gdynia to Gothenburg, via MoS Gdynia-Karlskrona

Roadmap

TENTacle, Blekinge pilot case 3.1

Final Output, 2019



Project: Roadmap - Extension of the Baltic-Adriatic Corridor from Gdynia to Gothenburg, via MoS Gdynia-Karlskrona

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Abbreviations

| | |
|---------|---|
| ARCA | Association of the Cities of the Amber Motorway |
| BAC | Baltic Adriatic Corridor |
| BPO | Baltic Ports Organisation |
| BSR | Baltic Sea Region |
| BSSSC | Baltic Sea States Subregional Co-operation |
| CEF | Connecting Europe Facility |
| CNC | Core Network Corridors |
| ERTMS | European Rail Traffic Management System |
| EUSBSR | EU Strategy for the Baltic Sea Region |
| INEA | Innovation and Networks Executive Agency |
| ITS | Intelligent Transportation System |
| MoS | Motorways of the Sea |
| MS | Member States |
| OBOR | One Belt One Road |
| PRM | Persons with Reduced Mobility |
| SB | South Baltic |
| ScanMed | Scandinavian – Mediterranean Corridor |
| TEM | Trans-European Motorways |
| TEN-T | Trans-European Transport Network |
| UBC | Union of the Baltic Cities |
| VTM | Vessel Traffic Monitoring |

Foreword. Scope of the report

The Trans-European Transport Network (TEN-T) was established with the objective to close gaps, remove bottlenecks and eliminate technical barriers that exist between the transport networks of EU Member States. The network has a dual-layer structure, a comprehensive network and a core network comprising nine core network corridors (CNCs). A revision of the TEN-T core network will take place by 2023 and the Commission will assess whether new sections are to be included. Modifications of the core network corridors can be made to take changes in transport flows and national investment planning into account.

This report presents the work done in Task 3.1 of the TENTacle project, a flagship in Policy Area Transport of the EU Strategy for the Baltic Sea Region. Task 3.1 addressed the key development challenge for the county of Blekinge, which is the peripheral location to main international transport axes, with lowest road and rail accessibility indices among Swedish territories south of Stockholm (comparable to the Swedish islands and northernmost regions).

Since 2013, when the nine core network corridors were established, the trade between Sweden and Poland has increased by 44 % (between 2013 and 2017), and the trade and transports between Scandinavia and the Central and Eastern European countries are expected to continually increase. For MoS Gdynia-Karlskrona the number of freight units have increased with almost 40 % from 2013 to 2018 and the number of passengers has increased with 34 % from 509 000 passengers in 2013 to 683 000 passengers in 2018.

Considering the changes in transport flows between Scandinavia and the eastern parts of Europe, an extension of Baltic-Adriatic to Gothenburg via MoS Gdynia-Karlskrona should be taken into consideration in the 2023 TEN-T revision.

Despite those market trends, Blekinge's transport infrastructure is not put on any European or national priority list, with no core network components and only four isolated elements (national road E22, ports in Karlskrona and Karlshamn and the airport at Ronneby) listed in the TEN-T comprehensive network.

The geographical location and the latest trade developments predestine Blekinge to become one of Sweden's foremost gateways to the expanding trading markets in Central/Eastern Europe (the Baltic States, Poland) and the growing Central Asian and Far East economies. Still, this would require a better connectivity to the urban/transport nodes on the nearby CNCs, which would, in turn, allow for the growth of knowledge-intensive branches utilising competence of local graduates and in-migrating high-skilled labour force.

This report sums up the investigation and discussion process to better exploit the proximity of Blekinge county to the three TEN-T core network corridors: Scandinavian-Mediterranean, North Sea-Baltic and Baltic-Adriatic. It departs from:

- Highlights on the status of the region's interoperability and connectivity to the CNC urban and transport nodes on the three CNCs;
- Summary of pre-investment studies and plans for the port areas as intermodal nodes linking up with the entry points to the CNCs on the other shore of the Baltic Sea;
- Reflections on benefits of using traffic data obtained from remote sensing technologies in planning of transport infrastructure investments on transit routes to the CNCs.

Following the circumstances of an amended schedule for the preparation of the regional transport infrastructure plan for Blekinge 2018-2029 and the withdrawal of the Port of Karlshamn from the project partnership (with, consequently, the quay expansion study made outside the project framework), and instead supplemented by additional Satellite and Drone Capacity measurements made by BTH in the harbour of Karlshamn.

With the TEN-T dimension of the regional investments now being more visible on the political agenda, the CNC extension issue was recognised a key opportunity in improving Blekinge's low accessibility indices and disadvantageous development standings.

This report explores pre-requisites, lays down arguments and proposes solutions for succeeding with one feasible direction of the CNC extension process, namely – by elongating the Baltic-Adriatic Corridor from the port of Gdynia further northwards towards Gothenburg. Such a direction implies the integration of the Motorway of the Sea Gdynia-Karlskrona as the maritime leg of the Baltic-Adriatic Corridor and the inclusion of the Baltic-Link Corridor, which sees gradual infrastructure improvements and an organised stakeholder collaboration on the stretch between Karlskrona and Gothenburg.

The proposed extension of the Baltic-Adriatic corridor has potential to become the fastest and most sustainable way from Sweden to Central and Eastern Europe, and to the Adriatic Sea. Sweden is currently solely relying on one corridor, which creates a fragile transport system. A more robust and reliable transportation system can be achieved by extending the Baltic-Adriatic Corridor to Gothenburg via Karlskrona and Gdynia. The proposed extension would also better reflect the changing transport flow with increased transport to and from central and eastern Europe.

The focus on the extension of the Baltic-Adriatic Corridor does not preclude a similar initiative for the western-bound branch of the North Sea-Baltic Corridor which would connect Blekinge to the port in Klaipeda and the Via Baltica/Rail Baltica transport system. On the contrary, testing of the corridor extension approach by pursuing the road map as proposed in this report sets a firm ground for any further initiatives of this kind to be led by Region Blekinge in an international alliance of stakeholders. Lessons learned from the present action will be a building stone in an effort to utilise the region's proximity to all the three TEN-T core network corridors and thereby to untap the development potential of Blekinge through a better accessibility and connectivity to main European corridors.

2. Introduction

2.1 Background

This report is a part of the EU-project TENTacle, a flagship project of BSR Programme, that was initiated in 2015 by Region Blekinge. The TENTacle Baltic Sea Region INTERREG project focuses on the relation between transport and regional development. It seeks to capitalise on major EU investment in transport infrastructure that creates the Trans-European Network, TEN-T. The TENTacle project aspires to involve public and market stakeholders in a joint effort to develop policy and action recommendations to draw benefits out of the TEN-T core network corridors for the prosperity, sustainable growth and territorial cohesion.

TENTacle launched a number of pilot cases for the geographical areas on, in close vicinity to, and farther away from the core network corridors. Two of them, namely Blekinge and Gdynia, joined forces to propose measures for extending the Baltic-Adriatic Corridor northwards, via the Motorway of the Sea Gdynia-Karlskrona and along the Baltic-Link towards Gothenburg.

As a part of the TENTacle project and the shared goal, between Baltic-Link Association, Association of the Cities of the Amber Motorway (ARCA) and Association of Polish Regions of the Baltic-Adriatic Transport Corridor, to extend the Baltic-Adriatic Corridor to Scandinavia via Motorway of the Sea Gdynia-Karlskrona workshops have been carried out. A transnational workshop between Blekinge and Gdynia took place to gather information and to show the purpose and values of this particular extension within the TEN-T network. The workshop was carried out in Karlskrona on the 29th of November 2018 with a following evaluative session on the 15th of January. This resulted in the Roadmap before you, which will show the reasons and values for an extension of the Baltic-Adriatic Corridor. The output will serve a guiding document for the initiators.

The report is written and compiled by Norconsult AB on behalf of Region Blekinge and the municipality of Karlskrona.

2.2 Purpose

The aim is to extend the Core Network Corridor Baltic-Adriatic from Gdynia to Gothenburg via Karlskrona. This report serves as a roadmap for the measures and strategic actions needed to include the route Karlskrona-Gothenburg, MoS Gdynia-Karlskrona, road 27 and the coast to coast railway line, in the Trans-European Transport Network (TEN-T). As such the roadmap serves as a strategic plan that defines a goal or a desired outcome and outlines the major steps needed to reach it. But the roadmap also serves as a communication tool that communicates the strategy behind.

The roadmap will thus lay out arguments why the extension of the Baltic-Adriatic Corridor (BAC) from Gdynia to Gothenburg is necessary and fruitful from the Swedish, Polish and nonetheless the European perspective. In addition, measures and strategies needed to enable such an extension will be presented.

Furthermore, this report serves as a part of the final report for the Blekinge case within TENTacle. Thus, the report will conclude the work that has been carried out. As well as outline the activities and actions that needs to be carried out until 2023 when EU revise the TEN-T network.

2.3 Timeline

In 2023 the TEN-T network will be revised, and an extension of the Baltic-Adriatic Corridor therefore has a possibility of being included in the network. Prior to the revision a number of decision processes will take place. In May 2018 a proposal for CEF 2021-2027 was presented and in September 2018 the Commission launched public consultations to examine the progress made so far in terms of the implementation of the TEN-T since the guidelines entered into force. The evaluation is being undertaken in preparation for the TEN-T revision in 2023. The proposal is currently under negotiation and is expected to be passed by the autumn 2019. In 2020 the next TEN-T days will take place and an evaluation of the network can thus be expected to be presented. In 2022 the EU Commission can be expected to present their proposal for a renewal of TEN-T and in 2023 the TEN-T revision will be negotiated in the council and parliament.

The aim is thus to include the extension of the Baltic-Adriatic corridor from Gdynia to Gothenburg in TEN-T by the next TEN-T revision. Since a large part of the proposed extension is located in Sweden, the Swedish national transport plan is of special interest. The current Swedish national transport plan covers 2018-2029 and was established on the 31st of May 2018. The implementation plan has a span of six years, the current one covers 2019-2024, and it is updated once a year. The Swedish national transport plan is revised every fourth year. In addition to the national transport plan each county proposes a transport plan for the regional transport infrastructure. The Swedish Transport Administration has an internal process before handing over a proposal for the next national transport plan to the Swedish government. During 2020 the Swedish Transport Administration is expected to carry out national economical evaluations in preparation for the new transport plan and around 2020/2021 the material is expected to be presentable. In August 2021 the Swedish Transport Administration is expected to present its proposal to the government.

3. The extension of Baltic-Adriatic

3.1 TEN-T

The Trans-European Transport Network (TEN-T) is a European Commission Policy established to support the construction and upgrading of transport infrastructure across the European Union. The objective of TEN-T is to close gaps, remove bottlenecks and eliminate technical barriers that exist between the transport networks of EU Member States, strengthening the social, economic and territorial cohesion of the Union and contributing to the creation of a single European transport area.

The network consists of roads, railway lines, inland waterways, maritime shipping routes, harbours, airports and rail-road terminals. In 2013 the European Parliament and the Council on Union guidelines for the development of the trans-European transport network adopted a new regulation for the network (1315/2013). The new TEN-T regulation introduced a dual-layer structure for the EU transport routes, comprising a Comprehensive Network and a Core Network. The Comprehensive Network covers all European regions while the Core Network comprises the most important connections within the Comprehensive Network by linking the most important nodes. The projects along the comprehensive network should be finalised by the end of 2050, while those that form part of the core network should meet TEN-T criteria by the end of 2030. There are nine Core Network Corridors, see *Figure 1*.

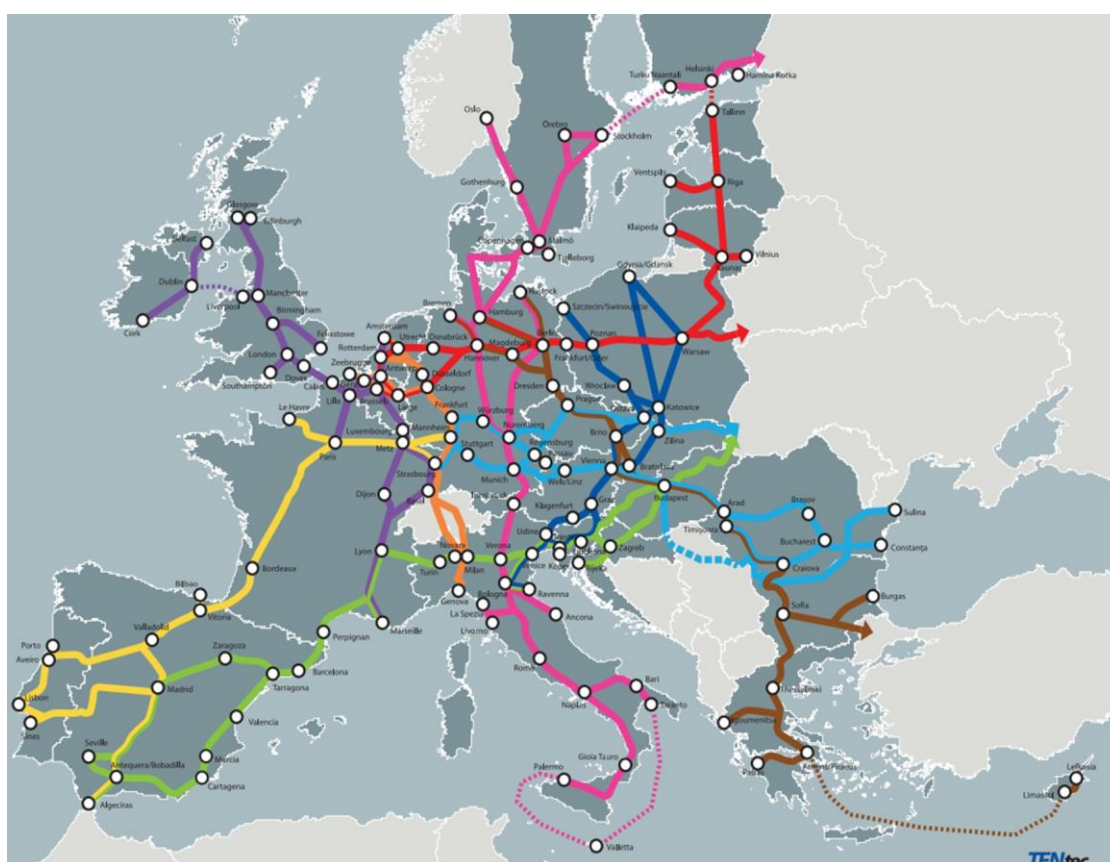


Figure 1. Core Network Corridor (Source: EUCOM, 2019).

Four of the CNC's stretches through the Baltic Sea Region:

- **Baltic-Adriatic:** Stretching from the Polish ports Swinoujscie and Gdansk/Gdynia towards Katowice and onwards through Czechia/Slovakia to the Adriatic ports Trieste, Koper and Venice. The corridor ends in Italy in Bologna and Ravenna.
- **Scandinavian – Mediterranean:** Stretching from Finland and Sweden in the north to the island of Malta in the South, taking in Denmark, Northern, Central and Southern Germany, the industrial heartlands of Northern Italy and the southern Italian ports.
- **North Sea-Baltic:** Stretching from the Dutch ports eastwards to Warsaw where the corridor continues northward to Helsinki. The corridor has several branches including the branches towards the ports in Klaipeda, Ventspils and Vilnius.
- **Orient – East Med:** Stretching from the Northwest Germany through Czechia and onwards through Bulgaria and where it branches out ending in Greece and at the Turkish borders.

Along TEN-T there are two Horizontal priorities, the ERTMS deployment and Motorways of the Sea, which both are established to carry forward the implementation of the objectives of the core network. The MoS is considered the maritime pillar of TEN-T and consists of short-sea routes, ports, associated maritime infrastructures, equipment, facilities and relevant administrative formalities. MoS must act as a link between at least two ports in at least two-member states.

3.2 Baltic-Adriatic Corridor

This report focuses on the Baltic-Adriatic Corridor and its possible extension to Gothenburg via MoS Gdynia-Karlskrona. The Baltic-Adriatic Corridor (BAC) runs in the North-South direction across Europe and constitutes one of the most important trans-European-road and railway axes in the Central Europe. The corridor runs from Ravenna/Bologna in Italy through Slovenia and straddles the Austrian/Slovenian, Slovakian and Czech borders before entering the industrial regions of Southern and Central Poland and ending in the Baltic seaport of Gdansk, Gdynia, Szczecin and Świnoujście in the north. The BAC thus constitutes a European axis backbone between the Baltic and the Adriatic seas, linking the relevant ports with primary hinterland cities. For an overview of the corridor see *Figure 2*.

For each of the nine CNCs a coordinator has been assigned. For each corridor a work plan has been established for the implementations of the measures needed to achieve the corridor specific goals. The first Work Plan for the Baltic-Adriatic Corridor was presented in 2014 and outlines the exact objectives for the corridor and Horizontal Priority, within the framework of the TEN-T Core Network. The second Work Plan was formed in 2016 and the third Work Plan was finalised in February 2018.

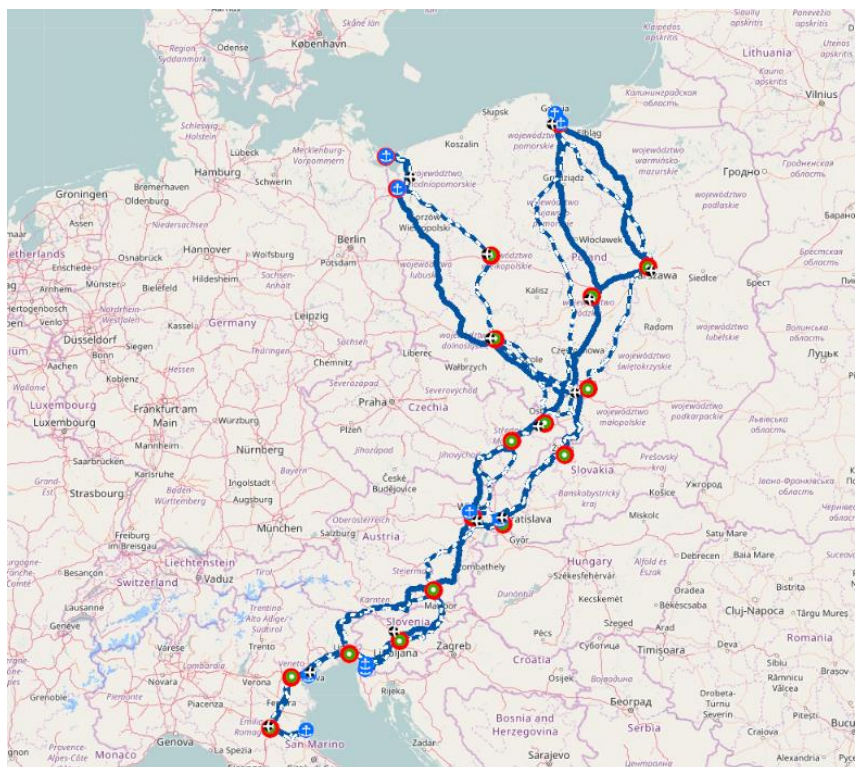


Figure 2. An overview of the Baltic-Adriatic Corridor (Source: EUCOM, 2019).

Within the BAC significant progress has been made in removing bottlenecks at the cross-border sections, due in large part to the implementation of sound cooperation frameworks and the cultivation of bilateral agreements between Member States and infrastructure managers on each side of the relevant borders (EUCOM, 2018a). One of the main missing links is the cross-border operational systems, such as ERTMS (European Rail Traffic Management System) for rail and ITS (Intelligent Transport Systems) for road.

Regarding the improvements of last mile connections of ports, all sea and inland ports along the Baltic-Adriatic Corridor are already connected to the rail and road infrastructure. However, investments are required to improve the standards and performance of the last mile sections of the core network to ensure interoperability of the corridor infrastructure, increase its capacity facing port terminals expansion and mitigate the impact of transiting of long-distance traffic to and from core city ports in their urban areas (EUCOM, 2018a).

For the port of Gdynia concerning rail transport, works for the improvement of the standards of the railway lines interconnecting the terminals to the main lines 202 and 201 belonging to the Baltic-Adriatic Corridor are required. Projects for the improvement of the technical parameters are foreseen, covering among others the implementation of Layout Command Control within the port area, electrification of access to the container terminal, installation of Remote Train Control in view of future ETCS implementation as well as construction of road and railway bridges to improve safety and capacity. The works are expected to be completed by 2020 (190.9 € million).

Works inside the port area to increase the throughput capacity of the rail infrastructure are also expected to be implemented between 2021 and 2027 (59.8 € million). Some other modernisation works

are also planned, including reconstruction of railway access to the Western port areas of the port of Gdynia, with expected completion of the works by 2020 (approximately 17.7 € million). Works on the TEN-T comprehensive partially non-electrified railway line 201 are also planned; this representing the railway line that will be predominantly used by the traffic generated by the port.

The upgrading of the port's surrounding urban road network is also under consideration which could help solving the existing and future capacity bottlenecks. The actions addressing the road bottlenecks are under consideration/definition by the concerned stakeholders at present which may be implemented by 2030: reconstruction of Kwiatkowski viaduct, construction of Droga Czerwona and upgrading of Polska Street and Janka Wiśniewskiego Street (EUCOM, 2018a).

In the first work plan for the Baltic-Adriatic corridor the general and specific objectives for the corridor were outlined, see *Table 1* for a summary.

Table 1 - General TEN-T objective and specific objectives of the Baltic-Adriatic Corridor (EUCOM, 2015).

| COHESION | |
|---|---|
| A high-quality infrastructure corridor with interconnected long distance and regional/urban flows | |
| GENERAL OBJECTIVES | <ul style="list-style-type: none"> • Accessibility of all regions of the Union • Reduction of infrastructure quality gaps between Member States • Interconnection of long-distance, regional and local traffic flows • Balanced transport infrastructure coverage of all European regions |
| SPECIFIC OBJECTIVES | <ul style="list-style-type: none"> • Improving the infrastructure quality and standards - especially of Eastern Member States - with the target to comply to the technical requirements <ul style="list-style-type: none"> ○ Rail: line speed (freight), train length, axle load ○ Road: motorways or expressways • Improving interconnection in all urban nodes along the corridor between TEN-T and local transport infrastructure, for both passenger and freight traffic |
| EFFICIENCY | |
| A continuous, interoperable and intermodal corridor | |
| GENERAL OBJECTIVES | <ul style="list-style-type: none"> • Continuity of long-distance flows • Interconnection and interoperability of transport networks • Intermodality • Economic efficiency contributing to further economic growth and competitiveness • Innovation |
| SPECIFIC OBJECTIVES | <ul style="list-style-type: none"> • Removal of rail and road bottlenecks: • Improvement, modernisation and upgrading of: <ul style="list-style-type: none"> ○ Cross-border connections (Poland - Czech Republic / Slovakia, Czech Republic - Austria, Slovakia – Austria, Slovenia - Austria / Italy) |

| | |
|----------------------------|---|
| | <ul style="list-style-type: none"> ○ National rail lines (Poland, Czech Republic, Slovakia, Slovenia) and specific railway links and nodes (Austria, Italy) ○ Road network to motorway/expressway standard (Poland, Czech Republic, Slovakia) • Interoperability of national transport networks: <ul style="list-style-type: none"> ○ ERTMS, ITS, VTM and e-Maritime services, SESAR • Optimal integration and interconnection of all transport modes, especially improving the "last mile" connections to ports, airports and rail-road terminals • Promotion of economically efficient, high-quality and competitive transport, contributing to the development of intra and extra EU trade, also through the promotion of the role of the Adriatic and Baltic ports as the gateways to the main third commercial partners |
| SUSTAINABILITY | A corridor targeted at reducing externalities, preserving sensitive areas and reducing emissions |
| GENERAL OBJECTIVES | <ul style="list-style-type: none"> • Long term sustainability • Clean transport • Low-carbon transport |
| SPECIFIC OBJECTIVES | <ul style="list-style-type: none"> • Contributing to the objectives of low-carbon and clean transport, fuel security, reduction of external costs of transport (especially for highly populated areas) and protection for environmentally sensitive areas (such as the Alpine space) • The Baltic-Adriatic Corridor will also be serving the objective, set out in the White Paper, of reducing greenhouse gas emissions from transport by 60 % below 1990 levels by 2050 |
| USERS' BENEFITS | A safe corridor, accessible to all users', meeting the needs of the demand |
| GENERAL OBJECTIVES | <ul style="list-style-type: none"> • Meeting users' needs • Safety and security • Risk resilience • Establishment of requirements • Accessibility PRM |
| SPECIFIC OBJECTIVES | <ul style="list-style-type: none"> • Meeting the mobility and transport needs of its users within the Union and in relations with third countries, improving the performance of the transport system for its users, reducing congestion and expanding the infrastructure capacity when necessary • Ensuring safe, secure and high-quality standards, for both passenger and freight transport; supporting mobility even in the event of natural or man-made disasters, and ensuring accessibility to emergency and rescue services • Improving accessibility for elderly people, persons with reduced mobility and disabled passengers |

In proximity to the Baltic-Adriatic Corridor the ScanMed Corridor is situated. The corridors have the node in Bologna in common, but the corridors are in no other ways linked to each other. By extending the Baltic-Adriatic Corridor to Gothenburg, via MoS Gdynia-Karlskrona and the Baltic-Link, the two corridors would be connected which would result in benefits for both corridors. This would for example create opportunities for increased transports in both corridors and improve the accessibility to the south-eastern parts of Sweden. The two corridors would also receive several new nodes in common. The coast to coast railway line would also be connected to the Southern mainline in Alvesta, road 27 would connect to E4 in Värnamo and road 27 and E6 would be connected in Gothenburg.

The extension creates an alternative route to central and southern Europe which results in a much-needed redundancy and reduces the vulnerability of the transport system. Furthermore, the corridor has the potential to become the fastest and most sustainable way from Sweden to central and eastern Europe, and to the Adriatic Sea. By extending the Baltic-Adriatic Corridor, the corridor would no longer abruptly end in the port of Gdynia and Swinoujscie, and instead receive an extension northward to Scandinavia with Baltic-Link being included in the CNC.

Sweden are currently solely relying on one corridor, which creates a fragile transport system. A more robust and reliable transportation system can be achieved by having two CNCs linking Sweden to Central and Eastern Europe. It is therefore crucial to see to the possibilities of including the extension of the Baltic-Adriatic Corridor in the TEN-T, making it a part of the Core Network Corridors.

3.3 Baltic-Link

The Baltic-Link is the possible extension of the Baltic-Adriatic Corridor to Gothenburg via Karlskrona and Gdynia, as shown in *Figure 3*. The Baltic-Link comprises road 27 between Gothenburg and Karlskrona, the coast to coast railway line Gothenburg-Karlskrona/Kalmar and Motorway of the Sea Gdynia-Karlskrona.

The initiative to the Baltic-Link was taken in 1998 as a part of the SEBTrans project Interreg II C. In 2005 the membership organisation *Baltic-Link Association* was created as a continuation of the ended EU-project SEBTrans-Link. The organisation includes 21 members at the moment and the secretariat is run by the Municipality of Karlskrona.



Figure 3. Extension of the Baltic-Adriatic Corridor from Gdynia to Gothenburg, via MoS Gdynia-Karlskrona (Source: EUCOM, 2019).

In Figure 4 the Baltic-Link is illustrated in further detail.



Figure 4. Baltic-Link in Sweden, coast to coast railway line and road 27
(Source: Baltic-Link Association, 2018).

The Baltic-Link thus comprises road 27 between Gothenburg and Karlskrona, the coast to coast railway line Gothenburg-Karlskrona/Kalmar and Motorway of the Sea Gdynia-Karlskrona. Each part of the Baltic-Link will be described, but first the history of Baltic-Link will be presented since it derives from a long history of cooperation between the EU member states.

3.3.1 History of Baltic-Link

Baltic-Link has a long history of cooperation and the two cities, Karlskrona and Gdynia, have over 20 years of partnership focusing on the implementation of UNECE initiative TEM/TEM Scandinavia – Oslo-Gothenburg-Karlskrona-Gdynia-Athens/Istanbul. For a comprehensive history of the Baltic-Link see *Appendix 1 – Shipping connects*.

In 1928 the first vision of the Polish-Swedish link emerged and was presented in Poland as *Ferry or plan of the floating rail – bridge*. In 1932 a trans-European dimension of the Gdynia-Karlskrona link was confirmed. Sea services was inaugurated and successfully prolonged by the railways Gothenburg – Karlskrona on the Swedish side and Gdynia – Constanza on the Polish side. In 1972 Poland and Hungary submitted a request for assistance in preparation and construction of the Trans-European North-South Motorway (TEM). In 1977 the TEM initiative was supported by 21 European countries and evolved and developed into 500 national/regional projects including construction of: E75 route, container terminal in Gdynia, the ferry terminal in Gdansk, Gdansk North Port and the Tricity bypass.

In 1990 the chairman of Karlskrona Executive Committee and the President of Gdynia agreed upon, among others, to intensify the efforts for creating the planned ferry-line between the two cities. In the following year 1991 the ferry link Karlskrona-Gdynia opened. In 1995 Sweden became a member of EU and the southeast regions of Sweden confirmed the potential of TEM Scandinavia. The longest section of TEM however was located in Poland and thus the consolidation of all stakeholders was of utmost importance. The inauguration of ARCA took place in 1996 and the cooperation of TEM stakeholders in Slovakia, Czechia, Hungary and Greece was initiated.

In 1999 the SEBTrans project was launched and the aim was to map the situation regarding personal and commercial travels in the Baltic Sea area. The final report recommended an extension of the transport corridor TEM from central Europe via Gdynia/Gdansk to Norway (Oslo) via the port of Karlskrona. Within the SEBTrans project the Baltic-Link transport corridor was thus initiated. Since 2002 the partnership of the SEBTrans Link project has continued the work presented by the SEBTrans. In 2003, Blekinge Region, Pomeranian Voivodship, the Port of Gdynia and other stakeholders of the Baltic Gateway project applied a holistic and global context of the Baltic Link/TEM Scandinavia/TEM/TER with the maritime section Gdynia-Karlskrona. The maritime instrument Motorways of the Sea was presented. In 2004 Poland and most of the TEM countries became member of EU. The next project Baltic Link Motorways of the Sea, Gdynia-Karlskrona consisted of activities such as a new intermodal terminal in Alvesta, upgrading of the railway Emmaboda – Karlskrona (a part of the coast to coast railway line) and infrastructure investments in the Port of Karlskrona and the port of Gdynia. In 2006 a joint political statement from ARCA and the Baltic-Link Association regarding the upgrading of TEN-T transport corridors in Europe was put forward.

In 2010 the following statement was submitted by ARCA to the Ministry of Infrastructure of Poland and by Balti-Link Association to the Swedish Government office:

'for the upgrading of highway 27 (Gothenburg-Karlskrona), the ferry link Karlskrona-Gdynia and the road linking the ferry terminal in Gdynia with the national road 6 (section Gdynia-Gdansk) to the European route, which is part of the transport corridor Baltic-Link'.

In 2016 TENTacle, that this report is a part of, was initiated and lead by Region Blekinge as a flagship project of BSR Programme. In 2017 Stena Line introduced a new ferry line between Gdynia and Nynäshamn to keep up with the increased demand for freight transport between Poland and Sweden. In 2018 a new public ferry terminal in Gdynia was constructed as a vital investment for the further development of the Gdynia-Karlskrona MoS. As Stena Line continues to develop its services there is an increased need to keep up with the port infrastructure to be able to handle the increase of passengers and freight transports. The construction of the new terminal in Gdynia is primarily aimed at making it possible to handle larger vessels of up to 240 meters.

The Baltic-Link has a long history, but what is more important is what is ahead of us. The development of the relation MoS Gdynia-Karlskrona will be described as well as the development, plans and status of road 27 and the coast to coast railway line.

3.3.2 MoS Gdynia – Karlskrona

The Baltic-Link MoS connects the two member states Sweden and Poland through the ports of Karlskrona (SE) and Gdynia (PL). The aim with the link is to create a modal shift by investing in freight rail structure, moving goods across the Baltic-Link corridor via the Karlskrona-Gdynia ports. The corridor will, by absorbing increased volume of goods, avoid road congestion in the ScanMed corridor and offer a sustainable alternative to road only solutions due to quality, reliability and frequency and service.

Between 2009 and 2013 the Baltic-Link Motorways of the Sea (MoS) Gdynia-Karlskrona project in the Baltic Sea Region (BSR) was carried out. Under the Baltic-Link Gdynia-Karlskrona MoS Action 2009-2013 the following was achieved (EUCOM, 2015b):

- 57 km rail connection between Karlskrona and Emmaboda of the Baltic Link was renovated.
- A new intermodal terminal was constructed in the strategic dry port hub of Alvesta.
- With the investments made in the Port of Karlskrona, the port is connected with the national railway system. This entails harmonising the capacity of shaft weight, secure level crossings, noise reduction installation and building a triangle track.
- Power connection for ferries in the port was installed.
- In the Port of Gdynia, a new terminal has been developed (co-financed by Cohesion Fund) with full intermodal potential for the link Karlskrona – Gdynia.

The Baltic-Link Motorways of the Sea Gdynia-Karlskrona was an important project towards the achievement of a transport corridor from Scandinavia to the Adriatic Sea. Within the MoS project major investments were made, in particular, the infrastructure in both southeast Sweden and Gdynia to meet future requirements. The action consequently delivered a high-quality Motorways of the Sea infrastructure and services by combining rail and sea modes of transport.

Karlskrona is currently a comprehensive sea port while both Gdansk and Gdynia are core sea ports in the BAC. The port of Gdynia is one of the most modern European ports and an important centre in the South Baltic. It is a universal port specialized in handling of mainly general unit-load cargo, transported in containers and in ro-ro systems. The year 2017 was record-breaking in terms of reloading and 2018 seems to have followed the trend. The port of Karlskrona has undergone a comprehensive change which has resulted in a massive increase of traffic. The port offers an intermodal terminal with electrified railway, a straight-in ice-free approach, 240 m long ro-ro berth, two industrial quays, and a land-supply of electricity to vessels. A large increase of traffic is to be expected ahead, and the port will undergo further transformation to deal with the coming increases.

Concerning the development of the relation Karlskrona-Gdynia it has been positive for both freight and passenger transport. It is after all the shortest route linking South-East Sweden with the Three-Seas Initiative Area while being a green and business friendly route.

The number of freight Units has increased steadily for the past 20 years, see *Figure 5*.

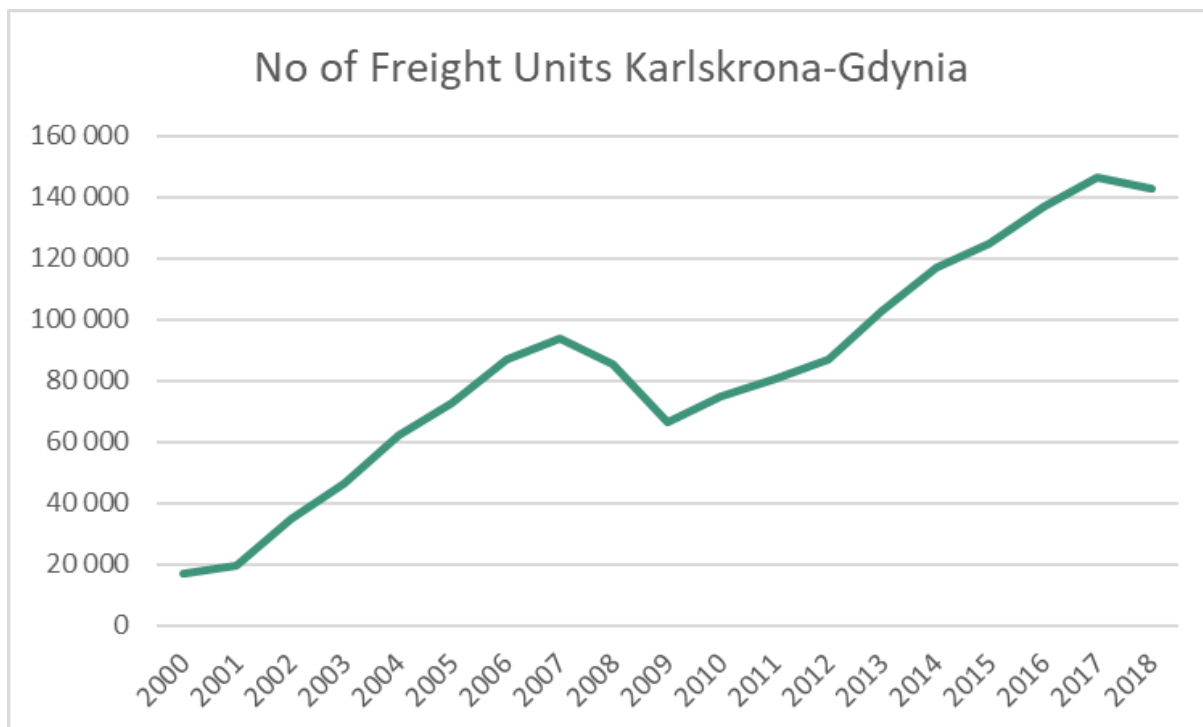


Figure 5. Freight development (Source: Baltic-Link Association, 2018).

The number of passengers has more than doubled between the year 2000 and 2016, see *Figure 6*.

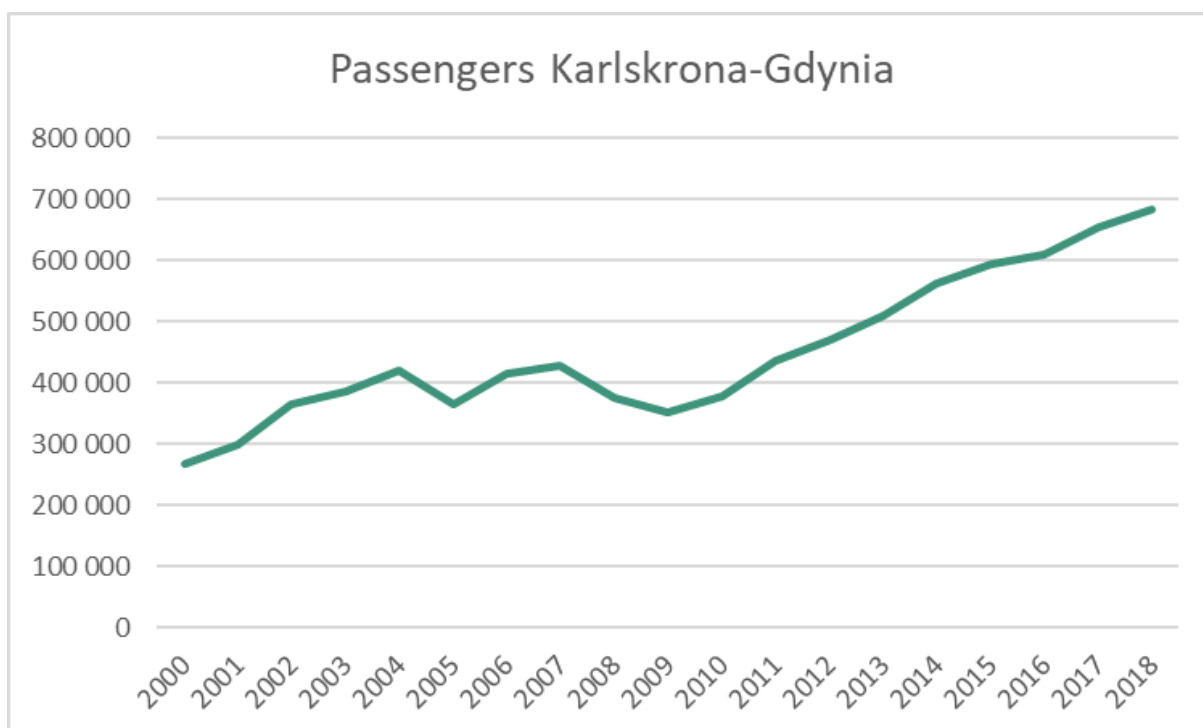


Figure 6. Passenger development (Source: Baltic-Link Association, 2018).

Figure 7 shows the development for passengers, trucks, buses and cars on the maritime link Gdynia-Karlskrona. The expected development remains positive.

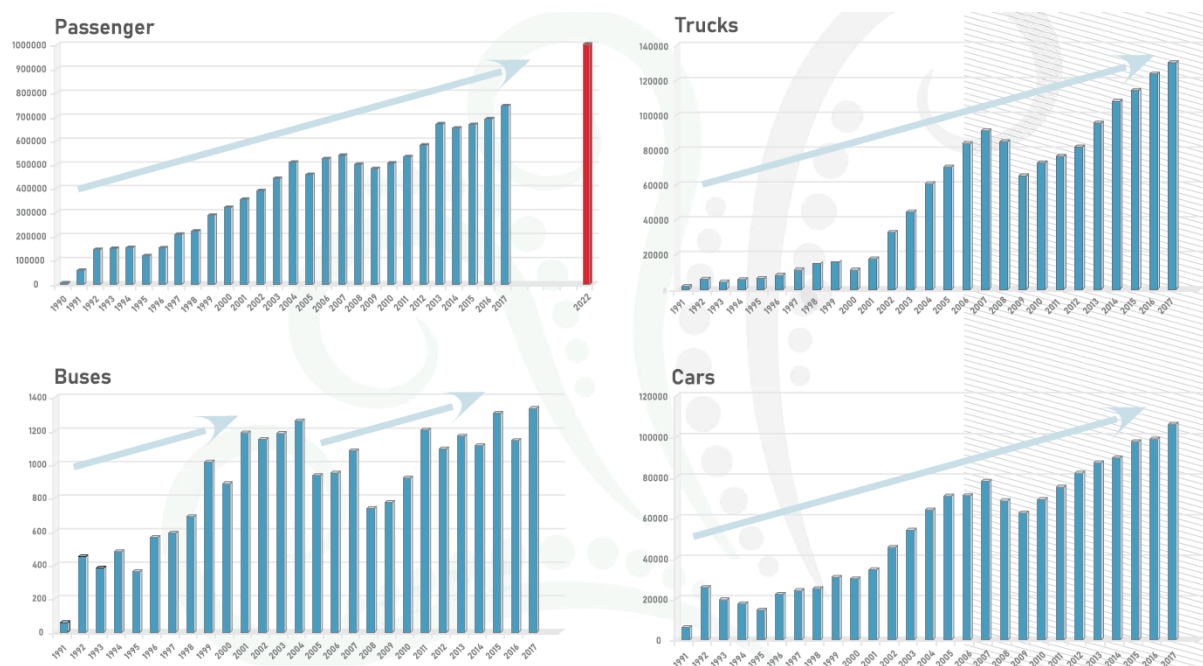


Figure 7. Development of transport on route Gdynia-Karlskrona (Source: TENTacle).

Ports and the maritime dimension of TEN-T are an important pillar for the European Union since the seaports account for 74 % of the imported and exported goods and 37 % of exchanges within the Union transit through seaports (EUCOM, 2013). Ports are the main gateways to the trans-European network and the EU requires well developed and efficient ports. The importance of well-connected port infrastructure, efficient and reliable port services and transparent port funding was emphasised in the 2011 White Paper on Transport and the Single Market Act II. According to *Ports 2030 - Gateways for the Trans European Transport Network* 20 % of the goods coming to Europe by sea passes through just three ports (EUCOM, 2013). Relying on a few ports increases the risk of congestion in their hinterland and the structural gap between the European ports threatens the development of short sea shipping as an alternative to saturated and congested land routes. The EU ports and especially those ports of the trans-European network serve a hinterland and have a catchment area that goes far beyond local and national borders. The ports are thus vital, but the trans-European network is only as strong as its weakest link and ports must consequently perform well. Furthermore, the TEN-T guidelines have identified ports as an important role as they define nodes which are connected by multimodal core links.

In summary, ports play a key role in the development of a sustainable trans-European network by diversifying transport choices and contributing to multimodal transport and a more inclusive transport system can be established.

3.3.3 Coast to coast railway line

The coast to coast railway line stretches between Gothenburg to Karlskrona/Kalmar, see *Figure 8*, and is an electrified single-track railway with automatic block signalling.



Figure 8. The coast to coast railway (Source: Swedish Transport Administration, 2014).

The coast to coast railway line connects several Swedish cities and

vital for the east-west accessibility in southern Sweden. The railway is of great importance for freight transport and has a connection to the port of Karlskrona. Additionally, the railway is substantial for long distance passenger transportation as well as commuting (Swedish Transport Administration, 2017). In addition, the coast to coast line also possesses an important connection to the node Alvesta.

The Swedish Transport Administration has recently conducted a few Strategic Choice of Measures (ÅVS) studies for the coast to coast railway:

- ÅVS Växjö-Värnamo (2015).
- ÅVS Växjö-Kalmar/Karlskrona (2015).

Between 2019 and 2020, the Swedish Transport Administration will conduct a Strategic Choice of Measures (ÅVS) for the coast to coast railway. The Strategic Choice of Measures Study will focus on the railway's lack of capacity, punctuality and robustness (*ÅVS Kust till kustbanan, bristande kapacitet, punktlighet och robusthet*).

Planned measures

Parts of the coast to coast railway line are included in the Swedish national transport plan (2018-2029). The following are the named investments along the coast to coast railway line that are included in the current national transport plan:

- Skruv passing loop, 86 million SEK (47 in the current national plan), ongoing project.
- Alvesta triangular track, 134 million SEK, planned 2024-2029.
- Alvesta travel center, Örsjö passing loop, Åryd passing loop and Växjö rail yard, 188 million SEK (32 in the current national plan).
- Emmaboda-Karlskrona/Kalmar, central traffic control, track refurbishment, speed adaption to 160 km/h, 1 056 million SEK (34 in the current national plan).
- Gothenburg-Borås, 33 550 million SEK (3 777 in the current national plan), planned 2024-2029.

At the opportunity of an extended framework (+10 %) the following investments are made possible and are included:

- Alvesta-Växjö partial double-track Gemla-Räppe, 300 million SEK, unspecified time frame.

Shortcomings

In *Figure 9* the railway line speed for the coast to coast railway line is illustrated.



Figure 9. Railway line speed (Source: NJDB).

There are shortcomings in speed, especially between Hillared-Almedal. Another major shortcoming is the lack of double-track especially between Växjö-Alvesta, which is included in the Swedish national transport plan at the opportunity of an extended framework (+10 %).

2. Säljeryd-Växjö (20 km) is include in *Kronoberg's transport plan 2018-2029* for meeting separation/separate carriageways.
3. The section between Bor to Bredasten (9 km) is included in *Jönköping's transport plan 2018-2029* for meeting separation/separate carriageways. The bypass Bor - dual carriageway, is included in the Swedish national transport plan at a potential co-financing and includes the entire stretch past Bor and west to Bredasten, with planned construction in 2021/2022.
4. Bredaryd-Anderstorp (11 km) meeting separation/separate carriageways, is prioritised in *Jönköping's transport plan 2018-2029* for co-financing from the national transport plan.
5. Gislaved (road 26) - Hillared (road 154), 43 km, is a prioritised project in *Västra Götaland's transport plan 2018-2029* and a Strategic Choice of Measures (ÅVS) is suggested to be initiated in 2019. In *Jönköping's transport plan 2018-2029* it is specified that the ÅVS should be prolonged over the county border to Gislaved and in that case the entire subsection Gislaved-Hillared is covered.

Shortcomings

In *Table 2* the TEN-T status, quality, standard, shortcomings and planned measures for road 27 is presented.

Table 2. Road 27 – status, quality, standard, shortcomings and planned measures.

| SECTION | LENGTH (KM) | TEN-T STATUS | QUALITY/ STANDARD | SHORT-COMINGS | PLANNED MEASURES |
|-----------------------|-------------|--|--|-----------------|---|
| Karlskrona – Ronneby | 29 | Comprehensive Network (Swedish core network) | Separate carriageways (grade separation) | - | - |
| Ronneby – Väckelsång | 51 | - | Single carriageway | Uneven standard | (1) Bypasses at Backaryd and Hallabro |
| Väckelsång – Säljeryd | 9 | - | Separate carriageways | - | - |
| Säljeryd – Växjö | 20 | - | Single carriageway | Uneven standard | (2) Meeting separation/ separate carriageways |
| Växjö – V Alvesta | 24 | (Swedish core network) | Separate carriageways (grade separation) | - | - |

| | | | | | |
|----------------------------|----|-------------------------------------|--|--------------------------|---|
| V Alvesta – Moasjön | 4 | (Swedish core network) | Single carriageway | No separation, junctions | |
| Moasjön – Värnamo | 39 | - | Single carriageway | No separation, junctions | (3) Bor to Bredasten meeting separation/ separate carriageways and Bypass Bor |
| Värnamo – Ö Forsheda | 13 | - | Separate carriageways | - | - |
| Ö Forsheda – Bredaryd | 7 | - | Single carriageway | No separation, junctions | |
| Bredaryd – Syd Anderstorp | 11 | - | Single carriageway | No separation | (4) Bredaryd- Anderstorp meeting separation/ separate carriageways |
| Syd Anders torp – Gislaved | 11 | - | Separate carriageways (grade separation) | - | - |
| Gislaved – Hillared | 43 | - | Single carriageway | No separation, junctions | (5) Gislaved (road 26) – Hillared (road 154) ÅVS 2019 |
| Hillared – Viared | 21 | - | Separate carriageways (grade separation) | - | - |
| Viared – Gothenburg | 58 | Core Network (Swedish core network) | Motorway | - | - |

3.4 Previous TENTacle studies

As a part of TENTacle seven regional showcases have been carried out:

1. *Denmark/Germany: Fehmarnbelt Fixed Link “Mobilise business and public players”*
2. *Poland/Sweden: Westpomerania - Skåne cross-border case “Achieve effective stakeholder interaction”*
3. *Poland – Gdynia: Core network corridor and urban transport node “Exploit the TEN-T potential for prosperity”*
4. *Sweden - Region Blekinge: Revised transport plan “Making the most of transport development”*
5. *Latvia – Vidzeme: Regional Mobility Investment Plan “For better infrastructural & functional connection”*
6. *Norway/Sweden - Central Scandinavia Borderland: Prosperity and Growth Strategy Karlstad Region (PGS) “Improve the access to the two national capitals”*
7. *Finland - Lahti – Regional Council of North Karelia: Carbon neutral corridor. Better access to the core network corridors”*

The fourth showcase is of special importance for this report and for the extension of the Baltic-Adriatic Corridor since it focuses on parts of the Baltic. Within the fourth showcase the report ‘*Analys och rekommendationer för Blekinges koppling till TEN-T*’ was written and findings and conclusions from that report will be presented. However, the report and the fourth showcase focused on Blekinge’s connection to TEN-T and did not incorporate the other regions along Baltic-Link. Even though the previous study does not include the entire Baltic-Link and all the regions it is still of great importance. Blekinge Region is in many ways the area in which the project has progressed the most and thus the region where the most knowledge is acquired. The following should thus be read as the findings and conclusions for the focus area of Blekinge.

3.4.1 Analysis and recommendations for Blekinge

The aim for Blekinge’s activities in the project is to trigger growth and prosperity based on a proximity to and interconnectivity between the three CNCs.

Coast to coast railway line

The coast to coast railway line connects Karlskrona with Södra Stambanan at Alvesta railway station. The route between Alvesta and Växjö is utilized to a great extent and does not have any shortcomings of significant importance regarding freight train traffic. However, there are some deficiencies regarding the freight yard in Alvesta. The route is operated by passenger trains. There are currently no freight trains in motion between Emmaboda and Karlskrona, but the link is being prepared to be able to support freight trains.

Alvesta Railway station and marshalling yard

Kreera has conducted an analysis of the design of Alvesta railway station on behalf of stambana.com. It was concluded that the current station design has shortcomings with regards to capacity:

- Effective arrivals, departures and exchanges are not possible
- Platform limitations in relation to the amount of traffic
- Occurrence of crossing train paths
- Insufficient connection between the Southern Main Line and the coast to coast railway line
- Ineffective freight yard – much of the capacity is allocated to the locomotive loops and reversing trains from the Southern Main Line onwards to the coast to coast railway line, and vice versa

Measures aiming at increasing the efficiency of traffic at the freight yard will improve the conditions for development of intermodal transport to and from the port of Karlskrona. However, it is not likely that streamlining will have a decisive impact on freight transport. These measures are not included in the current implementation plan, or the workplan for ScanMed.

Maritime traffic

There are good prerequisites at both docks in Blekinge since they are ice-free and have short approach and departure channels. Shortcomings are more related to the charging scheme, since it is perceived as restrictive. The fees paid by every ship using the channels are not related to maintenance needs or impact on the environment. A potential bottleneck has been identified in the infrastructure in connection to Verköhamnen but measures are undertaken to increase the capacity. Available land in connection with the ferry and industrial port can be insufficient and limits the possibilities of developing logistics operations. There are some uncertainties regarding Verköhamnens future development. Thus, a long-term vision for the port and associated land areas have been requested and have been emphasized to be of importance.

Maritime fees have been discussed for a long time since fees finance ice-breaking, and in respect to whether it is reasonable that the maritime infrastructure is based on fees while infrastructure on land is financed by grants. The Blekinge maritime legal framework can be perceived as a shortcoming that is affecting the ports economy negatively. Maritime that are differentiated according to the length of the fairway would result in lower fees for entry ports in Southern Sweden and higher fees for the ports in Norrköping, Södertälje, Stockholm, Gävle and the Mälars harbour. A fee system like this could, however, conflict with the goal of increasing shipping competitiveness in relation to land-based transport.

Other transport-related shortcomings

It is important that business related to the ports in Blekinge are developed since they are a source of employment. Shipping companies have an economic interest in increasing transport flows, which leads to increased revenue and is a driving force bringing profit. There is, however, shortage in hauler companies since the development of routes of transportation are agglomerated in places where these companies are based. A low collaboration between companies to provide transport chains can be seen, but it exists. However, there are no incentives for this to coordinate sea and land transport based on market conditions. Market actors could increase their profit if a coordination of the transport chain from start to finish were to be implemented. However, responsibility and management regarding cooperation is ambiguous since it is different companies that are managing the sea, road and rail. The public authorities need to take an active role to implement a cooperation.

The effectiveness in the railway nodes in Hässleholm, Älmhult and Alvesta is important regarding rail transport to and from the ports of Blekinge. These nodes are included in the ScanMed-corridor and in the ScanMed work plan, adopted in December 2017, capacity measures in Älmhult intermodal terminal are included.

Interoperability and customs handling that are linked with cross-border transports are not perceived as issues. Queries are dealt with in various projects in the work plans regarding the implementation of core network corridors.

Other infrastructure links in Blekinge

The TENTacle (2017) report for Blekinge highlights several other shortcomings and measures need to strengthen Blekinge's connection to TEN-T. These do not directly affect the Baltic-Link and the extension of the Baltic-Adriatic Corridor from Gdynia to Gothenburg via MoS Gdynia-Karlskrona but can have a positive impact for the extension.

For example, the Blekinge Coastal Railway has shortcomings between Karlskrona and Karlshamn related to curvatures, falling and raising gradients, that limit the possibilities of operating the freight trains towards Karlskrona. Measures aiming at the alignment of the rail in a straighter form could create substantial improvement in passenger train traffic in both directions along the route. The European route E22, which connects Blekinge with ScanMed, meets required standards, with regard to the speed limit. But there are several shortcomings throughout various routes in Blekinge, namely between Karlskrona and Jämjö, which is to be rebuilt in 2020, as well Bergkvara and the one between Ronneby Öst and Nätraby. Speed restrictions and road safety are the two most prevalent shortcomings in the latter route. A Strategic Choice of Measures (ÅVS) has been conducted for this route.

Recommendations

The analysis in the TENTacle (2017) report provides a basis for assessing the need for measures, and the measures most important to be implemented. Measures vary since some are investigated and solutions have been chosen. Other measures are in the shape of policies.

Measures recommended from the report that is relevant for Baltic-Link, and the extension of the Baltic-Adriatic Corridor, is summarised below:

- Alvesta rail yard: Strategic Choice of Measures (ÅVS) for increased efficiency.
- Port of Karlskrona: Initiate a study for increased capacity. Measures to deal with the increased and large momentary traffic on Verkövägen.
- Freight rail transports: Analyse what factors causes a low establishment of intermodal transports to Karlskrona.

3.4.2 Satellite and Drone Capacity measurements

In the TENTacle Blekinge pilot case 3.1 measurements of the traffic situation around the port of Karlskrona and the port of Karlshamn, Sweden was carried out with a satellite-based Synthetic Aperture Radar (SAR) and drone based optical camera. Drone measurement is valuable for on-site

harbour investigation while the satellite measurements are supporting long-term evaluation of large harbours or several harbours in Europe at the same time. In future, both technologies will become a subject to further development and the satellite-based technology will be available to make evaluation measurements of transport chains over large areas of the EU. Based on these measurements Figure 11 Verköhamnen reflects a typical situation from one of the days that the port surfaces for the cargo traffic are heavily loaded. The large number of trucks and trailers allocates almost all available surfaces waiting for the next departure.



Figure 11 Verköhamnen 2018 in Karlskrona, Sweden

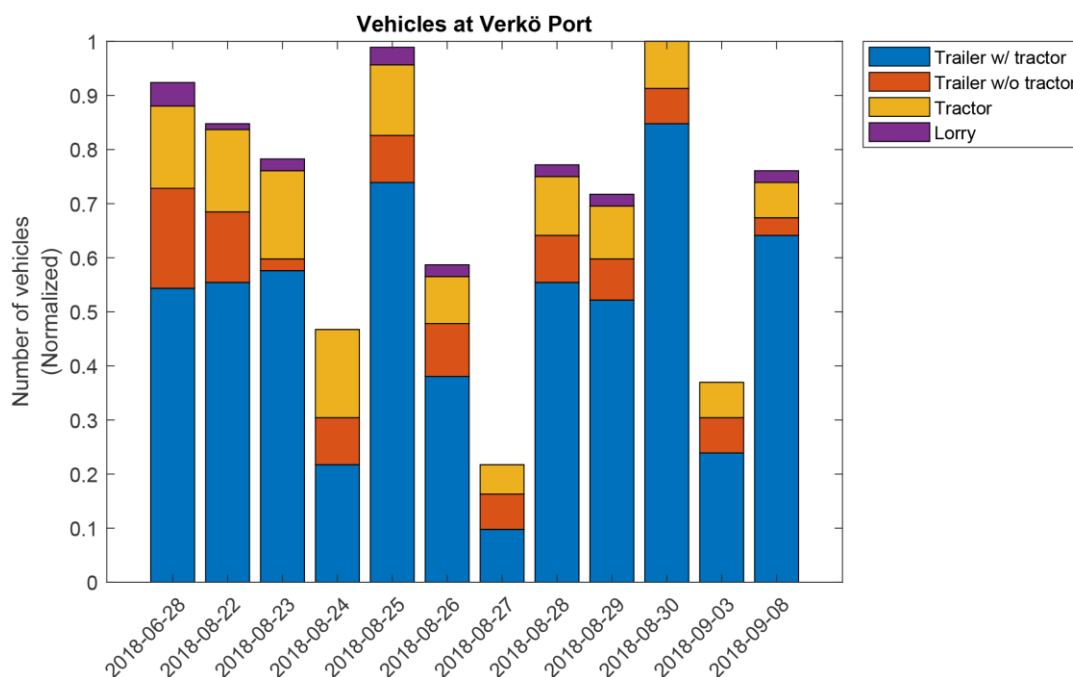
Within the framework of the TENTacle project, a test measurement campaign was conducted with the TerraSAR-X satellite and drone. The campaign was carried out involving ten days in August / September 2018 and reinforces the picture that a lot of goods transport were moving along this MoS road (Karlskrona - Gdynia). Via Table 3 Normalized load in the Verkö harbour. A short-term analysis based on the measurements with Synthetic aperture equipped radar (SAR) satellite and drone. and the infographics in Figure 12 Infographics showing the allocation for the respective surface. This Infographics example illustrating as well the significance of the TENTacle developed measurement methodology of the satellite and drone measurements performed. this is made even more evident (notwithstanding the limitation of the study) of what Satellite and complementary drone measurements can add and clarify when it comes to supporting the development of a port as well as parts of the corridors.

The results of the satellite and drone measurements further reinforce the picture of the shortcomings and need highlighted in this report, i.e. point out the importance of establishing Blekinge's connection to TEN-T.

Another more comprehensive and important result from this part is the methodology to regularly use a satellite-based Synthetic Aperture Radar (SAR) as well as the drones to evaluate transport chains

across large areas of the EU. This new measurement method is very promising, and the purpose of this part of the pilot study has been to study how a selection of well-chosen measurement areas such as intermodal terminals, harbors, and central roads and railway tracks for goods can provide much information about the actual transportation flows within EU etc. from an evaluation and development perspective.

Table 3 Normalized load in the Verkö harbour. A short-term analysis based on the measurements with Synthetic aperture equipped radar (SAR) satellite and drone.



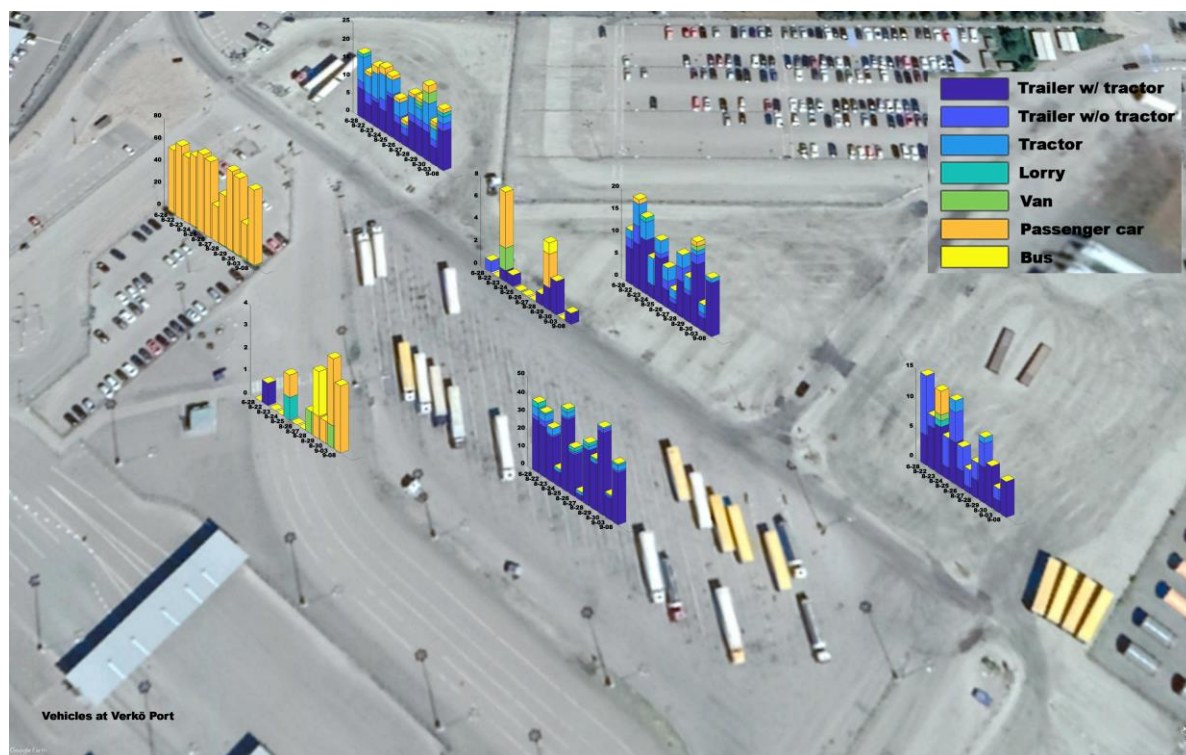


Figure 12 Infographics showing the allocation for the respective surface. This Infographics example illustrating as well the significance of the TENTacle developed measurement methodology of the satellite and drone measurements performed.

3.4.3 New road and rail connection to the port area in Karlskrona – Study

Within this TENTacle project, the conditions for an improved EU corridor are studied. Within this corridor, this preliminary study highlights how the access to the expanded harbour at Verkö will work. It is proposed that existing tracks and roads get a new connection in the area. This enables a combi terminal to be possible with two train sets of each 750 m. Later the terminal area needs to be detailed design on the basis of how one wishes the area to be managed. The combi-terminal is designed with a 0% slope. The part north of the terminal area is locked in position when the track area is right next to a switchgear that cannot not be moved. Connecting road is 9 m wide with separated walking and cycling path. The road crosses the tracks way up high, but the rules of the Swedish Transport Administration can be met in all requirements with generally good standard.

4. Challenges and opportunities

This section will focus on the challenges and opportunities of including Baltic-Link in BAC.

Sweden's only corridor to Europe is ScanMed through Denmark and Germany. Solely relying on one corridor creates a fragile transport system. A more robust and reliable transportation system may be achieved by including at least two CNCs between Sweden and Europe. It is therefore crucial to see to the possibilities of including other corridors between Sweden and Europe in the TEN-T, making them part of the Core Network Corridors (CNC). The extension of Baltic-Adriatic Corridor to Gothenburg would connect the corridor to Scandinavian-Mediterranean Corridor in Sweden which means there is a strong opportunity to create new nodes. The extension creates an alternative route to central and southern Europe, which results in a much-needed redundancy and reduces the vulnerability of the transport system. The corridor also has the potential to become the fastest and most sustainable way from Sweden to Central and Eastern Europe, and to the Adriatic Sea.

A challenge is to evoke Swedish interest in the extension. The Swedish Transport Administration has thus far shown little interest in the extension even though the Swedish Nation Audit Office has pointed out that the Swedish Transport Administration has not been giving enough attention to trans-national projects. In the Swedish national transport plan, trans-national projects have been a low priority (the Swedish Nation Audit Office, 2017). However, the TEN-T regulation (1315/2013) states that the focus for co-financing should especially be on trans-national infrastructure to increase the cooperation between the member states which serves the proposed extension of the BAC.

Including maritime links in the TEN-T has historically been difficult for various reasons. In the *Detailed Implementation Plan* for Motorways of the Sea (EUCOM, 2018b) the following is stated:

'Despite the importance of maritime transport in Europe, the TEN-T Core Network Corridors contain only very few MoS links. The corridors are considered as land-based corridors that merely start or end in ports. CNC ports with non-CNC ports in Europe and in the rest of the world MoS has strongly

supported actions promoting the integration of maritime transport in the logistics chain. These include: Upgrades of maritime links: strengthening links between core and comprehensive ports.'

'MoS is also the way to connect short-sea links and maritime transport services with the Core Network Corridors (CNCs) and MoS links are the junctions allowing the connection of different CNCs.'

Furthermore, due to the lack of priority and vague criteria regarding EU funding for ports there has been a lack of attention to the ports and the coordination with hinterland access infrastructure. Considering the historically low priority of trans-national projects in the Swedish national transport plan and the low priority given to the maritime dimension of TEN-T, it is about time to correct the priority.

Structure of the section:

The challenges and opportunities will be dealt with from three different perspectives. First from the perspective of the Baltic-Sea region, secondly through a *Transport and logistics* point of view and thirdly with a focus on *Passenger transportation*.

4.1 Baltic-Sea Region

The Baltic Link Motorway of the Sea Gdynia – Karlskrona envisages the most potent growth potential in the Baltic Sea Region. That is why Baltic – Adriatic Corridor should be reshaped towards a corridor of permanent socio – economic growth basing on short sea shipping connections, especially Baltic Link MoS Gdynia – Karlskrona.

Both Blekinge and the Tricity area in Poland have a fairly low accessibility, see *Figure 13* . The freight transport system has lower accessibility in the Eastern Europe and the Baltic states compared to the rest of the member states. The extension of BAC could serve as a counteract to the differences in accessibility and as a measure to improve the accessibility between older and newer member states.

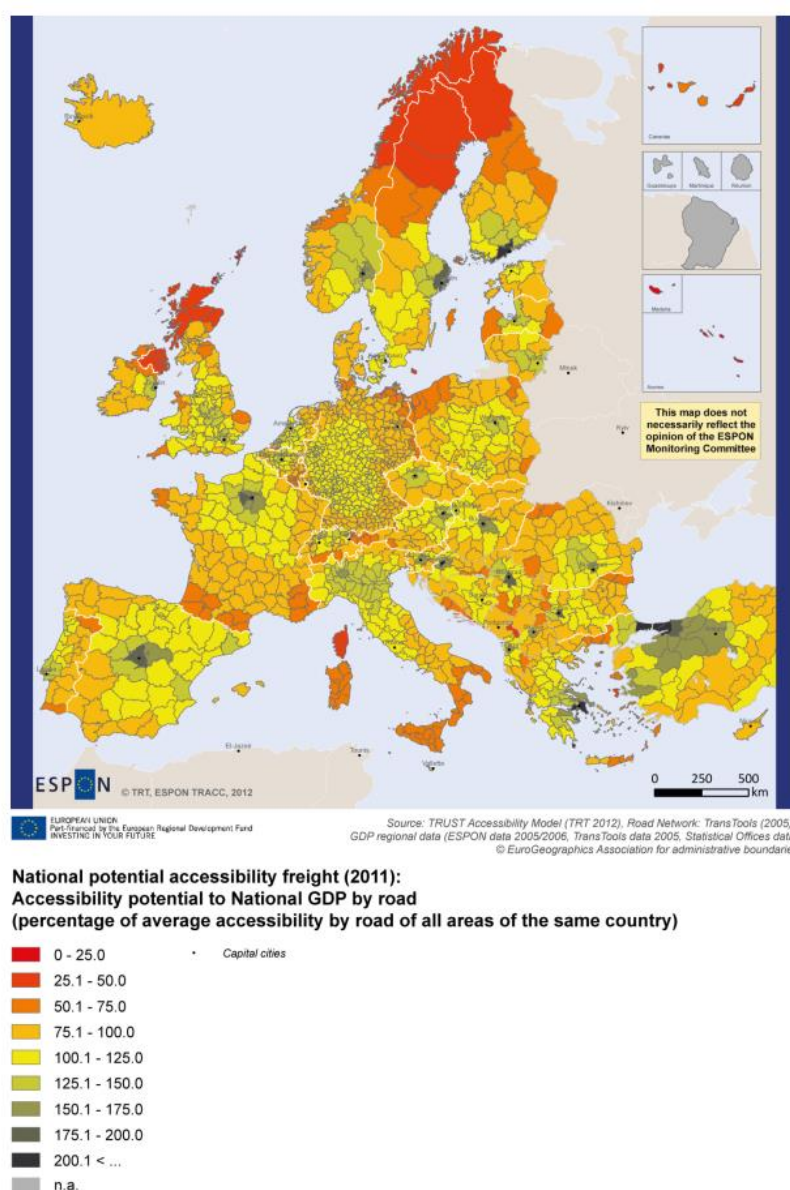


Figure 8.12. National potential accessibility by road freight to GDP

Figure 13. Accessibility freight (Source: Spiekermann et al., 2015).

A study made by SMAB also shows that the Eastern parts of Europe have a lower accessibility. They compared the number of TEN-T nodes in each country in the EU. The number of nodes has in turn been related to millions of inhabitants and area in square kilometres for each respective country, see Table 4.

Table 4. TEN-T nodes (Source: Stowarzyszenie Miast Autostrady Bursztynowej (SMAB)).

| <i>COUNTRY</i> | <i>NUMBER OF NODES</i> | <i>COUNTRY</i> | <i>MILLIONS OF INHABITANTS PER NODE</i> | <i>COUNTRY</i> | <i>AREA IN KM2 PER TRANSPORT NODE</i> |
|----------------|------------------------|----------------|---|----------------|---------------------------------------|
| Germany | 113 | Estonia | 0,1 | Malta | 0,1 |
| Italy | 71 | Malta | 0,1 | Netherlands | 0,7 |
| Spain | 64 | Finland | 0,2 | Belgium | 1,7 |
| United Kingdom | 64 | Cyprus | 0,2 | Denmark | 1,9 |
| Netherlands | 61 | Greece | 0,2 | Cyprus | 2,2 |
| France | 59 | Sweden | 0,2 | Luxemburg | 2,5 |
| Greece | 49 | Denmark | 0,2 | Greece | 2,7 |
| Sweden | 44 | Netherlands | 0,3 | Germany | 3,2 |
| Finland | 30 | Croatia | 0,4 | Portugal | 3,7 |
| Portugal | 25 | Portugal | 0,4 | Spain | 3,8 |
| Romania | 25 | Luxemburg | 0,5 | United Kingdom | 3,8 |
| Denmark | 23 | Slovenia | 0,5 | Italy | 4,2 |
| Belgium | 18 | Bulgaria | 0,5 | Croatia | 4,7 |
| Poland | 18 | Latvia | 0,6 | Slovenia | 5,1 |
| Hungary | 14 | Belgium | 0,6 | Hungary | 6,6 |
| Bulgaria | 13 | Hungary | 0,7 | Czechia | 7,9 |
| Croatia | 12 | Germany | 0,7 | Spain | 7,9 |
| Estonia | 12 | Spain | 0,7 | Slovakia | 8,2 |
| Czechia | 10 | Ireland | 0,8 | Bulgaria | 8,5 |
| Austria | 9 | Romania | 0,9 | Austria | 9,3 |
| Ireland | 6 | Italy | 0,9 | Romania | 9,5 |
| Slovakia | 6 | Lithuania | 0,9 | Sweden | 10,2 |
| Cyprus | 4 | Slovakia | 0,9 | Finland | 11,3 |

| | | | | | |
|-----------|---|----------------|-----|-----------|------|
| Lithuania | 4 | Austria | 0,9 | France | 11,4 |
| Latvia | 4 | United Kingdom | 1,0 | Ireland | 11,7 |
| Malta | 4 | Czechia | 1,1 | Latvia | 16,2 |
| Slovenia | 4 | France | 1,1 | Lithuania | 16,3 |
| Luxemburg | 1 | Poland | 2,1 | Poland | 17,4 |

Table 4 show that Poland the lowest number of nodes in relation to its size of population and area (km²) compared to other member states. Several other eastern member states also have a low number of nodes in relation the millions of inhabitants and the country's area.

The transport flows are expected to increase due to the strong economic growth of Poland and other eastern member states. The trade (import and export) between Sweden and Poland has increased steadily since the year 2000, see *Figure 14*. Between 2000 and 2017 the trade has increased with 323 %. According to the Swedish Transport Administration's forecasts, the transported freight towards the eastern parts of EU could be at the same level as the transports towards western parts of EU around 2030.



Figure 14. Trade between Sweden and Poland (Source: SCB).

Furthermore, the Swedish Transport Administration's forecasts indicated that the transported freight in the ports of Skåne and Blekinge could double between 2006 and 2030. There are hence strong potentials for the ports in Karlskrona and Gdynia to collaborate in establishing the infrastructure that makes it possible to expand trade and maritime bases on both sides of the Baltic-Sea. With an increased trade with the eastern markets in EU and the transport chains onwards to Asia, southeast Sweden will

be given a strategic role of increased importance (Swedish Transport Administration, 2017). In the position paper for Southern Sweden (Region Jönköping, Kronoberg, Kalmar, Blekinge, Skåne and Halland) it is stated that the Baltic Sea ports in Southern Sweden should be included into TEN-T to achieve a better connection to the growing markets in Poland and the Baltic States, which would serve towards the priority of competitive and sustainable freight transports (Regions of Southern Sweden, 2016).

There is currently a strong cooperation across the Baltic-Sea, namely between Sweden and Poland. A tripartite agreement was signed on the 11th June 2018 between Baltic-Link Association, Association of the Cities of the Amber Motorway (ARCA) and Association of Polish Regions of the Baltic-Adriatic Transport Corridor. The agreement states the common goal to include the Baltic Link transport corridor in the TEN-T core network (Baltic-Adriatic Corridor) – as a result of the joint initiative ‘Baltic-Link – The Gdynia-Karlskrona Motorway of the Sea (MoS)’. Furthermore, the ambition to continue with joint effort to support economic cooperation and mobility of citizens based on the TEN-T infrastructure and its growing importance within the single transport system of the Baltic Sea Region is stated in the agreement. The cooperation focuses on the zone between Karlskrona TEN-T node and ScanMed’s Alvesta and Gothenburg transport nodes in Sweden and in the zone between the Gdansk-Gdynia node and the North Sea-Baltic’s Lodz and Warszawa nodes in the Republic of Poland. Extending the BAC and receiving new connections and nodes to the ScanMed corridor therefore is in alignment with and supported by the tripartite agreement.

4.2 Transport and logistics

The Baltic-Link Motorway of the Sea Gdynia – Karlskrona is a strong link in the Polish – Scandinavian logistic chains. The general objective of MoS is to ensure environmental protection, shipping security, land and maritime connections' integration into a solid logistic supply chain. The Baltic Link MoS Gdynia – Karlskrona ought to effectively integrate core network corridors, in particular the Baltic – Adriatic Corridor with ScanMed Corridor.

Sustainable transport and logistics are in high demand, and the Baltic-Link can be used as a measure to achieve more sustainable transports. In the White Paper 2011 the following is stated:

'30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors. To meet this goal will also require appropriate infrastructure to be developed.'

Thus, there are no doubts regarding the importance of ventures towards shifting freight transports from road to rail or waterborne transport. The extension of the Baltic-Adriatic Corridor via MoS Gdynia-Karlskrona uses green and blue infrastructure a sustainable alternative to road transports. To achieve a modal shift from trucks to boats and trains is the most evident argument in order to reduce greenhouse emissions. Furthermore, including the Baltic-Link in the BAC would mean that Sweden and the rest of Scandinavia will reach growing markets in Central and Eastern Europe in an efficient and environmentally sustainable way.

The export from Sweden to the east is expected to increase. In *Figure 15* the forecasted increase of export from Sweden from 2006 to 2030 is illustrated. The blue dots illustrate the size of the expected increase of export from Sweden between 2006 and 2030 in tons. The export to Poland is expected to increase, see *Figure 15*. In Asia, it is the export to Kina and Japan that are expected to increase the most (Trafikanalys, 2016a).

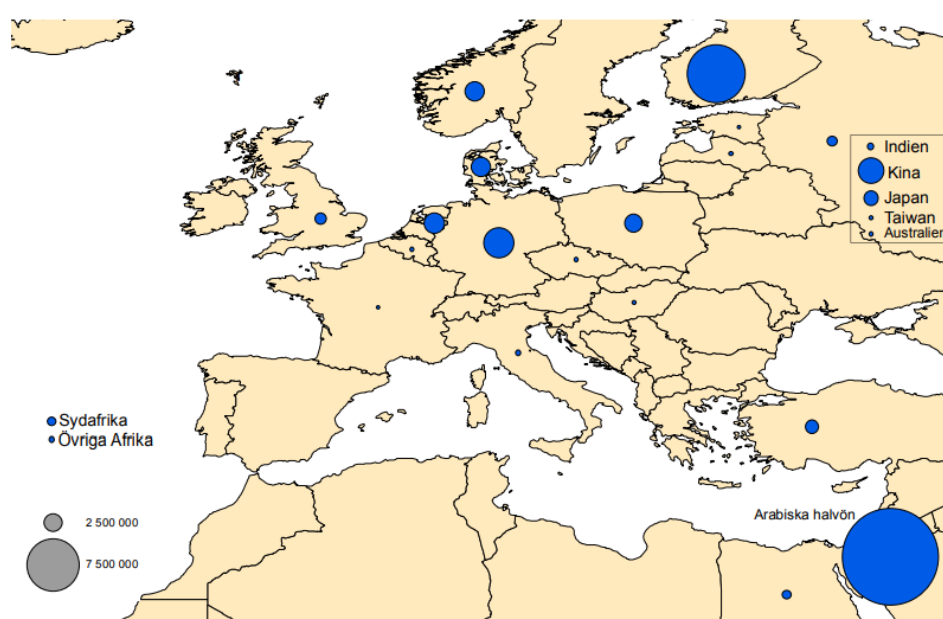


Figure 15. Expected increase of export 2006-2030 in tons (Source: Trafikanalys, 2016a).

The import to Sweden from the east is expected to increase even more than the export. In *Figure 16* the forecasted increase of import to Sweden between 2006 and 2030 is illustrated. The purple dots illustrate the size of the expected increase of import to Sweden 2006-2030 in tons. The export from the eastern member states and Russia to Sweden are expected to increase heavily (Trafikanalys, 2016a).

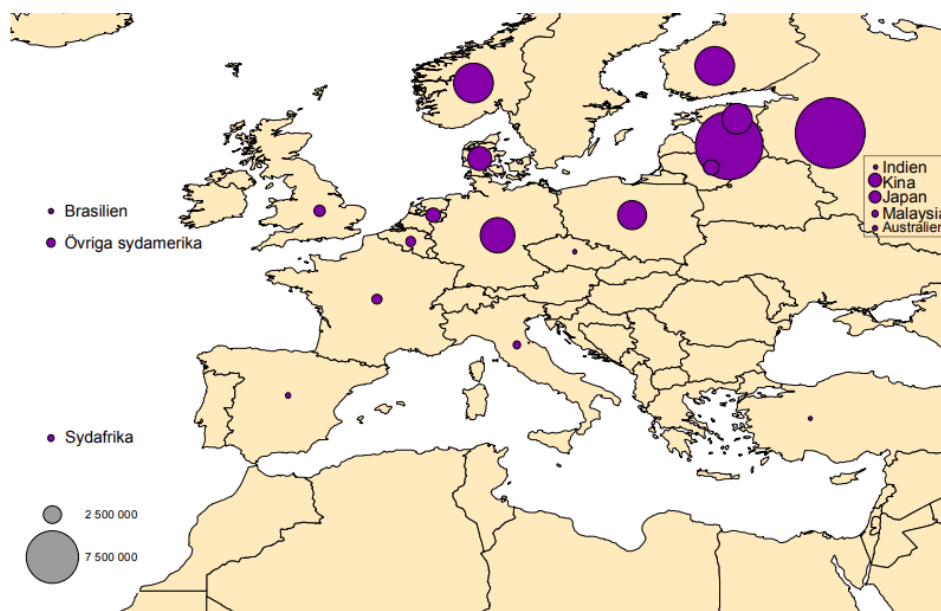


Figure 16. Expected *increase* of import 2006-2030 in tons (Source: Trafikanalys, 2016a).

As a response to the expected increase of both import and export, connecting Sweden with Poland through the Baltic-Link would be beneficial both for Sweden, Poland and the EU as a whole. The new corridor has potential to become the fastest and most sustainable way from Sweden to the Central and Eastern Europe, and to the Adriatic Sea. In addition, becoming Sweden's natural path to China.

Today the ScanMed Corridor handles a large portion of the freight to and from Scandinavia and the corridor will receive further improvements, one being the Fehmarn Belt Fixed Link. After the opening of the Fehmarn Belt Fixed Link a large increase of rail transport capacity is expected in the north-south direction (Trafikanalys, 2016a). The bottleneck is then expected to move from Denmark/Germany to Sweden/Denmark since the Øresund Bridge is expected to reach full capacity at 2030 (Landskrona Stad, 2013). It is thus reasonable to expect an increase of the transport via the ports in the Baltic-Sea because of the new bottleneck in ScanMed, but also due to change in transport flows (Trafikanalys, 2016a). Thus, it is not only ScanMed that is of interest for Sweden, but also the development of Baltic-Adriatic, North Sea-Baltic, Orient/Est-Med ought to influence the transport flows to and from Sweden with a shift towards more eastern bound cargo. A strong Swedish national focus on ScanMed is thus not recommended (Trafikanalys, 2016a). By including Baltic-Link in the Core Network and establishing a straightforward, clear and attractive corridor there are opportunities to ease existing congestion on the motorways in Northern Germany and in Central Europe and thus to prevent the predicted bottleneck on the Øresund Bridge. Hence an extension of Baltic-Adriatic will support ScanMed as well as improve the existing infrastructure in Baltic-Link to prepare for changed transport flows with an increased transport to and from the east.

Trans-national long-distance transports, such as transports between China and Europe, has historically been dominated by maritime transport. The trend is a continuous consolidation of the transport market in terms of larger global shipping companies and a concentration to fewer and larger ports. This leads to increased demands on the ports and its hinterland connections (Trafikanalys, 2016a). The land based connections in Asia might lead to a shift in transport flows where land based transport between Asia and Europe increases. This might mean that ports in the Baltic-Sea will have an increased importance. Instead of transporting freight by sea around Europe via the large ports in Western Europe to Sweden, the transports could be land-based and in turn transported through the ports in the Baltic Sea (Trafikanalys, 2016a).

The *One Belt, One Road* (OBOR), the new Silk Road, see *Figure 17*, is expected to have a strong influence on the transport flows. OBOR is connected to the Baltic-Adriatic Corridor via Łódź and Warsaw. Volvo cars are now using OBOR to export cars from China to Europe. The cars are being transported by train from the factory in Daqing.

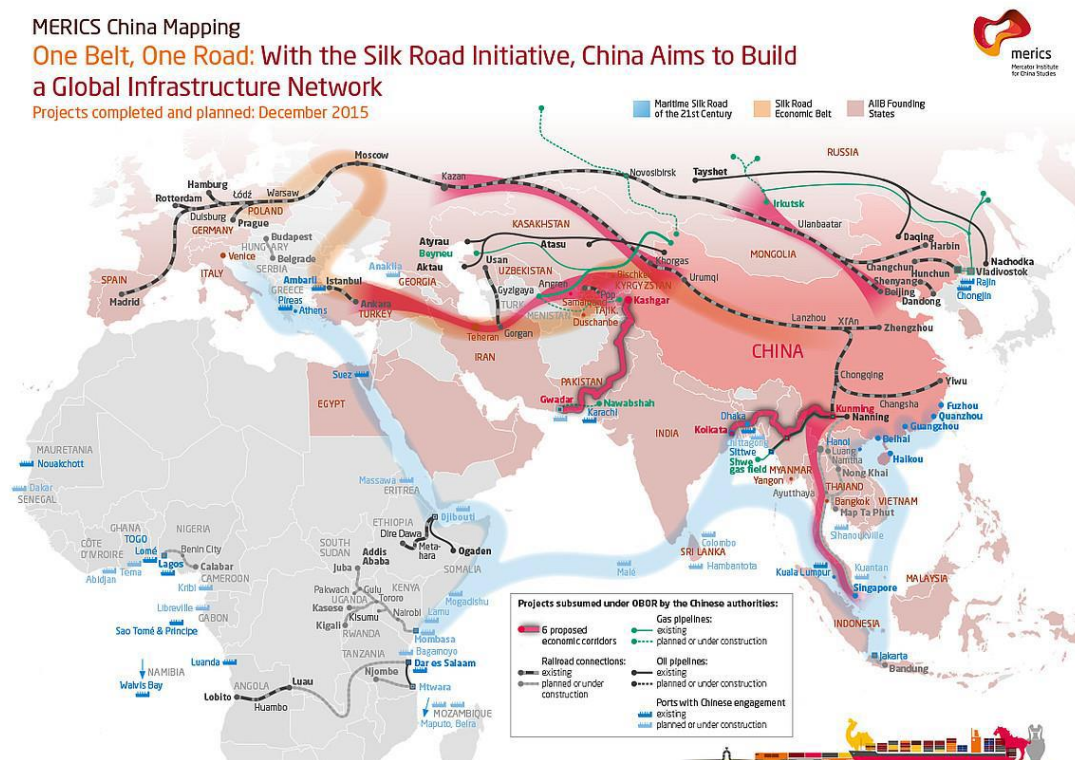


Figure 17. One belt, one road (Source: Merics.org).

In addition, the Baltic-Link Corridor, and especially MoS Gdynia-Karlskrona, affects rest periods for drivers positively. The allowed driving time and rest periods are regulated in *Regulation (EC) No 561/2006*. The regulation provides a common set of EU rules for maximum daily and fortnightly driving times, as well as daily and weekly minimum rest periods for all drivers of road haulage and passenger transport vehicles, subject to specified exceptions and national derogations. These rules establish that (EUCOM, 2019b):

- Daily driving period shall not exceed 9 hours, with an exemption of twice a week when it can be extended to 10 hours.

- Total weekly driving time may not exceed 56 hours and the total fortnightly driving time may not exceed 90 hours.
- Daily rest period shall be at least 11 hours, with an exception of going down to 9 hours maximum three times a week. Daily rest can be split into 3 hours rest followed by 9 hour rest to make a total of 12 hours daily rest.
- Weekly rest is 45 continuous hours, which can be reduced every second week to 24 hours. Compensation arrangements apply for reduced weekly rest period. Weekly rest is to be taken after six days of working, except for coach drivers engaged in a single occasional service of international transport of passengers who may postpone their weekly rest period after 12 days in order to facilitate coach holidays.
- Breaks of at least 45 minutes (separable into 15 minutes followed by 30 minutes) should be taken after 4 ½ hours at the latest.

The ferry with its driving time thus enables the drivers to rest while the cargo is being transported, which is a large advantage for the corridor. In December 2018 the European Council agreed upon new rules for truck drivers including working conditions for drivers, enforcing that regular weekly rest must be spent outside the cabin. Meaning that it is no longer allowed to sleep overnight in the driver's cabin.

A general opportunity for the extension of Baltic-Adriatic has also presented itself regarding military mobility. In March 2018, the European commission presented that CEF was being strengthened with €6,5 billion during the years 2021-2027 to adapt and strengthen the infrastructure in favour of military mobility. The focus on military mobility is an initiative to strengthen the mobility of military personnel and assets across the EU and beyond. An extension of Baltic-Adriatic would thus also be beneficial from this perspective since an improvement of the infrastructure along Baltic-Link would strengthen the mobility across the Baltic Sea.

Three types of existing barriers to military mobility (EUCOM, 2018c):

- Infrastructure not suitable for the weight or size of military assets.
- Regulatory and procedural issues.
- Shortcomings in military domain.

By identifying sections of the TEN-T suitable for military transport, including necessary upgrades of existing infrastructure, the aim is to reinforce civilian and military synergies. Synergies consequently ensure a more efficient use of public money. This means there are opportunities for dual-use civilian-military infrastructure, amongst others in multimodal platforms allowing to quickly shift assets from ports and airports to rail and road, in improving the capacity of inland terminals and in adequate loading gauges on freight rail lines (EUCOM, 2018d).

A first progress report on the implementation of the *Action Plan on military mobility: EU takes steps towards a Defence Union* will be presented to the Member States by summer 2019 (EUCOM, 2018c).

4.3 Passenger transport

Passenger transportation along the MoS Gdynia-Karlskrona is an important aspect for the extension of the Baltic-Adriatic Corridor. As a step towards increasing passenger transportation in the SBR, specifically sustainable passenger transportation, the Interconnect project was initiated.

INTERCONNECT

The Interreg EUSBR flagship project *Interconnect* addresses challenges of car-dependent mobility in the South Baltic area through user-adjusted and more sustainable public transport services for regional and cross-border travels. Interconnect supports new and more efficient public transport services both in and between coastal regions of the South Baltic area - to give the residents and tourists broader and more sustainable options for realising their mobility needs. The duration of the project extends between June 2017 – May 2020 and involves 6 EU Members in the South Baltic area (INTERCONNECT, 2019).

Today the public transport offer in the South Baltic area hardly meets customer expectations regarding comfort of making regional and cross-border journeys. There are shortcomings in terms of tickets allowing multimodal rides (e.g. bus-ferry-train) across regional borders, difficult access to one-spot passenger information and a lack of tailor-made products. This is in particular visible on the ferry links where a steadily growing number of cross-border travels with car can be observed due to customised services and price packages for motorised passengers, while the market segment of foot passengers remains marginal.

New solution for Pomeranian and Blekinge:

New cross-border travel information system for public transport passengers in Blekinge area. Public transport services in Pomeranian and Blekinge are harmonised to the extent that the joint products become feasible. Interconnect will push for single ticket solutions and multimodal journey packages between the two regions, including a Gdynia-Karlskrona ferry ride - to rival the existing offer for the motorised travellers.

Better quality of life in the South Baltic area:

New and innovative public transport services. Contribute to a reduced environmental footprint of transport and a better quality of life in the whole South Baltic area. Interconnect supports new and more efficient public transport services both in and between the coastal regions of the South Baltic area - to give the residents and tourists broader and more sustainable options for fulfil their mobility needs.

5. Implementation

To be able to extend the Baltic-Adriatic Corridor from Gdynia to Gothenburg the MoS Gdynia-Karlskrona, coast to coast railway line and road 27 need to be included in the TEN-T network. In 2023 when the next revision of TEN-T takes place there is an opportunity for the entities to be included.

The revision of TEN-T will be carried out at the latest by the 31st of December 2023. The decision process is expected to be such as each member state proposes changes that the EU Commission will include in their proposal. The decision is then made by the member states in the Commission and the Parliament.

The TEN-T network and the Core Network Corridors are appointed in the TEN-T regulation (1315/2013) and in the CEF regulation (1316/2015). The current CEF covers 2014-2020 and the coming covers 2021-2027. A revision of the CNCs can at the earliest be carried out in connection to the forthcoming budget 2021-2027. The core network is defined in the TEN-T regulation and a revision of this will occur in 2023. At a revision all entities in TEN-T can be given a changed classification.

To be able to include Baltic-Link in TEN-T as an extension of the core network corridor Baltic-Adriatic the Swedish Transport Administration and government must support and promote the action. The Swedish Ministry of Enterprise and Innovation must put forward a proposal to the EU Commission to extend Baltic-Adriatic from Gdynia to Gothenburg via MoS Gdynia-Karlskrona. Ultimately, the measures and actions must be included in the Swedish national transport plan to be able to achieve funding through CEF.

For a task to then be included in the Baltic-Adriatic work plan a resolution regarding the funding of the task, excluding the funds that will be requested through CEF, must exist. For Swedish concerns this means that the measures must be included into the national transport plan. The current Swedish national plan for investments in the national infrastructure applies for the period of 2018-2029 and the implementation plan covers a six-year period of 2018-2023.

The European Commission establishes the work plans but in reality, this occurs after a negotiation with the member states. These have plausibly a strong influence since majority of the investments materialises from the budgets of the member states. Sweden is represented by the Ministry of Enterprise and Innovation. For each corridor a reference group has been assembled that gathers at the Corridor Forum Meetings. As a part of the process, seven meetings with a large number of actors invited are carried out. The actors represent regional and local authorities as well as infrastructure owners for roads, railway lines, ports, airports and intermodal hubs belonging to the corridor. At the meetings the new work plan is presented, discussed and anchored. In addition to the Corridor Forum Meetings additional meetings such as Ideas Laboratory are arranged to accommodate specific matters and to widen the scope of actors participating.

Financing from CEF is not decisive regarding measures being taken in Sweden. It could, however, have a political significance.

5.1 Infrastructure requirements for the core network

The requirements for infrastructure within the core network are stated in article 39 in the TEN-T regulation (1315/2013). These requirements only apply to entities that are a part of the CNC. Entities that are proposed to be included in the CNC do not need to be in compliance with the requirements.

(a) for railway transport infrastructure:

(i) full electrification of the line tracks and, as far as necessary for electric train operations, sidings;

(ii) freight lines of the core network as indicated in Annex I: at least 22,5 t axle load, 100 km/h line speed and the possibility of running trains with a length of 740 m;

(iii) full deployment of ERTMS;

(iv) nominal track gauge for new railway lines: 1 435 mm except in cases where the new line is an extension on a network the track gauge of which is different and detached from the main rail lines in the Union.

Isolated networks are exempt from requirements (i) to (iii)

(b) for inland waterway and maritime transport infrastructure:

- availability of alternative clean fuels;

(c) for road transport infrastructure:

— the requirements under points (a) or (b) of Article 17(3);

(a) A motorway is a road specially designed and built for motor traffic, which does not serve properties bordering on it and which:

(i) is provided, except at special points or temporarily, with separate carriageways for the two directions of traffic, separated from each other by a dividing strip not intended for traffic or, exceptionally, by other means;

(ii) does not cross at grade with any road, railway or tramway track, bicycle path or footpath; and

(iii) is specially sign-posted as a motorway.

(b) An express road is a road designed for motor traffic, which is accessible primarily from interchanges or controlled junctions and which:

(i) prohibits stopping and parking on the running carriageway; and

(ii) does not cross at grade with any railway or tramway track.

— the development of rest areas on motorways approximately every 100 km in line with the needs of society, of the market and of the environment, in order inter alia to provide appropriate parking space for commercial road users with an appropriate level of safety and security;

— availability of alternative clean fuels;

5.1.1 Status for the entities of Baltic-Link

The entities of Baltic-Link, i.e. the proposed extension of Baltic-Adriatic, does not need to fulfil the core network requirements to be able to be included in the core network at the 2023 revision of TEN-T. However, if Baltic-Link becomes a part of the Baltic-Adriatic the entities should eventually fulfil the requirements since the core network should meet TEN-T criteria by the end of 2030. Thus, it is beneficial if the entities partially fulfil the requirements. According to *Article 39* (1315/2013) exemptions from the requirements may be granted by the Commission at a Member State's request. For railway transport infrastructure in duly justified cases this means exemptions in relation to the train length, ERTMS, axle load, electrification and line speed and road transport infrastructure in duly justified cases as long as an appropriate level of safety is ensured. The duly justified cases referred to in this paragraph are cases where investments in the infrastructure cannot be justified in socio-economic cost-benefit terms.

Although Baltic-Link does not have to be in compliance with the infrastructure requirements it can be useful to compare the current status and standard with the requirements to get a perception of the measures that could be ahead. Moreover, since several infrastructure investments and upgrading have been carried out regarding the entities in Baltic-Link, the infrastructure does already partially meet the requirements for the core network.

MoS Gdynia-Karlskrona

The requirement for core ports of the availability of clean fuels are already met. Furthermore, the requirements of maritime links of TEN-T are also met (EUCOM, 2013):

- Connection of TEN-T ports with railway lines, roads and, where possible, inland waterways
- Availability of at least one terminal in the port open to all operators in a non-discriminatory way and applying transparent charges
- Adequacy of sea canals, port fairways and estuaries for connecting adjacent seas or providing access from the sea to maritime ports

The maritime link MoS Gdynia-Karlskrona are thus well prepared to be included in the core network.

Coast to coast railway line

The coast to coast railway line partially meets the requirements imposed on the core network. The railway is fully electrified and has a nominal track gauge of 1 435 mm. Regarding the requirements for freight lines of the core network, the coast to coast railway line meets the requirement of 22,5 t axel load (some deviations exist on industrial tracks and at intermodal terminals) but does not fully meet the requirements of 100 km/h line speed and the possibility to run trains with a length of 740 m. The line speed is below 100 km/h closest to Karlskrona and Gothenburg, while it otherwise exceeds 100 km/h in most sections, see *Figure 9*. Regarding trains of 740 m, the normal approved length in Sweden is 630 m but adjustments are being carried out. For the coast to coast line passing loops

suitable for long trains are missing between Växjö-Värnamo and Karlskrona-Emmaboda. The coast to coast railway line is thus already partially meeting the TEN-T requirement for the core network.

ERTMS is not in deployment in the coast to coast railway line but would be implemented if the railway line was to be included in TEN-T network. However, it is not an obstacle for the railway line to be included in TEN-T.

Road 27

The TEN-T requirements for the core network regarding ‘*separate carriageways for the two directions of traffic, separated from each other by a dividing strip not intended for traffic*’ are partially met. Some sections of road 27 are already designed as separate carriageways and planned measures exist for several other sections where the road consists of single carriageways. However, the road does not need to meet these requirements to be able to be included into the TEN-T but the requirements can serve as an indicator of the quality and status of the road.

In *Table 2* road 27’s TEN-T status, quality and standard were presented for different sections of the 340-kilometre-long road. In summary, it can be concluded that 58 km of road 27 meet the requirements of a motorway (Viared – Gothenburg) and are included in the TEN-T core network, 107 km have separate carriageways and 175 km consist of single carriageway sections. Of the 175 km that do not have separate carriageways, plans for upgrading to separate carriageways are ongoing for approximately 50 km, see *Table 2*.

In conclusion, road 27 partially already meets the requirements for the TEN-T core network and planned measures exist for some sections that does not fulfil the requirements. Hence, the road is well prepared to be included into the network.

For the entities of Baltic-Link to be included in TEN-T by an extension of Baltic-Adriatic we need to examine the regulations and the fundamentals for the 2023 revision of the core network.

5.2 Revision of the core network

The revision of the core network takes place in 2023 and is regulated by article 54 in the TEN-T regulation (1315/2013):

1. By 31 December 2023, the Commission, having consulted with Member States as appropriate and with the assistance of the European Coordinators, shall carry out a review of the implementation of the core network, evaluating:

- (a) compliance with the provisions laid down in this Regulation;*
- (b) progress in the implementation of this Regulation;*
- (c) changes in passenger and freight transport flows;*
- (d) developments in national transport infrastructure investment;*
- (e) the need for amendments to this Regulation.*

The evaluation shall also consider, inter alia, the impact of evolving traffic patterns and relevant developments in infrastructure investment plans.

In addition to carrying out that review, the Commission, in cooperation with the Member States, shall assess whether new sections, such as certain former cross-border priority projects listed in Decision No 661/2010/EU, are to be included in the core network. The Commission shall present a legislative proposal if appropriate.

2. When carrying out that review, the Commission shall evaluate whether the core network as provided for in this Regulation will comply with the provisions of Chapter III by 2030 while taking into account the economic and budgetary situation in the Union and in individual Member States. The Commission shall also evaluate, in consultation with the Member States, whether the core network should be modified to take into account developments in transport flows and national investment planning. If necessary, the Commission may submit a proposal for amendment of this Regulation.

For that proposal, the Commission may also specify the date for completion of the comprehensive network as laid down in Article 9(2).

The regulations for the revision of TEN-T hence specify that the Commission shall assess whether new sections are to be included into the core network. It also stipulates that the Commission shall evaluate whether the core network should be modified to take into account developments in transport flows and national investment planning.

Since 2013 when the nine core network corridors were established the trade between Sweden and Poland has increased by 44 % (between 2013 and 2017), see *Figure 14*, and the trade is expected to continually increase. For MoS Gdynia-Karlskrona the number of freight units has increased with almost 40 % from 2013 to 2018, see *Figure 5*. The number of passengers has increased with 34 % from 509 000 passengers in 2013 to 683 000 passengers in 2018, see *Figure 6*. This alone is adequate arguments as to why the revision should include Baltic-Link in TEN-T. Furthermore, the regulation can be interpreted as if measures included in the member states' national transport plans may affect the revision and possible extensions of the nine core network corridors.

Considering the changes in transport flows between Scandinavia and the eastern parts of Europe, the increase of both freight units and passengers on MoS Gdynia-Karlskrona and the expected increase of trade to the eastern parts of Europe and Asia, an extension of Baltic-Adriatic to Gothenburg via MoS Gdynia-Karlskrona should be taken in consideration in the 2023 TEN-T revision.

6. The way forward

This section describes the strategies and measures that needs to be carried out to be able to include Baltic-Link in TEN-T, and extend the Baltic-Adriatic Corridor to Gothenburg via MoS Gdynia-Karlskrona, in the 2023 TEN-T revision. During the trans-national workshop between Blekinge and Gdynia in November 2018 and the evaluative session in January 2019 strategies and measures were discussed, and the following is thus based on the workshop. However, the strategies and measures presented below is as suggestion from Norconsult and does not necessarily represent the opinion or priorities of Region Blekinge, the municipality of Karlskrona or other stakeholders.

6.1 Strategies

To be able to extend the core network corridor Baltic-Adriatic from Gdynia to Gothenburg via Karlskrona it is important to develop a clear strategy for the development of the corridor. Baltic-Link Association is thus recommended to continuously serve as a forum to bring the stakeholders together. The main objective forward should be to make sure Baltic-Link is a part of the agenda, both in Sweden and in Europe. The stakeholders should strive to evoke a Swedish interest for the corridor both via the Swedish Transport Administration and the Ministry of Enterprise and Innovation but also a public interest. In the TEN-T regulation (1315/2013) article 54, it is stipulated that the Commission shall evaluate whether the core network should be modified to take into account developments in transport flows and national investment planning. This can be interpreted as if the content of the Member States' national transport plans may affect the revision of the core network. Thus, it is of utmost importance to evoke a Swedish interest for the extension of BAC. The Swedish national transport plan (2018-2029) includes parts of the coast to coast railway line, see *Chapter 3.3.3*, and parts of road 27, see *Chapter 3.3.4*. By bringing attention to the Baltic-Link and possibly including more measures in the Swedish national transport plan the odds of Baltic-Link being included in TEN-T in the 2023 revision increases. A TENTacle seminar in Stockholm with the Ministry of Enterprise and Innovation is one strategy to bring Baltic-Link to the agenda. Such as seminar would ideally take place in the spring of 2019.

The proposed extension of the corridor has a long history of cooperation, mentioned in *Chapter 3.3.1* and *Appendix 1*, which is beneficial for the corridor. The tripartite agreement signed on the 11th June 2018, between Baltic-Link Association, Association of the Cities of the Amber Motorway (ARCA) and Association of Polish Regions of the Baltic-Adriatic Transport Corridor, states the common goal to include the Baltic Link transport corridor in the TEN-T core network and the ambition to continue with joint effort to support economic cooperation and mobility of citizens based on the TEN-T infrastructure and its growing importance within the single transport system of the Baltic Sea Region.

Within the TENTacle partnership a letter of support is currently under preparation. The letter of support aims to connect both private and public stakeholders towards the common goal of extending the Baltic-Adriatic Corridor. The future development of Baltic-Link is thus established and recognized by parties by both member states. The letter of support is recommended to be finalised as soon as

possible to show that the stakeholders along the extension of Baltic-Adriatic are striving towards a common goal, to include the Baltic-Link in TEN-T. The strategy forward should be to continue with the undertakings of the tripartite agreement and the consultation of stakeholders to invite EUSBSR, UBC, BSSSC, Euroregion Baltic, BPO, Blekinge/Pomeranian region's representatives in Brussels to collaborate for the revision of TEN-T.

The vision for the extension of the Baltic-Adriatic corridor is to link the Member States, Sweden and Poland, and create a sustainable, cost efficient and secure corridor that serves regional, national and trans-national purposes. The proposed extension is sustainable and support multimodal transport while increasing mobility and ensuring a high safety standard as well as contributing to the development of a low-carbon transport system. The corridor should thus be marketed as the sustainable, short way from Scandinavia to eastern and central Europe as well as to Asia.

The development of Baltic-Link, i.e. the extension of BAC, should also strive towards:

- Evoke an increased interest in the corridor by joint efforts from all stakeholders.
- Increase the reliability of services along the corridor.
- Increased dialog with business along Baltic-Link and develop the public-private partnerships (PPP).
- Develop the nodes along Baltic-Link towards intermodal hubs and strive towards creating a living corridor that can trigger growth and prosperity based on a proximity to and interconnectivity to the corridor.
- Key Performance Indicators (KPI) to measure the effects of the corridor.

6.2 Measures

Based on an interpretation of the TEN-T regulation (1315/2013), in particular article 54, and the CEF regulation (1316/2013) no physical measures need to be carried out to be able to include the proposed extension of Baltic-Adriatic in the TEN-T core network. However, Baltic-Link is more likely to be included in the TEN-T core network if the infrastructure is well prepared and especially if Sweden has included entities of Baltic-Link in the national investment planning.

Furthermore, for a task to eventually be included in the Baltic-Adriatic corridor's work plan a resolution regarding the funding of the task, excluding the funds that will be requested through CEF, must exist. For Swedish concerns this means that a majority of the tasks must be included in the national transport plan or a county transport plan.

The below measures are suggested to be carried out as a mean to increase the likelihood for the Baltic-Link to be included in TEN-T as an extension of the Baltic-Adriatic core network corridor.

MoS Gdynia-Karlskrona

- Port of Karlskrona, carry out a study for increased capacity and measures to deal with transports to and from the port.
- Last mile solutions for both ports.
- Initiatives for effective ITS solutions.

Coast to coast railway line

- Initiate a Strategic Choice of Measures (ÅVS) for increased efficiency of Alvesta rail yard.
- Analyse the need for an intermodal terminal in Borås.
- Promote the measure to increase the railway speed between Värnamo and Hillared.
- Advance and promote the measure Alvesta-Växjö partial double-track Gemla-Räppe.

Road 27

- In general, develop the road 27 and the network towards:
 - A high road traffic safety for passenger transport and freight transport through separate carriageways.
 - A speed standard of 100 km/h and avoiding speed reductions below 70 km/h.
- Initiate a Strategic Choice of Measures (ÅVS) for Road 27 Karlskrona-Gothenburg to identify sections where road safety measures in form of meeting separation/separate carriageways are needed.

6.3 Milestones

Until the revision of the TEN-T network in 2023 the following major milestones have been identified:

2019

- Evoke Swedish interest and bring Baltic-Link to the agenda by joint efforts of all stakeholders.
 - A TENTacle seminar in Stockholm with the Ministry of Enterprise and Innovation.
 - Public interest can be gained by launching a number of debate articles.
 - Develop brochure material to in a concise way show why the Baltic-Link and the extension of Baltic-Adriatic is crucial for the European transport integration.
 - Present the roadmap and the extension of BAC during the *10th Annual Forum of the EUSBSR* in Gdansk 12-13th June 2019. The Pomeranian voivodeship will host the forum together with the Baltic Sea States Subregional Co-operation in close cooperation with the European Commission, the Ministry of Foreign Affairs of Poland and other partners.
- Finalise the letter of support within TENTacle.
- Establish a contact with the European Coordinator, Anne Elisabet Jensen, for the Baltic-Adriatic CNC.
- The proposal for CEF 2021-2027 is expected to be passed.

By the end of 2019 the Baltic-Link needs to be high up on the Swedish and European agenda.

2020

- The TEN-T days 2020. An evaluation of the network is expected to be presented.
- Swedish Transport Administration is expected to carry out national economical evaluations in preparation for the new transport plan.
 - Measures for entities of Baltic-Link needs to be included.

To be able to extend the Baltic-Adriatic Corridor to Gothenburg via MoS Gdynia-Karlskrona it is likely that by the end of 2020 the Baltic-Link ought to have been reviewed by the Swedish Transport Administration and the extension of BAC must be well established.

2021

- Around 2020/2021 the national economical evaluations for the Swedish transport plan is expected to be presented.
- In August 2021 the Swedish Transport Administration is expected to present a proposal for the national transport plan to the government.

2022

- EU Commission is expected to present their proposal for the TEN-T revision.

2023

- TEN-T revision will be negotiated in the council and parliament.
- 31th December: the TEN-T revision is finalised.

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Appendices

Appendix 1 – *Shipping Connects*

