

Synergies between the Fehmarnbelt fixed link and short sea shipping in the Southwestern Baltic Sea

Adapting to changing transport flows

TENTacle WP 2, Group of Activities 2.1, Activity 2.1.4

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Introduction

IMPORTANT DISCLAIMER

The present draft version is intended as an input for discussions with stakeholders. The aim of these discussions is to develop further ideas in the regions affected and to include project profiles of each of them in an update of this paper. In addition, the measures proposed here will be an input for scenario building in the study “Trans-Baltic Transport Structures to 2030”.

The Fehmarnbelt tunnel will alter transport flows in Southwestern Baltic Sea, but also in the wider European hinterland. Even if total transport volumes were to remain unchanged, there will be hence be a new geography of transport flows. Some regions will see an increase of traffic on their transport infrastructure while others will see a decrease.

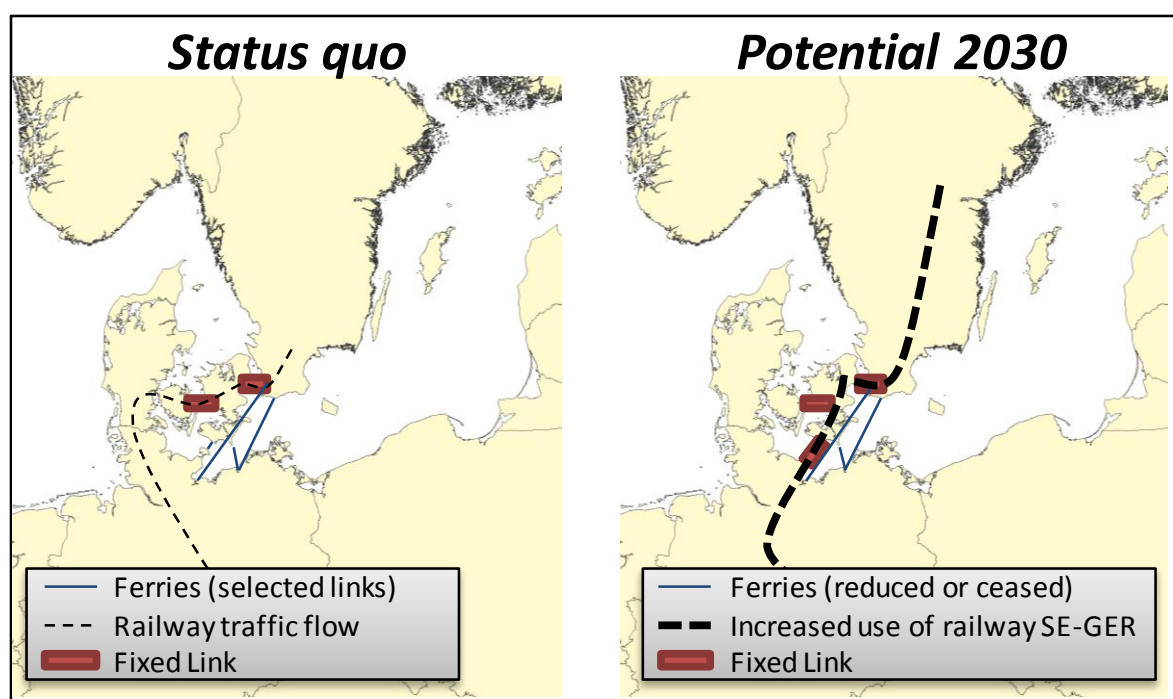
The present paper takes the perspective of regions and regional stakeholders facing these changes in traffic flows. It proposes a framework for analysing and classifying different measures for tackling adverse effects or reaping benefits from regional changes. Its focus is hence not on gains of the Fehmarn Belt fixed link in terms of travel times or transport costs, but on the external effects of this particular aspect of European transport corridor policy.

1. Expected impact of the Fehmarn fixed link on traffic flows

Among the most direct impacts will be a deviation of international rail traffic from the Jutland-Great Belt route to the Fehmarn Belt. There will hence be a notable increase of rail traffic on Fehmarn, Lolland and Falster and a decrease of traffic on Fyn. More precisely, the increase will concern the rail lines Hamburg-Puttgarden and Rødby-Roskilde.

With regard to road traffic, it is unclear how large a shift there will be from the existing fixed link. Most international cargo traffic from the continental hinterland is using the ferries in the Southwestern Baltic Sea so the major impact will be a shift from the ferry to the tunnel.

Figure 1 – change of traffic flows (schematic)



The change of traffic flows will also have structural consequences in the different regions. Traffic deviated from ferries will eventually have a negative impact on employment in ports and aboard the ships. On the other hand, there may be opportunities stemming from the increased concentration of international long-distance traffic flows in the different regions such as new rail services or rail terminals, logistics facilities and the like. The present paper looks at such new opportunities and strategies for policymakers to make the most out of changing transport flows.

2. Solutions and ways to adapt

Quite often, one of the more prominent findings of Darwin is understood erroneously. His assumption about the “survival of the fittest” does not mean that the strongest will survive but those that can adapt better to a changing environment. The following ideas (some of which abstract) have been developed within this paper to be used as fuel for thought or starting points for implementations of plans, actions and action plans by all stakeholders affected by the Fehmarnbelt fixed link in order to adapt to the changes in a way beneficial for them or their stakeholders in a wider sense.

The strategies and concepts are based on discussions with stakeholders, desk research and own ideas developed during the research. Generally, the starting point for anybody seeking to employ these strategies should be to anticipate the future realignment of traffic flows and the attempt to mitigate negative impacts as well as the identification of business opportunities. Hence the developed concepts can theoretically be broken down into a matrix with four fields, whereby the two of the four fields are generating more obvious answers at first glance (benefitting from additional traffic and mitigating the loss of traffic). The following matrix is used to structure the chapters of this paper:

Figure 2 – two dimensional strategic response matrix

	Strategies to mitigate negative impacts for stakeholders	Strategies to realize gains/benefits for stakeholders
Reduced traffic on existing links as a result of the Fehmarn-Belt fixed link	<p>e.g. subsidizing traffic infrastructure/operations which are vital for intra-EU supply chains and passenger traffic in order to maintain critical utilization thresholds</p> <p><i>chapter 2.1.1</i></p>	<p>e.g. redeveloping unneeded traffic infrastructure into residential zones / reaping environmental benefits where traffic can be reduced</p> <p><i>chapter 2.2.1</i></p>
Increased traffic on existing links as a result of the Fehmarn-Belt fixed link	<p>e.g. pre-emptive measures to identify future bottlenecks in the traffic infrastructure / provide easy access to funding to measures to shield against noise or pollution on heavily utilized traffic links.</p> <p><i>chapter 2.1.2</i></p>	<p>e.g. establishment of logistics parks where new traffic volumes will align / seizing opportunities to bundle traffic using new intermodal connections to shift cargoes from road to rail</p> <p><i>chapter 2.2.2</i></p>

Chapter 2.1 will suggest strategies to respond to negative impacts of a loss or increase of cargo, chapter 2.2 will offer strategies to seize benefits or gains from a loss or increase of cargo.

2.1 Strategies to mitigate negative impacts

2.1.1 Negative impacts resulting from a loss of traffic

Measures to ease the social impact of traffic losses

The loss of transport volumes on certain routes will inevitably have an impact on employment – particularly in the case of ports and ferries. In some cases, the loss of jobs in one area (e.g. in the port and on the ferries) will be partially offset by the creation of jobs in other areas (e.g. toll collection or tunnel maintenance). The most obvious solution in these cases is – wherever possible – to promote training measures allowing to transfer employees from one organisation to the other.

Where a net loss of jobs is inevitable, much depends on the local potential to create new jobs in other sectors. In areas with high unemployment or in rural areas where the share of jobs lost is particularly high in relation to total employment, additional measures may be necessary, e.g. by attracting direct investments in other areas. National and European structural funds may help to alleviate the structural change in such regions.

Subsidies to maintain critical infrastructure or transport services

As was observable with the other fixed links that came to live in the Baltic Sea in recent years, a more or less immediate response of market participants was the shift of traffic from existing ferry connections to the fixed links and a subsequent loss of ferry connections in the immediate vicinity.

Wherever the utilization of transport services will drop to uneconomical levels, it is evident that operators will (need to) stop offering the service. This could create a risk for congestion or loss of flexibility in intra-European supply chains if a damage or downtime of the fixed link should occur in the future.

A solution could be to subsidize a nearby ferry enabling it to survive economically at the example of the subsidy paid by Størebelt A/S to maintain the Spodsbjerg-Tårs ferry service. On the one hand, a ferry may be an attractive alternative e.g. for high and heavy cargo that cannot use the tunnel or would hinder the normal traffic flow. On the other hand, if an incident were to occur that would render the newly established fixed link unusable, the existing ferry could easily take on a larger share of cargo as well as increase its transport supply. These subsidies would thus also help to avoid traffic flows shifting to routes with longer road components.¹

The same phenomenon could also be observable on hinterland connections where – as a result of the loss of traffic flows – investments into existing infrastructure or equipment of multimodal hubs will not be conducted by market participants because of the loss of utilization experienced in the aftermath of the establishment of the fixed link. Here also subsidies could help to avoid road traffic gaining a larger share in total transport.

¹ Note that the distance between Berlin and Copenhagen is roughly 300 km longer via the Great Belt bridge than via the Rostock-Gedser ferry link. The difference between the Puttgarden-Rödby and the Rostock-Gedser link is 140 km.

2.1.2 Negative impacts resulting from an increase of traffic

Address upcoming bottlenecks up front

Generally, stakeholders should be aware of potential traffic flows increasing along certain corridors resulting from the establishment of the fixed link. Wherever these increases of traffic are set to settle, responsible stakeholders should conduct analyses up front if the infrastructure is actually able to handle this increase in traffic or look into ways to expand the capacity or mitigate the bottlenecks. As the research conducted by ISL is conducted with great care but still contains risks resulting from the attempt to predict how market participants will behave in the future, measures to address the bottlenecks should be ready to be applied as soon as they actually occur. E.g. communities and municipalities should conduct feasibility studies about traffic flow.

Measures to reduce the environmental impact

Also, stakeholders should not be surprised to be faced with complaints from users (both business and private) of the then highly utilized infrastructure as well as from residential business areas located in the immediate vicinity of this infrastructure. If both the noise and pollution complaints on top of the rising congestion issues build up, they should be dealt with in a swift manor by supporting the construction of noise protection walls or by pass roads.

Another way to reduce the environmental impact of increased traffic is a shift from road to rail or to short sea traffic. This has been analysed in more detail in Activity 2.1.3.

2.2 Strategies to seize benefits and gains

2.2.1 Where gains/benefits are resulting from a decline of traffic

Reconversion of former port and logistics areas

For traffic routes and infrastructure where a significant loss of traffic volumes or utilization respectively is to be expected, opportunities resulting from the fixed link lie in the redevelopment or closure of said infrastructure. Landlocked city ports in metropolitan areas have been benefitting for years from the transformation of nowadays unused storage facilities into business and housing areas. However, important constraints exist. For example the hinterland access of the node in the transport network (e.g. a seaport) and the industries and enterprises located within the vicinity will determine the potential options for the transformation of the infrastructure.

Where there is no economically viable demand for housing, office work, industry or logistics, there exist only limited potentials to bring to life alternative active solutions. In some cases, areas could also be used to comply with the need to provide a resource for compensation measures where stakeholders are mandatorily required to compensate the use of land (e.g. through the construction / expansion of a new/existing terminal) by means of increasing the environmental quality elsewhere.

Better conditions for residential areas and tourism in the vicinity of transport infrastructure

In and around the existing transport infrastructure (ports, rail lines and roads) a reduction of traffic volumes may increase the attractiveness of surrounding areas. Housing prices may rise and conditions for developing tourism may improve. In addition to the reconversion of the area previously covered by transport-related infrastructure, new development opportunities may also arise in the vicinity of these infrastructures.

2.2.2 Where gains/benefits are resulting from an increase of traffic

Developing new or existing logistics activities

Probably the most obvious way to benefit from an increase of traffic flow along a corridor is to try and offer direct or indirect services to the logistics industry. These services could include anything from a small truck repair shop in the vicinity to a highway to large logistic zones with or without intermodal loading facilities. An example for this would be the Business Park Falster project which is aimed at benefitting from the proximity to the fixed link.

Additionally, any increase in traffic volumes normally always gives rise to opportunities to bundle traffic and reap the benefits of multimodal transport. Stakeholders should be on the lookout for these potentials and be able to respond swiftly. Policymakers can help creating the conditions to develop new intermodal connections by bringing shippers, forwarders and operators together and generate win-win situations. Thus the fixed link could mean an opportunity to shift cargoes from road to rail.

Lastly, some out-of-the-box-thinking is always helpful. For example, the fixed link will mean that both citizens as well as small and medium sized enterprises from both sides of the crossing will effectively have access to a larger hinterland market.

3. Conclusions

The Fehmarn Belt fixed link will alter long-distance transport routes and will shift traffic away from existing ferry links. There will be winners and losers in terms of transport volumes. The present paper – just as the TENTacle project as whole – looks into ways of mitigating negative impacts of these transport shifts, but also into the potential positive effects. All the affected regions – whether they expect positive or negative impacts – should start preparing for the time after the opening of the tunnel by developing visions and strategies for their changing role in international transport networks. By actively managing change, each region must make the most out of the structural change that lies ahead.